



*Treasury Metals
Revised EIS Report
Goliath Gold Project
April 2018*



APPENDIX P
AQUATICS DST

NOTE TO READER APPENDIX P

In April 2015, Treasury Metals submitted an Environmental Impact Statement (EIS) for the proposed Goliath Gold Project (the Project) to the Canadian Environmental Assessment Agency (the Agency) for consideration under the Canadian Environmental Assessment Act (CEAA), 2012. The Agency reviewed the submission and informed Treasury Metals that the requirements of the EIS Guidelines for the Project were met and that the Agency would begin its technical review of the submission. In June 2015, the Agency issued a series of information requests to Treasury Metals regarding the EIS and supporting appendices (referred to herein as the Round 1 information requests). The Round 1 information requests included questions from the Agency, other federal and provincial reviewers, and members of Indigenous communities, as well as interested stakeholders. As part of the Round 1 information request process, the Agency requested that Treasury Metals consolidate the responses to the information requests into a revised EIS for the Project.

Appendix P to the revised EIS (Aquatics DST) presents the results of sampling programs used to describe the baseline conditions of surface water quality, sediment quality and benthic invertebrates. The information presented in this appendix was used for describing the existing conditions for surface water quality (Section 5.8.1 of the revised EIS), baseline sediment quality (Section 5.8.2 of the revised EIS) and baseline benthic conditions (Section 5.8.3 of the revised EIS). Information from this study was also relied on in the assessment of effects of the Project on surface water quality (Section 6.8 of the revised EIS). No changes have been made to this appendix from the original EIS issued in April 2015.

As part of the process to revise the EIS, Treasury Metals has undertaken a review of the status for the various appendices. The status of each appendix to the revised EIS has been classified as one of the following:

- **Unchanged:** The appendix remains unchanged from the original EIS, and has been re-issued as part revised EIS.
- **Minor Changes:** The appendix remains relatively unchanged from the original EIS, and has been re-issued with relevant clarification.
- **Major Revisions:** The appendix has been substantially changed from the original EIS. A re-written appendix has been issued as part of the revised EIS.
- **Superseded:** The appendix is no longer required to support the EIS. The information in the original appendix has been replaced by information provided in a new appendix prepared to support the revised EIS.
- **New:** This is a new appendix prepared to support the revised EIS.

The following table provides a listing of the appendices to the revised EIS, along with a listing of the status of each appendix and their description.

List of Appendices to the Revised EIS		
Appendix	Status	Description
Appendix A	Major Revisions	Table of Concordance
Appendix B	Unchanged	Optimization Study
Appendix C	Unchanged	Mining Study
Appendix D	Major Revisions	Tailings Storage Facility
Appendix E	Minor Changes	Traffic Study
Appendix F	Major Revisions	Water Management Plan
Appendix G	Superseded	Environmental Baseline
Appendix H	Minor Changes	Acoustic Environment Study
Appendix I	Unchanged	Light Environment Study
Appendix J	Minor Changes	Air Quality Study
Appendix K	Minor Changes	Geochemistry
Appendix L	Superseded	Geochemical Modelling
Appendix M	Minor Changes	Hydrogeology
Appendix N	Unchanged	Surface Hydrology
Appendix O	Superseded	Hydrologic Modeling
Appendix P	Unchanged	Aquatics DST
Appendix Q	Major Revisions	Fisheries and Habitat
Appendix R	Major Revisions	Terrestrial
Appendix S	Major Revisions	Wetlands
Appendix T	Unchanged	Socio-Economic
Appendix U	Minor Changes	Heritage Resources
Appendix V	Major Revisions	Public Engagement
Appendix W	Unchanged	Screening Level Risk Assessment
Appendix X	Major Revisions	Alternatives Assessment Matrix
Appendix Y	Unchanged	EIS Guidelines
Appendix Z	Unchanged	TML Corporate Policies
Appendix AA	Major Revisions	List of Mineral Claims
Appendix BB	Unchanged	Preliminary Economic Assessment
Appendix CC	Unchanged	Mining, Dynamic And Dependable For Ontario's Future
Appendix DD	Major Revisions	Indigenous Engagement Report
Appendix EE	Unchanged	Country Foods Assessment
Appendix FF	Unchanged	Photo Record Of The Goliath Gold Project
Appendix GG	Minor Changes	TSF Failure Modelling
Appendix HH	Unchanged	Failure Modes And Effects Analysis
Appendix II	Major Revisions	Draft Fisheries Compensation Strategy and Plans
Appendix JJ	New	Water Report



List of Appendices to the Revised EIS		
Appendix	Status	Description
Appendix KK	New	Conceptual Closure Plan
Appendix LL	New	Impact Footprints and Effects



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**GOLIATH GOLD PROJECT
AQUATIC
2012/2013 BASELINE STUDY REPORT**

Final Report

DST File No.: OE-KN-018101

Date: March 2014

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EXECUTIVE SUMMARY

Treasury Metals Inc. (TML) is a Canadian gold exploration and development company focused on its 100% owned high-grade Goliath Gold Project (the Project), situated in the Kenora/Dryden Mining District of northwestern Ontario. The Project is located adjacent to the village of Wabigoon, Ontario, approximately 20 km east of the city center of Dryden or 330 km west of the city of Thunder Bay.

The Goliath Gold Project is expected to require the completion of federal and provincial environmental assessments and permits prior to development. To support ongoing activities and project permitting TML retained DST Consulting Engineers Inc. (DST) in 2012 to gather environmental baseline data and submit environmental reports summarizing data collection efforts that occurred in 2012 and 2013.

For the 2012/2013 surface water quality baseline study, 15 sample locations were selected on two lakes and a number of creeks and streams within the study area. Lake sediment samples were collected concurrently with benthic invertebrate samples from two lakes and two streams. Samples were collected at Wabigoon Lake, the Wabigoon Lake Reference Site and Thunder Lake as well as Blackwater creek and an unnamed creek that runs along the former tree nursery. Sediment samples were collected during the autumn sampling event on October, 22 and 23, 2012. Three samples were collected from Wabigoon Lake, two samples from the Wabigoon Lake Reference Site and four samples from Thunder Lake. Six sediment samples were collected along the Blackwater creek and four samples along the unnamed creek.

Results from surface water sampling demonstrate that total iron concentrations were found to be higher than the Provincial Water Quality Objectives (PWQO) criterion at 14 of the 15 sampling sites. Concentrations of pH, total cobalt, total copper, total lead, total selenium, total silver, total vanadium and total zinc were found to be higher than the PWQO criteria in a number of samples throughout the study area. These results are similar to other surface water sampling programs throughout northwestern Ontario and are indicative of oligotrophic lakes in general.

Sediment samples were collected at two lakes and two streams within the potentially impacted areas of the Goliath Gold project, as well as at a reference location in Wabigoon Lake. Laboratory analyses showed total phosphorus was elevated in samples collected at the Wabigoon Lake Reference Site. Total phosphorus was elevated at one other sampling site in Wabigoon Lake, the furthest sampling site from the discharge point of the Blackwater Creek. One stream sampling location at the unnamed creek had concentrations of total phosphorus above the PSQG. Two metals were analyzed for sediment chemistry (mercury and zirconium), and mercury concentrations were all below the PSQG at all sampling sites.

Benthic invertebrate samples were collected from two lakes and two streams located within the Project area. In general, benthic invertebrate community were reflective of general conditions

found throughout northern Ontario. Lake samples were characterized by invertebrates which were resistant to poor water quality (Chironomidae) and fine grained substrates. Creek samples had more Ephemeroptera, Plecoptera, Trichoptera (EPT) members which are a good indicator of clean, well oxygenated water (Hynes, 1970). Along the Blackwater Creek, samples collected upstream had lower EPT ratios compared to the sample collected downstream at the mouth of the Creek, indicating that water flow in the downstream areas is likely higher in dissolved oxygen.

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APPENDICES

Appendix A Laboratory reports for Water Quality, Sediment Quality and Benthic Invertebrates

Appendix B Relative Percent Differences

Appendix C Limitations of the Report

1. INTRODUCTION

Treasury Metals Inc. (TML) is a Canadian gold exploration and development company focused on its 100% owned high-grade Goliath Gold Project (the Project), situated in the Kenora/Dryden Mining District of northwestern Ontario. The Project is located adjacent to the village of Wabigoon, Ontario, approximately 20 km east of the city center of Dryden or 330 km west of the city of Thunder Bay (Figure 1.1).

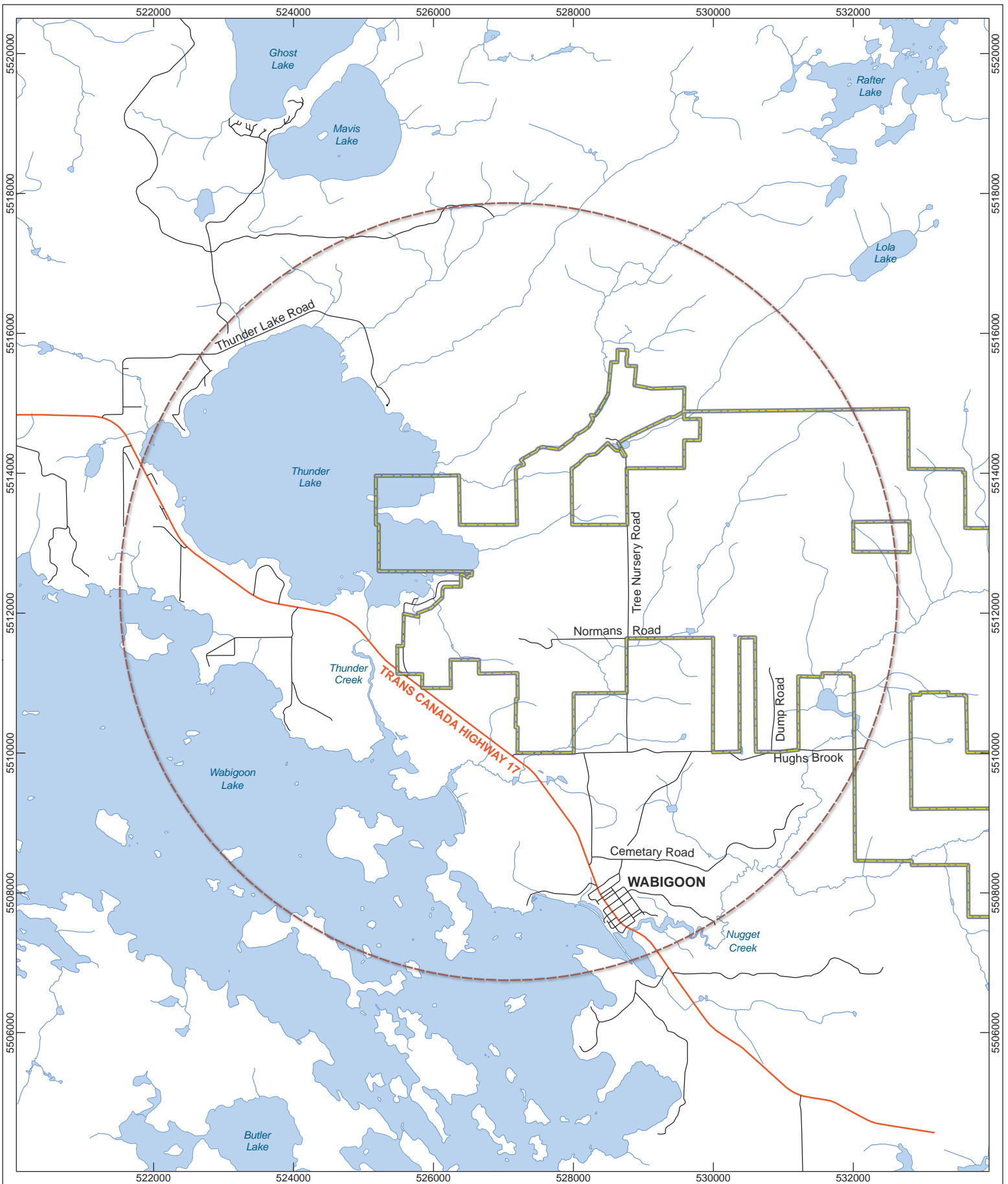
The Project Area consists largely of two historic properties, the “Thunder Lake Property”, previously owned by Teck-Corona and the “Laramide Property”, located partially within both the Hartman and Zealand townships. The properties have a total area of approximately 4,881 hectares, comprised of 4,064 hectares of 137 unpatented land claims and 19 patented land claims for the remainder. Treasury holds the entire project subject to specific royalties on 13 of the patented land parcels. The site can be readily accessed year round from Highway 17 and multiple public secondary roads that extend north from the highway, including Anderson Road, Maggrah Road and Tree Nursery Road.

The Project is expected to require the completion of federal and provincial environmental assessments and permits prior to development. To support ongoing drilling activities and project permitting, TML retained DST Consulting Engineers Inc. (DST) to gather baseline data and to submit environmental reports summarizing data collection efforts that occurred in 2012 and 2013.

The Baseline Assessment Studies include the following components:

- Surface Water Quality
- Sediment Quality
- Benthic Invertebrates Community
- Fisheries
- Wildlife
- Birds
- Wetlands and vegetation
- Hydrology

The following report presents the results of the 2012/2013 Aquatic Resources Baseline Study.



GOLIATH GOLD PROJECT
 DRYDEN, ONTARIO, CANADA

**LOCATION OF GOLIATH GOLD
 PROJECT STUDY AREA**

FIGURE: 1.1

SCALE: 70000

TREASURY METALS INC.

DESIGN: AT 06 FEB. 2014
 GIS: AT 18 FEB. 2014
 CHECK: XX ADD DATE
 REVIEW: XX ADD DATE

REV.01

LEGEND

- Local Study Area
- Property Boundary
- Highway
- Local Road
- Waterbody
- Watercourse

N

0 500 1,000 1,500
 Meters

REFERENCE
 Data by Treasury Metals Inc.
 and DST Consulting
 Projection: NAD83 UTM Zone 15N



2. METHODOLOGY

The 2012 and 2013 Aquatic Resources Baseline Studies cover surface water quality, sediment quality and benthic invertebrates sampling. Surface water samples were collected by Treasury on a monthly basis in 2012 and on a quarterly basis in 2013. Samples were not able to be collected at some of the locations at certain times of the year for various reasons listed by Treasury Metals in the field notes provided. Monthly sampling was completed by Treasury in 2012 to evaluate changes in water chemistry and to provide a second year of monthly sampling. Monthly sampling was conducted to characterize the spatial and temporal variances of surface water at the Goliath Project. Two years of monthly sampling are considered to be sufficient to understand changes in water chemistry throughout the year. In 2013, surface water sampling was completed quarterly, which is a requirement of the Metal Mining Effluent Regulation (MMER) under the Environmental Effect Monitoring (EEM) program. The parameters and approach for sampling collection in the surface water and sediment quality programs were design to comply with the EEM program under the MMER. By designing a baseline monitoring program that complies with MMER, data collected during baseline monitoring can be compared to data collected during MMER cycles as the same protocols, sampling techniques and sample analysis have been used, providing a clear understanding of changes before and after the start of mining activities.

2.1 Surface Water

Surface water quality sampling began in November 2010 on a monthly basis with water samples being collected from Thunder and Wabigoon Lakes and four streams in the area of the Project. Since the onset of surface water sampling, locations have been added and removed as the project has progressed and a better understanding of the project footprint has been developed. In 2012, eight locations were added and three locations were discontinued from the sampling program. The eight added locations were included in the 2012 sampling event to provide information regarding upstream conditions in the Blackwater Creek as well as the creek that runs along the nursery. Two downstream locations along the two streams running at either side of the nursery were also added to provide any information of current water quality that may have been impacted by activities at the Nursery, it is understood that the nursery infrastructure may be used in the future by Treasury. One surface water station was added along Hoffstrom's bay tributary and at Hoffstrom's bay, these station were chosen as the stream is within the proposed mine footprint and the tributary drains into Hoffstrom's bay. Two sampling locations in lakes, one sample in Thunder Lake and one sample in Wabigoon Lake, these sampling locations were included to evaluate surface water quality in the lakes prior to any effluent is discharged by the mining operation, as it is expected that effluent will be discharge into one of these lakes. Surface water data collection is currently ongoing, with 2014 samples projected to be collected on a quarterly basis at the same locations used in 2013. There are currently 15 sampling sites within the Project Area (Figure 2.1).

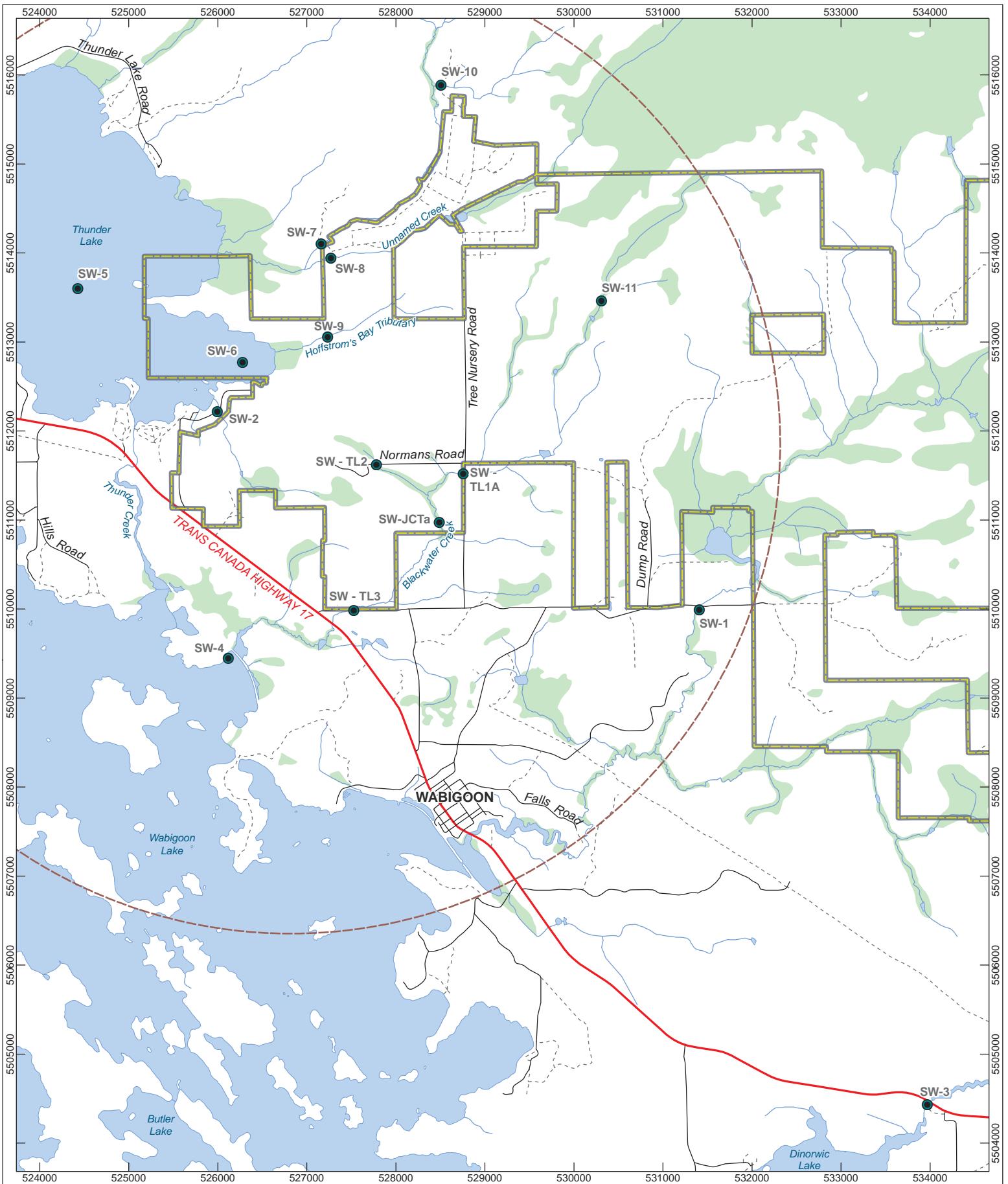
At each surface water sampling site, field measurements included: water and air temperature, pH, conductivity, total dissolved solids, dissolved oxygen, turbidity and oxidation reduction potential. At times, due to equipment malfunction, turbidity and oxidation reduction potential were collected in situ. Surface water parameters were taken in the field using a Hanna HI98130 multi-meter. Prior to field measurement collection, the instrument was rinsed with surface water to avoid cross-contamination between each sampling site.

Water quality samples were collected within 1 m of the lake surface. The samples were collected from a boat that was anchored from the bow and stern to prevent drifting from the site. During winter sampling events, a 6" ice auger was used to cut a hole in the ice at the same location as the ice free samples to gain access to the surface water. Winter samples were taken through the ice in the same locations as the ice free samples. Stream samples were collected from the bank while ensuring not to disturb the stream bottom material, to maintain sample integrity.

Surface water samples were collected directly into laboratory supplied containers. During the sampling procedure, bottles not requiring preservative were triple rinsed with collected surface water. Bottles requiring preservative were supplied by the laboratory with preservatives already present. Sample bottles were labelled with date, sample name and project name. All samples were immediately stored in a cooler with ice packs to maintain a temperature of approximately 4°C, and shipped to ALS Laboratory in Thunder Bay, Ontario, to be analysed.

Samples were analysed for physical and inorganic parameters, as well as total and dissolved metals. These parameters were chosen to evaluate general surface water chemistry, in addition information regarding dissolved metals can be correlated in the future with groundwater chemistry.

A list of analytical parameters and their associated laboratory detection limit is provided in Tables 2.1 and 2.2. The results of all surface water analyses were compared to the Provincial Water Quality Objectives (PWQO).



GOLIATH GOLD PROJECT
 DRYDEN, ONTARIO, CANADA

**SURFACE WATER QUALITY
 SAMPLING LOCATIONS**

FIGURE: 2.1 REV.01

SCALE: 55000

TREASURY METALS INC.

DESIGN: AT 06 FEB. 2014
 GIS: AT 25 FEB. 2014
 CHECK: XX ADD DATE
 REVIEW: XX ADD DATE

- LEGEND**
- Surface Water Quality Sampling Location
 - Local Study Area
 - Property Boundary
 - Waterbody
 - Watercourse
 - Arterial
 - Expressway / Highway
 - Local
 - Resource / Recreation
 - Wetland

REFERENCE

Data by Treasury Metals Inc.
 and DST Consulting Engineers
 Projection: NAD83 UTM Zone 15N



Table 2.1: Physical test, anion, nutrient and cyanide parameters and their associated method detection limits (MDL)

Analysis	Parameter	Laboratory Method	MDL	Units
Physical Tests	Conductivity	APHA 2510- B Electrode	3.0	µS/cm
	Hardness (as CaCO ₃)	Calculation	0.51	mg/L
	Total Suspended Solids	APHA 2540 D (modified)	2.0	mg/L
Anions and Nutrients	Acidity (as CaCO ₃)	APHA 2310	2.0	mg/L
	Alkalinity, Total (as CaCO ₃)	APHA 2320	5.0	mg/L CaCO ₃
	Ammonia, Total (as N)	APHA 4500-NH ₃ G (modified)	0.020	mg/L
	Chloride (Cl)	EPA 300.1 (modified)	0.10	mg/L
	Nitrate-N	EPA 300.1 (modified)	0.030	mg/L
	Nitrite-N	EPA 300.1 (modified)	0.020	mg/L
	Phosphorus, Total (P)	APHA 4500-P B, F, G (modified)	0.0050	mg/L
	Sulphate	EPA 300.1 (modified)	0.30	mg/L
Cyanides	Cyanide, Weak Acid Dissociable	APHA 4500-CN Cyanide (modified)	0.0020	mg/L
	Cyanide, Total	ISO 14403:2002 (modified)	0.0020	mg/L
	Cyanide, Free	ASTM D7237-10 (modified)	0.0050	mg/L

Table 2.2: Dissolved and total metals parameters and their associated method detection limits (MDL)

Analysis	Parameter	MDL	Units
Metals (Total and Dissolved)	Aluminum (Al)	APHA 3030B / EPA 6020A	0.0050 mg/L
	Antimony (Sb)	APHA 3030B / EPA 6020A	0.00060 mg/L
	Arsenic (As)	APHA 3030B / EPA 6020A	0.0010 mg/L
	Barium (Ba)	APHA 3030B / EPA 6020A	0.010 mg/L
	Beryllium (Be)	APHA 3030B / EPA 6020A	0.0010 mg/L
	Bismuth (Bi)	APHA 3030B / EPA 6020A	0.0010 mg/L
	Boron (B)	APHA 3030B / EPA 6020A	0.050 mg/L
	Cadmium (Cd)	APHA 3030B / EPA 6020A	0.000017 mg/L
	Calcium (Ca)	APHA 3030B / EPA 6020A	0.20 mg/L
	Cesium (Ce)	APHA 3030B / EPA 6020A	0.00010 mg/L
	Chromium (Cr)	APHA 3030B / EPA 6020A	0.0010 mg/L
	Cobalt (Co)	APHA 3030B / EPA 6020A	0.00050 mg/L
	Copper (Cu)	APHA 3030B / EPA 6020A	0.0010 mg/L
	Iron (Fe)	APHA 3030B / EPA 6020A	0.020 mg/L
	Lead (Pb)	APHA 3030B / EPA 6020A	0.0010 mg/L
	Lithium (Li)	APHA 3030B / EPA 6020A	0.050 mg/L
	Magnesium (Mg)	APHA 3030B / EPA 6020A	0.020 mg/L
	Manganese (Mn)	APHA 3030B / EPA 6020A	0.0010 mg/L
	Mercury (Hg)	Modified from EPA 1631 E	0.00010 mg/L

	Molybdenum (Mo)	APHA 3030B / EPA 6020A	0.0010	mg/L
	Nickel (Ni)	APHA 3030B / EPA 6020A	0.0020	mg/L
	Phosphorus (P)	APHA 3030B / EPA 6020A	0.50	mg/L
	Potassium (K)	APHA 3030B / EPA 6020A	0.50	mg/L
	Rubidium (Rb)	APHA 3030B / EPA 6020A	0.0010	mg/L
	Selenium (Se)	APHA 3030B / EPA 6020A	0.0010	mg/L
	Silicon (Si)	APHA 3030B / EPA 6020A	0.050	mg/L
	Silver (Ag)	APHA 3030B / EPA 6020A	0.00010	mg/L
	Sodium (Na)	APHA 3030B / EPA 6020A	0.10	mg/L
	Strontium (Sr)	APHA 3030B / EPA 6020A	0.0010	mg/L
	Tellurium (Te)	APHA 3030B / EPA 6020A	0.0010	mg/L
	Thallium (Tl)	APHA 3030B / EPA 6020A	0.00030	mg/L
	Tin (Sn)	APHA 3030B / EPA 6020A	0.0010	mg/L
	Titanium (Ti)	APHA 3030B / EPA 6020A	0.0020	mg/L
	Tungsten (W)	APHA 3030B / EPA 6020A	0.010	mg/L
	Uranium (U)	APHA 3030B / EPA 6020A	0.0050	mg/L
	Vanadium (V)	APHA 3030B / EPA 6020A	0.0010	mg/L
	Zinc (Zn)	APHA 3030B / EPA 6020A	0.0030	mg/L
	Zirconium (Zr)	APHA 3030B / EPA 6020A	0.0010	mg/L

2.2 Sediment

Surface sediment samples were collected concurrently with benthic invertebrate samples from two lakes and two streams. Samples were collected at 5 locations including: Wabigoon Lake, Wabigoon Lake Reference Site, Thunder Lake, Blackwater creek and the unnamed creek that runs along the former tree nursery (Figure 2.2). Sediment samples were collected during October, 22 and 23, 2012. Three samples were collected from Wabigoon Lake, two samples from Wabigoon Lake Reference location, four samples from Thunder Lake, six samples from Blackwater creek and four samples from unnamed creek.

According to MMER, sediment samples should be collected from possibly impacted and reference areas for comparison reasons. It is understood that sediment characteristics between different areas may differ so much as to make comparisons not suitable. During baseline studies, reference areas were chosen to reflect conditions upstream the proposed mining footprint as clearly reflected in stream samples. In general, for lakes, reference samples are usually collected in lakes of similar size and chemical characteristics. No other lake similar to Wabigoon Lake exists in the area, therefore an effort was done to find a location located upgradient from the mouth of Blackwater creek and away from the influence of human settlements.

All sediment samples were collected using a Wildco Petite Ponar (Wildco 6", Model SCOOPS-08890). During lake sampling collection, the boat was anchored at the bow and stern to reduce movement. Stream samples were collected by wading in the stream and using a Wildco Petite Ponar. For sediment collection in streams the field technician stood downstream (facing upstream into the current) to prevent collecting washout sediments. Samples were collected by scooping the sample along the bottom of the surface water body in the upstream direction. Excess water was removed from the scoop prior to sample placement into laboratory supplied containers. Each sediment sample was placed in a clean (rinsed with lake water) glass dish and jarred in laboratory supplied clean glass jars with a Teflon lid. All samples were placed in a cooler, supplied with ice, and maintained at approximately 4°C.

Sampling stations in lakes were approximately 250 m apart and were chosen to determine sediment characteristics in depositional areas within the lakes. The minimum number of samples to conduct statistical analysis as suggested in the MMER were collected to better define the area.

Sediment samples were collected by DST and Treasury, then submitted by Treasury to ALS Environmental for the analysis of grain size distribution (Table 2.3) and the parameters listed in Table 2.4.

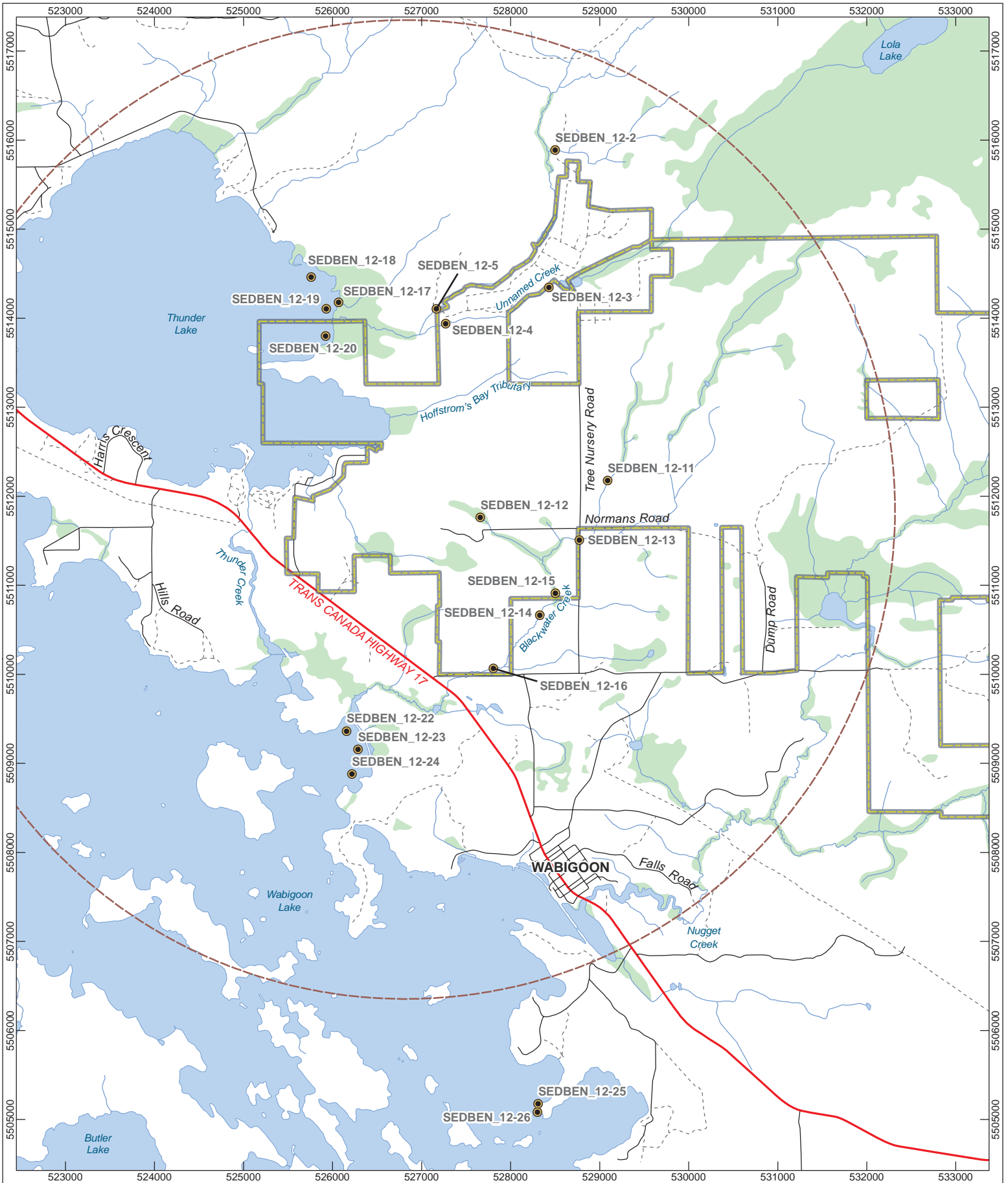
Table 2.3: Grain Size Distribution

Classification	Particle Size
Gravel	>2.0 mm
Sand	2.0 mm – 0.063 mm
Silt	0.063 mm – 4 µm
Clay	<4 µm

Table 2.4: Sediment quality analytical parameters and its associated method detection limits (MDL)

Analysis	Parameter	Method Reference	MDL	Units
Leachable Anions and Nutrients	Ammonia as N	EPA 350.1	5.0	mg/kg
	Bromide	EPA 300.0 (IC)	1.0	mg/kg
	Chloride	EPA 300.1	20	mg/kg
	Fluoride	EPA 300.1	1.0	mg/kg
	Nitrate-N	APHA 4500 NO ₃ H-Colorimetry	1.0	mg/kg
	Nitrite-N	APHA 4500 NO ₃ H-Colorimetry	1.0	mg/kg
	Total Kjeldahl Nitrogen	APHA 4500-N	200	mg/kg
	Sulphate	EPA 300.1	20	mg/kg
Anions and Nutrients	Total Phosphorus	APHA 4500-P B E	50	mg/kg
Saturated Paste Extractables	Nitrate + Nitrite-N	APHA 4500 NO ₃ H-Colorimetry	1.0	mg/L
Metals	Mercury	EPA 7471	0.010	mg/kg
	Zirconium	EPA 200.2/6020A	5.0	mg/kg

Note: MDL – Method detection limit



GOLIATH GOLD PROJECT DRYDEN, ONTARIO, CANADA		SCALE: 55000 TREASURY METALS INC.	LEGEND <ul style="list-style-type: none"> Sediment and Benthic Invertebrate Sampling Location Local Study Area Property Boundary Waterbody Arterial Expressway / Highway Local Resource / Recreation Wetland Watercourse 	<div style="text-align: center;"> N </div> <div style="text-align: center;"> 0 500 1,000 Meters </div>	<div style="text-align: center;"> TREASURY METALS INCORPORATED </div> <div style="text-align: center;"> DST consulting engineers </div>
SEDIMENT QUALITY AND BENTHIC INVERTEBRATE SAMPLING LOCATIONS		REFERENCE Data by Treasury Metals Inc. and DST Consulting Engineers Projection: NAD83 UTM Zone 15N			
FIGURE: 2.1	REV.02	DESIGN: AT 06 FEB. 2014 GIS: AT 25 FEB. 2014 CHECK: XX ADD DATE REVIEW: XX ADD DATE			

2.3 Benthic Invertebrates

Benthic invertebrate community samples were collected from two lake and two stream locations within the Project study area. Benthic invertebrate community samples were collected between October 22 and October 23, 2012 at 19 locations. Samples were collected at Blackwater Creek, Wabigoon Lake, and at the mouth of Blackwater Creek. Sampling locations were placed within areas of potential impacts from proposed mine infrastructure (Figure 2.2). Samples were collected on Wabigoon Lake approximately 5 km south west of the Blackwater Creek mouth, this location was chosen to reflect background conditions for the samples collected near the Project at Wabigoon Lake. Samples for benthic invertebrate community were also collected throughout the creek located at either side of a former Tree Nursery which is located within the Project area. As per MMER guidelines, benthic invertebrate samples were collected at the same locations as sediment samples, to better correlate habitat with benthic invertebrate community characteristics.

During invertebrate sampling, the boat was anchored at the bow and stern to reduce movement. Three sampling locations were sampled at Wabigoon Lake, two sampling locations were sampled at the Wabigoon Reference Site, and four sampling locations were sampled at Thunder Lake. The samples were reduced in the field using a 500 mm mesh sieve to remove excess sediment and debris. Three ponar grab samples were reduced and placed into one laboratory supplied container. Samples were then preserved in 10% formalin and sent to ALS Environmental, a certified laboratory for benthic invertebrate identification.

Stream samples were collected following the methodology developed by the Ontario Benthos Biomonitoring Network (OBBN). The travelling kick and sweep method for wadeable habitats was followed. For this method, sampling occurred in two riffles and one pool. In each riffle and pool, the substrate was kicked to disturb the sediment and the collection of the dislodged materials was done by sweeping the net near the bottom of the creek. The substrate was kicked in a zigzagging pattern for 10 minutes. The collected sample was then reduced in the field to remove excess sediment and debris. The reduced sample was placed in laboratory supplied containers and preserved with 10% formalin.

A number of parameters were determined for the benthic invertebrate samples including: taxon richness, relative abundance, percent Ephemeroptera, Plecoptera, Tricoptera (EPT), percent Diptera, Simpson's diversity index, and evenness.

2.4 Quality Assurance/Quality Control

2.4.1 Surface Water

On January 25-27, 2012 a DST representative trained Treasury in the collection and submission of surface water samples. Following this training, sampling was completed on a monthly basis by Treasury. DST did not have any control regarding the quality assurance/quality control measures taken during surface water sampling, collection or submission to the laboratory for analysis and therefore cannot comment on the specifics.

As per DST's recommendations, one blind field duplicate, one trip blank and one field blank during each sampling event were submitted to the laboratory as part of a quality assurance/quality control (QA/QC) program.

Once DST received the laboratory results, a comparison of the relative percent difference (RPD) between the sample and the field duplicate sample was completed using the following formula:

$$RPD = \frac{(\text{Sample Result} - \text{Duplicate Result})}{(\text{Sample Result} + \text{Duplicate Result})} \times 100$$

The RPD calculation is only applicable when the sample and field duplicate concentrations are greater than 5 times the laboratory reportable detection limit (Maxxam, 2012). Once calculated, the RPDs were compared to the applicable alert criteria for water, which is 25% for metals and general chemistry parameters. A discussion of the results of this QA/QC sampling and analysis is presented in Section 3.6 of this report.

As part of the QA/QC process, a laboratory supplied field blank and travel blank were included in all surface water sampling events. Field and travel blanks consisted of deionized water that was tested by the laboratory for purity, and transferred into laboratory supplied containers. These blanks were used to monitor the potential contamination of samples due to field practices, laboratory equipment, analytical methodology, or sample containers. Ideally, the analytical results obtained from these blanks will be "non-detect" at laboratory method detection limits, with the exception of pH and conductivity, which is inherent to even the most pure forms of water.

ALS Environmental utilizes laboratory duplicates, method blanks, blank spikes, and matrix spikes to monitor the accuracy, precision and reproducibility of the laboratory data (refer to laboratory Certificates of Analysis, Appendix A).

2.4.2 Benthic Invertebrate Community

Identification to Family level was completed by ALS, where possible. The QA/QC process for invertebrate identification involves periodic testing of Senior Taxonomists with voucher samples, and resampling by third parties.

2.5 Regulatory Information

The results of all surface water analyses were compared to the Ministry of Environment and Energy Ontario Provincial Water Quality Objectives (PWQO) for the protection of aquatic life and recreation in freshwater (February, 1999).

Sediment samples (metals) were compared to the Guidelines for the Ministry of the Environment (MOE), Protection and Management of Aquatic Sediment Quality in Ontario, August 1993. The guidelines have established three levels of effect – No Effect Level, Lowest Effect Level (LEL) and Severe Effect Level (SEL). The LEL and SEL are based on long-term effects which

contaminants may have on sediment dwelling organisms. The No Effect Level is based on levels of chemicals which are so low, no contaminants are passed through the food chain. Sediment samples which were submitted for analysis of anions and nutrients were not compared to Sediment Quality Guidelines as the leachable anions and nutrients requested by Treasury Personnel cannot be compared to those guidelines.

Environmental baseline studies, such as the one completed herein, establish background site conditions representative of the site at the time of sample collection. The criteria, guidelines and/or standards used in this report provide a frame of reference for a discussion of the sample results.

3. RESULTS

The results of the surface water, sediment, and benthic sampling program are presented below. The Laboratory Certificates of Analysis are located in Appendix A.

3.1 Surface Water Results

Analytical results from the 2012 and 2013 surface water sampling program are presented in Table 3.1 to 3.45. Tables 3.46 to 3.90 show quarterly results by sampling station, units of all parameters, with the exception of pH and Conductivity (umho/cm), are in mg/L. The vast majority of parameters were found to be within the accepted Provincial Water Quality Objectives (PWQO). The following parameters were above the PWQO values (in brackets) in 2012 or 2013 at various locations and times of the year: pH (between 6.5-8.5), Total iron (0.30mg/L), total cobalt (0.0009mg/L), total zinc (0.02mg/L), total vanadium (0.006mg/L), lead (0.001-0.005mg/L), silver (0.0001mg/L), and total copper (0.005mg/L).

- **SW1:** total iron was above PWQO in 11 of 16 sampling period; ranging from 0.333mg/L-1.71mg/L;
- **SW2:** total iron was above PWQO in 13 of 13 sampling periods ranging from 0.658mg/L-2.34mg/L; total cobalt criterion was exceeded in 1 of 13 sampling periods (0.00102mg/L);
- **SW3:** total iron was above PWQO in 4 of 14 sampling periods ranging from 0.323mg/L-1.23mg/L; total zinc criterion was exceeded in 1 of 14 sampling periods (0.0267mg/L);
- **SW4:** total iron was above PWQO in 8 of 10 sampling periods ranging from 0.440mg/L-0.788mg/L;
- **SW5:** no parameters were above PWQO standards for this sampling period;
- **SW6:** total iron was above PWQO in 1 of 9 sampling periods (0.734mg/L);
- **SW7:** pH was out of PWQO range in 1 of 14 sampling periods (6.24); total iron criterion was exceeded in 14 of 15 sampling periods ranging from 0.350mg/L-1.03mg/L; total zinc criterion was exceeded in 1 of 14 sampling periods (0.158mg/L);
- **SW8:** total iron was above PWQO in 16 of 16 sampling periods ranging from 0.474mg/L-2.18mg/L;
- **SW9:** total iron was above PWQO in 9 of 14 sampling periods ranging from 0.315mg/L-0.797mg/L; total zinc criterion was exceeded in 1 of 14 sampling periods (0.0267mg/L);
- **SW10:** total iron was above PWQO in 15 of 15 sampling periods ranging from 0.685mg/L-8.71mg/L; total cobalt exceeded PQWO in 1 of 15 sampling periods (0.00162 mg/L); total zinc criterion was exceeded in 1 of 14 sampling periods (0.0267mg/L); total vanadium criterion was exceeded in 1 of 15 sampling periods (0.0096mg/L);
- **SW11:** pH was above PWQO in 8 of 9 sampling periods ranging from 5.2pH - 6.46pH; total iron criterion was exceeded in 9 of 9 sampling periods ranging from 1.17mg/L-2.82mg/L; total cobalt criterion was exceeded in 1 of 9 sampling periods (0.0011mg/L); total zinc was exceeded in 1 of 9 sampling periods (0.051mg/L);

-
- **TL1A:** total iron was above PWQO in 14 of 16 sampling periods ranging from 0.353mg/L–10.40mg/L; total cobalt criterion was exceeded in 8 of 16 sampling periods ranging from 0.00216mg/L-0.00723mg/L;
 - **TL2A:** total iron was above PWQO in 8 of 8 sampling periods ranging from 0.615mg/L–2.0mg/L; total cobalt criterion was exceeded in 2 of 8 sampling periods ranging from 0.00095mg/L-0.00103mg/L; total copper criterion was exceeded in 2 of 8 sampling periods ranging from 0.0074mg/L-0.0087mg/L; total lead criterion was exceeded in 2 of 8 sampling periods ranging from 0.0018mg/L-0.0043mg/L; total silver criterion was exceeded in 2 of 8 samples ranging from 0.00072mg/L-0.00083mg/L;
 - **TL3:** total iron was above PWQO in 14 of 15 sampling periods ranging from 0.301mg/L–6.47mg/L; and,
 - **JCTA:** total iron was above PWQO in 14 of 14 sampling periods ranging from 0.305mg/L–9.11mg/L; total cobalt criterion was exceeded in 4 of 14 sampling periods ranging from 0.0096mg/L-0.00314mg/L; total selenium exceeded PWQO in 1 of 14 sampling periods 1.1mg/L; total zinc criterion was exceeded in 1 of 14 sampling periods (0.024mg/L).

Table 3.1: Inorganics for SW1

Inorganics				2012												2013			
Parameter	Units	MDL	PWQO	Q1			Q2			Q3			Q4			Q1	Q2	Q3	Q4
				Jan. 25	March (Apr 4) Duplicate	April 26	May 15	June 21	July 19	Aug. 24	Sept. 17	Oct. 31	Nov. 27	Dec. 18	Jan 29	April 17	July 23	Oct 30	
Alkalinity (Total as CaCO3)	mg/L	1		93.1	20.6	21.2	32.9	76.9	38.5	70.3	72.2	81	38.8	57.9	81	84.8	83	53.5	56.7
Conductivity	umho/cm	1		180	59	58.5	80.8	165	87.4	139	143	170	86.9	122	170	177	172	112	114
Dissolved Chloride (Cl)	mg/L	1		0.92	0.36	0.38	<0.030	1.39	0.14	0.32	0.33	0.49	0.76	<2.0	0.77	0.86	1.04	0.21	0.69
Dissolved Sulphate (SO4)	mg/L	1		3.63	1.96	1.97	2.07	1.41	0.58	0.94	1.03	1.44	1.72	<2.0	2.49	2.95	3.34	0.75	1.66
Hardness (CaCO3)	mg/L	1.0		90.5	24.9	25	38.3	86.7	43	77.9	75	66.5	42.4	60.8	68.2	98	86.8	60.5	57.4
Nitrate (N)	mg/L	0.1		0.044	0.169	0.132	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.10	<0.030	0.047	0.11	<0.030	<0.030
Nitrite (N)	mg/L	0.01		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.05	<0.030	<0.020
pH	pH		6.5-8.5	6.87	7.08	7.11	7.41	7.86	7.02	7.26	7.45	7.59	7.09	7.16	7.29	7.26	7.55	7.32	7.69
Total Ammonia-N	mg/L	0.05		0.071	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.07	<0.02	<0.020	0.024
Total Phosphorus	mg/L	0.002	a	0.0060	0.0176	0.0172	0.0063	0.0809	0.0095	0.0096	0.008	0.012	0.0086	0.0061	0.0063	0.0069	0.02	0.0099	0.0099
Total Suspended Solids	mg/L	1		4.1	2.6	<2.0	3.3	84	3.9	<2.0	3	15.9	4	<2.0	6	<2.0	<10	2.3	29.2
Acidity (as CaCO3)	mg/L	2		6.4	4	3.6	2.8	6.4	4	6	3.6	4	4	5.4	7.8	9.8	<5	4	5
Oil and Grease	mg/L	2		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<0.5	<2.0	<2.0
Cyanide, Weak Acid Diss	mg/L	0.002		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	-	<0.0020	<0.0020
Cyanide, Total	mg/L	0.002		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0067	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.002	<0.0020	<0.0020
Cyanide, Free	mg/L	0.002	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.002	<0.0050	<0.0050

Notes:

PWQO= Provincial Water Quality Objectives

All concentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

* Exceedence of PWQO Standards

for the ice-free period should not exceed 0.02 mg/L; a high level of protection against aesthetic deterioration will be provided by a total phosphorus concentration for the ice-free period of 0.01 mg/L or less. This should apply to all lakes naturally below this value; Excessive plant growth in rivers and streams should be eliminated at a total phosphorus concentration below 0.03 mg/L.

Italized Values have detection limits above the PWQO

Table 3.2: Dissolved metals for SW1

Dissolved Metals				2012												2013			
Parameter	Units	MDL	PWQO	Q1			Q2			Q3			Q4			Q1	Q2	Q3	Q4
				Jan. 25	March (Apr 4) Duplicate	April 26	May 15	June 21	July 19	Aug. 24	Sept. 17	Oct. 31	Nov. 27	Dec. 18	Jan 29	April 17	July 23	Oct 30	
Dissolved Aluminum (Al)	mg/L	0.005		<0.0050	0.0583	0.0577	0.0178	0.0476	0.027	<0.0050	<0.0050	<0.0050	0.0183	0.0120	0.0073	0.0120	0.0540	0.0135	0.0108
Dissolved Antimony (Sb)	mg/L	0.0005		<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.0050	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00050	<0.003	<0.00060	<0.00010
Dissolved Arsenic (As)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.003	<0.0010	0.00029
Dissolved Barium (Ba)	mg/L	0.002		0.013	<0.010	<0.010	<0.010	0.014	<0.010	0.011	<0.010	0.010	<0.010	<0.010	0.011	0.0126	0.009	<0.010	0.008
Dissolved Beryllium (Be)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.002	<0.0010	<0.00050
Dissolved Bismuth (Bi)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.0010	<0.00050
Dissolved Boron (B)	mg/L	0.01		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.01	<0.050	<0.010
Dissolved Cadmium (Cd)	mg/L	0.0001		<0.000017	<0.000017	<0.000017	0.000024	<0.000017	<0.000090	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000090	<0.0001	<0.000017	0.000011
Dissolved Calcium (Ca)	mg/L	0.2		29.4	7.35	7.41	11.6	23.9	13.5	24.8	24.0	21.0	13.4	19.3	21.9	29.7	28.1	18.9	18.2
Dissolved Cesium (Ce)	mg/L	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00010
Dissolved Chromium (Cr)	mg/L	0.005		<0.0010	<0.0010	<0.0010	<0.0010	0.0013	<0.00050	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.003	<0.0010	0.0001
Dissolved Cobalt (Co)	mg/L	0.0005		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0005	<0.00050	<0.00010
Dissolved Copper (Cu)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	0.002	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.002	<0.0010	0.00044
Dissolved Iron (Fe)	mg/L	0.1		0.280	0.134	0.130	0.055	0.182	0.228	0.113	0.113	0.037	0.150	0.155	0.233	0.333	0.210	0.232	0.137
Dissolved Lead (Pb)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.001	<0.0010	<0.000050
Dissolved Lithium (Li)	mg/L	0.005		<0.050	<0.050	<0.050	<0.050	<0.050	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	<0.005	<0.050	<0.0050
Dissolved Magnesium (Mg)	mg/L	0.05		4.17	1.59	1.58	2.28	6.58	2.32	3.90	3.65	3.38	2.19	3.07	3.31	4.13	4.03	3.26	2.89
Dissolved Manganese (Mn)	mg/L	0.002		0.271	0.0096	0.0100	0.0441	0.0514	0.0399	0.0471	0.0971	0.0905	0.0106	0.0513	0.315	0.1610	0.1260	0.0201	0.018
Dissolved Mercury (Hg)	mg/L	0.00005	0.0002	<0.00010	<0.00010	<0.00010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.0001	<0.000010	<0.000010
Dissolved Molybdenum (Mo)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.002	<0.0010	0.000215
Dissolved Nickel (Ni)	mg/L	0.001		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0010	<0.003	<0.0020	0.00032
Dissolved Phosphorus (P)	mg/L	0.05		-	-	-	-	-	<0.050	-	-	-	-	-	-	<0.050	-	-	-
Dissolved Potassium (K)	mg/L	0.2		1.68	0.94	0.93	1.04	1.68	<1.0	0.67	0.73	1.03	0.95	1.04	1.28	1.60	1.67	0.53	1.05
Dissolved Rubidium (Rb)	mg/L	0.001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0013
Dissolved Selenium (Se)	mg/L	0.002		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00040	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00040	<0.004	<0.0010	<0.00010
Dissolved Silicon (Si)	mg/L	0.05		-	-	-	-	-	3.6	-	-	-	-	-	-	6.8	6.72	-	5.01
Dissolved Silver (Ag)	mg/L	0.0001		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.0001	<0.00010	<0.000010
Dissolved Sodium (Na)	mg/L	0.1		2.43	1.07	1.14	1.46	2.49	1.23	1.77	1.83	1.74	1.45	1.79	1.90	2.34	2.26	1.59	1.61
Dissolved Strontium (Sr)	mg/L	0.001		0.0512	0.0132	0.0133	0.0203	0.0411	0.0260	0.0468	0.0452	0.0497	0.0226	0.0312	0.0411	0.0461	0.0550	0.0329	0.0325
Dissolved Tellurium (Te)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	<0.05	<0.0010	<0.00060
Dissolved Thallium (Tl)	mg/L	0.00005		<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.0003	<0.00030	<0.000050
Dissolved Tin (Sn)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.002	<0.0010	0.00024
Dissolved Titanium (Ti)	mg/L	0.005		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.002	<0.0020	<0.00030
Dissolved Tungsten (W)	mg/L	0.001		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.002	<0.010	-
Dissolved Uranium (U)	mg/L	0.0001		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0010	<0.002	<0.0050	0.000051
Dissolved Vanadium (V)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.002	<0.0010	0.00015
Dissolved Zinc (Zn)	mg/L	0.005		<0.0030	<0.0030	0.0062	0.0032	0.007	<0.0030	<0.0030	<0.0030	<0.0030	0.0046	<0.0030	<0.0030	<0.0030	<0.005	<0.0030	<0.0050
Dissolved Zirconium (Zr)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	-	<0.0010	<0.0050

Notes:

PWQO= Provincial Water Quality Objectives

All concentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

*** Exceedence of PWQO Standards**

At pH >5.5 to 6.5, no condition should be permitted which would increase the acid soluble inorganic aluminum concentration in clay-free samples

to more than 10% above natural background concentrations for waters representative of that geological area of the Province that are unaffected by man-made inputs

Italicized Values have detection limits above the PWQO

Table 3.3: Total metals for SW1

Parameter	Total Metals			2012												2013			
	Units	MDL	PWQO	Q1			Q2			Q3			Q4			Q1	Q2	Q3	Q4
				Jan. 25	March (Apr 4) Duplicate	April 26	May 15	June 21	July 19	Aug. 24	Sept. 17	Oct. 31	Nov. 27	Dec. 18	Jan 29	April 17	July 23	Oct 30	
Total Aluminum (Al)	mg/L	0.005		0.0864	0.107	0.113	0.0660	1.18	0.063	0.0259	0.0377	0.247	0.0404	0.087	0.0584	0.0120	0.0610	0.058	0.0484
Total Antimony (Sb)	mg/L	0.0005	0.02	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00050	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00050	<0.003	<0.00060	<0.00010
Total Arsenic (As)	mg/L	0.001	0.005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.0010	<0.003	<0.0010	0.0003
Total Barium (Ba)	mg/L	0.002		0.014	<0.010	<0.010	<0.010	0.024	<0.010	0.011	0.010	0.015	<0.010	<0.10	0.012	0.0126	0.009	<0.010	0.009
Total Beryllium (Be)	mg/L	0.0005	0.011 - 1.1 ^a	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.00050	<0.002	<0.0010	<0.00050
Total Bismuth (Bi)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.0010	<0.001	<0.0010	<0.000050
Total Boron (B)	mg/L	0.01	0.2	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.50	<0.050	<0.010	<0.01	<0.050	<0.010
Total Cadmium (Cd)	mg/L	0.0001	0.0001 - 0.0005 ^b	<0.000017	<0.000017	<0.000017	0.00002	<0.000090	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000090	<0.0001	<0.000017	<0.000010
Total Calcium (Ca)	mg/L	0.2		30.4	6.21	7.76	11.4	20.5	13.2	23.4	24.5	25.2	12.3	19.7	26.0	29.7	28.4	19.0	17.8
Total Cesium (Ce)	mg/L	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00010
Total Chromium (Cr)	mg/L	0.005		<0.0010	<0.0010	<0.0010	<0.0010	0.0028	<0.00050	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.00050	<0.003	<0.0010	0.00018
Total Cobalt (Co)	mg/L	0.0005	0.0009	<0.00050	<0.00050	<0.00050	0.00089	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0005	<0.00050	<0.00010
Total Copper (Cu)	mg/L	0.001	0.005	<0.0010	<0.0010	<0.0010	0.0034	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.0010	<0.002	<0.0010	0.00035
Total Iron (Fe)	mg/L	0.1	0.3	1.24	0.234	0.205	0.248	1.71	0.490	0.405	0.236	0.545	0.308	0.450	0.622	0.333	0.580	0.472	0.263
Total Lead (Pb)	mg/L	0.0005	0.001 - 0.005 ^c	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.00050	<0.001	<0.0010	<0.000050
Total Lithium (Li)	mg/L	0.005		<0.050	<0.050	<0.050	<0.050	<0.050	-	<0.050	<0.050	<0.050	<0.050	<0.50	<0.050	<0.10	<0.005	<0.050	<0.0050
Total Magnesium (Mg)	mg/L	0.05		4.16	1.43	1.74	2.28	6.1	2.16	3.57	3.61	4.06	1.98	3.04	3.67	4.13	4.14	3.12	2.55
Total Manganese (Mn)	mg/L	0.002		0.304	0.0105	0.0083	0.0515	0.0779	0.0597	0.0634	0.115	0.258	0.0123	0.053	0.350	0.1610	0.1380	0.062	0.022
Total Mercury (Hg)	mg/L	0.00005		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.0001	<0.00010	<0.000010
Total Molybdenum (Mo)	mg/L	0.0005	0.04	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.00050	<0.002	<0.0010	0.000219
Total Nickel (Ni)	mg/L	0.001	0.025	<0.0020	<0.0020	<0.0020	<0.0020	0.0029	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.020	<0.0020	<0.0010	<0.003	<0.0020	0.00036
Total Phosphorus (P)	mg/L	0.05		-	-	-	-	-	-	-	-	-	-	-	-	<0.050	-	-	-
Total Potassium (K)	mg/L	0.2		1.83	0.83	0.69	0.98	1.64	<1.0	0.61	0.71	0.92	0.89	<5.0	1.35	1.60	1.83	0.53	1.11
Total Rubidium (Rb)	mg/L	0.001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0014
Total Selenium (Se)	mg/L	0.002	0.1	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00040	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.00040	<0.004	<0.0010	<0.00010
Total Silicon (Si)	mg/L	0.05		-	-	-	-	3.1	-	-	-	-	-	-	-	6.8	7.43	-	4.93
Total Silver (Ag)	mg/L	0.0001	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.0001	<0.00010	<0.000010
Total Sodium (Na)	mg/L	0.1		2.57	0.89	1.11	1.41	2.19	1.12	1.64	1.79	2.05	1.37	1.8	2.14	2.34	2.32	1.50	1.55
Total Strontium (Sr)	mg/L	0.001		0.0541	0.0117	0.0144	0.0204	0.039	0.0258	0.0479	0.0443	0.0415	0.0216	0.032	0.0436	0.0461	0.0500	0.035	0.0309
Total Tellurium (Te)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	-	<0.05	<0.0010	<0.00060
Total Thallium (Tl)	mg/L	0.00005	0.0003	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.0003	<0.00030	<0.000050
Total Tin (Sn)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.0010	<0.002	<0.0010	<0.00010
Total Titanium (Ti)	mg/L	0.005		0.0043	0.0033	0.0039	0.0028	0.05	0.0022	<0.0020	0.0022	0.0113	<0.0020	<0.020	0.0030	<0.0020	0.003	0.0026	0.0024
Total Tungsten (W)	mg/L	0.001	0.03	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.10	<0.010	<0.010	<0.002	<0.010	-
Total Uranium (U)	mg/L	0.0001	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0010	<0.001	<0.0050	0.000056
Total Vanadium (V)	mg/L	0.0005	0.006	<0.0010	<0.0010	<0.0010	<0.0010	0.0029	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.00050	<0.002	<0.0010	0.00031
Total Zinc (Zn)	mg/L	0.005	0.02	<0.0030	<0.0030	<0.0030	<0.0030	0.0082	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.030	<0.0030	<0.0030	<0.005	<0.0030	<0.0050
Total Zirconium (Zr)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	0.001	<0.0040	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.0040	-	<0.0010	<0.0050

Notes:
 PWQO= Provincial Water Quality Objectives
 All concentrations in mg/L unless otherwise stated
 MDL= Reportable Detection Limit
*** Exceedence of PWQO Standards**
^a Criteria is 0.011mg/L if Hardness as CaCO3 is = 75mg/L
 Criteria is 1.1 mg/L if the sample hardness is >75mg/L
^b Criteria is 0.0001mg/L if the the sample hardness is = 0-100 mg/L
 Criteria is 0.0005 mg/L if the sample hardness is >100 mg/L
^c The criteria will be 0.001 mg/L if the sample hardness is 30mg/L
 The criteria will be 0.003 mg/L if the sample hardness is = 30-80mg/L
 The criteria will be 0.005 µg/L if the sample hardness is = >30-80mg/L
italized Values have detection limits above the PWQO

Table 3.4: Inorganics for SW2

Inorganics				2012								2013				
Parameter	Units	MDL	PWQO	Q1	Q2			Q3			Q4		Q1	Q2	Q3	Q4
				March (Apr 4)	April 26	May 15	June 20	July 19	Aug. 22	Sept. 17	Oct. 31	Nov. 27	Jan 29	April 17	July 23	Oct 30
Alkalinity (Total as CaCO3)	mg/L	1		50	58.2	46.1	58.4	63.6	66.8	64.7	63.3	67.8	74.8	83	54.9	55
Conductivity	umho/cm	1		139	135	103	132	128	134	138	139	141	152	186	113	112
Dissolved Chloride (Cl)	mg/L	1		4.58	2.16	0.24	1.95	0.24	<0.10	<0.10	2.2	<2.0	0.78	5.6	0.13	1.21
Dissolved Sulphate (SO4)	mg/L	1		5.33	2.70	1.57	0.58	0.74	0.76	0.83	1.02	<2.0	2.31	2.01	0.46	0.56
Hardness (CaCO3)	mg/L	1.0		56.5	67.6	51.1	67	76.4	75.7	69	66.6	73.9	93	95.9	61.4	58.5
Nitrate (N)	mg/L	0.1		0.122	<0.030	<0.030	0.031	0.078	0.039	<0.030	<0.030	<0.10	0.053	0.08	0.043	<0.030
Nitrite (N)	mg/L	0.01		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.05	<0.020	<0.020
pH	pH		6.5-8.5	7.56	7.66	7.56	7.41	7.65	7.74	7.79	7.41	7.38	7.41	7.69	7.41	7.67
Total Ammonia-N	mg/L	0.05		<0.020	<0.020	<0.020	<0.020	0.028	<0.020	<0.020	<0.020	<0.020	0.066	<0.02	0.023	<0.020
Total Phosphorus	mg/L	0.002	a	0.083	0.0920	<0.0050	0.0984	0.0704	0.139	0.0466	0.0268	0.0223	0.0293	0.07	0.0472	0.0271
Total Suspended Solids	mg/L	1		5.9	59.8	19	92.7	45.2	34.9	26.5	17.2	10.8	10.1	<10	17.1	20.6
Acidity (as CaCO3)	mg/L	2		5.6	3.4	6.6	3	2.8	2.8	2.8	2.6	4.8	9.8	<5	2	5
Oil and Grease	mg/L	2		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0.73	<2.0	<2.0
Cyanide, Weak Acid Diss	mg/L	0.002		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	-	<0.0020	<0.0020
Cyanide, Total	mg/L	0.002		<0.0020	<0.0020	<0.0020	0.006	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.002	<0.0020	<0.0020
Cyanide, Free	mg/L	0.002	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.002	<0.0050	<0.0050

Notes:

PWQO= Provincial Water Quality Objectives

All concentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

*** Exceedence of PWQO Standards**

for the ice-free period should not exceed 0.02 mg/L; a high level of protection against aesthetic deterioration will be provided by a total phosphorus concentration for the ice-free period of 0.01 mg/L or less. This should apply to all lakes naturally below this value; Excessive plant growth in rivers and streams should be eliminated at a total phosphorus concentration below 0.03 mg/L.

Italized Values have detection limits above the PWQO

Table 3.5: Dissolved metals for SW2

Dissolved Metals				2012								2013				
Parameter	Units	MDL	PWQO	Q1	Q2			Q3			Q4		Q1	Q2	Q3	Q4
				March (Apr 4)	April 26	May 15	June 20	July 19	Aug. 22	Sept. 17	Oct. 31	Nov. 27	Jan 29	April 17	July 23	Oct 30
Dissolved Aluminum (Al)	mg/L	0.005		0.123	0.0484	0.0074	0.072	0.0416	0.0349	0.0285	0.0383	0.0527	0.1130	0.0830	0.0379	0.0740
Dissolved Antimony (Sb)	mg/L	0.0005		<0.00060	<0.00060	<0.00060	<0.0050	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00050	<0.003	<0.00060	<0.00010
Dissolved Arsenic (As)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.003	<0.0010	0.0004
Dissolved Barium (Ba)	mg/L	0.002		<0.010	0.013	<0.010	0.013	<0.010	<0.010	<0.010	<0.010	0.013	0.014	0.015	<0.010	0.008
Dissolved Beryllium (Be)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.002	<0.0010	<0.00050
Dissolved Bismuth (Bi)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.0010	<0.000050
Dissolved Boron (B)	mg/L	0.01		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.01	<0.050	<0.010
Dissolved Cadmium (Cd)	mg/L	0.0001		<0.000017	0.000025	<0.000017	<0.000090	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000090	<0.0001	<0.000017	0.00001
Dissolved Calcium (Ca)	mg/L	0.2		15.8	18.2	15.8	18.5	21.3	21.5	20.3	18.1	20.0	24.8	26.3	17.2	15.9
Dissolved Cesium (Cs)	mg/L	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	<0.00010
Dissolved Chromium (Cr)	mg/L	0.005		<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.003	<0.0010	0.0004
Dissolved Cobalt (Co)	mg/L	0.0005		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.0006	<0.00050	0.00014
Dissolved Copper (Cu)	mg/L	0.001		0.0032	0.0023	<0.0010	0.0013	0.0010	<0.0010	<0.0010	<0.0010	0.0014	0.0017	0.002	0.0014	0.00114
Dissolved Iron (Fe)	mg/L	0.1		0.069	0.155	0.175	0.559	0.651	0.431	0.283	0.201	0.199	0.663	0.690	0.741	0.387
Dissolved Lead (Pb)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.001	<0.0010	0.000083
Dissolved Lithium (Li)	mg/L	0.005		<0.050	<0.050	<0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	<0.005	<0.050	<0.0050
Dissolved Magnesium (Mg)	mg/L	0.05		4.15	5.39	2.81	5.12	5.63	5.38	4.48	5.21	5.82	6.43	7.34	4.47	4.55
Dissolved Manganese (Mn)	mg/L	0.002		0.0079	0.0539	0.172	0.0675	0.0559	0.0612	0.0266	0.0188	0.0186	0.0258	0.0580	0.0127	0.013
Dissolved Mercury (Hg)	mg/L	0.00005	0.0002	<0.00010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.0001	<0.000010	<0.000010
Dissolved Molybdenum (Mo)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.002	<0.0010	0.000119
Dissolved Nickel (Ni)	mg/L	0.001		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0014	<0.003	<0.0020	0.00105
Dissolved Phosphorus (P)	mg/L	0.05		-	-	-	<0.050	-	-	-	-	-	<0.050	-	-	-
Dissolved Potassium (K)	mg/L	0.2		1.56	1.92	1.08	1.1	0.74	0.54	0.57	1.50	1.26	<1.0	2.20	0.68	1.04
Dissolved Rubidium (Rb)	mg/L	0.001		-	-	-	-	-	-	-	-	-	-	-	-	<0.0010
Dissolved Selenium (Se)	mg/L	0.002		<0.0010	<0.0010	<0.0010	<0.00040	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00040	<0.004	<0.0010	0.00
Dissolved Silicon (Si)	mg/L	0.05		-	-	-	3.6	-	-	-	-	-	4.5	4.76	-	3.43
Dissolved Silver (Ag)	mg/L	0.0001		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.0001	<0.00010	<0.000010
Dissolved Sodium (Na)	mg/L	0.1		3.79	2.46	1.70	2.57	2.06	1.82	1.49	2.22	2.04	1.71	3.94	1.73	2.06
Dissolved Strontium (Sr)	mg/L	0.001		0.0287	0.0340	0.0278	0.0348	0.0355	0.0360	0.0281	0.0313	0.0351	0.0430	0.0480	0.0293	0.0295
Dissolved Tellurium (Te)	mg/L	0.001		<0.0010	<0.0010	<0.0010	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	<0.05	<0.0010	<0.00060
Dissolved Thallium (Tl)	mg/L	0.00005		<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.0003	<0.00030	<0.000050
Dissolved Tin (Sn)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.002	<0.0010	<0.00010
Dissolved Titanium (Ti)	mg/L	0.005		0.0051	<0.0020	<0.0020	0.0027	0.0024	<0.0020	<0.0020	<0.0020	<0.0020	0.0036	0.004	0.0029	0.00235
Dissolved Tungsten (W)	mg/L	0.001		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.002	<0.010	-
Dissolved Uranium (U)	mg/L	0.0001		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0010	<0.002	<0.0050	0.000083
Dissolved Vanadium (V)	mg/L	0.0005		0.0012	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0006	<0.002	<0.0010
Dissolved Zinc (Zn)	mg/L	0.005		0.0086	0.0089	<0.0030	<0.0030	-	<0.0030	<0.0030	<0.0030	<0.0030	0.0076	0.011	<0.0030	<0.0050
Dissolved Zirconium (Zr)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0040	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	-	<0.0010	<0.0050

Notes:

PWQO= Provincial Water Quality Objectives

All concentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

*** Exceedence of PWQO Standards**

At pH >5.5 to 6.5, no condition should be permitted which would increase the acid soluble inorganic aluminum concentration in clay-free samples to more than 10% above natural background concentrations for waters representative of that geological area of the Province that are unaffected by man-made inputs

italized Values have detection limits above the PWQO

Table 3.6: Total metals for SW2

Total Metals	2012																2013			
	Parameter	Units	MDL	PWQO	Q1	Q2				Q3			Q4		Q1	Q2	Q3	Q4		
					March 4	April 26	May 15	June 20	July 19	Aug. 22	Sept. 17	Oct. 31	Nov. 27	Jan 29	April 17	July 23	Oct 30			
Total Aluminum (Al)	mg/L	0.005		0.982	0.509	0.400	0.654	0.586	0.626	0.310	1.07	0.555	0.26	0.44	0.707	0.1470				
Total Antimony (Sb)	mg/L	0.0005	0.02	<0.00060	<0.00060	<0.00060	<0.0050	<0.00060	<0.00060	<0.00060	<0.0060	<0.00060	<0.00050	<0.003	<0.00060	<0.00010				
Total Arsenic (As)	mg/L	0.001	0.005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.010	<0.0010	<0.003	<0.0010	0.00056				
Total Barium (Ba)	mg/L	0.002		0.015	0.021	0.012	0.025	0.014	0.013	<0.010	<0.10	0.017	0.0178	0.025	0.014	0.011				
Total Beryllium (Be)	mg/L	0.0005	0.011 - 1.1 ^a	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.00050	<0.002	<0.0010	<0.00050				
Total Bismuth (Bi)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050				
Total Boron (B)	mg/L	0.01	0.2	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.50	<0.050	<0.010	<0.01	<0.050	<0.010				
Total Cadmium (Cd)	mg/L	0.0001	0.0001 - 0.0005 ^b	<0.000017	0.000020	<0.000017	<0.000090	<0.000017	<0.000017	<0.000017	<0.00017	<0.000017	<0.000090	<0.0001	<0.000017	0.000011				
Total Calcium (Ca)	mg/L	0.2		18.2	18.5	15.2	18.3	20.0	21.7	17.5	21.6	20.7	26.2	26.9	17.7	15.8				
Total Cesium (Ce)	mg/L	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	<0.00010				
Total Chromium (Cr)	mg/L	0.005		0.0016	0.0013	<0.0010	0.00158	0.0014	0.0015	<0.0010	<0.010	0.0012	0.00092	<0.003	0.0017	0.00059				
Total Cobalt (Co)	mg/L	0.0005	0.0009	<0.00050	0.00064	<0.00050	0.00102	0.00061	0.00053	<0.00050	<0.0050	<0.00050	<0.00050	<0.0005	0.00069	0.00024				
Total Copper (Cu)	mg/L	0.001	0.005	0.0033	0.0035	<0.0010	0.0028	0.0016	0.0018	0.0010	<0.010	0.0025	0.0025	<0.002	0.0016	0.0014				
Total Iron (Fe)	mg/L	0.1	0.3	0.716	0.933	0.841	1.77	2.03	1.91	0.914	1.63	1.01	1.24	0.71	2.34	0.658				
Total Lead (Pb)	mg/L	0.0005	0.001 - 0.005 ^c	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.00050	<0.001	<0.0010	0.00017				
Total Lithium (Li)	mg/L	0.005		<0.050	<0.050	<0.050	-	<0.050	<0.050	<0.050	<0.50	<0.050	<0.10	<0.005	<0.050	<0.0050				
Total Magnesium (Mg)	mg/L	0.05		3.58	5.59	2.82	4.83	5.21	5.50	4.77	6.67	5.67	6.80	7.37	4.45	4.17				
Total Manganese (Mn)	mg/L	0.002		0.0154	0.0965	0.230	0.157	0.0841	0.0644	0.0229	0.055	0.0395	0.038	0.229	0.0853	0.038				
Total Mercury (Hg)	mg/L	0.00005		<0.00010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.0001	<0.000010	<0.000010				
Total Molybdenum (Mo)	mg/L	0.0005	0.04	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.00050	<0.002	<0.0010	0.000098				
Total Nickel (Ni)	mg/L	0.001	0.025	<0.0020	0.0022	<0.0020	0.0023	0.0021	0.0021	<0.0020	<0.020	<0.0020	0.0016	<0.003	0.0022	0.00123				
Total Phosphorus (P)	mg/L	0.05		-	-	-	-	-	-	-	-	-	0.051	-	-	-				
Total Potassium (K)	mg/L	0.2		1.44	1.93	1.07	1.0	0.76	0.64	0.53	<5.0	1.45	<1.0	2.19	0.79	1.15				
Total Rubidium (Rb)	mg/L	0.001		-	-	-	-	-	-	-	-	-	-	-	-	0.0010				
Total Selenium (Se)	mg/L	0.002	0.1	<0.0010	<0.0010	<0.0010	<0.00040	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.00040	<0.004	<0.0010	<0.00010				
Total Silicon (Si)	mg/L	0.05		-	-	-	3.6	-	-	-	-	-	4.80	8.88	-	3.28				
Total Silver (Ag)	mg/L	0.0001	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.0010	<0.00010	<0.00010	<0.0001	<0.00010	<0.000010				
Total Sodium (Na)	mg/L	0.1		4.09	2.39	1.67	2.27	1.91	1.83	1.62	2.7	2.10	1.8	4.2	1.68	2.13				
Total Strontium (Sr)	mg/L	0.001		0.0256	0.0357	0.0286	0.0366	0.0364	0.0366	0.0305	0.038	0.0377	0.052	0.072	0.0334	0.0284				
Total Tellurium (Te)	mg/L	0.001		<0.0010	<0.0010	<0.0010	-	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	-	<0.05	<0.0010	<0.00060				
Total Thallium (Tl)	mg/L	0.00005	0.0003	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.0030	<0.00030	<0.00030	<0.0003	<0.00030	<0.000050				
Total Tin (Sn)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.0010	<0.002	<0.0010	<0.00010				
Total Titanium (Ti)	mg/L	0.005		0.0306	0.0161	0.0175	0.0194	0.0247	0.0268	0.0139	0.047	0.0221	0.010	0.023	0.0329	0.0059				
Total Tungsten (W)	mg/L	0.001	0.03	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.10	<0.010	<0.010	<0.002	<0.010	-				
Total Uranium (U)	mg/L	0.0001	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	<0.0050	<0.0010	<0.001	<0.0050	0.000094				
Total Vanadium (V)	mg/L	0.0005	0.006	0.0020	0.0019	<0.0010	0.0028	0.0021	0.0020	<0.0010	<0.010	0.0012	0.00108	<0.002	0.0023	0.0008				
Total Zinc (Zn)	mg/L	0.005	0.02	0.0045	0.0073	<0.0030	0.0076	0.0046	0.0046	<0.0030	<0.030	0.0070	0.0076	0.019	0.0036	<0.0050				
Total Zirconium (Zr)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0040	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.0040	-	<0.0010	<0.0050				

Notes:

PWQO= Provincial Water Quality Objectives

All concentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

* Exceedence of PWQO Standards

^aCriteria is 0.011mg/L if Hardness as CaCO₃ is = 75mg/L

Criteria is 1.1 mg/L if the sample hardness is >75mg/L

^bCriteria is 0.0001mg/L if the the sample hardness is = 0-100 mg/L

Criteria is 0.0005 mg/L if the sample hardness is >100 mg/L

^cThe criteria will be 0.001 mg/L if the sample hardness is 30mg/L

The criteria will be 0.003 mg/L if the sample hardness is = 30-80mg/L

The criteria will be 0.005 µg/L if the sample hardness is = >30-80mg/L

italized Values have detection limits above the PWQO

Table 3.7: Inorganics for SW3

Inorganics				2012												2013	
Parameter	Units	MDL	PWQO	Q1		Q2				Q3			Q4			Q3	Q4
				Jan.	March	May		June	July	Aug.	Sept.	Oct.	Nov.	Dec.	July	Oct	
				25	(Apr 4)	15	15 Duplicate	20	19	22	17	31	27	18	23	30	
Alkalinity (Total as CaCO3)	mg/L	1		115	34.1	43	53.4	53.2	40.7	58.6	65.4	60.5	51.2	49	57.9	41.5	44.9
Conductivity	umho/cm	1		225	111	147	182	182	127	175	191	187	450	139	163	120	124
Dissolved Chloride (Cl)	mg/L	1		6.4	7.65	13.8	16.9	17	9.19	17.4	17.5	16.4	12.4	9.2	10.9	9.52	9.41
Dissolved Sulphate (SO4)	mg/L	1		3.77	2.76	3.24	3.56	3.55	2.03	2.66	1.94	1.64	1.63	2.7	2.84	1.4	2.08
Hardness (CaCO3)	mg/L	1.0		115	38.4	53	67.6	67.6	49	69.9	76.2	71.4	53.2	55.2	55.8	48.8	48.6
Nitrate (N)	mg/L	0.1		0.059	0.115	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.10	<0.030	<0.030	0.045
Nitrite (N)	mg/L	0.01		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020
pH	pH		6.5-8.5	7.09	7.53	7.47	7.71	7.62	6.98	7.26	7.41	7.45	7.27	7.22	7.03	6.76	7.51
Total Ammonia-N	mg/L	0.05		0.067	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.20	<0.020	<0.020	<0.020	<0.020	0.091
Total Phosphorus	mg/L	0.002	a	0.0118	0.0193	0.0152	0.0191	0.0071	0.0176	0.0153	0.0121	0.0145	0.016	0.0129	0.0182	0.0215	0.0112
Total Suspended Solids	mg/L	1		5.1	2.7	2.1	5.9	4.5	2.7	2.7	4.9	3.3	3.5	<2.0	2.3	3	3.4
Acidity (as CaCO3)	mg/L	2		6.8	3.4	3.4	2.8	2.4	4.8	4.2	5.4	2	3	4.8	9.8	4	4
Oil and Grease	mg/L	2		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Cyanide, Weak Acid Diss	mg/L	0.002		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Cyanide, Total	mg/L	0.002		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0060	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Cyanide, Free	mg/L	0.002	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

Notes:

PWQO= Provincial Water Quality Objectives

All concentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

* Exceedence of PWQO Standards

for the ice-free period should not exceed 0.02 mg/L; a high level of protection against aesthetic deterioration will be provided by a total phosphorus concentration for the ice-free period of 0.01 mg/L or less. This should apply to all lakes naturally below this value; Excessive plant growth in rivers and streams should be eliminated at a total phosphorus concentration below 0.03 mg/L.

Italized Values have detection limits above the PWQO

Table 3.8: Dissolved metals for SW3

Dissolved Metals				2012												2013	
Parameter	Units	MDL	PWQO	Q1		Q2				Q3			Q4			Q3	Q4
				Jan. 25	March (Apr 4)	April 26	May 15	May 15 Duplicate	June 20	July 19	Aug. 22	Sept. 17	Oct. 31	Nov. 27	Dec. 18	July 23	Oct 30
Dissolved Aluminum (Al)	mg/L	0.005		0.0053	0.0318	0.0264	0.0130	0.0130	0.027	0.0114	0.0085	0.0061	0.0061	0.0149	0.0202	0.0282	0.0432
Dissolved Antimony (Sb)	mg/L	0.0005		<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
Dissolved Arsenic (As)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0004
Dissolved Barium (Ba)	mg/L	0.002		0.015	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	<0.010	<0.010	<0.010	0.010	<0.010	0.010
Dissolved Beryllium (Be)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050
Dissolved Bismuth (Bi)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050
Dissolved Boron (B)	mg/L	0.01		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010
Dissolved Cadmium (Cd)	mg/L	0.0001		<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017
Dissolved Calcium (Ca)	mg/L	0.2		35.2	11.3	15.0	19.5	19.4	13.8	19.8	21.9	20.0	15.1	16.0	16.2	14.0	14.4
Dissolved Cesium (Ce)	mg/L	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00010
Dissolved Chromium (Cr)	mg/L	0.005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.00028
Dissolved Cobalt (Co)	mg/L	0.0005		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Copper (Cu)	mg/L	0.001		<0.0010	0.0012	0.0012	0.0011	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0014	<0.0010	<0.0010	0.00051
Dissolved Iron (Fe)	mg/L	0.1		0.327	0.147	0.057	<0.020	0.048	0.146	0.073	0.129	0.050	0.022	0.134	0.420	0.195	0.153
Dissolved Lead (Pb)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050
Dissolved Lithium (Li)	mg/L	0.005		<0.050	<0.050	<0.050	<0.050	<0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050
Dissolved Magnesium (Mg)	mg/L	0.05		6.54	2.45	3.79	4.60	4.66	3.42	4.95	5.21	5.24	3.75	3.68	3.71	3.33	3.07
Dissolved Manganese (Mn)	mg/L	0.002		0.125	0.0166	0.0061	0.0093	0.0104	0.0270	0.0231	0.0181	0.0160	0.0046	0.0461	0.214	0.0023	0.011
Dissolved Mercury (Hg)	mg/L	0.00005	0.0002	<0.00010	<0.00010	0.000038	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Dissolved Molybdenum (Mo)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.000158
Dissolved Nickel (Ni)	mg/L	0.001		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.00048
Dissolved Phosphorus (P)	mg/L	0.05		-	-	-	-	-	<0.050	-	-	-	-	-	-	-	-
Dissolved Potassium (K)	mg/L	0.2		1.73	0.93	1.16	1.33	1.33	<1.0	0.87	0.69	0.66	1.08	1.26	1.33	0.89	1.07
Dissolved Rubidium (Rb)	mg/L	0.001		-	-	-	-	-	-	-	-	-	-	-	-	-	0.0017
Dissolved Selenium (Se)	mg/L	0.002		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00040	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00010
Dissolved Silicon (Si)	mg/L	0.05		-	-	-	-	-	2.1	-	-	-	-	-	-	-	2.43
Dissolved Silver (Ag)	mg/L	0.0001		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Sodium (Na)	mg/L	0.1		5.40	4.89	8.97	10.5	10.6	6.43	11.1	11.5	10.6	8.07	6.56	6.26	6.78	5.84
Dissolved Strontium (Sr)	mg/L	0.001		0.0645	0.0238	0.0333	0.0466	0.0464	0.0312	0.0512	0.0571	0.0493	0.0359	0.0334	0.0372	0.0312	0.0344
Dissolved Tellurium (Te)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00060
Dissolved Thallium (Tl)	mg/L	0.00005		<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.000050
Dissolved Tin (Sn)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-
Dissolved Titanium (Ti)	mg/L	0.005		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.00015
Dissolved Tungsten (W)	mg/L	0.001		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.0007
Dissolved Uranium (U)	mg/L	0.0001		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.000091
Dissolved Vanadium (V)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0003
Dissolved Zinc (Zn)	mg/L	0.005		<0.0030	<0.0030	0.0030	0.0031	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	0.0061	<0.0030	<0.0030	<0.0050
Dissolved Zirconium (Zr)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0050

Notes:
 PWQO= Provincial Water Quality Objectives
 All concentrations in mg/L unless otherwise stated
 MDL= Reportable Detection Limit
 * Exceedence of PWQO Standards

At pH >5.5 to 6.5, no condition should be permitted which would increase the acid soluble inorganic aluminum concentration in clay-free samples to more than 10% above natural background concentrations for waters representative of that geological area of the Province that are unaffected by man-made inputs
 Italicized Values have detection limits above the PWQO

Table 3.9: Total metals for SW3

Parameter	Total Metals			2012												2013	
	Units	MDL	PWQO	Q1		Q2				Q3			Q4			Q3	Q4
				Jan. 25	March (Apr 4)	April 26	May 15	May 15 Duplicate	June 20	July 19	Aug. 22	Sept. 17	Oct. 31	Nov. 27	Dec. 18	July 23	Oct 30
Total Aluminum (Al)	mg/L	0.005		0.217	0.0779	0.156	0.0915	0.0901	0.065	0.0781	0.0369	0.0545	0.0293	0.0809	0.0718	0.0647	0.0545
Total Antimony (Sb)	mg/L	0.0005	0.02	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.0050	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00010
Total Arsenic (As)	mg/L	0.001	0.005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.00048
Total Barium (Ba)	mg/L	0.002		0.017	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	0.010	<0.010	<0.010	<0.010	0.011	<0.010	0.010
Total Beryllium (Be)	mg/L	0.0005	0.011 - 1.1 ^a	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050
Total Bismuth (Bi)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050
Total Boron (B)	mg/L	0.01	0.2	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010
Total Cadmium (Cd)	mg/L	0.0001	0.0001 - 0.0005 ^b	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000090	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000010
Total Calcium (Ca)	mg/L	0.2		35.5	11.8	15.2	18.8	17.5	13.8	19.1	21.8	20.3	13.0	17.0	18.6	14.1	14.8
Total Cesium (Ce)	mg/L	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00010
Total Chromium (Cr)	mg/L	0.005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0003
Total Cobalt (Co)	mg/L	0.0005	0.0009	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.0001
Total Copper (Cu)	mg/L	0.001	0.005	<0.0010	0.0010	0.0012	0.0013	0.0013	0.001	<0.0010	<0.0010	<0.0010	<0.0010	0.0013	0.0012	<0.0010	0.0008
Total Iron (Fe)	mg/L	0.1	0.3	1.23	0.233	0.271	0.212	0.193	0.296	0.362	0.252	0.170	0.072	0.323	0.711	0.638	0.195
Total Lead (Pb)	mg/L	0.0005	0.001 - 0.005 ^c	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050
Total Lithium (Li)	mg/L	0.005		<0.050	<0.050	<0.050	<0.050	<0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050
Total Magnesium (Mg)	mg/L	0.05		6.62	2.10	3.84	3.79	4.28	3.22	4.62	5.15	4.90	3.14	3.65	3.96	3.18	3.00
Total Manganese (Mn)	mg/L	0.002		0.125	0.0189	0.0113	0.0167	0.0163	0.0362	0.0444	0.0270	0.0172	0.0059	0.0542	0.243	0.0845	0.013
Total Mercury (Hg)	mg/L	0.00005		<0.00010	<0.00010	<0.000010	0.000017	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Total Molybdenum (Mo)	mg/L	0.0005	0.04	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.000153
Total Nickel (Ni)	mg/L	0.001	0.025	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.00049
Total Potassium (K)	mg/L	0.2		1.88	0.76	1.18	1.13	1.19	<1.0	0.83	0.68	<0.50	1.00	1.33	1.35	0.89	1.13
Total Rubidium (Rb)	mg/L	0.001		-	-	-	-	-	-	-	-	-	-	-	-	-	0.0019
Total Selenium (Se)	mg/L	0.002	0.1	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00040	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00010
Total Silicon (Si)	mg/L	0.05		-	-	-	-	-	1.9	-	-	-	-	-	-	-	2.32
Total Silver (Ag)	mg/L	0.0001	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.000010
Total Sodium (Na)	mg/L	0.1		7.61	4.99	8.82	9.03	9.79	6.01	10.7	11.3	10.6	6.99	6.57	6.76	6.39	5.70
Total Strontium (Sr)	mg/L	0.001		0.0660	0.0199	0.0347	0.0384	0.0445	0.0318	0.0517	0.0543	0.0510	0.0296	0.0375	0.0396	0.0324	0.0337
Total Tellurium (Te)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00060
Total Thallium (Tl)	mg/L	0.00005	0.0003	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.000050
Total Tin (Sn)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00010
Total Titanium (Ti)	mg/L	0.005		0.0107	0.0028	0.0056	0.0041	0.0037	0.0020	0.0035	0.0023	0.0025	<0.0020	0.0028	0.0027	0.0025	0.0009
Total Tungsten (W)	mg/L	0.001	0.03	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	-
Total Uranium (U)	mg/L	0.0001	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.000095
Total Vanadium (V)	mg/L	0.0005	0.006	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.00043
Total Zinc (Zn)	mg/L	0.005	0.02	0.0040	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	0.0267	<0.0050
Total Zirconium (Zr)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0050

Notes:
PWQO= Provincial Water Quality Objectives
All concentrations in mg/L unless otherwise stated
 MDL= Reportable Detection Limit
*** Exceedence of PWQO Standards**
^a Criteria is 0.011mg/L if Hardness as CaCO₃ is = 75mg/L
 Criteria is 1.1 mg/L if the sample hardness is >75mg/L
^b Criteria is 0.0001mg/L if the the sample hardness is = 0-100 mg/L
 Criteria is 0.0005 mg/L if the sample hardness is >100 mg/L
^c The criteria will be 0.001 mg/L if the sample hardness is 30mg/L
 The criteria will be 0.003 mg/L if the sample hardness is = 30-80mg/L
 The criteria will be 0.005 µg/L if the sample hardness is = >30-80mg/L
Italized Values have detection limits above the PWQO

Table 3.10: Inorganics for SW4

Inorganics	2012											2013	
	Parameter	Units	MDL	PWQO	Q1		Q2		Q3			Q1	Q3
					Jan. 26	26 Duplicate	May 16	June 21	July 19	Aug. 22	Sept. 18	18 Duplicate	Jan 29
Alkalinity (Total as CaCO3)	mg/L	1		54.8	54.9	45.3	43	42.7	44	45.2	45.1	7.6	41.6
Conductivity	umho/cm	1		120	118	114	108	100	105	108	108	113	99.4
Dissolved Chloride (Cl)	mg/L	1		3.68	3.71	3.12	3.17	3.23	3.18	3.18	3.24	4.13	3.25
Dissolved Sulphate (SO4)	mg/L	1		2.19	2.20	1.79	1.74	1.69	1.7	1.84	1.84	3.06	1.62
Hardness (CaCO3)	mg/L	1.0		54.9	57	50.1	42	46.6	45.6	48.1	49	60.0	44.4
Nitrate (N)	mg/L	0.1		<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	0.038	<0.030
Nitrite (N)	mg/L	0.01		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
pH	pH		6.5-8.5	7.49	7.5	7.83	7.62	7.9	7.87	7.75	7.75	7.52	7.53
Total Ammonia-N	mg/L	0.05		0.027	0.026	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.023
Total Phosphorus	mg/L	0.002	a	0.0278	0.0284	0.0227	0.0273	0.0191	0.0207	0.0248	0.0245	0.0087	0.0194
Total Suspended Solids	mg/L	1		3.7	2.6	7.3	8.3	2.5	10.5	7	10.4	<2.0	7.5
Acidity (as CaCO3)	mg/L	2		2	2.6	2.2	2	3.4	2.2	2	2	7.6	3
Oil and Grease	mg/L	2		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Cyanide, Weak Acid Diss	mg/L	0.002		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Cyanide, Total	mg/L	0.002		<0.0020	0.0030	<0.0020	0.0030	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Cyanide, Free	mg/L	0.002	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

Notes:

PWQO= Provincial Water Quality Objectives

All concentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

*** Exceedence of PWQO Standards**

for the ice-free period should not exceed 0.02 mg/L; a high level of protection against aesthetic deterioration will be provided by a total phosphorus concentration for the ice-free period of 0.01 mg/L or less. This should apply to all lakes naturally below this value; Excessive plant growth in rivers and streams should be eliminated at a total phosphorus concentration below 0.03 mg/L.

Italized Values have detection limits above the PWQO

Table 3.11: Dissolved metals for SW4

Dissolved Metals	2012											2013	
	Parameter	Units	MDL	PWQO	Q1		Q2		Q3			Q1	Q3
					Jan. 26	26 Duplicate	May 16	June 21	July 19	Aug. 22	Sept. 18	18 Duplicate	Jan 29
Dissolved Aluminum (Al)	mg/L	0.005		0.0147	0.0217	0.0088	0.011	0.0109	0.0094	0.0068	0.0076	<0.010	0.0309
Dissolved Antimony (Sb)	mg/L	0.0005		<0.00060	<0.00060	<0.00060	<0.00050	<0.00060	<0.00060	<0.00060	<0.00060	<0.00050	<0.00060
Dissolved Arsenic (As)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Barium (Ba)	mg/L	0.002		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.0	<0.010
Dissolved Beryllium (Be)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010
Dissolved Bismuth (Bi)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Boron (B)	mg/L	0.01		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050
Dissolved Cadmium (Cd)	mg/L	0.0001		<0.000017	<0.000017	<0.000017	<0.000090	<0.000017	<0.000017	<0.000017	<0.000017	<0.000090	<0.000017
Dissolved Calcium (Ca)	mg/L	0.2		16.8	17.4	15.4	13.2	14.2	14.2	14.5	14.7	15.5	13.6
Dissolved Chromium (Cr)	mg/L	0.005		<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010
Dissolved Cobalt (Co)	mg/L	0.0005		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Copper (Cu)	mg/L	0.001		0.0017	0.0019	0.0015	0.0034	0.0015	0.0013	0.0014	0.0015	<0.0010	0.0044
Dissolved Iron (Fe)	mg/L	0.1		<0.020	<0.020	<0.020	<0.050	<0.020	<0.020	<0.020	<0.020	<0.050	<0.020
Dissolved Lead (Pb)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010
Dissolved Lithium (Li)	mg/L	0.005		<0.050	<0.050	<0.050	-	<0.050	<0.050	<0.050	<0.050	<0.10	<0.050
Dissolved Magnesium (Mg)	mg/L	0.05		3.12	3.31	2.84	2.52	2.69	2.50	2.87	2.95	3.55	2.51
Dissolved Manganese (Mn)	mg/L	0.002		0.0022	0.0023	0.0011	0.0016	0.0012	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Mercury (Hg)	mg/L	0.00005	0.0002	<0.00010	<0.00010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Dissolved Molybdenum (Mo)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010
Dissolved Nickel (Ni)	mg/L	0.001		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0010	<0.0020
Dissolved Phosphorus (P)	mg/L	0.05		-	-	-	<0.050	-	-	-	-	<0.050	-
Dissolved Potassium (K)	mg/L	0.2		0.86	0.94	0.84	<1.0	0.79	0.72	0.73	0.75	1	0.86
Dissolved Selenium (Se)	mg/L	0.002		<0.0010	<0.0010	<0.0010	<0.00040	<0.0010	<0.0010	<0.0010	<0.0010	<0.00040	<0.0010
Dissolved Silicon (Si)	mg/L	0.05		-	-	-	-	-	-	-	-	1.2	-
Dissolved Silver (Ag)	mg/L	0.0001		<0.00010	<0.00010	<0.00010	1.2	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Sodium (Na)	mg/L	0.1		3.35	3.45	2.93	<0.00010	2.96	2.69	2.81	2.89	3.66	2.95
Dissolved Strontium (Sr)	mg/L	0.001		0.0291	0.0315	0.0255	2.51	0.0239	0.0232	0.0241	0.0244	0.0276	0.0225
Dissolved Tellurium (Te)	mg/L	0.001		<0.0010	<0.0010	<0.0010	0.0237	<0.0010	<0.0010	<0.0010	<0.0010	-	<0.0010
Dissolved Thallium (Tl)	mg/L	0.00005		<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Dissolved Tin (Sn)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Titanium (Ti)	mg/L	0.005		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Dissolved Tungsten (W)	mg/L	0.001		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Dissolved Uranium (U)	mg/L	0.0001		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0010	<0.0050
Dissolved Vanadium (V)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010
Dissolved Zinc (Zn)	mg/L	0.005		<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	0.0032
Dissolved Zirconium (Zr)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0040	<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	<0.0010

Notes:

PWQO= Provincial Water Quality Objectives

All concentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

*** Exceedence of PWQO Standards**

At pH >5.5 to 6.5, no condition should be permitted which would increase the acid soluble inorganic aluminum concentration in clay-free samples to more than 10% above natural background concentrations for waters representative of that geological area of the Province that are unaffected by man-made inputs

Italized Values have detection limits above the PWQO

Table 3.12: Total metals for SW4

Parameter	Total Metals												
	2012											2013	
	Units	MDL	PWQO	Q1		Q2		Q3			Q1	Q3	
			Jan. 26	Jan. 26 Duplicate	May 16	June 21	July 19	Aug. 22	Sept. 18	Sept. 18 Duplicate	Jan 29	July 24	
Total Aluminum (Al)	mg/L	0.005		0.415	0.403	0.816	0.224	0.671	0.785	0.721	0.712	<0.010	0.751
Total Antimony (Sb)	mg/L	0.0005	0.02	<0.00060	<0.00060	<0.00060	<0.0050	<0.00060	<0.00060	<0.00060	<0.00060	<0.00050	<0.00060
Total Arsenic (As)	mg/L	0.001	0.005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Barium (Ba)	mg/L	0.002		0.012	0.011	0.013	0.010	0.011	0.012	0.011	0.011	0.009	0.013
Total Beryllium (Be)	mg/L	0.0005	0.011 - 1.1 ^a	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010
Total Bismuth (Bi)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Boron (B)	mg/L	0.01	0.2	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050
Total Cadmium (Cd)	mg/L	0.0001	0.0001 - 0.0005 ^b	<0.000017	<0.000017	0.000051	<0.000090	<0.000017	<0.000017	<0.000017	<0.000017	<0.000090	<0.000017
Total Calcium (Ca)	mg/L	0.2		18.1	17.4	14.8	13.1	14.3	14.6	15.1	12.1	17.9	13.9
Total Chromium (Cr)	mg/L	0.005		<0.0010	<0.0010	0.0015	<0.00050	<0.0010	0.0011	<0.0010	<0.0010	<0.00050	0.0012
Total Cobalt (Co)	mg/L	0.0005	0.0009	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Total Copper (Cu)	mg/L	0.001	0.005	0.0026	0.0025	0.0043	0.0018	0.0019	0.0026	0.0019	0.0021	0.0015	0.0022
Total Iron (Fe)	mg/L	0.1	0.3	0.460	0.447	0.788	0.298	0.570	0.629	0.440	0.457	<0.050	0.692
Total Lead (Pb)	mg/L	0.0005	0.001 - 0.005 ^c	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010
Total Lithium (Li)	mg/L	0.005		<0.050	<0.050	<0.050		<0.050	<0.050	<0.050	<0.050	<0.10	<0.050
Total Magnesium (Mg)	mg/L	0.05		3.40	3.30	2.93	2.32	2.83	2.79	2.98	3.00	3.72	2.57
Total Manganese (Mn)	mg/L	0.002		0.0092	0.0122	0.0182	0.0127	0.0107	0.0148	0.0111	0.0121	<0.0010	0.0159
Total Mercury (Hg)	mg/L	0.00005		<0.00010	<0.00010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Total Molybdenum (Mo)	mg/L	0.0005	0.04	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010
Total Nickel (Ni)	mg/L	0.001	0.025	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0010	<0.0020
Total Phosphorus (P)	mg/L	0.05		-	-	-	-	-	-	-	-	<0.050	-
Total Potassium (K)	mg/L	0.2		1.08	1.05	1.50	<1.0	0.93	0.99	0.80	0.83	1.20	0.95
Total Selenium (Se)	mg/L	0.002	0.1	<0.0010	<0.0010	<0.0010	<0.00040	<0.0010	<0.0010	<0.0010	<0.0010	<0.00040	<0.0010
Total Silicon (Si)	mg/L	0.05		-	-	-	1.1	-	-	-	-	1.5	-
Total Silver (Ag)	mg/L	0.0001	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Sodium (Na)	mg/L	0.1		3.51	3.49	3.50	2.42	3.01	2.82	3.07	3.10	3.98	2.82
Total Strontium (Sr)	mg/L	0.001		0.0320	0.0301	0.0271	0.0246	0.0272	0.0259	0.0218	0.0231	0.0340	0.0259
Total Tellurium (Te)	mg/L	0.001		<0.0010	<0.0010	<0.0010	-	<0.0010	<0.0010	<0.0010	<0.0010	-	<0.0010
Total Thallium (Tl)	mg/L	0.00005	0.0003	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Total Tin (Sn)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Titanium (Ti)	mg/L	0.005		0.0141	0.0131	0.0277	0.0066	0.0206	0.0241	0.0216	0.0226	<0.0020	0.0278
Total Tungsten (W)	mg/L	0.001	0.03	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Total Uranium (U)	mg/L	0.0001	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0010	<0.0050
Total Vanadium (V)	mg/L	0.0005	0.006	0.0011	0.0011	0.0014	<0.0010	0.0011	0.0013	0.0010	0.0011	<0.00050	0.0014
Total Zinc (Zn)	mg/L	0.005	0.02	0.0031	<0.0030	0.0382	<0.0030	<0.0030	0.0038	<0.0030	0.0040	<0.0030	<0.0030
Total Zirconium (Zr)	mg/L	0.001		<0.0010	<0.0010	0.0021	<0.0040	<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	<0.0010

Notes:

PWQO= Provincial Water Quality Objectives

All concentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

*** Exceedence of PWQO Standards**

^aCriteria is 0.011mg/L if Hardness as CaCO₃ is = 75mg/L

Criteria is 1.1 mg/L if the sample hardness is >75mg/L

^bCriteria is 0.0001mg/L if the the sample hardness is = 0-100 mg/L

Criteria is 0.0005 mg/L if the sample hardness is >100 mg/L

^cThe criteria will be 0.001 mg/L if the sample hardness is 30mg/L

The criteria will be 0.003 mg/L if the sample hardness is = 30-80mg/L

The criteria will be 0.005 µg/L if the sample hardness is = >30-80mg/L

Italized Values have detection limits above the PWQO

Table 3.13: Inorganics for SW5

Inorganics				2012					2013		
Parameter	Units	MDL	PWQO	Q1	Q2		Q3		Q1	Q3	Q4
				Jan. 26	May 15	June 21	July 19	Aug. 22	Jan 29	July 24	Oct 30
Alkalinity (Total as CaCO ₃)	mg/L	1		50.5	45.8	44.3	43.4	45.2	49.1	46	48.3
Conductivity	umho/cm	1		117	120	115	107	111	122	113	113
Dissolved Chloride (Cl)	mg/L	1		4.8	4.22	4.14	4.12	4.05	4.75	4.18	4.22
Dissolved Sulphate (SO ₄)	mg/L	1		3.29	2.93	2.76	2.77	2.76	3.91	2.72	2.88
Hardness (CaCO ₃)	mg/L	1.0		53	51.6	48	49	46.1	59	5.04	47.8
Nitrate (N)	mg/L	0.1		0.044	<0.030	<0.030	<0.030	<0.030	0.55	<0.030	<0.030
Nitrite (N)	mg/L	0.01		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
pH	pH		6.5-8.5	7.51	7.94	7.77	7.98	7.93	7.6	7.64	7.75
Total Ammonia-N	mg/L	0.05		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.02	<0.020
Total Phosphorus	mg/L	0.002	a	0.008	0.007	0.0071	0.0099	0.006	0.0077	0.0081	0.0063
Total Suspended Solids	mg/L	1		<2.0	<2.0	2.1	<2.0	<2.0	<2.0	<2.0	<2.0
Acidity (as CaCO ₃)	mg/L	2		2	2.2	2.2	2.2	2	7.2	3	4
Oil and Grease	mg/L	2		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Cyanide, Weak Acid Diss	mg/L	0.002		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Cyanide, Total	mg/L	0.002		<0.0020	<0.0020	0.0053	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Cyanide, Free	mg/L	0.002	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

Notes:

PWQO= Provincial Water Quality Objectives

All concentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

*** Exceedence of PWQO Standards**

for the ice-free period should not exceed 0.02 mg/L; a high level of protection against aesthetic deterioration will be provided by a total phosphorus concentration for the ice-free period of 0.01 mg/L or less. This should apply to all lakes naturally below this value; Excessive plant growth in rivers and streams should be eliminated at a total phosphorus concentration below 0.03 mg/L.

Italized Values have detection limits above the PWQO

Table 3.14: Dissolved metals for SW5

Dissolved Metals				2012					2013		
Parameter	Units	MDL	PWQO	Q1	Q2		Q3		Q1	Q3	Q4
				Jan. 26	May 15	June 21	July 19	Aug. 22	Jan 29	July 24	Oct 30
Dissolved Aluminum (Al)	mg/L	0.005		<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.010	<0.0050	0.0042
Dissolved Antimony (Sb)	mg/L	0.0005		<0.00060	<0.00060	<0.0050	<0.00060	<0.00060	<0.00050	<0.00060	<0.00010
Dissolved Arsenic (As)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0003
Dissolved Barium (Ba)	mg/L	0.002		<0.010	<0.010	<0.010	<0.010	<0.010	0.0076	<0.010	0.00787
Dissolved Beryllium (Be)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	<0.00050
Dissolved Bismuth (Bi)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.000050
Dissolved Boron (B)	mg/L	0.01		<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.010
Dissolved Cadmium (Cd)	mg/L	0.0001		<0.000017	<0.000017	<0.000090	<0.000017	<0.000017	<0.000090	<0.000017	<0.000010
Dissolved Calcium (Ca)	mg/L	0.2		15.6	15.2	13.9	14.4	13.7	15.8	14.9	14.0
Dissolved Cesium (Ce)	mg/L	0.0001		-	-	-	-	-	-	-	<0.00010
Dissolved Chromium (Cr)	mg/L	0.005		<0.0010	<0.0010	<0.00050	<0.0010	<0.0010	<0.00050	<0.0010	<0.00010
Dissolved Cobalt (Co)	mg/L	0.0005		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00010
Dissolved Copper (Cu)	mg/L	0.001		0.0011	0.0011	<0.0010	0.0011	<0.0010	0.0010	0.0011	0.00048
Dissolved Iron (Fe)	mg/L	0.1		<0.020	<0.020	<0.050	<0.020	<0.020	<0.050	<0.020	0.011
Dissolved Lead (Pb)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	<0.000050
Dissolved Lithium (Li)	mg/L	0.005		<0.050	<0.050	-	<0.050	<0.050	<0.10	<0.050	<0.0050
Dissolved Magnesium (Mg)	mg/L	0.05		3.43	3.29	3.19	3.19	2.87	3.65	3.19	3.11
Dissolved Manganese (Mn)	mg/L	0.002		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.00059
Dissolved Mercury (Hg)	mg/L	0.00005	0.0002	<0.00010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Dissolved Molybdenum (Mo)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	0.000152
Dissolved Nickel (Ni)	mg/L	0.001		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0010	<0.0020	0.0004
Dissolved Phosphorus (P)	mg/L	0.05		-	-	<0.050	-	-	<0.050	-	-
Dissolved Potassium (K)	mg/L	0.2		1.09	1.09	<1.0	1.01	0.89	1.10	1.02	0.988
Dissolved Rubidium (Rb)	mg/L	0.001		-	-	-	-	-	-	-	0.0016
Dissolved Selenium (Se)	mg/L	0.002		<0.0010	<0.0010	<0.00040	<0.0010	<0.0010	<0.00040	<0.0010	<0.00010
Dissolved Silicon (Si)	mg/L	0.05		-	-	<1.0	-	-	1.2	-	1.57
Dissolved Silver (Ag)	mg/L	0.0001		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.000010
Dissolved Sodium (Na)	mg/L	0.1		3.74	3.47	3.33	3.44	3.14	3.83	3.50	3.16
Dissolved Strontium (Sr)	mg/L	0.001		0.0313	0.0280	0.0274	0.0265	0.0254	0.0309	0.0276	0.0286
Dissolved Tellurium (Te)	mg/L	0.001		<0.0010	<0.0010	-	<0.0010	<0.0010	-	<0.0010	<0.00060
Dissolved Thallium (Tl)	mg/L	0.00005		<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.000050
Dissolved Tin (Sn)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00010
Dissolved Titanium (Ti)	mg/L	0.005		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.00030
Dissolved Tungsten (W)	mg/L	0.001		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	-
Dissolved Uranium (U)	mg/L	0.0001		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0010	<0.0050	0.000028
Dissolved Vanadium (V)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	0.00016
Dissolved Zinc (Zn)	mg/L	0.005		<0.0030	<0.0030	<0.0030	0.0035	<0.0030	0.0033	<0.0030	<0.0050
Dissolved Zirconium (Zr)	mg/L	0.001		<0.0010	<0.0010	<0.0040	<0.0010	<0.0010	<0.0040	<0.0010	<0.0050

Notes:

PWQO= Provincial Water Quality Objectives

All concentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

*** Exceedence of PWQO Standards**

At pH >5.5 to 6.5, no condition should be permitted which would increase the acid soluble inorganic aluminum concentration in clay-free samples to more than 10% above natural background concentrations for waters representative of that geological area of the Province that are unaffected by man-made inputs

Italized Values have detection limits above the PWQO

Table 3.15: Total metals for SW5

Total Metals				2012					2013			
	Parameter	Units	MDL	PWQO	Q1	Q2		Q3		Q1	Q3	Q4
					Jan. 26	May 15	June 21	July 19	Aug. 22	Jan 29	July 24	Oct 30
Total Aluminum (Al)	mg/L	0.005			0.0086	0.0234	0.023	0.0118	0.0118	0.0120	0.0159	0.014
Total Antimony (Sb)	mg/L	0.0005	0.02		<0.00060	<0.00060	<0.0050	<0.00060	<0.00060	<0.00050	<0.00060	<0.00010
Total Arsenic (As)	mg/L	0.001	0.005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.00033
Total Barium (Ba)	mg/L	0.002			<0.010	<0.010	<0.010	<0.010	<0.010	0.009	<0.010	0.00898
Total Beryllium (Be)	mg/L	0.0005	0.011 - 1.1 ^a		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	<0.00050
Total Bismuth (Bi)	mg/L	0.001			<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.000050
Total Boron (B)	mg/L	0.01	0.2		<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.010
Total Cadmium (Cd)	mg/L	0.0001	0.0001 - 0.0005 ^b		<0.000017	<0.000017	<0.000090	<0.000017	<0.000017	<0.000090	<0.000017	<0.000010
Total Calcium (Ca)	mg/L	0.2			14.8	14.3	13.2	14.2	14.1	17.5	14.7	14.6
Total Cesium (Ce)	mg/L	0.0001			-	-	-	-	-	-	-	<0.00010
Total Chromium (Cr)	mg/L	0.005			<0.0010	<0.0010	<0.00050	<0.0010	<0.0010	<0.00050	<0.0010	0.00022
Total Cobalt (Co)	mg/L	0.0005	0.0009		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00010
Total Copper (Cu)	mg/L	0.001	0.005		0.0012	0.0011	<0.0010	0.0015	0.0011	0.0020	0.0012	0.00096
Total Iron (Fe)	mg/L	0.1	0.3		0.022	0.037	<0.050	0.123	<0.020	<0.050	0.022	0.028
Total Lead (Pb)	mg/L	0.0005	0.001 - 0.005 ^c		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	<0.000050
Total Lithium (Li)	mg/L	0.005			<0.050	<0.050		<0.050	<0.050	<0.10	<0.050	<0.0050
Total Magnesium (Mg)	mg/L	0.05			3.15	3.16	2.62	3.07	2.97	3.69	3.04	2.89
Total Manganese (Mn)	mg/L	0.002			0.0017	0.0042	0.0026	0.0037	0.0030	0.0010	0.0045	0.0060
Total Mercury (Hg)	mg/L	0.00005			<0.00010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Total Molybdenum (Mo)	mg/L	0.0005	0.04		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	0.000167
Total Nickel (Ni)	mg/L	0.001	0.025		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0010	<0.0020	0.00053
Total Phosphorus (P)	mg/L	0.05			-	-	-	-	-	<0.050	-	-
Total Potassium (K)	mg/L	0.2			1.06	0.98	<1.0	0.99	0.95	1.20	1.02	1.06
Total Rubidium (Rb)	mg/L	0.001			-	-	-	-	-	-	-	0.0018
Total Selenium (Se)	mg/L	0.002	0.1		<0.0010	<0.0010	<0.00040	<0.0010	<0.0010	<0.00040	<0.0010	<0.00010
Total Silicon (Si)	mg/L	0.05			-	-	<1.0	-	-	1.4	-	1.48
Total Silver (Ag)	mg/L	0.0001	0.0001		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.000010
Total Sodium (Na)	mg/L	0.1			3.62	3.33	2.78	3.37	3.06	3.93	3.26	3.28
Total Strontium (Sr)	mg/L	0.001			0.0291	0.0278	0.0264	0.0279	0.0266	0.0342	0.0292	0.0285
Total Tellurium (Te)	mg/L	0.001			<0.0010	<0.0010	-	<0.0010	<0.0010	-	<0.0010	<0.00060
Total Thallium (Tl)	mg/L	0.00005	0.0003		<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.000050
Total Tin (Sn)	mg/L	0.001			<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00010
Total Titanium (Ti)	mg/L	0.005			<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0005
Total Tungsten (W)	mg/L	0.001	0.03		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	-
Total Uranium (U)	mg/L	0.0001	0.005		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0010	<0.0050	0.000031
Total Vanadium (V)	mg/L	0.0005	0.006		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	0.00035
Total Zinc (Zn)	mg/L	0.005	0.02		<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	0.0041	<0.0030	<0.0050
Total Zirconium (Zr)	mg/L	0.001			<0.0010	<0.0010	<0.0040	<0.0010	<0.0010	<0.0040	<0.0010	<0.0050

Notes:

PWQO= Provincial Water Quality Objectives

All cocentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

*** Exceedence of PWQO Standards**

^aCriteria is 0.011mg/L if Hardness as CaCO₃ is = 75mg/L

Criteria is 1.1 mg/L if the sample hardness is >75mg/L

^bCriteria is 0.0001mg/L if the the sample hardness is = 0-100 mg/L

Criteria is 0.0005 mg/L if the sample hardness is >100 mg/L

^cThe criteria will be 0.001 mg/L if the sample hardness is 30mg/L

The criteria will be 0.003 mg/L if the sample hardness is = 30-80mg/L

The criteria will be 0.005 µg/L if the sample hardness is = >30-80mg/L

Italized Values have detection limits above the PWQO

Table 3.16: Inorganics for SW6

Inorganics	2012										2013		
	Parameter	Units	MDL	PWQO	Q1	Q2		Q3		Q1	Q3	Q4	
					Jan. 26	May 15	June 21	June 21 Duplicate	July 19	Aug. 22	Jan 29	July 24	Oct 30
Alkalinity (Total as CaCO3)	mg/L	1			51	45.8	44.3	44.3	44.5	45.1	50	46.4	48.6
Conductivity	umho/cm	1			118	120	115	115	108	111	118	113	112
Dissolved Chloride (Cl)	mg/L	1			4.85	4.15	4.20	4.22	4.16	4.30	3.64	4.37	4.21
Dissolved Sulphate (SO4)	mg/L	1			3.33	2.91	2.85	2.80	2.74	4.53	2.46	2.88	2.86
Hardness (CaCO3)	mg/L	1.0			52.8	51.6	48	47	47.1	46.1	63	56	47.5
Nitrate (N)	mg/L	0.1			0.046	<0.030	<0.030	<0.030	<0.030	<0.030	0.075	<0.030	<0.030
Nitrite (N)	mg/L	0.01			<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
pH	pH		6.5-8.5		7.54	7.97	7.76	7.75	7.97	7.9	7.56	7.68	7.78
Total Ammonia-N	mg/L	0.05			<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.028
Total Phosphorus	mg/L	0.002	a		0.008	0.0522	0.0068	0.0071	0.0081	0.0077	0.0292	0.0075	0.0068
Total Suspended Solids	mg/L	1			<2.0	2.9	2.6	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Acidity (as CaCO3)	mg/L	2			2.4	2.2	4	3.4	2	2	6.2	2	3
Oil and Grease	mg/L	2			<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Cyanide, Weak Acid Diss	mg/L	0.002			<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Cyanide, Total	mg/L	0.002			<0.0020	<0.0020	0.0059	0.0049	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Cyanide, Free	mg/L	0.002	0.005		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

Notes:

PWQO= Provincial Water Quality Objectives

All concentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

*** Exceedence of PWQO Standards**

for the ice-free period should not exceed 0.02 mg/L; a high level of protection against aesthetic deterioration will be provided by a total phosphorus concentration for the ice-free period of 0.01 mg/L or less. This should apply to all lakes naturally below this value; Excessive plant growth in rivers and streams should be eliminated at a total phosphorus concentration below 0.03 mg/L.

Italized Values have detection limits above the PWQO

Table 3.17: Dissolved metals for SW6

Dissolved Metals				2012						2013		
Parameter	Units	MDL	PWQO	Q1	Q2		Q3		Q1	Q3	Q4	
				Jan. 26	May 15	June 21	June 21 Duplicate	July 19	Aug. 22	Jan 29	July 24	Oct 30
Dissolved Aluminum (Al)	mg/L	0.005		<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.0050	0.125	<0.0050	0.0041
Dissolved Antimony (Sb)	mg/L	0.0005		<0.00060	<0.00060	<0.0050	<0.0050	<0.00060	<0.00060	<0.00050	<0.00060	<0.00010
Dissolved Arsenic (As)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.00032
Dissolved Barium (Ba)	mg/L	0.002		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.01	<0.010	0.0079
Dissolved Beryllium (Be)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	<0.00050
Dissolved Bismuth (Bi)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050
Dissolved Boron (B)	mg/L	0.01		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.010
Dissolved Cadmium (Cd)	mg/L	0.0001		<0.000017	<0.000017	<0.000090	<0.000090	<0.000017	<0.000017	<0.000090	<0.000017	<0.000010
Dissolved Calcium (Ca)	mg/L	0.2		15.6	15.2	13.9	13.6	13.7	13.7	16.1	16.5	14.1
Dissolved Cesium (Ce)	mg/L	0.0001		-	-	-	-	-	-	-	-	<0.00010
Dissolved Chromium (Cr)	mg/L	0.005		<0.0010	<0.0010	<0.00050	<0.00050	<0.0010	<0.0010	<0.00050	<0.0010	<0.00010
Dissolved Cobalt (Co)	mg/L	0.0005		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00010
Dissolved Copper (Cu)	mg/L	0.001		0.0010	0.0011	<0.0010	<0.0010	<0.0010	<0.0010	0.0018	0.0011	0.0005
Dissolved Iron (Fe)	mg/L	0.1		<0.020	<0.020	<0.050	<0.050	<0.020	<0.020	0.127	<0.020	<0.010
Dissolved Lead (Pb)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	0.000065
Dissolved Lithium (Li)	mg/L	0.005		<0.050	<0.050			<0.050	<0.050	<0.10	<0.050	<0.0050
Dissolved Magnesium (Mg)	mg/L	0.05		3.34	3.30	3.18	3.05	3.13	2.88	3.32	3.58	2.99
Dissolved Manganese (Mn)	mg/L	0.002		<0.0010	<0.0010	0.0025	0.0021	<0.0010	<0.0010	0.0038	<0.0010	0.0005
Dissolved Mercury (Hg)	mg/L	0.00005	0.0002	<0.00010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Dissolved Molybdenum (Mo)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	0.000156
Dissolved Nickel (Ni)	mg/L	0.001		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0010	<0.0020	0.00037
Dissolved Phosphorus (P)	mg/L	0.05		-	-	<0.050	<0.050	-	-	<0.050	-	-
Dissolved Potassium (K)	mg/L	0.2		1.09	1.10	<1.0	<1.0	0.95	0.90	<1.0	1.17	1.00
Dissolved Rubidium (Rb)	mg/L	0.001		-	-	-	-	-	-	-	-	0.0016
Dissolved Selenium (Se)	mg/L	0.002		<0.0010	<0.0010	<0.00040	<0.00040	<0.0010	<0.0010	<0.00040	<0.0010	<0.00010
Dissolved Silicon (Si)	mg/L	0.05		-	-	<1.0	<1.0	-	-	<1.0	-	1.53
Dissolved Silver (Ag)	mg/L	0.0001		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.000010
Dissolved Sodium (Na)	mg/L	0.1		3.73	3.53	3.27	3.23	3.33	3.11	3.29	3.92	3.21
Dissolved Strontium (Sr)	mg/L	0.001		0.0313	0.0278	0.0274	0.0264	0.0254	0.0258	0.0271	0.0297	0.0294
Dissolved Tellurium (Te)	mg/L	0.001		<0.0010	<0.0010	-	-	<0.0010	<0.0010	-	<0.0010	<0.00060
Dissolved Thallium (Tl)	mg/L	0.00005		<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.000050
Dissolved Tin (Sn)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00010
Dissolved Titanium (Ti)	mg/L	0.005		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.00030
Dissolved Tungsten (W)	mg/L	0.001		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	-
Dissolved Uranium (U)	mg/L	0.0001		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0010	<0.0050	0.000029
Dissolved Vanadium (V)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.00062	<0.0010	0.00017
Dissolved Zinc (Zn)	mg/L	0.005		<0.0030	0.0031	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0050
Dissolved Zirconium (Zr)	mg/L	0.001		<0.0010	<0.0010	<0.0040	<0.0040	<0.0010	<0.0010	<0.0040	<0.0010	<0.0050

Notes:

PWQO= Provincial Water Quality Objectives

All concentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

*** Exceedence of PWQO Standards**

At pH >5.5 to 6.5, no condition should be permitted which would increase the acid soluble inorganic aluminum concentration in clay-free samples to more than 10% above natural background concentrations for waters representative of that geological area of the Province that are unaffected by man-made inputs

Italized Values have detection limits above the PWQO

Table 3.18: Total metals for SW6

Total Metals				2012						2013		
Parameter	Units	MDL	PWQO	Q1	Q2		Q3		Q1	Q3	Q4	
				Jan. 26	May 15	June 21	June 21 Duplicate	July 19	Aug. 22	Jan 29	July 24	Oct 30
Total Aluminum (Al)	mg/L	0.005		0.0082	0.0261	0.024	0.021	0.0136	0.0149	0.8460	0.0237	0.017
Total Antimony (Sb)	mg/L	0.0005	0.02	<0.00060	<0.00060	<0.00050	<0.00050	<0.00060	<0.00060	<0.00050	<0.00060	<0.00010
Total Arsenic (As)	mg/L	0.001	0.005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.00036
Total Barium (Ba)	mg/L	0.002		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.0162	<0.010	0.00909
Total Beryllium (Be)	mg/L	0.0005	0.011 - 1.1 ^a	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	<0.00050
Total Bismuth (Bi)	mg/L	0.001		<0.0010	<0.0010	<0.0010	0.0012	<0.0010	<0.0010	<0.0010	<0.0010	<0.000050
Total Boron (B)	mg/L	0.01	0.2	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.010
Total Cadmium (Cd)	mg/L	0.0001	0.0001 - 0.0005 ^b	<0.000017	<0.000017	<0.000090	<0.000090	<0.000017	<0.000017	<0.000090	<0.000017	<0.000010
Total Calcium (Ca)	mg/L	0.2		16.6	12.8	13.5	12.9	14.1	14.1	19.2	15.3	14.4
Total Cesium (Ce)	mg/L	0.0001		-	-	-	-	-	-	-	-	<0.00010
Total Chromium (Cr)	mg/L	0.005		<0.0010	<0.0010	<0.00050	<0.00050	<0.0010	<0.0010	0.00132	<0.0010	0.00014
Total Cobalt (Co)	mg/L	0.0005	0.0009	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00010
Total Copper (Cu)	mg/L	0.001	0.005	0.0012	0.0012	0.0011	0.0010	<0.0010	0.0012	0.0036	0.0012	0.0010
Total Iron (Fe)	mg/L	0.1	0.3	0.021	0.036	<0.050	<0.050	<0.020	<0.020	0.734	0.036	0.027
Total Lead (Pb)	mg/L	0.0005	0.001 - 0.005 ^c	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	<0.000050
Total Lithium (Li)	mg/L	0.005		<0.050	<0.050	-	-	<0.050	<0.050	<0.10	<0.050	<0.0050
Total Magnesium (Mg)	mg/L	0.05		3.51	2.84	2.70	2.55	3.11	3.00	3.70	3.19	2.68
Total Manganese (Mn)	mg/L	0.002		0.0019	0.0039	0.0038	0.0037	0.0029	0.0033	0.0105	0.0053	0.0048
Total Mercury (Hg)	mg/L	0.00005		<0.00010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Total Molybdenum (Mo)	mg/L	0.0005	0.04	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	0.000165
Total Nickel (Ni)	mg/L	0.001	0.025	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0012	<0.0020	0.00053
Total Phosphorus (P)	mg/L	0.05		-	-	-	-	-	-	0.057	-	-
Total Potassium (K)	mg/L	0.2		1.16	0.95	<1.0	<1.0	0.98	0.97	1.20	1.06	1.01
Total Rubidium (Rb)	mg/L	0.001		-	-	-	-	-	-	-	-	0.0017
Total Selenium (Se)	mg/L	0.002	0.1	<0.0010	<0.0010	<0.00040	<0.00040	<0.0010	<0.0010	<0.00040	<0.0010	<0.00010
Total Silicon (Si)	mg/L	0.05		-	-	<1.0	<1.0	-	-	2.4	-	1.44
Total Silver (Ag)	mg/L	0.0001	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.000010
Total Sodium (Na)	mg/L	0.1		3.80	3.08	2.85	2.70	3.35	3.13	3.75	3.43	3.15
Total Strontium (Sr)	mg/L	0.001		0.0321	0.0248	0.0276	0.0271	0.0279	0.0267	0.0345	0.0297	0.0275
Total Tellurium (Te)	mg/L	0.001		<0.0010	<0.0010	-	-	<0.0010	<0.0010	-	<0.0010	<0.00060
Total Thallium (Tl)	mg/L	0.00005	0.0003	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.000050
Total Tin (Sn)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00010
Total Titanium (Ti)	mg/L	0.005		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0269	<0.0020	0.0006
Total Tungsten (W)	mg/L	0.001	0.03	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	-
Total Uranium (U)	mg/L	0.0001	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0010	<0.0050	0.000029
Total Vanadium (V)	mg/L	0.0005	0.006	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.00152	<0.0010	0.00033
Total Zinc (Zn)	mg/L	0.005	0.02	<0.0030	0.0050	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0050
Total Zirconium (Zr)	mg/L	0.001		<0.0010	<0.0010	<0.0040	<0.0040	<0.0010	<0.0010	<0.0040	<0.0010	<0.0050

Notes:

PWQO= Provincial Water Quality Objectives

All concentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

*** Exceedence of PWQO Standards**

^a Criteria is 0.011mg/L if Hardness as CaCO₃ is = 75mg/L

Criteria is 1.1 mg/L if the sample hardness is >75mg/L

^b Criteria is 0.0001mg/L if the the sample hardness is = 0-100 mg/L

Criteria is 0.0005 mg/L if the sample hardness is >100 mg/L

^c The criteria will be 0.001 mg/L if the sample hardness is 30mg/L

The criteria will be 0.003 mg/L if the sample hardness is = 30-80mg/L

The criteria will be 0.005 µg/L if the sample hardness is = >30-80mg/L

Italised Values have detection limits above the PWQO

Table 3.19: Inorganics for SW7

Inorganics				2012												2013			
Parameter	Units	MDL	PWQO	Q1		Q2			Q3			Q4			Q1	Q2	Q3	Q4	
				Jan. 27	March (Apr 5)	April 26	May 15	June 20	July 19	Aug. 22	Sept. 17	Oct. 31	Nov. 27	Dec. 18	Jan 28	April 18	July 23	Oct 30	
Alkalinity (Total as CaCO ₃)	mg/L	1		8.3	37.6	49.7	62.5	50	40	59.7	95.4	25.5	43	63.2	66.6	50	74.3	44.9	
Conductivity	umho/cm	1		23.6	87.9	109	135	107	90.3	130	189	64	102	151	151	117	149	99.4	
Dissolved Chloride (Cl)	mg/L	1		0.23	0.16	0.16	0.17	<0.10	0.18	0.22	0.28	0.43	<2.0	0.57	0.7	0.57	<0.10	0.29	
Dissolved Sulphate (SO ₄)	mg/L	1		2.47	1.06	1.31	1.61	0.39	3.44	4.91	1.14	2.82	4.5	7.28	8.35	5.62	0.56	3.86	
Hardness (CaCO ₃)	mg/L	1.0		7.72	36.3	49.6	66.3	52	50.1	67.2	100	33	49.6	62.7	88	57.9	83.8	48.9	
Nitrate (N)	mg/L	0.1		0.036	0.043	0.44	0.059	<0.030	0.112	0.12	0.084	0.138	0.32	0.457	0.533	0.44	0.051	0.201	
Nitrite (N)	mg/L	0.01		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.05	<0.020	<0.020	
pH	pH		6.5-8.5	6.24	7.64	7.73	7.95	7.61	7.47	7.68	7.86	7.13	7.39	7.52	7.58	7.59	7.58	7.77	
Total Ammonia-N	mg/L	0.05		0.023	0.02	<0.020	0.03	<0.020	<0.020	<0.020	<0.020	<0.020	0.023	0.093	0.065	<0.02	<0.020	0.027	
Total Phosphorus	mg/L	0.002	a	0.0101	0.0284	0.0081	0.0088	0.0156	0.0181	0.0187	<0.0050	0.0110	0.0107	0.0139	0.0106	0.070	0.0075	0.0128	
Total Suspended Solids	mg/L	1		2.5	33	7.6	2.8	22.2	7.3	6.2	<2.0	5	3.4	<2.0	4.5	<10	<2.0	4.2	
Acidity (as CaCO ₃)	mg/L	2		3.4	2.2	2.6	2.6	3	2.8	2.8	2.4	3.43	5	6.4	7	<5	2	4	
Oil and Grease	mg/L	2		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	<2.0	<0.5	<2.0	<2.0	
Cyanide, Weak Acid Diss	mg/L	0.002		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	-	<0.0020	<0.0020	
Cyanide, Total	mg/L	0.002		<0.0020	<0.0020	<0.0020	<0.0020	0.0049	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.002	<0.0020	<0.0020	
Cyanide, Free	mg/L	0.002	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.002	<0.0050	<0.0050	

Notes:

PWQO= Provincial Water Quality Objectives

All concentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

*** Exceedence of PWQO Standards**

for the ice-free period should not exceed 0.02 mg/L; a high level of protection against aesthetic deterioration will be provided by a total phosphorus concentration for the ice-free period of 0.01 mg/L or less. This should apply to all lakes naturally below this value; Excessive plant growth in rivers and streams should be eliminated at a total phosphorus concentration below 0.03 mg/L.

Italized Values have detection limits above the PWQO

Table 3.20: Dissolved metals for SW7

Dissolved Metals				2012												2013			
Parameter	Units	MDL	PWQO	Q1		Q2			Q3			Q4			Q1	Q2	Q3	Q4	
				Jan. 27	March (Apr 5)	April 26	May 15	June 20	July 19	Aug. 22	Sept. 17	Oct. 31	Nov. 27	Dec. 18	Jan 28	April 18	July 23	Oct 30	
Dissolved Aluminum (Al)	mg/L	0.005		0.155	0.0068	<0.0050	0.0054	<0.010	0.0822	0.0291	<0.0050	0.168	0.0810	0.0450	0.022	0.019	<0.0050	0.0851	
Dissolved Antimony (Sb)	mg/L	0.0005		<0.00060	<0.00060	<0.00060	<0.00060	<0.0050	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00050	<0.003	<0.00060	<0.00010	
Dissolved Arsenic (As)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0011	0.0011	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.003	<0.0010	0.00069	
Dissolved Barium (Ba)	mg/L	0.002		<0.010	0.012	0.013	0.015	0.017	<0.010	<0.010	0.021	<0.010	<0.010	0.011	0.0097	0.008	0.019	0.009	
Dissolved Beryllium (Be)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.002	<0.0010	<0.00050	
Dissolved Bismuth (Bi)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	
Dissolved Boron (B)	mg/L	0.01		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.01	<0.050	<0.010	
Dissolved Cadmium (Cd)	mg/L	0.0001		0.000021	<0.000017	<0.000017	<0.000017	<0.000090	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000090	<0.0001	<0.000017	<0.000010	
Dissolved Calcium (Ca)	mg/L	0.2		2.13	12.7	17.1	22.8	18.2	15.4	20.9	34.4	10.2	15.1	19.1	24.6	17.3	29.2	14.9	
Dissolved Cesium (Ce)	mg/L	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00010	
Dissolved Chromium (Cr)	mg/L	0.005		<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.003	<0.0010	0.00051	
Dissolved Cobalt (Co)	mg/L	0.0005		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0005	<0.00050	0.00015	
Dissolved Copper (Cu)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	<0.0010	0.0010	<0.0010	<0.002	<0.0010	0.0004	
Dissolved Iron (Fe)	mg/L	0.1		0.251	0.205	0.138	0.096	0.070	0.564	0.629	0.173	0.670	0.606	0.614	0.459	0.360	0.030	0.865	
Dissolved Lead (Pb)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.001	<0.0010	0.000093	
Dissolved Lithium (Li)	mg/L	0.005		<0.050	<0.050	<0.050	<0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	<0.005	<0.050	<0.0050	
Dissolved Magnesium (Mg)	mg/L	0.05		0.585	1.13	1.68	2.24	1.54	2.81	3.66	3.53	1.85	2.90	3.66	4.52	3.58	2.65	2.85	
Dissolved Manganese (Mn)	mg/L	0.002		0.0082	0.0315	0.0530	0.0681	0.020	0.0138	0.0124	0.0719	0.0271	0.0336	0.0469	0.0317	0.0290	0.0212	0.0314	
Dissolved Mercury (Hg)	mg/L	0.00005	0.0002	<0.00010	<0.00010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.0001	<0.000010	<0.000010	
Dissolved Molybdenum (Mo)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.002	<0.0010	0.00021	
Dissolved Nickel (Ni)	mg/L	0.001		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0010	<0.003	<0.0020	0.00061	
Dissolved Phosphorus (P)	mg/L	0.05		-	-	-	-	<0.050	-	-	-	-	-	-	<0.050	-	-	-	
Dissolved Potassium (K)	mg/L	0.2		<0.50	0.54	0.54	0.72	<1.0	0.68	0.83	0.73	<0.50	0.59	0.94	<1.0	2.1	<0.50	0.66	
Dissolved Rubidium (Rb)	mg/L	0.001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0014	
Dissolved Selenium (Se)	mg/L	0.002		<0.0010	<0.0010	<0.0010	<0.0010	<0.00040	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00040	<0.004	<0.0010	<0.00010	
Dissolved Silicon (Si)	mg/L	0.05		-	-	-	-	4.2	-	-	-	-	-	-	6.5	4.83	-	6.04	
Dissolved Silver (Ag)	mg/L	0.0001		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.0001	<0.00010	<0.000010	
Dissolved Sodium (Na)	mg/L	0.1		1.64	0.71	1.00	1.39	0.83	1.47	1.74	1.61	1.12	1.49	1.87	1.95	1.52	1.32	1.39	
Dissolved Strontium (Sr)	mg/L	0.001		0.0079	0.0172	0.0229	0.0323	0.0271	0.0305	0.0400	0.0513	0.0209	0.0283	0.0407	0.0400	0.0310	0.0444	0.0301	
Dissolved Tellurium (Te)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	<0.05	<0.0010	<0.00060	
Dissolved Thallium (Tl)	mg/L	0.00005		<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.0003	<0.00030	<0.000050	
Dissolved Tin (Sn)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.002	<0.0010	<0.00010	
Dissolved Titanium (Ti)	mg/L	0.005		0.0039	<0.0020	<0.0020	<0.0020	<0.0020	0.0023	<0.0020	<0.0020	0.0033	<0.0020	<0.0020	<0.0020	<0.002	<0.0020	0.00186	
Dissolved Tungsten (W)	mg/L	0.001		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	-	
Dissolved Uranium (U)	mg/L	0.0001		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0010	<0.002	<0.0050	0.000056	
Dissolved Vanadium (V)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.002	<0.0010	0.00063	
Dissolved Zinc (Zn)	mg/L	0.005		<0.0030	0.0033	<0.0030	0.0076	<0.0030	<0.0030	0.0035	<0.0030	0.0076	0.0050	0.0053	<0.0030	0.0070	<0.0030	<0.0050	
Dissolved Zirconium (Zr)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	-	<0.0010	<0.0050	

Notes:
 PWQO= Provincial Water Quality Objectives
 All cocentrations in mg/L unless otherwise stated
 MDL= Reportable Detection Limit
 * Exceedence of PWQO Standards

At pH >5.5 to 6.5, no condition should be permitted which would increase the acid soluble inorganic aluminum concentration in clay-free samples to more than 10% above natural background concentrations for waters representative of that geological area of the Province that are unaffected by man-made inputs
Italized Values have detection limits above the PWQO

Table 3.21: Total metals for SW7

Total Metals				2012												2013			
Parameter	Units	MDL	PWQO	Q1		Q2				Q3			Q4			Q1	Q2	Q3	Q4
				Jan. 27	March (Apr 5)	April 26	May 15	June 20	July 19	Aug. 22	Sept. 17	Oct. 31	Nov. 27	Dec. 18	Jan 28	April 18	July 23	Oct 30	
Total Aluminum (Al)	mg/L	0.005		0.216	0.100	0.0334	0.0363	0.130	0.137	0.0728	<0.0050	0.213	0.148	0.103	0.057	0.109	0.0221	0.0995	
Total Antimony (Sb)	mg/L	0.0005	0.02	<0.00060	<0.00060	<0.00060	<0.00060	<0.0050	<0.00060	<0.00060	<0.00060	<0.0060	<0.0060	<0.0060	<0.00050	<0.003	<0.00060	<0.00010	
Total Arsenic (As)	mg/L	0.001	0.005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0011	0.0013	<0.0010	<0.010	<0.010	<0.0010	<0.0010	<0.003	<0.0010	0.00078	
Total Barium (Ba)	mg/L	0.002		<0.010	0.012	0.014	0.016	0.018	<0.010	0.011	0.016	<0.10	<0.10	0.012	0.0137	0.008	0.021	0.009	
Total Beryllium (Be)	mg/L	0.0005	0.011 - 1.1 ^a	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.010	<0.010	<0.00050	<0.002	<0.0010	<0.00050	
Total Bismuth (Bi)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.010	<0.0010	<0.0010	<0.001	<0.0010	<0.00050	
Total Boron (B)	mg/L	0.01	0.2	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.50	<0.50	<0.050	<0.010	<0.01	<0.050	<0.010	
Total Cadmium (Cd)	mg/L	0.0001	0.0001 - 0.0005 ^b	<0.000017	<0.000017	<0.000017	<0.000017	<0.000090	<0.000017	<0.000017	<0.000017	<0.00017	<0.00017	<0.000017	<0.000090	<0.0001	<0.000017	<0.000010	
Total Calcium (Ca)	mg/L	0.2		2.15	10.7	17.7	21.2	18.4	15.1	21.3	33.3	11.0	16.3	22.2	27.0	26.5	30.1	15.2	
Total Cesium (Ce)	mg/L	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00010	
Total Chromium (Cr)	mg/L	0.005		<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	<0.0010	<0.0010	<0.010	<0.010	<0.0010	<0.00050	<0.003	<0.0010	0.00055	
Total Cobalt (Co)	mg/L	0.0005	0.0009	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0050	<0.0050	<0.00050	<0.00050	<0.0005	<0.00050	0.00016	
Total Copper (Cu)	mg/L	0.001	0.005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0012	<0.0010	<0.0010	<0.010	<0.010	0.0015	0.0015	<0.002	<0.0010	0.00075	
Total Iron (Fe)	mg/L	0.1	0.3	0.390	0.586	0.392	0.350	0.509	0.809	1.02	0.180	0.85	0.92	0.901	0.939	0.620	0.441	1.030	
Total Lead (Pb)	mg/L	0.0005	0.001 - 0.005 ^c	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.010	<0.0010	<0.00050	<0.001	<0.0010	0.000085	
Total Lithium (Li)	mg/L	0.005		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.50	<0.50	<0.10	<0.005	<0.050	<0.0050	<0.0050	
Total Magnesium (Mg)	mg/L	0.05		0.584	1.06	1.77	2.13	1.48	2.69	3.68	3.28	1.95	2.99	3.93	5.04	4.43	2.60	2.56	
Total Manganese (Mn)	mg/L	0.002		0.0110	0.0767	0.0623	0.0727	0.0832	0.0226	0.0278	0.0747	0.032	0.039	0.0519	0.0405	0.0430	0.0844	0.0350	
Total Mercury (Hg)	mg/L	0.00005		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.0001	<0.000010	<0.000010	
Total Molybdenum (Mo)	mg/L	0.0005	0.04	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.010	<0.0010	<0.00050	<0.002	<0.0010	0.000208	
Total Nickel (Ni)	mg/L	0.001	0.025	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.020	<0.020	<0.0020	<0.0010	<0.003	<0.0020	0.00063	
Total Phosphorus (P)	mg/L	0.05		-	-	-	-	-	-	-	-	-	-	-	<0.050	-	-	-	
Total Potassium (K)	mg/L	0.2		<0.50	<0.50	0.56	0.67	<1.0	0.63	0.81	0.58	<5.0	<5.0	0.98	<1.0	2.16	<0.50	0.68	
Total Rubidium (Rb)	mg/L	0.001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0016	
Total Selenium (Se)	mg/L	0.002	0.1	<0.0010	<0.0010	<0.0010	<0.0010	<0.00040	<0.0010	<0.0010	<0.0010	<0.010	<0.010	<0.0010	<0.00040	<0.004	<0.0010	<0.00010	
Total Silicon (Si)	mg/L	0.05		-	-	-	-	3.70	-	-	-	-	-	-	7.50	5.15	-	5.91	
Total Silver (Ag)	mg/L	0.0001	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.0010	<0.0010	<0.00010	<0.00010	<0.0001	<0.00010	<0.000010	
Total Sodium (Na)	mg/L	0.1		1.47	0.57	1.03	1.32	0.77	1.39	1.70	1.58	1.10	1.60	1.99	2.27	1.66	1.27	1.39	
Total Strontium (Sr)	mg/L	0.001		0.0079	0.0166	0.0243	0.0304	0.0286	0.0299	0.0395	0.0510	0.021	0.029	0.0417	0.0486	0.0400	0.0478	0.0290	
Total Tellurium (Te)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	-	<0.0010	<0.0010	<0.0010	<0.010	<0.010	<0.0010	-	<0.05	<0.0010	<0.00060	
Total Thallium (Tl)	mg/L	0.00005	0.0003	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.0030	<0.0030	<0.00030	<0.00030	<0.0003	<0.00030	<0.000050	
Total Tin (Sn)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.010	<0.0010	<0.0010	<0.002	<0.0010	<0.00010	
Total Titanium (Ti)	mg/L	0.005		0.0064	0.0055	<0.0020	<0.0020	0.0074	0.0052	0.0040	<0.0020	<0.020	<0.020	0.0042	0.0025	0.0030	<0.0020	0.00292	
Total Tungsten (W)	mg/L	0.001	0.03	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.10	<0.10	<0.010	<0.010	<0.002	<0.010	-	
Total Uranium (U)	mg/L	0.0001	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	<0.050	<0.0050	<0.0010	<0.001	<0.0050	0.000058	
Total Vanadium (V)	mg/L	0.0005	0.006	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0012	0.0012	<0.0010	<0.010	<0.010	<0.0010	0.0008	<0.002	<0.0010	0.0009	
Total Zinc (Zn)	mg/L	0.005	0.02	0.0030	<0.0030	<0.0030	0.0039	<0.0030	<0.0030	<0.0030	<0.0030	<0.030	<0.030	0.0079	0.0034	0.158	<0.0030	<0.0050	
Total Zirconium (Zr)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	<0.0010	<0.0010	<0.0010	<0.010	<0.010	<0.0010	<0.0040	-	<0.0010	<0.0050	

Notes:

PWQO= Provincial Water Quality Objectives

All concentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

*** Exceedence of PWQO Standards**

^aCriteria is 0.011mg/L if Hardness as CaCO3 is = 75mg/L

Criteria is 1.1 mg/L if the sample hardness is >75mg/L

^bCriteria is 0.0001mg/L if the the sample hardness is = 0-100 mg/L

Criteria is 0.0005 mg/L if the sample hardness is >100 mg/L

^cThe criteria will be 0.001 mg/L if the sample hardness is 30mg/L

The criteria will be 0.003 mg/L if the sample hardness is = 30-80mg/L

The criteria will be 0.005 µg/L if the sample hardness is = >30-80mg/L

Italized Values have detection limits above the PWQO

Table 3.22: Inorganics for SW8

Inorganics				2012												2013			
Parameter	Units	MDL	PWQO	Q1		Q2			Q3			Q4			Q1	Q2	Q3		Q4
				Jan. 27	March (Apr 5)	April 27	May 15	June 20	July 19	Aug. 22	Sept. 17	Oct. 31	Nov. 27	Dec. 18	Jan 28	April 18	July 23	July 23 Duplicate	Oct 30
Alkalinity (Total as CaCO ₃)	mg/L	1		111	12.1	27.7	41.8	3.4	69.8	87.9	67.6	62.8	77.6	95.4	111	124	49.4	50.1	77.5
Conductivity	umho/cm	1		209	47.9	77.7	108	48.3	137	173	158	131	157	193	219	236	111	110	148
Dissolved Chloride (Cl)	mg/L	1		0.38	0.18	0.21	0.25	<0.10	0.13	0.2	0.38	0.41	<2.0	0.31	0.38	0.69	0.28	0.17	0.33
Dissolved Sulphate (SO ₄)	mg/L	1		3.49	3.13	4.87	5.81	1.42	0.5	0.74	7	0.86	<2.0	1.5	1.69	1.75	3.8	3.75	0.76
Hardness (CaCO ₃)	mg/L	1.0		114	18.3	36.8	51.4	27	75.6	92.5	73.8	61.6	75.4	81.6	130	123	57.7	58.5	73
Nitrate (N)	mg/L	0.1		0.29	0.103	0.188	0.168	0.046	0.037	0.1	0.205	0.059	0.11	0.156	0.177	0.16	0.099	0.095	0.053
Nitrite (N)	mg/L	0.01		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.05	<0.020	<0.020	<0.020
pH	pH		6.5-8.5	7.62	6.84	7.42	7.68	6.97	7.82	7.92	7.85	7.61	7.76	7.8	7.66	7.98	7.27	7.3	7.9
Total Ammonia-N	mg/L	0.05		0.224	<0.020	<0.020	0.022	<0.020	<0.020	<0.020	<0.020	<0.020	0.074	0.154	0.27	0.38	0.021	<0.020	0.031
Total Phosphorus	mg/L	0.002	a	0.0354	0.0347	0.0114	0.0283	0.0203	0.0091	0.0398	0.0982	<0.0050	<0.0050	0.0059	<0.0050	0.02	0.0155	0.0154	<0.0050
Total Suspended Solids	mg/L	1		137	35.4	3.1	8.3	49.5	3.5	53.2	15.4	5.2	<2.0	2.5	4.4	<10	2.4	<2.0	3.6
Acidity (as CaCO ₃)	mg/L	2		3.4	3.6	2.4	2.2	3.4	2.2	2.8	2.8	3	3.8	5.6	6.8	<5	3	4	4
Oil and Grease	mg/L	2		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<0.5	<2.0	<2.0	<2.0
Cyanide, Weak Acid Diss	mg/L	0.002		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	-	<0.0020	<0.0020	<0.0020
Cyanide, Total	mg/L	0.002		<0.0020	<0.0020	<0.0020	<0.0020	0.0056	<0.0020	<0.0020	0.0059	<0.0020	<0.0020	<0.0020	<0.0020	<0.002	<0.0020	<0.0020	<0.0020
Cyanide, Free	mg/L	0.002	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.002	<0.0050	<0.0050	<0.0050

Notes:

PWQO= Provincial Water Quality Objectives

All concentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

*** Exceedence of PWQO Standards**

for the ice-free period should not exceed 0.02 mg/L; a high level of protection against aesthetic deterioration will be provided by a total phosphorus concentration for the ice-free period of 0.01 mg/L or less. This should apply to all lakes naturally below this value; Excessive plant growth in rivers and streams should be eliminated at a total phosphorus concentration below 0.03 mg/L.

Italized Values have detection limits above the PWQO

Table 3.23: Dissolved metals for SW8

Dissolved Metals				2012											2013				
Parameter	Units	MDL	PWQO	Q1		Q2			Q3			Q4			Q1	Q2	Q3		Q4
				Jan. 27	March (Apr 5)	April 27	May 15	June 20	July 19	Aug. 22	Sept. 17	Oct. 31	Nov. 27	Dec. 18	Jan 28	April 18	July 23	July 23 Duplicate	Oct 30
Dissolved Aluminum (Al)	mg/L	0.005		<0.0050	0.164	0.0916	0.0597	0.272	<0.0050	<0.0050	0.0187	<0.0050	<0.0050	<0.0050	<0.010	0.005	0.0483	0.0501	0.0041
Dissolved Antimony (Sb)	mg/L	0.0005		<0.00060	<0.00060	<0.00060	<0.00060	<0.0050	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00050	<0.003	<0.00060	<0.00060	<0.00010
Dissolved Arsenic (As)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.003	0.0012	0.0012	0.0003
Dissolved Barium (Ba)	mg/L	0.002		0.031	<0.010	<0.010	<0.010	<0.010	0.021	0.021	0.010	0.014	0.017	0.019	0.036	0.032	0.011	0.011	0.017
Dissolved Beryllium (Be)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.002	<0.0010	<0.0010	<0.00050
Dissolved Bismuth (Bi)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.0010	<0.0010	<0.00050
Dissolved Boron (B)	mg/L	0.01		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.01	<0.050	<0.050	<0.010
Dissolved Cadmium (Cd)	mg/L	0.0001		<0.000017	<0.000017	<0.000017	<0.000017	<0.000090	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000090	<0.0001	<0.000017	<0.000017	<0.000010
Dissolved Calcium (Ca)	mg/L	0.2		39.0	5.61	11.2	15.7	8.45	26.4	32.4	22.3	21.7	26.4	28.5	40.7	43.0	17.8	18.0	25.6
Dissolved Cesium (Cs)	mg/L	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00010
Dissolved Chromium (Cr)	mg/L	0.005		<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.003	<0.0010	<0.0010	<0.00010
Dissolved Cobalt (Co)	mg/L	0.0005		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0005	<0.00050	<0.00050	<0.00010
Dissolved Copper (Cu)	mg/L	0.001		<0.0010	0.0014	<0.0010	<0.0010	0.0012	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.002	0.0165	0.0011	<0.00010
Dissolved Iron (Fe)	mg/L	0.1		0.244	0.309	0.281	0.375	0.559	0.203	0.160	0.486	0.173	0.320	0.046	0.156	0.110	0.684	0.717	0.351
Dissolved Lead (Pb)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.001	<0.0010	<0.0010	<0.000050
Dissolved Lithium (Li)	mg/L	0.005		<0.050	<0.050	<0.050	<0.050	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	<0.005	<0.050	<0.050	<0.0050
Dissolved Magnesium (Mg)	mg/L	0.05		3.99	1.04	2.16	2.96	1.46	2.34	2.79	4.42	1.83	2.31	2.52	3.69	3.83	3.23	3.28	2.23
Dissolved Manganese (Mn)	mg/L	0.002		0.708	0.0147	0.0181	0.0205	0.0187	0.0517	0.0869	0.0278	0.0630	0.128	0.218	0.6750	0.7900	0.007	0.007	0.115
Dissolved Mercury (Hg)	mg/L	0.00005	0.0002	<0.00010	<0.00010	<0.000010	0.000013	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.0001	<0.000010	<0.000010	<0.000010
Dissolved Molybdenum (Mo)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.002	<0.0010	<0.0010	0.00007
Dissolved Nickel (Ni)	mg/L	0.001		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0010	<0.003	<0.0020	<0.0020	0.0003
Dissolved Phosphorus (P)	mg/L	0.05		-	-	-	-	<0.050	-	-	-	-	-	-	<0.050	-	-	-	-
Dissolved Potassium (K)	mg/L	0.2		0.89	0.64	0.66	0.84	<1.0	<0.50	0.67	0.91	0.59	0.50	0.60	<1.0	0.98	0.79	0.80	0.63
Dissolved Rubidium (Rb)	mg/L	0.001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0014
Dissolved Selenium (Se)	mg/L	0.002		<0.0010	<0.0010	<0.0010	<0.0010	<0.00040	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00040	<0.004	<0.0010	<0.0010	<0.00010
Dissolved Silicon (Si)	mg/L	0.05		-	-	-	-	3.7	-	-	-	-	-	-	5.2	5.22	-	-	4.15
Dissolved Silver (Ag)	mg/L	0.0001		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.0001	<0.00010	<0.00010	<0.000010
Dissolved Sodium (Na)	mg/L	0.1		2.07	0.87	1.26	1.60	0.93	1.18	1.40	1.83	1.03	1.25	1.32	1.89	1.86	1.59	1.61	1.12
Dissolved Strontium (Sr)	mg/L	0.001		0.0553	0.0115	0.0215	0.0298	0.0183	0.0404	0.0494	0.0412	0.0282	0.0329	0.0395	0.0524	<0.005	0.0343	0.0343	0.0371
Dissolved Tellurium (Te)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	<0.05	<0.0010	<0.0010	<0.00060
Dissolved Thallium (Tl)	mg/L	0.00005		<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.0003	<0.00030	<0.00030	<0.000050
Dissolved Tin (Sn)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.002	<0.0010	<0.0010	<0.00010
Dissolved Titanium (Ti)	mg/L	0.005		<0.0020	0.0027	<0.0020	<0.0020	0.0035	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.002	0.0025	0.0025	<0.00030
Dissolved Tungsten (W)	mg/L	0.001		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.002	<0.010	<0.010	-
Dissolved Uranium (U)	mg/L	0.0001		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0010	<0.002	<0.0050	<0.0050	0.00007
Dissolved Vanadium (V)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.002	0.001	0.001	<0.00010
Dissolved Zinc (Zn)	mg/L	0.005		<0.0030	0.0120	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	0.0038	0.0042	<0.0030	0.0047	<0.005	0.0109	<0.0030
Dissolved Zirconium (Zr)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	-	<0.0010	<0.0010	<0.0050

Notes:

PWQO= Provincial Water Quality Objectives

All concentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

* Exceedence of PWQO Standards

At pH >5.5 to 6.5, no condition should be permitted which would increase the acid soluble inorganic aluminum concentration in clay-free samples to more than 10% above natural background concentrations for waters representative of that geological area of the Province that are unaffected by man-made inputs

Italicized Values have detection limits above the PWQO

Table 3.24: Total metals for SW8

Parameter	Total Metals			2012												2013			
	Units	MDL	PWQO	Q1		Q2			Q3			Q4			Q1	Q2	Q3		Q4
				Jan. 27	March (Apr 5)	April 27	May 15	June 20	July 19	Aug. 22	Sept. 17	Oct. 31	Nov. 27	Dec. 18	Jan 28	April 18	July 23	July 23 Duplicate	Oct 30
Total Aluminum (Al)	mg/L	0.005		0.0786	0.316	0.160	0.0846	0.500	0.0342	0.0587	0.0632	<0.050	0.0148	0.0249	0.034	0.076	0.0978	0.1010	0.018
Total Antimony (Sb)	mg/L	0.0005	0.02	<0.00060	<0.00060	<0.00060	<0.00060	<0.0050	<0.00060	<0.00060	<0.00060	<0.0060	<0.00060	<0.00060	<0.00050	<0.003	<0.00060	<0.00060	<0.00010
Total Arsenic (As)	mg/L	0.001	0.005	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.0010	<0.0010	<0.003	0.0014	0.0014	0.0004
Total Barium (Ba)	mg/L	0.002		0.035	<0.010	<0.010	<0.010	0.012	0.020	0.025	<0.010	<0.10	0.017	0.021	0.041	0.033	0.012	0.012	0.018
Total Beryllium (Be)	mg/L	0.0005	0.011 - 1.1 ^a	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.0010	<0.00050	<0.002	<0.0010	<0.0010	<0.00050
Total Bismuth (Bi)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.0010	<0.0010	<0.001	<0.0010	<0.0010	<0.00050
Total Boron (B)	mg/L	0.01	0.2	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.50	<0.050	<0.050	<0.010	<0.01	<0.050	<0.050	<0.010
Total Cadmium (Cd)	mg/L	0.0001	0.0001 - 0.0005 ^b	<0.000017	<0.000017	<0.000017	<0.000017	<0.000090	<0.000017	<0.000017	<0.000017	<0.00017	<0.000017	<0.000017	<0.000090	<0.0001	<0.000017	<0.000017	<0.000010
Total Calcium (Ca)	mg/L	0.2		40.5	5.76	10.7	14.5	9.06	25.3	32.4	19.0	22.4	28.2	33.7	45.5	43.4	18.9	19.5	26.30
Total Cesium (Ce)	mg/L	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00010
Total Chromium (Cr)	mg/L	0.005		<0.0010	<0.0010	<0.0010	<0.0010	0.00113	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.0010	<0.00050	<0.003	<0.0010	<0.0010	0.00011
Total Cobalt (Co)	mg/L	0.0005	0.0009	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0050	<0.00050	<0.00050	<0.00050	<0.0005	<0.00050	<0.00050	<0.00010
Total Copper (Cu)	mg/L	0.001	0.005	0.0011	0.0013	<0.0010	0.0011	0.0021	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.0010	0.0012	<0.002	0.0011	0.0011	0.0004
Total Iron (Fe)	mg/L	0.1	0.3	1.04	0.474	0.482	0.518	1.16	0.475	0.566	0.752	0.540	0.861	0.760	1.420	2.180	1.170	1.190	0.548
Total Lead (Pb)	mg/L	0.0005	0.001 - 0.005 ^c	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.0010	<0.00050	<0.001	<0.0010	<0.0010	<0.000050
Total Lithium (Li)	mg/L	0.005		<0.050	<0.050	<0.050	<0.050		<0.050	<0.050	<0.050	<0.50	<0.050	<0.050	<0.10	<0.005	<0.050	<0.050	<0.0050
Total Magnesium (Mg)	mg/L	0.05		4.22	0.865	2.15	2.76	1.45	2.20	2.76	3.67	1.79	2.24	2.71	4.06	3.93	3.17	3.19	2.17
Total Manganese (Mn)	mg/L	0.002		0.816	0.0177	0.0211	0.0220	0.0495	0.0600	0.203	0.0261	0.073	0.140	0.249	0.8290	0.9210	0.0296	0.0305	0.1200
Total Mercury (Hg)	mg/L	0.00005		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.0001	<0.00010	<0.00010	<0.00010
Total Molybdenum (Mo)	mg/L	0.0005	0.04	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.0010	<0.00050	<0.002	<0.0010	<0.0010	0.000069
Total Nickel (Ni)	mg/L	0.001	0.025	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.020	<0.0020	<0.0020	<0.0010	<0.003	<0.0020	<0.0020	0.00037
Total Phosphorus (P)	mg/L	0.05		-	-	-	-	-	-	-	-	-	-	-	<0.050	-	-	-	-
Total Potassium (K)	mg/L	0.2		0.97	<0.50	0.62	0.78	<1.0	<0.50	0.68	0.84	<5.0	0.52	0.62	<1.0	1.05	0.82	0.82	0.651
Total Rubidium (Rb)	mg/L	0.001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0015
Total Selenium (Se)	mg/L	0.002	0.1	<0.0010	<0.0010	<0.0010	<0.0010	<0.00040	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.0010	<0.00040	<0.004	<0.0010	<0.0010	<0.00010
Total Silicon (Si)	mg/L	0.05		-	-	-	-	3.4	-	-	-	-	-	-	5.9	5.51	-	-	3.9
Total Silver (Ag)	mg/L	0.0001	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.0010	<0.00010	<0.00010	<0.00010	<0.0001	<0.00010	<0.00010	<0.000010
Total Sodium (Na)	mg/L	0.1		2.20	0.82	1.24	1.50	0.86	1.13	1.28	1.50	<1.0	1.25	1.44	2.10	2.17	1.55	1.54	1.25
Total Strontium (Sr)	mg/L	0.001		0.0576	0.0097	0.0215	0.0280	0.0207	0.0413	0.0484	0.0367	0.029	0.0358	0.0422	0.0627	0.0600	0.0375	0.0382	0.0376
Total Tellurium (Te)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	-	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.0010	-	<0.05	<0.0010	<0.0010	<0.00060
Total Thallium (Tl)	mg/L	0.00005	0.0003	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.0030	<0.00030	<0.00030	<0.00030	<0.0003	<0.00030	<0.00030	<0.000050
Total Tin (Sn)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.0010	<0.0010	<0.002	<0.0010	<0.0010	<0.00010
Total Titanium (Ti)	mg/L	0.005		0.0043	0.0112	0.0062	0.0029	0.0122	<0.0020	0.0037	0.0034	<0.020	<0.0020	<0.0020	<0.0020	0.0040	0.0047	0.0049	0.0007
Total Tungsten (W)	mg/L	0.001	0.03	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.10	<0.010	<0.010	<0.010	<0.002	<0.010	<0.010	-
Total Uranium (U)	mg/L	0.0001	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	<0.0050	<0.0050	<0.0010	<0.001	<0.0050	<0.0050	0.000072
Total Vanadium (V)	mg/L	0.0005	0.006	<0.0010	<0.0010	<0.0010	0.0010	0.0023	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.0010	<0.00050	<0.002	0.0015	0.0015	0.0002
Total Zinc (Zn)	mg/L	0.005	0.02	<0.0030	<0.0030	<0.0030	0.0035	0.0036	<0.0030	<0.0030	<0.0030	<0.030	<0.0030	<0.0030	<0.0030	<0.005	<0.0030	<0.0030	<0.0050
Total Zirconium (Zr)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.0010	<0.0040	-	<0.0010	<0.0010	<0.0050

Notes:
PWQO= Provincial Water Quality Objectives
All concentrations in mg/L unless otherwise stated
 MDL= Reportable Detection Limit
*** Exceedence of PWQO Standards**
^a Criteria is 0.011mg/L if Hardness as CaCO3 is = 75mg/L
 Criteria is 1.1 mg/L if the sample hardness is >75mg/L
^b Criteria is 0.0001mg/L if the the sample hardness is = 0-100 mg/L
 Criteria is 0.0005 mg/L if the sample hardness is >100 mg/L
^c The criteria will be 0.001 mg/L if the sample hardness is 30mg/L
 The criteria will be 0.003 mg/L if the sample hardness is = 30-80mg/L
 The criteria will be 0.005 µg/L if the sample hardness is = >30-80mg/L
Italized Values have detection limits above the PWQO

Table 3.25: Inorganics for SW9

Inorganics				2012												2013		
Parameter	Units	MDL	PWQO	Q1		Q2			Q3			Q4			Q2	Q3	Q4	
				Jan. 26	March (Apr 5)	April 27	May 15	June 20	July 19	Aug. 22	Sept. 17	Oct. 31	Nov. 28	Dec. 19	April 16	July 23	Oct 30	
Alkalinity (Total as CaCO ₃)	mg/L	1		162	27	72	126	43.3	108	154	67.6	69.8	121	148	127	147	107	
Conductivity	umho/cm	1		276	72	153	248	96.8	205	282	158	146	235	285	243	284	196	
Dissolved Chloride (Cl)	mg/L	1		0.47	0.23	0.27	0.34	<0.10	0.27	0.36	0.38	0.56	<2.0	0.46	0.82	0.39	0.48	
Dissolved Sulphate (SO ₄)	mg/L	1		0.77	1.73	1.32	0.88	<0.30	0.59	0.53	7	1.16	<2.0	0.39	0.79	0.65	0.6	
Hardness (CaCO ₃)	mg/L	1.0		156	32.2	75.6	129	51	118	152	73.8	70.5	114	120	128	154	95.6	
Nitrate (N)	mg/L	0.1		0.124	0.161	0.094	0.072	<0.030	0.057	0.082	0.205	0.137	<0.10	0.104	0.19	0.088	0.101	
Nitrite (N)	mg/L	0.01		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.05	<0.020	<0.020	
pH	pH		6.5-8.5	7.91	7.17	7.59	7.96	7.08	7.69	8.02	7.85	7.41	7.83	7.89	7.94	7.89	7.91	
Total Ammonia-N	mg/L	0.05		0.035	<0.020	0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.026	0.038	0.09	0.02	0.031	
Total Phosphorus	mg/L	0.002	a	0.0081	0.0149	0.0081	0.0064	0.0089	0.0081	0.0103	0.0982	0.0111	0.0114	0.0108	0.02	0.0148	0.0062	
Total Suspended Solids	mg/L	1		40.4	8	2	<2.0	2	<2.0	10.4	15.4	3.1	3.4	3.2	21	2	3.4	
Acidity (as CaCO ₃)	mg/L	2		3	5.4	4.6	2.8	4.4	3.8	3.8	2.8	4.8	4.4	5	<5	3	3	
Oil and Grease	mg/L	2		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<0.5	<2.0	<2.0	
Cyanide, Weak Acid Diss	mg/L	0.002		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	-	<0.0020	<0.0020	
Cyanide, Total	mg/L	0.002		<0.0020	<0.0020	<0.0020	<0.0020	0.0059	<0.0020	<0.0020	0.0059	<0.0020	<0.0020	0.0059	<0.002	<0.0020	<0.0020	
Cyanide, Free	mg/L	0.002	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.002	<0.0050	<0.0050	

Notes:

PWQO= Provincial Water Quality Objectives

All concentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

*** Exceedence of PWQO Standards**

for the ice-free period should not exceed 0.02 mg/L; a high level of protection against aesthetic deterioration will be provided by a total phosphorus concentration for the ice-free period of 0.01 mg/L or less. This should apply to all lakes naturally below this value; Excessive plant growth in rivers and streams should be eliminated at a total phosphorus concentration below 0.03 mg/L.

Italized Values have detection limits above the PWQO

Table 3.26: Dissolved metals for SW9

Dissolved Metals				2012												2013		
Parameter	Units	MDL	PWQO	Q1		Q2			Q3			Q4			Q2	Q3	Q4	
				Jan. 26	March (Apr 5)	April 27	May 15	June 20	July 19	Aug. 22	Sept. 17	Oct. 31	Nov. 28	Dec. 19	April 16	July 23	Oct 30	
Dissolved Aluminum (Al)	mg/L	0.005		-	0.103	0.0461	0.0199	0.150	0.0254	0.0084	0.0187	0.0493	0.0243	0.0069	0.0140	0.0110	0.0257	
Dissolved Antimony (Sb)	mg/L	0.0005		-	<0.00060	<0.00060	<0.00060	<0.00050	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.0003	<0.00060	<0.00010	
Dissolved Arsenic (As)	mg/L	0.001		-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0003	<0.0010	0.00022	
Dissolved Barium (Ba)	mg/L	0.002		-	<0.010	0.014	0.021	0.012	0.020	0.023	0.010	0.012	0.020	0.022	0.022	0.024	0.016	
Dissolved Beryllium (Be)	mg/L	0.0005		-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0002	<0.0010	<0.00050	
Dissolved Bismuth (Bi)	mg/L	0.001		-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0001	<0.0010	<0.000050	
Dissolved Boron (B)	mg/L	0.01		-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.01	<0.050	<0.010	
Dissolved Cadmium (Cd)	mg/L	0.0001		-	<0.000017	<0.000017	<0.000017	<0.000090	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000010	
Dissolved Calcium (Ca)	mg/L	0.2		-	9.24	23.1	40.5	14.7	36.2	47.9	22.3	21.0	35.0	37.6	39.5	48.3	29.1	
Dissolved Cesium (Cs)	mg/L	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00010	
Dissolved Chromium (Cr)	mg/L	0.005		-	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0003	<0.0010	0.00022	
Dissolved Cobalt (Co)	mg/L	0.0005		-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0005	<0.00050	<0.00010	
Dissolved Copper (Cu)	mg/L	0.001		-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0002	<0.0010	<0.00010	
Dissolved Iron (Fe)	mg/L	0.1		-	0.187	<0.020	<0.020	0.211	0.108	0.031	0.486	0.223	0.258	0.073	0.090	<0.020	0.120	
Dissolved Lead (Pb)	mg/L	0.0005		-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0001	<0.0010	<0.000050	
Dissolved Lithium (Li)	mg/L	0.005		-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.005	<0.050	<0.0050	
Dissolved Magnesium (Mg)	mg/L	0.05		-	2.21	4.34	6.83	3.59	6.68	7.99	4.42	4.42	6.49	6.43	7.14	8.10	5.55	
Dissolved Manganese (Mn)	mg/L	0.002		-	0.0140	0.0236	0.0488	0.0179	0.0837	0.110	0.0278	0.209	0.166	0.150	0.119	0.052	0.098	
Dissolved Mercury (Hg)	mg/L	0.00005	0.0002	<0.00010	<0.00010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	
Dissolved Molybdenum (Mo)	mg/L	0.0005		-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0002	<0.0010	0.000172	
Dissolved Nickel (Ni)	mg/L	0.001		-	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0003	<0.0020	0.00035	
Dissolved Phosphorus (P)	mg/L	0.05		-	-	-	<0.050	-	-	-	-	-	-	-	-	-	-	
Dissolved Potassium (K)	mg/L	0.2		-	1.26	1.57	2.08	<1.0	1.49	1.77	0.91	1.21	1.50	1.61	1.88	1.71	1.30	
Dissolved Rubidium (Rb)	mg/L	0.001		-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	
Dissolved Selenium (Se)	mg/L	0.002		-	<0.0010	<0.0010	<0.0010	<0.00040	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0004	<0.0010	<0.00010	
Dissolved Silicon (Si)	mg/L	0.05		-	-	-	-	5.2	-	-	-	-	-	-	6.35	-	6.61	
Dissolved Silver (Ag)	mg/L	0.0001		-	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.000010	
Dissolved Sodium (Na)	mg/L	0.1		-	1.44	2.46	3.55	1.72	3.10	3.80	1.83	2.34	3.30	3.00	3.51	3.71	2.84	
Dissolved Strontium (Sr)	mg/L	0.001		-	0.0180	0.0387	0.0672	0.0330	0.0633	0.0789	0.0412	0.0374	0.0556	0.0629	0.0570	0.0771	0.0523	
Dissolved Tellurium (Te)	mg/L	0.001		-	<0.0010	<0.0010	<0.0010	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.05	<0.0010	<0.00060	
Dissolved Thallium (Tl)	mg/L	0.00005		-	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.0003	<0.00030	<0.000050	
Dissolved Tin (Sn)	mg/L	0.001		-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0002	<0.0010	<0.00010	
Dissolved Titanium (Ti)	mg/L	0.005		-	<0.0020	<0.0020	<0.0020	0.0022	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0002	<0.0020	0.00048	
Dissolved Tungsten (W)	mg/L	0.001		-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.002	<0.010	-	
Dissolved Uranium (U)	mg/L	0.0001		-	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0002	<0.0050	0.000049	
Dissolved Vanadium (V)	mg/L	0.0005		-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0002	<0.0010	0.00021	
Dissolved Zinc (Zn)	mg/L	0.005		-	0.0062	<0.0030	<0.0030	0.0042	0.0045	0.0034	<0.0030	0.0048	<0.0030	<0.0030	<0.005	<0.0030	<0.0050	
Dissolved Zirconium (Zr)	mg/L	0.001		-	<0.0010	<0.0010	<0.0010	<0.00040	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	<0.0010	<0.0050	

Notes:

PWQO= Provincial Water Quality Objectives

All concentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

*** Exceedence of PWQO Standards**

At pH >5.5 to 6.5, no condition should be permitted which would increase the acid soluble inorganic aluminum concentration in clay-free samples

to more than 10% above natural background concentrations for waters representative of that geological area of the Province that are unaffected by man-made inputs

Italicized Values have detection limits above the PWQO

Table 3.27: Total metals for SW9

Total Metals				2012												2013		
Parameter	Units	MDL	PWQO	Q1		Q2			Q3			Q4			Q2	Q3	Q4	
				Jan. 26	March (Apr 5)	April 27	May 15	June 20	July 19	Aug. 22	Sept. 17	Oct. 31	Nov. 28	Dec. 19	April 16	July 23	Oct 30	
Total Aluminum (Al)	mg/L	0.005		0.399	0.141	0.0639	0.0353	0.142	0.0648	0.187	0.0632	0.0586	0.0913	0.0563	0.4180	0.4660	0.0420	
Total Antimony (Sb)	mg/L	0.0005	0.02	<0.00060	<0.00060	<0.00060	<0.00060	<0.00050	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	
Total Arsenic (As)	mg/L	0.001	0.005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.00027	
Total Barium (Ba)	mg/L	0.002		0.029	<0.010	0.014	0.023	0.011	0.019	0.028	<0.010	0.012	0.021	0.025	0.031	0.033	0.018	
Total Beryllium (Be)	mg/L	0.0005	0.011 - 1.1 ^a	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	
Total Bismuth (Bi)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	
Total Boron (B)	mg/L	0.01	0.2	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.02	<0.050	<0.010	
Total Cadmium (Cd)	mg/L	0.0001	0.0001 - 0.0005 ^b	<0.000017	<0.000017	<0.000017	<0.000017	<0.000090	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	
Total Calcium (Ca)	mg/L	0.2		49.4	9.61	22.9	39.6	14.8	35.5	49.6	19.0	21.5	38.6	45.0	40.4	47.1	30.2	
Total Cesium (Cs)	mg/L	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00010	
Total Chromium (Cr)	mg/L	0.005		<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.003	0.0011	0.0003	
Total Cobalt (Co)	mg/L	0.0005	0.0009	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00010	
Total Copper (Cu)	mg/L	0.001	0.005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0023	<0.0010	<0.0010	<0.0010	<0.0010	<0.002	<0.0010	0.00078	
Total Iron (Fe)	mg/L	0.1	0.3	0.797	0.315	0.122	0.137	0.316	0.242	0.482	0.752	0.414	0.476	0.296	0.730	0.686	0.267	
Total Lead (Pb)	mg/L	0.0005	0.001 - 0.005 ^c	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.000051	
Total Lithium (Li)	mg/L	0.005		<0.050	<0.050	<0.050	<0.050	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.005	<0.050	<0.0050	
Total Magnesium (Mg)	mg/L	0.05		7.82	1.87	4.54	6.77	3.28	6.51	8.20	3.67	4.43	6.45	7.06	7.47	8.00	5.13	
Total Manganese (Mn)	mg/L	0.002		0.189	0.0294	0.0283	0.0572	0.0261	0.0639	0.336	0.0261	0.0940	0.220	0.192	0.214	0.280	0.132	
Total Mercury (Hg)	mg/L	0.00005		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	
Total Molybdenum (Mo)	mg/L	0.0005	0.04	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.002	<0.0010	0.000158	
Total Nickel (Ni)	mg/L	0.001	0.025	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.003	<0.0020	0.00092	
Total Phosphorus (P)	mg/L	0.05		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total Potassium (K)	mg/L	0.2		1.98	1.04	1.56	1.98	<1.0	1.45	1.90	0.84	1.26	1.62	1.69	2.17	1.82	1.39	
Total Rubidium (Rb)	mg/L	0.001		-	-	-	-	-	-	-	-	-	-	-	-	-	0.0018	
Total Selenium (Se)	mg/L	0.002	0.1	<0.0010	<0.0010	<0.0010	<0.0010	<0.00040	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.004	<0.0010	<0.00010	
Total Silicon (Si)	mg/L	0.05		-	-	-	-	4.3	-	-	-	-	-	-	8.06	-	6.22	
Total Silver (Ag)	mg/L	0.0001	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.000028	
Total Sodium (Na)	mg/L	0.1		3.96	1.44	2.51	3.54	1.57	3.06	3.64	1.50	2.30	3.25	3.38	3.68	3.60	2.80	
Total Strontium (Sr)	mg/L	0.001		0.0771	0.0162	0.0396	0.0671	0.0329	0.0651	0.0778	0.0367	0.0392	0.0615	0.0687	0.0650	0.0817	0.0514	
Total Tellurium (Te)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.05	<0.0010	<0.00060	
Total Thallium (Tl)	mg/L	0.00005	0.0003	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.000050	
Total Tin (Sn)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.002	<0.0010	<0.00010	
Total Titanium (Ti)	mg/L	0.005		0.0198	0.0038	<0.0020	<0.0020	0.0029	0.0023	0.0097	0.0034	<0.0020	0.0041	0.0026	0.0210	0.0226	0.0015	
Total Tungsten (W)	mg/L	0.001	0.03	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.002	<0.010	-	
Total Uranium (U)	mg/L	0.0001	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.001	<0.0050	0.000052	
Total Vanadium (V)	mg/L	0.0005	0.006	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.002	0.0012	0.00038	
Total Zinc (Zn)	mg/L	0.005	0.02	0.0039	<0.0030	<0.0030	<0.0030	0.0035	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	0.018	<0.0030	<0.0050	
Total Zirconium (Zr)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	<0.0010	<0.0050	

Notes:
 PWQO= Provincial Water Quality Objectives
 All concentrations in mg/L unless otherwise stated
 MDL= Reportable Detection Limit
*** Exceedence of PWQO Standards**
^a Criteria is 0.011mg/L if Hardness as CaCO3 is = 75mg/L
 Criteria is 1.1 mg/L if the sample hardness is >75mg/L
^b Criteria is 0.0001mg/L if the the sample hardness is = 0-100 mg/L
 Criteria is 0.0005 mg/L if the sample hardness is >100 mg/L
^c The criteria will be 0.001 mg/L if the sample hardness is 30mg/L
 The criteria will be 0.003 mg/L if the sample hardness is = 30-80mg/L
 The criteria will be 0.005 µg/L if the sample hardness is = >30-80mg/L
Italized Values have detection limits above the PWQO

Table 3.28: Inorganics for SW10

Parameter	Inorganics			2012												2013			
	Units	MDL	PWQO	Q1		Q2			Q3			Q4			Q1	Q2	Q3	Q4	
				Jan. 26	March (Apr 5)	April 27	May 15	June 20	July 19	Aug. 22	Sept. 17	Oct. 31	Nov. 27	Dec. 18	Jan 29	April 18	July 23	Oct 30	
Alkalinity (Total as CaCO ₃)	mg/L	1		74.1	14.8	36.2	57.2	18.4	37.1	67.4	73.1	41	61	69.8	75.2	74	56.7	51	
Conductivity	umho/cm	1		144	50	91	131	47.5	79.8	134	154	90	128	144	150	150	118	103	
Dissolved Chloride (Cl)	mg/L	1		0.23	0.24	0.2	0.21	<0.10	0.18	0.27	0.27	0.4	<2.0	0.24	0.38	0.5	0.18	0.29	
Dissolved Sulphate (SO ₄)	mg/L	1		2.84	3.88	3.56	2.87	0.83	1	1.75	1.88	1.93	<2.0	2.17	2.56	2.87	1.49	1.44	
Hardness (CaCO ₃)	mg/L	1.0		72.9	21.5	43.5	62.8	27	45.3	70.9	69.1	43.9	60	58.3	86	79.3	61.1	49.1	
Nitrate (N)	mg/L	0.1		0.057	0.078	0.056	0.064	<0.030	0.047	0.071	0.051	0.06	<0.10	0.053	0.066	0.12	0.045	0.058	
Nitrite (N)	mg/L	0.01		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.05	<0.020	<0.020	
pH	pH		6.5-8.5	7.55	6.94	7.52	7.83	6.75	7.31	7.54	7.68	7.33	7.53	7.61	7.58	7.72	7.38	7.57	
Total Ammonia-N	mg/L	0.05		0.037	<0.020	<0.020	<0.020	<0.020	<0.020	0.022	0.021	0.027	0.036	0.044	0.034	<0.02	0.039	0.047	
Total Phosphorus	mg/L	0.002	a	0.0979	0.0211	0.0051	0.0057	0.0111	0.0106	0.0908	0.0055	0.0142	0.0062	0.0057	<0.0050	0.03	0.0066	0.0118	
Total Suspended Solids	mg/L	1		58.6	16.1	<2.0	<2.0	31.5	<2.0	403	54.4	4.8	<2.0	<2.0	<2.0	<10	<2.0	17	
Acidity (as CaCO ₃)	mg/L	2		2.6	3.8	3	2.4	4.2	3	3.6	2.8	5	3.6	6.4	8.2	<5	5	5	
Oil and Grease	mg/L	2		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0.94	<2.0	<2.09	
Cyanide, Weak Acid Diss	mg/L	0.002		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	-	<0.0020	<0.0020	
Cyanide, Total	mg/L	0.002		<0.0020	<0.0020	<0.0020	<0.0020	0.0058	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.002	<0.0020	<0.0020	
Cyanide, Free	mg/L	0.002	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.002	<0.0050	<0.0050	

Notes:

PWQO= Provincial Water Quality Objectives

All concentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

*** Exceedence of PWQO Standards**

for the ice-free period should not exceed 0.02 mg/L; a high level of protection against aesthetic deterioration will be provided by a total phosphorus concentration for the ice-free period of 0.01 mg/L or less. This should apply to all lakes naturally below this value; Excessive plant growth in rivers and streams should be eliminated at a total phosphorus concentration below 0.03 mg/L.

Italized Values have detection limits above the PWQO

Table 3.29: Dissolved metals for SW10

Dissolved Metals				2012												2013			
Parameter	Units	MDL	PWQO	Q1		Q2			Q3			Q4			Q1	Q2	Q3	Q4	
				Jan. 26	March (Apr 5)	April 27	May 15	June 20	July 19	Aug. 22	Sept. 17	Oct. 31	Nov. 27	Dec. 18	Jan 29	April 18	July 23	Oct 30	
Dissolved Aluminum (Al)	mg/L	0.005		0.0101	0.147	0.0600	0.0283	0.331	0.136	0.0256	0.0126	0.0900	0.0346	0.0128	0.0150	0.0210	0.0368	0.0637	
Dissolved Antimony (Sb)	mg/L	0.0005		<0.00060	<0.00060	<0.00060	<0.00060	<0.00050	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00050	<0.003	<0.00060	<0.00010	
Dissolved Arsenic (As)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.003	<0.0010	0.00054	
Dissolved Barium (Ba)	mg/L	0.002		<0.010	<0.010	<0.010	0.011	0.012	0.012	0.013	0.011	<0.010	0.011	0.011	0.0116	0.011	0.012	0.011	
Dissolved Beryllium (Be)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.002	<0.0010	<0.00050	
Dissolved Bismuth (Bi)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.0010	<0.000050	
Dissolved Boron (B)	mg/L	0.01		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.01	<0.050	<0.010	
Dissolved Cadmium (Cd)	mg/L	0.0001		<0.000017	<0.000017	<0.000017	<0.000017	<0.000090	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000090	<0.0001	<0.000017	<0.000010	
Dissolved Calcium (Ca)	mg/L	0.2		23.7	6.86	14.0	20.3	08.81	14.6	23.1	22.1	14.1	19.2	18.7	26.2	25.6	19.7	15.9	
Dissolved Cesium (Ce)	mg/L	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00010	
Dissolved Chromium (Cr)	mg/L	0.005		0.0013	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.003	<0.0010	0.00059	
Dissolved Cobalt (Co)	mg/L	0.0005		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0005	<0.00050	0.0003	
Dissolved Copper (Cu)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.002	<0.0010	<0.00010	
Dissolved Iron (Fe)	mg/L	0.1		0.421	0.544	0.488	0.728	0.964	1.15	1.62	0.715	1.15	0.739	0.451	0.50	0.54	0.749	1.36	
Dissolved Lead (Pb)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.001	<0.0010	0.000089	
Dissolved Lithium (Li)	mg/L	0.005		<0.050	<0.050	<0.050	<0.050	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	<0.005	<0.050	<0.0050	
Dissolved Magnesium (Mg)	mg/L	0.05		3.35	1.06	2.11	2.95	1.28	2.13	3.21	3.37	2.13	2.90	2.82	3.77	3.73	2.86	2.27	
Dissolved Manganese (Mn)	mg/L	0.002		0.130	0.0249	0.0406	0.0528	0.0237	0.0502	0.0961	0.0872	0.108	0.153	0.128	0.144	0.089	0.008	0.149	
Dissolved Mercury (Hg)	mg/L	0.00005	0.0002	<0.00010	<0.00010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.0001	<0.000010	<0.000010	
Dissolved Molybdenum (Mo)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.002	<0.0010	0.000234	
Dissolved Nickel (Ni)	mg/L	0.001		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0010	<0.003	<0.0020	0.00033	
Dissolved Phosphorus (P)	mg/L	0.05		-	-	-	-	<0.050	-	-	-	-	-	-	<0.050	-	-	-	
Dissolved Potassium (K)	mg/L	0.2		0.71	0.55	0.58	0.78	<1.0	<0.50	0.73	0.66	<0.50	0.59	0.64	<1.0	0.8	0.57	0.57	
Dissolved Rubidium (Rb)	mg/L	0.001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0014	
Dissolved Selenium (Se)	mg/L	0.002		<0.0010	<0.0010	<0.0010	<0.0010	<0.00040	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00040	<0.004	<0.0010	<0.00010	
Dissolved Silicon (Si)	mg/L	0.05		-	-	-	-	4.6	-	-	-	-	-	-	7.2	6.68	-	7.27	
Dissolved Silver (Ag)	mg/L	0.0001		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.0001	<0.00010	<0.000010	
Dissolved Sodium (Na)	mg/L	0.1		1.97	1.01	1.46	1.83	1.00	1.40	1.93	1.80	1.45	1.73	1.56	2.01	1.98	1.75	1.55	
Dissolved Strontium (Sr)	mg/L	0.001		0.0372	0.0133	0.0233	0.0335	0.0194	0.0275	0.0392	0.0364	0.0241	0.0306	0.0319	0.0375	0.0350	0.0342	0.0290	
Dissolved Tellurium (Te)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	<0.05	<0.0010	<0.00060	
Dissolved Thallium (Tl)	mg/L	0.00005		<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.0003	<0.00030	<0.000050	
Dissolved Tin (Sn)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.002	<0.0010	<0.00010	
Dissolved Titanium (Ti)	mg/L	0.005		<0.0020	0.0023	<0.0020	<0.0020	0.0038	0.0025	<0.0020	<0.0020	0.0022	<0.0020	<0.0020	<0.0020	<0.002	<0.0020	0.00129	
Dissolved Tungsten (W)	mg/L	0.001		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.002	<0.010	-	
Dissolved Uranium (U)	mg/L	0.0001		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0010	<0.002	<0.0050	0.000023	
Dissolved Vanadium (V)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0012	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.00064	<0.002	<0.0010	0.00075	
Dissolved Zinc (Zn)	mg/L	0.005		<0.0030	0.0066	0.0045	<0.0030	0.0037	<0.0030	<0.0030	<0.0030	0.0052	0.0045	<0.0030	<0.0030	0.0110	<0.0030	<0.0050	
Dissolved Zirconium (Zr)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	-	<0.0010	<0.0050	

Notes:

PWQO= Provincial Water Quality Objectives

All concentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

*** Exceedence of PWQO Standards**

At pH >5.5 to 6.5, no condition should be permitted which would increase the acid soluble inorganic aluminum concentration in clay-free samples to more than 10% above natural background concentrations for waters representative of that geological area of the Province that are unaffected by man-made inputs

italized Values have detection limits above the PWQO

Table 3.30: Total metals for SW10

Parameter	Total Metals			2012												2013			
	Units	MDL	PWQO	Q1		Q2			Q3			Q4			Q1	Q2	Q3	Q4	
				Jan. 26	March (Apr 5)	April 27	May 15	June 20	July 19	Aug. 22	Sept. 17	Oct. 31	Nov. 27	Dec. 18	Jan 29	April 18	July 23	Oct 30	
Total Aluminum (Al)	mg/L	0.005		0.144	0.189	0.0688	0.0378	0.335	0.155	1.77	0.0431	0.104	0.0563	0.0221	0.030	0.032	0.0718	0.1050	
Total Antimony (Sb)	mg/L	0.0005	0.02	<0.00060	<0.00060	<0.00060	<0.00060	<0.0050	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00050	<0.003	<0.00060	<0.00010	
Total Arsenic (As)	mg/L	0.001	0.005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0021	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.003	<0.0010	0.00061	
Total Barium (Ba)	mg/L	0.002		0.012	<0.010	<0.010	0.011	0.012	0.012	0.033	0.012	<0.010	0.011	0.011	0.0182	0.01	0.013	0.013	
Total Beryllium (Be)	mg/L	0.0005	0.011 - 1.1 ^a	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.002	<0.0010	<0.00050	
Total Bismuth (Bi)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	0.0014	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.0010	<0.00050	
Total Boron (B)	mg/L	0.01	0.2	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.01	<0.050	<0.010	
Total Cadmium (Cd)	mg/L	0.0001	0.0001 - 0.0005 ^b	<0.000017	<0.000017	<0.000017	<0.000017	<0.000090	<0.000017	0.000057	<0.000017	<0.000017	<0.000017	<0.000017	<0.000090	<0.0001	<0.000017	<0.000010	
Total Calcium (Ca)	mg/L	0.2		25.0	7.50	13.8	19.3	09.1	14.4	25.2	20.3	14.5	20.7	22.4	28.1	25.7	21.3	15.6	
Total Cesium (Ce)	mg/L	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00010	
Total Chromium (Cr)	mg/L	0.005		<0.0010	<0.0010	<0.0010	<0.0010	0.00083	<0.0010	0.0048	<0.0010	<0.0010	<0.0010	<0.0010	0.00062	<0.003	<0.0010	0.00068	
Total Cobalt (Co)	mg/L	0.0005	0.0009	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00162	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0005	<0.00050	0.00035	
Total Copper (Cu)	mg/L	0.001	0.005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0028	<0.0010	<0.0010	<0.0010	<0.0010	0.0014	<0.002	<0.0010	0.00028	
Total Iron (Fe)	mg/L	0.1	0.3	1.97	0.862	0.685	0.790	1.330	1.61	8.71	1.23	1.54	1.28	0.854	1.13	0.94	1.52	1.720	
Total Lead (Pb)	mg/L	0.0005	0.001 - 0.005 ^c	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0011	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.001	<0.0010	0.000087	
Total Lithium (Li)	mg/L	0.005		<0.050	<0.050	<0.050	<0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	<0.005	<0.050	<0.0050	
Total Magnesium (Mg)	mg/L	0.05		3.60	0.905	2.19	2.84	1.24	2.04	3.68	3.03	2.13	2.83	3.04	3.91	3.88	2.73	2.35	
Total Manganese (Mn)	mg/L	0.002		0.164	0.0302	0.0413	0.0463	0.0300	0.0507	0.261	0.0894	0.123	0.171	0.145	0.173	0.121	0.045	0.153	
Total Mercury (Hg)	mg/L	0.00005		<0.00010	<0.00010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.0001	<0.000010	<0.000010	
Total Molybdenum (Mo)	mg/L	0.0005	0.04	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.002	<0.0010	0.000196	
Total Nickel (Ni)	mg/L	0.001	0.025	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0022	<0.0020	<0.0020	<0.0020	<0.0020	0.0011	<0.003	<0.0020	0.00036	
Total Phosphorus (P)	mg/L	0.05		-	-	-	-	-	-	-	-	-	-	-	<0.050	-	-	-	
Total Potassium (K)	mg/L	0.2		0.78	<0.50	0.55	0.71	<1.0	<0.50	0.88	0.67	<0.50	0.65	0.66	<1.0	1.18	0.58	0.59	
Total Rubidium (Rb)	mg/L	0.001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	
Total Selenium (Se)	mg/L	0.002	0.1	<0.0010	<0.0010	<0.0010	<0.0010	<0.00040	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00040	<0.004	<0.0010	<0.00010	
Total Silicon (Si)	mg/L	0.05		-	-	-	-	3.9	-	-	-	-	-	-	7.7	6.7	-	6.59	
Total Silver (Ag)	mg/L	0.0001	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.0001	<0.00010	<0.000010	
Total Sodium (Na)	mg/L	0.1		2.06	1.00	1.48	1.76	0.96	1.36	1.93	1.58	1.43	1.75	1.77	2.15	2.25	1.65	1.48	
Total Strontium (Sr)	mg/L	0.001		0.0382	0.0119	0.0241	0.0328	0.0206	0.0284	0.0449	0.0340	0.0254	0.0329	0.0346	0.0436	0.0420	0.0366	0.0276	
Total Tellurium (Te)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	0.07	<0.0010	<0.00060	
Total Thallium (Tl)	mg/L	0.00005	0.0003	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.0003	<0.00030	<0.000050	
Total Tin (Sn)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.002	<0.0010	<0.00010	
Total Titanium (Ti)	mg/L	0.005		0.0089	0.0049	<0.0020	<0.0020	0.0059	0.0035	0.0921	0.0021	0.0030	0.0026	<0.0020	<0.0020	<0.002	0.0026	0.00359	
Total Tungsten (W)	mg/L	0.001	0.03	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.002	<0.010	-	
Total Uranium (U)	mg/L	0.0001	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0010	<0.001	<0.0050	0.000029	
Total Vanadium (V)	mg/L	0.0005	0.006	0.0014	<0.0010	<0.0010	<0.0010	0.0011	0.0014	0.0096	<0.0010	0.0011	<0.0010	<0.0010	0.0009	<0.002	<0.0010	0.00119	
Total Zinc (Zn)	mg/L	0.005	0.02	0.0042	<0.0030	<0.0030	0.0038	0.0051	<0.0030	0.0146	<0.0030	<0.0030	0.0039	<0.0030	<0.0030	<0.005	<0.0030	<0.0050	
Total Zirconium (Zr)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	0.0058	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	-	<0.0010	<0.0050	

Notes:
PWQO= Provincial Water Quality Objectives
All cocentrations in mg/L unless otherwise stated
 MDL= Reportable Detection Limit
*** Exceedence of PWQO Standards**
^aCriteria is 0.011mg/L if Hardness as CaCO₃ is = 75mg/L
 Criteria is 1.1 mg/L if the sample hardness is >75mg/L
^b Criteria is 0.0001mg/L if the the sample hardness is = 0-100 mg/L
 Criteria is 0.0005 mg/L if the sample hardness is >100 mg/L
^cThe criteria will be 0.001 mg/L if the sample hardness is 30mg/L
 The criteria will be 0.003 mg/L if the sample hardness is = 30-80mg/L
 The criteria will be 0.005 µg/L if the sample hardness is = >30-80mg/L
Italized Values have detection limits above the PWQO

Table 3.31: Inorganics for SW11

Inorganics	2012												2013	
	Parameter	Units	MDL	PWQO	Q2			Q3		Q4		Q2	Q4	
					April 27	May 15	June 20	July 19	Aug. 22	Nov. 28	Dec. 19	April 18	Oct 30	
Alkalinity (Total as CaCO ₃)	mg/L	1		6	10.2	<5.0	<5.0	9.4	12.2	20.3	<5	<5.0		
Conductivity	umho/cm	1		37.4	42	32.7	33.1	36.1	35.2	60.8	100	30.1		
Dissolved Chloride (Cl)	mg/L	1		0.38	0.44	<0.10	0.11	0.16	<2.0	1.44	7.26	0.5		
Dissolved Sulphate (SO ₄)	mg/L	1		3.47	1.72	0.38	<0.30	<0.30	<2.0	2.29	8.32	0.30		
Hardness (CaCO ₃)	mg/L	1.0		16.5	24.4	18	18.9	25.3	19.3	27.1	38.8	15.5		
Nitrate (N)	mg/L	0.1		0.04	<0.030	0.087	<0.030	<0.030	0.12	0.1	0.49	0.063		
Nitrite (N)	mg/L	0.01		<0.020	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.05	<0.020		
pH	pH		6.5-8.5	5.76	6.36	5.2	5.06	5.94	5.63	6.46	6.61	5.36		
Total Ammonia-N	mg/L	0.05		<0.020	0.02	<0.020	<0.020	0.032	<0.020	0.108	0.26	<0.020		
Total Phosphorus	mg/L	0.002	a	0.0312	0.0231	0.0142	0.0158	0.0255	0.0204	0.0454	0.1	0.0245		
Total Suspended Solids	mg/L	1		36.2	9.2	8.6	2.4	31.9	<2.0	88.4	<10	<2.0		
Acidity (as CaCO ₃)	mg/L	2		9.6	5.2	14.6	16	13.6	12.2	20	<5	16		
Oil and Grease	mg/L	2		-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<0.5	<2.0		
Cyanide, Weak Acid Diss	mg/L	0.002		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	-	<0.0050		
Cyanide, Total	mg/L	0.002		<0.0020	0.0066	0.0066	<0.0020	<0.0020	<0.0020	<0.0020	<0.002	<0.0020		
Cyanide, Free	mg/L	0.002	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.002	<0.0050		

Notes:

PWQO= Provincial Water Quality Objectives

All concentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

* Exceedence of PWQO Standards

for the ice-free period should not exceed 0.02 mg/L; a high level of protection against aesthetic deterioration will be provided by a total phosphorus concentration for the ice-free period of 0.01 mg/L or less. This should apply to all lakes naturally below this value; Excessive plant growth in rivers and streams should be eliminated at a total phosphorus concentration below 0.03 mg/L.

Italized Values have detection limits above the PWQO

Table 3.32: Dissolved metals for SW11

Dissolved Metals	2012												2013	
	Parameter	Units	MDL	PWQO	Q2			Q3		Q4		Q2	Q4	
					April 27	May 15	June 20	July 19	Aug. 22	Nov. 28	Dec. 19	April 18	Oct 30	
Dissolved Aluminum (Al)	mg/L	0.005		0.309	0.487	0.546	0.511	0.483	0.421	0.354	0.349	0.350		
Dissolved Antimony (Sb)	mg/L	0.0005		<0.00060	<0.00060	<0.00050	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00010		
Dissolved Arsenic (As)	mg/L	0.001		<0.0010	0.0011	0.0010	0.0012	<0.010	<0.0010	<0.0010	<0.003	0.0009		
Dissolved Barium (Ba)	mg/L	0.002		<0.010	<0.010	<0.010	<0.010	<0.10	<0.010	<0.010	0.012	0.00672		
Dissolved Beryllium (Be)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.0010	<0.002	<0.00050		
Dissolved Bismuth (Bi)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.0010	<0.001	<0.000050		
Dissolved Boron (B)	mg/L	0.01		<0.050	<0.050	<0.050	<0.050	<0.50	<0.050	<0.050	<0.01	<0.010		
Dissolved Cadmium (Cd)	mg/L	0.0001		0.000027	0.000032	<0.000090	0.00004	<0.00017	0.000028	0.000030	<0.0001	0.000026		
Dissolved Calcium (Ca)	mg/L	0.2		4.88	7.29	5.17	05.9	7.9	5.52	7.62	11.40	4.41		
Dissolved Cesium (Ce)	mg/L	0.0001		-	-	-	-	-	-	-	-	<0.00010		
Dissolved Chromium (Cr)	mg/L	0.005		<0.0010	0.0014	<0.00050	0.0011	<0.010	<0.0010	<0.0010	<0.003	0.00093		
Dissolved Cobalt (Co)	mg/L	0.0005		<0.00050	<0.00050	<0.00050	0.00059	<0.0050	<0.00050	0.00059	0.00080	0.00043		
Dissolved Copper (Cu)	mg/L	0.001		<0.0010	0.0011	<0.0010	<0.0010	<0.010	<0.0010	<0.0010	0.003	0.00013		
Dissolved Iron (Fe)	mg/L	0.1		0.626	0.881	1.25	1.720	1.79	1.26	1.54	1.58	1.47		
Dissolved Lead (Pb)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.0010	<0.001	0.000433		
Dissolved Lithium (Li)	mg/L	0.005		<0.050	<0.050		<0.050	<0.50	<0.050	<0.050	<0.005	<0.0050		
Dissolved Magnesium (Mg)	mg/L	0.05		1.04	1.50	1.13	1.17	1.34	1.34	1.95	2.51	1.09		
Dissolved Manganese (Mn)	mg/L	0.002		0.0325	0.0297	0.0309	0.0496	0.053	0.0382	0.0627	0.0830	0.0389		
Dissolved Mercury (Hg)	mg/L	0.00005	0.0002	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.0001	<0.000010		
Dissolved Molybdenum (Mo)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.0010	<0.002	<0.000050		
Dissolved Nickel (Ni)	mg/L	0.001		<0.0020	<0.0020	<0.0020	<0.0020	<0.020	<0.0020	<0.0020	<0.003	0.0009		
Dissolved Phosphorus (P)	mg/L	0.05		-	-	<0.050	-	-	-	-	-	-		
Dissolved Potassium (K)	mg/L	0.2		<0.50	<0.50	<1.0	<0.50	<5.0	<0.50	<0.50	1.67	0.086		
Dissolved Rubidium (Rb)	mg/L	0.001		-	-	-	-	-	-	-	-	<0.0010		
Dissolved Selenium (Se)	mg/L	0.002		<0.0010	<0.0010	0.00054	<0.0010	<0.010	<0.0010	<0.0010	<0.004	0.00017		
Dissolved Silicon (Si)	mg/L	0.05		-	-	3.8	-	-	-	-	10.2	7.1		
Dissolved Silver (Ag)	mg/L	0.0001		<0.00010	<0.00010	<0.00010	<0.00010	<0.0010	<0.00010	<0.00010	<0.0001	<0.000010		
Dissolved Sodium (Na)	mg/L	0.1		1.01	1.32	0.93	0.99	1.1	1.26	1.57	3.32	1.10		
Dissolved Strontium (Sr)	mg/L	0.001		0.0110	0.0153	0.0133	0.0161	0.016	0.0127	0.0173	0.0300	0.0117		
Dissolved Tellurium (Te)	mg/L	0.001		<0.0010	<0.0010	-	<0.0010	<0.010	<0.0010	<0.0010	<0.05	<0.00060		
Dissolved Thallium (Tl)	mg/L	0.00005		<0.00030	<0.00030	<0.00030	<0.00030	<0.0030	<0.00030	<0.00030	<0.0003	<0.000050		
Dissolved Tin (Sn)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.0010	<0.002	0.00011		
Dissolved Titanium (Ti)	mg/L	0.005		0.0050	0.0096	0.0091	0.0108	<0.020	0.0092	0.0102	0.0130	0.0077		
Dissolved Tungsten (W)	mg/L	0.001		<0.010	<0.010	<0.010	<0.010	<0.10	<0.010	<0.010	<0.002	-		
Dissolved Uranium (U)	mg/L	0.0001		<0.0050	<0.0050	<0.0050	<0.0050	<0.050	<0.0050	<0.0050	<0.002	0.00002		
Dissolved Vanadium (V)	mg/L	0.0005		<0.0010	0.0013	<0.0010	0.0013	<0.010	<0.0010	<0.0010	<0.002	0.00064		
Dissolved Zinc (Zn)	mg/L	0.005		0.0108	0.0126	0.0087	0.0096	<0.030	0.0041	0.0048	0.0090	0.0051		
Dissolved Zirconium (Zr)	mg/L	0.001		<0.0010	<0.0010	<0.0040	<0.0010	<0.010	<0.0010	<0.0010	-	<0.0050		

Notes:

PWQO= Provincial Water Quality Objectives

All concentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

*** Exceedence of PWQO Standards**

At pH >5.5 to 6.5, no condition should be permitted which would increase the acid soluble inorganic aluminum concentration in clay-free samples

to more than 10% above natural background concentrations for waters representative of that geological area of the Province that are unaffected by man-made inputs

Italized Values have detection limits above the PWQO

Table 3.33: Total metals for SW11

Total Metals	2012												2013	
	Parameter	Units	MDL	PWQO	Q2			Q3		Q4		Q2	Q4	
					April 27	May 15	June 20	July 19	Aug. 22	Nov. 28	Dec. 19	April 18	Oct 30	
Total Aluminum (Al)	mg/L	0.005		1.21	0.654	0.885	0.5390	0.933	0.449	0.740	0.384	0.350		
Total Antimony (Sb)	mg/L	0.0005	0.02	<0.00060	<0.00060	<0.0050	<0.00060	<0.00060	<0.00060	<0.00060	<0.003	<0.00010		
Total Arsenic (As)	mg/L	0.001	0.005	<0.0010	0.0011	0.0011	0.0014	0.0015	<0.0010	<0.0010	<0.003	0.0010		
Total Barium (Ba)	mg/L	0.002		0.013	<0.010	0.011	<0.010	0.013	<0.010	0.011	0.011	0.007		
Total Beryllium (Be)	mg/L	0.0005	0.011 - 1.1 ^a	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.002	<0.00050		
Total Bismuth (Bi)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.000050		
Total Boron (B)	mg/L	0.01	0.2	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.01	<0.010		
Total Cadmium (Cd)	mg/L	0.0001	0.0001 - 0.0005 ^b	0.000031	0.000050	<0.000090	0.000036	0.000034	0.000030	0.000038	<0.0001	0.000027		
Total Calcium (Ca)	mg/L	0.2		5.27	6.62	5.36	05.9	7.39	5.73	8.86	16.30	4.50		
Total Cesium (Ce)	mg/L	0.0001		-	-	-	-	-	-	-	-	<0.00010		
Total Chromium (Cr)	mg/L	0.005		0.0024	0.0016	0.00162	0.0013	0.0021	<0.0010	0.0014	<0.003	0.00101		
Total Cobalt (Co)	mg/L	0.0005	0.0009	0.00073	<0.00050	0.00061	0.00058	0.00087	<0.00050	0.00074	0.00110	0.00043		
Total Copper (Cu)	mg/L	0.001	0.005	0.0020	0.0015	0.0013	<0.0010	0.0014	<0.0010	<0.0010	0.002	0.0003		
Total Iron (Fe)	mg/L	0.1	0.3	1.50	1.17	1.84	1.870	2.82	1.48	2.02	1.70	1.49		
Total Lead (Pb)	mg/L	0.0005	0.001 - 0.005 ^c	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	0.000543		
Total Lithium (Li)	mg/L	0.005		<0.050	<0.050		<0.050	<0.050	<0.050	<0.050	<0.005	<0.0050		
Total Magnesium (Mg)	mg/L	0.05		1.54	1.52	1.22	1.18	1.62	1.28	2.13	2.96	0.97		
Total Manganese (Mn)	mg/L	0.002		0.0437	0.0328	0.0367	0.0472	0.0585	0.0411	0.0693	0.1290	0.0371		
Total Mercury (Hg)	mg/L	0.00005		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.0001	<0.000010		
Total Molybdenum (Mo)	mg/L	0.0005	0.04	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.002	<0.000050		
Total Nickel (Ni)	mg/L	0.001	0.025	<0.0020	<0.0020	<0.0020	<0.0020	0.0021	<0.0020	<0.0020	<0.003	0.0009		
Total Phosphorus (P)	mg/L	0.05		-	-	-	-	-	-	-	-	-		
Total Potassium (K)	mg/L	0.2		<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	4.44	0.075		
Total Rubidium (Rb)	mg/L	0.001		-	-	-	-	-	-	-	-	<0.0010		
Total Selenium (Se)	mg/L	0.002	0.1	<0.0010	<0.0010	<0.00040	<0.0010	<0.0010	<0.0010	<0.0010	<0.004	0.00013		
Total Silicon (Si)	mg/L	0.05		-	-	4.1	-	-	-	-	10.2	6.5		
Total Silver (Ag)	mg/L	0.0001	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.0001	<0.000010		
Total Sodium (Na)	mg/L	0.1		1.09	1.24	0.88	0.95	0.98	1.17	1.70	3.43	1.04		
Total Strontium (Sr)	mg/L	0.001		0.0134	0.0155	0.0150	0.0156	0.0175	0.0141	0.0192	0.0390	0.0114		
Total Tellurium (Te)	mg/L	0.001		<0.0010	<0.0010	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.05	<0.00060		
Total Thallium (Tl)	mg/L	0.00005	0.0003	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.0003	<0.000050		
Total Tin (Sn)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.003	<0.00010		
Total Titanium (Ti)	mg/L	0.005		0.0433	0.0175	0.0312	0.013	0.0344	0.0121	0.0266	0.0130	0.0084		
Total Tungsten (W)	mg/L	0.001	0.03	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.002	-		
Total Uranium (U)	mg/L	0.0001	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.001	0.000021		
Total Vanadium (V)	mg/L	0.0005	0.006	0.0025	0.0015	0.0017	0.0012	0.0021	<0.0010	0.0016	<0.002	0.0009		
Total Zinc (Zn)	mg/L	0.005	0.02	0.0053	0.0070	0.0060	0.0051	0.0072	0.0064	0.0083	0.0510	0.0059		
Total Zirconium (Zr)	mg/L	0.001		<0.0010	<0.0010	<0.0040	<0.0010	<0.0010	<0.0010	<0.0010	-	<0.0050		

Notes:

PWQO= Provincial Water Quality Objectives

All concentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

*** Exceedence of PWQO Standards**

^a Criteria is 0.011mg/L if Hardness as CaCO₃ is = 75mg/L

Criteria is 1.1 mg/L if the sample hardness is >75mg/L

^b Criteria is 0.0001mg/L if the the sample hardness is = 0-100 mg/L

Criteria is 0.0005 mg/L if the sample hardness is >100 mg/L

^c The criteria will be 0.001 mg/L if the sample hardness is 30mg/L

The criteria will be 0.003 mg/L if the sample hardness is = 30-80mg/L

The criteria will be 0.005 µg/L if the sample hardness is = >30-80mg/L

Italized Values have detection limits above the PWQO

Table 3.34: Inorganics for TL1A

Inorganics				2012												2013			
Parameter	Units	MDL	PWQO	Q1	Q2				Q3			Q4			Q1	Q2	Q3	Q4	
				March (Apr 4)	April 26	April 26 Duplicate	May 15	June 20	July 19	Aug. 22	Sept. 17	Oct. 31	Nov. 27	Dec. 18	Jan 29	Jan 29 Duplicate	April 17	July 23	Oct 30
Alkalinity (Total as CaCO ₃)	mg/L	1		10.7	13.7	13.7	22.3	22.3	40.9	61.1	62.9	20.2	27.3	42.8	56.4	57.2	56	53.3	27.3
Conductivity	umho/cm	1		43.2	46.3	45	58.6	55.6	86.7	123	131	54	70.3	102	135	136	121	111	57.1
Dissolved Chloride (Cl)	mg/L	1		0.44	0.44	0.43	0.26	0.19	0.32	0.15	0.15	0.87	<2.0	1.56	3.1	2.68	1.87	0.41	0.71
Dissolved Sulphate (SO ₄)	mg/L	1		3.6	2.94	2.88	1.54	0.44	1.23	<0.30	<0.30	1.78	2.2	1.77	5.58	4.57	2.28	<0.30	<0.30
Hardness (CaCO ₃)	mg/L	1.0		17.6	19.5	19.3	27	31	49.6	65.1	64.8	26.5	34.1	40.2	75	71	59.9	59.7	27.3
Nitrate (N)	mg/L	0.1		0.109	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	0.07	<0.10	0.053	0.056	<0.030	0.08	<0.030	0.043
Nitrite (N)	mg/L	0.01		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020	<0.05	<0.020	<0.020
pH	pH		6.5-8.5	6.69	6.74	6.8	7.07	6.74	7.03	7.08	7.16	6.70	6.70	6.76	6.77	6.83	7.16	6.99	7.06
Total Ammonia-N	mg/L	0.05		<0.020	<0.020	<0.020	0.027	<0.020	0.089	0.085	0.081	<0.020	0.029	0.23	0.552	0.545	0.36	0.185	0.044
Total Phosphorus	mg/L	0.002	a	0.0518	0.0079	0.0074	0.0094	0.0366	0.0064	0.0128	0.0055	0.024	0.0265	0.0306	0.0636	0.0574	0.06	0.0208	0.0194
Total Suspended Solids	mg/L	1		8	3.3	<2.0	<2.0	5.3	3.7	10.2	4.6	5.7	2.2	5.2	12	11.7	<10	2.9	8
Acidity (as CaCO ₃)	mg/L	2		5	4.8	5.2	2.2	4.8	5.8	12	6.8	5.4	5.4	10.4	22.4	21	<5	6	7
Oil and Grease	mg/L	2		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	<2.0
Cyanide, Weak Acid Diss	mg/L	0.002		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	-	<0.0020	<0.0020
Cyanide, Total	mg/L	0.002		<0.0020	<0.0020	<0.0020	<0.0020	0.0065	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.002	<0.0020	<0.0020
Cyanide, Free	mg/L	0.002	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.002	<0.0050	<0.0050

Notes:

PWQO= Provincial Water Quality Objectives

All concentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

*** Exceedence of PWQO Standards**

for the ice-free period should not exceed 0.02 mg/L; a high level of protection against aesthetic deterioration will be provided by a total phosphorus concentration for the ice-free period of 0.01 mg/L or less. This should apply to all lakes naturally below this value; Excessive plant growth in rivers and streams should be eliminated at a total phosphorus concentration below 0.03 mg/L.

Italised Values have detection limits above the PWQO

Table 3.35: Dissolved metals for TL1A

Dissolved Metals				2012												2013			
Parameter	Units	MDL	PWQO	Q1	Q2				Q3			Q4			Q1	Q2	Q3	Q4	
				March (Apr 4)	April 26 Duplicate	May 15	June 20	July 19	Aug. 22	Sept. 17	Oct. 31	Nov. 27	Dec. 18	Jan 29 Duplicate	April 17	July 23	Oct 30		
Dissolved Aluminum (Al)	mg/L	0.005		0.128	0.0850	0.0825	0.0696	0.187	0.0611	0.0479	0.0175	0.110	0.111	0.0950	0.176	0.183	0.042	0.055	0.0580
Dissolved Antimony (Sb)	mg/L	0.0005		<0.00060	<0.00060	<0.00060	<0.00060	<0.0050	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00050	<0.00050	<0.003	<0.00060	<0.00010
Dissolved Arsenic (As)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0011	0.0011	<0.003	<0.0010	0.0005
Dissolved Barium (Ba)	mg/L	0.002		<0.010	<0.010	<0.010	<0.010	<0.010	0.012	0.014	<0.010	<0.010	<0.010	0.011	0.02	0.0199	0.013	0.014	0.007
Dissolved Beryllium (Be)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.00050	<0.002	<0.0010	<0.00050
Dissolved Bismuth (Bi)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.0010	<0.00050
Dissolved Boron (B)	mg/L	0.01		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.010	<0.01	<0.050	<0.010
Dissolved Cadmium (Cd)	mg/L	0.0001		<0.000017	0.000037	<0.000017	<0.000017	<0.000090	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000090	<0.000090	<0.0001	<0.000017	<0.000010
Dissolved Calcium (Ca)	mg/L	0.2		4.98	05.38	05.45	07.67	08.81	14.30	19.10	18.40	07.52	09.72	11.10	19.50	19.20	16.60	17.20	07.82
Dissolved Cesium (Cs)	mg/L	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00010
Dissolved Chromium (Cr)	mg/L	0.005		<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.00050	<0.003	<0.0010	0.0003
Dissolved Cobalt (Co)	mg/L	0.0005		<0.00050	<0.00050	<0.00050	<0.00050	0.00051	0.00272	0.00407	0.00217	<0.00050	<0.00050	0.00296	0.00593	0.00601	0.0026	0.00458	0.0008
Dissolved Copper (Cu)	mg/L	0.001		0.0014	0.0011	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0011	<0.002	0.0011	0.00021
Dissolved Iron (Fe)	mg/L	0.1		0.231	0.170	0.094	0.159	0.740	1.640	2.98	0.849	0.818	1.19	2.510	6.670	6.640	2.690	1.79	1.640
Dissolved Lead (Pb)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.00050	<0.001	<0.0010	0.000052
Dissolved Lithium (Li)	mg/L	0.005		<0.050	<0.050	<0.050	<0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	<0.10	<0.005	<0.050	<0.0050
Dissolved Magnesium (Mg)	mg/L	0.05		1.25	1.47	1.37	1.91	2.14	3.38	4.25	4.61	1.87	2.39	3.05	4.60	4.65	4.49	4.10	1.86
Dissolved Manganese (Mn)	mg/L	0.002		0.0076	0.0253	0.0246	0.0561	0.116	1.0600	1.84	1.26	0.0359	0.0950	0.848	1.76	1.76	0.86	1.83	0.235
Dissolved Mercury (Hg)	mg/L	0.00005	0.0002	<0.00010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.0001	<0.000010	<0.000010
Dissolved Molybdenum (Mo)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.00050	<0.002	<0.0010	0.000058
Dissolved Nickel (Ni)	mg/L	0.001		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0012	0.0012	<0.003	<0.0020	0.00052
Dissolved Phosphorus (P)	mg/L	0.05		-	-	-	-	<0.050	-	-	-	-	-	-	<0.050	<0.050	-	-	-
Dissolved Potassium (K)	mg/L	0.2		0.53	0.52	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	0.66	<1.0	<1.0	1.23	<0.50	0.34
Dissolved Rubidium (Rb)	mg/L	0.001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00110
Dissolved Selenium (Se)	mg/L	0.002		<0.0010	<0.0010	<0.0010	<0.0010	<0.00040	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00040	<0.00040	<0.004	<0.0010	<0.00010
Dissolved Silicon (Si)	mg/L	0.05		-	-	-	-	3.5	-	-	-	-	-	-	7.4	7.5	6.35	-	4.25
Dissolved Silver (Ag)	mg/L	0.0001		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.0001	<0.00010	<0.000010
Dissolved Sodium (Na)	mg/L	0.1		0.96	1.16	1.07	1.36	1.05	1.22	1.34	1.42	1.19	1.40	1.75	2.34	2.35	2.35	1.28	1.19
Dissolved Strontium (Sr)	mg/L	0.001		0.0105	0.0122	0.0121	0.0175	0.0216	0.0335	0.0453	0.0412	0.0160	0.0213	0.0275	0.0407	0.0410	0.0390	0.0387	0.0172
Dissolved Tellurium (Te)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	-	<0.05	<0.0010	<0.00060
Dissolved Thallium (Tl)	mg/L	0.00005		<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.0003	<0.00030	<0.000050
Dissolved Tin (Sn)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.002	<0.0010	<0.00010
Dissolved Titanium (Ti)	mg/L	0.005		0.0021	<0.0020	<0.0020	<0.0020	0.0037	<0.0020	<0.0020	<0.0020	0.0026	0.0026	0.0032	0.0059	0.0059	<0.002	<0.0020	0.00122
Dissolved Tungsten (W)	mg/L	0.001		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.002	<0.010	-
Dissolved Uranium (U)	mg/L	0.0001		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0010	<0.0010	<0.002	<0.0050	0.000012
Dissolved Vanadium (V)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.00197	0.00199	<0.002	<0.0010	0.00076
Dissolved Zinc (Zn)	mg/L	0.005		0.0130	0.0057	0.0059	0.0053	0.0032	<0.0030	<0.0030	<0.0030	0.0055	0.0061	0.0054	0.0084	0.0070	<0.005	0.0031	<0.0050
Dissolved Zirconium (Zr)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	<0.0040	-	<0.0010	<0.0050

Notes:

PWQO= Provincial Water Quality Objectives

All concentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

* Exceedence of PWQO Standards

At pH >5.5 to 6.5, no condition should be permitted which would increase the acid soluble inorganic aluminum concentration in clay-free samples

to more than 10% above natural background concentrations for waters representative of that geological area of the Province that are unaffected by man-made inputs

Italized Values have detection limits above the PWQO

Table 3.36: Total metals for TL1

Total Metals				2012										2013					
Parameter	Units	MDL	PWQO	Q1	Q2				Q3			Q4			Q1		Q2	Q3	Q4
				March (Apr 4)	April 26 Duplicate		May 15	June 20	July 19	Aug. 22	Sept. 17	Oct. 31	Nov. 27	Dec. 18	Jan 29 Duplicate		April 17	July 23	Oct 30
Total Aluminum (Al)	mg/L	0.005		0.222	0.112	0.118	0.110	0.211	0.0821	0.0540	0.046	0.239	0.156	0.2490	0.428	0.453	0.167	0.081	0.0465
Total Antimony (Sb)	mg/L	0.0005	0.02	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.0060	<0.0060	<0.00060	<0.00050	<0.00050	<0.003	<0.00060	<0.00010
Total Arsenic (As)	mg/L	0.001	0.005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.001	0.0011	<0.0010	<0.010	<0.010	<0.0010	0.0014	0.0013	<0.003	<0.0010	0.00037
Total Barium (Ba)	mg/L	0.002		<0.010	<0.010	<0.010	<0.010	<0.010	0.013	0.015	<0.010	<0.10	<0.10	0.013	0.0258	0.0247	0.012	0.016	0.005
Total Beryllium (Be)	mg/L	0.0005	0.011 - 1.1 ^a	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.010	<0.0010	<0.00050	<0.00050	<0.002	<0.0010	<0.00050
Total Bismuth (Bi)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.010	<0.0010	<0.0010	<0.0010	<0.001	<0.0010	<0.00050
Total Boron (B)	mg/L	0.01	0.2	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.50	<0.50	<0.050	<0.010	<0.010	<0.01	<0.050	<0.010
Total Cadmium (Cd)	mg/L	0.0001	0.0001 - 0.0005 ^b	<0.000017	<0.000017	<0.000017	0.000020	<0.000090	<0.000017	<0.000017	<0.000017	<0.00017	<0.00017	0.000022	<0.000090	<0.000090	<0.0001	<0.000017	<0.000010
Total Calcium (Ca)	mg/L	0.2		4.10	05.53	05.30	07.65	09.09	14.30	19.10	16.00	09.00	09.60	13.40	21.50	20.30	18.00	16.70	07.66
Total Cesium (Ce)	mg/L	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00010
Total Chromium (Cr)	mg/L	0.005		<0.0010	<0.0010	<0.0010	<0.0010	0.00051	<0.0010	<0.0010	<0.0010	<0.010	<0.010	<0.0010	0.00123	0.00129	<0.003	<0.0010	0.00024
Total Cobalt (Co)	mg/L	0.0005	0.0009	<0.00050	<0.00050	<0.00050	<0.00050	0.00054	0.00279	0.00411	0.00216	<0.0050	<0.0050	0.00303	0.00723	0.00691	0.0027	0.00532	0.00047
Total Copper (Cu)	mg/L	0.001	0.005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.010	<0.0010	0.0013	0.0016	<0.002	<0.0010	<0.00010
Total Iron (Fe)	mg/L	0.1	0.3	0.353	0.286	0.265	0.383	1.130	2.250	3.97	1.990	1.82	1.79	3.910	10.40	9.81	4.08	3.34	0.831
Total Lead (Pb)	mg/L	0.0005	0.001 - 0.005 ^c	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.010	<0.0010	<0.00050	<0.00050	<0.001	<0.0010	<0.000050
Total Lithium (Li)	mg/L	0.005		<0.050	<0.050	<0.050	<0.050	-	<0.050	<0.050	<0.050	<0.50	<0.50	<0.050	<0.10	<0.10	<0.005	<0.050	<0.0050
Total Magnesium (Mg)	mg/L	0.05		1.09	1.53	1.41	1.96	2.20	3.30	4.23	4.05	2.23	2.44	3.29	5.13	4.95	4.64	3.69	1.99
Total Manganese (Mn)	mg/L	0.002		0.0075	0.0302	0.0276	0.0643	0.137	1.030	1.86	1.23	0.085	0.095	0.93	2.140	2.020	0.912	2.020	0.15
Total Mercury (Hg)	mg/L	0.00005		<0.00010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.0001	<0.000010	<0.000010
Total Molybdenum (Mo)	mg/L	0.0005	0.04	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.010	<0.0010	<0.00050	<0.00050	<0.002	<0.0010	0.000063
Total Nickel (Ni)	mg/L	0.001	0.025	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.020	<0.020	<0.0020	0.0015	0.0015	<0.003	<0.0020	0.00048
Total Phosphorus (P)	mg/L	0.05		-	-	-	-	-	-	-	-	-	-	-	0.09	0.091	-	-	-
Total Potassium (K)	mg/L	0.2		<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<5.0	<5.0	0.63	<1.0	<1.0	1.44	<0.50	0.32
Total Rubidium (Rb)	mg/L	0.001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.001
Total Selenium (Se)	mg/L	0.002	0.1	<0.0010	<0.0010	<0.0010	<0.0010	0.00052	<0.0010	<0.0010	<0.0010	<0.010	<0.010	<0.0010	<0.00040	<0.00040	<0.004	<0.0010	<0.00010
Total Silicon (Si)	mg/L	0.05		-	-	-	-	3.3	-	-	-	-	-	-	8.70	8.30	6.38	-	4.52
Total Silver (Ag)	mg/L	0.0001	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.0010	<0.0010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.000010
Total Sodium (Na)	mg/L	0.1		0.96	1.16	1.07	1.35	1.09	1.23	1.21	1.21	1.30	1.40	1.79	2.61	2.49	2.74	1.13	1.17
Total Strontium (Sr)	mg/L	0.001		0.0096	0.0130	0.0123	0.0179	0.0204	0.0357	0.0444	0.0371	0.019	0.020	0.0301	0.051	0.048	0.043	0.039	0.0182
Total Tellurium (Te)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	-	<0.0010	<0.0010	<0.0010	<0.010	<0.010	<0.0010	-	-	0.06	<0.0010	<0.00060
Total Thallium (Tl)	mg/L	0.00005	0.0003	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.0030	<0.0030	<0.00030	<0.00030	<0.00030	<0.0003	<0.00030	<0.000050
Total Tin (Sn)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.010	<0.0010	<0.0010	<0.0010	<0.002	<0.0010	<0.00010
Total Titanium (Ti)	mg/L	0.005		0.0063	0.0022	0.0024	0.0024	0.0050	0.0023	<0.0020	<0.0020	<0.020	<0.020	0.0088	0.0147	0.0164	0.006	0.0027	0.0008
Total Tungsten (W)	mg/L	0.001	0.03	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.10	<0.10	<0.010	<0.010	<0.010	<0.002	<0.010	-
Total Uranium (U)	mg/L	0.0001	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	<0.050	<0.0050	<0.0010	<0.0010	<0.001	<0.0050	0.000011
Total Vanadium (V)	mg/L	0.0005	0.006	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.010	0.0015	0.00362	0.0034	<0.002	0.0011	0.00033
Total Zinc (Zn)	mg/L	0.005	0.02	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	0.0031	<0.0030	<0.0030	<0.030	<0.030	0.0062	0.0045	0.0051	0.007	<0.0030	<0.0050
Total Zirconium (Zr)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	<0.0010	<0.0010	<0.0010	<0.010	<0.010	<0.0010	<0.0040	<0.0040	-	<0.0010	<0.0050

Notes:

PWQO= Provincial Water Quality Objectives

All concentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

* Exceedence of PWQO Standards

^aCriteria is 0.011mg/L if Hardness as CaCO3 is = 75mg/L

Criteria is 1.1 mg/L if the sample hardness is >75mg/L

^bCriteria is 0.0001mg/L if the the sample hardness is = 0-100 mg/L

Criteria is 0.0005 mg/L if the sample hardness is >100 mg/L

^cThe criteria will be 0.001 mg/L if the sample hardness is 30mg/L

The criteria will be 0.003 mg/L if the sample hardness is = 30-80mg/L

The criteria will be 0.005 µg/L if the sample hardness is = >30-80mg/L

Italized Values have detection limits above the PWQO

Table 3.37: Inorganics for TL2A

Inorganics				2012							
Parameter	Units	MDL	PWQO	Q1	Q2			Q3		Q4	
				March (Apr 4)	April 26	May 15	June 20	July 19	Aug. 22	31	Oct. 31 Duplicate
Alkalinity (Total as CaCO ₃)	mg/L	1		33	43.4	60.4	50.2	75	78.6	63.5	62.9
Conductivity	umho/cm	1		88	107	138	114	152	159	142	141
Dissolved Chloride (Cl)	mg/L	1		0.5	0.5	0.42	0.15	0.18	0.27	0.93	0.94
Dissolved Sulphate (SO ₄)	mg/L	1		3.12	3.08	2.40	0.68	<0.30	1.18	2.08	2.08
Hardness (CaCO ₃)	mg/L	1.0		37.1	51.7	71.8	63	89.7	84	66.4	67.5
Nitrate (N)	mg/L	0.1		<0.030	<0.030	0.034	<0.030	<0.030	<0.030	<0.030	<0.030
Nitrite (N)	mg/L	0.01		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
pH	pH		6.5-8.5	7.22	7.37	7.54	6.95	7.5	7.65	7.12	7.13
Total Ammonia-N	mg/L	0.05		0.021	<0.020	0.029	<0.020	0.044	<0.020	0.04	0.033
Total Phosphorus	mg/L	0.002	a	0.094	0.0404	0.133	0.036	0.0379	0.0215	0.0423	0.0483
Total Suspended Solids	mg/L	1		122	59.8	252	4.9	5.2	2.8	6.9	14.4
Acidity (as CaCO ₃)	mg/L	2		5.4	6.2	3.8	7.2	3.8	3.6	7	8
Oil and Grease	mg/L	2		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Cyanide, Weak Acid Diss	mg/L	0.002		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Cyanide, Total	mg/L	0.002		<0.0020	<0.0020	<0.0020	0.0063	<0.0020	<0.0020	<0.0020	<0.0020
Cyanide, Free	mg/L	0.002	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

Notes:

PWQO= Provincial Water Quality Objectives

All concentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

*** Exceedence of PWQO Standards**

for the ice-free period should not exceed 0.02 mg/L; a high level of protection against aesthetic deterioration will be provided by a total phosphorus concentration for the ice-free period of 0.01 mg/L or less. This should apply to all lakes naturally below this value; Excessive plant growth in rivers and streams should be eliminated at a total phosphorus concentration below 0.03 mg/L.

Italized Values have detection limits above the PWQO

Table 3.38: Dissolved metals for TL2A

Dissolved Metals				2012							
Parameter	Units	MDL	PWQO	Q1	Q2			Q3		Q4	
				March (Apr 4)	April 26	May 15	June 20	July 19	Aug. 22	31	Oct. 31 Duplicate
Dissolved Aluminum (Al)	mg/L	0.005		0.138	0.0884	0.0502	0.112	0.0195	0.0103	0.0678	0.0705
Dissolved Antimony (Sb)	mg/L	0.0005		<0.00060	<0.00060	<0.00060	<0.00050	<0.00060	<0.00060	<0.00060	<0.00060
Dissolved Arsenic (As)	mg/L	0.001		<0.0010	<0.0010	0.0012	0.0012	0.0011	<0.0010	<0.0010	<0.0010
Dissolved Barium (Ba)	mg/L	0.002		<0.010	<0.010	0.012	0.013	<0.010	<0.010	0.012	0.012
Dissolved Beryllium (Be)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Bismuth (Bi)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Boron (B)	mg/L	0.01		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dissolved Cadmium (Cd)	mg/L	0.0001		<0.000017	<0.000017	<0.000017	<0.000090	<0.000017	<0.000017	<0.000017	<0.000017
Dissolved Calcium (Ca)	mg/L	0.2		10.0	13.7	19.6	17.1	24.6	23.0	17.5	17.8
Dissolved Chromium (Cr)	mg/L	0.005		<0.0010	<0.0010	0.0012	<0.00050	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Cobalt (Co)	mg/L	0.0005		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Copper (Cu)	mg/L	0.001		0.0015	0.0012	0.0021	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Iron (Fe)	mg/L	0.1		0.310	0.303	0.278	0.494	0.459	0.378	0.421	0.413
Dissolved Lead (Pb)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Lithium (Li)	mg/L	0.005		<0.050	<0.050	<0.050	-	<0.050	<0.050	<0.050	<0.050
Dissolved Magnesium (Mg)	mg/L	0.05		2.94	4.25	5.59	4.90	6.87	6.45	5.48	5.63
Dissolved Manganese (Mn)	mg/L	0.002		0.0226	0.0190	0.188	0.0772	0.0257	0.0375	0.0431	0.0406
Dissolved Mercury (Hg)	mg/L	0.00005	0.0002	<0.00010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Dissolved Molybdenum (Mo)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Nickel (Ni)	mg/L	0.001		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Dissolved Phosphorus (P)	mg/L	0.05		-	-	-	<0.050	-	-	-	-
Dissolved Potassium (K)	mg/L	0.2		1.98	2.37	2.95	1.3	1.96	1.96	2.92	2.98
Dissolved Selenium (Se)	mg/L	0.002		<0.0010	<0.0010	<0.0010	<0.00040	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Silicon (Si)	mg/L	0.05		-	-	-	2.9	-	-	-	-
Dissolved Silver (Ag)	mg/L	0.0001		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Sodium (Na)	mg/L	0.1		1.72	2.48	3.04	2.15	3.17	3.29	2.69	2.77
Dissolved Strontium (Sr)	mg/L	0.001		0.0207	0.0299	0.0403	0.0391	0.0568	0.0545	0.0402	0.0401
Dissolved Tellurium (Te)	mg/L	0.001		<0.0010	<0.0010	<0.0010	-	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Thallium (Tl)	mg/L	0.00005		<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Dissolved Tin (Sn)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Titanium (Ti)	mg/L	0.005		0.0028	<0.0020	<0.0020	0.0023	<0.0020	<0.0020	<0.0020	<0.0020
Dissolved Tungsten (W)	mg/L	0.001		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Dissolved Uranium (U)	mg/L	0.0001		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Vanadium (V)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Zinc (Zn)	mg/L	0.005		0.0077	0.0041	<0.0030	<0.0030	0.0033	0.0047	<0.0030	<0.0030
Dissolved Zirconium (Zr)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0040	<0.0010	<0.0010	<0.0010	<0.0010

Notes:

PWQO= Provincial Water Quality Objectives

All concentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

*** Exceedence of PWQO Standards**

At pH >5.5 to 6.5, no condition should be permitted which would increase the acid soluble inorganic aluminum concentration in clay-free samples to more than 10% above natural background concentrations for waters representative of that geological area of the Province that are unaffected by man-made inputs

Italized Values have detection limits above the PWQO

Table 3.39: Total metals for TL2A

Parameter	Total Metals			2012							
	Units	MDL	PWQO	Q1	Q2			Q3		Q4	
				March (Apr 4)	April 26	May 15	June 20	July 19	Aug. 22	31	Oct. 31 Duplicate
Total Aluminum (Al)	mg/L	0.005		1.77	0.390	1.27	0.197	0.1120	0.0773	0.243	0.588
Total Antimony (Sb)	mg/L	0.0005	0.02	<0.00060	<0.00060	<0.00060	<0.00050	<0.00060	<0.00060	<0.0060	<0.0060
Total Arsenic (As)	mg/L	0.001	0.005	<0.0010	<0.0010	0.0012	0.0011	0.0012	<0.0010	<0.010	<0.010
Total Barium (Ba)	mg/L	0.002		0.019	0.014	0.021	0.014	0.010	<0.010	<0.10	<0.10
Total Beryllium (Be)	mg/L	0.0005	0.011 - 1.1 ^a	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.010
Total Bismuth (Bi)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.010
Total Boron (B)	mg/L	0.01	0.2	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.50	<0.50
Total Cadmium (Cd)	mg/L	0.0001	0.0001 - 0.0005 ^b	0.000019	<0.000017	0.000039	<0.000090	<0.000017	<0.000017	<0.00017	<0.00017
Total Calcium (Ca)	mg/L	0.2		9.10	14.4	18.2	16.4	24.0	22.7	19.0	20.7
Total Chromium (Cr)	mg/L	0.005		0.0034	0.0013	0.0028	<0.00050	<0.0010	<0.0010	<0.010	<0.010
Total Cobalt (Co)	mg/L	0.0005	0.0009	0.00103	<0.00050	0.00095	0.00058	<0.00050	<0.00050	<0.0050	<0.0050
Total Copper (Cu)	mg/L	0.001	0.005	0.0074	0.0022	0.0087	0.0011	<0.0010	<0.0010	<0.010	<0.010
Total Iron (Fe)	mg/L	0.1	0.3	2.00	0.735	1.42	1.040	0.891	0.615	0.76	1.11
Total Lead (Pb)	mg/L	0.0005	0.001 - 0.005 ^c	0.0018	<0.0010	0.0043	<0.0010	<0.0010	<0.0010	<0.010	<0.010
Total Lithium (Li)	mg/L	0.005		<0.050	<0.050	<0.050	-	<0.050	<0.050	<0.50	<0.50
Total Magnesium (Mg)	mg/L	0.05		3.14	4.72	5.61	4.85	6.49	6.29	6.05	6.64
Total Manganese (Mn)	mg/L	0.002		0.0623	0.0506	0.150	0.1940	0.1460	0.0944	0.056	0.068
Total Mercury (Hg)	mg/L	0.00005		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.000010	<0.000010
Total Molybdenum (Mo)	mg/L	0.0005	0.04	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.010
Total Nickel (Ni)	mg/L	0.001	0.025	0.0027	<0.0020	0.0027	<0.0020	<0.0020	<0.0020	<0.020	<0.020
Total Potassium (K)	mg/L	0.2		2.27	2.50	3.00	1.3	1.88	1.92	<5.0	<5.0
Total Selenium (Se)	mg/L	0.002	0.1	<0.0010	<0.0010	<0.0010	<0.00040	<0.0010	<0.0010	<0.010	<0.010
Total Silicon (Si)	mg/L	0.05		-	-	-	2.7	-	-	-	-
Total Silver (Ag)	mg/L	0.0001	0.0001	0.00083	<0.00010	0.00072	<0.00010	<0.00010	<0.00010	<0.0010	<0.0010
Total Sodium (Na)	mg/L	0.1		1.49	2.63	2.96	2.11	3.13	3.00	2.9	3.1
Total Strontium (Sr)	mg/L	0.001		0.0227	0.0312	0.0408	0.0373	0.0594	0.0526	0.041	0.047
Total Tellurium (Te)	mg/L	0.001		<0.0010	<0.0010	<0.0010	-	<0.0010	<0.0010	<0.010	<0.010
Total Thallium (Tl)	mg/L	0.00005	0.0003	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.0030	<0.0030
Total Tin (Sn)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.010
Total Titanium (Ti)	mg/L	0.005		0.0724	0.0119	0.0420	0.0068	0.0046	0.0047	<0.020	0.021
Total Tungsten (W)	mg/L	0.001	0.03	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.10	<0.10
Total Uranium (U)	mg/L	0.0001	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	<0.050
Total Vanadium (V)	mg/L	0.0005	0.006	0.0032	0.0013	0.0024	<0.0010	<0.0010	<0.0010	<0.010	<0.010
Total Zinc (Zn)	mg/L	0.005	0.02	0.0112	0.0031	0.0153	0.0039	<0.0030	<0.0030	<0.030	<0.030
Total Zirconium (Zr)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0040	<0.0010	<0.0010	<0.010	<0.010

Notes:

PWQO= Provincial Water Quality Objectives

All concentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

*** Exceedence of PWQO Standards**

^a Criteria is 0.011mg/L if Hardness as CaCO₃ is = 75mg/L

Criteria is 1.1 mg/L if the sample hardness is >75mg/L

^b Criteria is 0.0001mg/L if the the sample hardness is = 0-100 mg/L

Criteria is 0.0005 mg/L if the sample hardness is >100 mg/L

^c The criteria will be 0.001 mg/L if the sample hardness is 30mg/L

The criteria will be 0.003 mg/L if the sample hardness is = 30-80mg/L

The criteria will be 0.005 µg/L if the sample hardness is = >30-80mg/L

Italized Values have detection limits above the PWQO

Table 3.40: Inorganics for TL3

Inorganics	2012														2013				
	Parameter	Units	MDL	PWQO	Q1		Q2			Q3			Q4			Q1	Q2	Q3	Q4
					Jan. 25	March (Apr 4)	April 26	May 15	June 20	July 19	Aug. 22	Sept. 17	Oct. 31	Nov. 27	Dec. 18	Jan 29	April 17	July 24	Oct 30
Alkalinity (Total as CaCO3)	mg/L	1			114	20.7	33.8	56.7	34.5	53.2	90.3	130	33.8	47.4	73.6	102	87	68.9	57.8
Conductivity	umho/cm	1			230	64.3	89.3	136	81.5	111	181	270	82.9	108	165	214	212	147	120
Dissolved Chloride (Cl)	mg/L	1			3.5	0.86	1.3	1.67	0.44	0.58	1.25	2.09	1.37	<2.0	2.55	2.75	10.4	1.54	1.9
Dissolved Sulphate (SO4)	mg/L	1			6.36	3.57	3.71	3.1	0.66	0.6	0.56	0.81	2.5	2.2	3.01	3.29	5.57	0.35	0.87
Hardness (CaCO3)	mg/L	1.0			116	28.1	41.3	64.7	44	66	96.5	131	40.8	53.4	67.6	133	104	82.7	59
Nitrate (N)	mg/L	0.1			0.341	0.135	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	0.064	<0.10	0.135	0.159	0.27	<0.030	<0.030
Nitrite (N)	mg/L	0.01			<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	0.037	<0.05	<0.020	<0.020
pH	pH		6.5-8.5		7.31	7.16	7.42	7.7	7.16	7.48	7.47	7.4	7.1	7.2	7.49	7.63	7.81	7.27	7.59
Total Ammonia-N	mg/L	0.05			0.187	<0.020	<0.020	<0.020	0.029	<0.020	<0.020	<0.020	<0.020	0.021	0.147	0.32	0.23	0.021	0.020
Total Phosphorus	mg/L	0.002	a		0.0437	0.0534	0.0103	0.0123	0.0222	0.0244	0.0311	0.0313	0.0225	0.106	0.042	0.0529	0.06	0.0272	0.0162
Total Suspended Solids	mg/L	1			9.2	44.6	2.3	<2.0	10.7	4.3	14.4	57	6.9	97.6	16.4	6.3	23	7.8	8
Acidity (as CaCO3)	mg/L	2			3.8	2.4	2.8	2.4	3	2.8	7.6	9	4.4	6.4	6	7.8	<5	5	8
Oil and Grease	mg/L	2			<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0.65	<2.0	<2.0
Cyanide, Weak Acid Diss	mg/L	0.002			<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	-	<0.0020	<0.0020
Cyanide, Total	mg/L	0.002			<0.0020	<0.0020	<0.0020	<0.0020	0.0055	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.002	<0.0020	0.0020
Cyanide, Free	mg/L	0.002	0.005		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.002	<0.0050	<0.0050

Notes:

PWQO= Provincial Water Quality Objectives

All concentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

*** Exceedence of PWQO Standards**

for the ice-free period should not exceed 0.02 mg/L; a high level of protection against aesthetic deterioration will be provided by a total phosphorus concentration for the ice-free period of 0.01 mg/L or less. This should apply to all lakes naturally below this value; Excessive plant growth in rivers and streams should be eliminated at a total phosphorus concentration below 0.03 mg/L.

Italized Values have detection limits above the PWQO

Table 3.41: Dissolved metals for TL3

Dissolved Metals				2012												2013			
				Q1		Q2			Q3			Q4				Q1	Q2	Q3	Q4
				Jan. 25	March (Apr 4)	April 26	May 15	June 20	July 19	Aug. 22	Sept. 17	Oct. 31	Nov. 27	Dec. 18	Jan 29	April 17	July 24	Oct 30	
Parameter	Units	MDL	PWQO																
Dissolved Aluminum (Al)	mg/L	0.005		0.0231	0.295	0.0587	0.0231	0.122	0.0254	0.0126	0.0079	0.0803	0.0678	0.0461	0.047	0.019	0.0364	0.0365	
Dissolved Antimony (Sb)	mg/L	0.0005		<0.00060	<0.00060	<0.00060	<0.00060	<0.0050	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00050	<0.003	<0.00060	<0.00010	
Dissolved Arsenic (As)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.003	<0.0010	0.00049	
Dissolved Barium (Ba)	mg/L	0.002		0.015	<0.010	<0.010	<0.010	<0.010	<0.010	0.011	0.012	<0.010	<0.010	0.011	0.012	0.014	<0.010	0.006	
Dissolved Beryllium (Be)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.002	<0.0010	<0.00050	
Dissolved Bismuth (Bi)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.0010	<0.000050	
Dissolved Boron (B)	mg/L	0.01		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.01	<0.050	<0.010	
Dissolved Cadmium (Cd)	mg/L	0.0001		<0.000017	<0.000017	0.000021	<0.000017	<0.000090	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000090	<0.0001	<0.000017	<0.000010	
Dissolved Calcium (Ca)	mg/L	0.2		31.9	07.7	11.2	17.9	12.4	18.6	27.7	36.0	11.3	15.0	18.4	33.7	28.7	23.5	16.4	
Dissolved Cesium (Ce)	mg/L	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00010	
Dissolved Chromium (Cr)	mg/L	0.005		<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.003	<0.0010	0.0003	
Dissolved Cobalt (Co)	mg/L	0.0005		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0005	<0.00050	0.0001	
Dissolved Copper (Cu)	mg/L	0.001		<0.0010	0.0017	0.0019	0.0013	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	0.0010	<0.0010	0.001	<0.002	0.0014	0.00022	
Dissolved Iron (Fe)	mg/L	0.1		0.808	0.391	0.099	0.023	0.491	0.769	0.293	0.266	0.541	0.796	1.330	3.180	0.780	0.389	0.535	
Dissolved Lead (Pb)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.001	<0.0010	0.000059	
Dissolved Lithium (Li)	mg/L	0.005		<0.050	<0.050	<0.050	<0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	<0.005	<0.050	<0.0050	
Dissolved Magnesium (Mg)	mg/L	0.05		8.86	2.12	3.28	4.82	3.20	4.76	6.64	10.0	3.04	3.88	5.25	8.67	7.77	5.84	04.4	
Dissolved Manganese (Mn)	mg/L	0.002		0.166	0.0261	0.0179	0.0209	0.0179	0.0255	0.175	0.379	0.0228	0.0526	0.108	0.1970	0.0910	0.045	0.027	
Dissolved Mercury (Hg)	mg/L	0.00005	0.0002	<0.00010	<0.00010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.00010	<0.000010	<0.000010	
Dissolved Molybdenum (Mo)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.002	<0.0010	0.000141	
Dissolved Nickel (Ni)	mg/L	0.001		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0010	<0.003	<0.0020	0.0007	
Dissolved Phosphorus (P)	mg/L	0.05		-	-	-	-	-	-	-	-	-	-	-	<0.050	-	-	-	
Dissolved Potassium (K)	mg/L	0.2		2.09	0.85	1.11	1.26	<1.0	0.82	1.00	1.26	0.87	0.88	1.32	1.60	2.13	0.99	0.92	
Dissolved Rubidium (Rb)	mg/L	0.001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	
Dissolved Selenium (Se)	mg/L	0.002		<0.0010	<0.0010	<0.0010	<0.0010	<0.00040	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00040	<0.004	<0.0010	<0.00010	
Dissolved Silicon (Si)	mg/L	0.05		-	-	-	-	3.7	-	-	-	-	-	-	6.9	5.27	-	4.41	
Dissolved Silver (Ag)	mg/L	0.0001		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.0001	<0.00010	<0.000010	
Dissolved Sodium (Na)	mg/L	0.1		5.03	1.47	2.98	2.69	1.46	1.87	2.25	3.08	1.75	2.01	2.75	3.97	5.49	2.17	2.18	
Dissolved Strontium (Sr)	mg/L	0.001		0.0671	0.0156	0.0249	0.0374	0.0281	0.0404	0.0566	0.0744	0.0235	0.0312	0.0486	0.0632	0.0650	0.0499	0.0369	
Dissolved Tellurium (Te)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	<0.05	<0.0010	<0.00060	
Dissolved Thallium (Tl)	mg/L	0.00005		<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.0003	<0.00030	<0.000050	
Dissolved Tin (Sn)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.002	<0.0010	<0.00010	
Dissolved Titanium (Ti)	mg/L	0.005		<0.0020	0.0082	<0.0020	<0.0020	0.0022	<0.0020	<0.0020	<0.0020	0.0021	<0.0020	0.0021	0.0023	<0.002	<0.0020	0.00106	
Dissolved Tungsten (W)	mg/L	0.001		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.002	<0.010	-	
Dissolved Uranium (U)	mg/L	0.0001		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0010	<0.002	<0.0050	0.00006	
Dissolved Vanadium (V)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.00116	<0.002	<0.0010	0.00039	
Dissolved Zinc (Zn)	mg/L	0.005		<0.0030	0.0114	0.0132	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	0.0041	0.0051	0.0031	0.0058	0.008	<0.0030	<0.0050	
Dissolved Zirconium (Zr)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	-	<0.0010	<0.0050	

Notes:
PWQO= Provincial Water Quality Objectives
All concentrations in mg/L unless otherwise stated
 MDL= Reportable Detection Limit
*** Exceedence of PWQO Standards**

At pH >5.5 to 6.5, no condition should be permitted which would increase the acid soluble inorganic aluminum concentration in clay-free samples to more than 10% above natural background concentrations for waters representative of that geological area of the Province that are unaffected by man-made inputs
Italized Values have detection limits above the PWQO

Table 3.42: Total metals for TL3

Total Metals				2012												2013			
Parameter	Units	MDL	PWQO	Q1		Q2			Q3			Q4			Q1	Q2	Q3	Q4	
				Jan. 25	March (Apr 4)	April 26	May 15	June 20	July 19	Aug. 22	Sept. 17	Oct. 31	Nov. 27	Dec. 18	Jan 29	April 17	July 24	Oct 30	
Total Aluminum (Al)	mg/L	0.005		0.471	0.882	0.107	0.125	0.253	0.1540	0.472	0.666	0.321	0.659	0.7090	0.470	0.906	0.380	0.1400	
Total Antimony (Sb)	mg/L	0.0005	0.02	<0.00060	<0.00060	<0.00060	<0.00060	<0.00050	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00050	<0.003	<0.00060	<0.00010	
Total Arsenic (As)	mg/L	0.001	0.005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.003	<0.0010	0.00054	
Total Barium (Ba)	mg/L	0.002		0.020	0.012	<0.010	0.010	0.011	<0.010	0.015	0.014	<0.10	<0.10	0.015	0.0187	0.017	0.013	0.008	
Total Beryllium (Be)	mg/L	0.0005	0.011 - 1.1 ^a	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.010	<0.0010	<0.00050	<0.002	<0.0010	<0.00050	
Total Bismuth (Bi)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.010	<0.0010	<0.0010	<0.001	<0.0010	<0.00050	
Total Boron (B)	mg/L	0.01	0.2	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.01	<0.050	<0.010	
Total Cadmium (Cd)	mg/L	0.0001	0.0001 - 0.0005 ^b	<0.000017	<0.000017	<0.000017	<0.000017	<0.000090	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	0.00002	<0.000090	<0.0001	<0.000017	<0.000010	
Total Calcium (Ca)	mg/L	0.2		34.0	6.92	11.1	16.4	12.5	17.7	28.0	36.8	11.4	15.8	21.6	37.3	29.5	23.5	16.5	
Total Cesium (Ce)	mg/L	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00010	
Total Chromium (Cr)	mg/L	0.005		0.0010	0.0017	<0.0010	<0.0010	0.00057	<0.0010	0.0012	0.0013	<0.010	<0.010	0.0015	0.00123	0.006	0.0011	0.00047	
Total Cobalt (Co)	mg/L	0.0005	0.0009	<0.00050	0.00055	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00059	<0.0050	<0.0050	0.00058	0.00071	0.0008	<0.00050	0.00018	
Total Copper (Cu)	mg/L	0.001	0.005	0.0017	0.0023	0.0011	0.0016	0.0015	<0.0010	0.0013	0.0011	<0.010	<0.010	0.002	0.0018	0.003	0.0015	0.00246	
Total Iron (Fe)	mg/L	0.1	0.3	1.94	0.998	0.227	0.301	0.825	1.110	1.05	1.12	1.05	2.04	2.800	6.47	2.65	0.99	0.890	
Total Lead (Pb)	mg/L	0.0005	0.001 - 0.005 ^c	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.010	<0.0010	<0.00050	<0.001	<0.0010	0.000401	
Total Lithium (Li)	mg/L	0.005		<0.050	<0.050	<0.050	<0.050		<0.050	<0.050	<0.050	<0.50	<0.50	<0.050	<0.10	<0.005	<0.050	<0.0050	
Total Magnesium (Mg)	mg/L	0.05		9.11	2.07	3.06	4.53	3.24	4.42	6.97	9.81	3.12	4.31	5.64	9.74	8.24	5.60	4.04	
Total Manganese (Mn)	mg/L	0.002		0.191	0.0355	0.0192	0.0238	0.0403	0.0318	0.201	0.361	0.029	0.140	0.135	0.254	0.177	0.128	0.032	
Total Mercury (Hg)	mg/L	0.00005		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.0001	<0.00010	<0.000010	
Total Molybdenum (Mo)	mg/L	0.0005	0.04	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.010	<0.0010	<0.00050	<0.002	<0.0010	0.000117	
Total Nickel (Ni)	mg/L	0.001	0.025	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.020	<0.020	<0.0020	0.0012	0.004	<0.0020	0.00122	
Total Phosphorus (P)	mg/L	0.05		-	-	-	-	-	-	-	-	-	-	-	0.085	-	-	-	
Total Potassium (K)	mg/L	0.2		2.28	0.86	1.03	1.19	<1.0	0.78	1.14	1.11	<5.0	<5.0	1.46	1.8	2.33	1.05	0.95	
Total Rubidium (Rb)	mg/L	0.001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0015	
Total Selenium (Se)	mg/L	0.002	0.1	<0.0010	<0.0010	<0.0010	<0.0010	0.00046	<0.0010	<0.0010	<0.0010	<0.010	<0.010	<0.0010	<0.00040	<0.004	<0.0010	<0.00010	
Total Silicon (Si)	mg/L	0.05		-	-	-	-	3.5	-	-	-	-	-	-	8.20	7.75	-	4.26	
Total Silver (Ag)	mg/L	0.0001	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.0010	<0.0010	<0.00010	<0.00010	<0.00010	<0.00010	<0.000010	
Total Sodium (Na)	mg/L	0.1		5.30	1.37	1.89	2.48	1.48	1.81	2.22	3.23	1.60	2.10	2.97	4.49	5.75	2.06	2.04	
Total Strontium (Sr)	mg/L	0.001		0.0715	0.0165	0.0243	0.0354	0.0271	0.0414	0.0589	0.0788	0.023	0.033	0.0487	0.081	0.078	0.054	0.0344	
Total Tellurium (Te)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	-	<0.0010	<0.0010	<0.0010	<0.010	<0.010	<0.0010	-	0.05	<0.0010	<0.00060	
Total Thallium (Tl)	mg/L	0.00005	0.0003	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.0030	<0.0030	<0.00030	<0.00030	<0.0003	<0.00030	<0.000050	
Total Tin (Sn)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.010	<0.0010	<0.0010	<0.002	<0.0010	0.00012	
Total Titanium (Ti)	mg/L	0.005		0.0205	0.0339	0.0031	0.0046	0.0074	0.0069	0.0209	0.0295	<0.020	0.027	0.0306	0.0197	0.047	0.015	0.0056	
Total Tungsten (W)	mg/L	0.001	0.03	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.10	<0.10	<0.010	<0.010	<0.002	<0.010	-	
Total Uranium (U)	mg/L	0.0001	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	<0.050	<0.0050	<0.0010	<0.001	<0.0050	0.000069	
Total Vanadium (V)	mg/L	0.0005	0.006	0.0019	0.0018	<0.0010	<0.0010	0.0011	<0.0010	0.0013	0.0015	<0.010	<0.010	0.0019	0.00264	0.003	0.0013	0.00084	
Total Zinc (Zn)	mg/L	0.005	0.02	0.0056	0.0044	<0.0030	<0.0030	<0.0030	<0.0030	0.0032	0.0030	<0.030	<0.030	0.0079	0.0056	0.020	<0.0030	<0.0050	
Total Zirconium (Zr)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	<0.0010	<0.0010	<0.0010	<0.010	<0.010	<0.0010	<0.0040	-	<0.0010	<0.0050	

Notes:

PWQO= Provincial Water Quality Objectives

All concentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

* **Exceedence of PWQO Standards**

^a Criteria is 0.011mg/L if Hardness as CaCO₃ is = 75mg/L

Criteria is 1.1 mg/L if the sample hardness is >75mg/L

^b Criteria is 0.0001mg/L if the the sample hardness is = 0-100 mg/L

Criteria is 0.0005 mg/L if the sample hardness is >100 mg/L

^c The criteria will be 0.001 mg/L if the sample hardness is 30mg/L

The criteria will be 0.003 mg/L if the sample hardness is = 30-80mg/L

The criteria will be 0.005 µg/L if the sample hardness is = >30-80mg/L

Italized Values have detection limits above the PWQO

Table 3.43: Inorganics for JCTA

Inorganics	2012													2013				
	Parameter	Units	MDL	PWQO	Q1		Q2			Q3			Q4		Q1	Q2	Q3	Q4
					Jan. 27	March (Apr 5)	April 27	May 15	June 20	July 19	Aug. 22	Sept. 17	Nov. 27	Dec. 19	Jan 28	April 17	July 24	Oct 30
Alkalinity (Total as CaCO ₃)	mg/L	1		93.1	18.3	28.1	45.7	31.4	45.8	80.6	106	40.4	64.9	-	81	66.3	47.6	
Conductivity	umho/cm	1		180	59.2	75.7	108	75.1	95.9	161	222	95.8	146	191	180	136	96.8	
Dissolved Chloride (Cl)	mg/L	1		0.92	0.61	0.77	0.97	0.32	0.41	0.81	1.37	<2.0	1.83	-	3.68	0.68	1.32	
Dissolved Sulphate (SO ₄)	mg/L	1		3.63	3.55	3.33	2.47	0.57	0.41	0.51	1.04	2.1	2.55	-	5.07	<0.30	0.72	
Hardness (CaCO ₃)	mg/L	1.0		90.5	24.2	34.2	51.1	42	53.2	83.2	114	44.4	60.8	108	90.3	76.1	48.6	
Nitrate (N)	mg/L	0.1		0.044	0.071	<0.030	<0.030	<0.030	<0.030	<0.030	0.063	<0.10	0.054	-	0.19	<0.030	0.042	
Nitrite (N)	mg/L	0.01		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	-	<0.05	<0.020	<0.020	
pH	pH		6.5-8.5	6.87	6.95	7.24	7.52	7.00	7.27	7.45	7.58	7.09	7.3	7.86	7.61	7.26	7.49	
Total Ammonia-N	mg/L	0.05		0.071	<0.020	<0.020	<0.020	<0.020	<0.020	0.089	0.031	0.038	0.163	-	0.36	0.056	<0.020	
Total Phosphorus	mg/L	0.002	a	0.006	0.0216	0.0104	0.0247	0.0149	0.0294	0.0266	0.0543	0.0266	0.0365	-	0.03	0.0205	0.0156	
Total Suspended Solids	mg/L	1		4.1	7.9	<2.0	4.5	4.3	6.9	9.7	40.2	<2.0	2.2	-	12	4.9	3.1	
Acidity (as CaCO ₃)	mg/L	2		6.4	4.8	3.2	2.2	3.8	3.4	3.6	6.8	7	8	-	<5	6	7	
Oil and Grease	mg/L	2		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-	<0.5	<2.0	<2.0	
Cyanide, Weak Acid Diss	mg/L	0.002		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	-	<0.0020	<0.0020	
Cyanide, Total	mg/L	0.002		<0.0020	<0.0020	<0.0020	<0.0020	0.0065	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.002	<0.0020	<0.0020	
Cyanide, Free	mg/L	0.002	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.002	<0.0050	<0.0050	

Notes:

PWQO= Provincial Water Quality Objectives

All concentrations in mg/L unless otherwise stated

MDL= Reportable Detection Limit

*** Exceedence of PWQO Standards**

for the ice-free period should not exceed 0.02 mg/L; a high level of protection against aesthetic deterioration will be provided by a total phosphorus concentration for the ice-free period of 0.01 mg/L or less. This should apply to all lakes naturally below this value; Excessive plant growth in rivers and streams should be eliminated at a total phosphorus concentration below 0.03 mg/L.

Italized Values have detection limits above the PWQO

Table 3.44: Dissolved metals for JCTA

Dissolved Metals				2012										2013			
Parameter	Units	MDL	PWQO	Q1		Q2			Q3			Q4		Q1	Q2	Q3	Q4
				Jan. 27	March (Apr 5)	April 27	May 15	June 20	July 19	Aug. 22	Sept. 17	Nov. 27	Dec. 19	Jan 28	April 17	July 24	Oct 30
Dissolved Aluminum (Al)	mg/L	0.005		<0.0050	0.119	0.0601	0.0352	0.138	0.0332	0.0190	0.0092	0.0781	0.0706	0.077	0.034	0.0318	0.0407
Dissolved Antimony (Sb)	mg/L	0.0005		<0.00060	<0.00060	<0.00060	<0.00060	<0.0050	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00050	<0.003	<0.00060	<0.00010
Dissolved Arsenic (As)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.003	<0.0010	0.00051
Dissolved Barium (Ba)	mg/L	0.002		0.013	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	0.010	<0.010	0.010	0.018	0.013	<0.010	0.006
Dissolved Beryllium (Be)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.002	<0.0010	<0.00050
Dissolved Bismuth (Bi)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.0010	<0.000050
Dissolved Boron (B)	mg/L	0.01		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.01	<0.050	<0.010
Dissolved Cadmium (Cd)	mg/L	0.0001		<0.000017	<0.000017	<0.000017	<0.000017	<0.000090	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000090	<0.0001	<0.000017	<0.000010
Dissolved Calcium (Ca)	mg/L	0.2		29.4	6.71	9.48	14.2	11.7	15.1	23.9	31.6	12.2	16.6	27.4	24.5	21.4	13.4
Dissolved Cesium (Cs)	mg/L	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00010
Dissolved Chromium (Cr)	mg/L	0.005		<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.003	<0.0010	0.0003
Dissolved Cobalt (Co)	mg/L	0.0005		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00087	0.00225	0.0007	<0.00050	0.00021
Dissolved Copper (Cu)	mg/L	0.001		<0.0010	0.0011	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.006	<0.0010	0.00081
Dissolved Iron (Fe)	mg/L	0.1		0.280	0.226	0.111	0.136	0.590	0.893	0.885	0.325	0.867	1.810	4.480	1.180	0.566	0.729
Dissolved Lead (Pb)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.001	<0.0010	<0.000050
Dissolved Lithium (Li)	mg/L	0.005		<0.050	<0.050	<0.050	<0.050	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	<0.005	<0.050	<0.0050
Dissolved Magnesium (Mg)	mg/L	0.05		4.17	1.82	2.55	3.82	3.03	3.78	5.73	8.53	3.40	4.68	6.94	7.07	5.51	3.68
Dissolved Manganese (Mn)	mg/L	0.002		0.271	0.0120	0.0308	0.0595	0.0551	0.2250	0.464	0.6790	0.147	0.546	1.6900	0.3630	0.032	0.115
Dissolved Mercury (Hg)	mg/L	0.00005	0.0002	<0.00010	<0.00010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Dissolved Molybdenum (Mo)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.002	<0.0010	0.000133
Dissolved Nickel (Ni)	mg/L	0.001		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0010	<0.003	<0.0020	0.00061
Dissolved Phosphorus (P)	mg/L	0.05		-	-	-	-	<0.050	-	-	-	-	-	<0.050	-	-	-
Dissolved Potassium (K)	mg/L	0.2		1.68	0.81	0.99	1.17	<1.0	0.59	0.97	1.34	0.77	1.08	1.30	1.73	0.84	0.83
Dissolved Rubidium (Rb)	mg/L	0.001		-	-	-	-	-	-	-	-	-	-	-	-	-	0.0014
Dissolved Selenium (Se)	mg/L	0.002		<0.0010	<0.0010	<0.0010	<0.0010	0.00043	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00040	<0.004	<0.0010	<0.00010
Dissolved Silicon (Si)	mg/L	0.05		-	-	-	-	3.6	-	-	-	-	-	6.5	6.02	-	4.37
Dissolved Silver (Ag)	mg/L	0.0001		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.0001	<0.00010	<0.000010
Dissolved Sodium (Na)	mg/L	0.1		2.43	1.25	1.72	2.27	1.40	1.49	1.91	2.67	1.80	2.39	3.02	4.03	1.81	1.78
Dissolved Strontium (Sr)	mg/L	0.001		0.0512	0.0145	0.0199	0.0300	0.0267	0.0336	0.0493	0.0620	0.0261	0.0395	0.0534	0.0520	0.0466	0.0300
Dissolved Tellurium (Te)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	<0.05	<0.0010	<0.00060
Dissolved Thallium (Tl)	mg/L	0.00005		<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.0003	<0.00030	<0.000050
Dissolved Tin (Sn)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.002	<0.0010	0.00012
Dissolved Titanium (Ti)	mg/L	0.005		<0.0020	0.0026	<0.0020	<0.0020	0.0024	<0.0020	<0.0020	<0.0020	<0.0020	0.0026	0.0032	<0.002	<0.0020	0.00135
Dissolved Tungsten (W)	mg/L	0.001		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.002	<0.010	-
Dissolved Uranium (U)	mg/L	0.0001		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0010	<0.002	<0.0050	0.000043
Dissolved Vanadium (V)	mg/L	0.0005		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.00141	<0.002	<0.0010	0.00041
Dissolved Zinc (Zn)	mg/L	0.005		<0.0030	0.0059	0.0118	0.0036	0.0035	<0.0030	<0.0030	<0.0030	0.0048	<0.0030	<0.0030	0.005	<0.0030	<0.0050
Dissolved Zirconium (Zr)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	-	<0.0010	<0.0050

Notes:
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All concentrations in mg/L unless otherwise stated
 MDL= Reportable Detection Limit
*** Exceedence of PWQO Standards**

At pH >5.5 to 6.5, no condition should be permitted which would increase the acid soluble inorganic aluminum concentration in clay-free samples to more than 10% above natural background concentrations for waters representative of that geological area of the Province that are unaffected by man-made inputs
Italized Values have detection limits above the PWQO

Table 3.45: Total metals for JCTA

Total Metals	2012																2013			
	Parameter	Units	MDL	PWQO	Q1		Q2			Q3			Q4		Q1	Q2	Q3	Q4		
					Jan. 27	March (Apr 5)	April 27	May 15	June 20	July 19	Aug. 22	Sept. 17	Nov. 27	Dec. 19	Jan 28	April 17	July 24	Oct 30		
Total Aluminum (Al)	mg/L	0.005			0.0864	0.266	0.140	0.331	0.164	0.1090	0.149	0.555	0.178	0.2250	0.5290	0.4140	0.087	0.063		
Total Antimony (Sb)	mg/L	0.0005	0.02	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00050	<0.003	<0.00060	<0.00010		
Total Arsenic (As)	mg/L	0.001	0.005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.001	0.0011	<0.0010	<0.0010	<0.0010	<0.0010	0.0011	<0.003	<0.0010	0.00054		
Total Barium (Ba)	mg/L	0.002		0.014	<0.010	<0.010	0.012	<0.010	<0.010	<0.010	0.013	0.015	<0.010	0.012	0.026	0.013	0.010	0.006		
Total Beryllium (Be)	mg/L	0.0005	0.011 - 1.1 ^a	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.002	<0.0010	<0.00050		
Total Bismuth (Bi)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050		
Total Boron (B)	mg/L	0.01	0.2	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.010	<0.050	<0.010		
Total Cadmium (Cd)	mg/L	0.0001	0.0001 - 0.0005 ^b	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000090	<0.0001	<0.000017	<0.000010		
Total Calcium (Ca)	mg/L	0.2		30.4	7.12	9.71	14.1	11.1	15.4	25.1	30.4	13.7	19.6	30.4	25.9	21.8	13.2			
Total Cesium (Ce)	mg/L	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00010		
Total Chromium (Cr)	mg/L	0.005		<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.0010	<0.0010	0.001	<0.0010	<0.0010	0.00141	<0.003	<0.0010	0.00036			
Total Cobalt (Co)	mg/L	0.0005	0.0009	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00051	0.00072	0.00096	<0.00050	0.00097	0.00314	0.0010	<0.00050	0.00025			
Total Copper (Cu)	mg/L	0.001	0.005	<0.0010	<0.0010	0.0011	0.0012	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0014	<0.002	<0.0010	0.00131		
Total Iron (Fe)	mg/L	0.1	0.3	1.24	0.316	0.305	0.704	0.872	1.540	1.50	1.590	1.72	2.850	9.110	2.570	1.04	1.110			
Total Lead (Pb)	mg/L	0.0005	0.001 - 0.005 ^c	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.001	<0.0010	0.00058			
Total Lithium (Li)	mg/L	0.005		<0.050	<0.050	<0.050	<0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	<0.005	<0.050	<0.0050			
Total Magnesium (Mg)	mg/L	0.05		4.16	2.06	2.75	3.93	2.64	3.72	6.02	7.98	3.48	4.93	7.75	7.26	5.18	3.67			
Total Manganese (Mn)	mg/L	0.002		0.304	0.0108	0.0339	0.100	0.0695	0.2830	0.510	1.090	0.175	0.597	2.08	0.4590	0.124	0.118			
Total Mercury (Hg)	mg/L	0.00005		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010			
Total Molybdenum (Mo)	mg/L	0.0005	0.04	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.002	<0.0010	0.000174			
Total Nickel (Ni)	mg/L	0.001	0.025	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0014	<0.003	<0.0020	0.00063			
Total Phosphorus (P)	mg/L	0.05		-	-	-	-	-	-	-	-	-	-	0.101	-	-	-			
Total Potassium (K)	mg/L	0.2		1.83	0.60	1.03	1.20	<1.0	0.59	1.06	1.18	0.88	1.10	1.50	1.94	0.79	0.80			
Total Rubidium (Rb)	mg/L	0.001		-	-	-	-	-	-	-	-	-	-	-	-	-	0.0015			
Total Selenium (Se)	mg/L	0.002	0.1	<0.0010	<0.0010	<0.0010	<0.0010	0.00044	<0.0010	<0.0010	<0.0010	<0.0010	1.1	<0.00040	<0.004	<0.0010	<0.00010			
Total Silicon (Si)	mg/L	0.05		-	-	-	-	3.0	-	-	-	-	-	8.2	6.47	-	3.99			
Total Silver (Ag)	mg/L	0.0001	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010			
Total Sodium (Na)	mg/L	0.1		2.57	1.27	1.78	2.27	1.21	1.53	1.89	2.66	1.94	2.44	3.52	4.38	1.68	1.79			
Total Strontium (Sr)	mg/L	0.001		0.0541	0.0154	0.0210	0.0321	0.0269	0.0372	0.0517	0.0514	0.0295	0.0413	0.0678	0.0570	0.0484	0.0300			
Total Tellurium (Te)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	<0.05	<0.0010	<0.00060			
Total Thallium (Tl)	mg/L	0.00005	0.0003	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.000050			
Total Tin (Sn)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00010			
Total Titanium (Ti)	mg/L	0.005		0.0043	0.0063	0.0040	0.0136	0.0046	0.0046	0.0046	0.0072	0.0226	0.0058	0.0086	0.0217	0.018	0.0034	0.0023		
Total Tungsten (W)	mg/L	0.001	0.03	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.002	<0.010	-			
Total Uranium (U)	mg/L	0.0001	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0010	<0.001	<0.0050	0.00049			
Total Vanadium (V)	mg/L	0.0005	0.006	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0012	<0.0010	0.0012	0.0032	<0.002	<0.0010	0.00062			
Total Zinc (Zn)	mg/L	0.005	0.02	<0.0030	<0.0030	<0.0030	<0.0030	0.0031	<0.0030	<0.0030	0.003	0.0049	0.0043	0.004	0.024	<0.0030	<0.0050			
Total Zirconium (Zr)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	-	<0.0010	<0.0050			

Notes:
PWQO= Provincial Water Quality Objectives
All concentrations in mg/L unless otherwise stated
 MDL= Reportable Detection Limit
*** Exceedence of PWQO Standards**
^a Criteria is 0.011mg/L if Hardness as CaCO₃ is = 75mg/L
 Criteria is 1.1 mg/L if the sample hardness is >75mg/L
^b Criteria is 0.0001mg/L if the the sample hardness is = 0-100 mg/L
 Criteria is 0.0005 mg/L if the sample hardness is >100 mg/L
^c The criteria will be 0.001 mg/L if the sample hardness is 30mg/L
 The criteria will be 0.003 mg/L if the sample hardness is = 30-80mg/L
 The criteria will be 0.005 µg/L if the sample hardness is = >30-80mg/L
italized Values have detection limits above the PWQO

Table 3.46: 2012 Quarterly mean concentrations for inorganics – SW1

	Q1-Mean	Q2-Mean	Q3-Mean	Q4-Mean
Alkalinity (Total as CaCO ₃)	44.97	49.43	74.50	59.23
Conductivity	99.17	111.07	150.67	126.3
Dissolved Chloride (Cl)	0.553	0.765	0.38	0.765
Dissolved Sulphate (SO ₄)	2.52	1.35	1.14	2.11
Hardness (CaCO ₃)	46.8	56.00	73.13	57.13
Nitrate (N)	0.115	-	-	-
Nitrite (N)	-	-	-	-
pH	7.02	7.43	7.43	7.18
Total Ammonia-N	0.071	-	-	-
Total Phosphorus	0.0136	0.0322	0.0099	0.007
Total Suspended Solids	3.35	30.40	9.45	5.00
Acidity (as CaCO ₃)	4.67	4.40	4.53	5.73
Oil and Grease	-	-	-	-
Cyanide, Weak Acid Diss	-	-	-	-
Cyanide, Total	-	0.0067	-	-
Cyanide, Free	-	-	-	-

Table 3.47: 2012 Quarterly mean concentrations for dissolved metals – SW1

	Q1-Mean	Q2-Mean	Q3-Mean	Q4-Mean
Dissolved Aluminum (Al)	0.0580	0.0308	-	0.0125
Dissolved Antimony (Sb)	-	-	-	-
Dissolved Arsenic (As)	-	-	-	-
Dissolved Barium (Ba)	0.013	0.014	0.0105	0.011
Dissolved Beryllium (Be)	-	-	-	-
Dissolved Bismuth (Bi)	-	-	-	-
Dissolved Boron (B)	-	-	-	-
Dissolved Cadmium (Cd)	-	0.000024	-	-
Dissolved Calcium (Ca)	14.72	16.33	23.27	18.20
Dissolved Cesium (Ce)	-	-	-	-
Dissolved Chromium (Cr)	-	0.0013	-	-
Dissolved Cobalt (Co)	-	-	-	-
Dissolved Copper (Cu)	-	0.0020	-	-
Dissolved Iron (Fe)	0.181	0.155	2.8567	0.179
Dissolved Lead (Pb)	-	-	-	-
Dissolved Lithium (Li)	-	-	-	-
Dissolved Magnesium (Mg)	2.45	3.73	3.64	2.86
Dissolved Manganese (Mn)	0.0969	0.0451	0.0782	0.126
Dissolved Mercury (Hg)	-	-	-	-
Dissolved Molybdenum (Mo)	-	-	-	-
Dissolved Nickel (Ni)	-	-	-	-
Dissolved Phosphorus (P)	-	-	-	-
Dissolved Potassium (K)	1.18	1.36	0.81	1.09
Dissolved Rubidium (Rb)	-	-	-	-
Dissolved Selenium (Se)	-	-	-	-
Dissolved Silicon (Si)	-	3.60	-	-
Dissolved Silver (Ag)	-	-	-	-
Dissolved Sodium (Na)	1.55	1.73	1.78	1.71
Dissolved Strontium (Sr)	0.0259	0.0291	0.0472	0.0316
Dissolved Tellurium (Te)	-	-	-	-
Dissolved Thallium (Tl)	-	-	-	-
Dissolved Tin (Sn)	-	-	-	-
Dissolved Titanium (Ti)	-	-	-	-
Dissolved Tungsten (W)	-	-	-	-
Dissolved Uranium (U)	-	-	-	-
Dissolved Vanadium (V)	-	-	-	-
Dissolved Zinc (Zn)	0.0062	0.0051	-	0.0046
Dissolved Zirconium (Zr)	-	-	-	-

Table 3.48: 2012 Quarterly mean concentrations for total metals – SW1

	Q1-Mean	Q2-Mean	Q3-Mean	Q4-Mean
Total Aluminum (Al)	0.102	0.436	0.104	0.062
Total Antimony (Sb)	-	-	-	-
Total Arsenic (As)	-	-	-	-
Total Barium (Ba)	0.0140	0.024	0.012	0.012
Total Beryllium (Be)	-	-	-	-
Total Bismuth (Bi)	-	-	-	-
Total Boron (B)	-	-	-	-
Total Cadmium (Cd)	-	0.00002	-	-
Total Calcium (Ca)	14.79	15.03	24.37	19.33
Total Cesium (Ce)	-	-	-	-
Total Chromium (Cr)	-	0.00280	-	-
Total Cobalt (Co)	-	0.00089	-	-
Total Copper (Cu)	-	0.00340	-	-
Total Iron (Fe)	0.560	0.816	0.395	0.460
Total Lead (Pb)	-	-	-	-
Total Lithium (Li)	-	-	-	-
Total Magnesium (Mg)	2.44	3.51	3.75	2.90
Total Manganese (Mn)	0.108	0.063	0.145	0.138
Total Mercury (Hg)	-	-	-	-
Total Molybdenum (Mo)	-	-	-	-
Total Nickel (Ni)	-	0.00290	-	-
Total Phosphorous (P)	-	-	-	-
Total Potassium (K)	1.12	1.31	0.75	1.12
Total Rubidium (Rb)	-	-	-	-
Total Selenium (Se)	-	-	-	-
Total Silicon (Si)	-	3.10	-	-
Total Silver (Ag)	-	-	-	-
Total Sodium (Na)	1.52	1.57	1.83	1.77
Total Strontium (Sr)	0.027	0.028	0.045	0.032
Total Tellurium (Te)	-	-	-	-
Total Thallium (Tl)	-	-	-	-
Total Tin (Sn)	-	-	-	-
Total Titanium (Ti)	0.0038	0.018	0.0068	0.0030
Total Tungsten (W)	-	-	-	-
Total Uranium (U)	-	-	-	-
Total Vanadium (V)	-	0.00290	-	-
Total Zinc (Zn)	-	0.00820	-	-
Total Zirconium (Zr)	-	0.0010	-	-

Table 3.49: 2012 Quarterly mean concentrations for inorganics – SW2

	Q1-Mean	Q2-Mean	Q3-Mean	Q4-Mean
Alkalinity (Total as CaCO ₃)	50.00	54.23	65.03	65.55
Conductivity	139.00	123.33	133.33	140.00
Dissolved Chloride (Cl)	4.58	1.45	0.240	2.20
Dissolved Sulphate (SO ₄)	5.33	1.62	0.78	1.02
Hardness (CaCO ₃)	56.50	61.90	73.70	70.25
Nitrate (N)	0.122	0.031	0.0585	-
Nitrite (N)	-	-	-	-
pH	7.56	7.54	7.73	7.40
Total Ammonia-N	-	-	0.028	-
Total Phosphorus	0.0829	0.0952	0.0853	0.0246
Total Suspended Solids	5.90	57.17	35.53	14.00
Acidity (as CaCO ₃)	5.60	4.33	2.80	3.70
Oil and Grease	-	-	-	-
Cyanide, Weak Acid Diss	-	-	-	-
Cyanide, Total	-	0.006	-	-
Cyanide, Free	-	-	-	-

Table 3.50: 2012 Quarterly mean concentrations for dissolved metals – SW2

	Q1-Mean	Q2-Mean	Q3-Mean	Q4-Mean
Dissolved Aluminum (Al)	0.1230	0.0426	0.0350	0.0455
Dissolved Antimony (Sb)	-	-	-	-
Dissolved Arsenic (As)	-	-	-	-
Dissolved Barium (Ba)	-	0.0130	-	0.0130
Dissolved Beryllium (Be)	-	-	-	-
Dissolved Bismuth (Bi)	-	-	-	-
Dissolved Boron (B)	-	-	-	-
Dissolved Cadmium (Cd)	-	0.000025	-	-
Dissolved Calcium (Ca)	15.80	17.50	21.03	19.05
Dissolved Cesium (Ce)	-	-	-	-
Dissolved Chromium (Cr)	-	-	-	-
Dissolved Cobalt (Co)	-	-	-	-
Dissolved Copper (Cu)	0.0032	0.0018	0.0010	0.0014
Dissolved Iron (Fe)	0.0690	0.2963	0.4550	0.200
Dissolved Lead (Pb)	-	-	-	-
Dissolved Lithium (Li)	-	-	-	-
Dissolved Magnesium (Mg)	4.1500	4.4400	5.1633	5.5150
Dissolved Manganese (Mn)	0.0079	0.0978	0.0479	0.0187
Dissolved Mercury (Hg)	-	-	-	-
Dissolved Molybdenum (Mo)	-	-	-	-
Dissolved Nickel (Ni)	-	-	-	-
Dissolved Phosphorous (P)	-	-	-	-
Dissolved Potassium (K)	1.56	1.37	0.62	1.38
Dissolved Rubidium (Rb)	-	-	-	-
Dissolved Selenium (Se)	-	-	-	-
Dissolved Silicon (Si)	-	3.60	-	-
Dissolved Silver (Ag)	-	-	-	-
Dissolved Sodium (Na)	3.79	2.24	1.79	2.13
Dissolved Strontium (Sr)	0.0287	0.0322	0.0332	0.0332
Dissolved Tellurium (Te)	-	-	-	-
Dissolved Thallium (Tl)	-	-	-	-
Dissolved Tin (Sn)	-	-	-	-
Dissolved Titanium (Ti)	0.0051	0.0027	0.0024	-
Dissolved Tungsten (W)	-	-	-	-
Dissolved Uranium (U)	-	-	-	-
Dissolved Vanadium (V)	0.0012	-	-	-
Dissolved Zinc (Zn)	0.0086	0.0089	-	-
Dissolved Zirconium (Zr)	-	-	-	-

Table 3.51: 2012 Quarterly mean concentrations for total metals – SW2

	Q1-Mean	Q2-Mean	Q3-Mean	Q4-Mean
Total Aluminum (Al)	0.9820	0.5210	0.5073	0.8125
Total Antimony (Sb)	-	-	-	-
Total Arsenic (As)	-	-	-	-
Total Barium (Ba)	0.0150	0.0193	0.0135	0.0170
Total Beryllium (Be)	-	-	-	-
Total Bismuth (Bi)	-	-	-	-
Total Boron (B)	-	-	-	-
Total Cadmium (Cd)	-	0.00002	-	-
Total Calcium (Ca)	18.20	17.33	19.73	21.15
Total Cesium (Ce)	-	-	-	-
Total Chromium (Cr)	0.0016	0.0014	0.0015	0.0012
Total Cobalt (Co)	-	0.0008	0.0006	-
Total Copper (Cu)	0.0033	0.0032	0.0015	0.0025
Total Iron (Fe)	0.716	1.181	1.618	1.320
Total Lead (Pb)	-	-	-	-
Total Lithium (Li)	-	-	-	-
Total Magnesium (Mg)	3.580	4.413	5.160	6.170
Total Manganese (Mn)	0.0154	0.1612	0.0571	0.0473
Total Mercury (Hg)	-	-	-	-
Total Molybdenum (Mo)	-	-	-	-
Total Nickel (Ni)	-	0.0023	0.0021	-
Total Phosphorous (P)	-	-	-	-
Total Potassium (K)	1.440	1.333	0.643	1.450
Total Rubidium (Rb)	-	-	-	-
Total Selenium (Se)	-	-	-	-
Total Silicon (Si)	-	3.60	-	-
Total Silver (Ag)	-	-	-	-
Total Sodium (Na)	4.09	2.11	1.79	2.40
Total Strontium (Sr)	0.0256	0.0336	0.0345	0.0379
Total Tellurium (Te)	-	-	-	-
Total Thallium (Tl)	-	-	-	-
Total Tin (Sn)	-	-	-	-
Total Titanium (Ti)	0.0306	0.0177	0.0218	0.0346
Total Tungsten (W)	-	-	-	-
Total Uranium (U)	-	-	-	-
Total Vanadium (V)	0.0020	0.0024	0.0021	0.0012
Total Zinc (Zn)	0.0045	0.0075	0.0046	0.0070
Total Zirconium (Zr)	-	-	-	-

Table 3.52: 2012 Quarterly mean concentrations for inorganics – SW3

	Q1-Mean	Q2-Mean	Q3-Mean	Q4-Mean
Alkalinity (Total as CaCO ₃)	74.55	47.58	61.5	52.7
Conductivity	168	159.5	184.33	250.67
Dissolved Chloride (Cl)	7.03	14.22	17.10	10.83
Dissolved Sulphate (SO ₄)	3.27	3.10	2.08	2.39
Hardness (CaCO ₃)	76.7	59.3	72.5	54.73
Nitrate (N)	0.087	-	-	-
Nitrite (N)	--	-	-	-
pH	7.31	7.445	7.373	7.173
Total Ammonia-N	0.067	-	-	-
Total Phosphorus	0.0156	0.0148	0.0140	0.0157
Total Suspended Solids	3.9	3.8	3.63	2.9
Acidity (as CaCO ₃)	5.1	3.35	3.87	5.87
Oil and Grease	-	-	-	-
Cyanide, Weak Acid Diss	-	-	-	-
Cyanide, Total	-	0.006	-	-
Cyanide, Free	-	-	-	-

Table 3.53: 2012 Quarterly mean concentrations for dissolved metals – SW3

	Q1-Mean	Q2-Mean	Q3-Mean	Q4-Mean
Dissolved Aluminum (Al)	0.0186	0.0199	0.0087	0.0137
Dissolved Antimony (Sb)	-	-	-	-
Dissolved Arsenic (As)	-	-	-	-
Dissolved Barium (Ba)	0.015	-	0.010	0.010
Dissolved Beryllium (Be)	-	-	-	-
Dissolved Bismuth (Bi)	-	-	-	-
Dissolved Boron (B)	-	-	-	-
Dissolved Cadmium (Cd)	-	-	-	-
Dissolved Calcium (Ca)	23.25	16.93	20.57	15.77
Dissolved Cesium (Ce)	-	-	-	-
Dissolved Chromium (Cr)	-	-	-	-
Dissolved Cobalt (Co)	-	-	-	-
Dissolved Copper (Cu)	0.0012	0.0011	-	0.0014
Dissolved Iron (Fe)	0.237	0.084	0.084	0.192
Dissolved Lead (Pb)	-	-	-	-
Dissolved Lithium (Li)	-	-	-	-
Dissolved Magnesium (Mg)	4.50	4.12	5.13	3.71
Dissolved Manganese (Mn)	0.0708	0.0132	0.0191	0.0882
Dissolved Mercury (Hg)	-	-	-	-
Dissolved Molybdenum (Mo)	-	-	-	-
Dissolved Nickel (Ni)	-	-	-	-
Dissolved Phosphorous (P)	-	-	-	-
Dissolved Potassium (K)	1.330	1.273	0.740	1.223
Dissolved Rubidium (Rb)	-	-	-	-
Dissolved Selenium (Se)	-	-	-	-
Dissolved Silicon (Si)	-	2.10	-	-
Dissolved Silver (Ag)	-	-	-	-
Dissolved Sodium (Na)	5.15	9.13	11.07	6.96
Dissolved Strontium (Sr)	0.0442	0.0394	0.0525	0.0355
Dissolved Tellurium (Te)	-	-	-	-
Dissolved Thallium (Tl)	-	-	-	-
Dissolved Tin (Sn)	-	-	-	-
Dissolved Titanium (Ti)	-	-	-	-
Dissolved Tungsten (W)	-	-	-	-
Dissolved Uranium (U)	-	-	-	-
Dissolved Vanadium (V)	-	-	-	-
Dissolved Zinc (Zn)	-	0.0031	-	0.0061
Dissolved Zirconium (Zr)	-	-	-	-

Table 3.54: 2012 Quarterly mean concentrations for total metals – SW3

	Q1-Mean	Q2-Mean	Q3-Mean	Q4-Mean
Total Aluminum (Al)	0.1475	0.1007	0.0565	0.0607
Total Antimony (Sb)	-	-	-	-
Total Arsenic (As)	-	-	-	-
Total Barium (Ba)	0.017	-	0.010	0.011
Total Beryllium (Be)	-	-	-	-
Total Bismuth (Bi)	-	-	-	-
Total Boron (B)	-	-	-	-
Total Cadmium (Cd)	-	-	-	-
Total Calcium (Ca)	23.65	16.33	20.40	16.20
Total Cesium (Ce)	-	-	-	-
Total Chromium (Cr)	-	-	-	-
Total Cobalt (Co)	-	-	-	-
Total Copper (Cu)	0.0010	0.0012	-	0.0013
Total Iron (Fe)	0.732	0.243	0.261	0.369
Total Lead (Pb)	-	-	-	-
Total Lithium (Li)	-	-	-	-
Total Magnesium (Mg)	4.36	3.78	4.89	3.58
Total Manganese (Mn)	0.0720	0.0201	0.0295	0.1010
Total Mercury (Hg)	-	0.000017	-	-
Total Molybdenum (Mo)	-	-	-	-
Total Nickel (Ni)	-	-	-	-
Total Potassium (K)	1.32	1.17	0.76	1.23
Total Rubidium (Rb)	-	-	-	-
Total Selenium (Se)	-	-	-	-
Total Silicon (Si)	-	1.90	-	-
Total Silver (Ag)	-	-	-	-
Total Sodium (Na)	6.30	8.41	10.87	6.77
Total Strontium (Sr)	0.0430	0.0374	0.0523	0.0356
Total Tellurium (Te)	-	-	-	-
Total Thallium (Tl)	-	-	-	-
Total Tin (Sn)	-	-	-	-
Total Titanium (Ti)	0.0068	0.0039	0.0028	0.0028
Total Tungsten (W)	-	-	-	-
Total Uranium (U)	-	-	-	-
Total Vanadium (V)	-	-	-	-
Total Zinc (Zn)	0.0040	-	-	-
Total Zirconium (Zr)	-	-	-	-

Table 3.55: 2012 Quarterly mean concentrations for inorganics – SW4

	Q1-Mean	Q2-Mean	Q3-Mean
Alkalinity (Total as CaCO ₃)	54.85	44.15	44.25
Conductivity	119.00	111.00	105.25
Dissolved Chloride (Cl)	3.70	3.15	3.21
Dissolved Sulphate (SO ₄)	2.20	1.77	1.7675
Hardness (CaCO ₃)	55.95	46.05	47.325
Nitrate (N)	-	-	-
Nitrite (N)	-	-	-
pH	7.50	7.73	7.8175
Total Ammonia-N	0.03	-	-
Total Phosphorus	0.028	0.025	0.022
Total Suspended Solids	3.15	7.80	7.60
Acidity (as CaCO ₃)	2.30	2.10	2.40
Oil and Grease	-	-	-
Cyanide, Weak Acid Diss	-	-	-
Cyanide, Total	0.003	0.003	-
Cyanide, Free	-	-	-

Table 3.56: 2012 Quarterly mean concentrations for dissolved metals – SW4

	Q1-Mean	Q2-Mean	Q3-Mean
Dissolved Aluminum (Al)	0.0182	0.0099	0.0087
Dissolved Antimony (Sb)	-	-	-
Dissolved Arsenic (As)	-	-	-
Dissolved Barium (Ba)	-	-	-
Dissolved Beryllium (Be)	-	-	-
Dissolved Bismuth (Bi)	-	-	-
Dissolved Boron (B)	-	-	-
Dissolved Cadmium (Cd)	-	-	-
Dissolved Calcium (Ca)	17.10	14.30	14.40
Dissolved Chromium (Cr)	-	-	-
Dissolved Cobalt (Co)	-	-	-
Dissolved Copper (Cu)	0.0018	0.0025	0.0014
Dissolved Iron (Fe)	-	-	-
Dissolved Lead (Pb)	-	-	-
Dissolved Lithium (Li)	-	-	-
Dissolved Magnesium (Mg)	3.215	2.680	2.753
Dissolved Manganese (Mn)	0.0023	0.0014	0.0012
Dissolved Mercury (Hg)	-	-	-
Dissolved Molybdenum (Mo)	-	-	-
Dissolved Nickel (Ni)	-	-	-
Dissolved Phosphorous (P)	-	-	-
Dissolved Potassium (K)	0.900	0.840	0.748
Dissolved Selenium (Se)	-	-	-
Dissolved Silicon (Si)	-	-	-
Dissolved Silver (Ag)	-	1.20	-
Dissolved Sodium (Na)	3.40	2.93	2.84
Dissolved Strontium (Sr)	0.0303	1.2678	0.0239
Dissolved Tellurium (Te)	-	0.0237	-
Dissolved Thallium (Tl)	-	-	-
Dissolved Tin (Sn)	-	-	-
Dissolved Titanium (Ti)	-	-	-
Dissolved Tungsten (W)	-	-	-
Dissolved Uranium (U)	-	-	-
Dissolved Vanadium (V)	-	-	-
Dissolved Zinc (Zn)	-	-	-
Dissolved Zirconium (Zr)	-	-	-

Table 3.57: 2012 Quarterly mean concentrations for total metals – SW4

	Q1-Mean	Q2-Mean	Q3-Mean
Total Aluminum (Al)	0.409	0.520	0.722
Total Antimony (Sb)	-	-	-
Total Arsenic (As)	-	-	-
Total Barium (Ba)	0.012	0.012	0.011
Total Beryllium (Be)	-	-	-
Total Bismuth (Bi)	-	-	-
Total Boron (B)	-	-	-
Total Cadmium (Cd)	-	0.0001	-
Total Calcium (Ca)	17.75	13.95	14.03
Total Chromium (Cr)	-	0.0015	0.0011
Total Cobalt (Co)	-	-	-
Total Copper (Cu)	0.0026	0.0031	0.0021
Total Iron (Fe)	0.454	0.543	0.524
Total Lead (Pb)	-	-	-
Total Lithium (Li)	-	-	-
Total Magnesium (Mg)	3.35	2.63	2.90
Total Manganese (Mn)	0.0107	0.0155	0.0122
Total Mercury (Hg)	-	-	-
Total Molybdenum (Mo)	-	-	-
Total Nickel (Ni)	-	-	-
Total Phosphorous (P)	-	-	-
Total Potassium (K)	1.07	1.50	0.89
Total Selenium (Se)	-	-	-
Total Silicon (Si)	-	1.10	-
Total Silver (Ag)	-	-	-
Total Sodium (Na)	3.50	2.96	3.00
Total Strontium (Sr)	0.0311	0.0259	0.0245
Total Tellurium (Te)	-	-	-
Total Thallium (Tl)	-	-	-
Total Tin (Sn)	-	-	-
Total Titanium (Ti)	0.0136	0.0172	0.0222
Total Tungsten (W)	-	-	-
Total Uranium (U)	-	-	-
Total Vanadium (V)	0.0011	0.0014	0.0011
Total Zinc (Zn)	0.0031	0.0382	0.0039
Total Zirconium (Zr)	-	0.0021	-

Table 3.58: 2012 Quarterly mean concentrations for Inorganics – SW5

	Q1-Mean	Q3-Mean	Q3-Mean
Alkalinity (Total as CaCO ₃)	50.50	45.05	44.30
Conductivity	117	117.50	109
Dissolved Chloride (Cl)	4.80	4.18	4.09
Dissolved Sulphate (SO ₄)	3.29	2.85	2.77
Hardness (CaCO ₃)	53.00	49.80	47.55
Nitrate (N)	0.044	-	-
Nitrite (N)	-	-	-
pH	7.51	7.86	7.96
Total Ammonia-N	-	-	-
Total Phosphorus	0.0080	0.0071	0.0080
Total Suspended Solids	-	2.10	-
Acidity (as CaCO ₃)	2.00	2.20	2.10
Oil and Grease	-	-	-
Cyanide, Weak Acid Diss	-	-	-
Cyanide, Total	-	0.0053	-
Cyanide, Free	-	-	-

Table 3.59: 2012 Quarterly mean concentrations for dissolved metals – SW5

	Q1-Mean	Q2-Mean	Q3-Mean
Dissolved Aluminum (Al)	-	-	-
Dissolved Antimony (Sb)	-	-	-
Dissolved Arsenic (As)	-	-	-
Dissolved Barium (Ba)	-	-	-
Dissolved Beryllium (Be)	-	-	-
Dissolved Bismuth (Bi)	-	-	-
Dissolved Boron (B)	-	-	-
Dissolved Cadmium (Cd)	-	-	-
Dissolved Calcium (Ca)	15.60	14.55	14.05
Dissolved Cesium (Ce)	-	-	-
Dissolved Chromium (Cr)	-	-	-
Dissolved Cobalt (Co)	-	-	-
Dissolved Copper (Cu)	0.0011	0.0011	0.0011
Dissolved Iron (Fe)	-	-	-
Dissolved Lead (Pb)	-	-	-
Dissolved Lithium (Li)	-	-	-
Dissolved Magnesium (Mg)	3.43	3.24	3.03
Dissolved Manganese (Mn)	-	-	-
Dissolved Mercury (Hg)	-	-	-
Dissolved Molybdenum (Mo)	-	-	-
Dissolved Nickel (Ni)	-	-	-
Dissolved Phosphorous (P)	-	-	-
Dissolved Potassium (K)	1.09	1.09	0.950
Dissolved Rubidium (Rb)	-	-	-
Dissolved Selenium (Se)	-	-	-
Dissolved Silicon (Si)	-	-	-
Dissolved Silver (Ag)	-	-	-
Dissolved Sodium (Na)	3.74	3.40	3.29
Dissolved Strontium (Sr)	0.0313	0.0277	0.0260
Dissolved Tellurium (Te)	-	-	-
Dissolved Thallium (Tl)	-	-	-
Dissolved Tin (Sn)	-	-	-
Dissolved Titanium (Ti)	-	-	-
Dissolved Tungsten (W)	-	-	-
Dissolved Uranium (U)	-	-	-
Dissolved Vanadium (V)	-	-	-
Dissolved Zinc (Zn)	-	-	0.0035
Dissolved Zirconium (Zr)	-	-	-

Table 3.60: 2012 Quarterly mean concentrations for total metals – SW5

	Q1-Mean	Q2-Mean	Q3-Mean
Total Aluminum (Al)	0.0086	0.0232	0.0118
Total Antimony (Sb)	-	-	-
Total Arsenic (As)	-	-	-
Total Barium (Ba)	-	-	-
Total Beryllium (Be)	-	-	-
Total Bismuth (Bi)	-	-	-
Total Boron (B)	-	-	-
Total Cadmium (Cd)	-	-	-
Total Calcium (Ca)	14.80	13.75	14.15
Total Cesium (Ce)	-	-	-
Total Chromium (Cr)	-	-	-
Total Cobalt (Co)	-	-	-
Total Copper (Cu)	0.0012	0.0011	0.0013
Total Iron (Fe)	0.022	0.037	0.123
Total Lead (Pb)	-	-	-
Total Lithium (Li)	-	-	-
Total Magnesium (Mg)	3.15	2.89	3.02
Total Manganese (Mn)	0.0017	0.0034	0.0034
Total Mercury (Hg)	-	-	-
Total Molybdenum (Mo)	-	-	-
Total Nickel (Ni)	-	-	-
Total Phosphorous (P)	-	-	-
Total Potassium (K)	1.060	0.980	0.970
Total Rubidium (Rb)	-	-	-
Total Selenium (Se)	-	-	-
Total Silicon (Si)	-	-	-
Total Silver (Ag)	-	-	-
Total Sodium (Na)	3.62	3.06	3.22
Total Strontium (Sr)	0.0291	0.0271	0.0273
Total Tellurium (Te)	-	-	-
Total Thallium (Tl)	-	-	-
Total Tin (Sn)	-	-	-
Total Titanium (Ti)	-	-	-
Total Tungsten (W)	-	-	-
Total Uranium (U)	-	-	-
Total Vanadium (V)	-	-	-
Total Zinc (Zn)	-	-	-
Total Zirconium (Zr)	-	-	-

Table 3.61: 2012 Quarterly mean concentrations for inorganics – SW6

	Q1-Mean	Q2-Mean	Q3-Mean
Alkalinity (Total as CaCO ₃)	51.00	44.80	44.80
Conductivity	118.00	117.50	109.50
Dissolved Chloride (Cl)	4.85	4.18	4.23
Dissolved Sulphate (SO ₄)	3.33	2.88	3.64
Hardness (CaCO ₃)	52.80	49.80	46.6
Nitrate (N)	0.046	-	-
Nitrite (N)	-	-	-
pH	7.54	7.87	7.94
Total Ammonia-N	-	-	-
Total Phosphorus	0.0078	0.0295	0.0079
Total Suspended Solids	-	2.75	-
Acidity (as CaCO ₃)	2.40	3.10	2.00
Oil and Grease	-	-	-
Cyanide, Weak Acid Diss	-	-	-
Cyanide, Total	-	0.0059	-
Cyanide, Free	-	-	-

Table 3.62: 2012 Quarterly mean concentrations for dissolved metals – SW6

	Q1-Mean	Q2-Mean	Q3-Mean
Dissolved Aluminum (Al)	-	-	-
Dissolved Antimony (Sb)	-	-	-
Dissolved Arsenic (As)	-	-	-
Dissolved Barium (Ba)	-	-	-
Dissolved Beryllium (Be)	-	-	-
Dissolved Bismuth (Bi)	-	-	-
Dissolved Boron (B)	-	-	-
Dissolved Cadmium (Cd)	-	-	-
Dissolved Calcium (Ca)	15.60	14.23	13.70
Dissolved Cesium (Ce)	-	-	-
Dissolved Chromium (Cr)	-	-	-
Dissolved Cobalt (Co)	-	-	-
Dissolved Copper (Cu)	0.0010	0.0011	-
Dissolved Iron (Fe)	-	-	-
Dissolved Lead (Pb)	-	-	-
Dissolved Lithium (Li)	-	-	-
Dissolved Magnesium (Mg)	3.34	3.18	3.01
Dissolved Manganese (Mn)	-	0.0023	-
Dissolved Mercury (Hg)	-	-	-
Dissolved Molybdenum (Mo)	-	-	-
Dissolved Nickel (Ni)	-	-	-
Dissolved Phosphorous (P)	-	-	-
Dissolved Potassium (K)	1.09	1.10	0.925
Dissolved Rubidium (Rb)	-	-	-
Dissolved Selenium (Se)	-	-	-
Dissolved Silicon (Si)	-	-	-
Dissolved Silver (Ag)	-	-	-
Dissolved Sodium (Na)	3.73	3.34	3.22
Dissolved Strontium (Sr)	0.0313	0.0272	0.0256
Dissolved Tellurium (Te)	-	-	-
Dissolved Thallium (Tl)	-	-	-
Dissolved Tin (Sn)	-	-	-
Dissolved Titanium (Ti)	-	-	-
Dissolved Tungsten (W)	-	-	-
Dissolved Uranium (U)	-	-	-
Dissolved Vanadium (V)	-	-	-
Dissolved Zinc (Zn)	-	0.0031	-
Dissolved Zirconium (Zr)	-	-	-

Table 3.63: 2012 Quarterly mean concentrations for total metals – SW6

	Q1-Mean	Q2-Mean	Q3-Mean
Total Aluminum (Al)	0.0082	0.0237	0.0143
Total Antimony (Sb)	-	-	-
Total Arsenic (As)	-	-	-
Total Barium (Ba)	-	-	-
Total Beryllium (Be)	-	-	-
Total Bismuth (Bi)	-	0.0012	-
Total Boron (B)	-	-	-
Total Cadmium (Cd)	-	-	-
Total Calcium (Ca)	16.60	13.07	14.10
Total Cesium (Ce)	-	-	-
Total Chromium (Cr)	-	-	-
Total Cobalt (Co)	-	-	-
Total Copper (Cu)	0.0012	0.0011	0.0012
Total Iron (Fe)	0.0210	0.0360	-
Total Lead (Pb)	-	-	-
Total Lithium (Li)	-	-	-
Total Magnesium (Mg)	3.51	2.70	3.06
Total Manganese (Mn)	0.0019	0.0038	0.0031
Total Mercury (Hg)	-	-	-
Total Molybdenum (Mo)	-	-	-
Total Nickel (Ni)	-	-	-
Total Phosphorous	-	-	-
Total Potassium (K)	1.16	0.95	0.98
Total Rubidium (Rb)	-	-	-
Total Selenium (Se)	-	-	-
Total Silicon (Si)	-	-	-
Total Silver (Ag)	-	-	-
Total Sodium (Na)	3.80	2.88	3.24
Total Strontium (Sr)	0.0321	0.0265	0.0273
Total Tellurium (Te)	-	-	-
Total Thallium (Tl)	-	-	-
Total Tin (Sn)	-	-	-
Total Titanium (Ti)	-	-	-
Total Tungsten (W)	-	-	-
Total Uranium (U)	-	-	-
Total Vanadium (V)	-	-	-
Total Zinc (Zn)	-	0.005	-
Total Zirconium (Zr)	-	-	-

Table 3.64: 2012 Quarterly mean concentrations for inorganics – SW7

	Q1-Mean	Q2-Mean	Q3-Mean	Q4-Mean
Alkalinity (Total as CaCO ₃)	22.95	54.07	65.03	43.90
Conductivity	55.75	117.00	136.43	105.67
Dissolved Chloride (Cl)	0.195	0.165	0.227	0.500
Dissolved Sulphate (SO ₄)	1.77	1.10	3.16	4.87
Hardness (CaCO ₃)	22.01	55.97	72.43	48.43
Nitrate (N)	0.0395	0.250	0.105	0.305
Nitrite (N)	-	-	-	-
pH	6.94	7.76	7.67	7.35
Total Ammonia-N	0.0215	0.030	-	0.058
Total Phosphorus	0.019	0.011	0.018	0.012
Total Suspended Solids	17.75	10.87	6.75	4.20
Acidity (as CaCO ₃)	2.80	2.73	2.67	4.94
Oil and Grease	-	-	-	-
Cyanide, Weak Acid Diss	-	-	-	-
Cyanide, Total	-	0.0049	-	-
Cyanide, Free	-	-	-	-

Table 3.65: 2012 Quarterly mean concentrations for dissolved metals – SW7

	Q1-Mean	Q2-Mean	Q3-Mean	Q4-Mean
Dissolved Aluminum (Al)	0.0809	0.0054	0.0557	0.0980
Dissolved Antimony (Sb)	-	-	-	-
Dissolved Arsenic (As)	-	-	0.0011	-
Dissolved Barium (Ba)	0.0120	0.0150	0.0210	0.0110
Dissolved Beryllium (Be)	-	-	-	-
Dissolved Bismuth (Bi)	-	-	-	-
Dissolved Boron (B)	-	-	-	-
Dissolved Cadmium (Cd)	0.00002	-	-	-
Dissolved Calcium (Ca)	7.42	19.37	23.57	14.80
Dissolved Cesium (Ce)	-	-	-	-
Dissolved Chromium (Cr)	-	-	-	-
Dissolved Cobalt (Co)	-	-	-	-
Dissolved Copper (Cu)	-	-	-	0.0010
Dissolved Iron (Fe)	0.228	0.101	0.455	0.630
Dissolved Lead (Pb)	-	-	-	-
Dissolved Lithium (Li)	-	-	-	-
Dissolved Magnesium (Mg)	0.86	1.82	3.33	2.80
Dissolved Manganese (Mn)	0.0199	0.0470	0.0327	0.0359
Dissolved Mercury (Hg)	-	-	-	-
Dissolved Molybdenum (Mo)	-	-	-	-
Dissolved Nickel (Ni)	-	-	-	-
Dissolved Phosphorous (P)	-	-	-	-
Dissolved Potassium (K)	0.540	0.630	0.747	0.765
Dissolved Rubidium (Rb)	-	-	-	-
Dissolved Selenium (Se)	-	-	-	-
Dissolved Silicon (Si)	-	4.20	-	-
Dissolved Silver (Ag)	-	-	-	-
Dissolved Sodium (Na)	1.18	1.07	1.61	1.49
Dissolved Strontium (Sr)	0.0126	0.0274	0.0406	0.0300
Dissolved Tellurium (Te)	-	-	-	-
Dissolved Thallium (Tl)	-	-	-	-
Dissolved Tin (Sn)	-	-	-	-
Dissolved Titanium (Ti)	0.0039	-	0.0023	0.0033
Dissolved Tungsten (W)	-	-	-	-
Dissolved Uranium (U)	-	-	-	-
Dissolved Vanadium (V)	-	-	0.0010	-
Dissolved Zinc (Zn)	0.0033	0.0076	0.0035	0.0060
Dissolved Zirconium (Zr)	-	-	-	-

Table 3.66: 2012 Quarterly mean concentrations for total metals – SW7

	Q1-Mean	Q2-Mean	Q3-Mean	Q4-Mean
Total Aluminum (Al)	0.1580	0.0666	0.1049	0.1547
Total Antimony (Sb)	-	-	-	-
Total Arsenic (As)	-	-	0.0012	-
Total Barium (Ba)	0.0120	0.0160	0.0135	0.0120
Total Beryllium (Be)	-	-	-	-
Total Bismuth (Bi)	-	-	-	-
Total Boron (B)	-	-	-	-
Total Cadmium (Cd)	-	-	-	-
Total Calcium (Ca)	6.43	19.10	23.23	16.50
Total Cesium (Ce)	-	-	-	-
Total Chromium (Cr)	-	-	-	-
Total Cobalt (Co)	-	-	-	-
Total Copper (Cu)	-	-	0.0012	0.0015
Total Iron (Fe)	0.4880	0.4170	0.6697	0.8903
Total Lead (Pb)	-	-	-	-
Total Lithium (Li)	-	-	-	-
Total Magnesium (Mg)	0.822	1.79	3.22	2.96
Total Manganese (Mn)	0.0439	0.0727	0.0417	0.0410
Total Mercury (Hg)	-	-	-	-
Total Molybdenum (Mo)	-	-	-	-
Total Nickel (Ni)	-	-	-	-
Total Phosphorous (P)	-	-	-	-
Total Potassium (K)	-	0.615	0.673	0.980
Total Rubidium (Rb)	-	-	-	-
Total Selenium (Se)	-	-	-	-
Total Silicon (Si)	-	3.70	-	-
Total Silver (Ag)	-	-	-	-
Total Sodium (Na)	1.02	1.04	1.56	1.56
Total Strontium (Sr)	0.0123	0.0278	0.0401	0.0306
Total Tellurium (Te)	-	-	-	-
Total Thallium (Tl)	-	-	-	-
Total Tin (Sn)	-	-	-	-
Total Titanium (Ti)	0.0060	0.0074	0.0046	0.0042
Total Tungsten (W)	-	-	-	-
Total Uranium (U)	-	-	-	-
Total Vanadium (V)	-	-	0.0012	-
Total Zinc (Zn)	0.0030	0.0039	-	0.0079
Total Zirconium (Zr)	-	-	-	-

Table 3.67: 2012 Quarterly mean concentrations for inorganics – SW8

	Q1-Mean	Q2-Mean	Q3-Mean	Q4-Mean
Alkalinity (Total as CaCO ₃)	61.55	24.30	75.10	78.60
Conductivity	128.45	78.00	156.00	160.33
Dissolved Chloride (Cl)	0.280	0.230	0.237	0.360
Dissolved Sulphate (SO ₄)	3.31	4.03	2.75	1.18
Hardness (CaCO ₃)	66.15	38.40	80.63	72.87
Nitrate (N)	0.197	0.134	0.114	0.108
Nitrite (N)	-	-	-	-
pH	7.23	7.36	7.86	7.72
Total Ammonia-N	0.224	0.022	-	0.114
Total Phosphorus	0.035	0.020	0.049	0.0059
Total Suspended Solids	86.2	20.30	24.03	3.85
Acidity (as CaCO ₃)	3.50	2.67	2.60	4.13
Oil and Grease	-	-	-	-
Cyanide, Weak Acid Diss	-	-	-	-
Cyanide, Total	-	0.0056	0.0059	-
Cyanide, Free	-	-	-	-

Table 3.68: 2012 Quarterly mean concentrations for dissolved metals – SW8

	Q1-Mean	Q2-Mean	Q3-Mean	Q4-Mean
Dissolved Aluminum (Al)	0.1640	0.1411	0.0187	-
Dissolved Antimony (Sb)	-	-	-	-
Dissolved Arsenic (As)	-	-	-	-
Dissolved Barium (Ba)	0.0310	-	0.0173	0.0167
Dissolved Beryllium (Be)	-	-	-	-
Dissolved Bismuth (Bi)	-	-	-	-
Dissolved Boron (B)	-	-	-	-
Dissolved Cadmium (Cd)	-	-	-	-
Dissolved Calcium (Ca)	22.31	11.78	27.03	25.53
Dissolved Cesium (Ce)	-	-	-	-
Dissolved Chromium (Cr)	-	-	-	-
Dissolved Cobalt (Co)	-	-	-	-
Dissolved Copper (Cu)	0.0014	0.0012	-	-
Dissolved Iron (Fe)	0.2765	0.4050	0.2830	0.1797
Dissolved Lead (Pb)	-	-	-	-
Dissolved Lithium (Li)	-	-	-	-
Dissolved Magnesium (Mg)	2.52	2.19	3.18	2.22
Dissolved Manganese (Mn)	0.3614	0.0191	0.0555	0.1363
Dissolved Mercury (Hg)	-	0.000013	-	-
Dissolved Molybdenum (Mo)	-	-	-	-
Dissolved Nickel (Ni)	-	-	-	-
Dissolved Phosphorous (P)	-	-	-	-
Dissolved Potassium (K)	0.765	0.750	0.790	0.563
Dissolved Rubidium (Rb)	-	-	-	-
Dissolved Selenium (Se)	-	-	-	-
Dissolved Silicon (Si)	-	3.70	-	-
Dissolved Silver (Ag)	-	-	-	-
Dissolved Sodium (Na)	1.47	1.26	1.47	1.20
Dissolved Strontium (Sr)	0.0334	0.0232	0.0437	0.0335
Dissolved Tellurium (Te)	-	-	-	-
Dissolved Thallium (Tl)	-	-	-	-
Dissolved Tin (Sn)	-	-	-	-
Dissolved Titanium (Ti)	0.0027	0.0035	-	-
Dissolved Tungsten (W)	-	-	-	-
Dissolved Uranium (U)	-	-	-	-
Dissolved Vanadium (V)	-	-	-	-
Dissolved Zinc (Zn)	0.0120	-	-	0.0040
Dissolved Zirconium (Zr)	-	-	-	-

Table 3.69: 2012 Quarterly mean concentrations for total metals – SW8

	Q1-Mean	Q2-Mean	Q3-Mean	Q4-Mean
Total Aluminum (Al)	0.1973	0.2482	0.0520	0.0199
Total Antimony (Sb)	-	-	-	-
Total Arsenic (As)	-	0.0010	-	-
Total Barium (Ba)	0.0350	0.0120	0.0225	0.0190
Total Beryllium (Be)	-	-	-	-
Total Bismuth (Bi)	-	-	-	-
Total Boron (B)	-	-	-	-
Total Cadmium (Cd)	-	-	-	-
Total Calcium (Ca)	23.13	11.42	25.57	28.10
Total Cesium (Ce)	-	-	-	-
Total Chromium (Cr)	-	0.0011	-	-
Total Cobalt (Co)	-	-	-	-
Total Copper (Cu)	0.0012	0.0016	-	-
Total Iron (Fe)	0.757	0.720	0.598	0.720
Total Lead (Pb)	-	-	-	-
Total Lithium (Li)	-	-	-	-
Total Magnesium (Mg)	2.54	2.12	2.88	2.25
Total Manganese (Mn)	0.4169	0.0309	0.0964	0.1540
Total Mercury (Hg)	-	-	-	-
Total Molybdenum (Mo)	-	-	-	-
Total Nickel (Ni)	-	-	-	-
Total Phosphorous (P)	-	-	-	-
Total Potassium (K)	0.970	0.700	0.760	0.570
Total Rubidium (Rb)	-	-	-	-
Total Selenium (Se)	-	-	-	-
Total Silicon (Si)	-	-	-	-
Total Silver (Ag)	-	-	-	-
Total Sodium (Na)	1.51	1.20	1.30	1.35
Total Strontium (Sr)	0.0337	0.0234	0.0421	0.0357
Total Tellurium (Te)	-	-	-	-
Total Thallium (Tl)	-	-	-	-
Total Tin (Sn)	-	-	-	-
Total Titanium (Ti)	0.0078	0.0071	0.0036	-
Total Tungsten (W)	-	-	-	-
Total Uranium (U)	-	-	-	-
Total Vanadium (V)	-	0.0017	-	-
Total Zinc (Zn)	-	0.0036	-	-
Total Zirconium (Zr)	-	-	-	-

Table 3.70: 2012 Quarterly mean concentrations for inorganics – SW9

	Q1-Mean	Q2-Mean	Q3-Mean	Q4-Mean
Alkalinity (Total as CaCO ₃)	94.50	80.43	109.87	112.93
Conductivity	174	165.93	215	222
Dissolved Chloride (Cl)	0.350	0.305	0.337	0.510
Dissolved Sulphate (SO ₄)	1.25	1.10	2.71	0.78
Hardness (CaCO ₃)	94.1	85.20	114.60	101.50
Nitrate (N)	0.143	0.083	0.115	0.121
Nitrite (N)	-	-	-	-
pH	7.54	7.54	7.85	7.71
Total Ammonia-N	0.035	0.020	-	0.032
Total Phosphorus	0.0115	0.0078	0.0389	0.0111
Total Suspended Solids	24.20	2.00	12.90	3.23
Acidity (as CaCO ₃)	4.20	3.93	3.47	4.73
Oil and Grease	-	-	-	-
Cyanide, Weak Acid Diss	-	-	-	-
Cyanide, Total	-	0.0059	0.0059	0.0059
Cyanide, Free	-	-	-	-

Table 3.71: 2012 Quarterly mean concentrations for dissolved metals – SW9

	Q1-Mean	Q2-Mean	Q3-Mean	Q4-Mean
Dissolved Aluminum (Al)	0.1030	0.0720	0.0175	0.0268
Dissolved Antimony (Sb)	-	-	-	-
Dissolved Arsenic (As)	-	-	-	-
Dissolved Barium (Ba)	-	0.0157	0.0177	0.0180
Dissolved Beryllium (Be)	-	-	-	-
Dissolved Bismuth (Bi)	-	-	-	-
Dissolved Boron (B)	-	-	-	-
Dissolved Cadmium (Cd)	-	-	-	-
Dissolved Calcium (Ca)	9.24	26.10	35.47	31.20
Dissolved Cesium (Ce)	-	-	-	-
Dissolved Chromium (Cr)	-	-	-	-
Dissolved Cobalt (Co)	-	-	-	-
Dissolved Copper (Cu)	-	-	-	-
Dissolved Iron (Fe)	0.187	0.211	0.208	0.185
Dissolved Lead (Pb)	-	-	-	-
Dissolved Lithium (Li)	-	-	-	-
Dissolved Magnesium (Mg)	2.21	4.92	6.36	5.78
Dissolved Manganese (Mn)	0.014	0.030	0.074	0.175
Dissolved Mercury (Hg)	-	-	-	-
Dissolved Molybdenum (Mo)	-	-	-	-
Dissolved Nickel (Ni)	-	-	-	-
Dissolved Phosphorous (P)	-	-	-	-
Dissolved Potassium (K)	1.26	1.83	1.39	1.44
Dissolved Rubidium (Rb)	-	-	-	-
Dissolved Selenium (Se)	-	-	-	-
Dissolved Silicon (Si)	-	5.20	-	-
Dissolved Silver (Ag)	-	-	-	-
Dissolved Sodium (Na)	1.44	2.58	2.91	2.88
Dissolved Strontium (Sr)	0.0180	0.0463	0.0611	0.0520
Dissolved Tellurium (Te)	-	-	-	-
Dissolved Thallium (Tl)	-	-	-	-
Dissolved Tin (Sn)	-	-	-	-
Dissolved Titanium (Ti)	-	0.0022	-	-
Dissolved Tungsten (W)	-	-	-	-
Dissolved Uranium (U)	-	-	-	-
Dissolved Vanadium (V)	-	-	-	-
Dissolved Zinc (Zn)	0.0062	0.0042	0.0040	0.0048
Dissolved Zirconium (Zr)	-	-	-	-

Table 3.72: 2012 Quarterly mean concentrations for total metals – SW9

	Q1-Mean	Q2-Mean	Q3-Mean	Q4-Mean
Total Aluminum (Al)	0.270	0.080	0.105	0.069
Total Antimony (Sb)	-	-	-	-
Total Arsenic (As)	-	-	-	-
Total Barium (Ba)	0.0290	0.0160	0.0235	0.0193
Total Beryllium (Be)	-	-	-	-
Total Bismuth (Bi)	-	-	-	-
Total Boron (B)	-	-	-	-
Total Cadmium (Cd)	-	-	-	-
Total Calcium (Ca)	29.51	25.77	34.70	35.03
Total Cesium (Ce)	-	-	-	-
Total Chromium (Cr)	-	-	-	-
Total Cobalt (Co)	-	-	-	-
Total Copper (Cu)	-	-	0.0023	-
Total Iron (Fe)	0.5560	0.1917	0.4920	0.3953
Total Lead (Pb)	-	-	-	-
Total Lithium (Li)	-	-	-	-
Total Magnesium (Mg)	4.85	4.86	6.13	5.98
Total Manganese (Mn)	0.1092	0.0372	0.1420	0.1687
Total Mercury (Hg)	-	-	-	-
Total Molybdenum (Mo)	-	-	-	-
Total Nickel (Ni)	-	-	-	-
Total Phosphorous (P)	-	-	-	-
Total Potassium (K)	1.51	1.77	1.40	1.52
Total Rubidium (Rb)	-	-	-	-
Total Selenium (Se)	-	-	-	-
Total Silicon (Si)	-	4.30	-	-
Total Silver (Ag)	-	-	-	-
Total Sodium (Na)	2.70	2.54	2.73	2.98
Total Strontium (Sr)	0.0467	0.0465	0.0599	0.0565
Total Tellurium (Te)	-	-	-	-
Total Thallium (Tl)	-	-	-	-
Total Tin (Sn)	-	-	-	-
Total Titanium (Ti)	0.0118	0.0029	0.0051	0.0034
Total Tungsten (W)	-	-	-	-
Total Uranium (U)	-	-	-	-
Total Vanadium (V)	0.0010	-	-	-
Total Zinc (Zn)	0.0039	0.0035	-	-
Total Zirconium (Zr)	-	-	-	-

Table 3.73: 2012 Quarterly mean concentrations for inorganics – SW10

	Q1-Mean	Q2-Mean	Q3-Mean	Q4-Mean
Alkalinity (Total as CaCO ₃)	44.45	37.27	59.20	57.27
Conductivity	97.00	89.83	122.60	120.67
Dissolved Chloride (Cl)	0.235	0.205	0.240	0.320
Dissolved Sulphate (SO ₄)	3.36	2.42	1.54	2.05
Hardness (CaCO ₃)	47.20	44.43	61.77	54.07
Nitrate (N)	0.0675	0.0600	0.0563	0.0565
Nitrite (N)	-	-	-	-
pH	7.25	7.37	7.51	7.49
Total Ammonia-N	0.037	-	0.0215	0.0357
Total Phosphorus	0.0595	0.0073	0.0356	0.0087
Total Suspended Solids	37.35	31.50	228.70	4.80
Acidity (as CaCO ₃)	3.20	3.20	3.13	5.00
Oil and Grease	-	-	-	-
Cyanide, Weak Acid Diss	-	-	-	-
Cyanide, Total	-	0.0058	-	-
Cyanide, Free	-	-	-	-

Table 3.74: 2012 Quarterly mean concentrations for dissolved metals – SW10

	Q1-Mean	Q2-Mean	Q3-Mean	Q4-Mean
Dissolved Aluminum (Al)	0.0786	0.1398	0.0581	0.0458
Dissolved Antimony (Sb)	-	-	-	-
Dissolved Arsenic (As)	-	-	-	-
Dissolved Barium (Ba)	-	0.0115	0.0120	0.0110
Dissolved Beryllium (Be)	-	-	-	-
Dissolved Bismuth (Bi)	-	-	-	-
Dissolved Boron (B)	-	-	-	-
Dissolved Cadmium (Cd)	-	-	-	-
Dissolved Calcium (Ca)	15.28	14.37	19.93	17.33
Dissolved Cesium (Ce)	-	-	-	-
Dissolved Chromium (Cr)	0.0013	-	-	-
Dissolved Cobalt (Co)	-	-	-	-
Dissolved Copper (Cu)	-	-	-	-
Dissolved Iron (Fe)	0.483	0.727	1.162	0.780
Dissolved Lead (Pb)	-	-	-	-
Dissolved Lithium (Li)	-	-	-	-
Dissolved Magnesium (Mg)	2.21	2.11	2.90	2.62
Dissolved Manganese (Mn)	0.0775	0.0390	0.0778	0.1297
Dissolved Mercury (Hg)	-	-	-	-
Dissolved Molybdenum (Mo)	-	-	-	-
Dissolved Nickel (Ni)	-	-	-	-
Dissolved Phosphorous (P)	-	-	-	-
Dissolved Potassium (K)	0.630	0.680	0.695	0.615
Dissolved Rubidium (Rb)	-	-	-	-
Dissolved Selenium (Se)	-	-	-	-
Dissolved Silicon (Si)	-	4.60	-	-
Dissolved Silver (Ag)	-	-	-	-
Dissolved Sodium (Na)	1.49	1.43	1.71	1.58
Dissolved Strontium (Sr)	0.0253	0.0254	0.0344	0.0289
Dissolved Tellurium (Te)	-	-	-	-
Dissolved Thallium (Tl)	-	-	-	-
Dissolved Tin (Sn)	-	-	-	-
Dissolved Titanium (Ti)	0.0023	0.0038	0.0025	0.0022
Dissolved Tungsten (W)	-	-	-	-
Dissolved Uranium (U)	-	-	-	-
Dissolved Vanadium (V)	-	-	0.0012	-
Dissolved Zinc (Zn)	0.0066	0.0041	-	0.0049
Dissolved Zirconium (Zr)	-	-	-	-

Table 3.75: 2012 Quarterly mean concentrations for total metals – SW10

	Q1-Mean	Q2-Mean	Q3-Mean	Q4-Mean
Total Aluminum (Al)	0.1665	0.1472	0.6560	0.0608
Total Antimony (Sb)	-	-	-	-
Total Arsenic (As)	-	-	0.0021	-
Total Barium (Ba)	0.0120	0.0115	0.0190	0.0110
Total Beryllium (Be)	-	-	-	-
Total Bismuth (Bi)	-	0.0014	-	-
Total Boron (B)	-	-	-	-
Total Cadmium (Cd)	-	-	0.000057	-
Total Calcium (Ca)	16.25	14.06	19.97	19.20
Total Cesium (Ce)	-	-	-	-
Total Chromium (Cr)	-	0.00083	0.0048	-
Total Cobalt (Co)	-	-	0.0016	-
Total Copper (Cu)	-	-	0.0028	-
Total Iron (Fe)	1.42	0.94	3.85	1.22
Total Lead (Pb)	-	-	0.0011	-
Total Lithium (Li)	-	-	-	-
Total Magnesium (Mg)	2.25	2.09	2.92	2.67
Total Manganese (Mn)	0.097	0.039	0.134	0.146
Total Mercury (Hg)	-	-	-	-
Total Molybdenum (Mo)	-	-	-	-
Total Nickel (Ni)	-	-	0.0022	-
Total Phosphorous (P)	-	-	-	-
Total Potassium (K)	0.7800	0.6300	0.7750	0.6550
Total Rubidium (Rb)	--	-	-	-
Total Selenium (Se)	-	-	-	-
Total Silicon (Si)	-	3.90	-	-
Total Silver (Ag)	-	-	-	-
Total Sodium (Na)	1.53	1.40	1.62	1.65
Total Strontium (Sr)	0.0251	0.0258	0.0358	0.0310
Total Tellurium (Te)	-	-	-	-
Total Thallium (Tl)	-	-	-	-
Total Tin (Sn)	-	-	-	-
Total Titanium (Ti)	0.0069	0.0059	0.0326	0.0028
Total Tungsten (W)	-	-	-	-
Total Uranium (U)	-	-	-	-
Total Vanadium (V)	0.0014	0.0011	0.0055	0.0011
Total Zinc (Zn)	0.0042	0.0045	0.0146	0.0039
Total Zirconium (Zr)	-	0.0058	-	-

Table 3.76: 2012 Quarterly mean concentrations for inorganics – SW11

	Q2-Mean	Q3-Mean	Q4-Mean
Alkalinity (Total as CaCO ₃)	8.10	9.40	16.25
Conductivity	37.37	34.60	48.00
Dissolved Chloride (Cl)	0.410	0.135	1.44
Dissolved Sulphate (SO ₄)	1.86	-	2.29
Hardness (CaCO ₃)	19.63	22.10	23.20
Nitrate (N)	0.064	-	0.110
Nitrite (N)	-	-	-
pH	5.77	5.50	6.05
Total Ammonia-N	0.020	0.032	0.108
Total Phosphorus	0.023	0.021	0.0329
Total Suspended Solids	18.00	17.15	88.40
Acidity (as CaCO ₃)	9.80	14.80	16.10
Oil and Grease	-	-	-
Cyanide, Weak Acid Diss	-	-	-
Cyanide, Total	0.0066	-	-
Cyanide, Free	-	-	-

Table 3.77: 2012 Quarterly mean concentrations for dissolved metals – SW11

	Q2-Mean	Q3-Mean	Q4-Mean
Dissolved Aluminum (Al)	0.4473	0.4970	0.3875
Dissolved Antimony (Sb)	-	-	-
Dissolved Arsenic (As)	0.0011	0.0012	-
Dissolved Barium (Ba)	-	-	-
Dissolved Beryllium (Be)	-	-	-
Dissolved Bismuth (Bi)	-	-	-
Dissolved Boron (B)	-	-	-
Dissolved Cadmium (Cd)	0.000030	0.000040	0.000029
Dissolved Calcium (Ca)	5.78	6.89	6.57
Dissolved Cesium (Ce)	-	-	-
Dissolved Chromium (Cr)	0.0014	0.0011	-
Dissolved Cobalt (Co)	-	0.00059	0.00059
Dissolved Copper (Cu)	0.0011	-	-
Dissolved Iron (Fe)	0.92	1.76	1.40
Dissolved Lead (Pb)	-	-	-
Dissolved Lithium (Li)	-	-	-
Dissolved Magnesium (Mg)	1.22	1.26	1.65
Dissolved Manganese (Mn)	0.0310	0.0513	0.0505
Dissolved Mercury (Hg)	-	-	-
Dissolved Molybdenum (Mo)	-	-	-
Dissolved Nickel (Ni)	-	-	-
Dissolved Phosphorous (P)	-	-	-
Dissolved Potassium (K)	-	-	-
Dissolved Rubidium (Rb)	-	-	-
Dissolved Selenium (Se)	0.00054	-	-
Dissolved Silicon (Si)	3.80	-	-
Dissolved Silver (Ag)	-	-	-
Dissolved Sodium (Na)	1.09	1.05	1.42
Dissolved Strontium (Sr)	0.0132	0.0161	0.0150
Dissolved Tellurium (Te)	-	-	-
Dissolved Thallium (Tl)	-	-	-
Dissolved Tin (Sn)	-	-	-
Dissolved Titanium (Ti)	0.0079	0.0108	0.0097
Dissolved Tungsten (W)	-	-	-
Dissolved Uranium (U)	-	-	-
Dissolved Vanadium (V)	0.0013	0.0013	-
Dissolved Zinc (Zn)	0.0107	0.0096	0.0045
Dissolved Zirconium (Zr)	-	-	-

Table 3.78: 2012 Quarterly mean concentrations for total metals – SW11

	Q2-Mean	Q3-Mean	Q4-Mean
Total Aluminum (Al)	0.9163	0.7360	0.5945
Total Antimony (Sb)	-	-	-
Total Arsenic (As)	0.0011	0.0015	-
Total Barium (Ba)	0.0120	0.0130	0.0110
Total Beryllium (Be)	-	-	-
Total Bismuth (Bi)	-	-	-
Total Boron (B)	-	-	-
Total Cadmium (Cd)	0.000041	0.000035	0.000034
Total Calcium (Ca)	5.75	6.66	7.30
Total Cesium (Ce)	-	-	-
Total Chromium (Cr)	0.0019	0.0017	0.0014
Total Cobalt (Co)	0.00067	0.00073	0.00074
Total Copper (Cu)	0.0016	0.0014	-
Total Iron (Fe)	1.50	2.35	1.75
Total Lead (Pb)	-	-	-
Total Lithium (Li)	-	-	-
Total Magnesium (Mg)	1.43	1.40	1.71
Total Manganese (Mn)	0.0377	0.0529	0.0552
Total Mercury (Hg)	-	-	-
Total Molybdenum (Mo)	-	-	-
Total Nickel (Ni)	-	0.0021	-
Total Phosphorous (P)	-	-	-
Total Potassium (K)	-	-	-
Total Rubidium (Rb)	-	-	-
Total Selenium (Se)	-	-	-
Total Silicon (Si)	4.10	-	-
Total Silver (Ag)	-	-	-
Total Sodium (Na)	1.07	0.97	1.44
Total Strontium (Sr)	0.0146	0.0166	0.0167
Total Tellurium (Te)	-	-	-
Total Thallium (Tl)	-	-	-
Total Tin (Sn)	-	-	-
Total Titanium (Ti)	0.0307	0.0237	0.0194
Total Tungsten (W)	-	-	-
Total Uranium (U)	-	-	-
Total Vanadium (V)	0.0019	0.0017	0.0016
Total Zinc (Zn)	0.0061	0.0062	0.0074
Total Zirconium (Zr)	-	-	-

Table 3.79: 2012 Quarterly mean concentrations for inorganics – TL1A

	Q1-Mean	Q2-Mean	Q3-Mean	Q4-Mean
Alkalinity (Total as CaCO ₃)	10.70	18.00	54.97	30.10
Conductivity	43.20	51.38	113.57	75.43
Dissolved Chloride (Cl)	0.440	0.330	0.207	1.215
Dissolved Sulphate (SO ₄)	3.60	1.95	1.23	1.92
Hardness (CaCO ₃)	17.60	24.20	59.83	33.60
Nitrate (N)	0.109	-	-	0.0615
Nitrite (N)	-	-	-	-
pH	6.69	6.84	7.09	6.72
Total Ammonia-N	-	0.027	0.085	0.130
Total Phosphorus	0.0518	0.015	0.008	0.027
Total Suspended Solids	8.00	4.30	6.17	4.37
Acidity (as CaCO ₃)	5.00	4.25	8.20	7.07
Oil and Grease	-	-	-	-
Cyanide, Weak Acid Diss	-	-	-	-
Cyanide, Total	-	0.0065	-	-
Cyanide, Free	-	-	-	-

Table 3.80: 2012 Quarterly mean concentrations for dissolved metals – TL1A

	Q1-Mean	Q2-Mean	Q3-Mean	Q4-Mean
Dissolved Aluminum (Al)	0.1280	0.1060	0.0422	0.1053
Dissolved Antimony (Sb)	-	-	-	-
Dissolved Arsenic (As)	-	-	0.0010	-
Dissolved Barium (Ba)	-	-	0.0130	0.0110
Dissolved Beryllium (Be)	-	-	-	-
Dissolved Bismuth (Bi)	-	-	-	-
Dissolved Boron (B)	-	-	-	-
Dissolved Cadmium (Cd)	-	0.000037	-	-
Dissolved Calcium (Ca)	4.98	6.83	17.27	9.45
Dissolved Cesium (Ce)	-	-	-	-
Dissolved Chromium (Cr)	-	-	-	-
Dissolved Cobalt (Co)	-	0.00051	0.0030	0.0030
Dissolved Copper (Cu)	0.0014	0.0011	-	-
Dissolved Iron (Fe)	0.231	0.291	1.82	1.51
Dissolved Lead (Pb)	-	-	-	-
Dissolved Lithium (Li)	-	-	-	-
Dissolved Magnesium (Mg)	1.25	1.72	4.08	2.44
Dissolved Manganese (Mn)	0.0076	0.0555	1.39	0.326
Dissolved Mercury (Hg)	-	-	-	-
Dissolved Molybdenum (Mo)	-	-	-	-
Dissolved Nickel (Ni)	-	-	-	-
Dissolved Phosphorous (P)	-	-	-	-
Dissolved Potassium (K)	0.530	0.520	-	0.660
Dissolved Rubidium (Rb)	-	-	-	-
Dissolved Selenium (Se)	-	-	-	-
Dissolved Silicon (Si)	-	3.50	-	-
Dissolved Silver (Ag)	-	-	-	-
Dissolved Sodium (Na)	0.960	1.16	1.33	1.45
Dissolved Strontium (Sr)	0.0105	0.0159	0.0400	0.0216
Dissolved Tellurium (Te)	-	-	-	-
Dissolved Thallium (Tl)	-	-	-	-
Dissolved Tin (Sn)	-	-	-	-
Dissolved Titanium (Ti)	0.0021	0.0037	-	0.0028
Dissolved Tungsten (W)	-	-	-	-
Dissolved Uranium (U)	-	-	-	-
Dissolved Vanadium (V)	-	-	-	-
Dissolved Zinc (Zn)	0.0130	0.0050	-	0.0057
Dissolved Zirconium (Zr)	-	-	-	-

Table 3.81: 2012 Quarterly mean concentrations for total metals – TL1A

	Q1-Mean	Q2-Mean	Q3-Mean	Q4-Mean
Total Aluminum (Al)	0.2220	0.1378	0.0606	0.2147
Total Antimony (Sb)	-	-	-	-
Total Arsenic (As)	-	-	0.0011	-
Total Barium (Ba)	-	-	0.0140	0.0130
Total Beryllium (Be)	-	-	-	-
Total Bismuth (Bi)	-	-	-	-
Total Boron (B)	-	-	-	-
Total Cadmium (Cd)	-	0.000020	-	0.000022
Total Calcium (Ca)	4.10	6.89	16.47	10.67
Total Cesium (Ce)	-	-	-	-
Total Chromium (Cr)	-	0.00051	-	-
Total Cobalt (Co)	-	0.00054	0.0030	0.0030
Total Copper (Cu)	-	-	-	-
Total Iron (Fe)	0.353	0.516	2.74	2.51
Total Lead (Pb)	-	-	-	-
Total Lithium (Li)	-	-	-	-
Total Magnesium (Mg)	1.09	1.78	3.86	2.65
Total Manganese (Mn)	0.0075	0.0648	1.37	0.370
Total Mercury (Hg)	-	-	-	-
Total Molybdenum (Mo)	-	-	-	-
Total Nickel (Ni)	-	-	-	-
Total Phosphorous (P)	-	-	-	-
Total Potassium (K)	-	-	-	0.630
Total Rubidium (Rb)	-	-	-	-
Total Selenium (Se)	-	0.00052	-	-
Total Silicon (Si)	-	3.30	-	-
Total Silver (Ag)	-	-	-	-
Total Sodium (Na)	0.960	1.17	1.22	1.50
Total Strontium (Sr)	0.0096	0.0159	0.0391	0.0230
Total Tellurium (Te)	-	-	-	-
Total Thallium (Tl)	-	-	-	-
Total Tin (Sn)	-	-	-	-
Total Titanium (Ti)	0.0063	0.0030	0.0023	0.0088
Total Tungsten (W)	-	-	-	-
Total Uranium (U)	-	-	-	-
Total Vanadium (V)	-	-	-	0.0015
Total Zinc (Zn)	-	-	0.0031	0.0062
Total Zirconium (Zr)	-	-	-	-

Table 3.82: 2012 Quarterly mean concentrations for inorganics – TL2A

	Q1-Mean	Q2-Mean	Q3-Mean	Q4-Mean
Alkalinity (Total as CaCO ₃)	33.00	51.33	76.80	63.20
Conductivity	1.00	97.50	126.00	148.50
Dissolved Chloride (Cl)	1.00	0.500	0.285	0.580
Dissolved Sulphate (SO ₄)	1.00	3.10	1.54	1.78
Hardness (CaCO ₃)	1.00	44.40	67.40	76.90
Nitrate (N)	0.100	-	0.0340	-
Nitrite (N)	0.010	-	-	-
pH	-	7.30	7.25	7.35
Total Ammonia-N	0.050	0.0210	0.029	0.0390
Total Phosphorus	0.0020	0.0672	0.0845	0.0375
Total Suspended Solids	1.00	90.90	128.45	7.33
Acidity (as CaCO ₃)	2.00	5.80	5.50	5.60
Oil and Grease	2.00	-	-	-
Cyanide, Weak Acid Diss	0.0020	-	-	-
Cyanide, Total	0.0020	-	0.0063	-
Cyanide, Free	0.0020	0.0050	-	-

Table 3.83: 2012 Quarterly mean concentrations for dissolved metals – TL2A

	Q2-Mean	Q2-Mean	Q3-Mean	Q4-Mean
Dissolved Aluminum (Al)	0.1380	0.0835	0.0149	0.0692
Dissolved Antimony (Sb)	-	-	-	-
Dissolved Arsenic (As)	-	0.0012	0.0011	-
Dissolved Barium (Ba)	-	0.0125	-	0.0120
Dissolved Beryllium (Be)	-	-	-	-
Dissolved Bismuth (Bi)	-	-	-	-
Dissolved Boron (B)	-	-	-	-
Dissolved Cadmium (Cd)	-	-	-	-
Dissolved Calcium (Ca)	10.00	16.80	23.80	17.65
Dissolved Chromium (Cr)	-	0.0012	-	-
Dissolved Cobalt (Co)	-	-	-	-
Dissolved Copper (Cu)	0.0015	0.0017	-	-
Dissolved Iron (Fe)	0.310	0.358	0.419	0.417
Dissolved Lead (Pb)	-	-	-	-
Dissolved Lithium (Li)	-	-	-	-
Dissolved Magnesium (Mg)	2.94	4.91	6.66	5.56
Dissolved Manganese (Mn)	0.0226	0.0947	0.0316	0.0419
Dissolved Mercury (Hg)	-	-	-	-
Dissolved Molybdenum (Mo)	-	-	-	-
Dissolved Nickel (Ni)	-	-	-	-
Dissolved Phosphorous (P)	-	-	-	-
Dissolved Potassium (K)	1.98	2.21	1.96	2.95
Dissolved Selenium (Se)	-	-	-	-
Dissolved Silicon (Si)	-	2.90	-	-
Dissolved Silver (Ag)	-	-	-	-
Dissolved Sodium (Na)	1.72	2.56	3.23	2.73
Dissolved Strontium (Sr)	0.0207	0.0364	0.0557	0.0402
Dissolved Tellurium (Te)	-	-	-	-
Dissolved Thallium (Tl)	-	-	-	-
Dissolved Tin (Sn)	-	-	-	-
Dissolved Titanium (Ti)	0.0028	0.0023	-	-
Dissolved Tungsten (W)	-	-	-	-
Dissolved Uranium (U)	-	-	-	-
Dissolved Vanadium (V)	-	-	-	-
Dissolved Zinc (Zn)	0.0077	0.0041	0.0040	-
Dissolved Zirconium (Zr)	-	-	-	-

Table 3.84: 2012 Quarterly mean concentrations for total metals – TL2A

	Q2-Mean	Q3-Mean	Q4-Mean	Q4-Mean
Total Aluminum (Al)	1.7700	0.6190	0.0947	0.4155
Total Antimony (Sb)	-	-	-	-
Total Arsenic (As)	-	0.0012	0.0012	-
Total Barium (Ba)	0.0190	0.0163	0.0100	-
Total Beryllium (Be)	-	-	-	-
Total Bismuth (Bi)	-	-	-	-
Total Boron (B)	-	-	-	-
Total Cadmium (Cd)	0.000019	0.000039	-	-
Total Calcium (Ca)	9.10	16.33	23.35	19.85
Total Chromium (Cr)	0.0034	0.0021	-	-
Total Cobalt (Co)	0.0010	0.00077	-	-
Total Copper (Cu)	0.0074	0.0040	-	-
Total Iron (Fe)	2.00	1.07	0.7530	0.9350
Total Lead (Pb)	0.0018	0.0043	-	-
Total Lithium (Li)	-	-	-	-
Total Magnesium (Mg)	3.14	5.06	6.39	6.35
Total Manganese (Mn)	0.0623	0.1315	0.1202	0.0620
Total Mercury (Hg)	-	-	-	-
Total Molybdenum (Mo)	-	-	-	-
Total Nickel (Ni)	0.0027	0.0027	-	-
Total Potassium (K)	2.27	2.27	1.90	-
Total Selenium (Se)	-	-	-	-
Total Silicon (Si)	-	2.70	-	-
Total Silver (Ag)	0.00083	0.00072	-	-
Total Sodium (Na)	1.49	2.57	3.07	3.00
Total Strontium (Sr)	0.0227	0.0364	0.0560	0.0440
Total Tellurium (Te)	-	-	-	-
Total Thallium (Tl)	-	-	-	-
Total Tin (Sn)	-	-	-	-
Total Titanium (Ti)	0.0724	0.0202	0.0047	0.0210
Total Tungsten (W)	-	-	-	-
Total Uranium (U)	-	-	-	-
Total Vanadium (V)	0.0032	0.0019	-	-
Total Zinc (Zn)	0.0112	0.0074	-	-
Total Zirconium (Zr)	-	-	-	-

Table 3.85: 2012 Quarterly mean concentrations for inorganics – TL3

	Q1-Mean	Q2-Mean	Q3-Mean	Q4-Mean
Alkalinity (Total as CaCO ₃)	27.25	48.13	84.70	60.50
Conductivity	76.80	109.50	177.97	136.50
Dissolved Chloride (Cl)	1.08	0.90	1.57	2.55
Dissolved Sulphate (SO ₄)	3.64	1.45	1.29	2.61
Hardness (CaCO ₃)	34.70	58.23	89.43	60.50
Nitrate (N)	0.135	-	0.0640	0.135
Nitrite (N)	-	-	-	-
pH	7.29	7.45	7.32	7.35
Total Ammonia-N	-	0.0290	-	0.0840
Total Phosphorus	0.0319	0.0196	0.0283	0.0740
Total Suspended Solids	23.45	7.50	26.10	57.00
Acidity (as CaCO ₃)	2.60	2.73	7.00	6.20
Oil and Grease	-	-	-	-
Cyanide, Weak Acid Diss	-	-	-	-
Cyanide, Total	-	0.0055	-	-
Cyanide, Free	-	-	-	-

Table 3.86: 2012 Quarterly mean concentrations for dissolved metals – TL3

	Q1-Mean	Q2-Mean	Q3-Mean	Q4-Mean
Dissolved Aluminum (Al)	0.1591	0.0679	0.0153	0.0647
Dissolved Antimony (Sb)	-	-	-	-
Dissolved Arsenic (As)	-	-	-	-
Dissolved Barium (Ba)	0.0150	-	0.0115	0.0110
Dissolved Beryllium (Be)	-	-	-	-
Dissolved Bismuth (Bi)	-	-	-	-
Dissolved Boron (B)	-	-	-	-
Dissolved Cadmium (Cd)	-	0.000021	-	-
Dissolved Calcium (Ca)	19.82	13.83	27.43	14.90
Dissolved Cesium (Ce)	-	-	-	-
Dissolved Chromium (Cr)	-	-	-	-
Dissolved Cobalt (Co)	-	-	-	-
Dissolved Copper (Cu)	0.0017	0.0016	-	0.0010
Dissolved Iron (Fe)	0.5995	0.2043	0.4427	0.8890
Dissolved Lead (Pb)	-	-	-	-
Dissolved Lithium (Li)	-	-	-	-
Dissolved Magnesium (Mg)	5.49	3.77	7.13	4.06
Dissolved Manganese (Mn)	0.0961	0.0189	0.1932	0.0611
Dissolved Mercury (Hg)	-	-	-	-
Dissolved Molybdenum (Mo)	-	-	-	-
Dissolved Nickel (Ni)	-	-	-	-
Dissolved Phosphorous (P)	-	-	-	-
Dissolved Potassium (K)	1.47	1.19	1.03	1.02
Dissolved Rubidium (Rb)	-	-	-	-
Dissolved Selenium (Se)	-	-	-	-
Dissolved Silicon (Si)	-	3.70	-	-
Dissolved Silver (Ag)	-	-	-	-
Dissolved Sodium (Na)	3.25	2.38	2.40	2.17
Dissolved Strontium (Sr)	0.0414	0.0301	0.0571	0.0344
Dissolved Tellurium (Te)	-	-	-	-
Dissolved Thallium (Tl)	-	-	-	-
Dissolved Tin (Sn)	-	-	-	-
Dissolved Titanium (Ti)	0.0082	0.0022	-	0.0021
Dissolved Tungsten (W)	-	-	-	-
Dissolved Uranium (U)	-	-	-	-
Dissolved Vanadium (V)	-	-	-	-
Dissolved Zinc (Zn)	0.0114	0.0132	-	0.0041
Dissolved Zirconium (Zr)	-	-	-	-

Table 3.87: 2012 Quarterly mean concentrations for total metals – TL3

	Q1-Mean	Q2-Mean	Q3-Mean	Q4-Mean
Total Aluminum (Al)	0.6765	0.1617	0.4307	0.5630
Total Antimony (Sb)	-	-	-	-
Total Arsenic (As)	-	-	-	-
Total Barium (Ba)	0.0160	0.0105	0.0145	0.0150
Total Beryllium (Be)	-	-	-	-
Total Bismuth (Bi)	-	-	-	-
Total Boron (B)	-	-	-	-
Total Cadmium (Cd)	-	-	-	0.000020
Total Calcium (Ca)	20.46	13.33	27.50	16.27
Total Cesium (Ce)	-	-	-	-
Total Chromium (Cr)	0.0014	0.00057	0.0013	0.0015
Total Cobalt (Co)	0.00055	-	0.00059	0.00058
Total Copper (Cu)	0.0020	0.0014	0.0012	0.0020
Total Iron (Fe)	1.47	0.4510	1.09	1.96
Total Lead (Pb)	-	-	-	-
Total Lithium (Li)	-	-	-	-
Total Magnesium (Mg)	5.59	3.61	7.07	4.36
Total Manganese (Mn)	0.1133	0.0278	0.1979	0.1013
Total Mercury (Hg)	-	-	-	-
Total Molybdenum (Mo)	-	-	-	-
Total Nickel (Ni)	-	-	-	-
Total Phosphorous (P)	-	-	-	-
Total Potassium (K)	1.57	1.11	1.01	1.46
Total Rubidium (Rb)	-	-	-	-
Total Selenium (Se)	-	0.00046	-	-
Total Silicon (Si)	-	3.50	-	-
Total Silver (Ag)	-	-	-	-
Total Sodium (Na)	3.34	1.95	2.42	2.22
Total Strontium (Sr)	0.0440	0.0289	0.0597	0.0349
Total Tellurium (Te)	-	-	-	-
Total Thallium (Tl)	-	-	-	-
Total Tin (Sn)	-	-	-	-
Total Titanium (Ti)	0.0272	0.0050	0.0191	0.0288
Total Tungsten (W)	-	-	-	-
Total Uranium (U)	-	-	-	-
Total Vanadium (V)	0.0019	0.0011	0.0014	0.0019
Total Zinc (Zn)	0.0050	-	0.0031	0.0079
Total Zirconium (Zr)	-	-	-	-

Table 3.88: 2012 Quarterly mean concentrations for inorganics – JCTA

	Q1-Mean	Q2-Mean	Q3-Mean	Q4-Mean
Alkalinity (Total as CaCO ₃)	55.70	35.07	77.47	52.65
Conductivity	119.60	86.27	159.63	120.90
Dissolved Chloride (Cl)	0.765	0.687	0.863	1.83
Dissolved Sulphate (SO ₄)	3.59	2.12	0.653	2.33
Hardness (CaCO ₃)	57.35	42.43	83.47	52.60
Nitrate (N)	0.0575	-	0.063	0.054
Nitrite (N)	-	-	-	-
pH	6.91	7.25	7.43	7.20
Total Ammonia-N	0.0710	-	0.0600	0.101
Total Phosphorus	0.0138	0.0167	0.0368	0.0316
Total Suspended Solids	6.00	4.40	18.93	2.20
Acidity (as CaCO ₃)	5.60	3.07	4.60	7.50
Oil and Grease	-	-	-	-
Cyanide, Weak Acid Diss	-	-	-	-
Cyanide, Total	-	0.0065	-	-
Cyanide, Free	-	-	-	-

Table 3.89: 2012 Quarterly mean concentrations for dissolved metals – JCTA

	Q1-Mean	Q2-Mean	Q3-Mean	Q4-Mean
Dissolved Aluminum (Al)	0.1190	0.0778	0.0205	0.0744
Dissolved Antimony (Sb)	-	-	-	-
Dissolved Arsenic (As)	-	-	0.0010	-
Dissolved Barium (Ba)	0.0130	-	0.010	0.010
Dissolved Beryllium (Be)	-	-	-	-
Dissolved Bismuth (Bi)	-	-	-	-
Dissolved Boron (B)	-	-	-	-
Dissolved Cadmium (Cd)	-	-	-	-
Dissolved Calcium (Ca)	18.06	11.79	23.53	14.40
Dissolved Cesium (Ce)	-	-	-	-
Dissolved Chromium (Cr)	-	-	-	-
Dissolved Cobalt (Co)	-	-	-	0.00087
Dissolved Copper (Cu)	0.0011	-	-	-
Dissolved Iron (Fe)	0.253	0.279	0.701	1.34
Dissolved Lead (Pb)	-	-	-	-
Dissolved Lithium (Li)	-	-	-	-
Dissolved Magnesium (Mg)	3.00	3.13	6.01	4.04
Dissolved Manganese (Mn)	0.142	0.048	0.456	0.347
Dissolved Mercury (Hg)	-	-	-	-
Dissolved Molybdenum (Mo)	-	-	-	-
Dissolved Nickel (Ni)	-	-	-	-
Dissolved Phosphorous (P)	-	-	-	-
Dissolved Potassium (K)	1.25	1.08	0.967	0.925
Dissolved Rubidium (Rb)	-	-	-	-
Dissolved Selenium (Se)	-	0.00043	-	-
Dissolved Silicon (Si)	-	3.60	-	-
Dissolved Silver (Ag)	-	-	-	-
Dissolved Sodium (Na)	1.84	1.80	2.02	2.10
Dissolved Strontium (Sr)	0.0329	0.0255	0.0483	0.0328
Dissolved Tellurium (Te)	-	-	-	-
Dissolved Thallium (Tl)	-	-	-	-
Dissolved Tin (Sn)	-	-	-	-
Dissolved Titanium (Ti)	0.0026	0.0024	-	0.0026
Dissolved Tungsten (W)	-	-	-	-
Dissolved Uranium (U)	-	-	-	-
Dissolved Vanadium (V)	-	-	-	-
Dissolved Zinc (Zn)	0.0059	0.0063	-	0.0048
Dissolved Zirconium (Zr)	-	-	-	-

Table 3.90: 2012 Quarterly mean concentrations for total metals – JCTA

	Q1-Mean	Q2-Mean	Q3-Mean	Q4-Mean
Total Aluminum (Al)	0.1762	0.2117	0.2710	0.2015
Total Antimony (Sb)	-	-	-	-
Total Arsenic (As)	-	-	0.0011	-
Total Barium (Ba)	0.0140	0.0120	0.0140	0.0120
Total Beryllium (Be)	-	-	-	-
Total Bismuth (Bi)	-	-	-	-
Total Boron (B)	-	-	-	-
Total Cadmium (Cd)	-	-	-	-
Total Calcium (Ca)	18.76	11.64	23.63	16.65
Total Cesium (Ce)	-	-	-	-
Total Chromium (Cr)	-	-	0.0010	-
Total Cobalt (Co)	-	-	0.00073	0.0010
Total Copper (Cu)	-	0.0012	-	-
Total Iron (Fe)	0.778	0.627	1.54	2.29
Total Lead (Pb)	-	-	-	-
Total Lithium (Li)	-	-	-	-
Total Magnesium (Mg)	3.11	3.11	5.91	4.21
Total Manganese (Mn)	0.157	0.068	0.628	0.386
Total Mercury (Hg)	-	-	-	-
Total Molybdenum (Mo)	-	-	-	-
Total Nickel (Ni)	-	-	-	-
Total Phosphorous (P)	-	-	-	-
Total Potassium (K)	1.22	1.12	0.943	0.990
Total Rubidium (Rb)	-	-	-	-
Total Selenium (Se)	-	0.00044	-	1.1000
Total Silicon (Si)	-	3.00	-	-
Total Silver (Ag)	-	-	-	-
Total Sodium (Na)	1.92	1.75	2.03	2.19
Total Strontium (Sr)	0.0348	0.0267	0.0468	0.0354
Total Tellurium (Te)	-	-	-	-
Total Thallium (Tl)	-	-	-	-
Total Tin (Sn)	-	-	-	-
Total Titanium (Ti)	0.0053	0.0074	0.0115	0.0072
Total Tungsten (W)	-	-	-	-
Total Uranium (U)	-	-	-	-
Total Vanadium (V)	-	-	0.0012	0.0012
Total Zinc (Zn)	-	0.0031	0.0030	0.0046
Total Zirconium (Zr)	-	-	-	-

3.2 Sediment

The results from the sediment sampling program have been tabulated below and the laboratory Certificates of Analysis are included in Appendix A. Sediment samples were collected at nine lake locations and 10 stream locations, and were analyzed for grain size and inorganics.

3.2.1 Surface Sediment Grain Size

Sediment grain size distribution was analyzed for the lakes (Wabigoon Lake, Wabigoon Lake Reference Site and Thunder Lake) and used in conjunction with benthic invertebrate community analysis to determine any correlations between the two sets of data (Table 3.91). Laboratory results indicated higher percentages of silt and clay at the Wabigoon Lake sampling location than at the Wabigoon Lake Reference site location. However, Wabigoon Lake and the Wabigoon Lake Reference site are considered characteristically similar and therefore make a good pairing for comparison. Sediment grain size percentages at the two sites ranged from 50% clay and 32% silt at the Wabigoon Lake Reference Site to 26% clay and 61% silt at the Wabigoon Lake sampling site.

Sediment grain size distribution in Thunder Lake showed a high percent of sand (84%), followed by silt (15%), and clay (1.1%).

No statistical analyses were completed for sediment grain size distribution as the minimum number of samples needed to complete statistical analysis was not collected (minimum of 3 per site).

Sediment grain size distribution was also analyzed for two streams (Blackwater creek, and an unnamed creek). Blackwater creek is a potentially impacted stream that drains into Wabigoon Lake, while the unnamed creek runs on either side of the former tree nursery and drains into Thunder Lake. Laboratory results indicate higher percentages of sand (47%) and silt (30%) in samples collected at Blackwater creek. Higher percentages of gravel (41%) and sand (67%) were found at the unnamed creek. Percent fines represented by clays ranged from 35% in Blackwater creek to 1.8% in the unnamed creek (Table 3.92).

Table 3.91: Grain size distribution and moisture in Sediments - Lakes

Streams													
Parameter	Units	Samples						Statistics					
Blackwater Creek		SB12-11A	SB12-12	SB12-13	SB12-14	SB12-15A	SB12-16	Min	Max	Med	Mean	SD	SE
Grain Size													
Gravel (>2mm)	%	0.61	29.9	4.85	2.32	<0.1	<0.1	0.6	29.9	3.6	9.4	13.8	5.6
Sand (2.0mm - 0.063mm)	%	26.2	12.7	78.4	78.7	47.9	39.8	12.7	78.7	43.9	47.3	27.0	11.0
Silt (0.063mm - 4um)	%	48.5	37.9	12.4	14.5	34.6	32.6	12.4	48.5	33.6	30.1	14.0	5.7
Clay (<4um)	%	24.8	19.5	4.28	4.44	17.5	27.7	4.3	27.7	18.5	16.4	10.0	4.1
Moisture	%	36.8	68.5	18.6	20.2	30.0	36.0	18.6	68.5	33.0	35.0	18.1	7.4
Tree Nursery Creek		SB12-2A	SB12-3	SB12-4A	SB12-5A								
Grain Size													
Gravel (>2mm)	%	3.53	77.8	<0.10	<0.10			3.5	77.8	40.7	40.7	52.5	26.3
Sand (2.0mm - 0.063mm)	%	72.2	21.8	84.3	91.6			21.8	91.6	78.3	67.5	31.5	15.7
Silt (0.063mm - 4um)	%	22.1	0.23	12.8	6.65			0.2	22.1	9.7	10.4	9.3	4.7
Clay (<4um)	%	2.20	0.16	2.91	1.78			0.2	2.9	2.0	1.8	1.2	0.6
Moisture	%	17.5	19.0	22.8	22.1			17.5	22.8	20.6	20.4	2.5	1.3

Table 3.92: Grain size distribution and moisture in Sediments - Streams

Lakes													
Parameter	Units	Samples				Statistics							
Wabigoon Lake		SB12-22	SB12-23	SB12-24		Min	Max	Med	Mean	SD	SE		
Grain Size													
Gravel (>2mm)	%	<0.10	<0.10	<0.10		<0.10	<0.10	<0.10	0.00	0	0	0	0
Sand (2.0mm - 0.063mm)	%	9.92	5.56	21.8		5.6	21.8	9.9	12.4	8.4	4.9	4.9	4.9
Silt (0.063mm - 4um)	%	62.8	63.6	57.9		57.9	63.6	62.8	61.4	3.1	1.8	1.8	1.8
Clay (<4um)	%	27.2	30.8	20.3		20.3	30.8	27.2	26.1	5.3	3.1	3.1	3.1
Moisture	%	57.5	67.2	53.0		53.0	67.2	57.5	59.2	7.3	4.2	4.2	4.2
Wabigoon Lake Reference		SB12-25	SB12-26										
Grain Size													
Gravel (>2mm)	%	<0.10	<0.10			<0.10	<0.10	<0.01	0.00	0	0	0	0
Sand (2.0mm - 0.063mm)	%	25.0	11.9			11.9	25.0	18.5	18.5	0	0	0	0
Silt (0.063mm - 4um)	%	30.3	33.5			30.3	33.5	31.9	31.9	0	0	0	0
Clay (<4um)	%	44.8	54.7			44.8	54.7	49.8	49.8	0	0	0	0
Moisture	%	54.9	62.0			54.9	62.0	58.5	58.5	0	0	0	0
Thunder Lake		SB12-17	SB12-18	SB12-19	SB12-20								
Grain Size													
Gravel (>2mm)	%	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.01	0.00	0	0	0	0
Sand (2.0mm - 0.063mm)	%	59.1	82.5	97.0	95.7	59.1	97.0	89.1	83.6	17.6	8.8	8.8	8.8
Silt (0.063mm - 4um)	%	38.7	16.7	2.20	3.63	2.2	38.7	10.2	15.3	16.9	8.5	8.5	8.5
Clay (<4um)	%	2.17	0.81	0.80	0.66	0.7	2.2	0.8	1.1	0.7	0.4	0.4	0.4
Moisture	%	47.7	23.4	24.0	26.0	23.4	47.7	25.0	30.3	11.7	5.8	5.8	5.8

3.2.2 Surface Sediment Inorganics

Sediment inorganic parameters were analyzed for samples collected at the three lake sampling locations used in the study of benthic invertebrate communities. Metal results were compared to Provincial Sediment Quality Guidelines (PSQG) LEL and PSQG SEL standards, where available. Anions and nutrients were not compared to PSQG standards, as leachable parameters are not included in these guidelines.

Higher total phosphorus concentrations were observed in the Wabigoon Lake Reference Site compared to Wabigoon Lake and Thunder Lake (Table 3.93). Total phosphorus was elevated in both samples collected at the Wabigoon Lake Reference Site (SB 12-25 – 853 mg/kg and SB 12-26 – 793 mg/kg) when compared to PSQG. One sample had elevated levels of total phosphorus at one sampling location within Wabigoon Lake (SB12-24 – 644 mg/kg), when compared to PSQG. No exceedances of PSQG for phosphorus concentrations were found in samples collected at Thunder Lake.

One sampling location within the unnamed creek had concentrations of total phosphorus above the PSQG (SB12-3 – 680 mg/kg). No other exceedances were found at that location, or at the other sampling station within the unnamed creek. No exceedances of any parameters were found in sediment samples collected at the Blackwater Creek (Tables 3.93 and 3.94).

Grain size distribution in Wabigoon Lake and Wabigoon Lake Reference is similar, with both lakes having high silt and/or clay content. Thunder Lake has a high sand content. Differences in grain size distributions will result in differences in benthic invertebrate distribution.

Table 3.93: Summary of the inorganic analysis of the surface sediment – Lakes

Lakes							
Parameter	Units					PSQG	
Wabigoon Lake		SB12-22	SB12-23	SB12-24		LEL	SEL
Leachable Ammonia as N	mg/kg	304	380	96.9			
Leachable Bromide	mg/kg	<1.0	<1.0	<1.0			
Leachable Chloride	mg/kg	<20	<20	<20			
Leachable Fluoride	mg/kg	1.3	2.8	<1.0			
Leachable Nitrate-N	mg/kg	<1.0	<1.0	<1.0			
Leachable Nitrite-N	mg/kg	<1.0	<1.0	<1.0			
Leachable Total Kjeldahl Nitrogen	mg/kg	4010	4740	2140			
Leachable Sulphate	mg/kg	189	55	29			
Phosphorus, Total	mg/kg	388	504	644		600	2000
Nitrate+Nitrite-N	mg/L	<1.0	1.3	<1.0			
Mercury (Hg)	mg/kg	0.050	0.034	0.033		0.2	2
Zirconium (Zr)	mg/kg	6.0	9.3	6.2			
Wabigoon Lake Reference		SB12-25	SB12-26				
Leachable Ammonia as N	mg/kg	81.3	106				
Leachable Bromide	mg/kg	<1.0	<1.0				
Leachable Chloride	mg/kg	<20	<20				
Leachable Fluoride	mg/kg	<1.0	1.1				
Leachable Nitrate-N	mg/kg	1.9	2.2				
Leachable Nitrite-N	mg/kg	<1.0	<1.0				
Leachable Total Kjeldahl Nitrogen	mg/kg	1420	1480				
Leachable Sulphate	mg/kg	22	37				
Phosphorus, Total	mg/kg	853	793			600	2000
Nitrate+Nitrite-N	mg/L	1.0	<1.0				
Mercury (Hg)	mg/kg	0.039	0.044			0.2	2
Zirconium (Zr)	mg/kg	8.3	11.7				
Thunder Lake		SB12-17	SB12-18	SB12-19	SB12-20		
Leachable Ammonia as N	mg/kg	104	28.2	14.3	25.6		
Leachable Bromide	mg/kg	<1.0	<1.0	<1.0	<1.0		
Leachable Chloride	mg/kg	<20	<20	<20	<20		
Leachable Fluoride	mg/kg	<1.0	<1.0	<1.0	<1.0		
Leachable Nitrate-N	mg/kg	<1.0	<1.0	<1.0	<1.0		
Leachable Nitrite-N	mg/kg	<1.0	<1.0	<1.0	<1.0		
Leachable Total Kjeldahl Nitrogen	mg/kg	1570	270	260	440		
Leachable Sulphate	mg/kg	49	<20	<20	<20		
Phosphorus, Total	mg/kg	403	192	341	155	600	2000
Nitrate+Nitrite-N	mg/L	<1.0	<1.0	<1.0	<1.0		
Mercury (Hg)	mg/kg	0.011	<0.010	<0.010	<0.010	0.2	2
Zirconium (Zr)	mg/kg	<5.0	<5.0	<5.0	<5.0		

Table 3.94: Summary of the inorganic analysis of the surface sediment – Streams

		Streams							
Parameter	units	Samples						PSQG	
Blackwater Creek		SB12-11A	SB12-12	SB12-13	SB12-14	SB12-15A	SB12-16	LEL	SEL
Leachable Ammonia as N	mg/kg	70.1	384	47.7	39.9	105	107		
Leachable Bromide	mg/kg	<1.0	3.6	<1.0	<1.0	1.2	<1.0		
Leachable Chloride	mg/kg	<20	<20	<20	<20	<20	<20		
Leachable Fluoride	mg/kg	1.4	4.3	<1.0	<1.0	<1.0	1.0		
Leachable Nitrate-N	mg/kg	<1.0	4.6	<1.0	<1.0	<1.0	<1.0		
Leachable Nitrite-N	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		
Leachable Total Kjeldahl Nitrogen	mg/kg	810	4470	410	650	1300	1340		
Leachable Sulphate	mg/kg	<20	406	<20	<20	44	<20		
Phosphorus, Total	mg/kg	459	575	270	255	391	438	600	2000
Nitrate+Nitrite-N	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		
Mercury (Hg)	mg/kg	0.031	0.042	<0.010	0.011	0.020	0.025	0.2	2
Zirconium (Zr)	mg/kg	<5.0	7.1	<5.0	<5.0	<5.0	8.5		
Unnamed Creek		SB12-2A	SB12-3	SB12-4A	SB12-5A				
Leachable Ammonia as N	mg/kg	79.3	20.7	14.3	10.8				
Leachable Bromide	mg/kg	<1.0	<1.0	<1.0	<1.0				
Leachable Chloride	mg/kg	<20	<20	<20	<20				
Leachable Fluoride	mg/kg	<1.0	<1.0	<1.0	<1.0				
Leachable Nitrate-N	mg/kg	<1.0	<1.0	<1.0	<1.0				
Leachable Nitrite-N	mg/kg	<1.0	<1.0	<1.0	<1.0				
Leachable Total Kjeldahl Nitrogen	mg/kg	940	320	210	<200				
Leachable Sulphate	mg/kg	<20	<20	21	<20				
Phosphorus, Total	mg/kg	240	680	154	114			600	2000
Nitrate+Nitrite-N	mg/L	<1.0	2.8	<1.0	<1.0				
Mercury (Hg)	mg/kg	<0.010	<0.010	<0.010	<0.010			0.2	2
Zirconium (Zr)	mg/kg	<5.0	<5.0	<5.0	<5.0				

3.3 Benthic Invertebrate Community (BIC)

Results of the benthic invertebrate sampling for the lakes and streams were tabulated, and are described below. Taxon richness, relative abundance, percent Ephemeroptera, Plecoptera, Tricoptera (EPT), percent Diptera, Simpson's diversity index and evenness were calculated for each sampling station. Taxon richness describes the total number of different taxonomic categories collected at a sampling site. The Simpson diversity index takes into account both the abundance patterns and taxonomic richness of the community. It is calculated by determining for each taxonomic group the proportion of individuals that contribute to the total invertebrates present. Simpson's diversity can range between 0 and 1, with higher values indicating greater diversity. EPT ratios of 50 % or greater are indicative of good biodiversity, values between 50 % and 25 % are considered moderate and values below 25 % are considered indicative of poor biodiversity. Values for percent Diptera greater than 40 % are indicative of poor water quality, values between 20 % and 40 % are considered moderate, and values lower than 20 % are considered indicative of good water quality. Evenness is the measure of equality of abundance in a community. The certificates of analysis are located in Appendix A.

3.3.1 Wabigoon Lake

SB 12-22

For SB 12-22, 14 taxa were identified. Of these 14 taxa the most abundant group was the Diptera Chironomidae, followed by the Oligochaeta Naididae (Figure 3.1). These groups represent 80 % and 6 % of the total invertebrate population in the sample respectively. Percent EPT was low at 2.7% with no members of the Plecoptera family being found. Percent diptera was high at 80 %, the highest among all the samples collected at Wabigoon Lake. A Simpson's diversity index of 0.3 was calculated, this value indicates that the diversity at this sampling site is low. A value of 0.11 for Evenness was obtained, which confirms that there is a dominant family in the area sampled. Benthic invertebrate density was calculated at 18,400 individuals/m². The estimated density at this site is quite high due to the fact that there was a very large number of Chironomids captured in the samples.

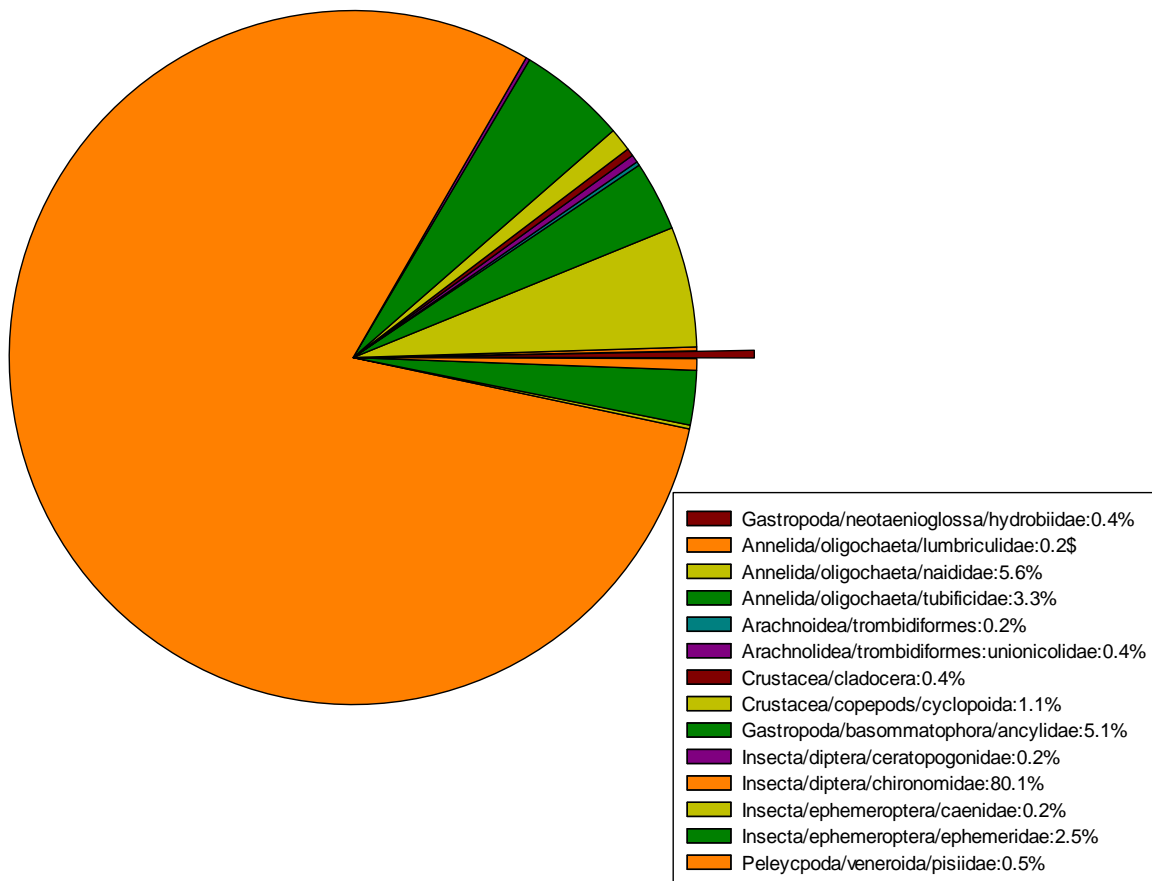


Figure 3.1: Benthic invertebrate distribution in SB 12-22

SB 12-23

Taxon richness in SB 12-23 was 13 and, of the 13 taxa, the most abundant group was the Diptera Chironomidae followed by the Ephemeroptera Ephemeraeidae (Figure 3.2). These groups represented 53 % and 17 % of the total invertebrate population in the sample. There were no members of the Plecoptera family in this sample. The Percent Diptera was calculated at 56 %. The Simpson's diversity index was calculated at 0.7 indicating a high diversity of organisms in the sample, while the evenness was calculated at 0.24, showing that the distribution is skewed towards having many organisms of only one or two families (Chironomidae and Ephemeraeidae). Density for this sample was calculated at 1,817 individuals/m².

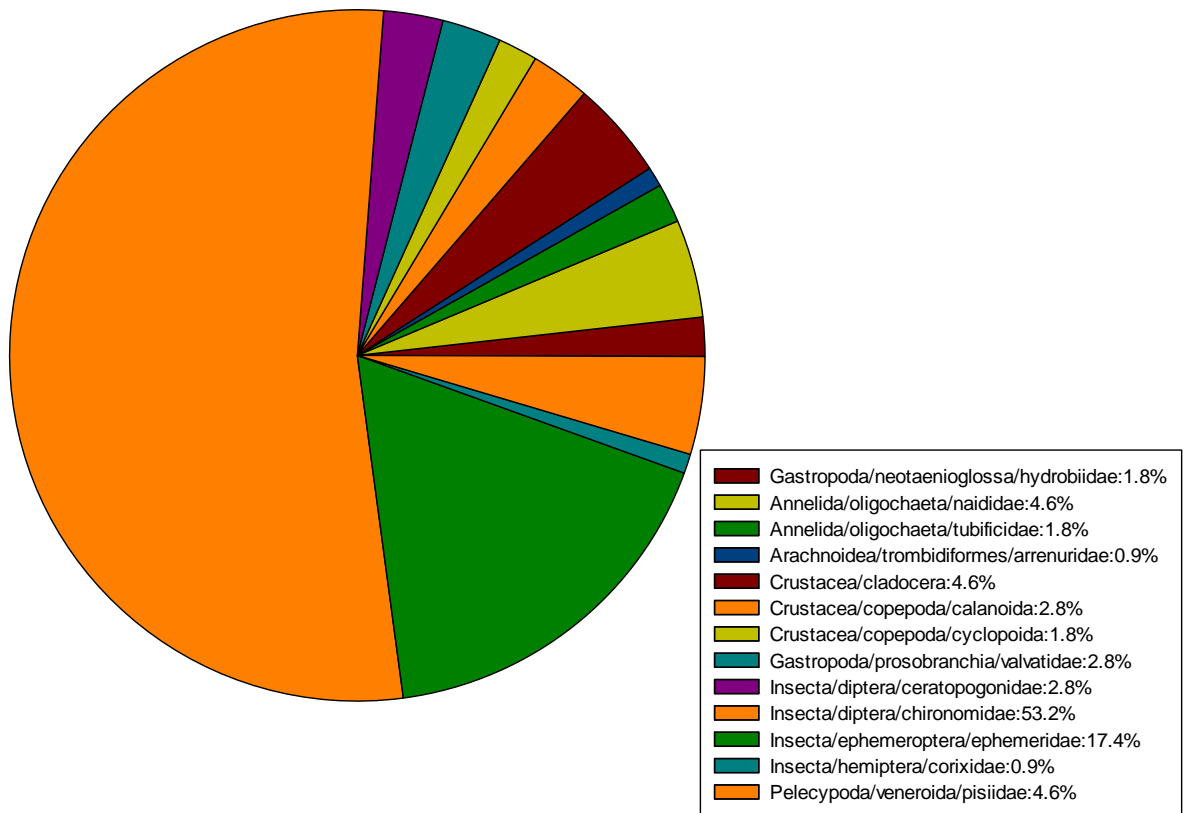


Figure 3.2: Benthic invertebrate distribution in SB 12-23

SB 12-24

Taxon richness for SB 12-24 was very similar to SB12-23, with 13 different taxa identified. The most abundant groups were the Diptera Chironomidae and the Ephemeroptera Ephemeridae which represented 56 % and 22 % of the total invertebrate population in the sample (Figure 3.3). Percent EPT was 27 %, while percent Diptera was 56 %. Simpson’s diversity index was calculated at 0.6 which indicated that, at this location, there is a moderate diversity of species, while evenness calculated at 0.21, which indicates that species distribution is skewed towards one dominant species. Density for this sample was calculated at 1567 individuals/m².

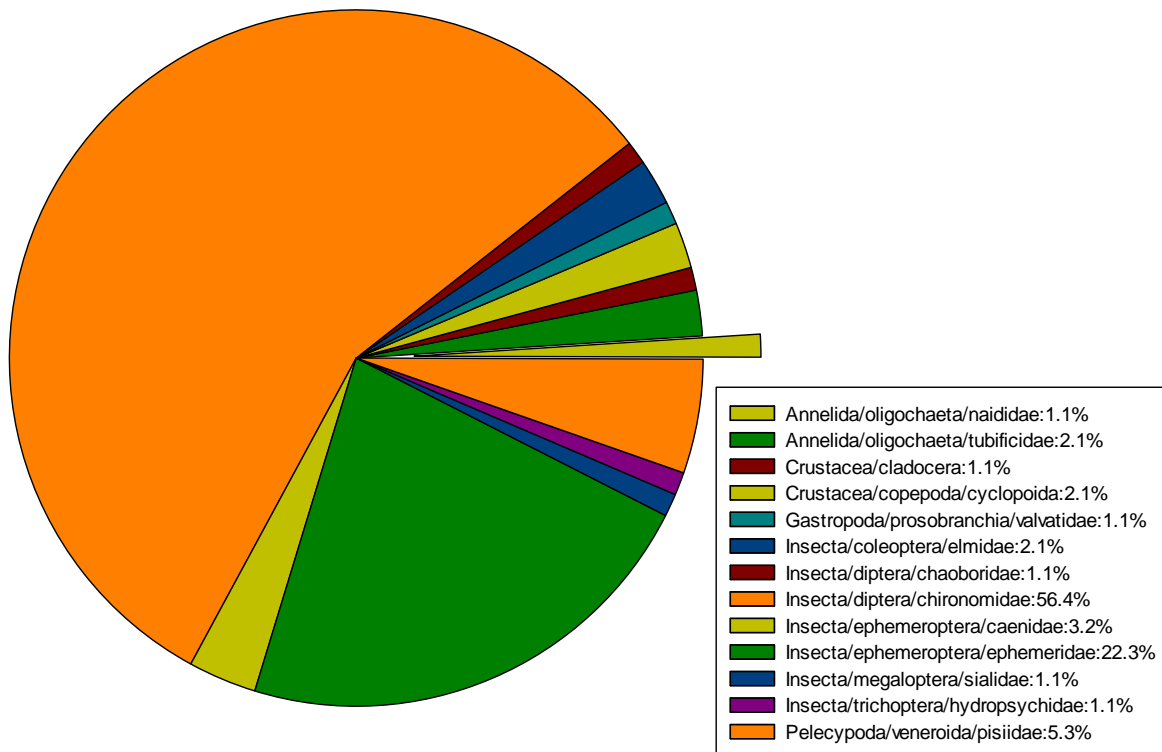


Figure 3.3: Benthic invertebrate distribution in SB 12-24

Overall, benthic invertebrate community samples from Wabigoon Lake show a low to moderate diversity of species, with one common dominant species (chironomids). Chironomids are a family that are usually associated with waterbodies of poor water quality. It should also be noted that the further away from the mouth of the Blackwater creek the samples were collected, the lower the abundance of chironomids and the larger the abundance of other families that usually represent good water quality, including the Ephemeridae.

3.3.2 Wabigoon Lake Reference Site

SB 12-25

A total of 10 taxon were identified for SB 12-25, with the most abundant groups being the Diptera Chaoboridae followed by the Ephemeroptera Ephemeraeidae which represented 61 % and 20 % of the total invertebrate population in the sample (Figure 3.4). Percent EPT was 62 %, which indicates moderate water quality, while percent Diptera was 28 %. The Simpson's diversity index was calculated at 0.6, indicating moderate diversity of species. The evenness was calculated at 0.23 showing that the distribution is skewed towards having many organisms of only one or two families. Density was calculated at 5733 individuals/m². This sampling site has a moderate to good water quality as shown by the percent EPT and percent Diptera.

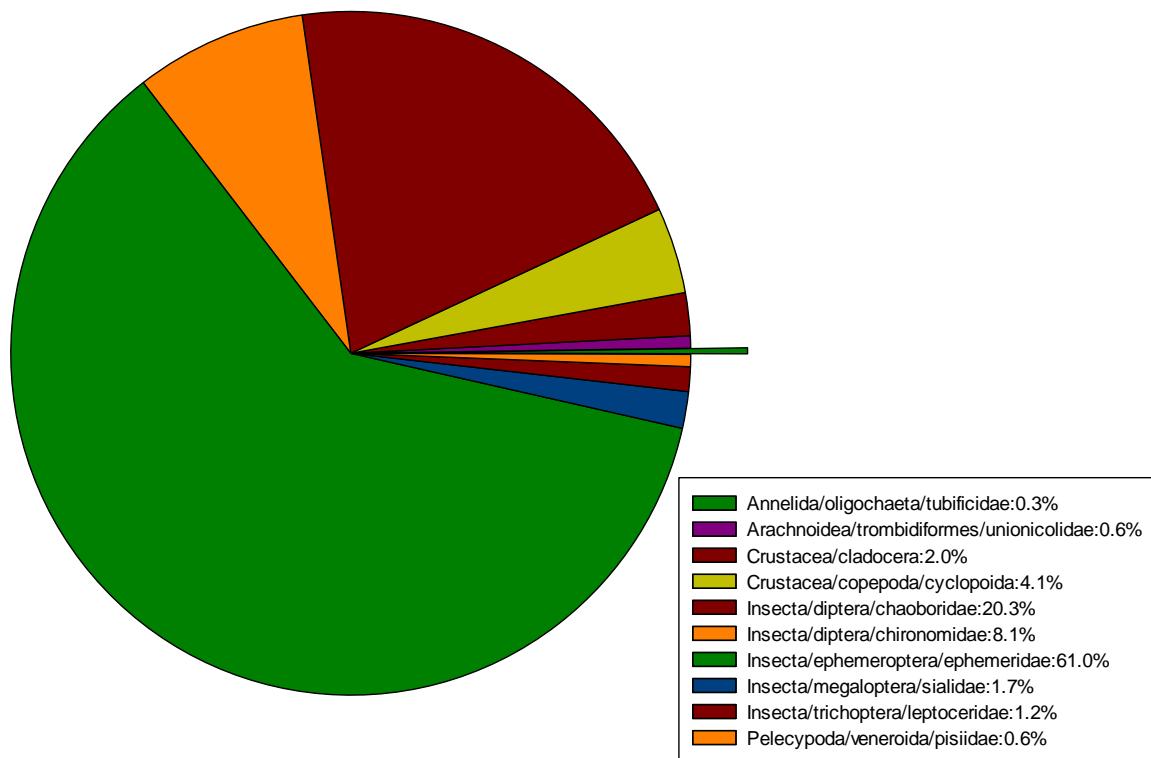


Figure 3.4: Benthic invertebrate distribution in SB 12-25

SB 12-26

A total of eight taxon were identified for SB 12-26. The most abundant groups were the Ephemeroptera Ephemeraidae and the Diptera Chaoboridae, which represented 59 % and 15 % of the total population in the sample (Figure 3.5). As in SB 12-25, members of the Ephemeroptera family were the most abundant. Simpson's diversity index was calculated at 0.6 indicating moderate diversity of species. The evenness was calculated at 0.3 showing that the distribution is skewed towards having many organisms of only one or two families. Density was calculated at 2867 individuals/m². Percent EPT was 61 % and percent Diptera was 33 %. This sampling site had moderate to good water quality as demonstrated by the percent EPT.

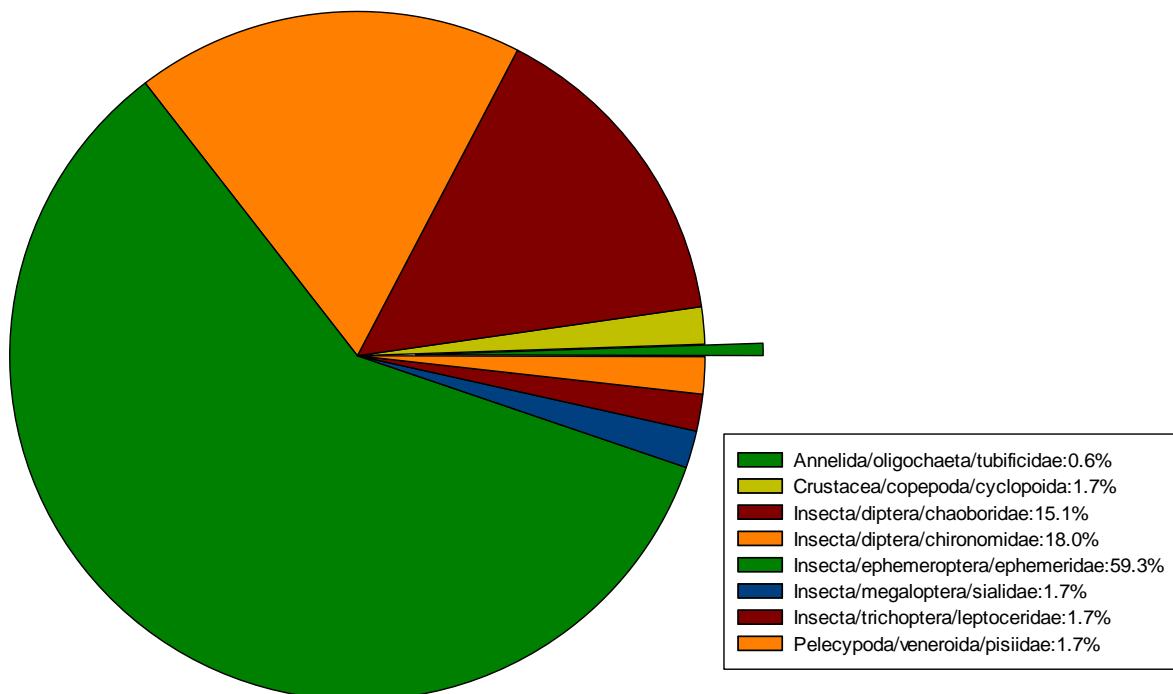


Figure 3.5: Benthic invertebrate distribution in SB 12-26

3.3.3 Thunder Lake

SB 12-17

A total of 21 taxon were identified for SB 12-17. The most abundant groups were the Diptera Chironomidae followed by the Pelecypoda Pisiidae, which represented 45 % and 18 % of the total population in the sample (Figure 3.6). The percent Diptera was calculated at 49 %, the percent EPT was 16%. The Simpson's diversity index was calculated at 0.87 indicating a high diversity of species. The evenness was calculated at 0.20 showing that the distribution is skewed towards having many organisms of only one or two families. The density was calculated to be 4,267 individuals/m².

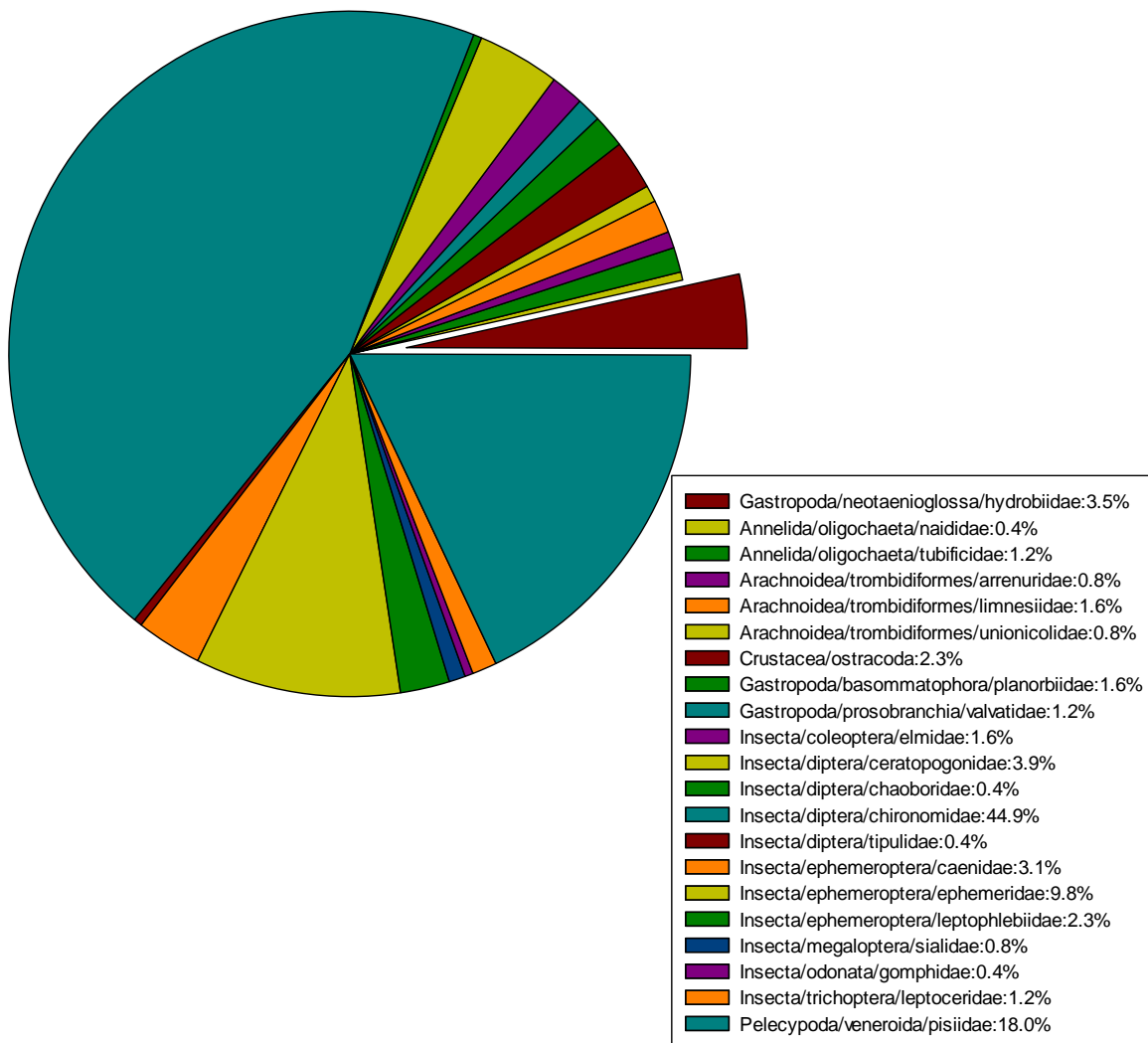


Figure 3.6: Benthic invertebrate distribution in SB 12-17

SB 12-18

A total of 23 taxon were identified for SB 12-18. The most abundant groups were the Diptera Chironomidae and the Pelecypoda Pisiidae which represented 51% and 20 % of the total population of the sample (Figure 3.7). The percent EPT was 0.22 %, while the percent Diptera was 58 %. The Simpson’s diversity index was 0.7 indicating a high diversity of species. The evenness was calculated at 0.10 showing that the distribution is skewed towards having many organisms of only one or two families. Density was calculated as 7450 individuals/m².

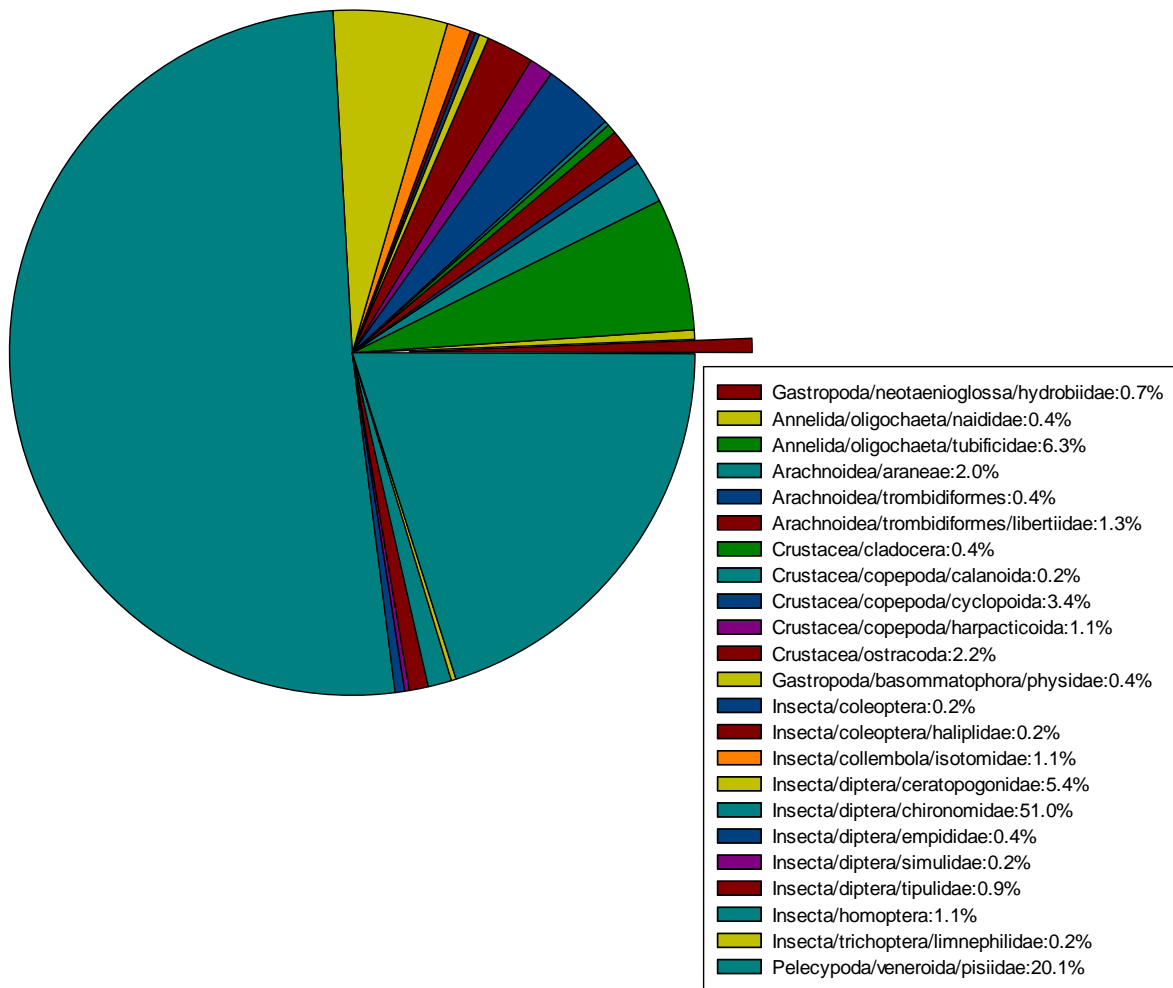


Figure 3.7: Benthic invertebrate distribution in SB12-18

SB 12-19

A total of 17 taxon were identified for SB 12-19. The most abundant groups were the Diptera Chironomidae and the Pelecypoda Pisiidae which represented 50 % and 14 % of the total invertebrate population (Figure 3.8). The percent EPT was 51%, while the percent Diptera was calculated at 49%. The Simpson's diversity index was calculated at 0.7, indicating a high diversity of species. The evenness was calculated at 0.20 showing that the distribution is skewed towards having many organisms of only one or two families. The density was calculated as 2117 individuals/m².

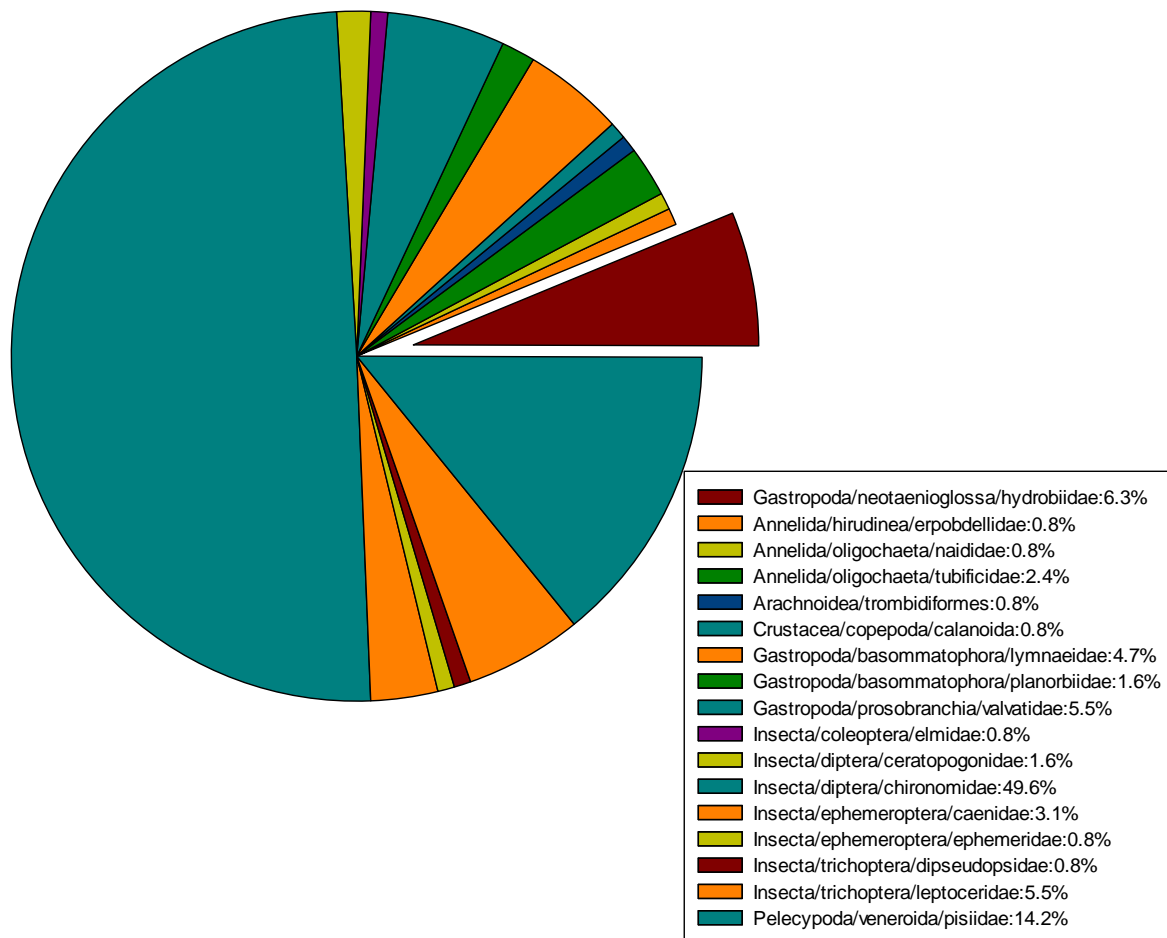


Figure 3.8: Benthic invertebrate distribution in SB 12-19

SB 12-20

A total of 16 taxon were identified for SB 12-20. The most abundant groups were the Diptera Chironomidae and the Pelecypoda Pisiidae, which represented 23 % and 28 % of the total invertebrate population in the sample (Figure 3.9). The percent EPT was 11 %, while the percent Diptera was calculated at 23 %. The Simpson’s diversity index was calculated at 0.8, indicating moderate diversity of species. The evenness was calculated at 0.4 showing that the sample had a moderate variety of families. The density was estimated to be 2750 individuals/m².

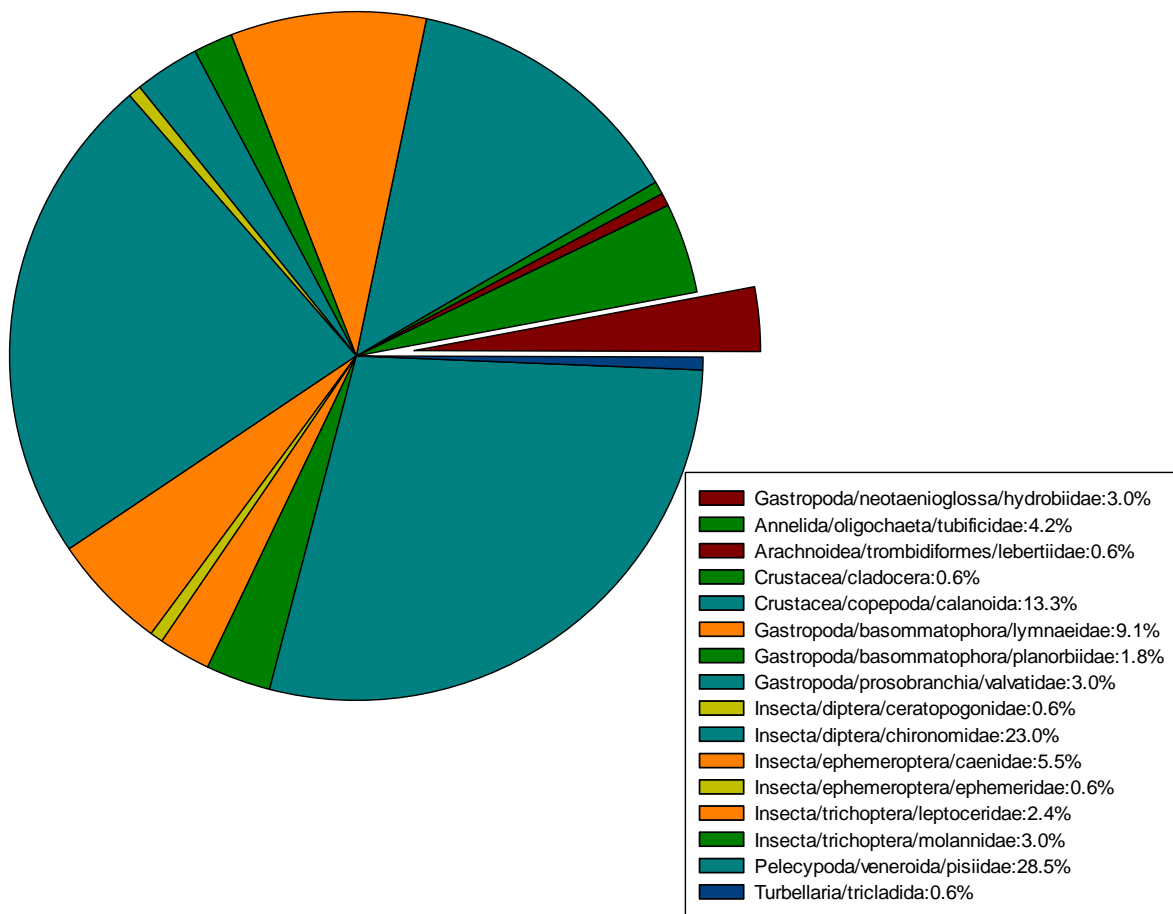


Figure 3.9: Benthic invertebrate distribution in SG BEN4

Overall, the data indicates a higher abundance of taxa in Thunder Lake compared to Wabigoon Lake. While the most abundant family was Chironomidae, there was a high diversity of families in the samples collected as shown by the higher Simpson’s diversity index when compared to

Wabigoon Lake samples. Evenness indicated that despite the higher abundance of taxa, there was still a skewed dominance of most samples by the Chironomids. Water quality in Thunder Lake, as demonstrated by the abundance of EPT species and diptera species, can be classified as relatively poor.

3.3.4 Blackwater Creek

SB 12-11A

A total of 18 taxon were identified for SB 12-11A; the most abundant group were the Diptera Chironomidae followed by the Crustacea Ostracoda, which represented 50 % and 18 % of the total invertebrate population in the sample (Figure 3.10). Percent EPT was calculated at 0.8 % while percent Diptera was 52 %. Simpson diversity index was calculated at 0.7 which indicates a high diversity of taxa present in the sample. Evenness was calculated at 0.2 which indicates that the invertebrate population in this sample is skewed towards a higher presence of one or two species.

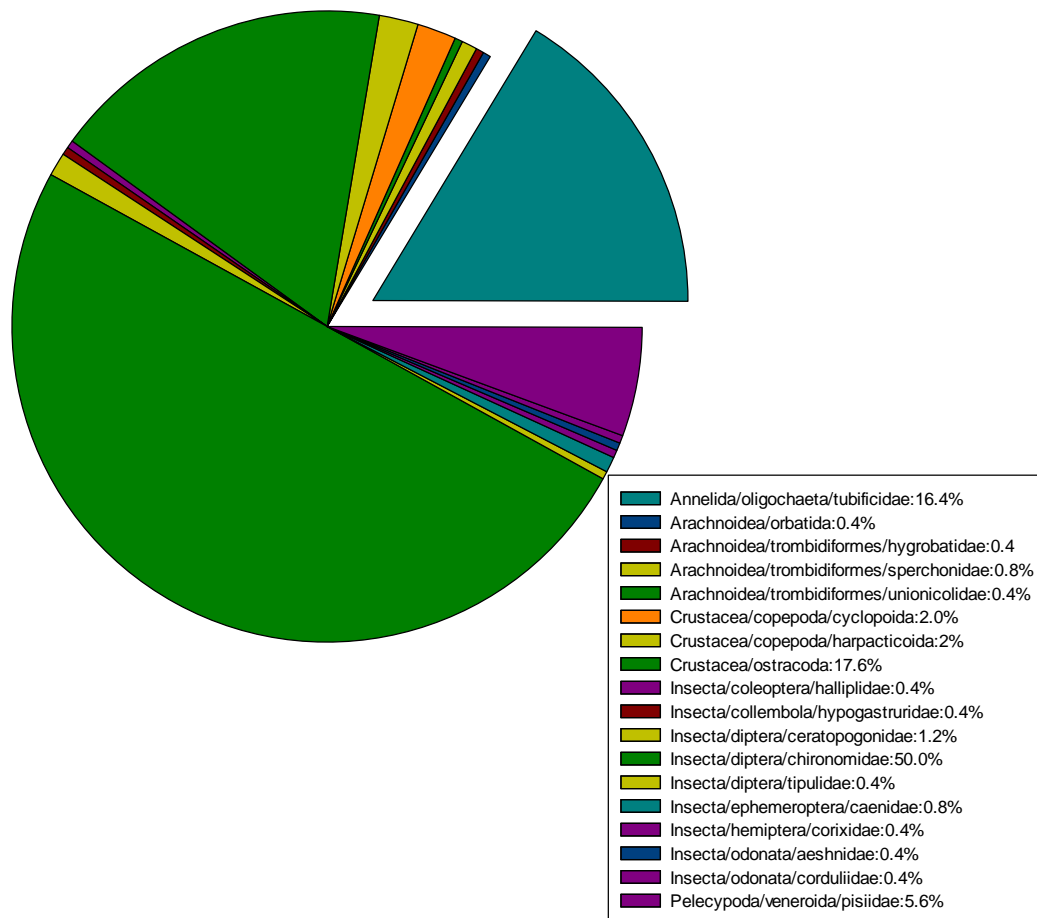


Figure 3.10: Benthic invertebrate distribution in SB 12-11A

SB 12-12

A total of 10 taxon were identified for SB 12-12 (Figure 3.11). The most abundant group were the Pelecypoda Pisiidae followed by the Diptera Chironomidae, which represented 80 % and 6.6 % of the total invertebrate population in the sample. Percent EPT was calculated at 1.3 %, while percent Diptera was calculated at 11%. Simpson’s diversity index was calculated at 0.4 which indicates that in this stream the diversity is low. Evenness was calculated at 0.2, indicating that the sample was dominated by one species, as evidenced by the number of Pelecypoda Pisiidae present.

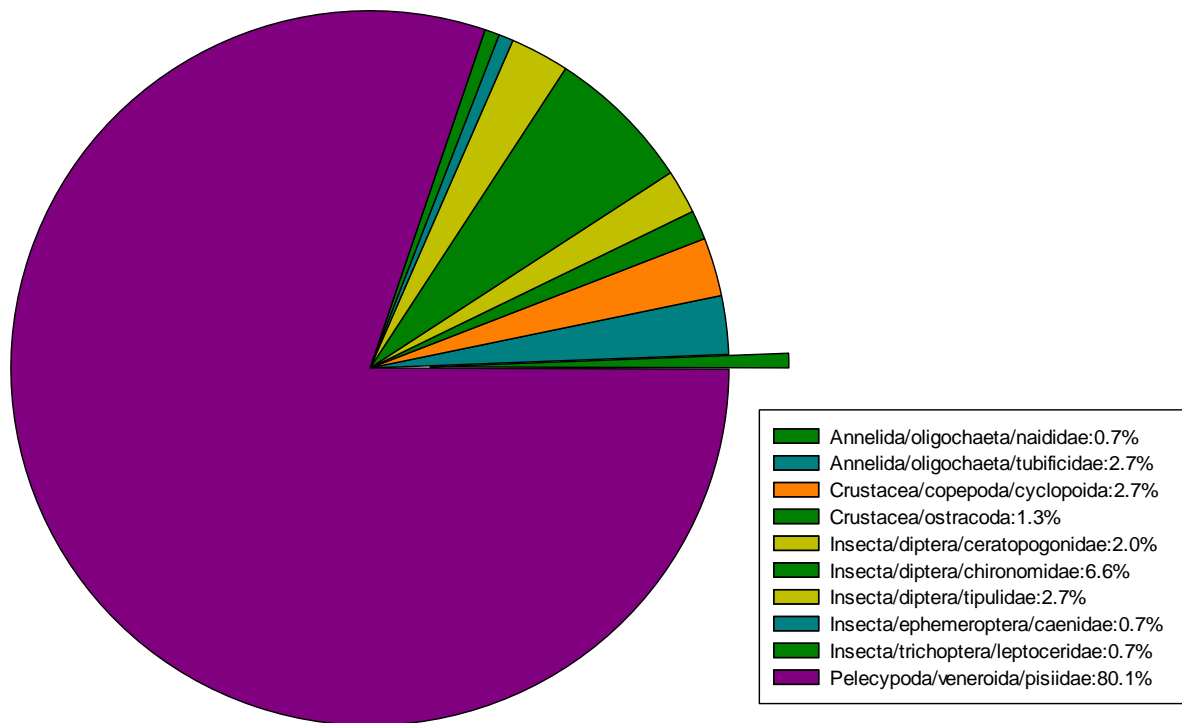


Figure 3.11: Benthic invertebrate distribution in SB 12-12

SB 12-13

A total of 24 taxon were identified for SB 12-13 (Figure 3.12). The most abundant families were the Diptera Chironomidae followed by the Diptera Ceratopogonidae, which represented 48 % and 19 % of the total population in the sample. Percent EPT was calculated at 2.8%, while percent Diptera was calculated at 72%. Simpson’s diversity index was calculated at 0.7, indicating a high diversity of species. The evenness was calculated at 0.10 showing that the distribution is skewed towards having many organisms of only one family.

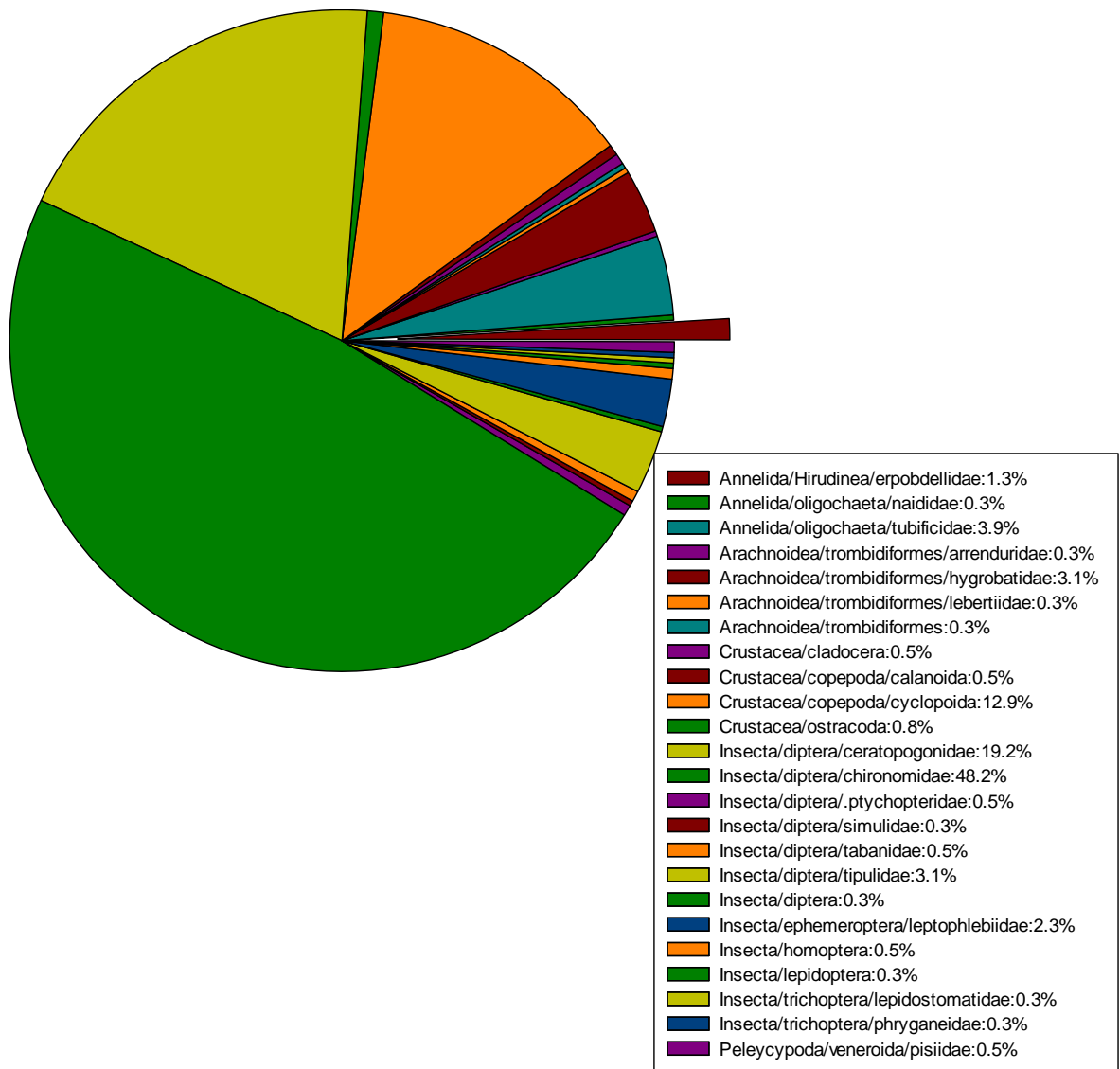


Figure 3.12: Benthic invertebrate distribution in SB 12-13

SB 12-14

A total of 21 taxon were identified for SB 12-14 (Figure 3.13). The most abundant families were the Diptera Chironomidae followed by the Diptera Ceratopogonidae, which represented 46 % and 18 % of the total population in the sample. Percent EPT was calculated at 0.9 %, while percent Diptera was calculated at 69 %. Simpson’s diversity index was calculated at 0.7, indicating a high diversity of species. The evenness was calculated at 0.20 showing that the distribution was skewed towards having many organisms of only one or two families.

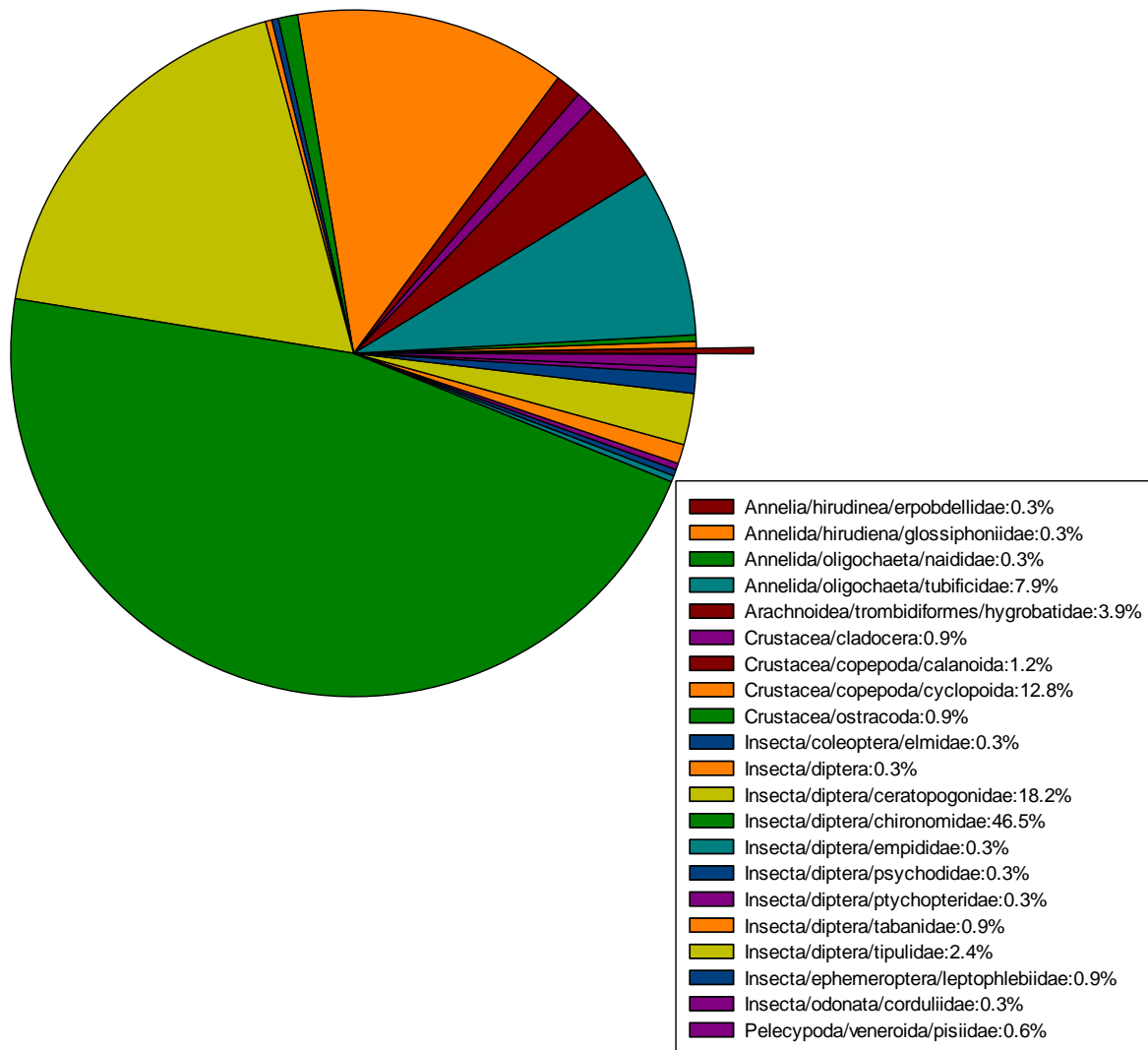


Figure 3.13: Benthic invertebrate distribution in SB 12-14

SB 12-15

A total of 23 taxon were identified for SB 12-15 (Figure 3.14). The most abundant families were the Diptera Chironomidae followed by the Diptera Ceratopogonidae, which represented 63 % and 13 % of the total population in the sample. Percent EPT was calculated at 5.3 %, while percent Diptera was calculated at 77 %. Simpson’s diversity index was calculated at 0.6, indicating a moderate diversity of species. The evenness was calculated at 0.10 showing that the distribution is skewed towards having many organisms of only one family.

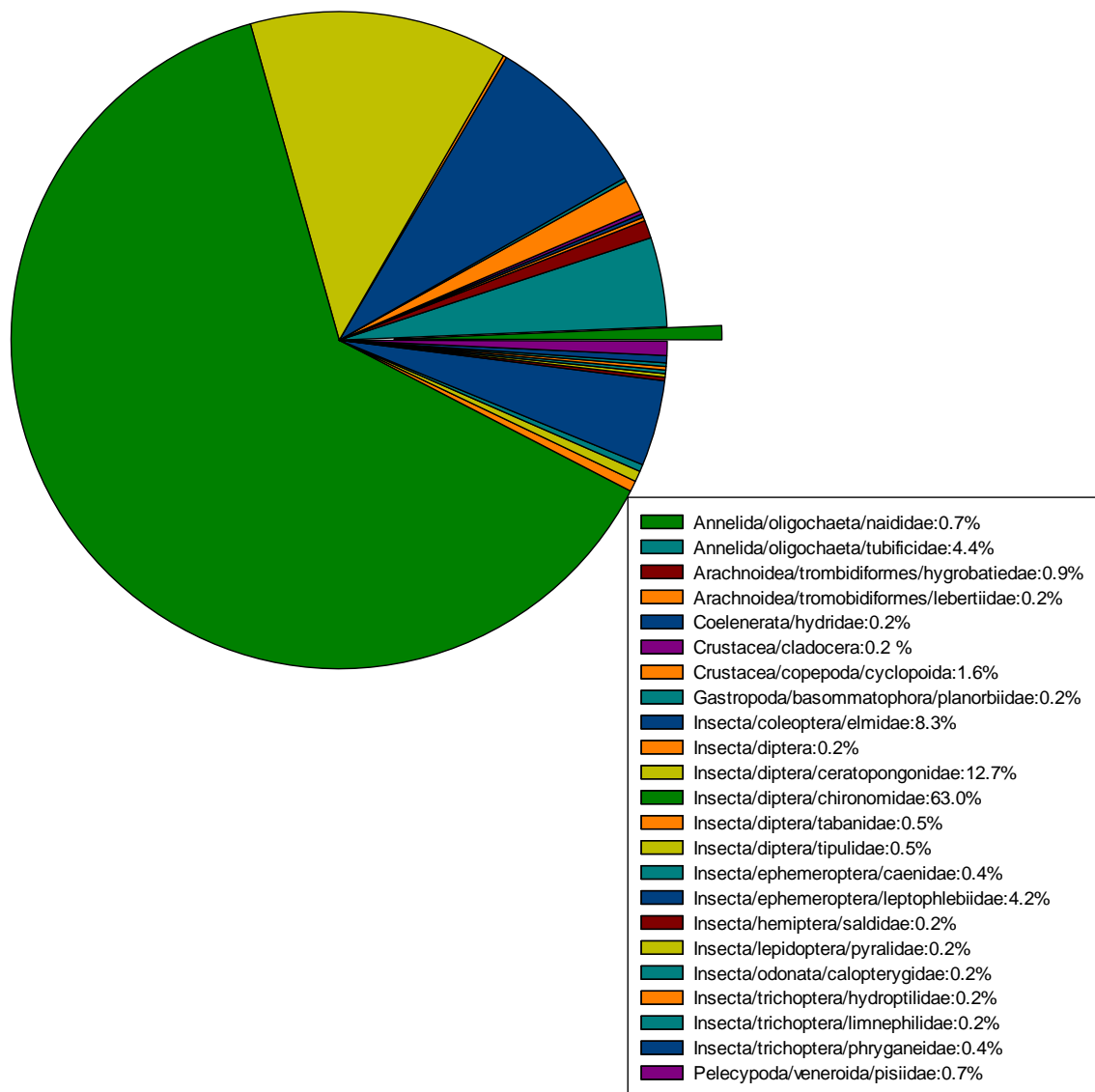


Figure 3.14: Benthic invertebrate distribution in SB 12-15

SB 12-16

A total of 17 taxon were identified for SB 12-16 (Figure 3.15); the most abundant families were the Trichoptera Hydropsychidae followed by the Diptera Chironomidae, which represented 25 % and 19 % of the total population in the sample. Percent EPT was calculated at 46 %, while percent Diptera was calculated at 24 %. Simpson’s diversity index was calculated at 0.9, indicating a high diversity of species. The evenness was calculated at 0.4 showing that the sample had a good distribution of families.

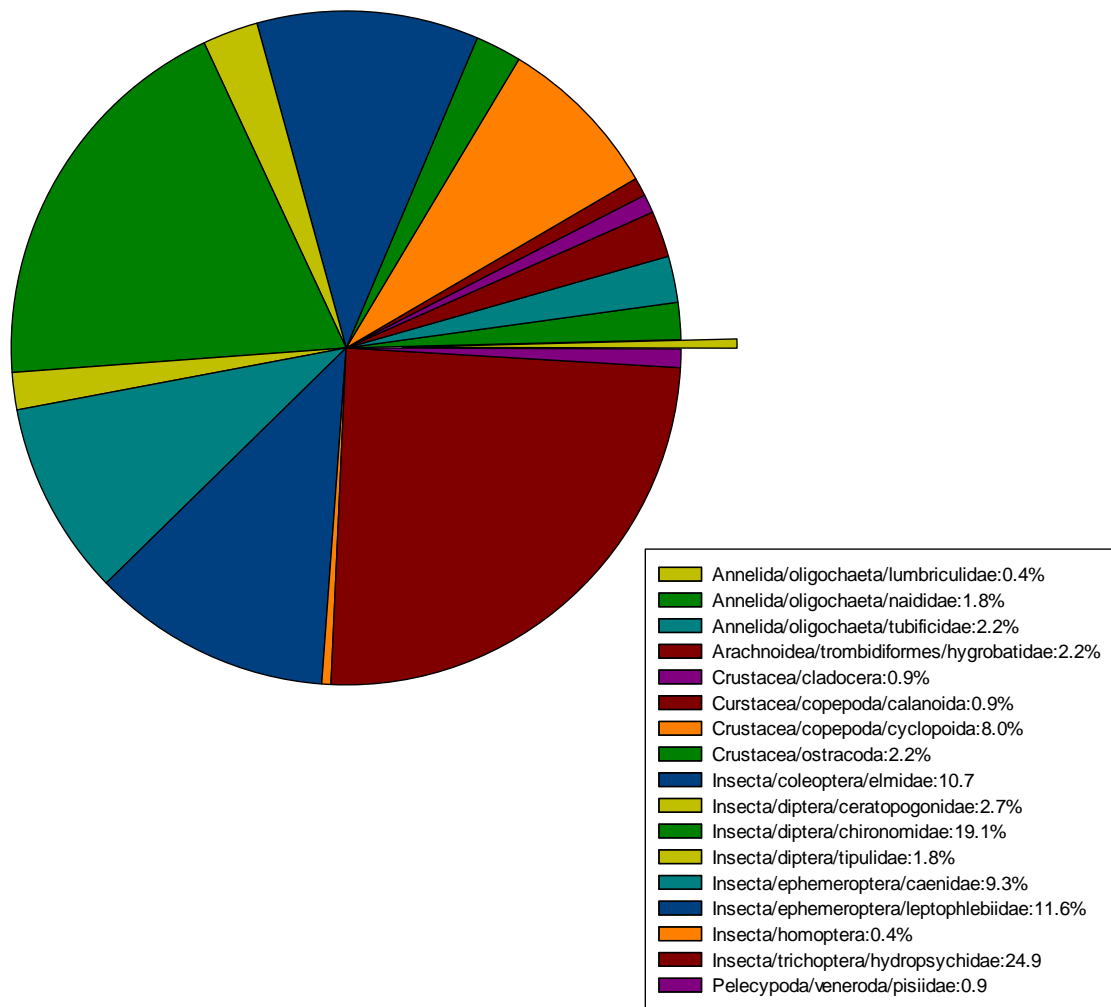


Figure 3.15: Benthic invertebrate distribution in SB 12-16

Overall, the results for the Blackwater Creek benthic invertebrate community survey indicates that water quality is moderate to good, with a higher percentage of members of the EPT families in samples collected downstream compared to samples collected upstream. The benthic invertebrate community is diverse as shown by high Simpson's diversity indexes, but tends to be dominated by one or two species as shown by the low evenness in most samples.

3.3.5 Unnamed Creek

SB 12-2A

A total of five taxon were identified for SB 12-2A (Figure 3.16). The most abundant families were the Diptera Chironomidae followed by the Plecoptera Capniidae and the Trichoptera Lepidostomatidae, which represented 27 %, 15 % and 15 % of the total population in the sample respectively. Percent EPT was calculated at 51 %, while percent Diptera was calculated at 36 %. Simpson's diversity index was calculated at 0.9, indicating a high diversity of species. The evenness was calculated at 0.30 showing that the sample had a good distribution of families.

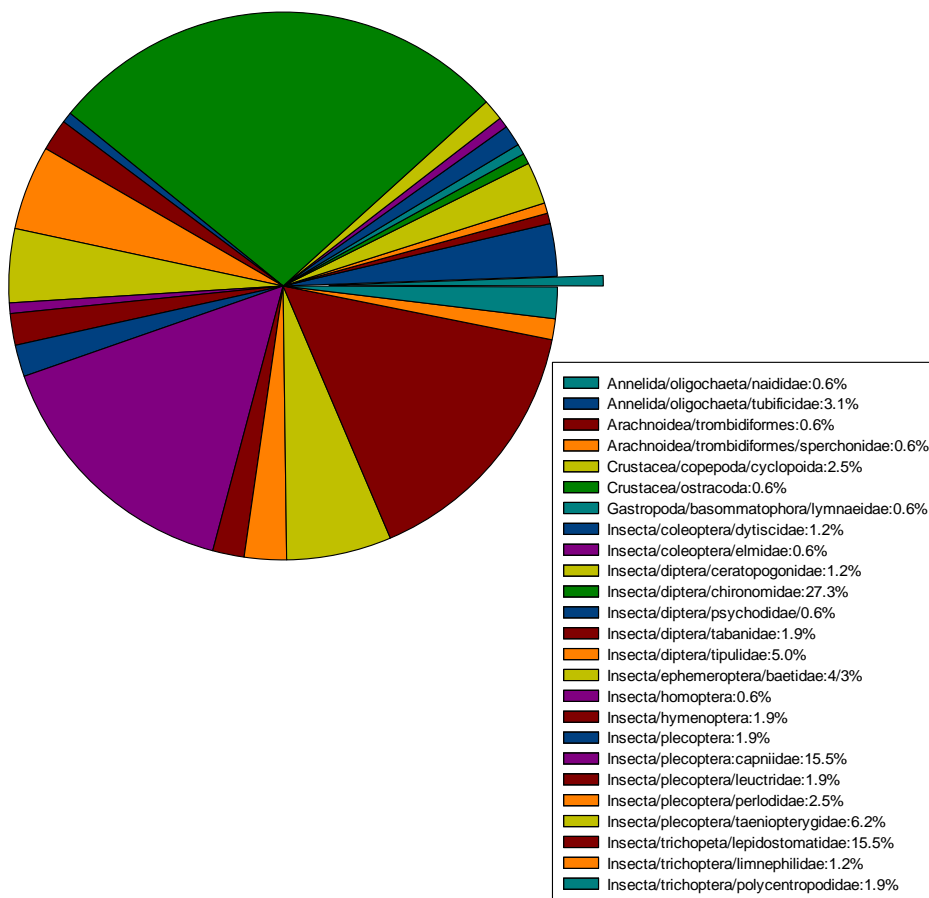


Figure 3.16: Benthic invertebrate distribution in SB 12-2A

SB 12-3

A total of 22 taxon were identified for SB 12-3 (Figure 3.17). The most abundant families were the Diptera Chironomidae followed by the Trichoptera Hydropsychidae, which represented 47 % and 22 % of the total population in the sample. Percent EPT was calculated at 32 %, while percent Diptera was calculated at 50 %. Simpson's diversity index was calculated at 0.7, indicating a moderate diversity of species. The evenness was calculated at 0.2 showing that the distribution was skewed towards having many organisms of only one or two families.

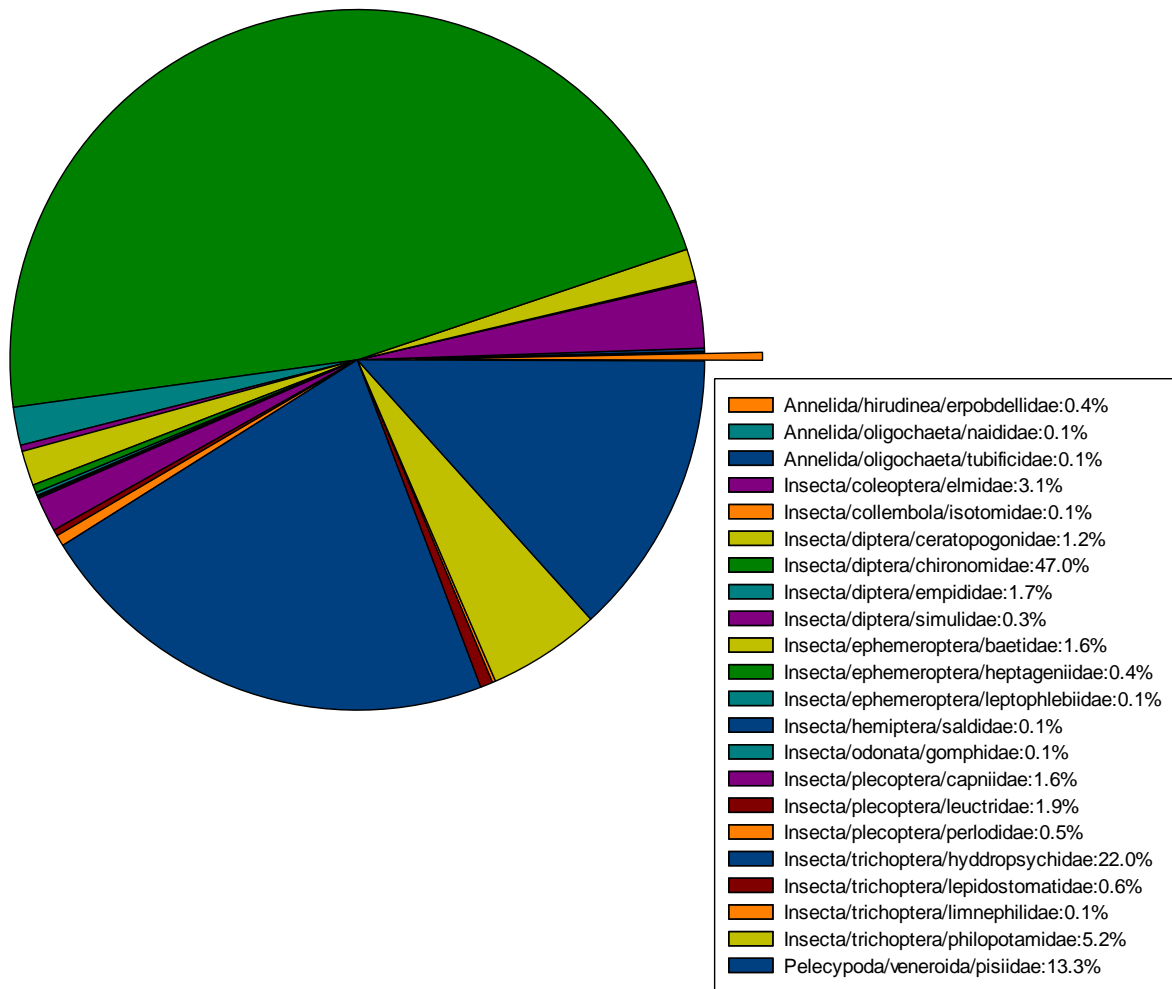


Figure 3.17: Benthic invertebrate distribution in SB 12-3

SB 12-4A

A total of 32 taxon were identified for SB 12-4A (Figure 3.18). The most abundant families were the Diptera Chironomidae followed by the Oligochaeta Naididae, which represented 24 % and 12 % of the total population in the sample. Percent EPT was calculated at 46 %, while percent Diptera was calculated at 31 %. Simpson's diversity index was calculated at 0.9, indicating a high diversity of species. The evenness was calculated at 0.30 showing that the sample had a good distribution of families.

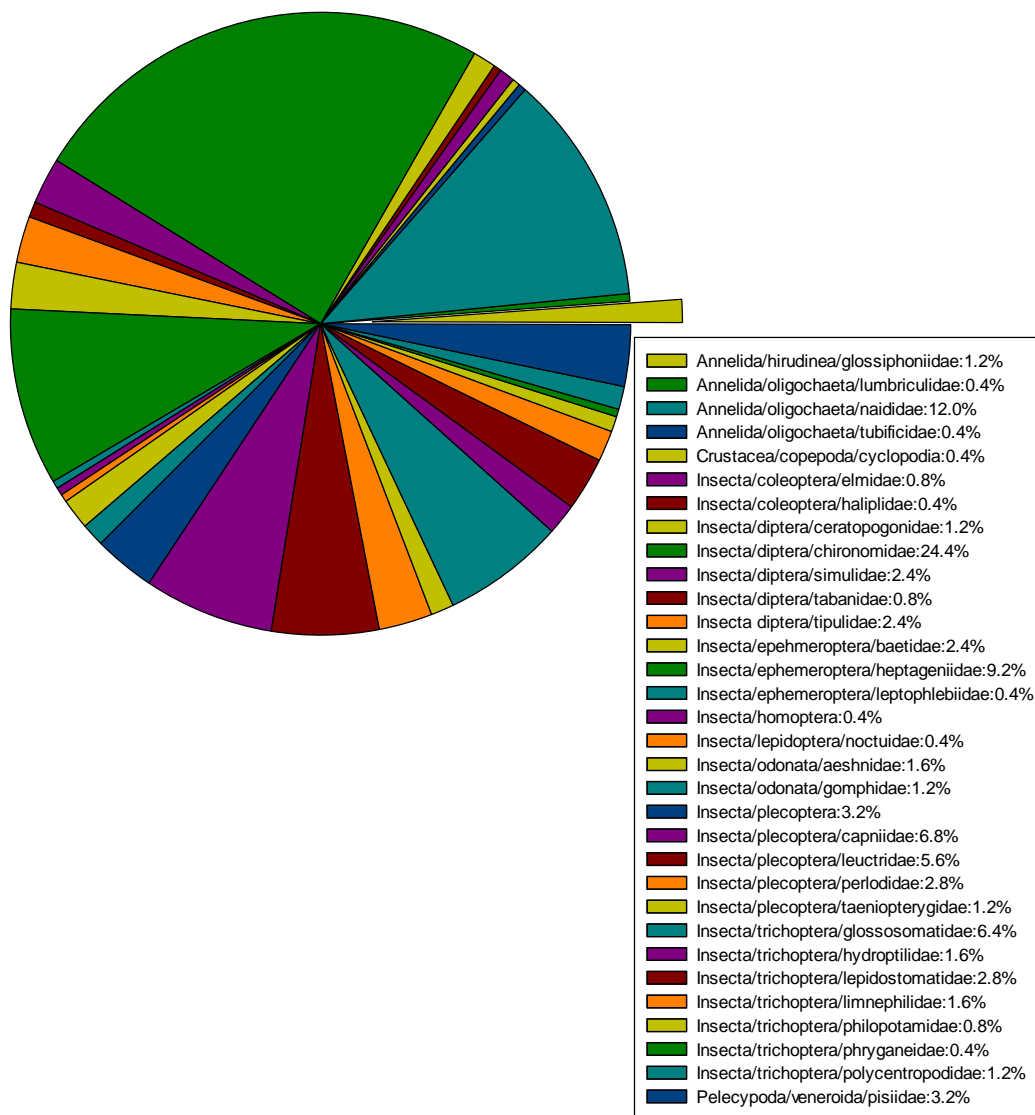


Figure 3.18: Benthic invertebrate distribution in SB 12-4A

SB 12-5A

A total of 27 taxon were identified for SB 12-5A (Figure 3.19). The most abundant families were the Diptera Chironomidae followed by the Trichoptera Lepidostomatidae, which represented 69 % and 4.5 % of the total population in the sample. Percent EPT was calculated at 2.8 %, while percent Diptera was calculated at 72 %. Simpson's diversity index was calculated at 0.7, indicating a high diversity of species. The evenness was calculated at 0.10 showing that the distribution is skewed towards having many organisms of only one family.

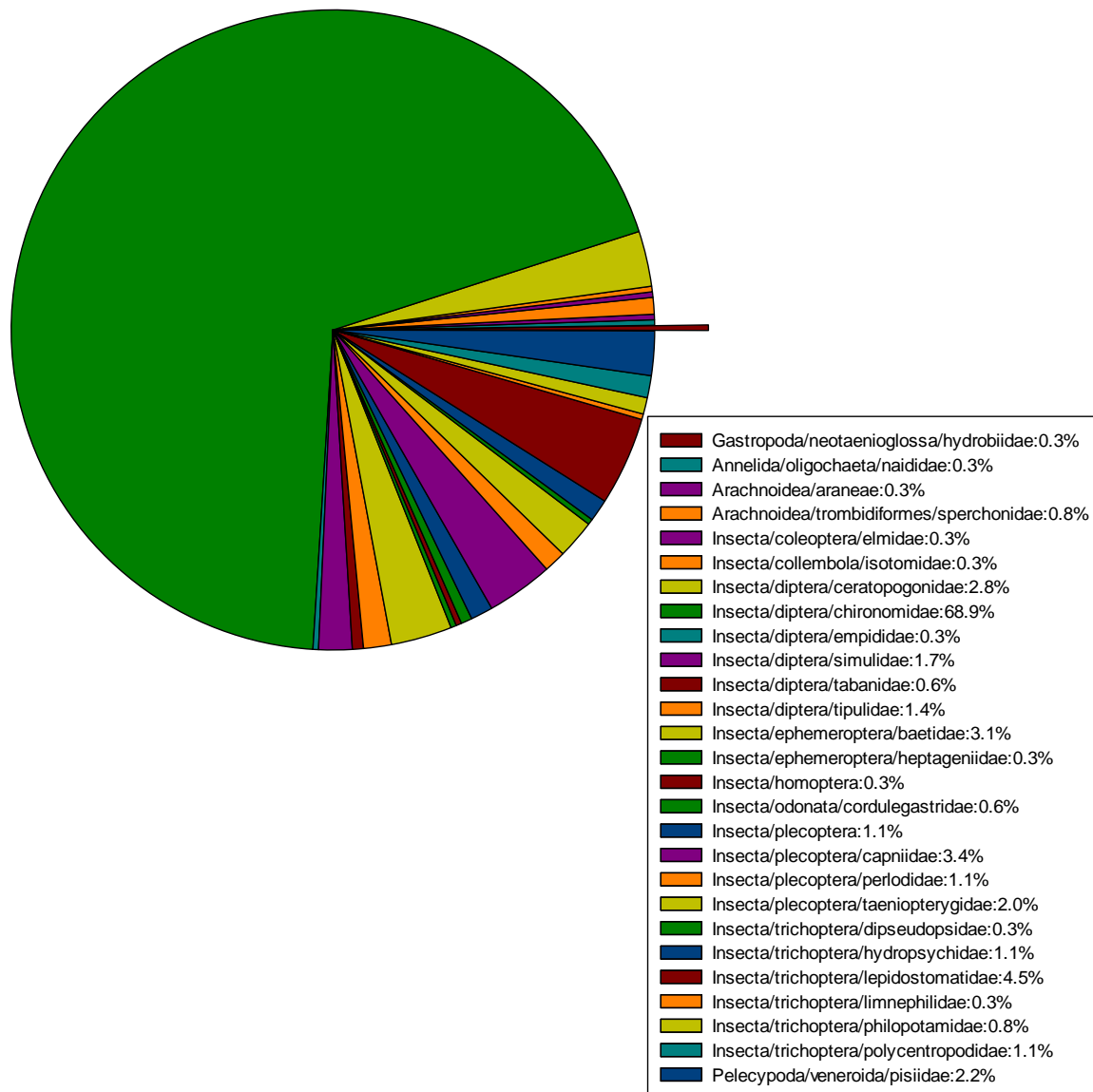


Figure 3.19: Benthic invertebrate distribution in SB 12-5A

The unnamed creek that runs along either side of the former tree nursery had the highest EPT ratio of all waterbodies sampled. The elevated number of EPT members indicates that the water quality is moderate to good in the creek. The Simpson's diversity index indicated that taxon diversity is high, but similar to other sampling locations, some of the samples were dominated by one or two families.

In general, the benthic invertebrate community reflects general conditions at the Site. Lake samples were characterized by invertebrates which are resistant to poor water quality (Chironomidae) and associated with fine grained substrates. Stream samples had more EPT members, than lake sites, which indicates that water quality is likely better in the streams. Along the Blackwater Creek, samples collected upstream had lower EPT ratios compared to the sample collected downstream at the mouth of the creek, indicating that water flow in the downstream areas is likely higher and therefore the water is well oxygenated.

3.4 Quality Assurance/Quality Control

3.4.1 Surface Water

DST maintains a standard Quality Assurance/Quality Control (QA/QC) program for all environmental studies. All surface water sampling was completed in accordance with industry standards, and applicable provincial guidelines/standards. Shipment of water samples to the laboratory occurred under a Chain of Custody protocol. The laboratory used for chemical analysis is accredited by the Canadian Association for Laboratory Accreditation (CALA).

DST operates under a Certificate of Authorization issued by the Professional Engineers of Ontario (PEO) and the Association of Professional Geoscientist of Ontario (APGO), and our work was carried out with due regard to PEO and APGO Guidelines for professional practice.

The 2012/13 data from the Treasury Metals Goliath Gold Project was subject to QA/QC protocols used by DST and ALS Ltd. (ALS). ALS prepared and analyzed method blanks, blank spikes, and matrix spikes to monitor the accuracy and precision of their analytical processes and instrumentation. In addition, laboratory duplicate samples were analyzed and compared for relative percent difference (RPD). The results of all laboratory QA/QC analyses are presented in the laboratory Certificates of Analysis in Appendix A, RPD calculations are located in Appendix B. Based upon ALS's internal QA/QC reviews, the data resulting from the 2012/13 monitoring events were deemed to be within acceptable QA/QC standards with no notable flagged data being recorded.

The results of analyses of field blanks and travel blanks submitted by Treasury with each sampling event are presented in Appendix A within the certificates of analysis. The following analytes were detected above the PWQO:

-
- pH in all field and travel blanks submitted for 2012/13 sampling exceeded the 6.5 pH-8.5 pH standard ranging from 4.98 pH – 5.98 pH.

DST calculated the relative percent difference between analytical results obtained from field duplicate samples to examine sampling and laboratory accuracy. Through these calculations, it was determined that two parameters were above DSTs recommended criteria of 80 % for metals: total phosphorus in May 2012 had a calculated RPD of 91.6 % and dissolved aluminum in October 2012 had a calculated RPD of 83.03 % sampled from SW3 and TL2A respectively. This is likely due to the potential presence of sediment in surface water samples.

4. DISCUSSION

4.1 Surface Water

The surface water sampling results from the Project area in 2012 were similar to those of 2013 and are typical of oligotrophic lakes in northwestern Ontario. In the 2012 and 2013 sampling events, surface water in the area had low nutrient concentrations (nitrogen and phosphorus). Overall water quality appears to be good. Total iron concentrations were found to exceed PWQO guidelines (0.300 mg/L) at all but one of the 15 sampling locations at some point in either the 2012 and 2013 sampling programs and, in many cases, in the majority of sampling events. Total iron exceedances ranged from 0.301 mg/L to 10.40 mg/L. Total cobalt and total zinc concentrations exceeded PWQO guidelines at 6 of the 15 sampling locations at some point in the 2012 or 2013 sampling programs. Total copper, total lead, total selenium, total silver and total vanadium also exceeded PWQO guidelines in isolated instances throughout the 2012 and 2013 sampling programs. pH levels fell below the PWQO guideline of between 6.5pH - 8.5pH at two sampling locations, SW7 and SW11 with eight of the nine sampling periods for SW11 falling below with a range of 5.2 pH – 6.46 pH. These low pH values can likely be attributed to the fact that SW11 is located immediately downstream of a wetland. Wetlands tend to have acidic water, especially wetlands classified as bogs.

4.2 Sediment

Sediment samples were collected at three lake sampling locations (Wabigoon Lake, Wabigoon Lake Reference Site and Thunder Lake). The Wabigoon Lake Reference Site was considered to reflect background conditions for Wabigoon Lake at the mouth of the Blackwater Creek. Wabigoon Lake and Thunder Lake are considered downstream locations from the Goliath Gold project. Grain size, anions, nutrients and metal parameters were analyzed for each sample.

In summary, grain size distribution in Wabigoon Lake and the Wabigoon Lake Reference Site is similar, with both lakes having high silt and/or clay content. Thunder Lake has a high sand content, this will result in differences in benthic invertebrate distribution. Total phosphorus was elevated in samples collected in the Wabigoon Lake Reference Site and at one sampling site in Wabigoon Lake, the furthest sampling site from the discharge point of the Blackwater creek. Two metals were analyzed for sediment chemistry (mercury and zirconium). Mercury concentrations were all below the PSQG at all sampling sites. No guidelines are available for zirconium.

Sediment can play a large role in affecting nutrient concentrations of the overlying waters, and is typically controlled by the redox potential at the sediment-water interface (Graetz et al. 1973). It is recommended that nutrients and all metals monitoring is continued within the water column on at least a quarterly basis in 2014. To further examine the relationship between nutrient levels in the sediment and surface a more comprehensive sediment study could be performed which would include examining the redox potential of the sediment.

4.3 Benthic Invertebrate Community

Benthic invertebrate samples were collected from two lakes (Wabigoon Lake and Thunder Lake) and two streams (an unnamed creek and Blackwater Creek) located within the Goliath Gold Project footprint area. In general, the benthic invertebrate community reflected normal conditions at the Site. Lake samples were characterized by invertebrates which are resistant to poor water quality (Chironomidae) and fine grained substrates. Creek samples had more EPT members which are indicators of clean, well oxygenated water (Hynes, 1970). Along the Blackwater Creek, samples collected upstream had lower EPT ratios compared to the sample collected downstream at the mouth of the Creek, indicating that water flow in the downstream areas is likely higher and therefore the water is well oxygenated.

The data collected during the 2012 sampling event, are important components of permitting applications (such as a Permit to Take Water and the Ontario Water Resources Act Section 53 authorizations) typically associated with exploration projects. In addition, the federal Metal Mining Effluent Regulations (MMER) stipulate the completion of biological monitoring studies in order to ensure protection of the environment in the vicinity of an operational mine (Environment Canada, 2002). Long-term monitoring of water quality, sediment, benthos, and fish are typical aspects of environmental effects monitoring (Environment Canada, 2002). As such, determining biological and physico-chemical benchmarks or reference conditions for aquatic habitat and community features will assist the permitting process through reduced uncertainty and, as a result, enhance study designs.

5. CLOSURE

We appreciate this opportunity to provide environmental services to Treasury. If you have any questions or comments, please contact the undersigned.

For DST CONSULTING ENGINEERS INC.



Julieta Werner, Ph.D., M.Sc.,
Project Manager



Terry Honsberger, MSc., HBSc.
Junior Associate

6. REFERENCES

Guidance on Sampling and Analytical Method for Use at Contaminated Sites in Ontario. 1996. Ministry of the Environment.

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Hynes HBN, 1970. The Ecology of Running Waters. University of Toronto Press. Pp. 83.

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Ontario Provincial Water Quality Objectives for the protection of aquatic life in Freshwater. 1999. Ministry of the Environment.

APPENDIX A

Laboratory Reports for Surface Water Quality, Sediment Quality and Benthic Invertebrates



TREASURY METALS INC.
ATTN: Mac Potter
899 Tree Nursery Rd
Wabigoon ON P0V 2W0

Date Received: 27-JAN-12
Report Date: 10-FEB-12 14:48 (MT)
Version: FINAL

Client Phone: 807-223-6191

Certificate of Analysis

Lab Work Order #: L1108291
Project P.O. #: M02010-P0115
Job Reference: M09706A01
C of C Numbers:
Legal Site Desc: GOLIATH PROJECT



Karen Rutledge
Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 1081 Barton Street, Thunder Bay, ON P7B 5N3 Canada | Phone: +1 807 623 6463 | Fax: +1 807 623 7598
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1108291-1 WATER 25-JAN-12 SW3	L1108291-2 WATER 25-JAN-12 TL3	L1108291-3 WATER 25-JAN-12 SW1	L1108291-4 WATER 26-JAN-12 SW4	L1108291-5 WATER 26-JAN-12 SW6
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (EC) (uS/cm)	225	230	180	120	118
	Hardness (as CaCO3) (mg/L)	115	116	90.5	54.9	52.8
	pH (pH)	7.09	7.31	6.87	7.49	7.54
	Total Suspended Solids (mg/L)	5.1	9.2	4.1	3.7	<2.0
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	6.8	3.8	6.4	2.0	2.4
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)	115	114	93.1	54.8	51.0
	Ammonia, Total (as N) (mg/L)	0.067	0.187	0.071	0.027	<0.020
	Chloride (Cl) (mg/L)	6.40	3.50	0.92	3.68	4.85
	Nitrate (as N) (mg/L)	0.059 ^{USF}	0.341	0.044 ^{USF}	<0.030	0.046 ^{USF}
	Nitrite (as N) (mg/L)	<0.020 ^{USF}	<0.020	<0.020 ^{USF}	<0.020	<0.020 ^{USF}
	Phosphorus (P)-Total (mg/L)	0.0118	0.0437	0.0066	0.0278	0.0078
	Sulfate (SO4) (mg/L)	3.77	6.36	3.63	2.19	3.33
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)	0.217	0.471	0.0864	0.415	0.0082
	Antimony (Sb)-Total (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Total (mg/L)	0.017	0.020	0.014	0.012	<0.010
	Beryllium (Be)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Total (mg/L)	<0.000017 ^{RRV}	<0.000017	<0.000017	<0.000017	<0.000017
	Calcium (Ca)-Total (mg/L)	35.5	34.0	30.4	18.1	16.6
	Chromium (Cr)-Total (mg/L)	<0.0010	0.0010	<0.0010	<0.0010	<0.0010
	Cobalt (Co)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Total (mg/L)	<0.0010	0.0017	<0.0010	0.0026	0.0012
	Iron (Fe)-Total (mg/L)	1.23	1.94	1.24	0.460	0.021
	Lead (Pb)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Total (mg/L)	6.62	9.11	4.16	3.40	3.51
	Manganese (Mn)-Total (mg/L)	0.125	0.191	0.304	0.0092	0.0019
	Mercury (Hg)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Molybdenum (Mo)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Potassium (K)-Total (mg/L)	1.88	2.28	1.83	1.08	1.16	
Selenium (Se)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

10-FEB-12 14:48 (MT)

Version: FINAL

Sample ID Description Sampled Date Sampled Time Client ID		L1108291-6 WATER 26-JAN-12 SW5	L1108291-7 WATER 26-JAN-12 SW9	L1108291-8 WATER 26-JAN-12 SW10	L1108291-9 WATER 27-JAN-12 SW7	L1108291-10 WATER 27-JAN-12 SW8
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (EC) (uS/cm)	117	276	144	23.6	209
	Hardness (as CaCO3) (mg/L)	53.0	156	72.9	7.72	114
	pH (pH)	7.51	7.91	7.55	6.24	7.62
	Total Suspended Solids (mg/L)	<2.0	40.4	58.6	2.5	137
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	2.0	3.0	2.6	3.4	3.4
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)	50.5	162	74.1	8.3	111
	Ammonia, Total (as N) (mg/L)	<0.020	0.035	0.037	0.023	0.224
	Chloride (Cl) (mg/L)	4.80	0.47	0.23	0.23	0.38
	Nitrate (as N) (mg/L)	0.044 ^{USF}	0.124 ^{USF}	0.057 ^{USF}	0.036 ^{USF}	0.290 ^{USF}
	Nitrite (as N) (mg/L)	<0.020 ^{USF}	<0.020 ^{USF}	<0.020 ^{USF}	<0.020 ^{USF}	<0.020 ^{USF}
	Phosphorus (P)-Total (mg/L)	0.0080	0.0081	0.0979	0.0101	0.0354
	Sulfate (SO4) (mg/L)	3.29	0.77	2.84	2.47	3.49
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)	0.0086	0.399	0.144	0.216	0.0786
	Antimony (Sb)-Total (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Total (mg/L)	<0.010	0.029	0.012	<0.010	0.035
	Beryllium (Be)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Total (mg/L)	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017
	Calcium (Ca)-Total (mg/L)	14.8	49.4	25.0	2.15	40.5
	Chromium (Cr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Cobalt (Co)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Total (mg/L)	0.0012	<0.0010	<0.0010	<0.0010	0.0011
	Iron (Fe)-Total (mg/L)	0.022	0.797	1.97	0.390	1.04
	Lead (Pb)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Total (mg/L)	3.15	7.82	3.60	0.584	4.22
	Manganese (Mn)-Total (mg/L)	0.0017	0.189	0.164	0.0110	0.816
	Mercury (Hg)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Molybdenum (Mo)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Potassium (K)-Total (mg/L)	1.06	1.98	0.78	<0.50	0.97	
Selenium (Se)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1108291-11 WATER 26-JAN-12 SW103	L1108291-12 WATER 26-JAN-12 SW42	L1108291-13 WATER 25-JAN-12 TRAVEL BLANK	
Grouping	Analyte				
WATER					
Physical Tests	Conductivity (EC) (uS/cm)	<3.0	118	<3.0	
	Hardness (as CaCO3) (mg/L)	<0.51	57.0	<0.51	
	pH (pH)	5.92	7.50	5.44	
	Total Suspended Solids (mg/L)	<2.0	2.6	<2.0	
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	<2.0	2.6	<2.0	
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)	<5.0	54.9	<5.0	
	Ammonia, Total (as N) (mg/L)	<0.020	0.026	<0.020	
	Chloride (Cl) (mg/L)	<0.10	3.71	<0.10	
	Nitrate (as N) (mg/L)	<0.030 ^{USF}	<0.030	<0.030 ^{USF}	
	Nitrite (as N) (mg/L)	<0.020 ^{USF}	<0.020	<0.020 ^{USF}	
	Phosphorus (P)-Total (mg/L)	<0.0050	0.0284	<0.0050	
	Sulfate (SO4) (mg/L)	<0.30	2.20	<0.30	
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020	<0.0020	<0.0020	
	Cyanide, Total (mg/L)	<0.0020	<0.0020	<0.0020	
	Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	
Total Metals	Aluminum (Al)-Total (mg/L)	<0.0050	0.403	<0.0050	
	Antimony (Sb)-Total (mg/L)	<0.00060	<0.00060	<0.00060	
	Arsenic (As)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Barium (Ba)-Total (mg/L)	<0.010	0.011	<0.010	
	Beryllium (Be)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Bismuth (Bi)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Boron (B)-Total (mg/L)	<0.050	<0.050	<0.050	
	Cadmium (Cd)-Total (mg/L)	<0.000017	<0.000017	<0.000017	
	Calcium (Ca)-Total (mg/L)	<0.20	17.4	<0.20	
	Chromium (Cr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Cobalt (Co)-Total (mg/L)	<0.00050	<0.00050	<0.00050	
	Copper (Cu)-Total (mg/L)	<0.0010	0.0025	<0.0010	
	Iron (Fe)-Total (mg/L)	<0.020	0.447	<0.020	
	Lead (Pb)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Lithium (Li)-Total (mg/L)	<0.050	<0.050	<0.050	
	Magnesium (Mg)-Total (mg/L)	<0.020	3.30	<0.020	
	Manganese (Mn)-Total (mg/L)	<0.0010	0.0122	<0.0010	
	Mercury (Hg)-Total (mg/L)	<0.00010	<0.00010	<0.00010	
	Molybdenum (Mo)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Nickel (Ni)-Total (mg/L)	<0.0020	<0.0020	<0.0020	
	Potassium (K)-Total (mg/L)	<0.50	1.05	<0.50	
	Selenium (Se)-Total (mg/L)	<0.0010	<0.0010	<0.0010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1108291-1 WATER 25-JAN-12 SW3	L1108291-2 WATER 25-JAN-12 TL3	L1108291-3 WATER 25-JAN-12 SW1	L1108291-4 WATER 26-JAN-12 SW4	L1108291-5 WATER 26-JAN-12 SW6	
Grouping	Analyte					
WATER						
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Total (mg/L)	7.61	5.30	2.57	3.51	3.80
	Strontium (Sr)-Total (mg/L)	0.0660	0.0715	0.0541	0.0320	0.0321
	Tellurium (Te)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Total (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Total (mg/L)	0.0107	0.0205	0.0043	0.0141	<0.0020
	Tungsten (W)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Total (mg/L)	<0.0010	0.0019	<0.0010	0.0011	<0.0010
	Zinc (Zn)-Total (mg/L)	0.0040	0.0056	<0.0030	0.0031	<0.0030
	Zirconium (Zr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	0.0053	0.0231	<0.0050	0.0147	<0.0050
	Antimony (Sb)-Dissolved (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Dissolved (mg/L)	0.015	0.015	0.013	<0.010	<0.010
	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Dissolved (mg/L)	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017
	Calcium (Ca)-Dissolved (mg/L)	35.2	31.9	29.4	16.8	15.6
	Chromium (Cr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	0.0017	0.0010
	Iron (Fe)-Dissolved (mg/L)	0.327	0.808	0.280	<0.020	<0.020
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Dissolved (mg/L)	6.54	8.86	4.17	3.12	3.34
	Manganese (Mn)-Dissolved (mg/L)	0.125	0.166	0.271	0.0022	<0.0010
	Mercury (Hg)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Potassium (K)-Dissolved (mg/L)	1.73	2.09	1.68	0.86	1.09
	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Dissolved (mg/L)	5.40	5.03	2.43	3.35	3.73
	Strontium (Sr)-Dissolved (mg/L)	0.0645	0.0671	0.0512	0.0291	0.0313

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1108291-6	L1108291-7	L1108291-8	L1108291-9	L1108291-10
					WATER	WATER	WATER	WATER	WATER
					26-JAN-12	26-JAN-12	26-JAN-12	27-JAN-12	27-JAN-12
					SW5	SW9	SW10	SW7	SW8
Grouping	Analyte								
WATER									
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Total (mg/L)	3.62	3.96	2.06	1.47	2.20			
	Strontium (Sr)-Total (mg/L)	0.0291	0.0771	0.0382	0.0079	0.0576			
	Tellurium (Te)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Thallium (Tl)-Total (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030			
	Tin (Sn)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Titanium (Ti)-Total (mg/L)	<0.0020	0.0198	0.0089	0.0064	0.0043			
	Tungsten (W)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010			
	Uranium (U)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050			
	Vanadium (V)-Total (mg/L)	<0.0010	0.0010	0.0014	<0.0010	<0.0010			
	Zinc (Zn)-Total (mg/L)	<0.0030	0.0039	0.0042	0.0030	<0.0030			
	Zirconium (Zr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	<0.0050		0.0101	0.155	<0.0050			
	Antimony (Sb)-Dissolved (mg/L)	<0.00060		<0.00060	<0.00060	<0.00060			
	Arsenic (As)-Dissolved (mg/L)	<0.0010		<0.0010	<0.0010	<0.0010			
	Barium (Ba)-Dissolved (mg/L)	<0.010		<0.010	<0.010	0.031			
	Beryllium (Be)-Dissolved (mg/L)	<0.0010		<0.0010	<0.0010	<0.0010			
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010		<0.0010	<0.0010	<0.0010			
	Boron (B)-Dissolved (mg/L)	<0.050		<0.050	<0.050	<0.050			
	Cadmium (Cd)-Dissolved (mg/L)	<0.000017		<0.000017	0.000021	<0.000017			
	Calcium (Ca)-Dissolved (mg/L)	15.6		23.7	2.13	39.0			
	Chromium (Cr)-Dissolved (mg/L)	<0.0010		0.0013	<0.0010	<0.0010			
	Cobalt (Co)-Dissolved (mg/L)	<0.00050		<0.00050	<0.00050	<0.00050			
	Copper (Cu)-Dissolved (mg/L)	0.0011		<0.0010	<0.0010	<0.0010			
	Iron (Fe)-Dissolved (mg/L)	<0.020		0.421	0.251	0.244			
	Lead (Pb)-Dissolved (mg/L)	<0.0010		<0.0010	<0.0010	<0.0010			
	Lithium (Li)-Dissolved (mg/L)	<0.050		<0.050	<0.050	<0.050			
	Magnesium (Mg)-Dissolved (mg/L)	3.43		3.35	0.585	3.99			
	Manganese (Mn)-Dissolved (mg/L)	<0.0010		0.130	0.0082	0.708			
	Mercury (Hg)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010			
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010		<0.0010	<0.0010	<0.0010			
	Nickel (Ni)-Dissolved (mg/L)	<0.0020		<0.0020	<0.0020	<0.0020			
	Potassium (K)-Dissolved (mg/L)	1.09		0.71	<0.50	0.89			
	Selenium (Se)-Dissolved (mg/L)	<0.0010		<0.0010	<0.0010	<0.0010			
	Silver (Ag)-Dissolved (mg/L)	<0.00010		<0.00010	<0.00010	<0.00010			
	Sodium (Na)-Dissolved (mg/L)	3.74		1.97	1.64	2.07			
	Strontium (Sr)-Dissolved (mg/L)	0.0313		0.0372	0.0079	0.0553			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1108291-11 WATER 26-JAN-12 SW103	L1108291-12 WATER 26-JAN-12 SW42	L1108291-13 WATER 25-JAN-12 TRAVEL BLANK	
Grouping	Analyte				
WATER					
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010	<0.00010	<0.00010	
	Sodium (Na)-Total (mg/L)	<0.10	3.49	<0.10	
	Strontium (Sr)-Total (mg/L)	<0.0010	0.0301	<0.0010	
	Tellurium (Te)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Thallium (Tl)-Total (mg/L)	<0.00030	<0.00030	<0.00030	
	Tin (Sn)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Titanium (Ti)-Total (mg/L)	<0.0020	0.0131	<0.0020	
	Tungsten (W)-Total (mg/L)	<0.010	<0.010	<0.010	
	Uranium (U)-Total (mg/L)	<0.0050	<0.0050	<0.0050	
	Vanadium (V)-Total (mg/L)	<0.0010	0.0011	<0.0010	
	Zinc (Zn)-Total (mg/L)	<0.0030	<0.0030	<0.0030	
	Zirconium (Zr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	<0.0050	0.0217	<0.0050	
	Antimony (Sb)-Dissolved (mg/L)	<0.00060	<0.00060	<0.00060	
	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Barium (Ba)-Dissolved (mg/L)	<0.010	<0.010	<0.010	
	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Boron (B)-Dissolved (mg/L)	<0.050	<0.050	<0.050	
	Cadmium (Cd)-Dissolved (mg/L)	<0.000017	<0.000017	<0.000017	
	Calcium (Ca)-Dissolved (mg/L)	<0.20	17.4	<0.20	
	Chromium (Cr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	
	Copper (Cu)-Dissolved (mg/L)	<0.0010	0.0019	<0.0010	
	Iron (Fe)-Dissolved (mg/L)	<0.020	<0.020	<0.020	
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.050	
	Magnesium (Mg)-Dissolved (mg/L)	<0.020	3.31	<0.020	
	Manganese (Mn)-Dissolved (mg/L)	<0.0010	0.0023	<0.0010	
	Mercury (Hg)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	
	Potassium (K)-Dissolved (mg/L)	<0.50	0.94	<0.50	
	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	
	Sodium (Na)-Dissolved (mg/L)	<0.10	3.45	<0.10	
	Strontium (Sr)-Dissolved (mg/L)	<0.0010	0.0315	<0.0010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1108291-1 WATER 25-JAN-12 SW3	L1108291-2 WATER 25-JAN-12 TL3	L1108291-3 WATER 25-JAN-12 SW1	L1108291-4 WATER 26-JAN-12 SW4	L1108291-5 WATER 26-JAN-12 SW6	
Grouping	Analyte					
WATER						
Dissolved Metals	Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
	Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1108291-6 WATER 26-JAN-12 SW5	L1108291-7 WATER 26-JAN-12 SW9	L1108291-8 WATER 26-JAN-12 SW10	L1108291-9 WATER 27-JAN-12 SW7	L1108291-10 WATER 27-JAN-12 SW8	
Grouping	Analyte					
WATER						
Dissolved Metals	Tellurium (Te)-Dissolved (mg/L)	<0.0010		<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Dissolved (mg/L)	<0.00030		<0.00030	<0.00030	<0.00030
	Tin (Sn)-Dissolved (mg/L)	<0.0010		<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Dissolved (mg/L)	<0.0020		<0.0020	0.0039	<0.0020
	Tungsten (W)-Dissolved (mg/L)	<0.010		<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	<0.0050		<0.0050	<0.0050	<0.0050
	Vanadium (V)-Dissolved (mg/L)	<0.0010		<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	<0.0030		<0.0030	<0.0030	<0.0030
	Zirconium (Zr)-Dissolved (mg/L)	<0.0010		<0.0010	<0.0010	<0.0010
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1108291-11	L1108291-12	L1108291-13		
		Description	WATER	WATER	WATER		
		Sampled Date	26-JAN-12	26-JAN-12	25-JAN-12		
		Sampled Time					
		Client ID	SW103	SW42	TRAVEL BLANK		
Grouping	Analyte						
WATER							
Dissolved Metals	Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010			
	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030			
	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010			
	Titanium (Ti)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020			
	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010			
	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050			
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010			
	Zinc (Zn)-Dissolved (mg/L)	<0.0030	<0.0030	<0.0030			
	Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010			
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1108291-1, -10, -11, -12, -13, -2, -3, -4, -5, -6, -8, -9
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1108291-1, -10, -11, -12, -13, -2, -3, -4, -5, -6, -8, -9
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1108291-1, -10, -11, -12, -13, -2, -3, -4, -5, -6, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1108291-1, -10, -11, -12, -13, -2, -3, -4, -5, -6, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1108291-1, -10, -11, -12, -13, -2, -3, -4, -5, -6, -8, -9
Matrix Spike	Calcium (Ca)-Total	MS-B	L1108291-1, -10, -11, -12, -13, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Total	MS-B	L1108291-1, -10, -11, -12, -13, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Total	MS-B	L1108291-1, -10, -11, -12, -13, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Aluminum (Al)-Total	MS-B	L1108291-1, -10, -11, -12, -13, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Total	MS-B	L1108291-1, -10, -11, -12, -13, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Total	MS-B	L1108291-1, -10, -11, -12, -13, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Total	MS-B	L1108291-1, -10, -11, -12, -13, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Total	MS-B	L1108291-1, -10, -11, -12, -13, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Total	MS-B	L1108291-1, -10, -11, -12, -13, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1108291-1, -11
Matrix Spike	Boron (B)-Dissolved	MS-B	L1108291-1, -11
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1108291-1, -11
Matrix Spike	Cobalt (Co)-Dissolved	MS-B	L1108291-1, -11
Matrix Spike	Copper (Cu)-Dissolved	MS-B	L1108291-1, -11
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1108291-1, -11
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1108291-1, -11
Matrix Spike	Molybdenum (Mo)-Dissolved	MS-B	L1108291-1, -11
Matrix Spike	Potassium (K)-Dissolved	MS-B	L1108291-1, -11
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1108291-1, -11
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1108291-1, -11
Matrix Spike	Tungsten (W)-Dissolved	MS-B	L1108291-1, -11

Qualifiers for Individual Parameters Listed:

Qualifier	Description
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RRV	Reported Result Verified By Repeat Analysis
USF	Unreliable: Sample Frozen in Transit

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
ACIDITY-TB	Water	Acidity (as CaCO ₃)	APHA 2310 B-POTENTIOMETRIC TITRATION
Aqueous matrices are analyzed by potentiometry. Acidity reported includes acidity caused by hydrolyzable metals present in the sample.			
ALK-TOT-CAP-TB	Water	Alkalinity, Total (as CaCO ₃)	APHA 2320 B-Auto-Pot. Titration
CL-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.			
CN-FREE-COL-VA	Water	Free Cyanide by Diffusion	ASTM D 4282
This analysis is carried out using procedures adapted from ASTM D 4282 Standard Test Method for Determination of Free Cyanide in Water and Wastewater by Microdiffusion. ALS has adapted this method to use active (bubbling with air) diffusion instead of microdiffusion. Free cyanide is determined by sample diffusion at pH 6 and analysis using the chloramine-T colourimetric method.			
CN-TOT-WT	Water	Cyanide, Total	APHA 4500CN C E-STRONG ACID DIST COLORIM
Total cyanide is determined by the combination of UV digestion and distillation. Cyanide is converted to cyanogen chloride by reacting with chloramine-T, the cyanogen chloride then reacts with a combination of barbituric acid and isonicotinic acid to form a highly colored complex.			
When using this method, high levels of thiocyanate in samples can cause false positives at ~1-2% of the thiocyanate concentration. For samples with detectable cyanide analyzed by this method, ALS recommends analysis for thiocyanate to check for this potential interference			
CN-WAD-WT	Water	Cyanide, Weak Acid Diss	APHA 4500CN I-Weak acid Dist Colorimet
Weak acid dissociable cyanide (WAD) is determined by undergoing a distillation procedure. Cyanide is converted to cyanogen chloride by reacting with chloramine-T, the cyanogen chloride then reacts with a combination of barbituric acid and isonicotinic acid to form a highly colored complex.			

Reference Information

EC-CAP-TB	Water	Conductivity (EC)	APHA 2510 B-ELECTRODE
HARDNESS-CALC-TB	Water	Hardness (as CaCO ₃)	CALCULATION
HG-D-CVAF-TB	Water	Dissolved Mercury in Water by CVAFS	EPA 245.7
HG-T-CVAF-TB	Water	Total Mercury in Water by CVAFS	EPA 245.7
MET-D-MS-TB	Water	Dissolved Metals by ICPMS	APHA 3120 B-ICPMS
MET-T-MS-TB	Water	Total Metals in Water by ICPMS	APHA 3120 B-ICPMS
NH3-COL-TB	Water	Ammonia by Discrete Analyzer	APHA 4500-NH3 G. (modified)
Ammonia in aqueous matrices is analyzed using discrete analyzer with colourimetric detection.			
NO2-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.			
NO3-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.			
OGG-TOT-WT	Water	Oil and Grease, Total	APHA 5520 B-Hexane Gravimetric
Sample is extracted with hexane, extract is then evaporated and the residue is weighed to determine total oil and grease.			
P-T-COL-TB	Water	Total Phosphorus by Discrete Analyzer	APHA 4500-P B, F, G (modified)
Phosphorus in aqueous matrices is analyzed using discrete Analyzer with colourimetric detection.			
PH-CAP-TB	Water	pH	APHA 4500-H-ELECTRODE
SO4-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.			
SOLIDS-TOTSUS-TB	Water	Total Suspended Solids	APHA 2540 D (modified)
Aqueous matrices are analyzed using gravimetry			

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
VA	ALS ENVIRONMENTAL - VANCOUVER, BC, CANADA
TB	ALS ENVIRONMENTAL - THUNDER BAY, ONTARIO, CANADA
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

mg/kg - milligrams per kilogram based on dry weight of sample.

mg/kg wwt - milligrams per kilogram based on wet weight of sample.

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.

mg/L - milligrams per litre.

< - Less than.

D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L1108291

Report Date: 10-FEB-12

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Client: TREASURY METALS INC.
 899 Tree Nursery Rd
 Wabigoon ON P0V 2W0
 Contact: Mac Potter

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
ACIDITY-TB		Water						
Batch	R2319486							
WG1423104-2	LCS							
Acidity (as CaCO3)			100.4		%		85-115	01-FEB-12
WG1423104-1	MB							
Acidity (as CaCO3)			<2.0		mg/L		2	01-FEB-12
ALK-TOT-CAP-TB		Water						
Batch	R2318829							
WG1422377-2	LCS							
Alkalinity, Total (as CaCO3)			97.3		%		85-115	27-JAN-12
WG1422377-1	MB							
Alkalinity, Total (as CaCO3)			<5.0		mg/L CaCO3		5	27-JAN-12
Batch	R2320159							
WG1423702-2	LCS							
Alkalinity, Total (as CaCO3)			96.0		%		85-115	31-JAN-12
WG1423702-1	MB							
Alkalinity, Total (as CaCO3)			<5.0		mg/L CaCO3		5	31-JAN-12
CL-IC-TB		Water						
Batch	R2319683							
WG1422617-3	DUP	L1108291-4						
Chloride (Cl)		3.68	3.68		mg/L	0.065	20	30-JAN-12
WG1422617-2	LCS							
Chloride (Cl)			101.0		%		85-115	30-JAN-12
WG1422617-1	MB							
Chloride (Cl)			<0.10		mg/L		0.1	30-JAN-12
WG1422617-4	MS	L1108291-4						
Chloride (Cl)			112.3		%		75-125	30-JAN-12
CN-FREE-COL-VA		Water						
Batch	R2322161							
WG1425965-4	DUP	L1108291-13						
Cyanide, Free		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	07-FEB-12
WG1425965-2	LCS							
Cyanide, Free			91.9		%		80-120	07-FEB-12
WG1425965-3	LCS							
Cyanide, Free			89.5		%		80-120	07-FEB-12
WG1425965-1	MB							
Cyanide, Free			<0.0050		mg/L		0.005	07-FEB-12



Quality Control Report

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CN-FREE-COL-VA								
Batch R2323254								
WG1427004-2	LCS							
Cyanide, Free			80.6		%		80-120	09-FEB-12
WG1427004-1	MB							
Cyanide, Free			<0.0050		mg/L		0.005	09-FEB-12
CN-TOT-WT								
Batch R2319692								
WG1423855-4	CVS							
Cyanide, Total			99.0		%		85-115	01-FEB-12
WG1423855-2	DUP	L1108291-1						
Cyanide, Total		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	01-FEB-12
WG1423855-3	LCS							
Cyanide, Total			109.8		%		80-120	01-FEB-12
WG1423855-1	MB							
Cyanide, Total			<0.0020		mg/L		0.002	01-FEB-12
CN-WAD-WT								
Batch R2319659								
WG1423834-4	CVS							
Cyanide, Weak Acid Diss			102.5		%		85-115	01-FEB-12
WG1423834-5	DUP	L1108291-1						
Cyanide, Weak Acid Diss		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	01-FEB-12
WG1423834-3	LCS							
Cyanide, Weak Acid Diss			94.0		%		80-120	01-FEB-12
WG1423834-1	MB							
Cyanide, Weak Acid Diss			<0.0020		mg/L		0.002	01-FEB-12
EC-CAP-TB								
Batch R2318829								
WG1422377-2	LCS							
Conductivity (EC)			92.5		%		90-110	27-JAN-12
WG1422377-1	MB							
Conductivity (EC)			<3.0		uS/cm		3	27-JAN-12
HG-D-CVAF-TB								
Batch R2319199								
WG1423323-4	DUP	L1108291-7						
Mercury (Hg)-Dissolved		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	31-JAN-12
WG1423323-2	LCS							
Mercury (Hg)-Dissolved			101.0		%		80-120	31-JAN-12
WG1423323-1	MB							



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-D-CVAF-TB								
Water								
Batch	R2319199							
WG1423323-1	MB							
Mercury (Hg)-Dissolved			<0.00010		mg/L		0.0001	31-JAN-12
WG1423323-5	MS	L1108291-7						
Mercury (Hg)-Dissolved			94.8		%		70-130	31-JAN-12
HG-T-CVAF-TB								
Water								
Batch	R2319157							
WG1423285-6	DUP	L1108291-5						
Mercury (Hg)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	31-JAN-12
WG1423285-2	LCS							
Mercury (Hg)-Total			101.0		%		80-120	31-JAN-12
WG1423285-1	MB							
Mercury (Hg)-Total			<0.00010		mg/L		0.0001	31-JAN-12
WG1423285-5	MS	L1107980-4						
Mercury (Hg)-Total			86.6		%		70-130	31-JAN-12
WG1423285-7	MS	L1108291-5						
Mercury (Hg)-Total			100.3		%		70-130	31-JAN-12
MET-D-MS-TB								
Water								
Batch	R2319497							
WG1422978-3	DUP	L1108291-1						
Aluminum (Al)-Dissolved		0.0053	<0.0050	RPD-NA	mg/L	N/A	20	31-JAN-12
Antimony (Sb)-Dissolved		<0.00060	<0.00060	RPD-NA	mg/L	N/A	20	31-JAN-12
Arsenic (As)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-JAN-12
Barium (Ba)-Dissolved		0.015	0.015		mg/L	0.047	20	31-JAN-12
Beryllium (Be)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-JAN-12
Bismuth (Bi)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-JAN-12
Boron (B)-Dissolved		<0.050	<0.050	RPD-NA	mg/L	N/A	20	31-JAN-12
Calcium (Ca)-Dissolved		35.2	35.3		mg/L	0.32	20	31-JAN-12
Chromium (Cr)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-JAN-12
Cobalt (Co)-Dissolved		<0.00050	<0.00050	RPD-NA	mg/L	N/A	20	31-JAN-12
Copper (Cu)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-JAN-12
Iron (Fe)-Dissolved		0.327	0.335		mg/L	2.4	20	31-JAN-12
Lead (Pb)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-JAN-12
Lithium (Li)-Dissolved		<0.050	<0.050	RPD-NA	mg/L	N/A	20	31-JAN-12
Magnesium (Mg)-Dissolved		6.54	6.67		mg/L	1.9	20	31-JAN-12
Manganese (Mn)-Dissolved		0.125	0.123		mg/L	1.5	20	31-JAN-12
Molybdenum (Mo)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-JAN-12



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Workorder: L1108291

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2319497							
WG1422978-3	DUP	L1108291-1						
Nickel (Ni)-Dissolved		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	31-JAN-12
Potassium (K)-Dissolved		1.73	1.78		mg/L	2.9	20	31-JAN-12
Selenium (Se)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-JAN-12
Silver (Ag)-Dissolved		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	31-JAN-12
Sodium (Na)-Dissolved		5.40	5.37		mg/L	0.49	20	31-JAN-12
Strontium (Sr)-Dissolved		0.0645	0.0644		mg/L	0.13	20	31-JAN-12
Tellurium (Te)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-JAN-12
Thallium (Tl)-Dissolved		<0.00030	<0.00030	RPD-NA	mg/L	N/A	20	31-JAN-12
Tin (Sn)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-JAN-12
Titanium (Ti)-Dissolved		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	31-JAN-12
Tungsten (W)-Dissolved		<0.010	<0.010	RPD-NA	mg/L	N/A	20	31-JAN-12
Uranium (U)-Dissolved		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	31-JAN-12
Vanadium (V)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-JAN-12
Zinc (Zn)-Dissolved		<0.0030	<0.0030	RPD-NA	mg/L	N/A	20	31-JAN-12
Zirconium (Zr)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-JAN-12
WG1422978-2	LCS							
Aluminum (Al)-Dissolved			94.8		%		80-120	31-JAN-12
Antimony (Sb)-Dissolved			102.3		%		80-120	31-JAN-12
Arsenic (As)-Dissolved			104.6		%		80-120	31-JAN-12
Barium (Ba)-Dissolved			102.8		%		80-120	31-JAN-12
Beryllium (Be)-Dissolved			97.3		%		80-120	31-JAN-12
Bismuth (Bi)-Dissolved			105.3		%		80-120	31-JAN-12
Boron (B)-Dissolved			97.4		%		80-120	31-JAN-12
Cadmium (Cd)-Dissolved			105.4		%		80-120	31-JAN-12
Calcium (Ca)-Dissolved			100.5		%		80-120	31-JAN-12
Chromium (Cr)-Dissolved			105.4		%		80-120	31-JAN-12
Cobalt (Co)-Dissolved			103.7		%		80-120	31-JAN-12
Copper (Cu)-Dissolved			102.0		%		80-120	31-JAN-12
Iron (Fe)-Dissolved			105.3		%		80-120	31-JAN-12
Lead (Pb)-Dissolved			103.8		%		80-120	31-JAN-12
Lithium (Li)-Dissolved			99.5		%		80-120	31-JAN-12
Magnesium (Mg)-Dissolved			100.3		%		80-120	31-JAN-12
Manganese (Mn)-Dissolved			102.5		%		80-120	31-JAN-12
Molybdenum (Mo)-Dissolved			107.0		%		80-120	31-JAN-12



Quality Control Report

Workorder: L1108291

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2319497							
WG1422978-2	LCS							
Nickel (Ni)-Dissolved			105.1		%		80-120	31-JAN-12
Potassium (K)-Dissolved			101.4		%		80-120	31-JAN-12
Selenium (Se)-Dissolved			93.0		%		80-120	31-JAN-12
Silver (Ag)-Dissolved			95.1		%		80-120	31-JAN-12
Sodium (Na)-Dissolved			105.6		%		80-120	31-JAN-12
Strontium (Sr)-Dissolved			105.6		%		80-120	31-JAN-12
Tellurium (Te)-Dissolved			110.5		%		80-120	31-JAN-12
Thallium (Tl)-Dissolved			103.5		%		80-120	31-JAN-12
Tin (Sn)-Dissolved			106.2		%		80-120	31-JAN-12
Titanium (Ti)-Dissolved			103.9		%		80-120	31-JAN-12
Tungsten (W)-Dissolved			100.5		%		80-120	31-JAN-12
Uranium (U)-Dissolved			101.2		%		80-120	31-JAN-12
Vanadium (V)-Dissolved			103.7		%		80-120	31-JAN-12
Zinc (Zn)-Dissolved			103.0		%		80-120	31-JAN-12
Zirconium (Zr)-Dissolved			98.8		%		80-120	31-JAN-12
WG1422978-1	MB							
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	31-JAN-12
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	31-JAN-12
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	31-JAN-12
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	31-JAN-12
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	31-JAN-12
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	31-JAN-12
Boron (B)-Dissolved			<0.050		mg/L		0.05	31-JAN-12
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	31-JAN-12
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	31-JAN-12
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	31-JAN-12
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	31-JAN-12
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	31-JAN-12
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	31-JAN-12
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	31-JAN-12
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	31-JAN-12
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	31-JAN-12
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	31-JAN-12
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	31-JAN-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2319497							
WG1422978-1	MB							
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	31-JAN-12
Potassium (K)-Dissolved			<0.50		mg/L		0.5	31-JAN-12
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	31-JAN-12
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	31-JAN-12
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	31-JAN-12
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	31-JAN-12
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	31-JAN-12
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	31-JAN-12
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	31-JAN-12
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	31-JAN-12
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	31-JAN-12
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	31-JAN-12
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	31-JAN-12
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	31-JAN-12
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	31-JAN-12
WG1422978-4	MS	L1108291-1						
Aluminum (Al)-Dissolved			105.6		%		70-130	31-JAN-12
Antimony (Sb)-Dissolved			106.2		%		70-130	31-JAN-12
Arsenic (As)-Dissolved			111.7		%		70-130	31-JAN-12
Barium (Ba)-Dissolved			101.2		%		70-130	31-JAN-12
Beryllium (Be)-Dissolved			103.5		%		70-130	31-JAN-12
Bismuth (Bi)-Dissolved			96.3		%		70-130	31-JAN-12
Boron (B)-Dissolved			107.1		%		70-130	31-JAN-12
Cadmium (Cd)-Dissolved			127.1		%		70-130	31-JAN-12
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	31-JAN-12
Chromium (Cr)-Dissolved			109.2		%		70-130	31-JAN-12
Cobalt (Co)-Dissolved			107.4		%		70-130	31-JAN-12
Copper (Cu)-Dissolved			103.1		%		70-130	31-JAN-12
Iron (Fe)-Dissolved			106.1		%		70-130	31-JAN-12
Lead (Pb)-Dissolved			102.7		%		70-130	31-JAN-12
Lithium (Li)-Dissolved			106.0		%		70-130	31-JAN-12
Magnesium (Mg)-Dissolved			N/A	MS-B	%		-	31-JAN-12
Manganese (Mn)-Dissolved			N/A	MS-B	%		-	31-JAN-12
Molybdenum (Mo)-Dissolved			102.3		%		70-130	31-JAN-12



Quality Control Report

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2319497							
WG1422978-4	MS	L1108291-1						
Nickel (Ni)-Dissolved			102.2		%		70-130	31-JAN-12
Potassium (K)-Dissolved			106.3		%		70-130	31-JAN-12
Selenium (Se)-Dissolved			110.6		%		70-130	31-JAN-12
Silver (Ag)-Dissolved			107.8		%		70-130	31-JAN-12
Sodium (Na)-Dissolved			N/A	MS-B	%		-	31-JAN-12
Strontium (Sr)-Dissolved			N/A	MS-B	%		-	31-JAN-12
Tellurium (Te)-Dissolved			120.5		%		70-130	31-JAN-12
Thallium (Tl)-Dissolved			102.8		%		70-130	31-JAN-12
Tin (Sn)-Dissolved			107.3		%		70-130	31-JAN-12
Titanium (Ti)-Dissolved			106.9		%		70-130	31-JAN-12
Tungsten (W)-Dissolved			103.6		%		70-130	31-JAN-12
Uranium (U)-Dissolved			109.9		%		70-130	31-JAN-12
Vanadium (V)-Dissolved			109.3		%		70-130	31-JAN-12
Zinc (Zn)-Dissolved			104.3		%		70-130	31-JAN-12
Zirconium (Zr)-Dissolved			102.8		%		70-130	31-JAN-12
Batch	R2319991							
WG1423628-2	LCS							
Aluminum (Al)-Dissolved			94.5		%		80-120	01-FEB-12
Antimony (Sb)-Dissolved			95.4		%		80-120	01-FEB-12
Arsenic (As)-Dissolved			99.3		%		80-120	01-FEB-12
Barium (Ba)-Dissolved			93.4		%		80-120	01-FEB-12
Beryllium (Be)-Dissolved			106.8		%		80-120	01-FEB-12
Bismuth (Bi)-Dissolved			100.6		%		80-120	01-FEB-12
Boron (B)-Dissolved			97.7		%		80-120	01-FEB-12
Cadmium (Cd)-Dissolved			99.7		%		80-120	01-FEB-12
Calcium (Ca)-Dissolved			105.3		%		80-120	01-FEB-12
Chromium (Cr)-Dissolved			101.0		%		80-120	01-FEB-12
Cobalt (Co)-Dissolved			98.6		%		80-120	01-FEB-12
Copper (Cu)-Dissolved			94.4		%		80-120	01-FEB-12
Iron (Fe)-Dissolved			98.8		%		80-120	01-FEB-12
Lead (Pb)-Dissolved			98.4		%		80-120	01-FEB-12
Lithium (Li)-Dissolved			103.6		%		80-120	01-FEB-12
Magnesium (Mg)-Dissolved			108.2		%		80-120	01-FEB-12
Manganese (Mn)-Dissolved			106.5		%		80-120	01-FEB-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2319991							
WG1423628-2 LCS								
Molybdenum (Mo)-Dissolved			99.8		%		80-120	01-FEB-12
Nickel (Ni)-Dissolved			101.7		%		80-120	01-FEB-12
Potassium (K)-Dissolved			97.4		%		80-120	01-FEB-12
Selenium (Se)-Dissolved			99.0		%		80-120	01-FEB-12
Silver (Ag)-Dissolved			91.6		%		80-120	01-FEB-12
Sodium (Na)-Dissolved			100.2		%		80-120	01-FEB-12
Strontium (Sr)-Dissolved			97.0		%		80-120	01-FEB-12
Tellurium (Te)-Dissolved			97.4		%		80-120	01-FEB-12
Thallium (Tl)-Dissolved			97.3		%		80-120	01-FEB-12
Tin (Sn)-Dissolved			99.9		%		80-120	01-FEB-12
Titanium (Ti)-Dissolved			102.2		%		80-120	01-FEB-12
Tungsten (W)-Dissolved			93.7		%		80-120	01-FEB-12
Uranium (U)-Dissolved			94.4		%		80-120	01-FEB-12
Vanadium (V)-Dissolved			103.7		%		80-120	01-FEB-12
Zinc (Zn)-Dissolved			98.6		%		80-120	01-FEB-12
Zirconium (Zr)-Dissolved			89.7		%		80-120	01-FEB-12
WG1423628-1 MB								
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	01-FEB-12
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	01-FEB-12
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	01-FEB-12
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	01-FEB-12
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	01-FEB-12
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	01-FEB-12
Boron (B)-Dissolved			<0.050		mg/L		0.05	01-FEB-12
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	01-FEB-12
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	01-FEB-12
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	01-FEB-12
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	01-FEB-12
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	01-FEB-12
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	01-FEB-12
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	01-FEB-12
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	01-FEB-12
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	01-FEB-12
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	01-FEB-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2319991							
WG1423628-1	MB							
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	01-FEB-12
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	01-FEB-12
Potassium (K)-Dissolved			<0.50		mg/L		0.5	01-FEB-12
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	01-FEB-12
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	01-FEB-12
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	01-FEB-12
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	01-FEB-12
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	01-FEB-12
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	01-FEB-12
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	01-FEB-12
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	01-FEB-12
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	01-FEB-12
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	01-FEB-12
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	01-FEB-12
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	01-FEB-12
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	01-FEB-12
WG1423628-4	MS	L1109056-4						
Aluminum (Al)-Dissolved			96.6		%		70-130	01-FEB-12
Antimony (Sb)-Dissolved			108.4		%		70-130	01-FEB-12
Arsenic (As)-Dissolved			115.1		%		70-130	01-FEB-12
Barium (Ba)-Dissolved			N/A	MS-B	%		-	01-FEB-12
Beryllium (Be)-Dissolved			91.5		%		70-130	01-FEB-12
Bismuth (Bi)-Dissolved			89.4		%		70-130	01-FEB-12
Boron (B)-Dissolved			N/A	MS-B	%		-	01-FEB-12
Cadmium (Cd)-Dissolved			125.3		%		70-130	01-FEB-12
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	01-FEB-12
Chromium (Cr)-Dissolved			101.0		%		70-130	01-FEB-12
Cobalt (Co)-Dissolved			N/A	MS-B	%		-	01-FEB-12
Copper (Cu)-Dissolved			N/A	MS-B	%		-	01-FEB-12
Iron (Fe)-Dissolved			92.9		%		70-130	01-FEB-12
Lead (Pb)-Dissolved			98.7		%		70-130	01-FEB-12
Lithium (Li)-Dissolved			110.0		%		70-130	01-FEB-12
Magnesium (Mg)-Dissolved			N/A	MS-B	%		-	01-FEB-12
Manganese (Mn)-Dissolved			N/A	MS-B	%		-	01-FEB-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2319991							
WG1423628-4 MS		L1109056-4						
Molybdenum (Mo)-Dissolved			N/A	MS-B	%		-	01-FEB-12
Nickel (Ni)-Dissolved			97.1		%		70-130	01-FEB-12
Potassium (K)-Dissolved			N/A	MS-B	%		-	01-FEB-12
Selenium (Se)-Dissolved			111.6		%		70-130	01-FEB-12
Silver (Ag)-Dissolved			101.8		%		70-130	01-FEB-12
Sodium (Na)-Dissolved			N/A	MS-B	%		-	01-FEB-12
Strontium (Sr)-Dissolved			N/A	MS-B	%		-	01-FEB-12
Tellurium (Te)-Dissolved			119.1		%		70-130	01-FEB-12
Thallium (Tl)-Dissolved			97.5		%		70-130	01-FEB-12
Tin (Sn)-Dissolved			104.6		%		70-130	01-FEB-12
Titanium (Ti)-Dissolved			109.3		%		70-130	01-FEB-12
Tungsten (W)-Dissolved			N/A	MS-B	%		-	01-FEB-12
Vanadium (V)-Dissolved			113.5		%		70-130	01-FEB-12
Zinc (Zn)-Dissolved			103.3		%		70-130	01-FEB-12
Zirconium (Zr)-Dissolved			99.4		%		70-130	01-FEB-12
MET-T-MS-TB								
	Water							
Batch	R2319520							
WG1422376-7 DUP		L1108291-1						
Aluminum (Al)-Total		0.217	0.233		mg/L	6.9	20	31-JAN-12
Antimony (Sb)-Total		<0.00060	<0.00060	RPD-NA	mg/L	N/A	20	31-JAN-12
Arsenic (As)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-JAN-12
Barium (Ba)-Total		0.017	0.018		mg/L	3.6	20	31-JAN-12
Beryllium (Be)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-JAN-12
Bismuth (Bi)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-JAN-12
Boron (B)-Total		<0.050	<0.050	RPD-NA	mg/L	N/A	20	31-JAN-12
Cadmium (Cd)-Total		<0.000017	<0.000017	RPD-NA	mg/L	N/A	20	31-JAN-12
Calcium (Ca)-Total		35.5	36.8		mg/L	3.6	20	31-JAN-12
Chromium (Cr)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-JAN-12
Cobalt (Co)-Total		<0.00050	<0.00050	RPD-NA	mg/L	N/A	20	31-JAN-12
Copper (Cu)-Total		<0.0010	0.0010	RPD-NA	mg/L	N/A	20	31-JAN-12
Iron (Fe)-Total		1.23	1.31		mg/L	5.9	20	31-JAN-12
Lead (Pb)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-JAN-12
Lithium (Li)-Total		<0.050	<0.050	RPD-NA	mg/L	N/A	20	31-JAN-12
Magnesium (Mg)-Total		6.62	6.99		mg/L	5.5	20	31-JAN-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2319520							
WG1422376-7	DUP	L1108291-1						
Manganese (Mn)-Total		0.125	0.129		mg/L	3.1	20	31-JAN-12
Molybdenum (Mo)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-JAN-12
Nickel (Ni)-Total		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	31-JAN-12
Potassium (K)-Total		1.88	1.99		mg/L	5.3	20	31-JAN-12
Selenium (Se)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-JAN-12
Silver (Ag)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	31-JAN-12
Sodium (Na)-Total		7.61	8.19		mg/L	7.3	20	31-JAN-12
Strontium (Sr)-Total		0.0660	0.0697		mg/L	5.5	20	31-JAN-12
Tellurium (Te)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-JAN-12
Thallium (Tl)-Total		<0.00030	<0.00030	RPD-NA	mg/L	N/A	20	31-JAN-12
Tin (Sn)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-JAN-12
Titanium (Ti)-Total		0.0107	0.0117		mg/L	8.8	20	31-JAN-12
Tungsten (W)-Total		<0.010	<0.010	RPD-NA	mg/L	N/A	20	31-JAN-12
Uranium (U)-Total		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	31-JAN-12
Vanadium (V)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-JAN-12
Zinc (Zn)-Total		0.0040	0.0036		mg/L	10	20	31-JAN-12
Zirconium (Zr)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-JAN-12
WG1422376-2	LCS							
Aluminum (Al)-Total			93.7		%		80-120	31-JAN-12
Antimony (Sb)-Total			101.9		%		80-120	31-JAN-12
Arsenic (As)-Total			98.5		%		80-120	31-JAN-12
Barium (Ba)-Total			99.0		%		80-120	31-JAN-12
Beryllium (Be)-Total			95.4		%		80-120	31-JAN-12
Bismuth (Bi)-Total			100.0		%		80-120	31-JAN-12
Boron (B)-Total			96.9		%		80-120	31-JAN-12
Cadmium (Cd)-Total			102.0		%		80-120	31-JAN-12
Calcium (Ca)-Total			99.7		%		80-120	31-JAN-12
Chromium (Cr)-Total			100.9		%		80-120	31-JAN-12
Cobalt (Co)-Total			101.5		%		80-120	31-JAN-12
Copper (Cu)-Total			97.9		%		80-120	31-JAN-12
Iron (Fe)-Total			103.7		%		80-120	31-JAN-12
Lead (Pb)-Total			96.9		%		80-120	31-JAN-12
Lithium (Li)-Total			93.4		%		80-120	31-JAN-12
Magnesium (Mg)-Total			94.8		%		80-120	31-JAN-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2319520							
WG1422376-2	LCS							
Manganese (Mn)-Total			100.4		%		80-120	31-JAN-12
Molybdenum (Mo)-Total			101.8		%		80-120	31-JAN-12
Nickel (Ni)-Total			101.6		%		80-120	31-JAN-12
Potassium (K)-Total			98.4		%		80-120	31-JAN-12
Selenium (Se)-Total			91.4		%		80-120	31-JAN-12
Silver (Ag)-Total			93.6		%		80-120	31-JAN-12
Sodium (Na)-Total			101.1		%		80-120	31-JAN-12
Strontium (Sr)-Total			99.2		%		80-120	31-JAN-12
Tellurium (Te)-Total			105.4		%		80-120	31-JAN-12
Thallium (Tl)-Total			97.5		%		80-120	31-JAN-12
Tin (Sn)-Total			101.9		%		80-120	31-JAN-12
Titanium (Ti)-Total			100.2		%		80-120	31-JAN-12
Tungsten (W)-Total			97.1		%		80-120	31-JAN-12
Uranium (U)-Total			96.0		%		80-120	31-JAN-12
Vanadium (V)-Total			103.1		%		80-120	31-JAN-12
Zinc (Zn)-Total			97.1		%		80-120	31-JAN-12
Zirconium (Zr)-Total			95.2		%		80-120	31-JAN-12
WG1422376-1	MB							
Aluminum (Al)-Total			<0.0050		mg/L		0.005	31-JAN-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	31-JAN-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	31-JAN-12
Barium (Ba)-Total			<0.010		mg/L		0.01	31-JAN-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	31-JAN-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	31-JAN-12
Boron (B)-Total			<0.050		mg/L		0.05	31-JAN-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	31-JAN-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	31-JAN-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	31-JAN-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	31-JAN-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	31-JAN-12
Iron (Fe)-Total			<0.020		mg/L		0.02	31-JAN-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	31-JAN-12
Lithium (Li)-Total			<0.050		mg/L		0.05	31-JAN-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	31-JAN-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2319520							
WG1422376-1	MB							
Manganese (Mn)-Total			<0.0010		mg/L		0.001	31-JAN-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	31-JAN-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	31-JAN-12
Potassium (K)-Total			<0.50		mg/L		0.5	31-JAN-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	31-JAN-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	31-JAN-12
Sodium (Na)-Total			<0.10		mg/L		0.1	31-JAN-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	31-JAN-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	31-JAN-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	31-JAN-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	31-JAN-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	31-JAN-12
Tungsten (W)-Total			<0.010		mg/L		0.01	31-JAN-12
Uranium (U)-Total			<0.0050		mg/L		0.005	31-JAN-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	31-JAN-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	31-JAN-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	31-JAN-12
WG1422376-4	MS	L1107698-10						
Aluminum (Al)-Total			104.0		%		70-130	31-JAN-12
Antimony (Sb)-Total			105.5		%		70-130	31-JAN-12
Arsenic (As)-Total			110.1		%		70-130	31-JAN-12
Beryllium (Be)-Total			105.8		%		70-130	31-JAN-12
Bismuth (Bi)-Total			106.1		%		70-130	31-JAN-12
Boron (B)-Total			114.5		%		70-130	31-JAN-12
Cadmium (Cd)-Total			126.7		%		70-130	31-JAN-12
Calcium (Ca)-Total			N/A	MS-B	%		-	31-JAN-12
Chromium (Cr)-Total			110.3		%		70-130	31-JAN-12
Cobalt (Co)-Total			106.5		%		70-130	31-JAN-12
Copper (Cu)-Total			108.7		%		70-130	31-JAN-12
Iron (Fe)-Total			109.0		%		70-130	31-JAN-12
Lead (Pb)-Total			107.3		%		70-130	31-JAN-12
Lithium (Li)-Total			111.4		%		70-130	31-JAN-12
Magnesium (Mg)-Total			N/A	MS-B	%		-	31-JAN-12
Manganese (Mn)-Total			106.0		%		70-130	31-JAN-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2319520							
WG1422376-4 MS		L1107698-10						
Molybdenum (Mo)-Total			111.0		%		70-130	31-JAN-12
Nickel (Ni)-Total			109.4		%		70-130	31-JAN-12
Potassium (K)-Total			107.8		%		70-130	31-JAN-12
Selenium (Se)-Total			97.7		%		70-130	31-JAN-12
Silver (Ag)-Total			108.3		%		70-130	31-JAN-12
Sodium (Na)-Total			109.2		%		70-130	31-JAN-12
Strontium (Sr)-Total			N/A	MS-B	%		-	31-JAN-12
Tellurium (Te)-Total			105.6		%		70-130	31-JAN-12
Thallium (Tl)-Total			103.9		%		70-130	31-JAN-12
Tin (Sn)-Total			107.2		%		70-130	31-JAN-12
Titanium (Ti)-Total			112.5		%		70-130	31-JAN-12
Tungsten (W)-Total			105.7		%		70-130	31-JAN-12
Uranium (U)-Total			109.9		%		70-130	31-JAN-12
Vanadium (V)-Total			108.9		%		70-130	31-JAN-12
Zinc (Zn)-Total			97.4		%		70-130	31-JAN-12
Zirconium (Zr)-Total			107.3		%		70-130	31-JAN-12
WG1422376-8 MS		L1108291-1						
Aluminum (Al)-Total			N/A	MS-B	%		-	31-JAN-12
Antimony (Sb)-Total			109.2		%		70-130	31-JAN-12
Arsenic (As)-Total			110.4		%		70-130	31-JAN-12
Barium (Ba)-Total			110.9		%		70-130	31-JAN-12
Beryllium (Be)-Total			107.7		%		70-130	31-JAN-12
Bismuth (Bi)-Total			107.4		%		70-130	31-JAN-12
Boron (B)-Total			122.0		%		70-130	31-JAN-12
Calcium (Ca)-Total			N/A	MS-B	%		-	31-JAN-12
Chromium (Cr)-Total			113.8		%		70-130	31-JAN-12
Cobalt (Co)-Total			112.9		%		70-130	31-JAN-12
Copper (Cu)-Total			112.4		%		70-130	31-JAN-12
Iron (Fe)-Total			107.7		%		70-130	31-JAN-12
Lead (Pb)-Total			109.2		%		70-130	31-JAN-12
Lithium (Li)-Total			120.8		%		70-130	31-JAN-12
Magnesium (Mg)-Total			N/A	MS-B	%		-	31-JAN-12
Manganese (Mn)-Total			N/A	MS-B	%		-	31-JAN-12
Molybdenum (Mo)-Total			111.9		%		70-130	31-JAN-12



Quality Control Report

Workorder: L1108291

Report Date: 10-FEB-12

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2319520							
WG1422376-8	MS	L1108291-1						
Nickel (Ni)-Total			110.3		%		70-130	31-JAN-12
Potassium (K)-Total			112.0		%		70-130	31-JAN-12
Selenium (Se)-Total			102.3		%		70-130	31-JAN-12
Silver (Ag)-Total			111.5		%		70-130	31-JAN-12
Sodium (Na)-Total			N/A	MS-B	%		-	31-JAN-12
Strontium (Sr)-Total			N/A	MS-B	%		-	31-JAN-12
Tellurium (Te)-Total			107.9		%		70-130	31-JAN-12
Thallium (Tl)-Total			104.5		%		70-130	31-JAN-12
Tin (Sn)-Total			112.8		%		70-130	31-JAN-12
Titanium (Ti)-Total			113.5		%		70-130	31-JAN-12
Tungsten (W)-Total			107.9		%		70-130	31-JAN-12
Uranium (U)-Total			117.8		%		70-130	31-JAN-12
Vanadium (V)-Total			112.2		%		70-130	31-JAN-12
Zinc (Zn)-Total			108.4		%		70-130	31-JAN-12
Zirconium (Zr)-Total			111.2		%		70-130	31-JAN-12
NH3-COL-TB								
	Water							
Batch	R2319112							
WG1422965-2	LCS							
Ammonia, Total (as N)			96.0		%		85-115	31-JAN-12
WG1422965-1	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	31-JAN-12
WG1422965-4	MS	L1107698-10						
Ammonia, Total (as N)			85.7		%		75-125	31-JAN-12
NO2-IC-TB								
	Water							
Batch	R2319683							
WG1422617-3	DUP	L1108291-4						
Nitrite (as N)			<0.020	RPD-NA	mg/L	N/A	20	30-JAN-12
WG1422617-2	LCS							
Nitrite (as N)			96.7		%		85-115	30-JAN-12
WG1422617-1	MB							
Nitrite (as N)			<0.020		mg/L		0.02	30-JAN-12
WG1422617-4	MS	L1108291-4						
Nitrite (as N)			109.0		%		75-115	30-JAN-12
NO3-IC-TB								
	Water							



Quality Control Report

Workorder: L1108291

Report Date: 10-FEB-12

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO3-IC-TB								
Water								
Batch	R2319683							
WG1422617-3	DUP	L1108291-4						
Nitrate (as N)		<0.030	<0.030	RPD-NA	mg/L	N/A	20	30-JAN-12
WG1422617-2	LCS							
Nitrate (as N)			99.8		%		85-115	30-JAN-12
WG1422617-1	MB							
Nitrate (as N)			<0.030		mg/L		0.03	30-JAN-12
WG1422617-4	MS	L1108291-4						
Nitrate (as N)			111.8		%		75-125	30-JAN-12
OGG-TOT-WT								
Water								
Batch	R2323556							
WG1427465-2	LCS							
Oil and Grease, Total			91.4		%		75-120	09-FEB-12
WG1427465-3	LCS	WG1427465-2						
Oil and Grease, Total		91.4	84		%	8.3	45	09-FEB-12
WG1427465-1	MB							
Oil and Grease, Total			<2.0		mg/L		2	09-FEB-12
P-T-COL-TB								
Water								
Batch	R2318454							
WG1422434-2	LCS							
Phosphorus (P)-Total			98.2		%		80-120	30-JAN-12
WG1422434-1	MB							
Phosphorus (P)-Total			<0.0050		mg/L		0.005	30-JAN-12
WG1422434-4	MS	L1107980-1						
Phosphorus (P)-Total			88.2		%		70-130	30-JAN-12
PH-CAP-TB								
Water								
Batch	R2318829							
WG1422377-2	LCS							
pH			5.98		pH		5.9-6.1	27-JAN-12
SO4-IC-TB								
Water								
Batch	R2319683							
WG1422617-3	DUP	L1108291-4						
Sulfate (SO4)		2.19	2.19		mg/L	0.046	20	30-JAN-12
WG1422617-2	LCS							
Sulfate (SO4)			103.1		%		85-115	30-JAN-12
WG1422617-1	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	30-JAN-12
WG1422617-4	MS	L1108291-4						



Quality Control Report

Workorder: L1108291

Report Date: 10-FEB-12

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SO4-IC-TB	Water							
Batch	R2319683							
WG1422617-4 MS		L1108291-4						
Sulfate (SO4)			114.9		%		75-125	30-JAN-12
SOLIDS-TOTSUS-TB	Water							
Batch	R2318039							
WG1422099-2 LCS								
Total Suspended Solids			95.8		%		85-115	28-JAN-12
WG1422099-1 MB								
Total Suspended Solids			<2.0		mg/L		2	28-JAN-12
Batch	R2319507							
WG1423507-2 LCS								
Total Suspended Solids			96.0		%		85-115	01-FEB-12
WG1423507-1 MB								
Total Suspended Solids			<2.0		mg/L		2	01-FEB-12

Quality Control Report

Workorder: L1108291

Report Date: 10-FEB-12

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Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
J	Duplicate results and limits are expressed in terms of absolute difference.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



L1108291

COC # L1108291

Report To	Report Format / Distribution	Service Requested (Rush for routine analysis subject to availability)
Company: Treasury Metals	<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Other (specify):	<input checked="" type="radio"/> Regular (Default)
Contact: Mac Potter	<input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> Excel <input type="checkbox"/> Digital <input type="checkbox"/> Fax	<input type="radio"/> Priority (Specify Date Required -- --) Surcharges apply
Address: 899 Tree Nursery Rd Wabigoon ON P0V 2W0	Email 1: mac@treasurymetals.com	<input type="radio"/> Emergency (1 Business Day) - 100% Surcharge
Phone: 807-223-6191 Fax:	Email 2: lritchie@dstgroup.com	<input type="radio"/> For Emergency < 1 Day, ASAP or Weekend - Contact ALS

Invoice To Same as Report? <input checked="" type="radio"/> Yes <input type="radio"/> No (write address below)	Client / Project information	Analysis Request	
THE QUESTIONS BELOW MUST BE ANSWERED FOR WATER SAMPLES (circle Yes or No)	Job #: M09706A01	Please indicate below Filtered, Preserved or both (F, P, F/P)	
Are any samples taken from a regulated DW System? Yes <input type="radio"/> No <input checked="" type="radio"/>	PO / AFE: M02010 - P0115	<input type="checkbox"/> F <input type="checkbox"/> P <input type="checkbox"/> F/P	<input type="checkbox"/> F <input type="checkbox"/> P <input type="checkbox"/> F/P
If yes, an authorized Drinking Water COC MUST be used for this submission.	LSD: Goliath Project	<input type="checkbox"/> F <input type="checkbox"/> P <input type="checkbox"/> F/P	<input type="checkbox"/> F <input type="checkbox"/> P <input type="checkbox"/> F/P
Is the water sampled intended to be potable for human consumption? Yes <input type="radio"/> No <input checked="" type="radio"/>	Quota #: Q32690	<input type="checkbox"/> F <input type="checkbox"/> P <input type="checkbox"/> F/P	<input type="checkbox"/> F <input type="checkbox"/> P <input type="checkbox"/> F/P

Lab Work Order # (lab use only)	ALS KAREN Contact:	Sampler: MP LR
------------------------------------	------------------------------	---------------------------

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mm-yy)	Time (hh:mm)	Sample Type	Alkalinity, pH, Conductivity	Cl, NO2, NO3, SO4	Acidity, TSS	TOT Cyanide	WAD Cyanide	CN-FREE-CO ₂ -VA	NH4, Total Phosphorus	OGG	Total Metals + Hg	Dissolved Metals + Hg	Hardness	Number of Containers
1	SW2 - SW3	25/01/12	X	Water	X	X	X	X	X	X	X	X	X	X	X	9
2	SW3 TL3	25/01/12	X	Water	X	X	X	X	X	X	X	X	X	X	X	9
3	SW1	25/01/12	X	Water	X	X	X	X	X	X	X	X	X	X	X	9
4	SW4	26/01/12	X	Water	X	X	X	X	X	X	X	X	X	X	X	9
5	SW6	26/01/12	X	Water	X	X	X	X	X	X	X	X	X	X	X	9
6	SW5	26/01/12	X	Water	X	X	X	X	X	X	X	X	X	X	X	9
7	SW9	26/01/12	X	Water	X	X	X	X	X	X	X	X	X	X	X	8
8	SW10	* 26/01/12	X	Water	X	X	X	X	X	X	X	X	X	X	X	* 9
9	SW7	* 27/01/12	X	Water	X	X	X	X	X	X	X	X	X	X	X	* 9
10	SW8	* 27/01/12	X	Water	X	X	X	X	X	X	X	X	X	X	X	* 9
11	SW103	26/01/12	X	Water	X	X	X	X	X	X	X	X	X	X	X	9
12	SW42	26/01/12	X	Water	X	X	X	X	X	X	X	X	X	X	X	9

Special Instructions / Regulations / Hazardous Details

Reg 153 Table 1 2 3 TCLP MISA **PWQO** OTHER (please specify): * No Nitric Acid preservative added to Total / Dissolved metals.
 Circle one - Note drinking water samples MUST USE DW Chain of Custody Note one vial added to SW10

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.
 By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by: MACKENZIE POTTER	Date: 25/01/12	Time: 9:00AM	Received by: VB	Date: 27 JAN 12	Time: 15:05	Temperature: F °C	Verified by: VB	Date: 27 JAN 12	Time: 15:05	Observations (Yes/No?) If Yes, add SIF

SEE SIF.



Sample Integrity Form

This report summarizes some deficiencies found in your recent submission, and the actions that will be taken unless you contact us to make specific instructions.

Date Received: 27 JAN-12		Client: TREASURY METALS	
Completed by (initial) LB		Submission ID: L# or Other Identifying Mark L1108291	
1	Deficiency Found:	Without further instruction, We WILL:	2
	Samples under Regulation not circled yes or no	Proceed with samples as not from a regulated drinking water system and not intended for human consumption	
	Chain of Custody Questions Not Answered or Not on the Chain of Custody	Proceed with samples as not from a regulated drinking water system but intended for human consumption	
	Analyses requested not completed on Chain of Custody	Proceed to follow information on the chain of custody unless you specify otherwise	
	Sample was received with a temperature higher then 20°C (Microbiology)	Proceed to follow information on the bottle(s) unless you specify otharwise	
	COC information is incompieta or illegible	Proceed with analysis - Results may be qualified	
	COC not signed and dated by client	Preserve and proceed with analysis	
	Regulated Sample Type(s) not indicated on the Chain of Custody	Proceed with the samples as regulated unlass specified otharwise	
	Sample Description not clearly indicated on Chain of Custody	Advise you resample for deficient sample(s)	
	COC information does not match bottle label	Proceed with analysis of (remaining) sample(s)	
	Analysis Required not listed or clearly specified	Proceed with regular testing from previous submissions unless you specify otharwise	
	No COC accompanying the submission	Further Comments/Specifics: Sample time not on COC or sample bottles. Will proceed with sample time as 00:00. "Travel Blank" not on COC. Will proceed with an analysis. "SW10", "SW7" & "SW8" was received unpreserved. Will preserve and proceed with analysis. "Dissolved mercury" submitted for "SW9" but crossed out on COC. Will proceed with analysis of dissolved mercury.	
	Sample Bottle labeling issue (label is missing, blank, or doesn't match COC)		
	Wrong Sample Bottle used		
	Sampla received after analytical hold time has been axceeded		
	Filter and Preserve at Lab		
	Sample bottle found brokan when received		
	Sample received with haadspace		
	Insufficient number of bottles or sample volume provided		
	Sampla Received Unpreserved		
	Bottles in shipment but not listed on chain of custody		
	Sample < Freezing Point (contains ice crystals or frozen)		
	Bottles listed on chain of custody but missing in shipment		
If Checked HERE, you NEED to contact the laboratory for further discussion Samples received frozen - run and Code.			

For more information or to contact the laboratory: Login CSS 800-668-9878

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RIGHT SOLUTIONS RIGHT PARTNER



TREASURY METALS INC.
ATTN: Mac Potter
P.O. Box 789
Dryden ON P8N 2Z4

Date Received: 09-APR-12
Report Date: 18-APR-12 16:05 (MT)
Version: FINAL

Client Phone: 807-938-6961

Certificate of Analysis

Lab Work Order #: L1132288
Project P.O. #: M02010-P0115
Job Reference: M09706A01
C of C Numbers:
Legal Site Desc: GOLIATH PROJECT



Karen Rutledge
Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

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ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1132288-1	L1132288-2	L1132288-3	L1132288-4	L1132288-5
		Description	WATER	WATER	WATER	WATER	WATER
		Sampled Date	05-APR-12	05-APR-12	05-APR-12	05-APR-12	05-APR-12
		Sampled Time	11:30	09:30	10:00	11:00	08:30
		Client ID	JCTA	SW8	SW7	SW9	SW10
Grouping	Analyte						
WATER							
Physical Tests	Conductivity (EC) (uS/cm)		59.2	47.9	87.9	72.0	50.0
	Hardness (as CaCO3) (mg/L)		24.2	18.3	36.3	32.2	21.5
	pH (pH)		6.95	6.84	7.64	7.17	6.94
	Total Suspended Solids (mg/L)		7.9	35.4	33.0	8.0	16.1
Anions and Nutrients	Acidity (as CaCO3) (mg/L)		4.8	3.6	2.2	5.4	3.8
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)		18.3	12.1	37.6	27.0	14.8
	Ammonia, Total (as N) (mg/L)		<0.020	<0.020	0.020	<0.020	<0.020
	Chloride (Cl) (mg/L)		0.61	0.18	0.16	0.23	0.24
	Nitrate (as N) (mg/L)		0.071	0.103	0.043	0.161	0.078
	Nitrite (as N) (mg/L)		<0.020	<0.020	<0.020	<0.020	<0.020
	Phosphorus (P)-Total (mg/L)		0.0216	0.0347	0.0284	0.0149	0.0211
	Sulfate (SO4) (mg/L)		3.55	3.13	1.06	1.73	3.88
Cyanides	Cyanide, Weak Acid Diss (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Free (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)		0.266	0.316	0.100	0.141	0.189
	Antimony (Sb)-Total (mg/L)		<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Total (mg/L)		<0.010	<0.010	0.012	<0.010	<0.010
	Beryllium (Be)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Total (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Total (mg/L)		<0.000017	<0.000017	<0.000017	<0.000017	<0.000017
	Calcium (Ca)-Total (mg/L)		7.12	5.76	10.7	9.61	7.50
	Chromium (Cr)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Cobalt (Co)-Total (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Total (mg/L)		<0.0010	0.0013	<0.0010	<0.0010	<0.0010
	Iron (Fe)-Total (mg/L)		0.316	0.474	0.586	0.315	0.862
	Lead (Pb)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Total (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Total (mg/L)		2.06	0.865	1.06	1.87	0.905
	Manganese (Mn)-Total (mg/L)		0.0108	0.0177	0.0767	0.0294	0.0302
	Mercury (Hg)-Total (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Molybdenum (Mo)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Total (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Potassium (K)-Total (mg/L)		0.60	<0.50	<0.50	1.04	<0.50
Selenium (Se)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1132288-6	L1132288-7	L1132288-8	L1132288-9	L1132288-10
		Description	WATER	WATER	WATER	WATER	WATER
		Sampled Date	04-APR-12	04-APR-12	04-APR-12	04-APR-12	04-APR-12
		Sampled Time	16:00	15:30	15:00	14:15	14:00
		Client ID	SW1	SW3	SW2	TL2A	TL3
Grouping	Analyte						
WATER							
Physical Tests	Conductivity (EC) (uS/cm)		59.0	111	139	88.0	64.3
	Hardness (as CaCO3) (mg/L)		24.9	38.4	56.5	37.1	28.1
	pH (pH)		7.08	7.53	7.56	7.22	7.16
	Total Suspended Solids (mg/L)		2.6	2.7	5.9	122	44.6
Anions and Nutrients	Acidity (as CaCO3) (mg/L)		4.0	3.4	5.6	5.4	2.4
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)		20.6	34.1	50.0	33.0	20.7
	Ammonia, Total (as N) (mg/L)		<0.020	<0.020	<0.020	0.021	<0.020
	Chloride (Cl) (mg/L)		0.36	7.65	4.58	0.50	0.86
	Nitrate (as N) (mg/L)		0.169	0.115	0.122	<0.030	0.135
	Nitrite (as N) (mg/L)		<0.020	<0.020	<0.020	<0.020	<0.020
	Phosphorus (P)-Total (mg/L)		0.0176	0.0193	0.0829	0.0940	0.0534
	Sulfate (SO4) (mg/L)		1.96	2.76	5.33	3.12	3.57
Cyanides	Cyanide, Weak Acid Diss (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Free (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)		0.107	0.0779	0.982	1.77	0.882
	Antimony (Sb)-Total (mg/L)		<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Total (mg/L)		<0.010	<0.010	0.015	0.019	0.012
	Beryllium (Be)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Total (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Total (mg/L)		<0.000017	<0.000017	<0.000017	0.000019	<0.000017
	Calcium (Ca)-Total (mg/L)		6.21	11.8	18.2	9.10	6.92
	Chromium (Cr)-Total (mg/L)		<0.0010	<0.0010	0.0016	0.0034	0.0017
	Cobalt (Co)-Total (mg/L)		<0.00050	<0.00050	<0.00050	0.00103	0.00055
	Copper (Cu)-Total (mg/L)		<0.0010	0.0010	0.0033	0.0074	0.0023
	Iron (Fe)-Total (mg/L)		0.234	0.233	0.716	2.00	0.998
	Lead (Pb)-Total (mg/L)		<0.0010	<0.0010	<0.0010	0.0018	<0.0010
	Lithium (Li)-Total (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Total (mg/L)		1.43	2.10	3.58	3.14	2.07
	Manganese (Mn)-Total (mg/L)		0.0105	0.0189	0.0154	0.0623	0.0355
	Mercury (Hg)-Total (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Molybdenum (Mo)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Total (mg/L)		<0.0020	<0.0020	<0.0020	0.0027	<0.0020
	Potassium (K)-Total (mg/L)		0.83	0.76	1.44	2.27	0.86
Selenium (Se)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1132288-11	L1132288-12	L1132288-13	L1132288-14
		Description	WATER	WATER	WATER	WATER
		Sampled Date	04-APR-12	04-APR-12	05-APR-12	04-APR-12
		Sampled Time	13:05	16:05	08:15	13:05
		Client ID	TL1A	SW1S	SW10S	TRAVEL BLANK
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (EC) (uS/cm)		43.2	58.5	<3.0	<3.0
	Hardness (as CaCO3) (mg/L)		17.6	25.0	<0.51	<0.51
	pH (pH)		6.69	7.11	5.46	5.51
	Total Suspended Solids (mg/L)		8.0	<2.0	<2.0	<2.0
Anions and Nutrients	Acidity (as CaCO3) (mg/L)		5.0	3.6	<2.0	<2.0
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)		10.7	21.2	<5.0	<5.0
	Ammonia, Total (as N) (mg/L)		<0.020	<0.020	<0.020	<0.020
	Chloride (Cl) (mg/L)		0.44	0.38	<0.10	<0.10
	Nitrate (as N) (mg/L)		0.109	0.132	<0.030	<0.030
	Nitrite (as N) (mg/L)		<0.020	<0.020	<0.020	<0.020
	Phosphorus (P)-Total (mg/L)		0.0518	0.0172	<0.0050	<0.0050
	Sulfate (SO4) (mg/L)		3.60	1.97	<0.30	<0.30
Cyanides	Cyanide, Weak Acid Diss (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Free (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)		0.222	0.113	<0.0050	<0.0050
	Antimony (Sb)-Total (mg/L)		<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Total (mg/L)		<0.010	<0.010	<0.010	<0.010
	Beryllium (Be)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Total (mg/L)		<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Total (mg/L)		<0.000017	<0.000017	<0.000017	<0.000017
	Calcium (Ca)-Total (mg/L)		4.10	7.76	<0.20	<0.20
	Chromium (Cr)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010
	Cobalt (Co)-Total (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010
	Iron (Fe)-Total (mg/L)		0.353	0.205	<0.020	<0.020
	Lead (Pb)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Total (mg/L)		<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Total (mg/L)		1.09	1.74	<0.020	<0.020
	Manganese (Mn)-Total (mg/L)		0.0075	0.0083	<0.0010	<0.0010
	Mercury (Hg)-Total (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010
	Molybdenum (Mo)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Total (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020
	Potassium (K)-Total (mg/L)		<0.50	0.69	<0.50	<0.50
Selenium (Se)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

18-APR-12 16:05 (MT)

Version: FINAL

Sample ID Description Sampled Date Sampled Time Client ID	L1132288-1 WATER 05-APR-12 11:30 JCTA	L1132288-2 WATER 05-APR-12 09:30 SW8	L1132288-3 WATER 05-APR-12 10:00 SW7	L1132288-4 WATER 05-APR-12 11:00 SW9	L1132288-5 WATER 05-APR-12 08:30 SW10	
Grouping	Analyte					
WATER						
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Total (mg/L)	1.27	0.82	0.57	1.44	1.00
	Strontium (Sr)-Total (mg/L)	0.0154	0.0097	0.0166	0.0162	0.0119
	Tellurium (Te)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Total (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Total (mg/L)	0.0063	0.0112	0.0055	0.0038	0.0049
	Tungsten (W)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Total (mg/L)	<0.0030	<0.0030 ^{RRV}	<0.0030	<0.0030	<0.0030
	Zirconium (Zr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	0.119	0.164	0.0068	0.103	0.147
	Antimony (Sb)-Dissolved (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Dissolved (mg/L)	<0.010	<0.010	0.012	<0.010	<0.010
	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Dissolved (mg/L)	<0.000017 ^{RRV}	<0.000017 ^{RRV}	<0.000017	<0.000017 ^{RRV}	<0.000017 ^{RRV}
	Calcium (Ca)-Dissolved (mg/L)	6.71	5.61	12.7	9.24	6.86
	Chromium (Cr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Dissolved (mg/L)	0.0011	0.0014	<0.0010	<0.0010	<0.0010
	Iron (Fe)-Dissolved (mg/L)	0.226	0.309	0.205	0.187	0.544
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Dissolved (mg/L)	1.82 ^{RRV}	1.04	1.13	2.21	1.06
	Manganese (Mn)-Dissolved (mg/L)	0.0120	0.0147	0.0315	0.0140	0.0249
	Mercury (Hg)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Potassium (K)-Dissolved (mg/L)	0.81	0.64	0.54	1.26	0.55
	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Silver (Ag)-Dissolved (mg/L)	<0.00010 ^{RRV}	<0.00010 ^{RRV}	<0.00010	<0.00010 ^{RRV}	<0.00010 ^{RRV}
	Sodium (Na)-Dissolved (mg/L)	1.25	0.87	0.71	1.44	1.01
	Strontium (Sr)-Dissolved (mg/L)	0.0145 ^{RRV}	0.0115	0.0172	0.0180	0.0133

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1132288-6	L1132288-7	L1132288-8	L1132288-9	L1132288-10
					WATER	WATER	WATER	WATER	WATER
		04-APR-12	16:00	SW1	04-APR-12	04-APR-12	04-APR-12	04-APR-12	04-APR-12
					SW1	SW3	SW2	TL2A	TL3
Grouping	Analyte								
WATER									
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010	<0.00010	<0.00010	0.00083	<0.00010			
	Sodium (Na)-Total (mg/L)	0.89	4.99	4.09	1.49	1.37			
	Strontium (Sr)-Total (mg/L)	0.0117	0.0199	0.0256	0.0227	0.0165			
	Tellurium (Te)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Thallium (Tl)-Total (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030			
	Tin (Sn)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Titanium (Ti)-Total (mg/L)	0.0033	0.0028	0.0306	0.0724	0.0339			
	Tungsten (W)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010			
	Uranium (U)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050			
	Vanadium (V)-Total (mg/L)	<0.0010	<0.0010	0.0020	0.0032	0.0018			
	Zinc (Zn)-Total (mg/L)	<0.0030	<0.0030	0.0045	0.0112	0.0044			
	Zirconium (Zr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	0.0583	0.0318	0.123	0.138	0.295			
	Antimony (Sb)-Dissolved (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060			
	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Barium (Ba)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010			
	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Boron (B)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050			
	Cadmium (Cd)-Dissolved (mg/L)	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017			
	Calcium (Ca)-Dissolved (mg/L)	7.35	11.3	15.8	10.0	7.74			
	Chromium (Cr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050			
	Copper (Cu)-Dissolved (mg/L)	<0.0010	0.0012	0.0032	0.0015	0.0017			
	Iron (Fe)-Dissolved (mg/L)	0.134	0.147	0.069	0.310	0.391			
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050			
	Magnesium (Mg)-Dissolved (mg/L)	1.59	2.45	4.15	2.94	2.12			
	Manganese (Mn)-Dissolved (mg/L)	0.0096	0.0166	0.0079	0.0226	0.0261			
	Mercury (Hg)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010			
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020			
	Potassium (K)-Dissolved (mg/L)	0.94	0.93	1.56	1.98	0.85			
	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010			
	Sodium (Na)-Dissolved (mg/L)	1.07	4.89	3.79	1.72	1.47			
	Strontium (Sr)-Dissolved (mg/L)	0.0132	0.0238	0.0287	0.0207	0.0156			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1132288-11 WATER 04-APR-12 13:05 TL1A	L1132288-12 WATER 04-APR-12 16:05 SW1S	L1132288-13 WATER 05-APR-12 08:15 SW10S	L1132288-14 WATER 04-APR-12 13:05 TRAVEL BLANK
Grouping	Analyte				
WATER					
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Total (mg/L)	0.96	1.11	<0.10	<0.10
	Strontium (Sr)-Total (mg/L)	0.0096	0.0144	<0.0010	<0.0010
	Tellurium (Te)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Total (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Total (mg/L)	0.0063	0.0039	<0.0020	<0.0020
	Tungsten (W)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Total (mg/L)	<0.0030 ^{RRV}	<0.0030	<0.0030	<0.0030
	Zirconium (Zr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	0.128	0.0577	<0.0050	<0.0050
	Antimony (Sb)-Dissolved (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010
	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Dissolved (mg/L)	<0.000017	<0.000017 ^{RRV}	<0.000017	<0.000017
	Calcium (Ca)-Dissolved (mg/L)	4.98	7.41 ^{RRV}	<0.20	<0.20
	Chromium (Cr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Dissolved (mg/L)	0.0014	<0.0010	<0.0010	<0.0010
	Iron (Fe)-Dissolved (mg/L)	0.231	0.130	<0.020	<0.020
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050 ^{RRV}	<0.050	<0.050
	Magnesium (Mg)-Dissolved (mg/L)	1.25	1.58 ^{RRV}	<0.020	<0.020
	Manganese (Mn)-Dissolved (mg/L)	0.0076	0.0100	<0.0010	<0.0010
	Mercury (Hg)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020
	Potassium (K)-Dissolved (mg/L)	0.53	0.93	<0.50	<0.50
	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Dissolved (mg/L)	0.96 ^{RRV}	1.14 ^{RRV}	<0.10	<0.10
	Strontium (Sr)-Dissolved (mg/L)	0.0105	0.0133 ^{RRV}	<0.0010	<0.0010

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1132288-1	L1132288-2	L1132288-3	L1132288-4	L1132288-5
					L1132288-1 WATER 05-APR-12 11:30 JCTA	L1132288-2 WATER 05-APR-12 09:30 SW8	L1132288-3 WATER 05-APR-12 10:00 SW7	L1132288-4 WATER 05-APR-12 11:00 SW9	L1132288-5 WATER 05-APR-12 08:30 SW10
Grouping	Analyte								
WATER									
Dissolved Metals	Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Dissolved (mg/L)	0.0026	0.0027	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0023
	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	0.0059	0.0120 ^{RRV}	0.0033	0.0062	0.0066			
	Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1132288-6	L1132288-7	L1132288-8	L1132288-9	L1132288-10
					WATER	WATER	WATER	WATER	WATER
		04-APR-12	16:00	SW1	04-APR-12	04-APR-12	04-APR-12	04-APR-12	04-APR-12
					SW1	SW3	SW2	TL2A	TL3
Grouping	Analyte								
WATER									
Dissolved Metals	Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Dissolved (mg/L)	<0.0020	<0.0020	0.0051	<0.0020	<0.0020	0.0051	0.0028	0.0082
	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	0.0012	<0.0010	<0.0010	0.0012	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	<0.0030	<0.0030	0.0086	<0.0030	<0.0030	0.0086	0.0077	0.0114 ^{RRV}
	Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1132288-11 WATER 04-APR-12 13:05 TL1A	L1132288-12 WATER 04-APR-12 16:05 SW1S	L1132288-13 WATER 05-APR-12 08:15 SW10S	L1132288-14 WATER 04-APR-12 13:05 TRAVEL BLANK
Grouping	Analyte				
WATER					
Dissolved Metals	Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Dissolved (mg/L)	0.0021	<0.0020	<0.0020	<0.0020
	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	0.0130 ^{RRV}	0.0062	0.0040 ^{RRV}	<0.0030
	Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Ammonia, Total (as N)	MS-B	L1132288-1, -10, -11, -12, -13, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1132288-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1132288-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1132288-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Total	MS-B	L1132288-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Total	MS-B	L1132288-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Barium (Ba)-Total	MS-B	L1132288-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Boron (B)-Total	MS-B	L1132288-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Total	MS-B	L1132288-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Cobalt (Co)-Total	MS-B	L1132288-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Copper (Cu)-Total	MS-B	L1132288-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Total	MS-B	L1132288-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Total	MS-B	L1132288-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Potassium (K)-Total	MS-B	L1132288-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Total	MS-B	L1132288-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Total	MS-B	L1132288-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9

Qualifiers for Individual Parameters Listed:

Qualifier	Description
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RRV	Reported Result Verified By Repeat Analysis

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
ACIDITY-TB	Water	Acidity (as CaCO ₃)	APHA 2310 B-POTENTIOMETRIC TITRATION
Aqueous matrices are analyzed by potentiometry. Acidity reported includes acidity caused by hydrolyzable metals present in the sample.			
ALK-TOT-CAP-TB	Water	Alkalinity, Total (as CaCO ₃)	APHA 2320 B-Auto-Pot. Titration
CL-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.			
CN-FREE-COL-VA	Water	Free Cyanide by Diffusion	ASTM D 4282
This analysis is carried out using procedures adapted from ASTM D 4282 Standard Test Method for Determination of Free Cyanide in Water and Wastewater by Microdiffusion. ALS has adapted this method to use active (bubbling with air) diffusion instead of microdiffusion. Free cyanide is determined by sample diffusion at pH 6 and analysis using the chloramine-T colourimetric method.			
CN-TOT-WT	Water	Cyanide, Total	APHA 4500CN C E-STRONG ACID DIST COLORIM
Total cyanide is determined by the combination of UV digestion and distillation. Cyanide is converted to cyanogen chloride by reacting with chloramine-T, the cyanogen chloride then reacts with a combination of barbituric acid and isonicotinic acid to form a highly colored complex.			
When using this method, high levels of thiocyanate in samples can cause false positives at ~1-2% of the thiocyanate concentration. For samples with detectable cyanide analyzed by this method, ALS recommends analysis for thiocyanate to check for this potential interference			
CN-WAD-WT	Water	Cyanide, Weak Acid Diss	APHA 4500CN I-Weak acid Dist Colorimet
Weak acid dissociable cyanide (WAD) is determined by undergoing a distillation procedure. Cyanide is converted to cyanogen chloride by reacting with chloramine-T, the cyanogen chloride then reacts with a combination of barbituric acid and isonicotinic acid to form a highly colored complex.			
EC-CAP-TB	Water	Conductivity (EC)	APHA 2510 B-ELECTRODE

Reference Information

HARDNESS-CALC-TB	Water	Hardness (as CaCO ₃)	CALCULATION
HG-D-CVAF-TB	Water	Dissolved Mercury in Water by CVAFS	EPA 245.7
HG-T-CVAF-TB	Water	Total Mercury in Water by CVAFS	EPA 245.7
MET-D-MS-TB	Water	Dissolved Metals by ICPMS	APHA 3030B/EPA 6020A

This analysis involves filtration (APHA 3030B) and analysis by inductively coupled plasma - mass spectrometry (EPA Method 6020A).

MET-T-MS-TB	Water	Total Metals by ICPMS	APHA 3030E/EPA 6020A
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This analysis involves preliminary sample treatment by hotblock acid digestion (APHA 3030E). Instrumental analysis is by inductively coupled plasma - mass spectrometry (EPA Method 6020A).

NH3-COL-TB	Water	Ammonia by Discrete Analyzer	APHA 4500-NH3 G. (modified)
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Ammonia in aqueous matrices is analyzed using discrete analyzer with colourimetric detection.

NO2-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
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Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.

NO3-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
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Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.

OGG-TOT-WT	Water	Oil and Grease, Total	APHA 5520 B
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Sample is extracted with hexane, extract is then evaporated and the residue is weighed to determine total oil and grease.

P-T-COL-TB	Water	Total Phosphorus by Discrete Analyzer	APHA 4500-P B, F, G (modified)
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Phosphorus in aqueous matrices is analyzed using discrete Analyzer with colourimetric detection.

PH-CAP-TB	Water	pH	APHA 4500-H-ELECTRODE
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SO4-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
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Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.

SOLIDS-TOTSUS-TB	Water	Total Suspended Solids	APHA 2540 D (modified)
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Aqueous matrices are analyzed using gravimetry

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
VA	ALS ENVIRONMENTAL - VANCOUVER, BC, CANADA
TB	ALS ENVIRONMENTAL - THUNDER BAY, ONTARIO, CANADA
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

mg/kg - milligrams per kilogram based on dry weight of sample.

mg/kg wwt - milligrams per kilogram based on wet weight of sample.

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.

mg/L - milligrams per litre.

< - Less than.

D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L1132288

Report Date: 18-APR-12

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Client: TREASURY METALS INC.
P.O. Box 789
Dryden ON P8N 2Z4
Contact: Mac Potter

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
ACIDITY-TB								
	Water							
Batch	R2348735							
WG1454322-3	DUP	L1132288-1						
Acidity (as CaCO3)		4.8	4.6		mg/L	4.3	20	10-APR-12
WG1454322-2	LCS		107.6		%		85-115	10-APR-12
Acidity (as CaCO3)								
WG1454322-1	MB		<2.0		mg/L		2	10-APR-12
Acidity (as CaCO3)								
ALK-TOT-CAP-TB								
	Water							
Batch	R2348484							
WG1453904-2	LCS		95.6		%		85-115	09-APR-12
Alkalinity, Total (as CaCO3)								
WG1453904-1	MB		<5.0		mg/L CaCO3		5	09-APR-12
Alkalinity, Total (as CaCO3)								
CL-IC-TB								
	Water							
Batch	R2348607							
WG1454238-2	LCS		100.7		%		85-115	09-APR-12
Chloride (Cl)								
WG1454238-1	MB		<0.10		mg/L		0.1	09-APR-12
Chloride (Cl)								
CN-FREE-COL-VA								
	Water							
Batch	R2351617							
WG1457330-2	LCS		83.9		%		80-120	16-APR-12
Cyanide, Free								
WG1457330-3	LCS		96.1		%		80-120	16-APR-12
Cyanide, Free								
WG1457330-1	MB		<0.0050		mg/L		0.005	16-APR-12
Cyanide, Free								
CN-TOT-WT								
	Water							
Batch	R2350219							
WG1455745-4	CVS		99.0		%		85-115	12-APR-12
Cyanide, Total								
WG1455745-3	LCS		90.4		%		80-120	12-APR-12
Cyanide, Total								
WG1455745-1	MB		<0.0020		mg/L		0.002	12-APR-12
Cyanide, Total								
CN-WAD-WT								
	Water							



Quality Control Report

Workorder: L1132288

Report Date: 18-APR-12

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed	
CN-WAD-WT		Water							
Batch	R2350215								
WG1455755-4	CVS								
Cyanide, Weak Acid Diss			99.0		%		85-115	12-APR-12	
WG1455755-3	LCS								
Cyanide, Weak Acid Diss			109.4		%		80-120	12-APR-12	
WG1455755-1	MB								
Cyanide, Weak Acid Diss			<0.0020		mg/L		0.002	12-APR-12	
EC-CAP-TB		Water							
Batch	R2348484								
WG1453904-2	LCS								
Conductivity (EC)			104.0		%		90-110	09-APR-12	
WG1453904-1	MB								
Conductivity (EC)			<3.0		uS/cm		3	09-APR-12	
HG-D-CVAF-TB		Water							
Batch	R2349902								
WG1455558-4	DUP	L1132288-3							
Mercury (Hg)-Dissolved			<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	11-APR-12
WG1455558-2	LCS								
Mercury (Hg)-Dissolved			101.2		%		80-120	11-APR-12	
WG1455558-1	MB								
Mercury (Hg)-Dissolved			<0.00010		mg/L		0.0001	11-APR-12	
WG1455558-5	MS	L1132288-3							
Mercury (Hg)-Dissolved			95.7		%		70-130	11-APR-12	
HG-T-CVAF-TB		Water							
Batch	R2349929								
WG1455732-4	DUP	L1132288-2							
Mercury (Hg)-Total			<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	11-APR-12
WG1455732-2	LCS								
Mercury (Hg)-Total			99.5		%		80-120	11-APR-12	
WG1455732-1	MB								
Mercury (Hg)-Total			<0.00010		mg/L		0.0001	11-APR-12	
WG1455732-5	MS	L1132288-2							
Mercury (Hg)-Total			108.8		%		70-130	11-APR-12	
MET-D-MS-TB		Water							
Batch	R2349387								
WG1454447-3	DUP	L1132288-3							
Aluminum (Al)-Dissolved			0.0068	0.0059		mg/L	13	20	10-APR-12
Antimony (Sb)-Dissolved			<0.00060	<0.00060	RPD-NA	mg/L	N/A	20	10-APR-12



Quality Control Report

Workorder: L1132288

Report Date: 18-APR-12

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2349387							
WG1454447-3	DUP	L1132288-3						
Arsenic (As)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	10-APR-12
Barium (Ba)-Dissolved		0.012	0.012		mg/L	0.50	20	10-APR-12
Beryllium (Be)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	10-APR-12
Bismuth (Bi)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	10-APR-12
Boron (B)-Dissolved		<0.050	<0.050	RPD-NA	mg/L	N/A	20	10-APR-12
Cadmium (Cd)-Dissolved		<0.000017	<0.000017	RPD-NA	mg/L	N/A	20	10-APR-12
Calcium (Ca)-Dissolved		12.7	13.0		mg/L	2.3	20	10-APR-12
Chromium (Cr)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	10-APR-12
Cobalt (Co)-Dissolved		<0.00050	<0.00050	RPD-NA	mg/L	N/A	20	10-APR-12
Copper (Cu)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	10-APR-12
Iron (Fe)-Dissolved		0.205	0.206		mg/L	0.53	20	10-APR-12
Lead (Pb)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	10-APR-12
Lithium (Li)-Dissolved		<0.050	<0.050	RPD-NA	mg/L	N/A	20	10-APR-12
Magnesium (Mg)-Dissolved		1.13	1.16		mg/L	2.4	20	10-APR-12
Manganese (Mn)-Dissolved		0.0315	0.0321		mg/L	1.9	20	10-APR-12
Molybdenum (Mo)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	10-APR-12
Nickel (Ni)-Dissolved		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	10-APR-12
Potassium (K)-Dissolved		0.54	0.55		mg/L	2.1	20	10-APR-12
Selenium (Se)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	10-APR-12
Silver (Ag)-Dissolved		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	10-APR-12
Sodium (Na)-Dissolved		0.71	0.73		mg/L	3.4	20	10-APR-12
Strontium (Sr)-Dissolved		0.0172	0.0173		mg/L	0.65	20	10-APR-12
Tellurium (Te)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	10-APR-12
Thallium (Tl)-Dissolved		<0.00030	<0.00030	RPD-NA	mg/L	N/A	20	10-APR-12
Tin (Sn)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	10-APR-12
Titanium (Ti)-Dissolved		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	10-APR-12
Tungsten (W)-Dissolved		<0.010	<0.010	RPD-NA	mg/L	N/A	20	10-APR-12
Uranium (U)-Dissolved		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	10-APR-12
Vanadium (V)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	10-APR-12
Zinc (Zn)-Dissolved		0.0033	0.0032		mg/L	3.3	20	10-APR-12
Zirconium (Zr)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	10-APR-12
WG1454447-2	LCS							
Aluminum (Al)-Dissolved			100.3		%		80-120	10-APR-12
Antimony (Sb)-Dissolved			98.8		%		80-120	10-APR-12



Quality Control Report

Workorder: L1132288

Report Date: 18-APR-12

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2349387							
WG1454447-2		LCS						
Arsenic (As)-Dissolved			95.7		%		80-120	10-APR-12
Barium (Ba)-Dissolved			107.6		%		80-120	10-APR-12
Beryllium (Be)-Dissolved			109.8		%		80-120	10-APR-12
Bismuth (Bi)-Dissolved			112.1		%		80-120	10-APR-12
Boron (B)-Dissolved			95.5		%		80-120	10-APR-12
Cadmium (Cd)-Dissolved			115.1		%		80-120	10-APR-12
Calcium (Ca)-Dissolved			108.4		%		80-120	10-APR-12
Chromium (Cr)-Dissolved			113.8		%		80-120	10-APR-12
Cobalt (Co)-Dissolved			110.2		%		80-120	10-APR-12
Copper (Cu)-Dissolved			108.6		%		80-120	10-APR-12
Iron (Fe)-Dissolved			117.3		%		80-120	10-APR-12
Lead (Pb)-Dissolved			112.0		%		80-120	10-APR-12
Lithium (Li)-Dissolved			108.5		%		80-120	10-APR-12
Magnesium (Mg)-Dissolved			107.8		%		80-120	10-APR-12
Manganese (Mn)-Dissolved			114.8		%		80-120	10-APR-12
Molybdenum (Mo)-Dissolved			100.2		%		80-120	10-APR-12
Nickel (Ni)-Dissolved			110.7		%		80-120	10-APR-12
Potassium (K)-Dissolved			108.1		%		80-120	10-APR-12
Selenium (Se)-Dissolved			108.7		%		80-120	10-APR-12
Silver (Ag)-Dissolved			102.9		%		80-120	10-APR-12
Sodium (Na)-Dissolved			109.9		%		80-120	10-APR-12
Strontium (Sr)-Dissolved			108.2		%		80-120	10-APR-12
Tellurium (Te)-Dissolved			103.7		%		80-120	10-APR-12
Thallium (Tl)-Dissolved			114.0		%		80-120	10-APR-12
Tin (Sn)-Dissolved			102.6		%		80-120	10-APR-12
Titanium (Ti)-Dissolved			99.1		%		80-120	10-APR-12
Tungsten (W)-Dissolved			99.5		%		80-120	10-APR-12
Uranium (U)-Dissolved			103.8		%		80-120	10-APR-12
Vanadium (V)-Dissolved			111.1		%		80-120	10-APR-12
Zinc (Zn)-Dissolved			107.0		%		80-120	10-APR-12
Zirconium (Zr)-Dissolved			96.9		%		80-120	10-APR-12
WG1454447-1		MB						
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	10-APR-12
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	10-APR-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2349387							
WG1454447-1	MB							
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	10-APR-12
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	10-APR-12
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	10-APR-12
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	10-APR-12
Boron (B)-Dissolved			<0.050		mg/L		0.05	10-APR-12
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	10-APR-12
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	10-APR-12
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	10-APR-12
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	10-APR-12
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	10-APR-12
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	10-APR-12
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	10-APR-12
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	10-APR-12
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	10-APR-12
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	10-APR-12
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	10-APR-12
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	10-APR-12
Potassium (K)-Dissolved			<0.50		mg/L		0.5	10-APR-12
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	10-APR-12
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	10-APR-12
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	10-APR-12
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	10-APR-12
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	10-APR-12
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	10-APR-12
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	10-APR-12
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	10-APR-12
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	10-APR-12
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	10-APR-12
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	10-APR-12
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	10-APR-12
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	10-APR-12
WG1454447-4	MS	L1132288-3						
Aluminum (Al)-Dissolved			96.1		%		70-130	10-APR-12
Antimony (Sb)-Dissolved			109.3		%		70-130	10-APR-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2349387							
WG1454447-4 MS		L1132288-3						
Arsenic (As)-Dissolved			105.8		%		70-130	10-APR-12
Barium (Ba)-Dissolved			101.6		%		70-130	10-APR-12
Beryllium (Be)-Dissolved			108.8		%		70-130	10-APR-12
Bismuth (Bi)-Dissolved			88.7		%		70-130	10-APR-12
Boron (B)-Dissolved			115.0		%		70-130	10-APR-12
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	10-APR-12
Chromium (Cr)-Dissolved			102.1		%		70-130	10-APR-12
Cobalt (Co)-Dissolved			102.0		%		70-130	10-APR-12
Copper (Cu)-Dissolved			104.6		%		70-130	10-APR-12
Iron (Fe)-Dissolved			103.2		%		70-130	10-APR-12
Lead (Pb)-Dissolved			104.5		%		70-130	10-APR-12
Lithium (Li)-Dissolved			110.9		%		70-130	10-APR-12
Magnesium (Mg)-Dissolved			N/A	MS-B	%		-	10-APR-12
Manganese (Mn)-Dissolved			N/A	MS-B	%		-	10-APR-12
Molybdenum (Mo)-Dissolved			99.1		%		70-130	10-APR-12
Nickel (Ni)-Dissolved			102.4		%		70-130	10-APR-12
Potassium (K)-Dissolved			104.1		%		70-130	10-APR-12
Silver (Ag)-Dissolved			107.1		%		70-130	10-APR-12
Sodium (Na)-Dissolved			102.8		%		70-130	10-APR-12
Strontium (Sr)-Dissolved			97.8		%		70-130	10-APR-12
Tellurium (Te)-Dissolved			123.6		%		70-130	10-APR-12
Thallium (Tl)-Dissolved			102.5		%		70-130	10-APR-12
Tin (Sn)-Dissolved			109.5		%		70-130	10-APR-12
Titanium (Ti)-Dissolved			103.6		%		70-130	10-APR-12
Tungsten (W)-Dissolved			104.6		%		70-130	10-APR-12
Uranium (U)-Dissolved			97.7		%		70-130	10-APR-12
Vanadium (V)-Dissolved			103.6		%		70-130	10-APR-12
Zinc (Zn)-Dissolved			105.3		%		70-130	10-APR-12
Zirconium (Zr)-Dissolved			103.9		%		70-130	10-APR-12
MET-T-MS-TB								
	Water							
Batch	R2350645							
WG1454386-3 DUP		L1132288-1						
Antimony (Sb)-Total		<0.00060	<0.00060	RPD-NA	mg/L	N/A	20	11-APR-12
Arsenic (As)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	11-APR-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2350645							
WG1454386-3	DUP	L1132288-1						
Barium (Ba)-Total		<0.010	<0.010	RPD-NA	mg/L	N/A	20	11-APR-12
Beryllium (Be)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	11-APR-12
Bismuth (Bi)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	11-APR-12
Boron (B)-Total		<0.050	<0.050	RPD-NA	mg/L	N/A	20	11-APR-12
Cadmium (Cd)-Total		<0.000017	<0.000017	RPD-NA	mg/L	N/A	20	11-APR-12
Chromium (Cr)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	11-APR-12
Cobalt (Co)-Total		<0.00050	<0.00050	RPD-NA	mg/L	N/A	20	11-APR-12
Copper (Cu)-Total		<0.0010	0.0010	RPD-NA	mg/L	N/A	20	11-APR-12
Iron (Fe)-Total		0.316	0.370		mg/L	16	20	11-APR-12
Lead (Pb)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	11-APR-12
Lithium (Li)-Total		<0.050	<0.050	RPD-NA	mg/L	N/A	20	11-APR-12
Manganese (Mn)-Total		0.0108	0.0128		mg/L	17	20	11-APR-12
Molybdenum (Mo)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	11-APR-12
Nickel (Ni)-Total		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	11-APR-12
Potassium (K)-Total		0.60	0.70		mg/L	17	20	11-APR-12
Selenium (Se)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	11-APR-12
Silver (Ag)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	11-APR-12
Tellurium (Te)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	11-APR-12
Thallium (Tl)-Total		<0.00030	<0.00030	RPD-NA	mg/L	N/A	20	11-APR-12
Tin (Sn)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	11-APR-12
Titanium (Ti)-Total		0.0063	0.0083	J	mg/L	0.0020	0.004	11-APR-12
Tungsten (W)-Total		<0.010	<0.010	RPD-NA	mg/L	N/A	20	11-APR-12
Uranium (U)-Total		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	11-APR-12
Vanadium (V)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	11-APR-12
Zinc (Zn)-Total		<0.0030	<0.0030	RPD-NA	mg/L	N/A	20	11-APR-12
Zirconium (Zr)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	11-APR-12
WG1454386-2	LCS							
Aluminum (Al)-Total			90.5		%		80-120	11-APR-12
Antimony (Sb)-Total			90.8		%		80-120	11-APR-12
Arsenic (As)-Total			93.0		%		80-120	11-APR-12
Barium (Ba)-Total			90.0		%		80-120	11-APR-12
Beryllium (Be)-Total			95.2		%		80-120	11-APR-12
Bismuth (Bi)-Total			99.98		%		80-120	11-APR-12
Boron (B)-Total			89.1		%		80-120	11-APR-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2350645							
WG1454386-2	LCS							
Cadmium (Cd)-Total			100.1		%		80-120	11-APR-12
Calcium (Ca)-Total			93.5		%		80-120	11-APR-12
Chromium (Cr)-Total			92.3		%		80-120	11-APR-12
Cobalt (Co)-Total			97.7		%		80-120	11-APR-12
Copper (Cu)-Total			101.4		%		80-120	11-APR-12
Iron (Fe)-Total			100.1		%		80-120	11-APR-12
Lead (Pb)-Total			98.4		%		80-120	11-APR-12
Lithium (Li)-Total			103.9		%		80-120	11-APR-12
Magnesium (Mg)-Total			99.6		%		80-120	11-APR-12
Manganese (Mn)-Total			99.8		%		80-120	11-APR-12
Molybdenum (Mo)-Total			97.4		%		80-120	11-APR-12
Nickel (Ni)-Total			94.5		%		80-120	11-APR-12
Potassium (K)-Total			101.6		%		80-120	11-APR-12
Selenium (Se)-Total			101.7		%		80-120	11-APR-12
Silver (Ag)-Total			92.9		%		80-120	11-APR-12
Sodium (Na)-Total			101.1		%		80-120	11-APR-12
Strontium (Sr)-Total			102.2		%		80-120	11-APR-12
Tellurium (Te)-Total			93.7		%		80-120	11-APR-12
Thallium (Tl)-Total			105.0		%		80-120	11-APR-12
Tin (Sn)-Total			87.4		%		80-120	11-APR-12
Titanium (Ti)-Total			91.6		%		80-120	11-APR-12
Tungsten (W)-Total			86.5		%		80-120	11-APR-12
Uranium (U)-Total			94.7		%		80-120	11-APR-12
Vanadium (V)-Total			97.8		%		80-120	11-APR-12
Zinc (Zn)-Total			101.2		%		80-120	11-APR-12
Zirconium (Zr)-Total			91.5		%		80-120	11-APR-12
WG1454386-1		MB						
Aluminum (Al)-Total			<0.0050		mg/L		0.005	11-APR-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	11-APR-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	11-APR-12
Barium (Ba)-Total			<0.010		mg/L		0.01	11-APR-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	11-APR-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	11-APR-12
Boron (B)-Total			<0.050		mg/L		0.05	11-APR-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2350645							
WG1454386-1 MB								
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	11-APR-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	11-APR-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	11-APR-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	11-APR-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	11-APR-12
Iron (Fe)-Total			<0.020		mg/L		0.02	11-APR-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	11-APR-12
Lithium (Li)-Total			<0.050		mg/L		0.05	11-APR-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	11-APR-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	11-APR-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	11-APR-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	11-APR-12
Potassium (K)-Total			<0.50		mg/L		0.5	11-APR-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	11-APR-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	11-APR-12
Sodium (Na)-Total			<0.10		mg/L		0.1	11-APR-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	11-APR-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	11-APR-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	11-APR-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	11-APR-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	11-APR-12
Tungsten (W)-Total			<0.010		mg/L		0.01	11-APR-12
Uranium (U)-Total			<0.0050		mg/L		0.005	11-APR-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	11-APR-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	11-APR-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	11-APR-12
WG1454386-4 MS		L1132288-1						
Antimony (Sb)-Total			113.2		%		70-130	11-APR-12
Arsenic (As)-Total			118.2		%		70-130	11-APR-12
Beryllium (Be)-Total			105.4		%		70-130	11-APR-12
Bismuth (Bi)-Total			105.1		%		70-130	11-APR-12
Boron (B)-Total			116.5		%		70-130	11-APR-12
Calcium (Ca)-Total			N/A	MS-B	%		-	11-APR-12
Chromium (Cr)-Total			106.7		%		70-130	11-APR-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2350645							
WG1454386-4 MS		L1132288-1						
Cobalt (Co)-Total			111.4		%		70-130	11-APR-12
Copper (Cu)-Total			118.3		%		70-130	11-APR-12
Iron (Fe)-Total			118.4		%		70-130	11-APR-12
Lead (Pb)-Total			109.3		%		70-130	11-APR-12
Lithium (Li)-Total			117.2		%		70-130	11-APR-12
Magnesium (Mg)-Total			N/A	MS-B	%		-	11-APR-12
Molybdenum (Mo)-Total			118.5		%		70-130	11-APR-12
Nickel (Ni)-Total			102.9		%		70-130	11-APR-12
Potassium (K)-Total			119.8		%		70-130	11-APR-12
Selenium (Se)-Total			109.6		%		70-130	11-APR-12
Silver (Ag)-Total			108.7		%		70-130	11-APR-12
Tellurium (Te)-Total			107.9		%		70-130	11-APR-12
Thallium (Tl)-Total			103.8		%		70-130	11-APR-12
Tin (Sn)-Total			110.7		%		70-130	11-APR-12
Titanium (Ti)-Total			120.0		%		70-130	11-APR-12
Tungsten (W)-Total			107.9		%		70-130	11-APR-12
Uranium (U)-Total			112.4		%		70-130	11-APR-12
Vanadium (V)-Total			115.8		%		70-130	11-APR-12
Zinc (Zn)-Total			108.0		%		70-130	11-APR-12
Zirconium (Zr)-Total			119.9		%		70-130	11-APR-12
WG1454386-6 MS		L1132469-4						
Antimony (Sb)-Total			117.6		%		70-130	11-APR-12
Arsenic (As)-Total			128.5		%		70-130	11-APR-12
Barium (Ba)-Total			N/A	MS-B	%		-	11-APR-12
Beryllium (Be)-Total			99.6		%		70-130	11-APR-12
Bismuth (Bi)-Total			93.1		%		70-130	11-APR-12
Boron (B)-Total			N/A	MS-B	%		-	11-APR-12
Cadmium (Cd)-Total			129.0		%		70-130	11-APR-12
Calcium (Ca)-Total			N/A	MS-B	%		-	11-APR-12
Chromium (Cr)-Total			109.4		%		70-130	11-APR-12
Cobalt (Co)-Total			N/A	MS-B	%		-	11-APR-12
Copper (Cu)-Total			N/A	MS-B	%		-	11-APR-12
Iron (Fe)-Total			110.8		%		70-130	11-APR-12
Lead (Pb)-Total			104.3		%		70-130	11-APR-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2350645							
WG1454386-6 MS		L1132469-4						
Magnesium (Mg)-Total			N/A	MS-B	%		-	11-APR-12
Manganese (Mn)-Total			N/A	MS-B	%		-	11-APR-12
Nickel (Ni)-Total			112.9		%		70-130	11-APR-12
Potassium (K)-Total			N/A	MS-B	%		-	11-APR-12
Selenium (Se)-Total			127.3		%		70-130	11-APR-12
Silver (Ag)-Total			99.1		%		70-130	11-APR-12
Sodium (Na)-Total			N/A	MS-B	%		-	11-APR-12
Strontium (Sr)-Total			N/A	MS-B	%		-	11-APR-12
Tellurium (Te)-Total			116.8		%		70-130	11-APR-12
Thallium (Tl)-Total			97.2		%		70-130	11-APR-12
Tin (Sn)-Total			108.5		%		70-130	11-APR-12
Titanium (Ti)-Total			122.6		%		70-130	11-APR-12
Vanadium (V)-Total			118.9		%		70-130	11-APR-12
Zinc (Zn)-Total			110.1		%		70-130	11-APR-12
Zirconium (Zr)-Total			115.6		%		70-130	11-APR-12
Batch	R2352195							
WG1454386-3 DUP		L1132288-1						
Aluminum (Al)-Total		0.266	0.278		mg/L	4.5	20	16-APR-12
Calcium (Ca)-Total		7.12	7.04		mg/L	1.2	20	16-APR-12
Magnesium (Mg)-Total		2.06	2.06		mg/L	0.025	20	16-APR-12
Sodium (Na)-Total		1.27	1.26		mg/L	1.3	20	16-APR-12
Strontium (Sr)-Total		0.0154	0.0151		mg/L	1.6	20	16-APR-12
WG1454386-8 LCS								
Aluminum (Al)-Total			96.9		%		80-120	16-APR-12
Antimony (Sb)-Total			99.5		%		80-120	16-APR-12
Arsenic (As)-Total			96.8		%		80-120	16-APR-12
Barium (Ba)-Total			100.5		%		80-120	16-APR-12
Beryllium (Be)-Total			103.0		%		80-120	16-APR-12
Bismuth (Bi)-Total			114.4		%		80-120	16-APR-12
Boron (B)-Total			101.2		%		80-120	16-APR-12
Cadmium (Cd)-Total			112.2		%		80-120	16-APR-12
Calcium (Ca)-Total			107.3		%		80-120	16-APR-12
Chromium (Cr)-Total			112.4		%		80-120	16-APR-12
Cobalt (Co)-Total			108.4		%		80-120	16-APR-12



Quality Control Report

Workorder: L1132288

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2352195							
WG1454386-8	LCS							
Copper (Cu)-Total			109.0		%		80-120	16-APR-12
Iron (Fe)-Total			112.0		%		80-120	16-APR-12
Lead (Pb)-Total			114.4		%		80-120	16-APR-12
Lithium (Li)-Total			110.9		%		80-120	16-APR-12
Magnesium (Mg)-Total			115.2		%		80-120	16-APR-12
Manganese (Mn)-Total			115.6		%		80-120	16-APR-12
Molybdenum (Mo)-Total			98.6		%		80-120	16-APR-12
Nickel (Ni)-Total			110.6		%		80-120	16-APR-12
Potassium (K)-Total			106.9		%		80-120	16-APR-12
Selenium (Se)-Total			96.8		%		80-120	16-APR-12
Silver (Ag)-Total			101.2		%		80-120	16-APR-12
Sodium (Na)-Total			108.2		%		80-120	16-APR-12
Strontium (Sr)-Total			107.0		%		80-120	16-APR-12
Tellurium (Te)-Total			106.3		%		80-120	16-APR-12
Thallium (Tl)-Total			114.8		%		80-120	16-APR-12
Tin (Sn)-Total			98.0		%		80-120	16-APR-12
Titanium (Ti)-Total			100.3		%		80-120	16-APR-12
Tungsten (W)-Total			100.2		%		80-120	16-APR-12
Uranium (U)-Total			102.3		%		80-120	16-APR-12
Vanadium (V)-Total			111.5		%		80-120	16-APR-12
Zinc (Zn)-Total			109.8		%		80-120	16-APR-12
Zirconium (Zr)-Total			91.9		%		80-120	16-APR-12
WG1454386-7	MB							
Aluminum (Al)-Total			<0.0050		mg/L		0.005	16-APR-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	16-APR-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	16-APR-12
Barium (Ba)-Total			<0.010		mg/L		0.01	16-APR-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	16-APR-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	16-APR-12
Boron (B)-Total			<0.050		mg/L		0.05	16-APR-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	16-APR-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	16-APR-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	16-APR-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	16-APR-12



Quality Control Report

Workorder: L1132288

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2352195							
WG1454386-7	MB							
Copper (Cu)-Total			<0.0010		mg/L		0.001	16-APR-12
Iron (Fe)-Total			<0.020		mg/L		0.02	16-APR-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	16-APR-12
Lithium (Li)-Total			<0.050		mg/L		0.05	16-APR-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	16-APR-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	16-APR-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	16-APR-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	16-APR-12
Potassium (K)-Total			<0.50		mg/L		0.5	16-APR-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	16-APR-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	16-APR-12
Sodium (Na)-Total			<0.10		mg/L		0.1	16-APR-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	16-APR-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	16-APR-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	16-APR-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	16-APR-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	16-APR-12
Tungsten (W)-Total			<0.010		mg/L		0.01	16-APR-12
Uranium (U)-Total			<0.0050		mg/L		0.005	16-APR-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	16-APR-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	16-APR-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	16-APR-12
NH3-COL-TB								
	Water							
Batch	R2348767							
WG1454264-2	LCS							
Ammonia, Total (as N)			93.1		%		85-115	10-APR-12
WG1454264-1	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	10-APR-12
WG1454264-4	MS	L1132022-1						
Ammonia, Total (as N)			N/A	MS-B	%		-	10-APR-12
Batch	R2350518							
WG1455392-2	LCS							
Ammonia, Total (as N)			98.9		%		85-115	12-APR-12
WG1455392-1	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	12-APR-12



Quality Control Report

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NH3-COL-TB								
Water								
Batch	R2350518							
WG1455392-4	MS	L1132873-1						
Ammonia, Total (as N)			100.9		%		75-125	12-APR-12
WG1455392-6	MS	L1132873-33						
Ammonia, Total (as N)			94.8		%		75-125	12-APR-12
WG1455392-8	MS	L1133465-10						
Ammonia, Total (as N)			87.9		%		75-125	12-APR-12
NO2-IC-TB								
Water								
Batch	R2348607							
WG1454238-2	LCS							
Nitrite (as N)			100.9		%		85-115	09-APR-12
WG1454238-1	MB							
Nitrite (as N)			<0.020		mg/L		0.02	09-APR-12
NO3-IC-TB								
Water								
Batch	R2348607							
WG1454238-2	LCS							
Nitrate (as N)			100.6		%		85-115	09-APR-12
WG1454238-1	MB							
Nitrate (as N)			<0.030		mg/L		0.03	09-APR-12
OGG-TOT-WT								
Water								
Batch	R2352433							
WG1458159-2	LCS							
Oil and Grease, Total			101.3		%		75-120	18-APR-12
WG1458159-3	LCSD	WG1458159-2						
Oil and Grease, Total		101.3	103		%	1.2	45	18-APR-12
WG1458159-1	MB							
Oil and Grease, Total			<2.0		mg/L		2	18-APR-12
Batch	R2352534							
WG1457870-2	LCS							
Oil and Grease, Total			84.3		%		75-120	17-APR-12
WG1457870-3	LCSD	WG1457870-2						
Oil and Grease, Total		84.3	81		%	4.2	45	17-APR-12
WG1457870-1	MB							
Oil and Grease, Total			<2.0		mg/L		2	17-APR-12
P-T-COL-TB								
Water								



Quality Control Report

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
P-T-COL-TB								
Water								
Batch	R2349911							
WG1454881-3	DUP	L1132288-5						
Phosphorus (P)-Total		0.0211	0.0201		mg/L	4.8	20	11-APR-12
WG1454881-2	LCS							
Phosphorus (P)-Total			99.1		%		80-120	11-APR-12
WG1454881-1	MB							
Phosphorus (P)-Total			<0.0050		mg/L		0.005	11-APR-12
WG1454881-4	MS	L1132288-5						
Phosphorus (P)-Total			93.1		%		70-130	11-APR-12
PH-CAP-TB								
Water								
Batch	R2348484							
WG1453904-2	LCS							
pH			5.99		pH		5.9-6.1	09-APR-12
SO4-IC-TB								
Water								
Batch	R2348607							
WG1454238-2	LCS							
Sulfate (SO4)			102.4		%		85-115	09-APR-12
WG1454238-1	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	09-APR-12
SOLIDS-TOTSUS-TB								
Water								
Batch	R2349173							
WG1454317-3	DUP	L1132288-9						
Total Suspended Solids		122	126		mg/L	3.4	20	10-APR-12
WG1454317-2	LCS							
Total Suspended Solids			96.4		%		85-115	10-APR-12
WG1454317-1	MB							
Total Suspended Solids			<2.0		mg/L		2	10-APR-12

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Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
J	Duplicate results and limits are expressed in terms of absolute difference.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Quality Control Report

Workorder: L1132288

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Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Physical Tests							
Conductivity (EC)	6	04-APR-12 16:00	09-APR-12 16:40	4	5	days	EHTR
	7	04-APR-12 15:30	09-APR-12 16:40	4	5	days	EHTR
	8	04-APR-12 15:00	09-APR-12 16:40	4	5	days	EHTR
	9	04-APR-12 14:15	09-APR-12 16:40	4	5	days	EHTR
	10	04-APR-12 14:00	09-APR-12 16:40	4	5	days	EHTR
	11	04-APR-12 13:05	09-APR-12 16:40	4	5	days	EHTR
	12	04-APR-12 16:05	09-APR-12 16:40	4	5	days	EHTR
	14	04-APR-12 13:05	09-APR-12 16:40	4	5	days	EHTR
pH	6	04-APR-12 16:00	09-APR-12 16:40	4	5	days	EHTR
	7	04-APR-12 15:30	09-APR-12 16:40	4	5	days	EHTR
	8	04-APR-12 15:00	09-APR-12 16:40	4	5	days	EHTR
	9	04-APR-12 14:15	09-APR-12 16:40	4	5	days	EHTR
	10	04-APR-12 14:00	09-APR-12 16:40	4	5	days	EHTR
	11	04-APR-12 13:05	09-APR-12 16:40	4	5	days	EHTR
	12	04-APR-12 16:05	09-APR-12 16:40	4	5	days	EHTR
	14	04-APR-12 13:05	09-APR-12 16:40	4	5	days	EHTR

Legend & Qualifier Definitions:

- EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.
EHTR: Exceeded ALS recommended hold time prior to sample receipt.
EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
EHT: Exceeded ALS recommended hold time prior to analysis.
Rec. HT: ALS recommended hold time (see units).

Notes*:

Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.
Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L1132288 were received on 09-APR-12 14:15.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



Report to	Report Format / Distribution	Service Requested (Rush for routine analysis subject to availability)
Company: Treasury Metals	<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Other (specify):	<input checked="" type="checkbox"/> Regular (Default)
Contact: Mac Potter	<input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> Excel <input type="checkbox"/> Digital <input type="checkbox"/> Fax	<input type="checkbox"/> Priority (Specify Date Required -- --) Surcharges apply
Address: 899 Tree Nursery Rd Wabigoon ON P0V 2W0	Email 1: mac@treasurymetals.com	<input type="checkbox"/> Emergency (1 Business Day) - 100% Surcharge
Phone: 807-223-6191 Fax:	Email 2: lritchie@dstgroup.com	<input type="checkbox"/> For Emergency < 1 Day, ASAP or Weekend - Contact ALS

Invoice To Same as Report? <input checked="" type="radio"/> Yes <input type="radio"/> No (write address below)	Client / Project Information	Analysis Request											
THE QUESTIONS BELOW MUST BE ANSWERED FOR WATER SAMPLES (circle Yes or No)	Job #: M09706A01	Please Indicate below Filtered, Preserved or both (F, P, F/P)											
Are any samples taken from a regulated DW System? Yes <input checked="" type="radio"/> No <input type="radio"/>	PO / AFE: M02010 - P0115	Alkalinity, pH, Conductivity	Cl, NO2, NO3, SO4	Acidity, TSS	TOT Cyanide	WAD Cyanide	CN-FREE-COL-VA	NH4, Total Phosphorus	OGG	Total Metals + Hg	Dissolved Metals + Hg	Hardness	Number of Containers
If yes, an authorized Drinking Water COC MUST be used for this submission.	LSD: Goliath Project												
Is the water sampled intended to be potable for human consumption? Yes <input type="radio"/> No <input checked="" type="radio"/>	Quote #: 032690												
Lab Work Order # (lab use only)	ALS Karen Contact: R Sampler: mp KK												

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mm-yy)	Time (hh:mm)	Sample Type	Alkalinity, pH, Conductivity	Cl, NO2, NO3, SO4	Acidity, TSS	TOT Cyanide	WAD Cyanide	CN-FREE-COL-VA	NH4, Total Phosphorus	OGG	Total Metals + Hg	Dissolved Metals + Hg	Hardness	Number of Containers
1	JCTa	05/04/12	11:30	Water	X	X	X	X	X	X	X	X	X	X	X	9
2	SW 8	05/04/12	9:30	Water	X	X	X	X	X	X	X	X	X	X	X	9
3	SW 7	05/04/12	10:00	Water	X	X	X	X	X	X	X	X	X	X	X	9
4	SW 9	05/04/12	11:00	Water	X	X	X	X	X	X	X	X	X	X	X	9
5	SW 10	05/04/12	8:30	Water	X	X	X	X	X	X	X	X	X	X	X	9
6	SW 1	04/04/12	4:00	Water	X	X	X	X	X	X	X	X	X	X	X	9
7	SW 3	04/04/12	3:20	Water	X	X	X	X	X	X	X	X	X	X	X	9
8	SW 2	04/04/12	3:00	Water	X	X	X	X	X	X	X	X	X	X	X	9
9	TL 2a	04/04/12	2:15	Water	X	X	X	X	X	X	X	X	X	X	X	9
10	TL 3	04/04/12	2:00	Water	X	X	X	X	X	X	X	X	X	X	X	9
11	TL 1a	04/04/12	1:05	Water	X	X	X	X	X	X	X	X	X	X	X	9
12	SW 15	04/04/12	4:05	Water	X	X	X	X	X	X	X	X	X	X	X	9

Special Instructions / Regulations / Hazardous Details
 Reg 153 Table 1 2 3 TCLP MISA PWQO OTHER (please specify): SW105 05/04/12 8:59 + RAN OUT OF COC SHEETS, WILL
 Circle one - Note drinking water samples MUST USE DW Chain of Custody + Travel Blank 9 PHONE TO CONFIRM WITH KAREN R

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.
 By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by: Mackenzie Potter	Date: 05/04/12	Time: 12:30	Received by: WB	Date: 09-APR-12	Time: 14:15	Temperature: 12.40c	Verified by: WB	Date: 09-APR-12	Time: 14:15	Observations: Yes (No) If Yes add SIF

C1-9.5 C3-11.2
 C2-12.4



Sample Integrity Form

This report summarizes some deficiencies found in your recent submission, and the actions that will be taken unless you contact us to make specific instructions.

Date Received: 09-APR-17		Client: Treasury Metals	
Completed by (Initial): JS		Submission ID: L# or Other Identifying Mark: L137288	
1	Deficiency Found:	Without further instruction, We WILL:	2
	Samples under Regulation not circled yes or no	Proceed with samples as not from a regulated drinking water system and not intended for human consumption	
	Chain of Custody Questions Not Answered or Not on the Chain of Custody	Proceed with samples as not from a regulated drinking water system but intended for human consumption	
	Analyses requested not completed on Chain of Custody	Proceed to follow information on the chain of custody unless you specify otherwise	
	Sample was received with a temperature higher than 20°C (Microbiology)	Proceed to follow information on the bottle(s) unless you specify otherwise	
	COC information is incomplete or illegible	Proceed with analysis - Results may be qualified	
	COC not signed and dated by client	Preserve and proceed with analysis	
	Regulated Sample Type(s) not indicated on the Chain of Custody	Proceed with the samples as regulated unless specified otherwise	
	Sample Description not clearly indicated on Chain of Custody	Advise you resample for deficient sample(s)	
	COC information does not match bottle label	Proceed with analysis of (remaining) sample(s)	
	Analysis Required not listed or clearly specified	Proceed with regular testing from previous submissions unless you specify otherwise	
	No COC accompanying the submission	Further Comments/Specifics: Samples exceeded hold time. Will proceed with analysis - results may be qualified	
	Sample Bottle labeling issue (label is missing, blank, or doesn't match COC)		
	Wrong Sample Bottle used		
	Sample received after analytical hold time has been exceeded		
	Filter and Preserve at Lab		
	Sample bottle found broken when received		
	Sample received with headspace		
	Insufficient number of bottles or sample volume provided		
	Sample Received Unpreserved		
	Bottles in shipment but not listed on chain of custody		
	Sample < Freezing Point (contains ice crystals or frozen)		
	Bottles listed on chain of custody but missing in shipment		
← If Checked HERE, you NEED to contact the laboratory for further discussion			

For more information or to contact the laboratory: Login CSS 800-688-9878

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RIGHT SOLUTIONS RIGHT PARTNER



TREASURY METALS INC.
ATTN: Mac Potter
899 Tree Nursery Rd
Wabigoon ON P0V 2W0

Date Received: 30-APR-12
Report Date: 09-MAY-12 14:22 (MT)
Version: FINAL

Client Phone: 807-223-6191

Certificate of Analysis

Lab Work Order #: L1140620
Project P.O. #: M0210-P0115
Job Reference: M0906A01
C of C Numbers:
Legal Site Desc: GOLIATH PROJECT



Karen Rutledge
Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 1081 Barton Street, Thunder Bay, ON P7B 5N3 Canada | Phone: +1 807 623 6463 | Fax: +1 807 623 7598
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ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1140620-1 WATER 26-APR-12 12:20 TL2A	L1140620-2 WATER 26-APR-12 12:50 TL1A	L1140620-3 WATER 26-APR-12 13:36 TL3	L1140620-4 WATER 26-APR-12 14:05 SW2	L1140620-5 WATER 26-APR-12 14:45 SW3
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (EC) (uS/cm)	107	46.3	89.3	135	147
	Hardness (as CaCO3) (mg/L)	51.7	19.5	41.3	67.6	53.0
	pH (pH)	7.37	6.74	7.42	7.66	7.47
	Total Suspended Solids (mg/L)	59.8	3.3	2.3	59.8	2.1
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	6.2	4.8	2.8	3.4	3.4
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)	43.4	13.7	33.8	58.2	43.0
	Ammonia, Total (as N) (mg/L)	<0.020	<0.020	<0.020	<0.020	<0.020
	Chloride (Cl) (mg/L)	0.50	0.44	1.30	2.16	13.8
	Nitrate (as N) (mg/L)	<0.030	<0.030	<0.030	<0.030	<0.030
	Nitrite (as N) (mg/L)	<0.020	<0.020	<0.020	<0.020	<0.020
	Phosphorus (P)-Total (mg/L)	0.0404	0.0079	0.0103	0.0920	0.0152
	Sulfate (SO4) (mg/L)	3.08	2.94	3.71	2.70	3.24
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)	0.390	0.112	0.107	0.509	0.156
	Antimony (Sb)-Total (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Total (mg/L)	0.014	<0.010	<0.010	0.021	<0.010
	Beryllium (Be)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Total (mg/L)	<0.000017	<0.000017	<0.000017	0.000020	<0.000017
	Calcium (Ca)-Total (mg/L)	14.4	5.53	11.1	18.5	15.2
	Chromium (Cr)-Total (mg/L)	0.0013	<0.0010	<0.0010	0.0013	<0.0010
	Cobalt (Co)-Total (mg/L)	<0.00050	<0.00050	<0.00050	0.00064	<0.00050
	Copper (Cu)-Total (mg/L)	0.0022	<0.0010	0.0011	0.0035	0.0012
	Iron (Fe)-Total (mg/L)	0.735	0.286	0.227	0.933	0.271
	Lead (Pb)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Total (mg/L)	4.72	1.53	3.06	5.59	3.84
	Manganese (Mn)-Total (mg/L)	0.0506	0.0302	0.0192	0.0965	0.0113
	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Total (mg/L)	<0.0020	<0.0020	<0.0020	0.0022	<0.0020
Potassium (K)-Total (mg/L)	2.50	<0.50	1.03	1.93	1.18	
Selenium (Se)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1140620-6	L1140620-7	L1140620-8	L1140620-9	L1140620-10
		Description	WATER	WATER	WATER	WATER	WATER
		Sampled Date	26-APR-12	27-APR-12	27-APR-12	27-APR-12	27-APR-12
		Sampled Time	15:40	07:30	07:50	08:20	09:00
		Client ID	SW1	SW7	SW8	SW10	SW9
Grouping	Analyte						
WATER							
Physical Tests	Conductivity (EC) (uS/cm)		80.8	109	77.7	91.0	153
	Hardness (as CaCO3) (mg/L)		38.3	49.6	36.8	43.5	75.6
	pH (pH)		7.41	7.73	7.42	7.52	7.59
	Total Suspended Solids (mg/L)		3.3	7.6	3.1	<2.0	2.0
Anions and Nutrients	Acidity (as CaCO3) (mg/L)		2.8	2.6	2.4	3.0	4.6
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)		32.9	49.7	27.7	36.2	72.0
	Ammonia, Total (as N) (mg/L)		<0.020	<0.020	<0.020	<0.020	0.020
	Chloride (Cl) (mg/L)		0.32	0.16	0.21	0.20	0.27
	Nitrate (as N) (mg/L)		<0.030	0.044	0.188	0.056	0.094
	Nitrite (as N) (mg/L)		<0.020	<0.020	<0.020	<0.020	<0.020
	Phosphorus (P)-Total (mg/L)		0.0063	0.0081	0.0114	0.0051	0.0081
	Sulfate (SO4) (mg/L)		2.07	1.31	4.87	3.56	1.32
Cyanides	Cyanide, Weak Acid Diss (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Free (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)		0.0660	0.0334	0.160	0.0688	0.0639
	Antimony (Sb)-Total (mg/L)		<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Total (mg/L)		<0.010	0.014	<0.010	<0.010	0.014
	Beryllium (Be)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Total (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Total (mg/L)		<0.000017	<0.000017	<0.000017	<0.000017	<0.000017
	Calcium (Ca)-Total (mg/L)		11.4	17.7	10.7	13.8	22.9
	Chromium (Cr)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Cobalt (Co)-Total (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Iron (Fe)-Total (mg/L)		0.248	0.392	0.482	0.685	0.122
	Lead (Pb)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Total (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Total (mg/L)		2.28	1.77	2.15	2.19	4.54
	Manganese (Mn)-Total (mg/L)		0.0515	0.0623	0.0211	0.0413	0.0283
	Mercury (Hg)-Total (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Total (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Potassium (K)-Total (mg/L)		0.98	0.56	0.62	0.55	1.56	
Selenium (Se)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1140620-11	L1140620-12	L1140620-13	L1140620-14
		Description	WATER	WATER	WATER	WATER
		Sampled Date	26-APR-12	27-APR-12	27-APR-12	26-APR-12
		Sampled Time	13:00	09:00	10:46	12:30
		Client ID	TL100	JCTA	SW11	TRAVEL BLANK
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (EC) (uS/cm)		45.0	75.7	37.4	<3.0
	Hardness (as CaCO3) (mg/L)		19.3	34.2	16.5	<0.51
	pH (pH)		6.80	7.24	5.76	5.36
	Total Suspended Solids (mg/L)		<2.0	<2.0	36.2	<2.0
Anions and Nutrients	Acidity (as CaCO3) (mg/L)		5.2	3.2	9.6	<2.0
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)		13.7	28.1	6.0	<5.0
	Ammonia, Total (as N) (mg/L)		<0.020	<0.020	<0.020	<0.020
	Chloride (Cl) (mg/L)		0.43	0.77	0.38	<0.10
	Nitrate (as N) (mg/L)		<0.030	<0.030	0.040	<0.030
	Nitrite (as N) (mg/L)		<0.020	<0.020	<0.020	<0.020
	Phosphorus (P)-Total (mg/L)		0.0074	0.0104	0.0312	<0.0050
	Sulfate (SO4) (mg/L)		2.88	3.33	3.47	<0.30
Cyanides	Cyanide, Weak Acid Diss (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Free (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)		0.118	0.140	1.21	<0.0050
	Antimony (Sb)-Total (mg/L)		<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Total (mg/L)		<0.010	<0.010	0.013	<0.010
	Beryllium (Be)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Total (mg/L)		<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Total (mg/L)		<0.000017	<0.000017	0.000031	<0.000017
	Calcium (Ca)-Total (mg/L)		5.30	9.71	5.27	<0.20
	Chromium (Cr)-Total (mg/L)		<0.0010	<0.0010	0.0024	<0.0010
	Cobalt (Co)-Total (mg/L)		<0.00050	<0.00050	0.00073	<0.00050
	Copper (Cu)-Total (mg/L)		<0.0010	0.0011	0.0020	<0.0010
	Iron (Fe)-Total (mg/L)		0.265	0.305	1.50	<0.020
	Lead (Pb)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Total (mg/L)		<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Total (mg/L)		1.41	2.75	1.54	<0.020
	Manganese (Mn)-Total (mg/L)		0.0276	0.0339	0.0437	<0.0010
	Mercury (Hg)-Total (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Total (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020
	Potassium (K)-Total (mg/L)		<0.50	1.03	<0.50	<0.50
Selenium (Se)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1140620-1 WATER 26-APR-12 12:20 TL2A	L1140620-2 WATER 26-APR-12 12:50 TL1A	L1140620-3 WATER 26-APR-12 13:36 TL3	L1140620-4 WATER 26-APR-12 14:05 SW2	L1140620-5 WATER 26-APR-12 14:45 SW3	
Grouping	Analyte					
WATER						
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010	<0.00010	<0.00010 ^{RRV}	<0.00010	<0.00010
	Sodium (Na)-Total (mg/L)	2.63	1.16	1.89	2.39	8.82
	Strontium (Sr)-Total (mg/L)	0.0312	0.0130	0.0243	0.0357	0.0347
	Tellurium (Te)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Total (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Total (mg/L)	0.0119	0.0022	0.0031	0.0161	0.0056
	Tungsten (W)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Total (mg/L)	0.0013	<0.0010	<0.0010	0.0019	<0.0010
	Zinc (Zn)-Total (mg/L)	0.0031	<0.0030	<0.0030 ^{RRV}	0.0073	<0.0030
	Zirconium (Zr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	0.0884	0.0850	0.0587	0.0484	0.0264
	Antimony (Sb)-Dissolved (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Dissolved (mg/L)	<0.010	<0.010	<0.010	0.013	<0.010
	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Dissolved (mg/L)	<0.000017	0.000037	0.000021	0.000025	<0.000017
	Calcium (Ca)-Dissolved (mg/L)	13.7	5.38	11.2	18.2	15.0
	Chromium (Cr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Dissolved (mg/L)	0.0012	0.0011	0.0019	0.0023	0.0012
	Iron (Fe)-Dissolved (mg/L)	0.303	0.170	0.099	0.155	0.057
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Dissolved (mg/L)	4.25	1.47	3.28	5.39	3.79
	Manganese (Mn)-Dissolved (mg/L)	0.0190	0.0253	0.0179	0.0539	0.0061
	Mercury (Hg)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	0.000038
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Potassium (K)-Dissolved (mg/L)	2.37	0.52	1.11	1.92	1.16
	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Dissolved (mg/L)	2.48	1.16	2.98 ^{RRV}	2.46	8.97
	Strontium (Sr)-Dissolved (mg/L)	0.0299	0.0122	0.0249	0.0340	0.0333

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1140620-6	L1140620-7	L1140620-8	L1140620-9	L1140620-10
					WATER	WATER	WATER	WATER	WATER
		26-APR-12	15:40	SW1	26-APR-12	27-APR-12	27-APR-12	27-APR-12	27-APR-12
					SW1	SW7	SW8	SW10	SW9
Grouping	Analyte								
WATER									
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Total (mg/L)	1.41	1.03	1.24	1.48	2.51			
	Strontium (Sr)-Total (mg/L)	0.0204	0.0243	0.0215	0.0241	0.0396			
	Tellurium (Te)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Thallium (Tl)-Total (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030			
	Tin (Sn)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Titanium (Ti)-Total (mg/L)	0.0028	<0.0020	0.0062	<0.0020	<0.0020			
	Tungsten (W)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010			
	Uranium (U)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050			
	Vanadium (V)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Zinc (Zn)-Total (mg/L)	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030			
	Zirconium (Zr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	0.0178	<0.0050	0.0916	0.0600	0.0461			
	Antimony (Sb)-Dissolved (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060			
	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Barium (Ba)-Dissolved (mg/L)	<0.010	0.013	<0.010	<0.010	0.014			
	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Boron (B)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050			
	Cadmium (Cd)-Dissolved (mg/L)	0.000024	<0.000017	<0.000017	<0.000017	<0.000017			
	Calcium (Ca)-Dissolved (mg/L)	11.6	17.1	11.2	14.0	23.1			
	Chromium (Cr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050			
	Copper (Cu)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Iron (Fe)-Dissolved (mg/L)	0.055	0.138	0.281	0.488	<0.020			
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050			
	Magnesium (Mg)-Dissolved (mg/L)	2.28	1.68	2.16	2.11	4.34			
	Manganese (Mn)-Dissolved (mg/L)	0.0441	0.0530	0.0181	0.0406	0.0236			
	Mercury (Hg)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010			
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020			
	Potassium (K)-Dissolved (mg/L)	1.04	0.54	0.66	0.58	1.57			
	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010			
	Sodium (Na)-Dissolved (mg/L)	1.46	1.00	1.26	1.46	2.46			
	Strontium (Sr)-Dissolved (mg/L)	0.0203	0.0229	0.0215	0.0233	0.0387			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1140620-11	L1140620-12	L1140620-13	L1140620-14
		Description	WATER	WATER	WATER	WATER
		Sampled Date	26-APR-12	27-APR-12	27-APR-12	26-APR-12
		Sampled Time	13:00	09:00	10:46	12:30
		Client ID	TL100	JCTA	SW11	TRAVEL BLANK
Grouping	Analyte					
WATER						
Total Metals	Silver (Ag)-Total (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Total (mg/L)		1.07	1.78	1.09	<0.10
	Strontium (Sr)-Total (mg/L)		0.0123	0.0210	0.0134	<0.0010
	Tellurium (Te)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Total (mg/L)		<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Total (mg/L)		0.0024	0.0040	0.0433	<0.0020
	Tungsten (W)-Total (mg/L)		<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Total (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Total (mg/L)		<0.0010	<0.0010	0.0025	<0.0010
	Zinc (Zn)-Total (mg/L)		<0.0030	<0.0030 ^{RRV}	0.0053	<0.0030
	Zirconium (Zr)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)		0.0825	0.0601	0.309	<0.0050
	Antimony (Sb)-Dissolved (mg/L)		<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Dissolved (mg/L)		<0.010	<0.010	<0.010	<0.010
	Beryllium (Be)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Dissolved (mg/L)		<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Dissolved (mg/L)		<0.000017	<0.000017	0.000027	<0.000017
	Calcium (Ca)-Dissolved (mg/L)		5.45	9.48	4.88	<0.20
	Chromium (Cr)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010
	Cobalt (Co)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010
	Iron (Fe)-Dissolved (mg/L)		0.094	0.111	0.626	<0.020
	Lead (Pb)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Dissolved (mg/L)		<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Dissolved (mg/L)		1.37	2.55	1.04	<0.020
	Manganese (Mn)-Dissolved (mg/L)		0.0246	0.0308	0.0325	<0.0010
	Mercury (Hg)-Dissolved (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Dissolved (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020
	Potassium (K)-Dissolved (mg/L)		<0.50	0.99	<0.50	<0.50
	Selenium (Se)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010
	Silver (Ag)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Dissolved (mg/L)		1.07	1.72	1.01	<0.10
	Strontium (Sr)-Dissolved (mg/L)		0.0121	0.0199	0.0110	<0.0010

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1140620-1 WATER 26-APR-12 12:20 TL2A	L1140620-2 WATER 26-APR-12 12:50 TL1A	L1140620-3 WATER 26-APR-12 13:36 TL3	L1140620-4 WATER 26-APR-12 14:05 SW2	L1140620-5 WATER 26-APR-12 14:45 SW3	
Grouping	Analyte					
WATER						
Dissolved Metals	Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	0.0041	0.0057	0.0132 ^{RRV}	0.0089	0.0030
	Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1140620-6	L1140620-7	L1140620-8	L1140620-9	L1140620-10
					WATER	WATER	WATER	WATER	WATER
		26-APR-12	15:40	SW1	26-APR-12	27-APR-12	27-APR-12	27-APR-12	27-APR-12
					SW1	SW7	SW8	SW10	SW9
Grouping	Analyte								
WATER									
Dissolved Metals	Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	0.0032	<0.0030	<0.0030	0.0045	<0.0030	<0.0030	0.0045	<0.0030
	Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1140620-11	L1140620-12	L1140620-13	L1140620-14
		Description	WATER	WATER	WATER	WATER
		Sampled Date	26-APR-12	27-APR-12	27-APR-12	26-APR-12
		Sampled Time	13:00	09:00	10:46	12:30
		Client ID	TL100	JCTA	SW11	TRAVEL BLANK
Grouping	Analyte					
WATER						
Dissolved Metals	Tellurium (Te)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Dissolved (mg/L)		<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Dissolved (mg/L)		<0.0020	<0.0020	0.0050	<0.0020
	Tungsten (W)-Dissolved (mg/L)		<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)		0.0059	0.0118 ^{RRV}	0.0108	<0.0030
	Zirconium (Zr)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010
Aggregate Organics	Oil and Grease, Total (mg/L)		<2.0	<2.0		<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Sulfate (SO4)	MS-B	L1140620-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Aluminum (Al)-Total	MS-B	L1140620-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Cadmium (Cd)-Total	MS-B	L1140620-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Total	MS-B	L1140620-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Cobalt (Co)-Total	MS-B	L1140620-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Copper (Cu)-Total	MS-B	L1140620-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Iron (Fe)-Total	MS-B	L1140620-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Total	MS-B	L1140620-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Total	MS-B	L1140620-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Nickel (Ni)-Total	MS-B	L1140620-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Total	MS-B	L1140620-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Total	MS-B	L1140620-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1140620-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Copper (Cu)-Dissolved	MS-B	L1140620-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1140620-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1140620-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1140620-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1140620-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1140620-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1140620-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9

Qualifiers for Individual Parameters Listed:

Qualifier	Description
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RRV	Reported Result Verified By Repeat Analysis

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
ACIDITY-TB	Water	Acidity (as CaCO3)	APHA 2310 B-POTENTIOMETRIC TITRATION
Aqueous matrices are analyzed by potentiometry. Acidity reported includes acidity caused by hydrolyzable metals present in the sample.			
ALK-TOT-CAP-TB	Water	Alkalinity, Total (as CaCO3)	APHA 2320 B-Auto-Pot. Titration
CL-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.			
CN-FREE-COL-VA	Water	Free Cyanide by Diffusion	ASTM D 4282
This analysis is carried out using procedures adapted from ASTM D 4282 Standard Test Method for Determination of Free Cyanide in Water and Wastewater by Microdiffusion. ALS has adapted this method to use active (bubbling with air) diffusion instead of microdiffusion. Free cyanide is determined by sample diffusion at pH 6 and analysis using the chloramine-T colourimetric method.			
CN-TOT-WT	Water	Cyanide, Total	APHA 4500CN C E-STRONG ACID DIST COLORIM

Reference Information

Total cyanide is determined by the combination of UV digestion and distillation. Cyanide is converted to cyanogen chloride by reacting with chloramine-T, the cyanogen chloride then reacts with a combination of barbituric acid and isonicotinic acid to form a highly colored complex.

When using this method, high levels of thiocyanate in samples can cause false positives at ~1-2% of the thiocyanate concentration. For samples with detectable cyanide analyzed by this method, ALS recommends analysis for thiocyanate to check for this potential interference

CN-WAD-WT	Water	Cyanide, Weak Acid Diss	APHA 4500CN I-Weak acid Dist Colorimet
Weak acid dissociable cyanide (WAD) is determined by undergoing a distillation procedure. Cyanide is converted to cyanogen chloride by reacting with chloramine-T, the cyanogen chloride then reacts with a combination of barbituric acid and isonicotinic acid to form a highly colored complex.			
EC-CAP-TB	Water	Conductivity (EC)	APHA 2510 B-ELECTRODE
HARDNESS-CALC-TB	Water	Hardness (as CaCO ₃)	CALCULATION
HG-D-CVAF-TB	Water	Dissolved Mercury in Water by CVAFS	EPA 245.7
HG-T-CVAF-TB	Water	Total Mercury in Water by CVAFS	EPA 245.7
MET-D-MS-TB	Water	Dissolved Metals by ICPMS	APHA 3030B/EPA 6020A
This analysis involves filtration (APHA 3030B) and analysis by inductively coupled plasma - mass spectrometry (EPA Method 6020A).			
MET-T-MS-TB	Water	Total Metals by ICPMS	APHA 3030E/EPA 6020A
This analysis involves preliminary sample treatment by hotblock acid digestion (APHA 3030E). Instrumental analysis is by inductively coupled plasma - mass spectrometry (EPA Method 6020A).			
NH3-COL-TB	Water	Ammonia by Discrete Analyzer	APHA 4500-NH ₃ G. (modified)
Ammonia in aqueous matrices is analyzed using discrete analyzer with colourimetric detection.			
NO2-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.			
NO3-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.			
OGG-TOT-WT	Water	Oil and Grease, Total	APHA 5520 B
Sample is extracted with hexane, extract is then evaporated and the residue is weighed to determine total oil and grease.			
P-T-COL-TB	Water	Total Phosphorus by Discrete Analyzer	APHA 4500-P B, F, G (modified)
Phosphorus in aqueous matrices is analyzed using discrete Analyzer with colourimetric detection.			
PH-CAP-TB	Water	pH	APHA 4500-H-ELECTRODE
SO4-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.			
SOLIDS-TOTSUS-TB	Water	Total Suspended Solids	APHA 2540 D (modified)
Aqueous matrices are analyzed using gravimetry			

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
VA	ALS ENVIRONMENTAL - VANCOUVER, BC, CANADA
TB	ALS ENVIRONMENTAL - THUNDER BAY, ONTARIO, CANADA
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA

Chain of Custody Numbers:

Reference Information

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

mg/kg - milligrams per kilogram based on dry weight of sample.

mg/kg wwt - milligrams per kilogram based on wet weight of sample.

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.

mg/L - milligrams per litre.

< - Less than.

D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L1140620

Report Date: 09-MAY-12

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Client: TREASURY METALS INC.
 899 Tree Nursery Rd
 Wabigoon ON P0V 2W0
 Contact: Mac Potter

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
ACIDITY-TB								
	Water							
Batch	R2361060							
WG1466675-2	LCS							
Acidity (as CaCO3)			108.0		%		85-115	04-MAY-12
WG1466675-1	MB							
Acidity (as CaCO3)			<2.0		mg/L		2	04-MAY-12
ALK-TOT-CAP-TB								
	Water							
Batch	R2358472							
WG1465008-2	LCS							
Alkalinity, Total (as CaCO3)			97.6		%		85-115	01-MAY-12
WG1465008-1	MB							
Alkalinity, Total (as CaCO3)			<5.0		mg/L CaCO3		5	01-MAY-12
CL-IC-TB								
	Water							
Batch	R2358945							
WG1464939-2	LCS							
Chloride (Cl)			102.3		%		90-110	30-APR-12
WG1464939-1	MB							
Chloride (Cl)			<0.10		mg/L		0.1	30-APR-12
WG1464939-4	MS	L1140501-12						
Chloride (Cl)			100.3		%		75-125	30-APR-12
CN-FREE-COL-VA								
	Water							
Batch	R2359817							
WG1465886-4	DUP	L1140620-1						
Cyanide, Free		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	03-MAY-12
WG1465886-2	LCS							
Cyanide, Free			81.3		%		80-120	03-MAY-12
WG1465886-1	MB							
Cyanide, Free			<0.0050		mg/L		0.005	03-MAY-12
Batch	R2360602							
WG1466978-2	LCS							
Cyanide, Free			85.5		%		80-120	04-MAY-12
WG1466978-3	LCS							
Cyanide, Free			85.0		%		80-120	04-MAY-12
WG1466978-1	MB							
Cyanide, Free			<0.0050		mg/L		0.005	04-MAY-12
CN-TOT-WT								
	Water							



Quality Control Report

Workorder: L1140620

Report Date: 09-MAY-12

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CN-TOT-WT		Water						
Batch	R2361268							
WG1467662-4	CVS							
Cyanide, Total			100.5		%		85-115	07-MAY-12
WG1467662-3	LCS							
Cyanide, Total			104.6		%		80-120	07-MAY-12
WG1467662-1	MB							
Cyanide, Total			<0.0020		mg/L		0.002	07-MAY-12
CN-WAD-WT		Water						
Batch	R2361467							
WG1467905-4	CVS							
Cyanide, Weak Acid Diss			90.5		%		85-115	07-MAY-12
WG1467905-2	DUP	L1140620-1						
Cyanide, Weak Acid Diss		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	07-MAY-12
WG1467905-3	LCS							
Cyanide, Weak Acid Diss			104.7		%		80-120	07-MAY-12
WG1467905-1	MB							
Cyanide, Weak Acid Diss			<0.0020		mg/L		0.002	07-MAY-12
EC-CAP-TB		Water						
Batch	R2358472							
WG1465008-2	LCS							
Conductivity (EC)			103.6		%		90-110	01-MAY-12
WG1465008-1	MB							
Conductivity (EC)			<3.0		uS/cm		3	01-MAY-12
HG-D-CVAF-TB		Water						
Batch	R2360256							
WG1466890-6	DUP	L1140620-3						
Mercury (Hg)-Dissolved		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	03-MAY-12
WG1466890-2	LCS							
Mercury (Hg)-Dissolved			100.5		%		80-120	03-MAY-12
WG1466890-1	MB							
Mercury (Hg)-Dissolved			<0.000010		mg/L		0.00001	03-MAY-12
WG1466890-5	MS	L1139537-7						
Mercury (Hg)-Dissolved			100.1		%		70-130	03-MAY-12
WG1466890-7	MS	L1140620-3						
Mercury (Hg)-Dissolved			113.8		%		70-130	03-MAY-12
HG-T-CVAF-TB		Water						



Quality Control Report

Workorder: L1140620

Report Date: 09-MAY-12

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-T-CVAF-TB								
Water								
Batch	R2361319							
WG1467933-4	DUP	L1140620-8						
Mercury (Hg)-Total		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	07-MAY-12
WG1467933-2	LCS							
Mercury (Hg)-Total			96.6		%		80-120	07-MAY-12
WG1467933-1	MB							
Mercury (Hg)-Total			<0.000010		mg/L		0.00001	07-MAY-12
WG1467933-5	MS	L1140620-8						
Mercury (Hg)-Total			99.6		%		70-130	07-MAY-12
MET-D-MS-TB								
Water								
Batch	R2361326							
WG1466935-2	LCS							
Aluminum (Al)-Dissolved			95.2		%		80-120	04-MAY-12
Antimony (Sb)-Dissolved			103.6		%		80-120	04-MAY-12
Arsenic (As)-Dissolved			106.5		%		80-120	04-MAY-12
Barium (Ba)-Dissolved			100.9		%		80-120	04-MAY-12
Beryllium (Be)-Dissolved			101.6		%		80-120	04-MAY-12
Bismuth (Bi)-Dissolved			102.5		%		80-120	04-MAY-12
Boron (B)-Dissolved			104.6		%		80-120	04-MAY-12
Cadmium (Cd)-Dissolved			107.9		%		80-120	04-MAY-12
Calcium (Ca)-Dissolved			97.5		%		80-120	04-MAY-12
Chromium (Cr)-Dissolved			104.4		%		80-120	04-MAY-12
Cobalt (Co)-Dissolved			99.3		%		80-120	04-MAY-12
Copper (Cu)-Dissolved			95.4		%		80-120	04-MAY-12
Iron (Fe)-Dissolved			94.9		%		80-120	04-MAY-12
Lead (Pb)-Dissolved			101.2		%		80-120	04-MAY-12
Lithium (Li)-Dissolved			102.0		%		80-120	04-MAY-12
Magnesium (Mg)-Dissolved			108.9		%		80-120	04-MAY-12
Manganese (Mn)-Dissolved			100.6		%		80-120	04-MAY-12
Molybdenum (Mo)-Dissolved			106.6		%		80-120	04-MAY-12
Nickel (Ni)-Dissolved			100.2		%		80-120	04-MAY-12
Potassium (K)-Dissolved			101.4		%		80-120	04-MAY-12
Selenium (Se)-Dissolved			109.6		%		80-120	04-MAY-12
Silver (Ag)-Dissolved			97.8		%		80-120	04-MAY-12
Sodium (Na)-Dissolved			108.3		%		80-120	04-MAY-12
Strontium (Sr)-Dissolved			99.6		%		80-120	04-MAY-12
Tellurium (Te)-Dissolved			102.5		%		80-120	04-MAY-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2361326							
WG1466935-2	LCS							
Thallium (Tl)-Dissolved			103.2		%		80-120	04-MAY-12
Tin (Sn)-Dissolved			107.8		%		80-120	04-MAY-12
Titanium (Ti)-Dissolved			101.0		%		80-120	04-MAY-12
Tungsten (W)-Dissolved			100.5		%		80-120	04-MAY-12
Uranium (U)-Dissolved			98.3		%		80-120	04-MAY-12
Vanadium (V)-Dissolved			102.4		%		80-120	04-MAY-12
Zinc (Zn)-Dissolved			88.6		%		80-120	04-MAY-12
Zirconium (Zr)-Dissolved			99.1		%		80-120	04-MAY-12
WG1466935-1	MB							
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	04-MAY-12
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	04-MAY-12
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	04-MAY-12
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	04-MAY-12
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	04-MAY-12
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	04-MAY-12
Boron (B)-Dissolved			<0.050		mg/L		0.05	04-MAY-12
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	04-MAY-12
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	04-MAY-12
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	04-MAY-12
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	04-MAY-12
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	04-MAY-12
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	04-MAY-12
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	04-MAY-12
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	04-MAY-12
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	04-MAY-12
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	04-MAY-12
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	04-MAY-12
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	04-MAY-12
Potassium (K)-Dissolved			<0.50		mg/L		0.5	04-MAY-12
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	04-MAY-12
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	04-MAY-12
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	04-MAY-12
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	04-MAY-12
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	04-MAY-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2361326							
WG1466935-1	MB							
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	04-MAY-12
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	04-MAY-12
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	04-MAY-12
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	04-MAY-12
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	04-MAY-12
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	04-MAY-12
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	04-MAY-12
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	04-MAY-12
WG1466935-4	MS	L1140914-4						
Aluminum (Al)-Dissolved			93.6		%		70-130	04-MAY-12
Antimony (Sb)-Dissolved			103.7		%		70-130	04-MAY-12
Arsenic (As)-Dissolved			107.3		%		70-130	04-MAY-12
Barium (Ba)-Dissolved			99.4		%		70-130	04-MAY-12
Beryllium (Be)-Dissolved			95.8		%		70-130	04-MAY-12
Bismuth (Bi)-Dissolved			86.6		%		70-130	04-MAY-12
Boron (B)-Dissolved			94.9		%		70-130	04-MAY-12
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	04-MAY-12
Chromium (Cr)-Dissolved			104.3		%		70-130	04-MAY-12
Cobalt (Co)-Dissolved			100.9		%		70-130	04-MAY-12
Copper (Cu)-Dissolved			N/A	MS-B	%		-	04-MAY-12
Iron (Fe)-Dissolved			98.6		%		70-130	04-MAY-12
Lead (Pb)-Dissolved			103.7		%		70-130	04-MAY-12
Lithium (Li)-Dissolved			93.3		%		70-130	04-MAY-12
Magnesium (Mg)-Dissolved			N/A	MS-B	%		-	04-MAY-12
Manganese (Mn)-Dissolved			104.4		%		70-130	04-MAY-12
Molybdenum (Mo)-Dissolved			95.3		%		70-130	04-MAY-12
Nickel (Ni)-Dissolved			99.6		%		70-130	04-MAY-12
Potassium (K)-Dissolved			105.8		%		70-130	04-MAY-12
Selenium (Se)-Dissolved			100.9		%		70-130	04-MAY-12
Silver (Ag)-Dissolved			102.6		%		70-130	04-MAY-12
Sodium (Na)-Dissolved			95.7		%		70-130	04-MAY-12
Strontium (Sr)-Dissolved			N/A	MS-B	%		-	04-MAY-12
Tellurium (Te)-Dissolved			109.4		%		70-130	04-MAY-12
Thallium (Tl)-Dissolved			97.1		%		70-130	04-MAY-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2361326							
WG1466935-4 MS		L1140914-4						
Tin (Sn)-Dissolved			104.0		%		70-130	04-MAY-12
Titanium (Ti)-Dissolved			95.6		%		70-130	04-MAY-12
Tungsten (W)-Dissolved			95.3		%		70-130	04-MAY-12
Uranium (U)-Dissolved			97.2		%		70-130	04-MAY-12
Vanadium (V)-Dissolved			104.3		%		70-130	04-MAY-12
Zinc (Zn)-Dissolved			96.1		%		70-130	04-MAY-12
Zirconium (Zr)-Dissolved			94.9		%		70-130	04-MAY-12
WG1466935-6 MS		L1141530-9						
Aluminum (Al)-Dissolved			96.3		%		70-130	04-MAY-12
Antimony (Sb)-Dissolved			102.2		%		70-130	04-MAY-12
Arsenic (As)-Dissolved			110.9		%		70-130	04-MAY-12
Barium (Ba)-Dissolved			99.0		%		70-130	04-MAY-12
Beryllium (Be)-Dissolved			99.6		%		70-130	04-MAY-12
Bismuth (Bi)-Dissolved			85.9		%		70-130	04-MAY-12
Boron (B)-Dissolved			106.3		%		70-130	04-MAY-12
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	04-MAY-12
Chromium (Cr)-Dissolved			104.5		%		70-130	04-MAY-12
Cobalt (Co)-Dissolved			103.1		%		70-130	04-MAY-12
Copper (Cu)-Dissolved			96.4		%		70-130	04-MAY-12
Iron (Fe)-Dissolved			101.1		%		70-130	04-MAY-12
Lead (Pb)-Dissolved			99.4		%		70-130	04-MAY-12
Lithium (Li)-Dissolved			99.4		%		70-130	04-MAY-12
Magnesium (Mg)-Dissolved			N/A	MS-B	%		-	04-MAY-12
Manganese (Mn)-Dissolved			105.4		%		70-130	04-MAY-12
Molybdenum (Mo)-Dissolved			95.7		%		70-130	04-MAY-12
Nickel (Ni)-Dissolved			95.9		%		70-130	04-MAY-12
Potassium (K)-Dissolved			108.8		%		70-130	04-MAY-12
Selenium (Se)-Dissolved			119.5		%		70-130	04-MAY-12
Silver (Ag)-Dissolved			100.9		%		70-130	04-MAY-12
Sodium (Na)-Dissolved			N/A	MS-B	%		-	04-MAY-12
Strontium (Sr)-Dissolved			N/A	MS-B	%		-	04-MAY-12
Tellurium (Te)-Dissolved			111.4		%		70-130	04-MAY-12
Thallium (Tl)-Dissolved			96.9		%		70-130	04-MAY-12
Tin (Sn)-Dissolved			104.6		%		70-130	04-MAY-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
Water								
Batch	R2361326							
WG1466935-6	MS	L1141530-9						
Titanium (Ti)-Dissolved			94.7		%		70-130	04-MAY-12
Tungsten (W)-Dissolved			95.8		%		70-130	04-MAY-12
Uranium (U)-Dissolved			103.9		%		70-130	04-MAY-12
Vanadium (V)-Dissolved			105.5		%		70-130	04-MAY-12
Zinc (Zn)-Dissolved			97.9		%		70-130	04-MAY-12
Zirconium (Zr)-Dissolved			94.1		%		70-130	04-MAY-12
Batch	R2361779							
WG1467955-2	LCS							
Zinc (Zn)-Dissolved			105.0		%		80-120	07-MAY-12
WG1467955-1	MB							
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	07-MAY-12
WG1467955-4	MS	L1141543-5						
Zinc (Zn)-Dissolved			104.7		%		70-130	07-MAY-12
MET-T-MS-TB								
Water								
Batch	R2361283							
WG1464774-2	LCS							
Aluminum (Al)-Total			100.6		%		80-120	04-MAY-12
Antimony (Sb)-Total			95.5		%		80-120	04-MAY-12
Arsenic (As)-Total			99.5		%		80-120	04-MAY-12
Barium (Ba)-Total			107.8		%		80-120	04-MAY-12
Beryllium (Be)-Total			110.6		%		80-120	04-MAY-12
Bismuth (Bi)-Total			112.5		%		80-120	04-MAY-12
Boron (B)-Total			88.8		%		80-120	04-MAY-12
Cadmium (Cd)-Total			112.3		%		80-120	04-MAY-12
Calcium (Ca)-Total			108.2		%		80-120	04-MAY-12
Chromium (Cr)-Total			112.3		%		80-120	04-MAY-12
Cobalt (Co)-Total			108.6		%		80-120	04-MAY-12
Copper (Cu)-Total			107.2		%		80-120	04-MAY-12
Iron (Fe)-Total			106.4		%		80-120	04-MAY-12
Lead (Pb)-Total			110.9		%		80-120	04-MAY-12
Lithium (Li)-Total			103.8		%		80-120	04-MAY-12
Magnesium (Mg)-Total			111.5		%		80-120	04-MAY-12
Manganese (Mn)-Total			108.3		%		80-120	04-MAY-12
Molybdenum (Mo)-Total			99.8		%		80-120	04-MAY-12
Nickel (Ni)-Total			108.2		%		80-120	04-MAY-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2361283							
WG1464774-2 LCS								
Potassium (K)-Total			111.6		%		80-120	04-MAY-12
Selenium (Se)-Total			96.2		%		80-120	04-MAY-12
Silver (Ag)-Total			103.2		%		80-120	04-MAY-12
Sodium (Na)-Total			114.7		%		80-120	04-MAY-12
Strontium (Sr)-Total			114.3		%		80-120	04-MAY-12
Tellurium (Te)-Total			101.5		%		80-120	04-MAY-12
Thallium (Tl)-Total			112.6		%		80-120	04-MAY-12
Tin (Sn)-Total			97.2		%		80-120	04-MAY-12
Titanium (Ti)-Total			95.2		%		80-120	04-MAY-12
Tungsten (W)-Total			94.5		%		80-120	04-MAY-12
Uranium (U)-Total			106.0		%		80-120	04-MAY-12
Vanadium (V)-Total			109.1		%		80-120	04-MAY-12
Zinc (Zn)-Total			106.9		%		80-120	04-MAY-12
Zirconium (Zr)-Total			96.6		%		80-120	04-MAY-12
WG1464774-1 MB								
Aluminum (Al)-Total			<0.0050		mg/L		0.005	04-MAY-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	04-MAY-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	04-MAY-12
Barium (Ba)-Total			<0.010		mg/L		0.01	04-MAY-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	04-MAY-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	04-MAY-12
Boron (B)-Total			<0.050		mg/L		0.05	04-MAY-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	04-MAY-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	04-MAY-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	04-MAY-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	04-MAY-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	04-MAY-12
Iron (Fe)-Total			<0.020		mg/L		0.02	04-MAY-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	04-MAY-12
Lithium (Li)-Total			<0.050		mg/L		0.05	04-MAY-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	04-MAY-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	04-MAY-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	04-MAY-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	04-MAY-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2361283							
WG1464774-1 MB								
Potassium (K)-Total			<0.50		mg/L		0.5	04-MAY-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	04-MAY-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	04-MAY-12
Sodium (Na)-Total			<0.10		mg/L		0.1	04-MAY-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	04-MAY-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	04-MAY-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	04-MAY-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	04-MAY-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	04-MAY-12
Tungsten (W)-Total			<0.010		mg/L		0.01	04-MAY-12
Uranium (U)-Total			<0.0050		mg/L		0.005	04-MAY-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	04-MAY-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	04-MAY-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	04-MAY-12
WG1464774-4 MS		L1140914-5						
Aluminum (Al)-Total			N/A	MS-B	%		-	04-MAY-12
Antimony (Sb)-Total			102.1		%		70-130	04-MAY-12
Arsenic (As)-Total			123.9		%		70-130	04-MAY-12
Barium (Ba)-Total			101.8		%		70-130	04-MAY-12
Beryllium (Be)-Total			94.5		%		70-130	04-MAY-12
Bismuth (Bi)-Total			95.3		%		70-130	04-MAY-12
Boron (B)-Total			101.7		%		70-130	04-MAY-12
Cadmium (Cd)-Total			N/A	MS-B	%		-	04-MAY-12
Calcium (Ca)-Total			N/A	MS-B	%		-	04-MAY-12
Chromium (Cr)-Total			97.8		%		70-130	04-MAY-12
Cobalt (Co)-Total			N/A	MS-B	%		-	04-MAY-12
Copper (Cu)-Total			N/A	MS-B	%		-	04-MAY-12
Iron (Fe)-Total			N/A	MS-B	%		-	04-MAY-12
Lead (Pb)-Total			104.8		%		70-130	04-MAY-12
Lithium (Li)-Total			125.1		%		70-130	04-MAY-12
Magnesium (Mg)-Total			N/A	MS-B	%		-	04-MAY-12
Manganese (Mn)-Total			N/A	MS-B	%		-	04-MAY-12
Molybdenum (Mo)-Total			112.4		%		70-130	04-MAY-12
Nickel (Ni)-Total			N/A	MS-B	%		-	04-MAY-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2361283							
WG1464774-4 MS		L1140914-5						
Potassium (K)-Total			108.6		%		70-130	04-MAY-12
Silver (Ag)-Total			101.2		%		70-130	04-MAY-12
Sodium (Na)-Total			N/A	MS-B	%		-	04-MAY-12
Strontium (Sr)-Total			N/A	MS-B	%		-	04-MAY-12
Tellurium (Te)-Total			117.8		%		70-130	04-MAY-12
Thallium (Tl)-Total			101.2		%		70-130	04-MAY-12
Tin (Sn)-Total			101.9		%		70-130	04-MAY-12
Titanium (Ti)-Total			91.4		%		70-130	04-MAY-12
Tungsten (W)-Total			98.1		%		70-130	04-MAY-12
Uranium (U)-Total			123.4		%		70-130	04-MAY-12
Vanadium (V)-Total			99.0		%		70-130	04-MAY-12
Zirconium (Zr)-Total			108.3		%		70-130	04-MAY-12
Batch	R2361829							
WG1464774-6 LCS								
Aluminum (Al)-Total			98.0		%		80-120	07-MAY-12
Antimony (Sb)-Total			101.3		%		80-120	07-MAY-12
Arsenic (As)-Total			109.2		%		80-120	07-MAY-12
Barium (Ba)-Total			101.0		%		80-120	07-MAY-12
Beryllium (Be)-Total			108.0		%		80-120	07-MAY-12
Bismuth (Bi)-Total			106.9		%		80-120	07-MAY-12
Boron (B)-Total			102.0		%		80-120	07-MAY-12
Cadmium (Cd)-Total			105.1		%		80-120	07-MAY-12
Calcium (Ca)-Total			104.7		%		80-120	07-MAY-12
Chromium (Cr)-Total			108.6		%		80-120	07-MAY-12
Cobalt (Co)-Total			102.4		%		80-120	07-MAY-12
Copper (Cu)-Total			103.1		%		80-120	07-MAY-12
Iron (Fe)-Total			93.9		%		80-120	07-MAY-12
Lead (Pb)-Total			105.4		%		80-120	07-MAY-12
Lithium (Li)-Total			103.0		%		80-120	07-MAY-12
Magnesium (Mg)-Total			102.8		%		80-120	07-MAY-12
Manganese (Mn)-Total			105.8		%		80-120	07-MAY-12
Molybdenum (Mo)-Total			108.1		%		80-120	07-MAY-12
Nickel (Ni)-Total			107.8		%		80-120	07-MAY-12
Potassium (K)-Total			104.6		%		80-120	07-MAY-12



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Workorder: L1140620

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2361829							
WG1464774-6 LCS								
Selenium (Se)-Total			117.5		%		80-120	07-MAY-12
Silver (Ag)-Total			98.1		%		80-120	07-MAY-12
Sodium (Na)-Total			104.0		%		80-120	07-MAY-12
Strontium (Sr)-Total			106.4		%		80-120	07-MAY-12
Tellurium (Te)-Total			105.6		%		80-120	07-MAY-12
Thallium (Tl)-Total			105.5		%		80-120	07-MAY-12
Tin (Sn)-Total			107.6		%		80-120	07-MAY-12
Titanium (Ti)-Total			105.8		%		80-120	07-MAY-12
Tungsten (W)-Total			102.0		%		80-120	07-MAY-12
Uranium (U)-Total			102.8		%		80-120	07-MAY-12
Vanadium (V)-Total			105.2		%		80-120	07-MAY-12
Zinc (Zn)-Total			105.0		%		80-120	07-MAY-12
Zirconium (Zr)-Total			102.0		%		80-120	07-MAY-12
WG1464774-5 MB								
Aluminum (Al)-Total			<0.0050		mg/L		0.005	07-MAY-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	07-MAY-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	07-MAY-12
Barium (Ba)-Total			<0.010		mg/L		0.01	07-MAY-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	07-MAY-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	07-MAY-12
Boron (B)-Total			<0.050		mg/L		0.05	07-MAY-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	07-MAY-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	07-MAY-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	07-MAY-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	07-MAY-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	07-MAY-12
Iron (Fe)-Total			<0.020		mg/L		0.02	07-MAY-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	07-MAY-12
Lithium (Li)-Total			<0.050		mg/L		0.05	07-MAY-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	07-MAY-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	07-MAY-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	07-MAY-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	07-MAY-12
Potassium (K)-Total			<0.50		mg/L		0.5	07-MAY-12



Quality Control Report

Workorder: L1140620

Report Date: 09-MAY-12

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2361829							
WG1464774-5	MB							
Selenium (Se)-Total			<0.0010		mg/L		0.001	07-MAY-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	07-MAY-12
Sodium (Na)-Total			<0.10		mg/L		0.1	07-MAY-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	07-MAY-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	07-MAY-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	07-MAY-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	07-MAY-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	07-MAY-12
Tungsten (W)-Total			<0.010		mg/L		0.01	07-MAY-12
Uranium (U)-Total			<0.0050		mg/L		0.005	07-MAY-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	07-MAY-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	07-MAY-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	07-MAY-12
NH3-COL-TB								
	Water							
Batch	R2358735							
WG1464744-5	DUP	L1140620-2						
Ammonia, Total (as N)		<0.020	<0.020	RPD-NA	mg/L	N/A	20	01-MAY-12
WG1464744-2	LCS							
Ammonia, Total (as N)			96.7		%		85-115	01-MAY-12
WG1464744-1	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	01-MAY-12
WG1464744-4	MS	L1140001-1						
Ammonia, Total (as N)			93.9		%		75-125	01-MAY-12
WG1464744-6	MS	L1140620-2						
Ammonia, Total (as N)			84.9		%		75-125	01-MAY-12
NO2-IC-TB								
	Water							
Batch	R2358945							
WG1464939-2	LCS							
Nitrite (as N)			99.5		%		90-110	30-APR-12
WG1464939-1	MB							
Nitrite (as N)			<0.020		mg/L		0.02	30-APR-12
WG1464939-4	MS	L1140501-12						
Nitrite (as N)			95.9		%		75-115	30-APR-12
NO3-IC-TB								
	Water							



Quality Control Report

Workorder: L1140620

Report Date: 09-MAY-12

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO3-IC-TB								
	Water							
Batch	R2358945							
WG1464939-2	LCS							
Nitrate (as N)			102.3		%		90-110	30-APR-12
WG1464939-1	MB							
Nitrate (as N)			<0.030		mg/L		0.03	30-APR-12
WG1464939-4	MS	L1140501-12						
Nitrate (as N)			99.4		%		75-125	30-APR-12
OGG-TOT-WT								
	Water							
Batch	R2361322							
WG1467580-2	LCS							
Oil and Grease, Total			92.4		%		75-120	07-MAY-12
WG1467580-3	LCS D	WG1467580-2						
Oil and Grease, Total		92.4	91		%	1.5	45	07-MAY-12
WG1467580-1	MB							
Oil and Grease, Total			<2.0		mg/L		2	07-MAY-12
Batch	R2361956							
WG1468102-2	LCS							
Oil and Grease, Total			86.0		%		75-120	08-MAY-12
WG1468102-3	LCS D	WG1468102-2						
Oil and Grease, Total		86.0	86		%	0.2	45	08-MAY-12
WG1468102-1	MB							
Oil and Grease, Total			<2.0		mg/L		2	08-MAY-12
P-T-COL-TB								
	Water							
Batch	R2359812							
WG1465487-5	DUP	L1140620-10						
Phosphorus (P)-Total		0.0081	0.0072		mg/L	11	20	02-MAY-12
WG1465487-2	LCS							
Phosphorus (P)-Total			91.3		%		80-120	02-MAY-12
WG1465487-1	MB							
Phosphorus (P)-Total			<0.0050		mg/L		0.005	02-MAY-12
PH-CAP-TB								
	Water							
Batch	R2358472							
WG1465008-2	LCS							
pH			6.00		pH		5.9-6.1	01-MAY-12
SO4-IC-TB								
	Water							



Quality Control Report

Workorder: L1140620

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SO4-IC-TB								
	Water							
Batch	R2358945							
WG1464939-2	LCS							
Sulfate (SO4)			104.2		%		90-110	30-APR-12
WG1464939-1	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	30-APR-12
WG1464939-4	MS	L1140501-12						
Sulfate (SO4)			N/A	MS-B	%		-	30-APR-12
SOLIDS-TOTSUS-TB								
	Water							
Batch	R2358918							
WG1464678-2	LCS							
Total Suspended Solids			104.4		%		85-115	01-MAY-12
WG1464678-1	MB							
Total Suspended Solids			<2.0		mg/L		2	01-MAY-12

Quality Control Report

Workorder: L1140620

Report Date: 09-MAY-12

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Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
J	Duplicate results and limits are expressed in terms of absolute difference.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Quality Control Report

Workorder: L1140620

Report Date: 09-MAY-12

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Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Physical Tests							
Conductivity (EC)							
	1	26-APR-12 12:20	01-MAY-12 09:15	4	5	days	EHTR
	2	26-APR-12 12:50	01-MAY-12 09:15	4	5	days	EHTL
	3	26-APR-12 13:36	01-MAY-12 09:15	4	5	days	EHTL
	4	26-APR-12 14:05	01-MAY-12 09:15	4	5	days	EHTL
	5	26-APR-12 14:45	01-MAY-12 09:15	4	5	days	EHTL
	6	26-APR-12 15:40	01-MAY-12 09:15	4	5	days	EHTL
	11	26-APR-12 13:00	01-MAY-12 09:15	4	5	days	EHTL
	14	26-APR-12 12:30	01-MAY-12 09:15	4	5	days	EHTL
pH							
	1	26-APR-12 12:20	01-MAY-12 09:15	4	5	days	EHTR
	2	26-APR-12 12:50	01-MAY-12 09:15	4	5	days	EHTL
	3	26-APR-12 13:36	01-MAY-12 09:15	4	5	days	EHTL
	4	26-APR-12 14:05	01-MAY-12 09:15	4	5	days	EHTL
	5	26-APR-12 14:45	01-MAY-12 09:15	4	5	days	EHTL
	6	26-APR-12 15:40	01-MAY-12 09:15	4	5	days	EHTL
	11	26-APR-12 13:00	01-MAY-12 09:15	4	5	days	EHTL
	14	26-APR-12 12:30	01-MAY-12 09:15	4	5	days	EHTL

Legend & Qualifier Definitions:

- EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.
- EHTR: Exceeded ALS recommended hold time prior to sample receipt.
- EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
- EHT: Exceeded ALS recommended hold time prior to analysis.
- Rec. HT: ALS recommended hold time (see units).

Notes*:
 Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.
 Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L1140620 were received on 30-APR-12 12:00.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



Company: Treasury Metals		Regulatory Information				Both questions below must answered for water samples												
Contact: Mac Potter		<input type="checkbox"/> O. Reg 153 (O. Reg 511 Amend) Table: _____				Are any samples taken from a regulated DW System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No												
Address: 899 Tree Nursery Rd		Record of Site Condition <input type="checkbox"/> Yes <input type="checkbox"/> No				If yes, an authorized DW COC must be used.												
Wabigoon ON P0V 2W0		PWQO <input checked="" type="checkbox"/> MISA <input type="checkbox"/> MMER <input type="checkbox"/> CCME <input type="checkbox"/>				Is the water sampled intended for human consumption? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No												
Phone: 807-223-6191 Fax: _____		Guideline Required:				Analysis Request												
Email: mac@treasurymetals.com, lritchie@cbtgoup.com		TCLP Regulation 558 <input type="checkbox"/> Other: _____																
Project: Job M0906A01 PO: M0210-P0115		Service Requested				Please indicate below Filtered, Preserved or both (F, P, F/P)												
Quote #: Q32690 LSD Goliath Project		<input checked="" type="checkbox"/> Regular TAT (7 Days)							P	P	P	P	P	P	P	P		
Invoice To: _____ Same as Report: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Priority TAT 50% Surcharge (3-5 Days)				Aik, pH Conductivity	Cl, NO2, NO3, SO4	Acidity, TSS	Total Cyanide	WAD Cyanide	CN-FREE-COL-VA	Ammonia, Total Phosphorus	OGG	Total Metals +Hg	Dissolved Metals + Hg	Hardness	Number of Containers	
Company: _____		<input type="checkbox"/> Emergency TAT 100% Surcharge (1-2 Days)																
Contact: _____		Specify Date Required: _____																
Address: _____		All TAT quoted material is in business days which exclude statutory holidays and weekends. Samples received past 3:00pm or Saturday/Sunday begin the next day.																
Email: _____																		
Account Manager: Karen R. Sampler: Mac Potter																		
Sample #	Sample Identification (This description will appear on the report)	Date	Time	Sample Type	Aik, pH Conductivity	Cl, NO2, NO3, SO4	Acidity, TSS	Total Cyanide	WAD Cyanide	CN-FREE-COL-VA	Ammonia, Total Phosphorus	OGG	Total Metals +Hg	Dissolved Metals + Hg	Hardness	Number of Containers		
1	TL2a	26/04/12	12 ³⁰	Water	x	x	x	x	x	x	x	x	x	x	x	9		
2	TL1a	26/04/12	12 ⁵⁰	Water	x	x	x	x	x	x	x	x	x	x	x	9		
3	TL3	26/04/12	1 ³⁶	Water	x	x	x	x	x	x	x	x	x	x	x	9		
4	SW2	26/04/12	2 ⁰³	Water	x	x	x	x	x	x	x	x	x	x	x	9		
5	SW3	26/04/12	2 ⁴⁵	Water	x	x	x	x	x	x	x	x	x	x	x	9		
6	SW1	26/04/12	3 ⁴⁰	Water	x	x	x	x	x	x	x	x	x	x	x	9		
7	SW7	27/04/12	7 ³⁰	Water	x	x	x	x	x	x	x	x	x	x	x	9		
8	SW8	27/04/12	7 ⁵⁰	Water	x	x	x	x	x	x	x	x	x	x	x	9		
9	SW10	27/04/12	8 ²⁰	Water	x	x	x	x	x	x	x	x	x	x	x	9		
10	SW9	27/04/12	9 ⁰⁰	Water	x	x	x	x	x	x	x	x	x	x	x	9		
11	TL100	26/04/12	1 ⁰⁰	Water	x	x	x	x	x	x	x	x	x	x	x	9		
Special Instructions / Comments																		
SHIPMENT RELEASE (client use)					SHIPMENT RECEPTION (lab use only)					SHIPMENT VERIFICATION (lab use only)								
Released by: <i>MAC POTTER</i>		Date & Time: 27/04/12 1:00 PM		Received by: <i>[Signature]</i>		Date & Time: 27/04/12 1:00 PM		Temp: 0.3		Cooling Initiated: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Verified by: _____		Date & Time: _____		Observations: Yes / No? If Yes add SIF		

****Failure to complete all portions of this form may delay analysis.**** TAT may vary dependant on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs. Any known or suspected hazards relating to a sample must be noted on the chain of custody in the comments section. By use of the form the user acknowledges and agrees with the Terms and Conditions as specified on the back page.



Company: Treasury Metals		Regulatory Information				Both questions below must answered for water samples											
Contact: Mac Potter		<input type="checkbox"/> O. Reg 153 (O. Reg 511 Amend) Table: _____				Are any samples taken from a regulated DW System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No											
Address: 899 Tree Nursery Rd		Record of Site Condition <input type="checkbox"/> Yes <input type="checkbox"/> No				If yes, an authorized DW COC must be used.											
Wabigoon ON P0V 2W0		PWQO <input checked="" type="checkbox"/> MISA <input type="checkbox"/> MMR <input type="checkbox"/> CCME <input type="checkbox"/>				Is the water sampled intended for human consumption? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No											
Phone: 807-223-6191 Fax: _____		Guideline Required:				Analysis Request											
Email: mac@treasurymetals.com		TCLP Regulation 558 <input type="checkbox"/> Other: _____				Please indicate below Filtered, Preserved or both (F, P, F/P)											
Project: Job M0906A01 PO: M0210-P0115		Service Requested															
Quote #: Q32690 LSD Goliath Project		<input checked="" type="checkbox"/> Regular TAT (7 Days)															
Invoice To: _____ Same as Report: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Priority TAT 50% Surcharge (3-5 Days)															
Company: _____		<input type="checkbox"/> Emergency TAT 100% Surcharge (1-2 Days)															
Contact: _____		Specify Date Required:															
Address: _____		All TAT quoted material is in business days which															
Email: _____		exclude statutory holidays and weekends. Samples															
Account Manager: Karen R. Sampler: Mac Potter		received past 3:00pm or Saturday/Sunday begin the															
		next day.															
Sample #	Sample Identification (This description will appear on the report)	Date	Time	Sample Type	Alk, pH Conductivity	Cl, NO2, NO3, SO4	Acidity, TSS	Total Cyanide	WAD Cyanide	CN-FREE-COL-VA	Ammonia, Total Phosphorus	OGC	Total Metals +Hg	Dissolved Metals + Hg	Hardness	Number of Containers	
12	JCTa	27/04/12	9 ⁰⁰	Water	X	X	X	X	X	X	X	X	X	X	X	9	
13	Swll	27/04/12	10 ⁴⁰	Water	X	X	X	X	X	X	X	X	X	X	X	9	
14	Travel Blank	—	—	Water	X	X	X	X	X	X	X	X	X	X	X	9	
					X	X	X	X	X	X	X	X	X	X	X		
					X	X	X	X	X	X	X	X	X	X	X		
					X	X	X	X	X	X	X	X	X	X	X		
					X	X	X	X	X	X	X	X	X	X	X		
					X	X	X	X	X	X	X	X	X	X	X		
					X	X	X	X	X	X	X	X	X	X	X		
					X	X	X	X	X	X	X	X	X	X	X		
Special Instructions / Comments																	
* 066 of Swll broke on route to next location. No field blank as not enough water sent																	
SHIPMENT RELEASE (client use)					SHIPMENT RECEPTION (lab use only)					SHIPMENT VERIFICATION (lab use only)							
Released by: Mac Potter		Date & Time: 27/04/12 1 ^{pm}			Received by:		Date & Time:		Temp:	Cooling Initiated: <input type="checkbox"/> Yes <input type="checkbox"/> No	Verified by:		Date & Time:			Observations: Yes / No? If Yes add SIF	

**Failure to complete all portions of this form may delay analysis. **TAT may vary dependant on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs. Any known or suspected hazards relating to a sample must be noted on the chain of custody in the comments section. By use of the form the user acknowledges and agrees with the Terms and Conditions as specified on the back page.



Sample Integrity Form

This report summarizes some deficiencies found in your recent submission, and the actions that will be taken unless you contact us to make specific instructions.

Date Received: 30-APR-12		Client: Treasury Metals	
Completed by (initial): WB		Submission ID: L# or Other Identifying Mark L1140620	
1	Deficiency Found:	Without further instruction, we WILL:	2
	No COC accompanying the submission	Proceed with regular testing from previous submissions, unless specified otherwise	
	COC information is incomplete or illegible	Proceed with samples as regulated	
	Analysis requested not listed or clearly specified	Proceed with samples as <u>not</u> regulated and <u>not</u> intended for consumption	
	Applicable regulation not indicated	Proceed with samples as <u>not</u> regulated and intended for consumption	
	Regulated sample type not indicated	Proceed with information from COC	
	COC not signed/dated by client	Proceed with information from bottles	
	COC information does not match bottle labels	Proceed with analysis - results may be qualified	
	Bottle labels missing or blank	Preserve and/or filter at lab and proceed with analysis	
	Sample received unpreserved or incorrectly preserved	Advise you resample for deficient samples	
	Sample received unfiltered	Hold samples without analysis pending further information - please contact the lab.	
	Sample received with headspace	Further Comments/Specifics: No OGG bottle for "SW11". Unable to proceed with analysis	
	Sample received after analytical hold time has been exceeded		
	Bottles listed on COC but not received		
	Bottles received but not listed on COC		
	Insufficient number of bottles or sample volume		
	Wrong sample bottle used		
	Bottle found broken when received		
	Sample received with temperature below freezing point, containing ice crystals, or frozen		
	Microbiology sample received with temperature above 20°C		
	Other deficiency (see comments)		
If Checked HERE, you NEED to contact the laboratory for further discussion			

For more information please contact the laboratory.



TREASURY METALS INC.
ATTN: Mac Potter
899 Tree Nursery Road
Wabigoon ON P0V 2W0

Date Received: 17-MAY-12
Report Date: 01-JUN-12 09:41 (MT)
Version: FINAL

Client Phone: 807-223-6191

Certificate of Analysis

Lab Work Order #: L1148845
Project P.O. #: M0210-P0115
Job Reference: M0906A01
C of C Numbers:
Legal Site Desc:



Karen Rutledge
Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 1081 Barton Street, Thunder Bay, ON P7B 5N3 Canada | Phone: +1 807 623 6463 | Fax: +1 807 623 7598
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1148845-1 SURFACEWATE 15-MAY-12 09:00 SW3	L1148845-2 SURFACEWATE 15-MAY-12 08:30 SW2-1	L1148845-3 SURFACEWATE 15-MAY-12 10:00 TL3	L1148845-5 SURFACEWATE 15-MAY-12 10:55 JCTA	L1148845-6 SURFACEWATE 15-MAY-12 11:45 TL1A
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (EC) (uS/cm)	182	165	136	108	58.6
	Hardness (as CaCO3) (mg/L)	67.6	86.7	64.7	51.1	27.0
	pH (pH)	7.71	7.86	7.70	7.52	7.07
	Total Suspended Solids (mg/L)	5.9	84.0	<2.0	4.5	<2.0
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	2.8	6.4	2.4	2.2	2.2
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)	53.4	76.9	56.7	45.7	22.3
	Ammonia, Total (as N) (mg/L)	<0.020	<0.020	<0.020	<0.020	0.027
	Chloride (Cl) (mg/L)	16.9	1.39	1.67	0.97	0.26
	Nitrate (as N) (mg/L)	<0.030	<0.030	<0.030	<0.030	<0.030
	Nitrite (as N) (mg/L)	<0.020	<0.020	<0.020	<0.020	<0.020
	Phosphorus (P)-Total (mg/L)	0.0191	0.0809	0.0123	0.0247	0.0094
	Sulfate (SO4) (mg/L)	3.56	1.41	3.10	2.47	1.54
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)	0.0915	1.18	0.125	0.331	0.110
	Antimony (Sb)-Total (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Total (mg/L)	<0.010	0.024	0.010	0.012	<0.010
	Beryllium (Be)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Total (mg/L)	<0.000017	0.000020	<0.000017	<0.000017	0.000020
	Calcium (Ca)-Total (mg/L)	18.8	20.5	16.4	14.1	7.65
	Chromium (Cr)-Total (mg/L)	<0.0010	0.0028	<0.0010	<0.0010	<0.0010
	Cobalt (Co)-Total (mg/L)	<0.00050	0.00089	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Total (mg/L)	0.0013	0.0034	0.0016	0.0012	<0.0010
	Iron (Fe)-Total (mg/L)	0.212	1.71	0.301	0.704	0.383
	Lead (Pb)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Total (mg/L)	3.79	6.10	4.53	3.93	1.96
	Manganese (Mn)-Total (mg/L)	0.0167	0.0779	0.0238	0.100	0.0643
	Mercury (Hg)-Total (mg/L)	0.000017	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Total (mg/L)	<0.0020	0.0029	<0.0020	<0.0020	<0.0020
Potassium (K)-Total (mg/L)	1.13	1.64	1.19	1.20	<0.50	
Selenium (Se)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1148845-7	L1148845-8	L1148845-9	L1148845-10	L1148845-11
		Description	SURFACEWATE	SURFACEWATE	SURFACEWATE	SURFACEWATE	SURFACEWATE
		Sampled Date	15-MAY-12	15-MAY-12	15-MAY-12	15-MAY-12	15-MAY-12
		Sampled Time	13:15	14:45	15:15	15:50	16:35
		Client ID	TL2A	SW8	SW7	SW10	SW11
Grouping	Analyte						
WATER							
Physical Tests	Conductivity (EC) (uS/cm)		138	108	135	131	42.0
	Hardness (as CaCO3) (mg/L)		71.8	51.4	66.3	62.8	24.4
	pH (pH)		7.54	7.68	7.95	7.83	6.36
	Total Suspended Solids (mg/L)		252	8.3	2.8	<2.0	9.2
Anions and Nutrients	Acidity (as CaCO3) (mg/L)		3.8	2.2	2.6	2.4	5.2
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)		60.4	41.8	62.5	57.2	10.2
	Ammonia, Total (as N) (mg/L)		0.029	0.022	0.030	<0.020	0.020
	Chloride (Cl) (mg/L)		0.42	0.25	0.17	0.21	0.44
	Nitrate (as N) (mg/L)		0.034	0.168	0.059	0.064	<0.030
	Nitrite (as N) (mg/L)		<0.020	<0.020	<0.020	<0.020	<0.020
	Phosphorus (P)-Total (mg/L)		0.133	0.0283	0.0088	0.0057	0.0231
	Sulfate (SO4) (mg/L)		2.40	5.81	1.61	2.87	1.72
Cyanides	Cyanide, Weak Acid Diss (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Free (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)		1.27	0.0846	0.0363	0.0378	0.654
	Antimony (Sb)-Total (mg/L)		<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Total (mg/L)		0.0012	<0.0010	<0.0010	<0.0010	0.0011
	Barium (Ba)-Total (mg/L)		0.021	<0.010	0.016	0.011	<0.010
	Beryllium (Be)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Total (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Total (mg/L)		0.000039	<0.000017	<0.000017	<0.000017	0.000050
	Calcium (Ca)-Total (mg/L)		18.2	14.5	21.2	19.3	6.62
	Chromium (Cr)-Total (mg/L)		0.0028	<0.0010	<0.0010	<0.0010	0.0016
	Cobalt (Co)-Total (mg/L)		0.00095	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Total (mg/L)		0.0087	0.0011	<0.0010	<0.0010	0.0015
	Iron (Fe)-Total (mg/L)		1.42	0.518	0.350	0.790	1.17
	Lead (Pb)-Total (mg/L)		0.0043	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Total (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Total (mg/L)		5.61	2.76	2.13	2.84	1.52
	Manganese (Mn)-Total (mg/L)		0.150 ^{RRV}	0.0220	0.0727	0.0463	0.0328
	Mercury (Hg)-Total (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Total (mg/L)		0.0027	<0.0020	<0.0020	<0.0020	<0.0020
Potassium (K)-Total (mg/L)		3.00	0.78	0.67	0.71	<0.50	
Selenium (Se)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID Description Sampled Date Sampled Time Client ID	L1148845-12 SURFACEWATE 15-MAY-12 17:35 SW9	L1148845-13 SURFACEWATE 16-MAY-12 09:55 SW4	L1148845-14 SURFACEWATE 15-MAY-12 11:40 SW5	L1148845-15 SURFACEWATE 15-MAY-12 11:05 SW6	L1148845-16 SURFACEWATE 15-MAY-12 09:00 SW33
Grouping	Analyte						
WATER							
Physical Tests	Conductivity (EC) (uS/cm)		248	114	120	120	182
	Hardness (as CaCO3) (mg/L)		129	50.1	51.6	51.6	67.6
	pH (pH)		7.96	7.83	7.94	7.97	7.62
	Total Suspended Solids (mg/L)		<2.0	7.3	<2.0	2.9	4.5
Anions and Nutrients	Acidity (as CaCO3) (mg/L)		2.8	2.2	2.2	2.2	2.4
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)		126	45.3	45.8	45.8	53.2
	Ammonia, Total (as N) (mg/L)		<0.020	<0.020	<0.020	<0.020	<0.020
	Chloride (Cl) (mg/L)		0.34	3.12	4.22	4.15	17.0
	Nitrate (as N) (mg/L)		0.072	<0.030	<0.030	<0.030	<0.030
	Nitrite (as N) (mg/L)		<0.020	<0.020	<0.020	<0.020	<0.020
	Phosphorus (P)-Total (mg/L)		0.0064	0.0227	0.0070	0.0522	0.0071
	Sulfate (SO4) (mg/L)		0.88	1.79	2.93	2.91	3.55
Cyanides	Cyanide, Weak Acid Diss (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Free (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)		0.0353	0.816	0.0234	0.0261	0.0901
	Antimony (Sb)-Total (mg/L)		<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Total (mg/L)		0.023	0.013	<0.010	<0.010	<0.010
	Beryllium (Be)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Total (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Total (mg/L)		<0.000017	0.000051	<0.000017	<0.000017	<0.000017
	Calcium (Ca)-Total (mg/L)		39.6	14.8	14.3	12.8	17.5
	Chromium (Cr)-Total (mg/L)		<0.0010	0.0015	<0.0010	<0.0010	<0.0010
	Cobalt (Co)-Total (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Total (mg/L)		<0.0010	0.0043	0.0011	0.0012	0.0013
	Iron (Fe)-Total (mg/L)		0.137	0.788	0.037	0.036	0.193
	Lead (Pb)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Total (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Total (mg/L)		6.77	2.93	3.16	2.84	4.28
	Manganese (Mn)-Total (mg/L)		0.0572	0.0182	0.0042	0.0039	0.0163
	Mercury (Hg)-Total (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Total (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Potassium (K)-Total (mg/L)		1.98	1.50	0.98	0.95	1.19	
Selenium (Se)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1148845-17	L1148845-18	L1148845-19
		Description	SURFACEWATE	SURFACEWATE	SURFACEWATE
		Sampled Date	15-MAY-12	15-MAY-12	15-MAY-12
		Sampled Time	09:00		08:30
		Client ID	FIELD BLANK	TRAVEL BLANK	SW2-2
Grouping	Analyte				
WATER					
Physical Tests	Conductivity (EC) (uS/cm)	<3.0	<3.0	103	
	Hardness (as CaCO3) (mg/L)	<0.51	<0.51	51.1	
	pH (pH)	5.43	5.75	7.56	
	Total Suspended Solids (mg/L)	<2.0	<2.0	19.0	
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	<2.0	<2.0	6.6	
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)	<5.0	<5.0	46.1	
	Ammonia, Total (as N) (mg/L)	<0.020	<0.020	<0.020	
	Chloride (Cl) (mg/L)	<0.10	<0.10	0.24	
	Nitrate (as N) (mg/L)	<0.030	<0.030	<0.030	
	Nitrite (as N) (mg/L)	<0.020	<0.020	<0.020	
	Phosphorus (P)-Total (mg/L)	<0.0050	<0.0050	<0.0050	
	Sulfate (SO4) (mg/L)	<0.30	<0.30	1.57	
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020	<0.0020	<0.0020	
	Cyanide, Total (mg/L)	<0.0020	<0.0020	<0.0020	
	Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	
Total Metals	Aluminum (Al)-Total (mg/L)	<0.0050	<0.0050	0.400	
	Antimony (Sb)-Total (mg/L)	<0.00060	<0.00060	<0.00060	
	Arsenic (As)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Barium (Ba)-Total (mg/L)	<0.010	<0.010	0.012	
	Beryllium (Be)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Bismuth (Bi)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Boron (B)-Total (mg/L)	<0.050	<0.050	<0.050	
	Cadmium (Cd)-Total (mg/L)	<0.000017	<0.000017	<0.000017	
	Calcium (Ca)-Total (mg/L)	<0.20	<0.20	15.2	
	Chromium (Cr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Cobalt (Co)-Total (mg/L)	<0.00050	<0.00050	<0.00050	
	Copper (Cu)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Iron (Fe)-Total (mg/L)	<0.020	<0.020	0.841	
	Lead (Pb)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Lithium (Li)-Total (mg/L)	<0.050	<0.050	<0.050	
	Magnesium (Mg)-Total (mg/L)	<0.020	<0.020	2.82	
	Manganese (Mn)-Total (mg/L)	<0.0010	<0.0010	0.230	
	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010	<0.000010	
	Molybdenum (Mo)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Nickel (Ni)-Total (mg/L)	<0.0020	<0.0020	<0.0020	
	Potassium (K)-Total (mg/L)	<0.50	<0.50	1.07	
	Selenium (Se)-Total (mg/L)	<0.0010	<0.0010	<0.0010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1148845-1 SURFACEWATE 15-MAY-12 09:00 SW3	L1148845-2 SURFACEWATE 15-MAY-12 08:30 SW2-1	L1148845-3 SURFACEWATE 15-MAY-12 10:00 TL3	L1148845-5 SURFACEWATE 15-MAY-12 10:55 JCTA	L1148845-6 SURFACEWATE 15-MAY-12 11:45 TL1A
Grouping	Analyte					
WATER						
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Total (mg/L)	9.03	2.19	2.48	2.27	1.35
	Strontium (Sr)-Total (mg/L)	0.0384	0.0390	0.0354	0.0321	0.0179
	Tellurium (Te)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Total (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Total (mg/L)	0.0041	0.0500	0.0046	0.0136	0.0024
	Tungsten (W)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Total (mg/L)	<0.0010	0.0029	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Total (mg/L)	<0.0030	0.0082	<0.0030	<0.0030	<0.0030
	Zirconium (Zr)-Total (mg/L)	<0.0010	0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	0.0130	0.0476	0.0231	0.0352	0.0696
	Antimony (Sb)-Dissolved (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Dissolved (mg/L)	<0.010	0.014	<0.010	<0.010	<0.010
	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Dissolved (mg/L)	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017
	Calcium (Ca)-Dissolved (mg/L)	19.5 ^{RRV}	23.9	17.9	14.2	7.67
	Chromium (Cr)-Dissolved (mg/L)	<0.0010	0.0013	<0.0010	<0.0010	<0.0010
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Dissolved (mg/L)	0.0011	0.0020	0.0013	<0.0010	<0.0010
	Iron (Fe)-Dissolved (mg/L)	<0.020	0.182	0.023	0.136	0.159
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Dissolved (mg/L)	4.60	6.58	4.82	3.82	1.91
	Manganese (Mn)-Dissolved (mg/L)	0.0093	0.0514	0.0209	0.0595	0.0561
	Mercury (Hg)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Potassium (K)-Dissolved (mg/L)	1.33	1.68	1.26	1.17	<0.50
	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Dissolved (mg/L)	10.5	2.49	2.69	2.27	1.36
	Strontium (Sr)-Dissolved (mg/L)	0.0466	0.0411	0.0374	0.0300	0.0175

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1148845-7 SURFACEWATE 15-MAY-12 13:15 TL2A	L1148845-8 SURFACEWATE 15-MAY-12 14:45 SW8	L1148845-9 SURFACEWATE 15-MAY-12 15:15 SW7	L1148845-10 SURFACEWATE 15-MAY-12 15:50 SW10	L1148845-11 SURFACEWATE 15-MAY-12 16:35 SW11
Grouping	Analyte					
WATER						
Total Metals	Silver (Ag)-Total (mg/L)	0.00072	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Total (mg/L)	2.96	1.50	1.32	1.76	1.24
	Strontium (Sr)-Total (mg/L)	0.0408	0.0280	0.0304	0.0328	0.0155
	Tellurium (Te)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Total (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Total (mg/L)	0.0420	0.0029	<0.0020	<0.0020	0.0175
	Tungsten (W)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Total (mg/L)	0.0024	0.0010	<0.0010	<0.0010	0.0015
	Zinc (Zn)-Total (mg/L)	0.0153	0.0035	0.0039	0.0038	0.0070
	Zirconium (Zr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	0.0502	0.0597	0.0054	0.0283	0.487
	Antimony (Sb)-Dissolved (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Dissolved (mg/L)	0.0012	<0.0010	<0.0010	<0.0010	0.0011
	Barium (Ba)-Dissolved (mg/L)	0.012	<0.010	0.015	0.011	<0.010
	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Dissolved (mg/L)	<0.000017	<0.000017	<0.000017	<0.000017	0.000032
	Calcium (Ca)-Dissolved (mg/L)	19.6	15.7	22.8	20.3	7.29
	Chromium (Cr)-Dissolved (mg/L)	0.0012	<0.0010	<0.0010	<0.0010	0.0014
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Dissolved (mg/L)	0.0021	<0.0010	<0.0010	<0.0010	0.0011
	Iron (Fe)-Dissolved (mg/L)	0.278	0.375	0.096	0.728	0.881
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Dissolved (mg/L)	5.59	2.96	2.24	2.95	1.50
	Manganese (Mn)-Dissolved (mg/L)	0.188 ^{RRV}	0.0205	0.0681	0.0528	0.0297
	Mercury (Hg)-Dissolved (mg/L)	<0.000010	0.000013	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Potassium (K)-Dissolved (mg/L)	2.95	0.84	0.72	0.78	<0.50
	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Dissolved (mg/L)	3.04	1.60	1.39	1.83	1.32
	Strontium (Sr)-Dissolved (mg/L)	0.0403	0.0298	0.0323	0.0335	0.0153

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID Description Sampled Date Sampled Time Client ID	L1148845-12 SURFACEWATE 15-MAY-12 17:35 SW9	L1148845-13 SURFACEWATE 16-MAY-12 09:55 SW4	L1148845-14 SURFACEWATE 15-MAY-12 11:40 SW5	L1148845-15 SURFACEWATE 15-MAY-12 11:05 SW6	L1148845-16 SURFACEWATE 15-MAY-12 09:00 SW33
Grouping	Analyte						
WATER							
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Total (mg/L)	3.54	3.50	3.33	3.08	9.79	
	Strontium (Sr)-Total (mg/L)	0.0671	0.0271	0.0278	0.0248	0.0445	
	Tellurium (Te)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	Thallium (Tl)-Total (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	
	Tin (Sn)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	Titanium (Ti)-Total (mg/L)	<0.0020	0.0277	<0.0020	<0.0020	0.0037	
	Tungsten (W)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010	
	Uranium (U)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	
	Vanadium (V)-Total (mg/L)	<0.0010	0.0014	<0.0010	<0.0010	<0.0010	
	Zinc (Zn)-Total (mg/L)	<0.0030	0.0382	<0.0030	0.0050	<0.0030	
	Zirconium (Zr)-Total (mg/L)	<0.0010	0.0021	<0.0010	<0.0010	<0.0010	
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	0.0199	0.0088	<0.0050	<0.0050	0.0130	
	Antimony (Sb)-Dissolved (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	
	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	Barium (Ba)-Dissolved (mg/L)	0.021	<0.010	<0.010	<0.010	<0.010	
	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	Boron (B)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050	
	Cadmium (Cd)-Dissolved (mg/L)	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	
	Calcium (Ca)-Dissolved (mg/L)	40.5	15.4	15.2	15.2	19.4	
	Chromium (Cr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
	Copper (Cu)-Dissolved (mg/L)	<0.0010	0.0015	0.0011	0.0011	0.0010	
	Iron (Fe)-Dissolved (mg/L)	<0.020	<0.020	<0.020	<0.020	0.048	
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050	
	Magnesium (Mg)-Dissolved (mg/L)	6.83	2.84	3.29	3.30	4.66	
	Manganese (Mn)-Dissolved (mg/L)	0.0488	0.0011	<0.0010	<0.0010	0.0104	
	Mercury (Hg)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	Potassium (K)-Dissolved (mg/L)	2.08	0.84	1.09	1.10	1.33	
	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
	Sodium (Na)-Dissolved (mg/L)	3.55	2.93	3.47	3.53	10.6	
	Strontium (Sr)-Dissolved (mg/L)	0.0672	0.0255	0.0280	0.0278	0.0464	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1148845-17	L1148845-18	L1148845-19
		Description	SURFACEWATE	SURFACEWATE	SURFACEWATE
		Sampled Date	15-MAY-12	15-MAY-12	15-MAY-12
		Sampled Time	09:00		08:30
		Client ID	FIELD BLANK	TRAVEL BLANK	SW2-2
Grouping	Analyte				
WATER					
Total Metals	Silver (Ag)-Total (mg/L)		<0.00010	<0.00010	<0.00010
	Sodium (Na)-Total (mg/L)		<0.10	<0.10	1.67
	Strontium (Sr)-Total (mg/L)		<0.0010	<0.0010	0.0286
	Tellurium (Te)-Total (mg/L)		<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Total (mg/L)		<0.00030	<0.00030	<0.00030
	Tin (Sn)-Total (mg/L)		<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Total (mg/L)		<0.0020	<0.0020	0.0175
	Tungsten (W)-Total (mg/L)		<0.010	<0.010	<0.010
	Uranium (U)-Total (mg/L)		<0.0050	<0.0050	<0.0050
	Vanadium (V)-Total (mg/L)		<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Total (mg/L)		<0.0030	<0.0030	<0.0030
	Zirconium (Zr)-Total (mg/L)		<0.0010	<0.0010	<0.0010
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)		<0.0050	<0.0050	0.0074
	Antimony (Sb)-Dissolved (mg/L)		<0.00060	<0.00060	<0.00060
	Arsenic (As)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010
	Barium (Ba)-Dissolved (mg/L)		<0.010	<0.010	<0.010
	Beryllium (Be)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010
	Boron (B)-Dissolved (mg/L)		<0.050	<0.050	<0.050
	Cadmium (Cd)-Dissolved (mg/L)		<0.000017	<0.000017	<0.000017
	Calcium (Ca)-Dissolved (mg/L)		<0.20	<0.20	15.8
	Chromium (Cr)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010
	Cobalt (Co)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050
	Copper (Cu)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010
	Iron (Fe)-Dissolved (mg/L)		<0.020	<0.020	0.175
	Lead (Pb)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010
	Lithium (Li)-Dissolved (mg/L)		<0.050	<0.050	<0.050
	Magnesium (Mg)-Dissolved (mg/L)		<0.020	<0.020	2.81
	Manganese (Mn)-Dissolved (mg/L)		<0.0010	<0.0010	0.172
	Mercury (Hg)-Dissolved (mg/L)		<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Dissolved (mg/L)		<0.0020	<0.0020	<0.0020
	Potassium (K)-Dissolved (mg/L)		<0.50	<0.50	1.08
	Selenium (Se)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010
	Silver (Ag)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010
	Sodium (Na)-Dissolved (mg/L)		0.17 ^{RRV}	<0.10	1.70
	Strontium (Sr)-Dissolved (mg/L)		<0.0010	<0.0010	0.0278

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1148845-1	L1148845-2	L1148845-3	L1148845-5	L1148845-6
					SURFACEWATE	SURFACEWATE	SURFACEWATE	SURFACEWATE	SURFACEWATE
					15-MAY-12	15-MAY-12	15-MAY-12	15-MAY-12	15-MAY-12
					09:00	08:30	10:00	10:55	11:45
					SW3	SW2-1	TL3	JCTA	TL1A
Grouping	Analyte								
WATER									
Dissolved Metals	Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	0.0031	0.0070	<0.0030	0.0036	0.0053			
	Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1148845-7	L1148845-8	L1148845-9	L1148845-10	L1148845-11
					SURFACEWATE	SURFACEWATE	SURFACEWATE	SURFACEWATE	SURFACEWATE
					15-MAY-12	15-MAY-12	15-MAY-12	15-MAY-12	15-MAY-12
					13:15	14:45	15:15	15:50	16:35
					TL2A	SW8	SW7	SW10	SW11
Grouping	Analyte								
WATER									
Dissolved Metals	Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0096
	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0013
	Zinc (Zn)-Dissolved (mg/L)	<0.0030	<0.0030	0.0076	<0.0030	<0.0030	0.0076	<0.0030	0.0126
	Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1148845-12	L1148845-13	L1148845-14	L1148845-15	L1148845-16
	Description	SURFACEWATE	SURFACEWATE	SURFACEWATE	SURFACEWATE	SURFACEWATE
	Sampled Date	15-MAY-12	16-MAY-12	15-MAY-12	15-MAY-12	15-MAY-12
	Sampled Time	17:35	09:55	11:40	11:05	09:00
	Client ID	SW9	SW4	SW5	SW6	SW33
Grouping	Analyte					
WATER						
Dissolved Metals	Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	<0.0030	<0.0030	<0.0030	0.0031	<0.0030
	Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1148845-17	L1148845-18	L1148845-19		
		Description	SURFACEWATE	SURFACEWATE	SURFACEWATE		
		Sampled Date	15-MAY-12	15-MAY-12	15-MAY-12		
		Sampled Time	09:00		08:30		
		Client ID	FIELD BLANK	TRAVEL BLANK	SW2-2		
Grouping	Analyte						
WATER							
Dissolved Metals	Tellurium (Te)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010		
	Thallium (Tl)-Dissolved (mg/L)		<0.00030	<0.00030	<0.00030		
	Tin (Sn)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010		
	Titanium (Ti)-Dissolved (mg/L)		<0.0020	<0.0020	<0.0020		
	Tungsten (W)-Dissolved (mg/L)		<0.010	<0.010	<0.010		
	Uranium (U)-Dissolved (mg/L)		<0.0050	<0.0050	<0.0050		
	Vanadium (V)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010		
	Zinc (Zn)-Dissolved (mg/L)		0.0072 ^{RRV}	<0.0030	<0.0030		
	Zirconium (Zr)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010		
Aggregate Organics	Oil and Grease, Total (mg/L)		<2.0	<2.0	<2.0		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Phosphorus (P)-Total	MS-B	L1148845-1, -10, -11, -12, -13, -14, -15, -16, -18, -19, -2, -3, -5, -6, -7, -8, -9
Matrix Spike	Sulfate (SO4)	MS-B	L1148845-6
Matrix Spike	Barium (Ba)-Total	MS-B	L1148845-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -3, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Total	MS-B	L1148845-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -3, -5, -6, -7, -8, -9
Matrix Spike	Iron (Fe)-Total	MS-B	L1148845-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -3, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Total	MS-B	L1148845-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -3, -5, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Total	MS-B	L1148845-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -3, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Total	MS-B	L1148845-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -3, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Total	MS-B	L1148845-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -3, -5, -6, -7, -8, -9
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1148845-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -3, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1148845-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -3, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1148845-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -3, -5, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1148845-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -3, -5, -6, -7, -8, -9
Matrix Spike	Potassium (K)-Dissolved	MS-B	L1148845-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -3, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1148845-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -3, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1148845-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -3, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1148845-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -3, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1148845-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -3, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1148845-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -3, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1148845-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -3, -5, -6, -7, -8, -9
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1148845-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -3, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1148845-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -3, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1148845-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -3, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1148845-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -3, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1148845-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -3, -5, -6, -7, -8, -9

Qualifiers for Individual Parameters Listed:

Qualifier	Description
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RRV	Reported Result Verified By Repeat Analysis

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
ACIDITY-TB	Water	Acidity (as CaCO3)	APHA 2310 B-POTENTIOMETRIC TITRATION
Aqueous matrices are analyzed by potentiometry. Acidity reported includes acidity caused by hydrolyzable metals present in the sample.			
ALK-TOT-CAP-TB	Water	Alkalinity, Total (as CaCO3)	APHA 2320 B-Auto-Pot. Titration

Reference Information

CL-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.			
CN-FREE-CFA-VA	Water	Free Cyanide in water by CFA	ASTM 7237
This analysis is carried out using procedures adapted from ASTM Method 7237 "Free Cyanide with Flow Injection Analysis (FIA) Utilizing Gas Diffusion Separation and Amperometric Detection". Free cyanide is determined by in-line gas diffusion at pH 6 with final determination by colourimetric analysis.			
CN-TOT-WT	Water	Cyanide, Total	APHA 4500CN C E-STRONG ACID DIST COLORIM
Total cyanide is determined by the combination of UV digestion and distillation. Cyanide is converted to cyanogen chloride by reacting with chloramine-T, the cyanogen chloride then reacts with a combination of barbituric acid and isonicotinic acid to form a highly colored complex.			
When using this method, high levels of thiocyanate in samples can cause false positives at ~1-2% of the thiocyanate concentration. For samples with detectable cyanide analyzed by this method, ALS recommends analysis for thiocyanate to check for this potential interference			
CN-WAD-WT	Water	Cyanide, Weak Acid Diss	APHA 4500CN I-Weak acid Dist Colorimet
Weak acid dissociable cyanide (WAD) is determined by undergoing a distillation procedure. Cyanide is converted to cyanogen chloride by reacting with chloramine-T, the cyanogen chloride then reacts with a combination of barbituric acid and isonicotinic acid to form a highly colored complex.			
EC-CAP-TB	Water	Conductivity (EC)	APHA 2510 B-ELECTRODE
HARDNESS-CALC-TB	Water	Hardness (as CaCO ₃)	CALCULATION
HG-D-CVAF-TB	Water	Dissolved Mercury in Water by CVAFS	EPA 245.7
HG-T-CVAF-TB	Water	Total Mercury in Water by CVAFS	EPA 245.7
MET-D-MS-TB	Water	Dissolved Metals by ICPMS	APHA 3030B/EPA 6020A
This analysis involves filtration (APHA 3030B) and analysis by inductively coupled plasma - mass spectrometry (EPA Method 6020A).			
MET-T-MS-TB	Water	Total Metals by ICPMS	APHA 3030E/EPA 6020A
This analysis involves preliminary sample treatment by hotblock acid digestion (APHA 3030E). Instrumental analysis is by inductively coupled plasma - mass spectrometry (EPA Method 6020A).			
NH3-COL-TB	Water	Ammonia by Discrete Analyzer	APHA 4500-NH3 G. (modified)
Ammonia in aqueous matrices is analyzed using discrete analyzer with colourimetric detection.			
NO2-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.			
NO3-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.			
OGG-TOT-WT	Water	Oil and Grease, Total	APHA 5520 B
Sample is extracted with hexane, extract is then evaporated and the residue is weighed to determine total oil and grease.			
P-T-COL-TB	Water	Total Phosphorus by Discrete Analyzer	APHA 4500-P B, F, G (modified)
Phosphorus in aqueous matrices is analyzed using discrete Analyzer with colourimetric detection.			
PH-CAP-TB	Water	pH	APHA 4500-H-ELECTRODE
SO4-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.			
SOLIDS-TOTSUS-TB	Water	Total Suspended Solids	APHA 2540 D (modified)
Aqueous matrices are analyzed using gravimetry			

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
VA	ALS ENVIRONMENTAL - VANCOUVER, BC, CANADA
TB	ALS ENVIRONMENTAL - THUNDER BAY, ONTARIO, CANADA
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA

Chain of Custody Numbers:

Reference Information

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

mg/kg - milligrams per kilogram based on dry weight of sample.

mg/kg wwt - milligrams per kilogram based on wet weight of sample.

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.

mg/L - milligrams per litre.

< - Less than.

D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L1148845

Report Date: 01-JUN-12

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Client: TREASURY METALS INC.
 899 Tree Nursery Road
 Wabigoon ON P0V 2W0
 Contact: Mac Potter

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
ACIDITY-TB								
	Water							
Batch	R2372187							
WG1477856-2	LCS							
Acidity (as CaCO3)			99.2		%		85-115	25-MAY-12
WG1477856-1	MB							
Acidity (as CaCO3)			<2.0		mg/L		2	25-MAY-12
ALK-TOT-CAP-TB								
	Water							
Batch	R2367981							
WG1474530-3	DUP	L1148845-9						
Alkalinity, Total (as CaCO3)		62.5	62.3		mg/L CaCO3	0.3	20	18-MAY-12
WG1474530-2	LCS							
Alkalinity, Total (as CaCO3)			98.4		%		85-115	18-MAY-12
WG1474530-1	MB							
Alkalinity, Total (as CaCO3)			<5.0		mg/L CaCO3		5	18-MAY-12
CL-IC-TB								
	Water							
Batch	R2368662							
WG1475776-2	LCS							
Chloride (Cl)			99.6		%		90-110	18-MAY-12
WG1475776-1	MB							
Chloride (Cl)			<0.10		mg/L		0.1	18-MAY-12
WG1475776-4	MS	L1148887-3						
Chloride (Cl)			94.0		%		75-125	18-MAY-12
WG1475776-6	MS	L1149368-11						
Chloride (Cl)			103.2		%		75-125	18-MAY-12
Batch	R2370560							
WG1476446-2	LCS							
Chloride (Cl)			97.1		%		90-110	22-MAY-12
WG1476446-1	MB							
Chloride (Cl)			<0.10		mg/L		0.1	22-MAY-12
WG1476446-4	MS	L1149338-8						
Chloride (Cl)			100.8		%		75-125	22-MAY-12
WG1476446-6	MS	L1150036-4						
Chloride (Cl)			101.4		%		75-125	22-MAY-12
CN-FREE-CFA-VA								
	Water							
Batch	R2373158							
WG1479201-7	DUP	L1148845-13						
Cyanide, Free		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	28-MAY-12
WG1479201-2	LCS							
Cyanide, Free			99.5		%		80-120	28-MAY-12
WG1479201-5	LCS							



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CN-FREE-CFA-VA								
	Water							
Batch	R2373158							
WG1479201-5	LCS							
Cyanide, Free			100.3		%		80-120	28-MAY-12
WG1479201-6	LCS							
Cyanide, Free			99.6		%		80-120	28-MAY-12
WG1479201-9	LCS							
Cyanide, Free			100.8		%		80-120	28-MAY-12
WG1479201-1	MB							
Cyanide, Free			<0.0050		mg/L		0.005	28-MAY-12
WG1479201-10	MB							
Cyanide, Free			<0.0050		mg/L		0.005	28-MAY-12
WG1479201-4	MS	L1149558-3						
Cyanide, Free			97.8		%		70-130	28-MAY-12
WG1479201-8	MS	L1148845-13						
Cyanide, Free			98.3		%		70-130	28-MAY-12
CN-TOT-WT								
	Water							
Batch	R2372474							
WG1478810-4	CVS							
Cyanide, Total			100.0		%		85-115	28-MAY-12
WG1478810-2	DUP	L1148845-1						
Cyanide, Total		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	28-MAY-12
WG1478810-5	DUP	L1148845-19						
Cyanide, Total		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	28-MAY-12
WG1478810-3	LCS							
Cyanide, Total			98.4		%		80-120	28-MAY-12
WG1478810-1	MB							
Cyanide, Total			<0.0020		mg/L		0.002	28-MAY-12
CN-WAD-WT								
	Water							
Batch	R2372488							
WG1478952-4	CVS							
Cyanide, Weak Acid Diss			106.0		%		85-115	28-MAY-12
WG1478952-5	DUP	L1148845-1						
Cyanide, Weak Acid Diss		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	28-MAY-12
WG1478952-6	DUP	L1148845-19						
Cyanide, Weak Acid Diss		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	28-MAY-12
WG1478952-3	LCS							
Cyanide, Weak Acid Diss			107.2		%		80-120	28-MAY-12
WG1478952-1	MB							
Cyanide, Weak Acid Diss			<0.0020		mg/L		0.002	28-MAY-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
EC-CAP-TB								
Water								
Batch	R2367981							
WG1474530-3	DUP	L1148845-9						
Conductivity (EC)		135	136		uS/cm	0.4	10	18-MAY-12
WG1474530-2	LCS							
Conductivity (EC)			102.2		%		90-110	18-MAY-12
WG1474530-1	MB							
Conductivity (EC)			<3.0		uS/cm		3	18-MAY-12
HG-D-CVAF-TB								
Water								
Batch	R2369039							
WG1476155-4	DUP	L1148845-19						
Mercury (Hg)-Dissolved		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	22-MAY-12
WG1476155-2	LCS							
Mercury (Hg)-Dissolved			99.9		%		80-120	22-MAY-12
WG1476155-1	MB							
Mercury (Hg)-Dissolved			<0.000010		mg/L		0.00001	22-MAY-12
WG1476155-5	MS	L1148845-19						
Mercury (Hg)-Dissolved			103.8		%		70-130	22-MAY-12
HG-T-CVAF-TB								
Water								
Batch	R2369046							
WG1476149-6	DUP	L1148845-12						
Mercury (Hg)-Total		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	22-MAY-12
WG1476149-2	LCS							
Mercury (Hg)-Total			99.9		%		80-120	22-MAY-12
WG1476149-1	MB							
Mercury (Hg)-Total			<0.000010		mg/L		0.00001	22-MAY-12
WG1476149-7	MS	L1148845-12						
Mercury (Hg)-Total			94.2		%		70-130	22-MAY-12
MET-D-MS-TB								
Water								
Batch	R2372702							
WG1477922-2	LCS							
Aluminum (Al)-Dissolved			95.9		%		80-120	25-MAY-12
Antimony (Sb)-Dissolved			103.7		%		80-120	25-MAY-12
Arsenic (As)-Dissolved			105.4		%		80-120	25-MAY-12
Barium (Ba)-Dissolved			95.8		%		80-120	25-MAY-12
Beryllium (Be)-Dissolved			93.5		%		80-120	25-MAY-12
Bismuth (Bi)-Dissolved			100.6		%		80-120	25-MAY-12
Boron (B)-Dissolved			94.9		%		80-120	25-MAY-12
Cadmium (Cd)-Dissolved			102.8		%		80-120	25-MAY-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2372702							
WG1477922-2	LCS							
Calcium (Ca)-Dissolved			102.2		%		80-120	25-MAY-12
Chromium (Cr)-Dissolved			102.5		%		80-120	25-MAY-12
Cobalt (Co)-Dissolved			100.0		%		80-120	25-MAY-12
Copper (Cu)-Dissolved			96.2		%		80-120	25-MAY-12
Iron (Fe)-Dissolved			101.6		%		80-120	25-MAY-12
Lead (Pb)-Dissolved			102.1		%		80-120	25-MAY-12
Lithium (Li)-Dissolved			95.8		%		80-120	25-MAY-12
Magnesium (Mg)-Dissolved			100.4		%		80-120	25-MAY-12
Manganese (Mn)-Dissolved			101.0		%		80-120	25-MAY-12
Molybdenum (Mo)-Dissolved			99.3		%		80-120	25-MAY-12
Nickel (Ni)-Dissolved			100.5		%		80-120	25-MAY-12
Potassium (K)-Dissolved			105.3		%		80-120	25-MAY-12
Selenium (Se)-Dissolved			110.4		%		80-120	25-MAY-12
Silver (Ag)-Dissolved			94.7		%		80-120	25-MAY-12
Sodium (Na)-Dissolved			101.8		%		80-120	25-MAY-12
Strontium (Sr)-Dissolved			99.0		%		80-120	25-MAY-12
Tellurium (Te)-Dissolved			110.0		%		80-120	25-MAY-12
Thallium (Tl)-Dissolved			101.8		%		80-120	25-MAY-12
Tin (Sn)-Dissolved			103.7		%		80-120	25-MAY-12
Titanium (Ti)-Dissolved			103.8		%		80-120	25-MAY-12
Tungsten (W)-Dissolved			99.1		%		80-120	25-MAY-12
Uranium (U)-Dissolved			96.5		%		80-120	25-MAY-12
Vanadium (V)-Dissolved			102.0		%		80-120	25-MAY-12
Zinc (Zn)-Dissolved			101.0		%		80-120	25-MAY-12
Zirconium (Zr)-Dissolved			93.2		%		80-120	25-MAY-12
WG1477922-1	MB							
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	25-MAY-12
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	25-MAY-12
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	25-MAY-12
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	25-MAY-12
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	25-MAY-12
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	25-MAY-12
Boron (B)-Dissolved			<0.050		mg/L		0.05	25-MAY-12
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	25-MAY-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2372702							
WG1477922-1	MB							
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	25-MAY-12
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	25-MAY-12
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	25-MAY-12
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	25-MAY-12
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	25-MAY-12
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	25-MAY-12
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	25-MAY-12
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	25-MAY-12
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	25-MAY-12
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	25-MAY-12
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	25-MAY-12
Potassium (K)-Dissolved			<0.50		mg/L		0.5	25-MAY-12
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	25-MAY-12
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	25-MAY-12
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	25-MAY-12
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	25-MAY-12
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	25-MAY-12
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	25-MAY-12
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	25-MAY-12
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	25-MAY-12
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	25-MAY-12
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	25-MAY-12
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	25-MAY-12
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	25-MAY-12
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	25-MAY-12
WG1477922-4	MS	L1148887-1						
Aluminum (Al)-Dissolved			111.4		%		70-130	25-MAY-12
Antimony (Sb)-Dissolved			112.2		%		70-130	25-MAY-12
Barium (Ba)-Dissolved			N/A	MS-B	%		-	25-MAY-12
Beryllium (Be)-Dissolved			121.1		%		70-130	25-MAY-12
Bismuth (Bi)-Dissolved			97.2		%		70-130	25-MAY-12
Boron (B)-Dissolved			129.6		%		70-130	25-MAY-12
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	25-MAY-12
Chromium (Cr)-Dissolved			117.0		%		70-130	25-MAY-12

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB	Water							
Batch	R2372702							
WG1477922-4 MS		L1148887-1						
Cobalt (Co)-Dissolved			113.4		%		70-130	25-MAY-12
Copper (Cu)-Dissolved			106.7		%		70-130	25-MAY-12
Iron (Fe)-Dissolved			116.7		%		70-130	25-MAY-12
Lead (Pb)-Dissolved			112.3		%		70-130	25-MAY-12
Lithium (Li)-Dissolved			128.1		%		70-130	25-MAY-12
Magnesium (Mg)-Dissolved			N/A	MS-B	%		-	25-MAY-12
Manganese (Mn)-Dissolved			N/A	MS-B	%		-	25-MAY-12
Molybdenum (Mo)-Dissolved			110.6		%		70-130	25-MAY-12
Nickel (Ni)-Dissolved			110.2		%		70-130	25-MAY-12
Potassium (K)-Dissolved			N/A	MS-B	%		-	25-MAY-12
Silver (Ag)-Dissolved			74.0		%		70-130	25-MAY-12
Sodium (Na)-Dissolved			N/A	MS-B	%		-	25-MAY-12
Strontium (Sr)-Dissolved			N/A	MS-B	%		-	25-MAY-12
Thallium (Tl)-Dissolved			109.2		%		70-130	25-MAY-12
Tin (Sn)-Dissolved			108.9		%		70-130	25-MAY-12
Titanium (Ti)-Dissolved			110.9		%		70-130	25-MAY-12
Tungsten (W)-Dissolved			114.0		%		70-130	25-MAY-12
Vanadium (V)-Dissolved			119.4		%		70-130	25-MAY-12
Zinc (Zn)-Dissolved			116.2		%		70-130	25-MAY-12
Zirconium (Zr)-Dissolved			109.9		%		70-130	25-MAY-12
WG1477922-6 MS		L1149251-4						
Aluminum (Al)-Dissolved			99.1		%		70-130	25-MAY-12
Antimony (Sb)-Dissolved			103.4		%		70-130	25-MAY-12
Arsenic (As)-Dissolved			106.5		%		70-130	25-MAY-12
Barium (Ba)-Dissolved			128.3		%		70-130	25-MAY-12
Beryllium (Be)-Dissolved			106.0		%		70-130	25-MAY-12
Bismuth (Bi)-Dissolved			88.6		%		70-130	25-MAY-12
Boron (B)-Dissolved			107.4		%		70-130	25-MAY-12
Cadmium (Cd)-Dissolved			128.9		%		70-130	25-MAY-12
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	25-MAY-12
Chromium (Cr)-Dissolved			105.7		%		70-130	25-MAY-12
Cobalt (Co)-Dissolved			105.7		%		70-130	25-MAY-12
Copper (Cu)-Dissolved			103.1		%		70-130	25-MAY-12
Iron (Fe)-Dissolved			105.1		%		70-130	25-MAY-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2372702							
WG1477922-6 MS		L1149251-4						
Lead (Pb)-Dissolved			104.8		%		70-130	25-MAY-12
Lithium (Li)-Dissolved			111.4		%		70-130	25-MAY-12
Magnesium (Mg)-Dissolved			N/A	MS-B	%		-	25-MAY-12
Manganese (Mn)-Dissolved			104.5		%		70-130	25-MAY-12
Molybdenum (Mo)-Dissolved			99.0		%		70-130	25-MAY-12
Nickel (Ni)-Dissolved			101.6		%		70-130	25-MAY-12
Potassium (K)-Dissolved			107.0		%		70-130	25-MAY-12
Selenium (Se)-Dissolved			107.5		%		70-130	25-MAY-12
Silver (Ag)-Dissolved			106.2		%		70-130	25-MAY-12
Sodium (Na)-Dissolved			N/A	MS-B	%		-	25-MAY-12
Strontium (Sr)-Dissolved			N/A	MS-B	%		-	25-MAY-12
Tellurium (Te)-Dissolved			108.0		%		70-130	25-MAY-12
Thallium (Tl)-Dissolved			101.6		%		70-130	25-MAY-12
Tin (Sn)-Dissolved			104.7		%		70-130	25-MAY-12
Titanium (Ti)-Dissolved			100.9		%		70-130	25-MAY-12
Tungsten (W)-Dissolved			99.1		%		70-130	25-MAY-12
Uranium (U)-Dissolved			103.3		%		70-130	25-MAY-12
Vanadium (V)-Dissolved			107.0		%		70-130	25-MAY-12
Zinc (Zn)-Dissolved			106.7		%		70-130	25-MAY-12
Zirconium (Zr)-Dissolved			98.7		%		70-130	25-MAY-12
WG1477922-8 MS		L1149368-9						
Aluminum (Al)-Dissolved			96.7		%		70-130	25-MAY-12
Antimony (Sb)-Dissolved			102.1		%		70-130	25-MAY-12
Arsenic (As)-Dissolved			112.4		%		70-130	25-MAY-12
Barium (Ba)-Dissolved			N/A	MS-B	%		-	25-MAY-12
Beryllium (Be)-Dissolved			99.6		%		70-130	25-MAY-12
Bismuth (Bi)-Dissolved			83.1		%		70-130	25-MAY-12
Boron (B)-Dissolved			102.2		%		70-130	25-MAY-12
Cadmium (Cd)-Dissolved			124.6		%		70-130	25-MAY-12
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	25-MAY-12
Chromium (Cr)-Dissolved			104.5		%		70-130	25-MAY-12
Cobalt (Co)-Dissolved			99.0		%		70-130	25-MAY-12
Copper (Cu)-Dissolved			94.9		%		70-130	25-MAY-12
Iron (Fe)-Dissolved			95.8		%		70-130	25-MAY-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2372702							
WG1477922-8 MS		L1149368-9						
Lead (Pb)-Dissolved			97.3		%		70-130	25-MAY-12
Lithium (Li)-Dissolved			102.9		%		70-130	25-MAY-12
Magnesium (Mg)-Dissolved			N/A	MS-B	%		-	25-MAY-12
Manganese (Mn)-Dissolved			99.96		%		70-130	25-MAY-12
Molybdenum (Mo)-Dissolved			93.2		%		70-130	25-MAY-12
Nickel (Ni)-Dissolved			94.4		%		70-130	25-MAY-12
Potassium (K)-Dissolved			103.3		%		70-130	25-MAY-12
Selenium (Se)-Dissolved			126.6		%		70-130	25-MAY-12
Silver (Ag)-Dissolved			95.6		%		70-130	25-MAY-12
Sodium (Na)-Dissolved			N/A	MS-B	%		-	25-MAY-12
Strontium (Sr)-Dissolved			N/A	MS-B	%		-	25-MAY-12
Tellurium (Te)-Dissolved			111.5		%		70-130	25-MAY-12
Thallium (Tl)-Dissolved			93.9		%		70-130	25-MAY-12
Tin (Sn)-Dissolved			98.7		%		70-130	25-MAY-12
Titanium (Ti)-Dissolved			106.9		%		70-130	25-MAY-12
Tungsten (W)-Dissolved			96.6		%		70-130	25-MAY-12
Uranium (U)-Dissolved			108.6		%		70-130	25-MAY-12
Vanadium (V)-Dissolved			104.7		%		70-130	25-MAY-12
Zinc (Zn)-Dissolved			100.8		%		70-130	25-MAY-12
Zirconium (Zr)-Dissolved			95.9		%		70-130	25-MAY-12
MET-T-MS-TB								
	Water							
Batch	R2369667							
WG1474412-2 LCS								
Aluminum (Al)-Total			86.1		%		80-120	23-MAY-12
Antimony (Sb)-Total			93.8		%		80-120	23-MAY-12
Arsenic (As)-Total			101.4		%		80-120	23-MAY-12
Barium (Ba)-Total			92.7		%		80-120	23-MAY-12
Beryllium (Be)-Total			89.9		%		80-120	23-MAY-12
Bismuth (Bi)-Total			99.1		%		80-120	23-MAY-12
Boron (B)-Total			89.0		%		80-120	23-MAY-12
Cadmium (Cd)-Total			95.8		%		80-120	23-MAY-12
Calcium (Ca)-Total			95.6		%		80-120	23-MAY-12
Chromium (Cr)-Total			94.1		%		80-120	23-MAY-12
Cobalt (Co)-Total			91.8		%		80-120	23-MAY-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2369667							
WG1474412-2	LCS							
Copper (Cu)-Total			89.3		%		80-120	23-MAY-12
Iron (Fe)-Total			83.4		%		80-120	23-MAY-12
Lead (Pb)-Total			96.6		%		80-120	23-MAY-12
Lithium (Li)-Total			93.0		%		80-120	23-MAY-12
Magnesium (Mg)-Total			91.1		%		80-120	23-MAY-12
Manganese (Mn)-Total			95.4		%		80-120	23-MAY-12
Molybdenum (Mo)-Total			97.4		%		80-120	23-MAY-12
Nickel (Ni)-Total			93.6		%		80-120	23-MAY-12
Potassium (K)-Total			95.3		%		80-120	23-MAY-12
Selenium (Se)-Total			103.4		%		80-120	23-MAY-12
Silver (Ag)-Total			93.0		%		80-120	23-MAY-12
Sodium (Na)-Total			95.4		%		80-120	23-MAY-12
Strontium (Sr)-Total			92.9		%		80-120	23-MAY-12
Tellurium (Te)-Total			97.8		%		80-120	23-MAY-12
Thallium (Tl)-Total			101.0		%		80-120	23-MAY-12
Tin (Sn)-Total			92.3		%		80-120	23-MAY-12
Titanium (Ti)-Total			98.7		%		80-120	23-MAY-12
Tungsten (W)-Total			96.1		%		80-120	23-MAY-12
Uranium (U)-Total			98.8		%		80-120	23-MAY-12
Vanadium (V)-Total			94.6		%		80-120	23-MAY-12
Zinc (Zn)-Total			92.6		%		80-120	23-MAY-12
Zirconium (Zr)-Total			91.3		%		80-120	23-MAY-12
WG1474412-1	MB							
Aluminum (Al)-Total			<0.0050		mg/L		0.005	23-MAY-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	23-MAY-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	23-MAY-12
Barium (Ba)-Total			<0.010		mg/L		0.01	23-MAY-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	23-MAY-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	23-MAY-12
Boron (B)-Total			<0.050		mg/L		0.05	23-MAY-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	23-MAY-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	23-MAY-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	23-MAY-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	23-MAY-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2369667							
WG1474412-1	MB							
Copper (Cu)-Total			<0.0010		mg/L		0.001	23-MAY-12
Iron (Fe)-Total			<0.020		mg/L		0.02	23-MAY-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	23-MAY-12
Lithium (Li)-Total			<0.050		mg/L		0.05	23-MAY-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	23-MAY-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	23-MAY-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	23-MAY-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	23-MAY-12
Potassium (K)-Total			<0.50		mg/L		0.5	23-MAY-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	23-MAY-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	23-MAY-12
Sodium (Na)-Total			<0.10		mg/L		0.1	23-MAY-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	23-MAY-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	23-MAY-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	23-MAY-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	23-MAY-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	23-MAY-12
Tungsten (W)-Total			<0.010		mg/L		0.01	23-MAY-12
Uranium (U)-Total			<0.0050		mg/L		0.005	23-MAY-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	23-MAY-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	23-MAY-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	23-MAY-12
Batch	R2371806							
WG1474412-8	LCS							
Aluminum (Al)-Total			96.1		%		80-120	24-MAY-12
Antimony (Sb)-Total			103.2		%		80-120	24-MAY-12
Arsenic (As)-Total			102.8		%		80-120	24-MAY-12
Barium (Ba)-Total			100.7		%		80-120	24-MAY-12
Beryllium (Be)-Total			109.0		%		80-120	24-MAY-12
Bismuth (Bi)-Total			105.6		%		80-120	24-MAY-12
Boron (B)-Total			90.3		%		80-120	24-MAY-12
Cadmium (Cd)-Total			104.2		%		80-120	24-MAY-12
Calcium (Ca)-Total			98.4		%		80-120	24-MAY-12
Chromium (Cr)-Total			100.5		%		80-120	24-MAY-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2371806							
WG1474412-8	LCS							
Cobalt (Co)-Total			101.4		%		80-120	24-MAY-12
Copper (Cu)-Total			94.6		%		80-120	24-MAY-12
Iron (Fe)-Total			107.7		%		80-120	24-MAY-12
Lead (Pb)-Total			102.9		%		80-120	24-MAY-12
Lithium (Li)-Total			103.5		%		80-120	24-MAY-12
Magnesium (Mg)-Total			102.4		%		80-120	24-MAY-12
Manganese (Mn)-Total			106.2		%		80-120	24-MAY-12
Molybdenum (Mo)-Total			104.1		%		80-120	24-MAY-12
Nickel (Ni)-Total			100.6		%		80-120	24-MAY-12
Potassium (K)-Total			98.4		%		80-120	24-MAY-12
Selenium (Se)-Total			118.9		%		80-120	24-MAY-12
Silver (Ag)-Total			94.7		%		80-120	24-MAY-12
Sodium (Na)-Total			101.2		%		80-120	24-MAY-12
Strontium (Sr)-Total			101.1		%		80-120	24-MAY-12
Tellurium (Te)-Total			109.8		%		80-120	24-MAY-12
Thallium (Tl)-Total			106.6		%		80-120	24-MAY-12
Tin (Sn)-Total			106.2		%		80-120	24-MAY-12
Titanium (Ti)-Total			103.4		%		80-120	24-MAY-12
Tungsten (W)-Total			100.2		%		80-120	24-MAY-12
Uranium (U)-Total			99.8		%		80-120	24-MAY-12
Vanadium (V)-Total			100.4		%		80-120	24-MAY-12
Zinc (Zn)-Total			97.0		%		80-120	24-MAY-12
Zirconium (Zr)-Total			96.2		%		80-120	24-MAY-12
WG1474412-7		MB						
Aluminum (Al)-Total			<0.0050		mg/L		0.005	24-MAY-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	24-MAY-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	24-MAY-12
Barium (Ba)-Total			<0.010		mg/L		0.01	24-MAY-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	24-MAY-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	24-MAY-12
Boron (B)-Total			<0.050		mg/L		0.05	24-MAY-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	24-MAY-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	24-MAY-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	24-MAY-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB	Water							
Batch	R2371806							
WG1474412-7 MB								
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	24-MAY-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	24-MAY-12
Iron (Fe)-Total			<0.020		mg/L		0.02	24-MAY-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	24-MAY-12
Lithium (Li)-Total			<0.050		mg/L		0.05	24-MAY-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	24-MAY-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	24-MAY-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	24-MAY-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	24-MAY-12
Potassium (K)-Total			<0.50		mg/L		0.5	24-MAY-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	24-MAY-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	24-MAY-12
Sodium (Na)-Total			<0.10		mg/L		0.1	24-MAY-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	24-MAY-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	24-MAY-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	24-MAY-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	24-MAY-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	24-MAY-12
Tungsten (W)-Total			<0.010		mg/L		0.01	24-MAY-12
Uranium (U)-Total			<0.0050		mg/L		0.005	24-MAY-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	24-MAY-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	24-MAY-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	24-MAY-12
WG1474412-6 MS		L1148914-2						
Aluminum (Al)-Total			95.6		%		70-130	24-MAY-12
Antimony (Sb)-Total			96.8		%		70-130	24-MAY-12
Arsenic (As)-Total			101.1		%		70-130	24-MAY-12
Barium (Ba)-Total			N/A	MS-B	%		-	24-MAY-12
Beryllium (Be)-Total			112.6		%		70-130	24-MAY-12
Bismuth (Bi)-Total			101.0		%		70-130	24-MAY-12
Boron (B)-Total			106.7		%		70-130	24-MAY-12
Cadmium (Cd)-Total			127.2		%		70-130	24-MAY-12
Calcium (Ca)-Total			N/A	MS-B	%		-	24-MAY-12
Chromium (Cr)-Total			100.7		%		70-130	24-MAY-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2371806							
WG1474412-6 MS		L1148914-2						
Cobalt (Co)-Total			99.6		%		70-130	24-MAY-12
Copper (Cu)-Total			93.5		%		70-130	24-MAY-12
Iron (Fe)-Total			N/A	MS-B	%		-	24-MAY-12
Lead (Pb)-Total			101.3		%		70-130	24-MAY-12
Lithium (Li)-Total			126.6		%		70-130	24-MAY-12
Magnesium (Mg)-Total			N/A	MS-B	%		-	24-MAY-12
Manganese (Mn)-Total			N/A	MS-B	%		-	24-MAY-12
Molybdenum (Mo)-Total			92.3		%		70-130	24-MAY-12
Nickel (Ni)-Total			95.8		%		70-130	24-MAY-12
Potassium (K)-Total			95.3		%		70-130	24-MAY-12
Selenium (Se)-Total			106.8		%		70-130	24-MAY-12
Silver (Ag)-Total			104.0		%		70-130	24-MAY-12
Sodium (Na)-Total			N/A	MS-B	%		-	24-MAY-12
Strontium (Sr)-Total			N/A	MS-B	%		-	24-MAY-12
Tellurium (Te)-Total			104.0		%		70-130	24-MAY-12
Thallium (Tl)-Total			100.4		%		70-130	24-MAY-12
Tin (Sn)-Total			100.7		%		70-130	24-MAY-12
Titanium (Ti)-Total			97.8		%		70-130	24-MAY-12
Tungsten (W)-Total			111.2		%		70-130	24-MAY-12
Uranium (U)-Total			111.7		%		70-130	24-MAY-12
Vanadium (V)-Total			103.6		%		70-130	24-MAY-12
Zinc (Zn)-Total			96.3		%		70-130	24-MAY-12
Zirconium (Zr)-Total			87.9		%		70-130	24-MAY-12
Batch	R2372627							
WG1474412-10 LCS								
Aluminum (Al)-Total			102.0		%		80-120	25-MAY-12
Antimony (Sb)-Total			109.3		%		80-120	25-MAY-12
Arsenic (As)-Total			111.5		%		80-120	25-MAY-12
Barium (Ba)-Total			102.4		%		80-120	25-MAY-12
Beryllium (Be)-Total			107.2		%		80-120	25-MAY-12
Bismuth (Bi)-Total			109.5		%		80-120	25-MAY-12
Boron (B)-Total			101.9		%		80-120	25-MAY-12
Cadmium (Cd)-Total			109.5		%		80-120	25-MAY-12
Calcium (Ca)-Total			107.9		%		80-120	25-MAY-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2372627							
WG1474412-10 LCS								
Chromium (Cr)-Total			107.5		%		80-120	25-MAY-12
Cobalt (Co)-Total			106.1		%		80-120	25-MAY-12
Copper (Cu)-Total			103.0		%		80-120	25-MAY-12
Iron (Fe)-Total			109.8		%		80-120	25-MAY-12
Lead (Pb)-Total			109.2		%		80-120	25-MAY-12
Lithium (Li)-Total			105.0		%		80-120	25-MAY-12
Magnesium (Mg)-Total			107.4		%		80-120	25-MAY-12
Manganese (Mn)-Total			106.7		%		80-120	25-MAY-12
Molybdenum (Mo)-Total			105.9		%		80-120	25-MAY-12
Nickel (Ni)-Total			105.6		%		80-120	25-MAY-12
Potassium (K)-Total			110.2		%		80-120	25-MAY-12
Selenium (Se)-Total			116.7		%		80-120	25-MAY-12
Silver (Ag)-Total			102.5		%		80-120	25-MAY-12
Sodium (Na)-Total			108.9		%		80-120	25-MAY-12
Strontium (Sr)-Total			104.5		%		80-120	25-MAY-12
Tellurium (Te)-Total			115.1		%		80-120	25-MAY-12
Thallium (Tl)-Total			109.6		%		80-120	25-MAY-12
Tin (Sn)-Total			111.2		%		80-120	25-MAY-12
Titanium (Ti)-Total			113.0		%		80-120	25-MAY-12
Tungsten (W)-Total			107.0		%		80-120	25-MAY-12
Uranium (U)-Total			102.0		%		80-120	25-MAY-12
Vanadium (V)-Total			107.7		%		80-120	25-MAY-12
Zinc (Zn)-Total			107.4		%		80-120	25-MAY-12
Zirconium (Zr)-Total			102.7		%		80-120	25-MAY-12
WG1474412-9 MB								
Aluminum (Al)-Total			<0.0050		mg/L		0.005	25-MAY-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	25-MAY-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	25-MAY-12
Barium (Ba)-Total			<0.010		mg/L		0.01	25-MAY-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	25-MAY-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	25-MAY-12
Boron (B)-Total			<0.050		mg/L		0.05	25-MAY-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	25-MAY-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	25-MAY-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2372627							
WG1474412-9	MB							
Chromium (Cr)-Total			<0.0010		mg/L		0.001	25-MAY-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	25-MAY-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	25-MAY-12
Iron (Fe)-Total			<0.020		mg/L		0.02	25-MAY-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	25-MAY-12
Lithium (Li)-Total			<0.050		mg/L		0.05	25-MAY-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	25-MAY-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	25-MAY-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	25-MAY-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	25-MAY-12
Potassium (K)-Total			<0.50		mg/L		0.5	25-MAY-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	25-MAY-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	25-MAY-12
Sodium (Na)-Total			<0.10		mg/L		0.1	25-MAY-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	25-MAY-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	25-MAY-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	25-MAY-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	25-MAY-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	25-MAY-12
Tungsten (W)-Total			<0.010		mg/L		0.01	25-MAY-12
Uranium (U)-Total			<0.0050		mg/L		0.005	25-MAY-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	25-MAY-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	25-MAY-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	25-MAY-12
Batch	R2373571							
WG1474412-12	LCS							
Aluminum (Al)-Total			94.4		%		80-120	29-MAY-12
Antimony (Sb)-Total			102.4		%		80-120	29-MAY-12
Arsenic (As)-Total			110.0		%		80-120	29-MAY-12
Barium (Ba)-Total			102.7		%		80-120	29-MAY-12
Beryllium (Be)-Total			102.2		%		80-120	29-MAY-12
Bismuth (Bi)-Total			110.6		%		80-120	29-MAY-12
Boron (B)-Total			104.9		%		80-120	29-MAY-12
Cadmium (Cd)-Total			106.7		%		80-120	29-MAY-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2373571							
WG1474412-12 LCS								
Calcium (Ca)-Total			98.1		%		80-120	29-MAY-12
Chromium (Cr)-Total			105.3		%		80-120	29-MAY-12
Cobalt (Co)-Total			105.5		%		80-120	29-MAY-12
Copper (Cu)-Total			100.2		%		80-120	29-MAY-12
Lead (Pb)-Total			105.3		%		80-120	29-MAY-12
Lithium (Li)-Total			109.4		%		80-120	29-MAY-12
Magnesium (Mg)-Total			104.3		%		80-120	29-MAY-12
Manganese (Mn)-Total			109.8		%		80-120	29-MAY-12
Molybdenum (Mo)-Total			110.3		%		80-120	29-MAY-12
Nickel (Ni)-Total			107.9		%		80-120	29-MAY-12
Potassium (K)-Total			97.8		%		80-120	29-MAY-12
Selenium (Se)-Total			118.5		%		80-120	29-MAY-12
Silver (Ag)-Total			98.3		%		80-120	29-MAY-12
Sodium (Na)-Total			106.2		%		80-120	29-MAY-12
Strontium (Sr)-Total			104.4		%		80-120	29-MAY-12
Tellurium (Te)-Total			109.8		%		80-120	29-MAY-12
Thallium (Tl)-Total			103.3		%		80-120	29-MAY-12
Tin (Sn)-Total			109.2		%		80-120	29-MAY-12
Titanium (Ti)-Total			109.4		%		80-120	29-MAY-12
Tungsten (W)-Total			102.0		%		80-120	29-MAY-12
Uranium (U)-Total			95.3		%		80-120	29-MAY-12
Vanadium (V)-Total			111.0		%		80-120	29-MAY-12
Zinc (Zn)-Total			103.5		%		80-120	29-MAY-12
Zirconium (Zr)-Total			103.7		%		80-120	29-MAY-12
WG1474412-11 MB								
Aluminum (Al)-Total			<0.0050		mg/L		0.005	29-MAY-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	29-MAY-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	29-MAY-12
Barium (Ba)-Total			<0.010		mg/L		0.01	29-MAY-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	29-MAY-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	29-MAY-12
Boron (B)-Total			<0.050		mg/L		0.05	29-MAY-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	29-MAY-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	29-MAY-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2373571							
WG1474412-11 MB								
Chromium (Cr)-Total			<0.0010		mg/L		0.001	29-MAY-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	29-MAY-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	29-MAY-12
Iron (Fe)-Total			<0.020		mg/L		0.02	29-MAY-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	29-MAY-12
Lithium (Li)-Total			<0.050		mg/L		0.05	29-MAY-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	29-MAY-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	29-MAY-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	29-MAY-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	29-MAY-12
Potassium (K)-Total			<0.50		mg/L		0.5	29-MAY-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	29-MAY-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	29-MAY-12
Sodium (Na)-Total			<0.10		mg/L		0.1	29-MAY-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	29-MAY-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	29-MAY-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	29-MAY-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	29-MAY-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	29-MAY-12
Tungsten (W)-Total			<0.010		mg/L		0.01	29-MAY-12
Uranium (U)-Total			<0.0050		mg/L		0.005	29-MAY-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	29-MAY-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	29-MAY-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	29-MAY-12
NH3-COL-TB								
	Water							
Batch	R2368011							
WG1475070-3 DUP		L1148845-10						
Ammonia, Total (as N)		<0.020	0.025	RPD-NA	mg/L	N/A	20	19-MAY-12
WG1475070-2 LCS								
Ammonia, Total (as N)			90.9		%		85-115	19-MAY-12
WG1475070-1 MB								
Ammonia, Total (as N)			<0.020		mg/L		0.02	19-MAY-12
WG1475070-4 MS		L1148845-10						
Ammonia, Total (as N)			79.4		%		75-125	19-MAY-12
WG1475070-6 MS		L1149229-2						



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NH3-COL-TB								
Water								
Batch	R2368011							
WG1475070-6	MS	L1149229-2						
Ammonia, Total (as N)			83.5		%		75-125	19-MAY-12
Batch	R2371341							
WG1477017-2	LCS							
Ammonia, Total (as N)			90.8		%		85-115	24-MAY-12
WG1477017-1	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	24-MAY-12
WG1477017-4	MS	L1149368-2						
Ammonia, Total (as N)			75.9		%		75-125	24-MAY-12
WG1477017-6	MS	L1150036-12						
Ammonia, Total (as N)			103.4		%		75-125	24-MAY-12
WG1477017-8	MS	L1150076-17						
Ammonia, Total (as N)			97.3		%		75-125	24-MAY-12
NO2-IC-TB								
Water								
Batch	R2368662							
WG1475776-2	LCS							
Nitrite (as N)			97.9		%		90-110	18-MAY-12
WG1475776-1	MB							
Nitrite (as N)			<0.020		mg/L		0.02	18-MAY-12
WG1475776-4	MS	L1148887-3						
Nitrite (as N)			91.5		%		75-115	18-MAY-12
WG1475776-6	MS	L1149368-11						
Nitrite (as N)			102.2		%		75-115	18-MAY-12
Batch	R2370560							
WG1476446-2	LCS							
Nitrite (as N)			96.0		%		90-110	22-MAY-12
WG1476446-1	MB							
Nitrite (as N)			<0.020		mg/L		0.02	22-MAY-12
WG1476446-6	MS	L1150036-4						
Nitrite (as N)			100.2		%		75-115	22-MAY-12
NO3-IC-TB								
Water								
Batch	R2368662							
WG1475776-2	LCS							
Nitrate (as N)			99.3		%		90-110	18-MAY-12
WG1475776-1	MB							
Nitrate (as N)			<0.030		mg/L		0.03	18-MAY-12
WG1475776-4	MS	L1148887-3						



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO3-IC-TB								
Batch R2368662								
WG1475776-4	MS	L1148887-3						
Nitrate (as N)			91.8		%		75-125	18-MAY-12
WG1475776-6	MS	L1149368-11						
Nitrate (as N)			101.6		%		75-125	18-MAY-12
Batch R2370560								
WG1476446-2	LCS							
Nitrate (as N)			96.9		%		90-110	22-MAY-12
WG1476446-1	MB							
Nitrate (as N)			<0.030		mg/L		0.03	22-MAY-12
WG1476446-6	MS	L1150036-4						
Nitrate (as N)			99.96		%		75-125	22-MAY-12
OGG-TOT-WT								
Batch R2371509								
WG1477982-2	LCS							
Oil and Grease, Total			89.0		%		75-120	25-MAY-12
WG1477982-3	LCSD	WG1477982-2						
Oil and Grease, Total		89.0	89		%	0.4	45	25-MAY-12
WG1477982-1	MB							
Oil and Grease, Total			<2.0		mg/L		2	25-MAY-12
Batch R2372511								
WG1478483-2	LCS							
Oil and Grease, Total			88.8		%		75-120	27-MAY-12
WG1478483-3	LCSD	WG1478483-2						
Oil and Grease, Total		88.8	87		%	2.0	45	27-MAY-12
WG1478483-1	MB							
Oil and Grease, Total			<2.0		mg/L		2	27-MAY-12
P-T-COL-TB								
Batch R2368623								
WG1474500-2	LCS							
Phosphorus (P)-Total			99.2		%		80-120	18-MAY-12
WG1474500-1	MB							
Phosphorus (P)-Total			<0.0050		mg/L		0.005	18-MAY-12
WG1474500-4	MS	L1148200-4						
Phosphorus (P)-Total			87.1		%		70-130	18-MAY-12
WG1474500-6	MS	L1148639-3						
Phosphorus (P)-Total			N/A	MS-B	%		-	18-MAY-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
P-T-COL-TB								
Water								
Batch	R2370687							
WG1476320-2	LCS							
Phosphorus (P)-Total			97.5		%		80-120	23-MAY-12
WG1476320-1	MB							
Phosphorus (P)-Total			<0.0050		mg/L		0.005	23-MAY-12
WG1476320-4	MS	L1150076-16						
Phosphorus (P)-Total			103.3		%		70-130	23-MAY-12
PH-CAP-TB								
Water								
Batch	R2367981							
WG1474530-3	DUP	L1148845-9						
pH		7.95	7.93	J	pH	0.02	0.2	18-MAY-12
WG1474530-2	LCS							
pH			6.00		pH		5.9-6.1	18-MAY-12
SO4-IC-TB								
Water								
Batch	R2368662							
WG1475776-2	LCS							
Sulfate (SO4)			101.7		%		90-110	18-MAY-12
WG1475776-1	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	18-MAY-12
WG1475776-4	MS	L1148887-3						
Sulfate (SO4)			93.9		%		75-125	18-MAY-12
WG1475776-6	MS	L1149368-11						
Sulfate (SO4)			104.6		%		75-125	18-MAY-12
Batch	R2370560							
WG1476446-2	LCS							
Sulfate (SO4)			99.1		%		90-110	22-MAY-12
WG1476446-1	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	22-MAY-12
WG1476446-4	MS	L1149338-8						
Sulfate (SO4)			101.2		%		75-125	22-MAY-12
WG1476446-6	MS	L1150036-4						
Sulfate (SO4)			N/A	MS-B	%		-	22-MAY-12
SOLIDS-TOTSUS-TB								
Water								
Batch	R2369984							
WG1475457-3	DUP	L1148845-7						
Total Suspended Solids		252	254		mg/L	1.0	20	22-MAY-12
WG1475457-4	DUP	L1148845-11						
Total Suspended Solids		9.2	10.2		mg/L	10	20	22-MAY-12
WG1475457-2	LCS							



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SOLIDS-TOTSUS-TB	Water							
Batch	R2369984							
WG1475457-2 LCS								
Total Suspended Solids			95.4		%		85-115	22-MAY-12
WG1475457-1 MB								
Total Suspended Solids			<2.0		mg/L		2	22-MAY-12

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Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
J	Duplicate results and limits are expressed in terms of absolute difference.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

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Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Leachable Anions & Nutrients							
Anions by Ion Chromatography	6	15-MAY-12 11:45	22-MAY-12 16:36	5	7	days	EHT
Anions by Ion Chromatography	6	15-MAY-12 11:45	22-MAY-12 16:36	5	7	days	EHT

Legend & Qualifier Definitions:

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.
EHTR: Exceeded ALS recommended hold time prior to sample receipt.
EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
EHT: Exceeded ALS recommended hold time prior to analysis.
Rec. HT: ALS recommended hold time (see units).

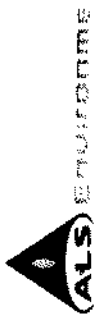
Notes*:

Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.
Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L1148845 were received on 17-MAY-12 12:30.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



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Address: 899 Tree Nursery Rd
 Wabigoon ON P0V 2W0
 Phone: 807-223-6191 Fax:
 Email: mac@treasurymetals.com

Project: Job M0906A01 PO: M0210-PO115
Quote # Q32690 LSD Goliath Project
Invoice To: Same as Report: Yes No
Company:
Contact:
Address:
Email:

Account Manager
 Karen R. **Sampler:** Mac Potter
 Chris Rollins

Regulatory Information
 O. Reg 153 (O. Reg 511 Amend) Table
 Record of Site Condition Yes No
 PWQO MISA MMER CCME
 Guideline Required:
 TCLP Regulation 558 Other:
Service Requested
 Regular TAT (7 Days)
 Priority TAT 50% Surcharge (3-5 Days)
 Emergency TAT 100% Surcharge (1-2 Days)
 Specify Date Required:
 All TAT quoted material is in business days which
 exclude statutory holidays and weekends. Samples
 received past 3:00pm on Saturday/Sunday begin the
 next day.

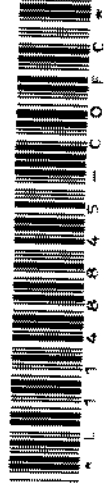
Sample #	Sample Identification (This description will appear on the report)	Date	Time	Sample Type	Alk, pH Conductivity	Cl, NO2, NO3, SO4	Acidity, TSS	Total Cyanide	WAD Cyanide	CN-FREE-COL-VA	Ammonia, Total Phosphorus	OGC	Total Metals + Hg	Dissolved Metals + Hg	Hardness	Number of Containers
1	SWB	15/05/12	9:00	Water	X	X	X	X	X	X	X	X	X	X	X	6
2	SWB	15/05/12	8:30		X	X	X	X	X	X	X	X	X	X	X	1
3	TL3	15/05/12	7:10:00		X	X	X	X	X	X	X	X	X	X	X	
4	SWB SW1	15/05/12	10:30		X	X	X	X	X	X	X	X	X	X	X	
5	JICA	15/05/12	10:55		X	X	X	X	X	X	X	X	X	X	X	
6	TL1a	15/05/12	11:45		X	X	X	X	X	X	X	X	X	X	X	
7	TL2a	15/05/12	1:15		X	X	X	X	X	X	X	X	X	X	X	
8	SW8	15/05/12	2:45		X	X	X	X	X	X	X	X	X	X	X	
9	SW7	15/05/12	3:15		X	X	X	X	X	X	X	X	X	X	X	
10	SW10	15/05/12	3:50		X	X	X	X	X	X	X	X	X	X	X	
11	SW11	15/05/12	4:35		X	X	X	X	X	X	X	X	X	X	X	

Special Instructions / Comments
 * ALL DISOLVED PRESERVED WITH NITRIC ACID, AS RECOMMENDED BY KAREN R.
 SEE SF

SHIPMENT RELEASE (client use)
 Released by: macpotter Date & Time: 16/05/12
 Received by: [Signature] Date & Time: 17 MAY 12 12:30
 Temp: 7.6 Cooling Initiated: Yes No
 Verified by: [Signature] Date & Time: 17 MAY 12 13:00
 Observations: Yes No #YES add SIF

Failure to complete all portions of this form may delay analysis. *TAT may vary dependant on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs. Any known or suspected hazards relating to a sample must be noted on the chain of custody in the comments section. By use of the form the user acknowledges and agrees with the Terms and Conditions as specified on the back page.

TY-FM-0204g v.2 Analytical COC



Company: Treasury Metals

Contact: Mac Potter
 Address: 899 Tree Nursery Rd
 Wabigoon ON P0V 2W0

Phone: 807-223-6191 Fax:
 Email: mac@treasurymetals.com

Project: Job M0906A01 PO: M0210-P0115

Quote #: Q32690 LSD Goliath Project

Invoice To: Same as Report: Yes No

Company: Karen R. Sampler: Mac Potter
 Contact: Chris Rollins

Address: Sample Identification

Email: (This description will appear on the report)

Account Manager: Karen R. Sampler: Mac Potter
 Chris Rollins

Sample #: 12 SW09
 13 SW04
 14 SW05
 15 SW06
 16 SW03
 17 Field Blank
 18 Travel Blank

Regulatory information
 O. Reg 153 (O. Reg 511 Amend) Table 1
 Record of Site Condition Yes No
 PWQO MISA MMER CCME
 Guideline Required:
 TCLP Regulation 558 Other:
Service Requested
 Regular TAT (7 Days)
 Priority TAT 50% Surcharge (3-5 Days)
 Emergency TAT 100% Surcharge (1-2 Days)
 Specify Date Required:
 All TAT quoted material is in business days which exclude statutory holidays and weekends. Samples received past 3:00pm or Saturday/Sunday begin the next day.

Analysis Request

Please indicate below Filtered, Preserved or both (F, P, F/P)

Alk, pH Conductivity	Cl, NO ₂ , NO ₃ , SO ₄	Acidity, TSS	Total Cyanide	WAD Cyanide	CN-FREE-COL-VA	Ammonia, Total Phosphorus	OGC	Total Metals +Hg	Dissolved Metals + Hg	Hardness	Number of Containers
X	X	X	X	X	X	X	X	X	X	X	9
X	X	X	X	X	X	X	X	X	X	X	
X	X	X	X	X	X	X	X	X	X	X	
X	X	X	X	X	X	X	X	X	X	X	
X	X	X	X	X	X	X	X	X	X	X	
X	X	X	X	X	X	X	X	X	X	X	
X	X	X	X	X	X	X	X	X	X	X	
X	X	X	X	X	X	X	X	X	X	X	
X	X	X	X	X	X	X	X	X	X	X	
X	X	X	X	X	X	X	X	X	X	X	

Special instructions / Comments

* JEE Page 2

SHIPMENT RELEASE (client use)
 Released by: *Mac Potter* Date & Time: 16/05/12

Received by: _____ Date & Time: _____
 Temp _____ Cooling Initiated Yes No
 Verified by: _____ Date & Time: _____
 Observations: Yes / No ? If Yes add SIF

**Failure to complete all portions of this form may delay analysis. **TAT may vary dependant on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs. Any known or suspected hazards relating to a sample must be noted on the chain of custody in the comments section. By use of the form the user acknowledges and agrees with the Terms and Conditions as specified on the back page.



TREASURY METALS INC.
ATTN: Mac Potter
P.O. Box 789
Dryden ON P8N 2Z4

Date Received: 22-JUN-12
Report Date: 05-JUL-12 08:44 (MT)
Version: FINAL

Client Phone: 807-938-6961

Certificate of Analysis

Lab Work Order #: L1166467
Project P.O. #: NOT SUBMITTED
Job Reference:
C of C Numbers: L1166467
Legal Site Desc:



Karen Rutledge
Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 1081 Barton Street, Thunder Bay, ON P7B 5N3 Canada | Phone: +1 807 623 6463 | Fax: +1 807 623 7598
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1166467-1 WATER 21-JUN-12 10:15 SW4	L1166467-2 WATER 21-JUN-12 11:30 SW6	L1166467-3 WATER 21-JUN-12 11:30 SW66	L1166467-4 WATER 21-JUN-12 11:45 SW5	L1166467-5 WATER 20-JUN-12 13:40 SW11
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (EC) (uS/cm)	108	115	115	115	32.7
	Hardness (as CaCO3) (mg/L)	42	48	47	48	18
	pH (pH)	7.62	7.76	7.75	7.77	5.20
	Total Suspended Solids (mg/L)	8.3	2.6	<2.0	2.1	8.6
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	2.0	4.0	3.4	2.2	14.6
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)	43.0	44.3	44.3	44.3	<5.0
	Ammonia, Total (as N) (mg/L)	<0.020	<0.020	<0.020	<0.020	<0.020
	Chloride (Cl) (mg/L)	3.17	4.20	4.22	4.14	<0.10
	Nitrate (as N) (mg/L)	<0.030	<0.030	<0.030	<0.030	0.087
	Nitrite (as N) (mg/L)	<0.020	<0.020	<0.020	<0.020	<0.020
	Phosphorus (P)-Total (mg/L)	0.0273	0.0068	0.0071	0.0071	0.0142
	Sulfate (SO4) (mg/L)	1.74	2.85	2.80	2.76	0.38
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	0.0020
	Cyanide, Total (mg/L)	0.0030	0.0059	0.0049	0.0053	0.0066
	Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)	0.224	0.024	0.021	0.023	0.885
	Antimony (Sb)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Arsenic (As)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	0.0011
	Barium (Ba)-Total (mg/L)	0.010	<0.010	<0.010	<0.010	0.011
	Beryllium (Be)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Total (mg/L)	<0.0010	<0.0010	0.0012	<0.0010	<0.0010
	Boron (B)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Total (mg/L)	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090
	Calcium (Ca)-Total (mg/L)	13.1	13.5	12.9	13.2	5.36
	Chromium (Cr)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	0.00162
	Cobalt (Co)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	0.00061
	Copper (Cu)-Total (mg/L)	0.0018	0.0011	0.0010	<0.0010	0.0013
	Iron (Fe)-Total (mg/L)	0.298	<0.050	<0.050	<0.050	1.84
	Lead (Pb)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Magnesium (Mg)-Total (mg/L)	2.32	2.70	2.55	2.62	1.22
	Manganese (Mn)-Total (mg/L)	0.0127	0.0038	0.0037	0.0026	0.0367
	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Potassium (K)-Total (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0
Selenium (Se)-Total (mg/L)	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	
Silicon (Si)-Total (mg/L)	1.1	<1.0	<1.0	<1.0	4.1	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1166467-6 WATER 20-JUN-12 14:10 SW9	L1166467-7 WATER 20-JUN-12 11:30 SW8	L1166467-8 WATER 20-JUN-12 10:00 TL1A	L1166467-9 WATER 20-JUN-12 10:10 TL2A	L1166467-10 WATER 20-JUN-12 08:20 TL3
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (EC) (uS/cm)	96.8	48.3	55.6	114	81.5
	Hardness (as CaCO3) (mg/L)	51	27	31	63	44
	pH (pH)	7.08	6.97	6.74	6.95	7.16
	Total Suspended Solids (mg/L)	2.0	49.5	5.3	4.9	10.7
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	4.4	3.4	4.8	7.2	3.0
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)	43.3	18.3	22.3	50.2	34.5
	Ammonia, Total (as N) (mg/L)	<0.020	<0.020	<0.020	<0.020	0.029
	Chloride (Cl) (mg/L)	<0.10	<0.10	0.19	0.15	0.44
	Nitrate (as N) (mg/L)	<0.030	0.046	<0.030	<0.030	<0.030
	Nitrite (as N) (mg/L)	<0.020	<0.020	<0.020	<0.020	<0.020
	Phosphorus (P)-Total (mg/L)	0.0089	0.0203	0.0366	0.0360	0.0222
	Sulfate (SO4) (mg/L)	<0.30	1.42	0.44	0.68	0.66
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)	0.0059	0.0056	0.0065	0.0063	0.0055
	Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)	0.142	0.500	0.211	0.197	0.253
	Antimony (Sb)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Arsenic (As)-Total (mg/L)	<0.0010	0.0010	<0.0010	0.0011	<0.0010
	Barium (Ba)-Total (mg/L)	0.011	0.012	<0.010	0.014	0.011
	Beryllium (Be)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Total (mg/L)	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090
	Calcium (Ca)-Total (mg/L)	14.8	9.06	9.09	16.4	12.5
	Chromium (Cr)-Total (mg/L)	<0.00050	0.00113	0.00051	<0.00050	0.00057
	Cobalt (Co)-Total (mg/L)	<0.00050	<0.00050	0.00054	0.00058	<0.00050
	Copper (Cu)-Total (mg/L)	<0.0010	0.0021	<0.0010	0.0011	0.0015
	Iron (Fe)-Total (mg/L)	0.316	1.16	1.13	1.04	0.825
	Lead (Pb)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Magnesium (Mg)-Total (mg/L)	3.28	1.45	2.20	4.85	3.24
	Manganese (Mn)-Total (mg/L)	0.0261	0.0495	0.137	0.194	0.0403
	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Potassium (K)-Total (mg/L)	<1.0	<1.0	<1.0	1.3	<1.0
	Selenium (Se)-Total (mg/L)	<0.00040	<0.00040	0.00052	<0.00040	0.00046
Silicon (Si)-Total (mg/L)	4.3	3.4	3.3	2.7	3.5	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1166467-11 WATER 20-JUN-12 09:35 JCTA	L1166467-12 WATER 20-JUN-12 08:10 SW2	L1166467-13 WATER 20-JUN-12 09:00 SW1	L1166467-14 WATER 20-JUN-12 07:10 SW3	L1166467-15 WATER 20-JUN-12 11:00 SW7	
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (EC) (uS/cm)	75.1	132	87.4	127	107
	Hardness (as CaCO3) (mg/L)	42	67	43	49	52
	pH (pH)	7.00	7.41	7.02	6.98	7.61
	Total Suspended Solids (mg/L)	4.3	92.7	3.9	2.7	22.2
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	3.8	3.0	4.0	4.8	3.0
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)	31.4	58.4	38.5	40.7	50.0
	Ammonia, Total (as N) (mg/L)	<0.020	<0.020	<0.020	<0.020	<0.020
	Chloride (Cl) (mg/L)	0.32	1.95	0.14	9.19	<0.10
	Nitrate (as N) (mg/L)	<0.030	0.031	<0.030	<0.030	<0.030
	Nitrite (as N) (mg/L)	<0.020	<0.020	<0.020	<0.020	<0.020
	Phosphorus (P)-Total (mg/L)	0.0149	0.0984	0.0095	0.0176	0.0156
	Sulfate (SO4) (mg/L)	0.57	0.58	0.63	2.03	0.39
Cyanides	Cyanide, Weak Acid Diss (mg/L)	0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)	0.0065	0.0060	0.0067	0.0060	0.0049
	Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)	0.164	0.654	0.063	0.065	0.130
	Antimony (Sb)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Arsenic (As)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Total (mg/L)	<0.010	0.025	<0.010	<0.010	0.018
	Beryllium (Be)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Total (mg/L)	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090
	Calcium (Ca)-Total (mg/L)	11.1	18.3	13.2	13.8	18.4
	Chromium (Cr)-Total (mg/L)	<0.00050	0.00158	<0.00050	<0.00050	<0.00050
	Cobalt (Co)-Total (mg/L)	<0.00050	0.00102	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Total (mg/L)	<0.0010	0.0028	<0.0010	0.0010	<0.0010
	Iron (Fe)-Total (mg/L)	0.872	1.77	0.490	0.296	0.509
	Lead (Pb)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Magnesium (Mg)-Total (mg/L)	2.64	4.83	2.16	3.22	1.48
	Manganese (Mn)-Total (mg/L)	0.0695	0.157	0.0597	0.0362	0.0832
	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Total (mg/L)	<0.0020	0.0023	<0.0020	<0.0020	<0.0020
	Potassium (K)-Total (mg/L)	<1.0	1.0	<1.0	<1.0	<1.0
Selenium (Se)-Total (mg/L)	0.00044	<0.00040	<0.00040	<0.00040	<0.00040	
Silicon (Si)-Total (mg/L)	3.0	3.6	3.1	1.9	3.7	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1166467-16	L1166467-17	L1166467-18
		Description	WATER	WATER	WATER
		Sampled Date	20-JUN-12	20-JUN-12	20-JUN-12
		Sampled Time	12:00	16:00	07:10
		Client ID	SW10	FIELD BLANK	TRAVEL BLANK
Grouping	Analyte				
WATER					
Physical Tests	Conductivity (EC) (uS/cm)	47.5	<3.0	<3.0	
	Hardness (as CaCO3) (mg/L)	27	<10	<10	
	pH (pH)	6.75	5.70	5.44	
	Total Suspended Solids (mg/L)	31.5	<2.0	<2.0	
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	4.2	<2.0	<2.0	
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)	18.4	<5.0	<5.0	
	Ammonia, Total (as N) (mg/L)	<0.020	<0.020	<0.020	
	Chloride (Cl) (mg/L)	<0.10	<0.10	<0.10	
	Nitrate (as N) (mg/L)	<0.030	<0.030	<0.030	
	Nitrite (as N) (mg/L)	<0.020	<0.020	<0.020	
	Phosphorus (P)-Total (mg/L)	0.0111	<0.0050	<0.0050	
	Sulfate (SO4) (mg/L)	0.83	<0.30	<0.30	
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020	<0.0020	<0.0020	
	Cyanide, Total (mg/L)	0.0058	<0.0020	<0.002	
	Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	
Total Metals	Aluminum (Al)-Total (mg/L)	0.335	<0.010	<0.010	
	Antimony (Sb)-Total (mg/L)	<0.0050	<0.0050	<0.0050	
	Arsenic (As)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Barium (Ba)-Total (mg/L)	0.012	<0.010	<0.010	
	Beryllium (Be)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Bismuth (Bi)-Total (mg/L)	0.0014	<0.0010	<0.0010	
	Boron (B)-Total (mg/L)	<0.050	<0.050	<0.050	
	Cadmium (Cd)-Total (mg/L)	<0.000090	<0.000090	<0.000090	
	Calcium (Ca)-Total (mg/L)	9.08	<0.50	<0.50	
	Chromium (Cr)-Total (mg/L)	0.00083	<0.00050	<0.00050	
	Cobalt (Co)-Total (mg/L)	<0.00050	<0.00050	<0.00050	
	Copper (Cu)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Iron (Fe)-Total (mg/L)	1.33	<0.050	<0.050	
	Lead (Pb)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Magnesium (Mg)-Total (mg/L)	1.24	<0.50	<0.50	
	Manganese (Mn)-Total (mg/L)	0.0300	<0.0010	<0.0010	
	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010	<0.000010	
	Molybdenum (Mo)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Nickel (Ni)-Total (mg/L)	<0.0020	<0.0020	<0.0020	
	Potassium (K)-Total (mg/L)	<1.0	<1.0	<1.0	
	Selenium (Se)-Total (mg/L)	<0.00040	<0.00040	<0.00040	
	Silicon (Si)-Total (mg/L)	3.9	<1.0	<1.0	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1166467-1 WATER 21-JUN-12 10:15 SW4	L1166467-2 WATER 21-JUN-12 11:30 SW6	L1166467-3 WATER 21-JUN-12 11:30 SW66	L1166467-4 WATER 21-JUN-12 11:45 SW5	L1166467-5 WATER 20-JUN-12 13:40 SW11
Grouping	Analyte					
WATER						
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Total (mg/L)	2.42	2.85	2.70	2.78	0.88
	Strontium (Sr)-Total (mg/L)	0.0246	0.0276	0.0271	0.0264	0.0150
	Thallium (Tl)-Total (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Total (mg/L)	0.0066	<0.0020	<0.0020	<0.0020	0.0312
	Tungsten (W)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	0.0017
	Zinc (Zn)-Total (mg/L)	<0.0030	<0.0030	<0.0030	<0.0030	0.0060
	Zirconium (Zr)-Total (mg/L)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	0.011	<0.010	<0.010	<0.010	0.546
	Antimony (Sb)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	0.0010
	Barium (Ba)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Dissolved (mg/L)	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090
	Calcium (Ca)-Dissolved (mg/L)	13.2	13.9	13.6	13.9	5.17
	Chromium (Cr)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Dissolved (mg/L)	0.0034	<0.0010	<0.0010	<0.0010	<0.0010
	Iron (Fe)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	1.25
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Magnesium (Mg)-Dissolved (mg/L)	2.52	3.18	3.05	3.19	1.13
	Manganese (Mn)-Dissolved (mg/L)	0.0016	0.0025	0.0021	<0.0010	0.0309
	Mercury (Hg)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0
	Selenium (Se)-Dissolved (mg/L)	<0.00040	<0.00040	<0.00040	<0.00040	0.00054
	Silicon (Si)-Dissolved (mg/L)	1.2	<1.0	<1.0	<1.0	3.8
	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Dissolved (mg/L)	2.51	3.27	3.23	3.33	0.93
	Strontium (Sr)-Dissolved (mg/L)	0.0237	0.0274	0.0264	0.0274	0.0133

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1166467-6 WATER 20-JUN-12 14:10 SW9	L1166467-7 WATER 20-JUN-12 11:30 SW8	L1166467-8 WATER 20-JUN-12 10:00 TL1A	L1166467-9 WATER 20-JUN-12 10:10 TL2A	L1166467-10 WATER 20-JUN-12 08:20 TL3
Grouping	Analyte					
WATER						
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Total (mg/L)	1.57	0.86	1.09	2.11	1.48
	Strontium (Sr)-Total (mg/L)	0.0329	0.0207	0.0204	0.0373	0.0271
	Thallium (Tl)-Total (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Total (mg/L)	0.0029	0.0122	0.0050	0.0068	0.0074
	Tungsten (W)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Total (mg/L)	<0.0010	0.0023	<0.0010	<0.0010	0.0011
	Zinc (Zn)-Total (mg/L)	0.0035	0.0036	<0.0030	0.0039	<0.0030
	Zirconium (Zr)-Total (mg/L)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	0.150	0.272	0.187	0.112	0.122
	Antimony (Sb)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	0.0012	<0.0010
	Barium (Ba)-Dissolved (mg/L)	0.012	<0.010	<0.010	0.013	<0.010
	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Dissolved (mg/L)	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090
	Calcium (Ca)-Dissolved (mg/L)	14.7	8.45	8.81	17.1	12.4
	Chromium (Cr)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	0.00051	<0.00050	<0.00050
	Copper (Cu)-Dissolved (mg/L)	<0.0010	0.0012	<0.0010	<0.0010	<0.0010
	Iron (Fe)-Dissolved (mg/L)	0.211	0.559	0.740	0.494	0.491
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Magnesium (Mg)-Dissolved (mg/L)	3.59	1.46	2.14	4.90	3.20
	Manganese (Mn)-Dissolved (mg/L)	0.0179	0.0187	0.116	0.0772	0.0179
	Mercury (Hg)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)	<1.0	<1.0	<1.0	1.3	<1.0
	Selenium (Se)-Dissolved (mg/L)	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
	Silicon (Si)-Dissolved (mg/L)	5.2	3.7	3.5	2.9	3.7
	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Dissolved (mg/L)	1.72	0.93	1.05	2.15	1.46
	Strontium (Sr)-Dissolved (mg/L)	0.0330	0.0183	0.0216	0.0391	0.0281

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1166467-11 WATER 20-JUN-12 09:35 JCTA	L1166467-12 WATER 20-JUN-12 08:10 SW2	L1166467-13 WATER 20-JUN-12 09:00 SW1	L1166467-14 WATER 20-JUN-12 07:10 SW3	L1166467-15 WATER 20-JUN-12 11:00 SW7
Grouping	Analyte					
WATER						
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Total (mg/L)	1.21	2.27	1.12	6.01	0.77
	Strontium (Sr)-Total (mg/L)	0.0269	0.0366	0.0258	0.0318	0.0286
	Thallium (Tl)-Total (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Total (mg/L)	0.0046	0.0194	0.0022	0.0020	0.0074
	Tungsten (W)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Total (mg/L)	<0.0010	0.0028	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Total (mg/L)	0.0031	0.0076	<0.0030	<0.0030	<0.0030
	Zirconium (Zr)-Total (mg/L)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	0.138	0.072	0.027	0.027	<0.010
	Antimony (Sb)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Dissolved (mg/L)	<0.010	0.013	<0.010	<0.010	0.017
	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Dissolved (mg/L)	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090
	Calcium (Ca)-Dissolved (mg/L)	11.7	18.5	13.5	13.8	18.2
	Chromium (Cr)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Dissolved (mg/L)	<0.0010	0.0013	<0.0010	<0.0010	<0.0010
	Iron (Fe)-Dissolved (mg/L)	0.590	0.559	0.228	0.146	0.070
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Magnesium (Mg)-Dissolved (mg/L)	3.03	5.12	2.32	3.42	1.54
	Manganese (Mn)-Dissolved (mg/L)	0.0551	0.0675	0.0399	0.0270	0.0200
	Mercury (Hg)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)	<1.0	1.1	<1.0	<1.0	<1.0
	Selenium (Se)-Dissolved (mg/L)	0.00043	<0.00040	<0.00040	<0.00040	<0.00040
	Silicon (Si)-Dissolved (mg/L)	3.6	3.6	3.6	2.1	4.2
	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Dissolved (mg/L)	1.40	2.57	1.23	6.43	0.83
	Strontium (Sr)-Dissolved (mg/L)	0.0267	0.0348	0.0260	0.0312	0.0271

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1166467-16	L1166467-17	L1166467-18
		Description	WATER	WATER	WATER
		Sampled Date	20-JUN-12	20-JUN-12	20-JUN-12
		Sampled Time	12:00	16:00	07:10
		Client ID	SW10	FIELD BLANK	TRAVEL BLANK
Grouping	Analyte				
WATER					
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010	<0.00010	<0.00010	
	Sodium (Na)-Total (mg/L)	0.96	<0.50	<0.50	
	Strontium (Sr)-Total (mg/L)	0.0206	<0.0010	<0.0010	
	Thallium (Tl)-Total (mg/L)	<0.00030	<0.00030	<0.00030	
	Tin (Sn)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Titanium (Ti)-Total (mg/L)	0.0059	<0.0020	<0.0020	
	Tungsten (W)-Total (mg/L)	<0.010	<0.010	<0.010	
	Uranium (U)-Total (mg/L)	<0.0050	<0.0050	<0.0050	
	Vanadium (V)-Total (mg/L)	0.0011	<0.0010	<0.0010	
	Zinc (Zn)-Total (mg/L)	0.0051	<0.0030	<0.0030	
	Zirconium (Zr)-Total (mg/L)	0.0058	<0.0040	<0.0040	
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	0.331	<0.010	<0.010	
	Antimony (Sb)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	
	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Barium (Ba)-Dissolved (mg/L)	0.012	<0.010	<0.010	
	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Boron (B)-Dissolved (mg/L)	<0.050	<0.050	<0.050	
	Cadmium (Cd)-Dissolved (mg/L)	<0.000090	<0.000090	<0.000090	
	Calcium (Ca)-Dissolved (mg/L)	8.81	<0.50	<0.50	
	Chromium (Cr)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	
	Copper (Cu)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Iron (Fe)-Dissolved (mg/L)	0.964	<0.050	<0.050	
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Magnesium (Mg)-Dissolved (mg/L)	1.28	<0.50	<0.50	
	Manganese (Mn)-Dissolved (mg/L)	0.0237	<0.0010	<0.0010	
	Mercury (Hg)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	
	Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050	<0.050	
	Potassium (K)-Dissolved (mg/L)	<1.0	<1.0	<1.0	
	Selenium (Se)-Dissolved (mg/L)	<0.00040	<0.00040	<0.00040	
	Silicon (Si)-Dissolved (mg/L)	4.6	<1.0	<1.0	
	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	
	Sodium (Na)-Dissolved (mg/L)	1.00	<0.50	<0.50	
	Strontium (Sr)-Dissolved (mg/L)	0.0194	<0.0010	<0.0010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1166467-1	L1166467-2	L1166467-3	L1166467-4	L1166467-5
					WATER	WATER	WATER	WATER	WATER
					21-JUN-12	21-JUN-12	21-JUN-12	21-JUN-12	20-JUN-12
					10:15	11:30	11:30	11:45	13:40
					SW4	SW6	SW66	SW5	SW11
Grouping	Analyte								
WATER									
Dissolved Metals	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0091
	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	0.0087
	Zirconium (Zr)-Dissolved (mg/L)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1166467-6	L1166467-7	L1166467-8	L1166467-9	L1166467-10
					WATER	WATER	WATER	WATER	WATER
		20-JUN-12	14:10	SW9	20-JUN-12	11:30	20-JUN-12	10:00	20-JUN-12
					SW8	SW8	TL1A	TL2A	TL3
Grouping	Analyte								
WATER									
Dissolved Metals	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Dissolved (mg/L)	0.0022	0.0035	0.0037	0.0023	0.0022			
	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	0.0042	<0.0030	0.0032	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
	Zirconium (Zr)-Dissolved (mg/L)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1166467-11	L1166467-12	L1166467-13	L1166467-14	L1166467-15
		Description	WATER	WATER	WATER	WATER	WATER
		Sampled Date	20-JUN-12	20-JUN-12	20-JUN-12	20-JUN-12	20-JUN-12
		Sampled Time	09:35	08:10	09:00	07:10	11:00
		Client ID	JCTA	SW2	SW1	SW3	SW7
Grouping	Analyte						
WATER							
Dissolved Metals	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Dissolved (mg/L)	0.0024	0.0027	<0.0020	<0.0020	<0.0020	<0.0020
	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	0.0035	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
	Zirconium (Zr)-Dissolved (mg/L)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1166467-16	L1166467-17	L1166467-18		
		Description	WATER	WATER	WATER		
		Sampled Date	20-JUN-12	20-JUN-12	20-JUN-12		
		Sampled Time	12:00	16:00	07:10		
		Client ID	SW10	FIELD BLANK	TRAVEL BLANK		
Grouping	Analyte						
WATER							
Dissolved Metals	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030			
	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010			
	Titanium (Ti)-Dissolved (mg/L)	0.0038	<0.0020	<0.0020			
	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010			
	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050			
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010			
	Zinc (Zn)-Dissolved (mg/L)	0.0037	<0.0030	<0.0030			
	Zirconium (Zr)-Dissolved (mg/L)	<0.0040	<0.0040	<0.0040			
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Duplicate	Sodium (Na)-Total	DLM	L1166467-1, -2, -3, -4
Duplicate	Strontium (Sr)-Total	DLM	L1166467-1, -2, -3, -4
Duplicate	Cyanide, Free	DLM	L1166467-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Aluminum (Al)-Total	MS-B	L1166467-11, -12, -13, -14, -15, -16, -17, -18, -5, -6, -7
Matrix Spike	Silicon (Si)-Total	MS-B	L1166467-11, -12, -13, -14, -15, -16, -17, -18, -5, -6, -7
Matrix Spike	Aluminum (Al)-Total	MS-B	L1166467-1, -2, -3, -4
Matrix Spike	Boron (B)-Total	MS-B	L1166467-1, -2, -3, -4
Matrix Spike	Calcium (Ca)-Total	MS-B	L1166467-1, -2, -3, -4
Matrix Spike	Magnesium (Mg)-Total	MS-B	L1166467-1, -2, -3, -4
Matrix Spike	Manganese (Mn)-Total	MS-B	L1166467-1, -2, -3, -4
Matrix Spike	Molybdenum (Mo)-Total	MS-B	L1166467-1, -2, -3, -4
Matrix Spike	Potassium (K)-Total	MS-B	L1166467-1, -2, -3, -4
Matrix Spike	Silicon (Si)-Total	MS-B	L1166467-1, -2, -3, -4
Matrix Spike	Sodium (Na)-Total	MS-B	L1166467-1, -2, -3, -4
Matrix Spike	Strontium (Sr)-Total	MS-B	L1166467-1, -2, -3, -4
Matrix Spike	Zinc (Zn)-Total	MS-B	L1166467-1, -2, -3, -4
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1166467-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1166467-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Potassium (K)-Dissolved	MS-B	L1166467-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1166467-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1166467-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -7, -8, -9

Qualifiers for Individual Parameters Listed:

Qualifier	Description
DLM	Detection Limit Adjusted For Sample Matrix Effects
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
ACIDITY-TB	Water	Acidity (as CaCO ₃)	APHA 2310 B-POTENTIOMETRIC TITRATION
Aqueous matrices are analyzed by potentiometry. Acidity reported includes acidity caused by hydrolyzable metals present in the sample.			
ALK-TOT-CAP-TB	Water	Alkalinity, Total (as CaCO ₃)	APHA 2320 B-Auto-Pot. Titration
CL-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.			
CN-FREE-CFA-VA	Water	Free Cyanide in water by CFA	ASTM 7237
This analysis is carried out using procedures adapted from ASTM Method 7237 "Free Cyanide with Flow Injection Analysis (FIA) Utilizing Gas Diffusion Separation and Amperometric Detection". Free cyanide is determined by in-line gas diffusion at pH 6 with final determination by colourimetric analysis.			
CN-TOT-WT	Water	Cyanide, Total	APHA 4500CN C E-STRONG ACID DIST COLORIM
Total cyanide is determined by the combination of UV digestion and distillation. Cyanide is converted to cyanogen chloride by reacting with chloramine-T, the cyanogen chloride then reacts with a combination of barbituric acid and isonicotinic acid to form a highly colored complex.			
When using this method, high levels of thiocyanate in samples can cause false positives at ~1-2% of the thiocyanate concentration. For samples with detectable cyanide analyzed by this method, ALS recommends analysis for thiocyanate to check for this potential interference			
CN-WAD-WT	Water	Cyanide, Weak Acid Diss	APHA 4500CN I-Weak acid Dist Colorimet
Weak acid dissociable cyanide (WAD) is determined by undergoing a distillation procedure. Cyanide is converted to cyanogen chloride by reacting with chloramine-T, the cyanogen chloride then reacts with a combination of barbituric acid and isonicotinic acid to form a highly colored complex.			
EC-CAP-TB	Water	Conductivity (EC)	APHA 2510 B-ELECTRODE
ETL-HARDNESS-CALC-WT	Water	Hardness (as CaCO ₃)	APHA 2340 B

Reference Information

HG-D-CVAF-TB	Water	Dissolved Mercury in Water by CVAFS	EPA 245.7
HG-T-CVAF-TB	Water	Total Mercury in Water by CVAFS	EPA 245.7
MET-DIS-WT	Water	Metal Scan-Dissolved	EPA 200.8

The metal constituents of a non-acidified sample that pass through a membrane filter prior to ICP/MS analysis.

MET-TOT-WT	Water	Metal Scan-Total	EPA 200.8
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The concentration of metals is determined on an unfiltered aqueous sample. The sample is digested with nitric acid and then analyzed directly by ICP-MS.

NH3-COL-TB	Water	Ammonia by Discrete Analyzer	APHA 4500-NH3 G. (modified)
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Ammonia in aqueous matrices is analyzed using discrete analyzer with colourimetric detection.

NO2-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
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Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.

NO3-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
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Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.

OGG-TOT-WT	Water	Oil and Grease, Total	APHA 5520 B
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Sample is extracted with hexane, extract is then evaporated and the residue is weighed to determine total oil and grease.

P-T-COL-TB	Water	Total Phosphorus by Discrete Analyzer	APHA 4500-P B, F, G (modified)
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Phosphorus in aqueous matrices is analyzed using discrete Analyzer with colourimetric detection.

PH-CAP-TB	Water	pH	APHA 4500-H-ELECTRODE
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SO4-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
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Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.

SOLIDS-TOTSUS-TB	Water	Total Suspended Solids	APHA 2540 D (modified)
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Aqueous matrices are analyzed using gravimetry

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
VA	ALS ENVIRONMENTAL - VANCOUVER, BC, CANADA
TB	ALS ENVIRONMENTAL - THUNDER BAY, ONTARIO, CANADA
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA

Chain of Custody Numbers:

L1166467

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

mg/kg - milligrams per kilogram based on dry weight of sample.

mg/kg wwt - milligrams per kilogram based on wet weight of sample.

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.

mg/L - milligrams per litre.

< - Less than.

D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L1166467

Report Date: 05-JUL-12

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Client: TREASURY METALS INC.
 P.O. Box 789
 Dryden ON P8N 2Z4
 Contact: Mac Potter

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
ACIDITY-TB								
	Water							
Batch	R2392041							
WG1500767-4	DUP	L1166467-16						
Acidity (as CaCO3)		4.2	4.0		mg/L	4.9	20	04-JUL-12
WG1500767-2	LCS							
Acidity (as CaCO3)			105.6		%		85-115	04-JUL-12
WG1500767-1	MB							
Acidity (as CaCO3)			<2.0		mg/L		2	04-JUL-12
ALK-TOT-CAP-TB								
	Water							
Batch	R2388109							
WG1495137-2	LCS							
Alkalinity, Total (as CaCO3)			94.8		%		85-115	22-JUN-12
WG1495137-1	MB							
Alkalinity, Total (as CaCO3)			<5.0		mg/L CaCO3		5	22-JUN-12
Batch	R2388817							
WG1495316-3	DUP	L1166467-15						
Alkalinity, Total (as CaCO3)		50.0	50.0		mg/L CaCO3	0.1	20	23-JUN-12
WG1495316-2	LCS							
Alkalinity, Total (as CaCO3)			94.2		%		85-115	23-JUN-12
WG1495316-1	MB							
Alkalinity, Total (as CaCO3)			<5.0		mg/L CaCO3		5	23-JUN-12
CL-IC-TB								
	Water							
Batch	R2387628							
WG1495913-2	LCS							
Chloride (Cl)			99.6		%		90-110	22-JUN-12
WG1495913-1	MB							
Chloride (Cl)			<0.10		mg/L		0.1	22-JUN-12
WG1495913-4	MS	L1166188-15						
Chloride (Cl)			103.1		%		75-125	22-JUN-12
WG1495913-6	MS	L1166593-2						
Chloride (Cl)			101.5		%		75-125	22-JUN-12
CN-FREE-CFA-VA								
	Water							
Batch	R2389904							
WG1497715-10	LCS							
Cyanide, Free			97.7		%		80-120	27-JUN-12
WG1497715-16	LCS							
Cyanide, Free			98.2		%		80-120	27-JUN-12
WG1497715-18	LCS							
Cyanide, Free			98.4		%		80-120	27-JUN-12
WG1497715-2	LCS							



Quality Control Report

Workorder: L1166467

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CN-FREE-CFA-VA								
	Water							
Batch	R2389904							
WG1497715-2	LCS							
Cyanide, Free			97.8		%		80-120	27-JUN-12
WG1497715-21	LCS							
Cyanide, Free			98.4		%		80-120	27-JUN-12
WG1497715-25	LCS							
Cyanide, Free			98.5		%		80-120	27-JUN-12
WG1497715-27	LCS							
Cyanide, Free			98.3		%		80-120	27-JUN-12
WG1497715-29	LCS							
Cyanide, Free			100.2		%		80-120	27-JUN-12
WG1497715-6	LCS							
Cyanide, Free			99.3		%		80-120	27-JUN-12
WG1497715-1	MB							
Cyanide, Free			<0.0050		mg/L		0.005	27-JUN-12
WG1497715-15	MB							
Cyanide, Free			<0.0050		mg/L		0.005	27-JUN-12
WG1497715-17	MB							
Cyanide, Free			<0.0050		mg/L		0.005	27-JUN-12
WG1497715-20	MB							
Cyanide, Free			<0.0050		mg/L		0.005	27-JUN-12
WG1497715-24	MB							
Cyanide, Free			<0.0050		mg/L		0.005	27-JUN-12
WG1497715-26	MB							
Cyanide, Free			<0.0050		mg/L		0.005	27-JUN-12
WG1497715-28	MB							
Cyanide, Free			<0.0050		mg/L		0.005	27-JUN-12
WG1497715-5	MB							
Cyanide, Free			<0.0050		mg/L		0.005	27-JUN-12
WG1497715-9	MB							
Cyanide, Free			<0.0050		mg/L		0.005	27-JUN-12
WG1497715-12	MS	L1166892-1						
Cyanide, Free			96.0		%		70-130	27-JUN-12
WG1497715-14	MS	L1164338-2						
Cyanide, Free			96.1		%		70-130	27-JUN-12
WG1497715-23	MS	L1166351-5						
Cyanide, Free			95.9		%		70-130	27-JUN-12
WG1497715-4	MS	L1162942-5						
Cyanide, Free			92.3		%		70-130	27-JUN-12
CN-TOT-WT	Water							



Quality Control Report

Workorder: L1166467

Report Date: 05-JUL-12

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CN-TOT-WT								
Water								
Batch	R2391346							
WG1499188-4	CVS							
Cyanide, Total			100.5		%		85-115	29-JUN-12
WG1499188-2	DUP	L1166467-1						
Cyanide, Total		0.0030	0.0030		mg/L	0.0	20	29-JUN-12
WG1499188-3	LCS							
Cyanide, Total			96.7		%		80-120	29-JUN-12
WG1499188-1	MB							
Cyanide, Total			<0.0020		mg/L		0.002	29-JUN-12
CN-WAD-WT								
Water								
Batch	R2390213							
WG1498311-4	CVS							
Cyanide, Weak Acid Diss			93.5		%		85-115	28-JUN-12
WG1498311-5	DUP	L1166467-1						
Cyanide, Weak Acid Diss		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	28-JUN-12
WG1498311-3	LCS							
Cyanide, Weak Acid Diss			94.4		%		80-120	28-JUN-12
WG1498311-1	MB							
Cyanide, Weak Acid Diss			<0.0020		mg/L		0.002	28-JUN-12
EC-CAP-TB								
Water								
Batch	R2388109							
WG1495137-2	LCS							
Conductivity (EC)			104.7		%		90-110	22-JUN-12
WG1495137-1	MB							
Conductivity (EC)			<3.0		uS/cm		3	22-JUN-12
Batch	R2388817							
WG1495316-3	DUP	L1166467-15						
Conductivity (EC)		107	107		uS/cm	0.1	10	23-JUN-12
WG1495316-2	LCS							
Conductivity (EC)			103.8		%		90-110	23-JUN-12
WG1495316-1	MB							
Conductivity (EC)			<3.0		uS/cm		3	23-JUN-12
HG-D-CVAF-TB								
Water								
Batch	R2389412							
WG1495708-4	DUP	L1166467-2						
Mercury (Hg)-Dissolved		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	27-JUN-12
WG1495708-2	LCS							
Mercury (Hg)-Dissolved			106.0		%		80-120	27-JUN-12
WG1495708-1	MB							



Quality Control Report

Workorder: L1166467

Report Date: 05-JUL-12

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-D-CVAF-TB								
Water								
Batch	R2389412							
WG1495708-1	MB							
Mercury (Hg)-Dissolved			<0.000010		mg/L		0.00001	27-JUN-12
WG1495708-5	MS	L1166467-2						
Mercury (Hg)-Dissolved			94.9		%		70-130	27-JUN-12
Batch	R2390563							
WG1499091-2	LCS							
Mercury (Hg)-Dissolved			101.1		%		80-120	29-JUN-12
WG1499091-1	MB							
Mercury (Hg)-Dissolved			<0.000010		mg/L		0.00001	29-JUN-12
WG1499091-5	MS	L1134156-8						
Mercury (Hg)-Dissolved			94.6		%		70-130	29-JUN-12
HG-T-CVAF-TB								
Water								
Batch	R2389427							
WG1495716-4	DUP	L1166467-3						
Mercury (Hg)-Total			<0.000010	RPD-NA	mg/L	N/A	20	27-JUN-12
WG1495716-2	LCS							
Mercury (Hg)-Total			106.0		%		80-120	27-JUN-12
WG1495716-1	MB							
Mercury (Hg)-Total			<0.000010		mg/L		0.00001	27-JUN-12
WG1495716-5	MS	L1166467-3						
Mercury (Hg)-Total			86.6		%		70-130	27-JUN-12
Batch	R2390550							
WG1499083-2	LCS							
Mercury (Hg)-Total			101.1		%		80-120	29-JUN-12
WG1499083-1	MB							
Mercury (Hg)-Total			<0.000010		mg/L		0.00001	29-JUN-12
WG1499083-5	MS	L1166593-13						
Mercury (Hg)-Total			70.1		%		70-130	29-JUN-12
WG1499083-7	MS	L1134156-8						
Mercury (Hg)-Total			94.5		%		70-130	29-JUN-12
MET-DIS-WT								
Water								
Batch	R2391987							
WG1500010-2	CVS							
Aluminum (Al)-Dissolved			103.8		%		80-120	03-JUL-12
Antimony (Sb)-Dissolved			105.4		%		80-120	03-JUL-12
Arsenic (As)-Dissolved			100.2		%		80-120	03-JUL-12
Barium (Ba)-Dissolved			104.6		%		80-120	03-JUL-12



Quality Control Report

Workorder: L1166467

Report Date: 05-JUL-12

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DIS-WT		Water						
Batch	R2391987							
WG1500010-2 CVS								
Beryllium (Be)-Dissolved			110.5		%		80-120	03-JUL-12
Bismuth (Bi)-Dissolved			90.9		%		80-120	03-JUL-12
Boron (B)-Dissolved			111.3		%		70-130	03-JUL-12
Cadmium (Cd)-Dissolved			108.1		%		80-120	03-JUL-12
Calcium (Ca)-Dissolved			99.3		%		80-120	03-JUL-12
Chromium (Cr)-Dissolved			105.8		%		80-120	03-JUL-12
Cobalt (Co)-Dissolved			100.9		%		80-120	03-JUL-12
Copper (Cu)-Dissolved			101.8		%		80-120	03-JUL-12
Iron (Fe)-Dissolved			103.7		%		70-130	03-JUL-12
Lead (Pb)-Dissolved			100.4		%		80-120	03-JUL-12
Magnesium (Mg)-Dissolved			101.4		%		80-120	03-JUL-12
Manganese (Mn)-Dissolved			109.0		%		80-120	03-JUL-12
Molybdenum (Mo)-Dissolved			101.0		%		80-120	03-JUL-12
Nickel (Ni)-Dissolved			101.0		%		80-120	03-JUL-12
Phosphorus (P)-Dissolved			101.0		%		70-130	03-JUL-12
Potassium (K)-Dissolved			98.4		%		80-120	03-JUL-12
Selenium (Se)-Dissolved			100.3		%		80-120	03-JUL-12
Silicon (Si)-Dissolved			104.8		%		70-130	03-JUL-12
Silver (Ag)-Dissolved			108.0		%		80-120	03-JUL-12
Sodium (Na)-Dissolved			101.0		%		80-120	03-JUL-12
Strontium (Sr)-Dissolved			100.1		%		80-120	03-JUL-12
Thallium (Tl)-Dissolved			104.6		%		80-120	03-JUL-12
Tin (Sn)-Dissolved			103.0		%		80-120	03-JUL-12
Titanium (Ti)-Dissolved			108.1		%		80-120	03-JUL-12
Tungsten (W)-Dissolved			100.0		%		70-130	03-JUL-12
Uranium (U)-Dissolved			100.3		%		80-120	03-JUL-12
Vanadium (V)-Dissolved			103.3		%		80-120	03-JUL-12
Zinc (Zn)-Dissolved			100.1		%		80-120	03-JUL-12
Zirconium (Zr)-Dissolved			100.7		%		80-120	03-JUL-12
WG1500010-7 LCS								
Aluminum (Al)-Dissolved			106.4		%		70-130	03-JUL-12
Antimony (Sb)-Dissolved			91.2		%		80-120	03-JUL-12
Arsenic (As)-Dissolved			98.6		%		80-120	03-JUL-12
Barium (Ba)-Dissolved			103.8		%		80-120	03-JUL-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DIS-WT		Water						
Batch	R2391987							
WG1500010-7 LCS								
Beryllium (Be)-Dissolved			88.4		%		80-120	03-JUL-12
Bismuth (Bi)-Dissolved			86.4		%		70-130	03-JUL-12
Boron (B)-Dissolved			82.2		%		80-120	03-JUL-12
Cadmium (Cd)-Dissolved			97.0		%		80-120	03-JUL-12
Calcium (Ca)-Dissolved			96.3		%		70-130	03-JUL-12
Chromium (Cr)-Dissolved			93.6		%		80-120	03-JUL-12
Cobalt (Co)-Dissolved			95.4		%		80-120	03-JUL-12
Copper (Cu)-Dissolved			96.6		%		80-120	03-JUL-12
Iron (Fe)-Dissolved			91.8		%		70-130	03-JUL-12
Lead (Pb)-Dissolved			90.2		%		80-120	03-JUL-12
Magnesium (Mg)-Dissolved			96.6		%		70-130	03-JUL-12
Manganese (Mn)-Dissolved			93.2		%		70-130	03-JUL-12
Molybdenum (Mo)-Dissolved			97.6		%		80-120	03-JUL-12
Nickel (Ni)-Dissolved			95.8		%		80-120	03-JUL-12
Phosphorus (P)-Dissolved			110.2		%		70-130	03-JUL-12
Potassium (K)-Dissolved			95.8		%		70-130	03-JUL-12
Selenium (Se)-Dissolved			98.5		%		80-120	03-JUL-12
Silicon (Si)-Dissolved			104.5		%		70-130	03-JUL-12
Silver (Ag)-Dissolved			96.1		%		80-120	03-JUL-12
Sodium (Na)-Dissolved			95.0		%		80-120	03-JUL-12
Strontium (Sr)-Dissolved			99.97		%		70-130	03-JUL-12
Thallium (Tl)-Dissolved			91.0		%		80-120	03-JUL-12
Tin (Sn)-Dissolved			95.8		%		70-130	03-JUL-12
Titanium (Ti)-Dissolved			94.3		%		70-130	03-JUL-12
Tungsten (W)-Dissolved			93.3		%		70-130	03-JUL-12
Uranium (U)-Dissolved			86.2		%		70-130	03-JUL-12
Vanadium (V)-Dissolved			93.9		%		80-120	03-JUL-12
Zinc (Zn)-Dissolved			96.6		%		80-120	03-JUL-12
Zirconium (Zr)-Dissolved			93.1		%		70-130	03-JUL-12
WG1500010-1 MB								
Aluminum (Al)-Dissolved			<0.010		mg/L		0.01	03-JUL-12
Antimony (Sb)-Dissolved			<0.0050		mg/L		0.005	03-JUL-12
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	03-JUL-12
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	03-JUL-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DIS-WT								
	Water							
Batch	R2391987							
WG1500010-1	MB							
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	03-JUL-12
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	03-JUL-12
Boron (B)-Dissolved			<0.050		mg/L		0.05	03-JUL-12
Cadmium (Cd)-Dissolved			<0.000090		mg/L		0.00009	03-JUL-12
Calcium (Ca)-Dissolved			<0.50		mg/L		0.5	03-JUL-12
Chromium (Cr)-Dissolved			<0.00050		mg/L		0.0005	03-JUL-12
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	03-JUL-12
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	03-JUL-12
Iron (Fe)-Dissolved			<0.050		mg/L		0.05	03-JUL-12
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	03-JUL-12
Magnesium (Mg)-Dissolved			<0.50		mg/L		0.5	03-JUL-12
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	03-JUL-12
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	03-JUL-12
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	03-JUL-12
Phosphorus (P)-Dissolved			<0.050		mg/L		0.05	03-JUL-12
Potassium (K)-Dissolved			<1.0		mg/L		1	03-JUL-12
Selenium (Se)-Dissolved			<0.00040		mg/L		0.0004	03-JUL-12
Silicon (Si)-Dissolved			<1.0		mg/L		1	03-JUL-12
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	03-JUL-12
Sodium (Na)-Dissolved			<0.50		mg/L		0.5	03-JUL-12
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	03-JUL-12
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	03-JUL-12
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	03-JUL-12
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	03-JUL-12
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	03-JUL-12
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	03-JUL-12
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	03-JUL-12
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	03-JUL-12
Zirconium (Zr)-Dissolved			<0.0040		mg/L		0.004	03-JUL-12
WG1500010-6	MS	WG1500010-4						
Aluminum (Al)-Dissolved			98.9		%		70-130	03-JUL-12
Antimony (Sb)-Dissolved			84.7		%		70-130	03-JUL-12
Arsenic (As)-Dissolved			97.4		%		70-130	03-JUL-12
Barium (Ba)-Dissolved			105.8		%		70-130	03-JUL-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DIS-WT								
	Water							
Batch	R2391987							
WG1500010-6 MS		WG1500010-4						
Beryllium (Be)-Dissolved			79.7		%		70-130	03-JUL-12
Boron (B)-Dissolved			103.7		%		70-130	03-JUL-12
Cadmium (Cd)-Dissolved			97.9		%		70-130	03-JUL-12
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	03-JUL-12
Chromium (Cr)-Dissolved			86.6		%		70-130	03-JUL-12
Cobalt (Co)-Dissolved			83.8		%		70-130	03-JUL-12
Copper (Cu)-Dissolved			90.3		%		70-130	03-JUL-12
Iron (Fe)-Dissolved			87.6		%		70-130	03-JUL-12
Lead (Pb)-Dissolved			87.6		%		70-130	03-JUL-12
Magnesium (Mg)-Dissolved			N/A	MS-B	%		-	03-JUL-12
Manganese (Mn)-Dissolved			94.6		%		70-130	03-JUL-12
Molybdenum (Mo)-Dissolved			87.2		%		70-130	03-JUL-12
Nickel (Ni)-Dissolved			82.4		%		70-130	03-JUL-12
Phosphorus (P)-Dissolved			118.8		%		70-130	03-JUL-12
Potassium (K)-Dissolved			N/A	MS-B	%		-	03-JUL-12
Selenium (Se)-Dissolved			100.4		%		70-130	03-JUL-12
Silicon (Si)-Dissolved			122.2		%		70-130	03-JUL-12
Silver (Ag)-Dissolved			93.9		%		60-140	03-JUL-12
Sodium (Na)-Dissolved			N/A	MS-B	%		-	03-JUL-12
Strontium (Sr)-Dissolved			N/A	MS-B	%		-	03-JUL-12
Thallium (Tl)-Dissolved			87.3		%		70-130	03-JUL-12
Tin (Sn)-Dissolved			92.6		%		70-130	03-JUL-12
Titanium (Ti)-Dissolved			96.0		%		70-130	03-JUL-12
Tungsten (W)-Dissolved			85.2		%		70-130	03-JUL-12
Uranium (U)-Dissolved			79.1		%		70-130	03-JUL-12
Vanadium (V)-Dissolved			92.3		%		70-130	03-JUL-12
Zinc (Zn)-Dissolved			90.6		%		70-130	03-JUL-12
Zirconium (Zr)-Dissolved			85.3		%		70-130	03-JUL-12
MET-TOT-WT								
	Water							
Batch	R2387665							
WG1495570-2 CVS								
Aluminum (Al)-Total			101.7		%		80-120	25-JUN-12
Antimony (Sb)-Total			101.6		%		80-120	25-JUN-12
Arsenic (As)-Total			104.2		%		80-120	25-JUN-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TOT-WT		Water						
Batch	R2387665							
WG1495570-2	CVS							
Barium (Ba)-Total			101.0		%		80-120	25-JUN-12
Beryllium (Be)-Total			97.5		%		80-120	25-JUN-12
Bismuth (Bi)-Total			86.3		%		80-120	25-JUN-12
Boron (B)-Total			98.0		%		70-130	25-JUN-12
Cadmium (Cd)-Total			108.0		%		80-120	25-JUN-12
Calcium (Ca)-Total			98.1		%		80-120	25-JUN-12
Chromium (Cr)-Total			95.3		%		80-120	25-JUN-12
Cobalt (Co)-Total			107.3		%		80-120	25-JUN-12
Copper (Cu)-Total			107.1		%		80-120	25-JUN-12
Iron (Fe)-Total			92.7		%		70-130	25-JUN-12
Lead (Pb)-Total			101.4		%		80-120	25-JUN-12
Magnesium (Mg)-Total			96.7		%		80-120	25-JUN-12
Manganese (Mn)-Total			100.3		%		80-120	25-JUN-12
Molybdenum (Mo)-Total			106.9		%		90-110	25-JUN-12
Nickel (Ni)-Total			107.7		%		80-120	25-JUN-12
Potassium (K)-Total			98.2		%		80-120	25-JUN-12
Selenium (Se)-Total			107.8		%		80-120	25-JUN-12
Silicon (Si)-Total			104.7		%		70-130	25-JUN-12
Silver (Ag)-Total			105.1		%		80-120	25-JUN-12
Sodium (Na)-Total			96.9		%		80-120	25-JUN-12
Strontium (Sr)-Total			107.9		%		80-120	25-JUN-12
Thallium (Tl)-Total			107.0		%		80-120	25-JUN-12
Tin (Sn)-Total			97.9		%		70-130	25-JUN-12
Titanium (Ti)-Total			98.6		%		80-120	25-JUN-12
Tungsten (W)-Total			100.5		%		70-130	25-JUN-12
Uranium (U)-Total			95.6		%		80-120	25-JUN-12
Vanadium (V)-Total			95.5		%		80-120	25-JUN-12
Zinc (Zn)-Total			97.2		%		80-120	25-JUN-12
Zirconium (Zr)-Total			107.6		%		80-120	25-JUN-12
WG1495516-2	LCS							
Aluminum (Al)-Total			100.1		%		80-120	25-JUN-12
Antimony (Sb)-Total			92.8		%		70-130	25-JUN-12
Arsenic (As)-Total			99.1		%		70-130	25-JUN-12
Barium (Ba)-Total			103.8		%		70-130	25-JUN-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TOT-WT		Water						
Batch	R2387665							
WG1495516-2	LCS							
Beryllium (Be)-Total			108.5		%		70-130	25-JUN-12
Bismuth (Bi)-Total			92.7		%		70-130	25-JUN-12
Boron (B)-Total			104.6		%		70-130	25-JUN-12
Cadmium (Cd)-Total			99.9		%		70-130	25-JUN-12
Calcium (Ca)-Total			96.2		%		70-130	25-JUN-12
Chromium (Cr)-Total			97.5		%		70-130	25-JUN-12
Cobalt (Co)-Total			96.9		%		70-130	25-JUN-12
Copper (Cu)-Total			94.4		%		70-130	25-JUN-12
Iron (Fe)-Total			100.4		%		70-130	25-JUN-12
Lead (Pb)-Total			96.0		%		70-130	25-JUN-12
Magnesium (Mg)-Total			93.2		%		70-130	25-JUN-12
Manganese (Mn)-Total			104.3		%		70-130	25-JUN-12
Molybdenum (Mo)-Total			90.0		%		70-130	25-JUN-12
Nickel (Ni)-Total			95.1		%		70-130	25-JUN-12
Potassium (K)-Total			91.6		%		70-130	25-JUN-12
Selenium (Se)-Total			97.2		%		70-130	25-JUN-12
Silicon (Si)-Total			96.5		%		70-130	25-JUN-12
Silver (Ag)-Total			99.1		%		70-130	25-JUN-12
Sodium (Na)-Total			91.2		%		70-130	25-JUN-12
Strontium (Sr)-Total			97.0		%		70-130	25-JUN-12
Thallium (Tl)-Total			99.4		%		70-130	25-JUN-12
Tin (Sn)-Total			97.5		%		70-130	25-JUN-12
Titanium (Ti)-Total			97.5		%		70-130	25-JUN-12
Tungsten (W)-Total			98.1		%		70-130	25-JUN-12
Uranium (U)-Total			96.4		%		70-130	25-JUN-12
Vanadium (V)-Total			95.7		%		70-130	25-JUN-12
Zinc (Zn)-Total			97.0		%		70-130	25-JUN-12
Zirconium (Zr)-Total			89.0		%		70-130	25-JUN-12
WG1495516-1	MB							
Aluminum (Al)-Total			<0.010		mg/L		0.01	25-JUN-12
Antimony (Sb)-Total			<0.0050		mg/L		0.005	25-JUN-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	25-JUN-12
Barium (Ba)-Total			<0.010		mg/L		0.01	25-JUN-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	25-JUN-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TOT-WT								
	Water							
Batch	R2387665							
WG1495516-1 MB								
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	25-JUN-12
Boron (B)-Total			<0.050		mg/L		0.05	25-JUN-12
Cadmium (Cd)-Total			<0.000090		mg/L		0.00009	25-JUN-12
Calcium (Ca)-Total			<0.50		mg/L		0.5	25-JUN-12
Chromium (Cr)-Total			<0.00050		mg/L		0.0005	25-JUN-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	25-JUN-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	25-JUN-12
Iron (Fe)-Total			<0.050		mg/L		0.05	25-JUN-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	25-JUN-12
Magnesium (Mg)-Total			<0.50		mg/L		0.5	25-JUN-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	25-JUN-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	25-JUN-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	25-JUN-12
Potassium (K)-Total			<1.0		mg/L		1	25-JUN-12
Selenium (Se)-Total			<0.00040		mg/L		0.0004	25-JUN-12
Silicon (Si)-Total			<1.0		mg/L		1	25-JUN-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	25-JUN-12
Sodium (Na)-Total			<0.50		mg/L		0.5	25-JUN-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	25-JUN-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	25-JUN-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	25-JUN-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	25-JUN-12
Tungsten (W)-Total			<0.010		mg/L		0.01	25-JUN-12
Uranium (U)-Total			<0.0050		mg/L		0.005	25-JUN-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	25-JUN-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	25-JUN-12
Zirconium (Zr)-Total			<0.0040		mg/L		0.004	25-JUN-12
WG1495516-5 MS		WG1495516-3						
Aluminum (Al)-Total			N/A	MS-B	%		-	25-JUN-12
Antimony (Sb)-Total			98.4		%		70-130	25-JUN-12
Arsenic (As)-Total			103.5		%		70-130	25-JUN-12
Beryllium (Be)-Total			91.7		%		70-130	25-JUN-12
Bismuth (Bi)-Total			90.5		%		70-130	25-JUN-12
Boron (B)-Total			N/A	MS-B	%		-	25-JUN-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TOT-WT								
	Water							
Batch	R2387665							
WG1495516-5 MS		WG1495516-3						
Cadmium (Cd)-Total			97.5		%		70-130	25-JUN-12
Calcium (Ca)-Total			N/A	MS-B	%		-	25-JUN-12
Chromium (Cr)-Total			95.6		%		70-130	25-JUN-12
Cobalt (Co)-Total			96.2		%		70-130	25-JUN-12
Copper (Cu)-Total			90.4		%		70-130	25-JUN-12
Iron (Fe)-Total			102.9		%		70-130	25-JUN-12
Lead (Pb)-Total			90.1		%		70-130	25-JUN-12
Magnesium (Mg)-Total			N/A	MS-B	%		-	25-JUN-12
Manganese (Mn)-Total			N/A	MS-B	%		-	25-JUN-12
Molybdenum (Mo)-Total			N/A	MS-B	%		-	25-JUN-12
Nickel (Ni)-Total			95.0		%		70-130	25-JUN-12
Potassium (K)-Total			N/A	MS-B	%		-	25-JUN-12
Selenium (Se)-Total			101.6		%		70-130	25-JUN-12
Silicon (Si)-Total			N/A	MS-B	%		-	25-JUN-12
Silver (Ag)-Total			93.3		%		70-130	25-JUN-12
Sodium (Na)-Total			N/A	MS-B	%		-	25-JUN-12
Strontium (Sr)-Total			N/A	MS-B	%		-	25-JUN-12
Thallium (Tl)-Total			93.2		%		70-130	25-JUN-12
Tin (Sn)-Total			99.0		%		70-130	25-JUN-12
Titanium (Ti)-Total			102.8		%		70-130	25-JUN-12
Tungsten (W)-Total			98.4		%		70-130	25-JUN-12
Uranium (U)-Total			92.5		%		70-130	25-JUN-12
Vanadium (V)-Total			95.9		%		70-130	25-JUN-12
Zinc (Zn)-Total			N/A	MS-B	%		-	25-JUN-12
Zirconium (Zr)-Total			89.6		%		70-130	25-JUN-12
Batch	R2388164							
WG1496310-2 CVS								
Aluminum (Al)-Total			99.4		%		80-120	26-JUN-12
Antimony (Sb)-Total			99.5		%		80-120	26-JUN-12
Arsenic (As)-Total			98.9		%		80-120	26-JUN-12
Barium (Ba)-Total			99.0		%		80-120	26-JUN-12
Beryllium (Be)-Total			104.0		%		80-120	26-JUN-12
Bismuth (Bi)-Total			90.6		%		80-120	26-JUN-12
Boron (B)-Total			103.4		%		70-130	26-JUN-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TOT-WT		Water						
Batch	R2388164							
WG1496310-2	CVS							
Cadmium (Cd)-Total			104.7		%		80-120	26-JUN-12
Calcium (Ca)-Total			100.7		%		80-120	26-JUN-12
Chromium (Cr)-Total			100.6		%		80-120	26-JUN-12
Cobalt (Co)-Total			99.8		%		80-120	26-JUN-12
Copper (Cu)-Total			99.7		%		80-120	26-JUN-12
Iron (Fe)-Total			101.2		%		70-130	26-JUN-12
Lead (Pb)-Total			102.4		%		80-120	26-JUN-12
Magnesium (Mg)-Total			102.3		%		80-120	26-JUN-12
Manganese (Mn)-Total			106.1		%		80-120	26-JUN-12
Molybdenum (Mo)-Total			99.7		%		90-110	26-JUN-12
Nickel (Ni)-Total			101.8		%		80-120	26-JUN-12
Potassium (K)-Total			100.0		%		80-120	26-JUN-12
Selenium (Se)-Total			100.3		%		80-120	26-JUN-12
Silicon (Si)-Total			101.7		%		70-130	26-JUN-12
Silver (Ag)-Total			105.6		%		80-120	26-JUN-12
Sodium (Na)-Total			101.5		%		80-120	26-JUN-12
Strontium (Sr)-Total			100.8		%		80-120	26-JUN-12
Thallium (Tl)-Total			104.0		%		80-120	26-JUN-12
Tin (Sn)-Total			98.0		%		70-130	26-JUN-12
Titanium (Ti)-Total			101.1		%		80-120	26-JUN-12
Tungsten (W)-Total			100.0		%		70-130	26-JUN-12
Uranium (U)-Total			98.7		%		80-120	26-JUN-12
Vanadium (V)-Total			100.8		%		80-120	26-JUN-12
Zinc (Zn)-Total			97.6		%		80-120	26-JUN-12
Zirconium (Zr)-Total			99.7		%		80-120	26-JUN-12
WG1495517-2	LCS							
Aluminum (Al)-Total			96.8		%		80-120	26-JUN-12
Antimony (Sb)-Total			89.5		%		70-130	26-JUN-12
Arsenic (As)-Total			100.1		%		70-130	26-JUN-12
Barium (Ba)-Total			97.2		%		70-130	26-JUN-12
Beryllium (Be)-Total			91.5		%		70-130	26-JUN-12
Bismuth (Bi)-Total			98.5		%		70-130	26-JUN-12
Boron (B)-Total			90.5		%		70-130	26-JUN-12
Cadmium (Cd)-Total			99.4		%		70-130	26-JUN-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TOT-WT		Water						
Batch	R2388164							
WG1495517-2 LCS								
Calcium (Ca)-Total			99.5		%		70-130	26-JUN-12
Chromium (Cr)-Total			98.9		%		70-130	26-JUN-12
Cobalt (Co)-Total			97.9		%		70-130	26-JUN-12
Copper (Cu)-Total			96.7		%		70-130	26-JUN-12
Iron (Fe)-Total			102.6		%		70-130	26-JUN-12
Lead (Pb)-Total			100.7		%		70-130	26-JUN-12
Magnesium (Mg)-Total			95.0		%		70-130	26-JUN-12
Manganese (Mn)-Total			102.0		%		70-130	26-JUN-12
Molybdenum (Mo)-Total			98.8		%		70-130	26-JUN-12
Nickel (Ni)-Total			95.9		%		70-130	26-JUN-12
Potassium (K)-Total			96.1		%		70-130	26-JUN-12
Selenium (Se)-Total			97.3		%		70-130	26-JUN-12
Silicon (Si)-Total			95.4		%		70-130	26-JUN-12
Silver (Ag)-Total			97.1		%		70-130	26-JUN-12
Sodium (Na)-Total			93.1		%		70-130	26-JUN-12
Strontium (Sr)-Total			102.0		%		70-130	26-JUN-12
Thallium (Tl)-Total			98.9		%		70-130	26-JUN-12
Tin (Sn)-Total			95.6		%		70-130	26-JUN-12
Titanium (Ti)-Total			98.1		%		70-130	26-JUN-12
Tungsten (W)-Total			100.5		%		70-130	26-JUN-12
Uranium (U)-Total			98.8		%		70-130	26-JUN-12
Vanadium (V)-Total			100.5		%		70-130	26-JUN-12
Zinc (Zn)-Total			98.2		%		70-130	26-JUN-12
Zirconium (Zr)-Total			96.4		%		70-130	26-JUN-12
WG1495517-1 MB								
Aluminum (Al)-Total			<0.010		mg/L		0.01	26-JUN-12
Antimony (Sb)-Total			<0.0050		mg/L		0.005	26-JUN-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	26-JUN-12
Barium (Ba)-Total			<0.010		mg/L		0.01	26-JUN-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	26-JUN-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	26-JUN-12
Boron (B)-Total			<0.050		mg/L		0.05	26-JUN-12
Cadmium (Cd)-Total			<0.000090		mg/L		0.00009	26-JUN-12
Calcium (Ca)-Total			<0.50		mg/L		0.5	26-JUN-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TOT-WT								
	Water							
Batch	R2388164							
WG1495517-1 MB								
Chromium (Cr)-Total			<0.00050		mg/L		0.0005	26-JUN-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	26-JUN-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	26-JUN-12
Iron (Fe)-Total			<0.050		mg/L		0.05	26-JUN-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	26-JUN-12
Magnesium (Mg)-Total			<0.50		mg/L		0.5	26-JUN-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	26-JUN-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	26-JUN-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	26-JUN-12
Potassium (K)-Total			<1.0		mg/L		1	26-JUN-12
Selenium (Se)-Total			<0.00040		mg/L		0.0004	26-JUN-12
Silicon (Si)-Total			<1.0		mg/L		1	26-JUN-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	26-JUN-12
Sodium (Na)-Total			<0.50		mg/L		0.5	26-JUN-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	26-JUN-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	26-JUN-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	26-JUN-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	26-JUN-12
Tungsten (W)-Total			<0.010		mg/L		0.01	26-JUN-12
Uranium (U)-Total			<0.0050		mg/L		0.005	26-JUN-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	26-JUN-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	26-JUN-12
Zirconium (Zr)-Total			<0.0040		mg/L		0.004	26-JUN-12
WG1495517-5 MS		WG1495517-3						
Aluminum (Al)-Total			N/A	MS-B	%		-	26-JUN-12
Antimony (Sb)-Total			94.5		%		70-130	26-JUN-12
Arsenic (As)-Total			97.3		%		70-130	26-JUN-12
Barium (Ba)-Total			106.1		%		70-130	26-JUN-12
Beryllium (Be)-Total			96.9		%		70-130	26-JUN-12
Bismuth (Bi)-Total			101.4		%		70-130	26-JUN-12
Boron (B)-Total			94.2		%		70-130	26-JUN-12
Cadmium (Cd)-Total			100.4		%		70-130	26-JUN-12
Calcium (Ca)-Total			98.3		%		70-130	26-JUN-12
Chromium (Cr)-Total			98.8		%		70-130	26-JUN-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TOT-WT								
	Water							
Batch	R2388164							
WG1495517-5 MS		WG1495517-3						
Cobalt (Co)-Total			93.8		%		70-130	26-JUN-12
Copper (Cu)-Total			93.8		%		70-130	26-JUN-12
Iron (Fe)-Total			102.3		%		70-130	26-JUN-12
Lead (Pb)-Total			98.8		%		70-130	26-JUN-12
Magnesium (Mg)-Total			92.6		%		70-130	26-JUN-12
Manganese (Mn)-Total			103.6		%		70-130	26-JUN-12
Molybdenum (Mo)-Total			96.1		%		70-130	26-JUN-12
Nickel (Ni)-Total			94.6		%		70-130	26-JUN-12
Potassium (K)-Total			97.4		%		70-130	26-JUN-12
Selenium (Se)-Total			95.4		%		70-130	26-JUN-12
Silicon (Si)-Total			N/A	MS-B	%		-	26-JUN-12
Silver (Ag)-Total			99.3		%		70-130	26-JUN-12
Sodium (Na)-Total			91.5		%		70-130	26-JUN-12
Strontium (Sr)-Total			96.8		%		70-130	26-JUN-12
Thallium (Tl)-Total			99.2		%		70-130	26-JUN-12
Tin (Sn)-Total			95.7		%		70-130	26-JUN-12
Titanium (Ti)-Total			97.7		%		70-130	26-JUN-12
Tungsten (W)-Total			100.6		%		70-130	26-JUN-12
Uranium (U)-Total			97.8		%		70-130	26-JUN-12
Vanadium (V)-Total			99.97		%		70-130	26-JUN-12
Zinc (Zn)-Total			94.7		%		70-130	26-JUN-12
Zirconium (Zr)-Total			92.0		%		70-130	26-JUN-12
Batch	R2388832							
WG1497084-2 CVS								
Aluminum (Al)-Total			101.7		%		80-120	27-JUN-12
Antimony (Sb)-Total			102.3		%		80-120	27-JUN-12
Arsenic (As)-Total			100.9		%		80-120	27-JUN-12
Barium (Ba)-Total			101.0		%		80-120	27-JUN-12
Bismuth (Bi)-Total			92.4		%		80-120	27-JUN-12
Cadmium (Cd)-Total			106.0		%		80-120	27-JUN-12
Calcium (Ca)-Total			100.4		%		80-120	27-JUN-12
Chromium (Cr)-Total			103.4		%		80-120	27-JUN-12
Cobalt (Co)-Total			98.5		%		80-120	27-JUN-12
Copper (Cu)-Total			101.2		%		80-120	27-JUN-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TOT-WT								
	Water							
Batch	R2388832							
WG1497084-2	CVS							
Iron (Fe)-Total			103.4		%		70-130	27-JUN-12
Lead (Pb)-Total			101.5		%		80-120	27-JUN-12
Magnesium (Mg)-Total			104.2		%		80-120	27-JUN-12
Manganese (Mn)-Total			107.4		%		80-120	27-JUN-12
Molybdenum (Mo)-Total			98.3		%		90-110	27-JUN-12
Nickel (Ni)-Total			100.9		%		80-120	27-JUN-12
Potassium (K)-Total			99.3		%		80-120	27-JUN-12
Selenium (Se)-Total			99.4		%		80-120	27-JUN-12
Silicon (Si)-Total			103.7		%		70-130	27-JUN-12
Silver (Ag)-Total			108.0		%		80-120	27-JUN-12
Sodium (Na)-Total			103.7		%		80-120	27-JUN-12
Strontium (Sr)-Total			99.3		%		80-120	27-JUN-12
Thallium (Tl)-Total			105.2		%		80-120	27-JUN-12
Tin (Sn)-Total			102.5		%		70-130	27-JUN-12
Titanium (Ti)-Total			102.9		%		80-120	27-JUN-12
Tungsten (W)-Total			101.3		%		70-130	27-JUN-12
Uranium (U)-Total			99.8		%		80-120	27-JUN-12
Vanadium (V)-Total			101.2		%		80-120	27-JUN-12
Zinc (Zn)-Total			100.6		%		80-120	27-JUN-12
Zirconium (Zr)-Total			97.9		%		80-120	27-JUN-12
Batch	R2390549							
WG1498695-2	CVS							
Beryllium (Be)-Total			112.4		%		80-120	29-JUN-12
Boron (B)-Total			107.2		%		70-130	29-JUN-12
NH3-COL-TB								
	Water							
Batch	R2388709							
WG1496641-3	DUP	L1166467-3						
Ammonia, Total (as N)			<0.020		mg/L	RPD-NA	N/A	20
WG1496641-2	LCS							
Ammonia, Total (as N)			94.4		%		85-115	26-JUN-12
WG1496641-1	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	26-JUN-12
WG1496641-4	MS	L1166467-3						
Ammonia, Total (as N)			91.6		%		75-125	26-JUN-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NH3-COL-TB								
Water								
Batch	R2389897							
WG1497945-2	LCS							
Ammonia, Total (as N)			91.1		%		85-115	28-JUN-12
WG1497945-1	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	28-JUN-12
WG1497945-6	MS	L1169178-10						
Ammonia, Total (as N)			95.8		%		75-125	28-JUN-12
NO2-IC-TB								
Water								
Batch	R2387628							
WG1495913-2	LCS							
Nitrite (as N)			94.8		%		90-110	22-JUN-12
WG1495913-1	MB							
Nitrite (as N)			<0.020		mg/L		0.02	22-JUN-12
WG1495913-6	MS	L1166593-2						
Nitrite (as N)			95.6		%		75-115	22-JUN-12
NO3-IC-TB								
Water								
Batch	R2387628							
WG1495913-2	LCS							
Nitrate (as N)			100.1		%		90-110	22-JUN-12
WG1495913-1	MB							
Nitrate (as N)			<0.030		mg/L		0.03	22-JUN-12
WG1495913-4	MS	L1166188-15						
Nitrate (as N)			102.0		%		75-125	22-JUN-12
WG1495913-6	MS	L1166593-2						
Nitrate (as N)			98.8		%		75-125	22-JUN-12
OGG-TOT-WT								
Water								
Batch	R2387422							
WG1495458-2	LCS							
Oil and Grease, Total			89.9		%		75-120	24-JUN-12
WG1495458-3	LCSD	WG1495458-2						
Oil and Grease, Total		89.9	90		%	0.1	45	24-JUN-12
WG1495458-1	MB							
Oil and Grease, Total			<2.0		mg/L		2	24-JUN-12
Batch	R2387903							
WG1495678-2	LCS							
Oil and Grease, Total			87.0		%		75-120	25-JUN-12
WG1495678-3	LCSD	WG1495678-2						
Oil and Grease, Total		87.0	91		%	4.5	45	25-JUN-12
WG1495678-1	MB							



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
OGG-TOT-WT								
Water								
Batch	R2387903							
WG1495678-1	MB							
Oil and Grease, Total			<2.0		mg/L		2	25-JUN-12
Batch	R2387904							
WG1495874-2	LCS							
Oil and Grease, Total			93.5		%		75-120	25-JUN-12
WG1495874-3	LCSD	WG1495874-2						
Oil and Grease, Total		93.5	97		%	3.6	45	25-JUN-12
WG1495874-1	MB							
Oil and Grease, Total			<2.0		mg/L		2	25-JUN-12
P-T-COL-TB								
Water								
Batch	R2388980							
WG1496819-3	DUP	L1166467-4						
Phosphorus (P)-Total		0.0071	0.0090	J	mg/L	0.0020	0.01	27-JUN-12
WG1496819-2	LCS							
Phosphorus (P)-Total			101.0		%		80-120	27-JUN-12
WG1496819-1	MB							
Phosphorus (P)-Total			<0.0050		mg/L		0.005	27-JUN-12
WG1496819-4	MS	L1166467-4						
Phosphorus (P)-Total			99.4		%		70-130	27-JUN-12
PH-CAP-TB								
Water								
Batch	R2388109							
WG1495137-2	LCS							
pH			6.00		pH		5.9-6.1	22-JUN-12
Batch	R2388817							
WG1495316-3	DUP	L1166467-15						
pH		7.61	7.61	J	pH	0.01	0.2	23-JUN-12
WG1495316-2	LCS							
pH			6.00		pH		5.9-6.1	23-JUN-12
SO4-IC-TB								
Water								
Batch	R2387628							
WG1495913-2	LCS							
Sulfate (SO4)			101.9		%		90-110	22-JUN-12
WG1495913-1	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	22-JUN-12
WG1495913-4	MS	L1166188-15						
Sulfate (SO4)			102.4		%		75-125	22-JUN-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SO4-IC-TB								
	Water							
Batch	R2387628							
WG1495913-6 MS		L1166593-2						
Sulfate (SO4)			101.6		%		75-125	22-JUN-12
SOLIDS-TOTSUS-TB								
	Water							
Batch	R2388781							
WG1496260-4 DUP		L1166467-5						
Total Suspended Solids		8.6	8.4		mg/L	2.4	20	26-JUN-12
WG1496260-2 LCS								
Total Suspended Solids			99.8		%		85-115	26-JUN-12
WG1496260-1 MB								
Total Suspended Solids			<2.0		mg/L		2	26-JUN-12

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Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
J	Duplicate results and limits are expressed in terms of absolute difference.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

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Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Total Metals							
Dissolved Mercury in Water by CVAFS	5	20-JUN-12 13:40	29-JUN-12 13:21	7	9	days	EHT
Total Mercury in Water by CVAFS	5	20-JUN-12 13:40	29-JUN-12 10:36	7	9	days	EHT

Legend & Qualifier Definitions:

EHTR-FM:	Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.
EHTR:	Exceeded ALS recommended hold time prior to sample receipt.
EHTL:	Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
EHT:	Exceeded ALS recommended hold time prior to analysis.
Rec. HT:	ALS recommended hold time (see units).

Notes*:

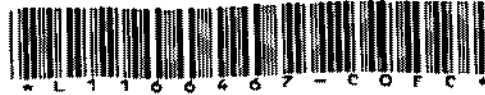
Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.

Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L1166467 were received on 22-JUN-12 09:15.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



41166467

Company: [Blank] **U. Reg 155 (U. Reg 311 Amend) Table:** [Blank] **Are any samples taken from a regulated DW System?** Yes No

Contact: See Other Coc **Record of Site Condition** Yes No **If yes, an authorized OW COC must be used.** [Blank]

Address: [Blank] **PWQO** MISA MMR CCME **Is the water sampled intended for human consumption?** Yes No

Phone: [Blank] **Fax:** [Blank] **Guideline Required:** [Blank]

Email: [Blank] **TCLP Regulation 558** Other: [Blank]

Project: [Blank] **PD:** [Blank] **Service Requested** **Please indicate below Filtered, Preserved or both (F, P, F/P)**

Quote # Regular TAT (7 Oays) **Priority TAT 50% Surcharge (3-5 Days)** **Emergency TAT 100% Surcharge (1-2 Days)**

Invoice To: [Blank] **Same as Report:** Yes No **Specify Date Required:** [Blank]

Company: [Blank] **Account Manager:** Karen R **Sampler:** MAL POTTER

Contact: [Blank] **All TAT quoted material is in business days which exclude statutory holidays and weekends. Samples received past 3:00pm or Saturday/Sunday begin the next day.**

Address: [Blank] **Email:** [Blank]

Sample #	Sample Identification (This description will appear on the report)	Date	Time	Sample Type	ALK, pH, Conductivity	CL, NO2, NO3, SO4	Acidity, TSS	Total Cyanide	WAD Cyanide	CN-Frec - Col VA	Ammonia, Total Phos	OB6	Total Metals + Hg	Dissolved Metals + Hg	Hardness	Number of Containers
1	SW4	21/06/12	10 ¹⁵	WATER	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	9
2	SW6	↓	11 ³⁰	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
3	SW66	↓	11 ³⁰	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
4	SW5	↓	11 ⁴⁵	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
5	SW11	20/06/12	1 ⁴⁰	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
6	SW10 SW9	↓	2 ¹⁰	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
7	*SW8	↓	11 ²⁰	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	8
8	TL1a	↓	10 ⁰⁰	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	9
9	TL2a	↓	10 ¹⁶	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
10	TL3	↓	8 ²⁰	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
11	JCTa	↓	9 ²⁵	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓

Special Instructions / Comments
*NO DISSOLVED MERCURY IN SW8

SHIPMENT RELEASE (client use)		SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)		
Released by: <i>M. Potter</i> 21/06/12 1:20 AM	Date & Time	Received by: <i>M. Potter</i>	Date & Time: 22/06/12 9:15	Temp: 9.6	Cooling Initiated: <input type="checkbox"/> Yes <input type="checkbox"/> No	Verified by: <i>M. Potter</i>	Date & Time: 22/06/12 10:05	Observations: Yes (No) If Yes add SIF

****Failure to complete all portions of this form may delay analysis.**** TAT may vary dependant on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs. Any known or suspected hazards relating to a sample must be noted on the chain of custody in the comments section. By use of the form the user acknowledges and agrees with the Terms and Conditions as specified on the back page.





Company: <u>Treasury Metals</u>		Information		Both questions below must answered for water samples												
Contact: <u>Mac Doiter</u>		Record of Site Condition <input type="checkbox"/> Yes <input type="checkbox"/> No		Are any samples taken from a regulated DW System? <input type="checkbox"/> Yes <input type="checkbox"/> No												
Address: <u>899 Tree Meadow Rd</u> <u>Windsor, ON</u>		PWQO <input checked="" type="checkbox"/> MISA <input type="checkbox"/> MMER <input type="checkbox"/> CCME <input type="checkbox"/>		If yes, an authorized DW COC must be used.												
Phone: <u>938 6961</u> Fax: <u>938 6499</u>		Guideline Required:		Is the water sampled intended for human consumption? <input type="checkbox"/> Yes <input type="checkbox"/> No												
Email: <u>mac@treasurymetals.com</u>		TCLP Regulation 558 <input type="checkbox"/> Other:		Analysis Request												
Project: <u>M0906A01</u> PD: <u>M0210-P0115</u>		Service Requested		Please indicate below Filtered, Preserved or both (F, P, F/P)												
Quote # <u>632690</u> <u>LSD Solids Project</u>		<input checked="" type="checkbox"/> Regular TAT (7 Days)					P	P	P	P	P	P	F/P			
Invoice To: Same as Report: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Priority TAT 50% Surcharge (3-5 Days)														
Company:		<input type="checkbox"/> Emergency TAT 100% Surcharge (1-2 Days)														
Contact:		Specify Date Required:														
Address:		All TAT quoted material is in business days which exclude statutory holidays and weekends. Samples received past 3:00pm or Saturday/Sunday begin the next day.														
Email:																
Account Manager: <u>KAREN R</u>	Sampler: <u>MAC DOITER</u>															
Sample #	Sample Identification (This description will appear on the report)	Date	Time	Sample Type	PH, pH, Conductivity	C, NO2, NO3, SO4	Acidity, TSS	Total Cyanide	WAD Cyanide	CN-Free CO ₂ -VA	Ammonia, Total Phos.	DOG	Total Metals + Hg	Dissolved Metals + Hg	Hardness	Number of Containers
12	SW2	26/06/12	8 ⁰⁰	Water	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	9
13	SW1	↓	9 ⁰⁰	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
14	SW3	↓	7 ⁰⁰	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
15	SW7	↓	11 ⁰⁰	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
16	SW10	↓	12 ⁰⁰	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
17	Field Blank	20/06/12	4 ⁰⁰	Water												9
18	Travel Blank															↓
Special Instructions / Comments																
SHIPMENT RELEASE (client use)					SHIPMENT RECEPTION (lab use only)					SHIPMENT VERIFICATION (lab use only)						
Released by: <u>M. Doiter</u> <u>21/06/12</u> <u>1:30 AM</u>	Date & Time	Received by: <u>gRb.</u>	Date & Time: <u>22/06/12 9:15</u>	Temp: <u>9.6</u>	Cooling Initiated <input type="checkbox"/> Yes <input type="checkbox"/> No	Verified by: <u>Mab.</u>	Date & Time: <u>22/06/12 10:05</u>	Observations: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If Yes add SIF								

****Failure to complete all portions of this form may delay analysis.**** TAT may vary dependant on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs. Any known or suspected hazards relating to a sample must be noted on the chain of custody in the comments section. By use of the form the user acknowledges and agrees with the Terms and Conditions as specified on the back page.





TREASURY METALS INC.
ATTN: Mac Potter
P.O. Box 789
Dryden ON P8N 2Z4

Date Received: 20-JUL-12
Report Date: 07-SEP-12 10:10 (MT)
Version: FINAL REV. 2

Client Phone: 807-938-6961

Certificate of Analysis

Lab Work Order #: L1181718
Project P.O. #: NOT SUBMITTED
Job Reference: GOLIATH
C of C Numbers:
Legal Site Desc: GOLIATH PROJECT



Karen Rutledge
Account Manager

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ADDRESS: 1081 Barton Street, Thunder Bay, ON P7B 5N3 Canada | Phone: +1 807 623 6463 | Fax: +1 807 623 7598
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1181718-1	L1181718-2	L1181718-3	L1181718-4	L1181718-5
		Description	WATER	WATER	WATER	WATER	WATER
		Sampled Date	19-JUL-12	19-JUL-12	19-JUL-12	19-JUL-12	19-JUL-12
		Sampled Time	07:20	06:30	05:55	03:00	02:15
		Client ID	SW1	SW2	SW3	SW4	SW5
Grouping	Analyte						
WATER							
Physical Tests	Conductivity (EC) (uS/cm)		139	128	175	100	107
	Hardness (as CaCO3) (mg/L)		77.9	76.4	69.9	46.6	49.0
	pH (pH)		7.26	7.65	7.26	7.90	7.98
	Total Suspended Solids (mg/L)		<2.0	45.2	2.7	2.5	<2.0
Anions and Nutrients	Acidity (as CaCO3) (mg/L)		6.0	2.8	4.2	3.4	2.2
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)		70.3	63.6	58.6	42.7	43.4
	Ammonia, Total (as N) (mg/L)		<0.020	0.028	<0.020	<0.020	<0.020
	Chloride (Cl) (mg/L)		0.32	0.24	17.4	3.23	4.12
	Nitrate (as N) (mg/L)		<0.030	0.078	<0.030	<0.030	<0.030
	Nitrite (as N) (mg/L)		<0.020	<0.020	<0.020	<0.020	<0.020
	Phosphorus (P)-Total (mg/L)		0.0096	0.0704	0.0153	0.0191	0.0099
	Sulfate (SO4) (mg/L)		0.94	0.74	2.66	1.69	2.77
Cyanides	Cyanide, Weak Acid Diss (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Free (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)		0.0259	0.586	0.0781	0.671	0.0118
	Antimony (Sb)-Total (mg/L)		<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Total (mg/L)		0.011	0.014	0.010	0.011	<0.010
	Beryllium (Be)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Total (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Total (mg/L)		<0.000017	<0.000017	<0.000017	<0.000017	<0.000017
	Calcium (Ca)-Total (mg/L)		23.4	20.0	19.1	14.3	14.2
	Chromium (Cr)-Total (mg/L)		<0.0010	0.0014	<0.0010	<0.0010	<0.0010
	Cobalt (Co)-Total (mg/L)		<0.00050	0.00061	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Total (mg/L)		<0.0010	0.0016	<0.0010	0.0019	0.0015
	Iron (Fe)-Total (mg/L)		0.405	2.03	0.362	0.570	0.123
	Lead (Pb)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Total (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Total (mg/L)		3.57	5.21	4.62	2.83	3.07
	Manganese (Mn)-Total (mg/L)		0.0634	0.0841	0.0444	0.0107	0.0037
	Mercury (Hg)-Total (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Total (mg/L)		<0.0020	0.0021	<0.0020	<0.0020	<0.0020
Potassium (K)-Total (mg/L)		0.61	0.76	0.83	0.93	0.99	
Selenium (Se)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1181718-6	L1181718-7	L1181718-8	L1181718-9	L1181718-10
		Description	WATER	WATER	WATER	WATER	WATER
		Sampled Date	19-JUL-12	19-JUL-12	19-JUL-12	19-JUL-12	19-JUL-12
		Sampled Time	01:45	16:15	10:00	12:00	09:30
		Client ID	SW6	SW7	SW8	SW9	SW10
Grouping	Analyte						
WATER							
Physical Tests	Conductivity (EC) (uS/cm)		108	90.3	137	205	79.8
	Hardness (as CaCO3) (mg/L)		47.1	50.1	75.6	118	45.3
	pH (pH)		7.97	7.47	7.82	7.69	7.31
	Total Suspended Solids (mg/L)		<2.0	7.3	3.5	<2.0	<2.0
Anions and Nutrients	Acidity (as CaCO3) (mg/L)		2.0	2.8	2.2	3.8	3.0
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)		44.5	40.0	69.8	108	37.1
	Ammonia, Total (as N) (mg/L)		<0.020	<0.020	<0.020	<0.020	<0.020
	Chloride (Cl) (mg/L)		4.16	0.18	0.13	0.27	0.18
	Nitrate (as N) (mg/L)		<0.030	0.112	0.037	0.057	0.047
	Nitrite (as N) (mg/L)		<0.020	<0.020	<0.020	<0.020	<0.020
	Phosphorus (P)-Total (mg/L)		0.0081	0.0181	0.0091	0.0081	0.0106
	Sulfate (SO4) (mg/L)		2.74	3.44	0.50	0.59	1.00
Cyanides	Cyanide, Weak Acid Diss (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Free (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)		0.0136	0.137	0.0342	0.0648	0.155
	Antimony (Sb)-Total (mg/L)		<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Total (mg/L)		<0.0010	0.0011	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Total (mg/L)		<0.010	<0.010	0.020	0.019	0.012
	Beryllium (Be)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Total (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Total (mg/L)		<0.000017	<0.000017	<0.000017	<0.000017	<0.000017
	Calcium (Ca)-Total (mg/L)		14.1	15.1	25.3	35.5	14.4
	Chromium (Cr)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Cobalt (Co)-Total (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Total (mg/L)		<0.0010	0.0012	<0.0010	<0.0010	<0.0010
	Iron (Fe)-Total (mg/L)		<0.020	0.809	0.475	0.242	1.61
	Lead (Pb)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Total (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Total (mg/L)		3.11	2.69	2.20	6.51	2.04
	Manganese (Mn)-Total (mg/L)		0.0029	0.0226	0.0600	0.0639 ^{DTC}	0.0507
	Mercury (Hg)-Total (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Total (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Potassium (K)-Total (mg/L)		0.98	0.63	<0.50	1.45	<0.50
Selenium (Se)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1181718-11	L1181718-12	L1181718-13	L1181718-14	L1181718-15
		Description	WATER	WATER	WATER	WATER	WATER
		Sampled Date	19-JUL-12	19-JUL-12	19-JUL-12	19-JUL-12	19-JUL-12
		Sampled Time	11:05	06:51	08:50	08:30	08:00
		Client ID	SW11	TL1A	TL2A	TL3	JCTA
Grouping	Analyte						
WATER							
Physical Tests	Conductivity (EC) (uS/cm)		33.1	86.7	152	111	95.9
	Hardness (as CaCO3) (mg/L)		18.9	49.6	89.7	66.0	53.2
	pH (pH)		5.06	7.03	7.50	7.48	7.27
	Total Suspended Solids (mg/L)		2.4	3.7	5.2	4.3	6.9
Anions and Nutrients	Acidity (as CaCO3) (mg/L)		16.0	5.8	3.8	2.8	3.4
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)		<5.0	40.9	75.0	53.2	45.8
	Ammonia, Total (as N) (mg/L)		<0.020	0.089	0.044	<0.020	0.031
	Chloride (Cl) (mg/L)		0.11	0.32	0.18	0.58	0.41
	Nitrate (as N) (mg/L)		<0.030	<0.030	<0.030	<0.030	<0.030
	Nitrite (as N) (mg/L)		<0.020	<0.020	<0.020	<0.020	<0.020
	Phosphorus (P)-Total (mg/L)		0.0158	0.0064	0.0379	0.0244	0.0294
	Sulfate (SO4) (mg/L)		<0.30	1.23	<0.30	0.60	0.41
Cyanides	Cyanide, Weak Acid Diss (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Free (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)		0.539	0.0821	0.112	0.154	0.109
	Antimony (Sb)-Total (mg/L)		<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Total (mg/L)		0.0014	0.0010	0.0012	<0.0010	0.0010
	Barium (Ba)-Total (mg/L)		<0.010	0.013	0.010	<0.010	<0.010
	Beryllium (Be)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Total (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Total (mg/L)		0.000036	<0.000017	<0.000017	<0.000017	<0.000017
	Calcium (Ca)-Total (mg/L)		5.93	14.3	24.0	17.7	15.4
	Chromium (Cr)-Total (mg/L)		0.0013	<0.0010	<0.0010	<0.0010	<0.0010
	Cobalt (Co)-Total (mg/L)		0.00058	0.00279	<0.00050	<0.00050	0.00051
	Copper (Cu)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Iron (Fe)-Total (mg/L)		1.87	2.25	0.891	1.11	1.54
	Lead (Pb)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Total (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Total (mg/L)		1.18	3.30	6.49	4.42	3.72
	Manganese (Mn)-Total (mg/L)		0.0472	1.03	0.146	0.0318	0.283
	Mercury (Hg)-Total (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Total (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Potassium (K)-Total (mg/L)		<0.50	<0.50	1.88	0.78	0.59	
Selenium (Se)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1181718-16 WATER 19-JUL-12 08:30 TL33	L1181718-17 WATER 19-JUL-12 05:50 FIELD BLANK	L1181718-18 WATER 19-JUL-12 01:45 TRAVEL BLANK	
Grouping	Analyte				
WATER					
Physical Tests	Conductivity (EC) (uS/cm)	111	<3.0	<3.0	
	Hardness (as CaCO3) (mg/L)	63.7	<0.51	<0.51	
	pH (pH)	7.51	5.48	4.98	
	Total Suspended Solids (mg/L)	5.6	<2.0	<2.0	
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	3.2	<2.0	<2.0	
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)	53.6	<5.0	<5.0	
	Ammonia, Total (as N) (mg/L)	<0.020	<0.020	<0.020	
	Chloride (Cl) (mg/L)	0.59	<0.10	<0.10	
	Nitrate (as N) (mg/L)	<0.030	<0.030	<0.030	
	Nitrite (as N) (mg/L)	<0.020	<0.020	<0.020	
	Phosphorus (P)-Total (mg/L)	0.0251	<0.0050	<0.0050	
	Sulfate (SO4) (mg/L)	0.60	<0.30	<0.30	
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020	<0.0020	<0.0020	
	Cyanide, Total (mg/L)	<0.0020	<0.0020	<0.0020	
	Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	
Total Metals	Aluminum (Al)-Total (mg/L)	0.163	<0.0050	<0.0050	
	Antimony (Sb)-Total (mg/L)	<0.00060	<0.00060	<0.00060	
	Arsenic (As)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Barium (Ba)-Total (mg/L)	<0.010	<0.010	<0.010	
	Beryllium (Be)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Bismuth (Bi)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Boron (B)-Total (mg/L)	<0.050	<0.050	<0.050	
	Cadmium (Cd)-Total (mg/L)	<0.000017	<0.000017	<0.000017	
	Calcium (Ca)-Total (mg/L)	17.8	<0.20	<0.20	
	Chromium (Cr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Cobalt (Co)-Total (mg/L)	<0.00050	<0.00050	<0.00050	
	Copper (Cu)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Iron (Fe)-Total (mg/L)	1.12	<0.020	<0.020	
	Lead (Pb)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Lithium (Li)-Total (mg/L)	<0.050	<0.050	<0.050	
	Magnesium (Mg)-Total (mg/L)	4.41	<0.020	<0.020	
	Manganese (Mn)-Total (mg/L)	0.0332	<0.0010	<0.0010	
	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010	<0.000010	
	Molybdenum (Mo)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Nickel (Ni)-Total (mg/L)	<0.0020	<0.0020	<0.0020	
	Potassium (K)-Total (mg/L)	0.77	<0.50	<0.50	
	Selenium (Se)-Total (mg/L)	<0.0010	<0.0010	<0.0010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1181718-1 WATER 19-JUL-12 07:20 SW1	L1181718-2 WATER 19-JUL-12 06:30 SW2	L1181718-3 WATER 19-JUL-12 05:55 SW3	L1181718-4 WATER 19-JUL-12 03:00 SW4	L1181718-5 WATER 19-JUL-12 02:15 SW5
Grouping	Analyte					
WATER						
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Total (mg/L)	1.64	1.91	10.7	3.01	3.37
	Strontium (Sr)-Total (mg/L)	0.0479	0.0364	0.0517	0.0272	0.0279
	Tellurium (Te)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Total (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Total (mg/L)	<0.0020	0.0247	0.0035	0.0206	<0.0020
	Tungsten (W)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Total (mg/L)	<0.0010	0.0021	<0.0010	0.0011	<0.0010
	Zinc (Zn)-Total (mg/L)	<0.0030	0.0046 ^{RRV}	<0.0030	<0.0030	<0.0030
	Zirconium (Zr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	<0.0050	0.0416	0.0114	0.0109	<0.0050
	Antimony (Sb)-Dissolved (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Dissolved (mg/L)	0.011	<0.010	<0.010	<0.010	<0.010
	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Dissolved (mg/L)	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017
	Calcium (Ca)-Dissolved (mg/L)	24.8	21.3	19.8	14.2	14.4
	Chromium (Cr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Dissolved (mg/L)	<0.0010	0.0010	<0.0010	0.0015	0.0011
	Iron (Fe)-Dissolved (mg/L)	0.113	0.651	0.073	<0.020	<0.020
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Dissolved (mg/L)	3.90	5.63	4.95	2.69	3.19
	Manganese (Mn)-Dissolved (mg/L)	0.0471	0.0559	0.0231	0.0012	<0.0010
	Mercury (Hg)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Potassium (K)-Dissolved (mg/L)	0.67	0.74	0.87	0.79	1.01
	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Dissolved (mg/L)	1.77	2.06	11.1	2.96	3.44
	Strontium (Sr)-Dissolved (mg/L)	0.0468	0.0355	0.0512	0.0239	0.0265

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1181718-6	L1181718-7	L1181718-8	L1181718-9	L1181718-10
					WATER	WATER	WATER	WATER	WATER
		19-JUL-12	01:45	SW6	19-JUL-12	16:15	19-JUL-12	12:00	19-JUL-12
					SW6	SW7	SW8	SW9	SW10
Grouping	Analyte								
WATER									
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Total (mg/L)	3.35	1.39	1.13	3.06	1.36			
	Strontium (Sr)-Total (mg/L)	0.0279	0.0299	0.0413	0.0651	0.0284			
	Tellurium (Te)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Thallium (Tl)-Total (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030			
	Tin (Sn)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Titanium (Ti)-Total (mg/L)	<0.0020	0.0052	<0.0020	0.0023	0.0035			
	Tungsten (W)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010			
	Uranium (U)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050			
	Vanadium (V)-Total (mg/L)	<0.0010	0.0012	<0.0010	<0.0010	0.0014			
	Zinc (Zn)-Total (mg/L)	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030			
	Zirconium (Zr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	<0.0050	0.0822	<0.0050	0.0254	0.136			
	Antimony (Sb)-Dissolved (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060			
	Arsenic (As)-Dissolved (mg/L)	<0.0010	0.0011	<0.0010	<0.0010	<0.0010			
	Barium (Ba)-Dissolved (mg/L)	<0.010	<0.010	0.021	0.020	0.012			
	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Boron (B)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050			
	Cadmium (Cd)-Dissolved (mg/L)	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017			
	Calcium (Ca)-Dissolved (mg/L)	13.7	15.4	26.4	36.2	14.6			
	Chromium (Cr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050			
	Copper (Cu)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Iron (Fe)-Dissolved (mg/L)	<0.020	0.564	0.203	0.108	1.15			
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050			
	Magnesium (Mg)-Dissolved (mg/L)	3.13	2.81	2.34	6.68	2.13			
	Manganese (Mn)-Dissolved (mg/L)	<0.0010	0.0138	0.0517	0.0837 ^{DTC}	0.0502			
	Mercury (Hg)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010			
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020			
	Potassium (K)-Dissolved (mg/L)	0.95	0.68	<0.50	1.49	<0.50			
	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010			
	Sodium (Na)-Dissolved (mg/L)	3.33	1.47	1.18	3.10	1.40			
	Strontium (Sr)-Dissolved (mg/L)	0.0254	0.0305	0.0404	0.0633	0.0275			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1181718-11	L1181718-12	L1181718-13	L1181718-14	L1181718-15
		Description	WATER	WATER	WATER	WATER	WATER
		Sampled Date	19-JUL-12	19-JUL-12	19-JUL-12	19-JUL-12	19-JUL-12
		Sampled Time	11:05	06:51	08:50	08:30	08:00
		Client ID	SW11	TL1A	TL2A	TL3	JCTA
Grouping	Analyte						
WATER							
Total Metals	Silver (Ag)-Total (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Total (mg/L)		0.95	1.23	3.13	1.81	1.53
	Strontium (Sr)-Total (mg/L)		0.0156	0.0357	0.0594	0.0414	0.0372
	Tellurium (Te)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Total (mg/L)		<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Total (mg/L)		0.0130	0.0023	0.0046	0.0069	0.0046
	Tungsten (W)-Total (mg/L)		<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Total (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Total (mg/L)		0.0012	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Total (mg/L)		0.0051	0.0031 ^{RRV}	<0.0030	<0.0030	<0.0030
	Zirconium (Zr)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)		0.511	0.0611	0.0195	0.0254	0.0332
	Antimony (Sb)-Dissolved (mg/L)		<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Dissolved (mg/L)		0.0012	<0.0010	0.0011	<0.0010	<0.0010
	Barium (Ba)-Dissolved (mg/L)		<0.010	0.012	<0.010	<0.010	<0.010
	Beryllium (Be)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Dissolved (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Dissolved (mg/L)		0.000040	<0.000017	<0.000017	<0.000017	<0.000017
	Calcium (Ca)-Dissolved (mg/L)		5.87	14.3	24.6	18.6	15.1
	Chromium (Cr)-Dissolved (mg/L)		0.0011	<0.0010	<0.0010	<0.0010	<0.0010
	Cobalt (Co)-Dissolved (mg/L)		0.00059	0.00272	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Iron (Fe)-Dissolved (mg/L)		1.72	1.64	0.459	0.769	0.893
	Lead (Pb)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Dissolved (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Dissolved (mg/L)		1.17	3.38	6.87	4.76	3.78
	Manganese (Mn)-Dissolved (mg/L)		0.0496	1.06	0.0257	0.0255	0.225
	Mercury (Hg)-Dissolved (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Dissolved (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Potassium (K)-Dissolved (mg/L)		<0.50	<0.50	1.96	0.82	0.59
	Selenium (Se)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Silver (Ag)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Dissolved (mg/L)		0.99	1.22	3.17	1.87	1.49
	Strontium (Sr)-Dissolved (mg/L)		0.0161	0.0335	0.0568	0.0404	0.0336

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1181718-16 WATER 19-JUL-12 08:30 TL33	L1181718-17 WATER 19-JUL-12 05:50 FIELD BLANK	L1181718-18 WATER 19-JUL-12 01:45 TRAVEL BLANK	
Grouping	Analyte				
WATER					
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010	<0.00010	<0.00010	
	Sodium (Na)-Total (mg/L)	1.80	<0.10	<0.10	
	Strontium (Sr)-Total (mg/L)	0.0415	<0.0010	<0.0010	
	Tellurium (Te)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Thallium (Tl)-Total (mg/L)	<0.00030	<0.00030	<0.00030	
	Tin (Sn)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Titanium (Ti)-Total (mg/L)	0.0078	<0.0020	<0.0020	
	Tungsten (W)-Total (mg/L)	<0.010	<0.010	<0.010	
	Uranium (U)-Total (mg/L)	<0.0050	<0.0050	<0.0050	
	Vanadium (V)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Zinc (Zn)-Total (mg/L)	<0.0030	<0.0030	<0.0030	
	Zirconium (Zr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	0.0255	<0.0050	<0.0050	
	Antimony (Sb)-Dissolved (mg/L)	<0.00060	<0.00060	<0.00060	
	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Barium (Ba)-Dissolved (mg/L)	<0.010	<0.010	<0.010	
	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Boron (B)-Dissolved (mg/L)	<0.050	<0.050	<0.050	
	Cadmium (Cd)-Dissolved (mg/L)	<0.000017	<0.000017	<0.000017	
	Calcium (Ca)-Dissolved (mg/L)	18.0	<0.20	<0.20	
	Chromium (Cr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	
	Copper (Cu)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Iron (Fe)-Dissolved (mg/L)	0.731	<0.020	<0.020	
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.050	
	Magnesium (Mg)-Dissolved (mg/L)	4.55	<0.020	<0.020	
	Manganese (Mn)-Dissolved (mg/L)	0.0258	<0.0010	<0.0010	
	Mercury (Hg)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	
	Potassium (K)-Dissolved (mg/L)	0.78	<0.50	<0.50	
	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	
	Sodium (Na)-Dissolved (mg/L)	1.78	<0.10	<0.10	
	Strontium (Sr)-Dissolved (mg/L)	0.0385	<0.0010	<0.0010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1181718-1 WATER 19-JUL-12 07:20 SW1	L1181718-2 WATER 19-JUL-12 06:30 SW2	L1181718-3 WATER 19-JUL-12 05:55 SW3	L1181718-4 WATER 19-JUL-12 03:00 SW4	L1181718-5 WATER 19-JUL-12 02:15 SW5
Grouping	Analyte					
WATER						
Dissolved Metals	Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Dissolved (mg/L)	<0.0020	0.0024	<0.0020	<0.0020	<0.0020
	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	<0.0030		<0.0030	<0.0030	0.0035
	Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1181718-6	L1181718-7	L1181718-8	L1181718-9	L1181718-10
					WATER	WATER	WATER	WATER	WATER
		19-JUL-12	01:45	SW6	19-JUL-12	16:15	19-JUL-12	12:00	19-JUL-12
					SW6	SW7	SW8	SW9	SW10
Grouping	Analyte								
WATER									
Dissolved Metals	Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Dissolved (mg/L)	<0.0020	0.0023	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0025
	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Dissolved (mg/L)	<0.0010	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0012
	Zinc (Zn)-Dissolved (mg/L)	<0.0030	<0.0030	<0.0030	<0.0030	0.0045	<0.0030	0.0045	<0.0030
	Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1181718-11 WATER 19-JUL-12 11:05 SW11	L1181718-12 WATER 19-JUL-12 06:51 TL1A	L1181718-13 WATER 19-JUL-12 08:50 TL2A	L1181718-14 WATER 19-JUL-12 08:30 TL3	L1181718-15 WATER 19-JUL-12 08:00 JCTA
Grouping	Analyte				
WATER					
Dissolved Metals					
Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium (Ti)-Dissolved (mg/L)	0.0108	<0.0020	<0.0020	<0.0020	<0.0020
Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Vanadium (V)-Dissolved (mg/L)	0.0013	<0.0010	<0.0010	<0.0010	<0.0010
Zinc (Zn)-Dissolved (mg/L)	0.0096	<0.0030	0.0033	<0.0030	<0.0030
Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Aggregate Organics					
Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1181718-16 WATER 19-JUL-12 08:30 TL33	L1181718-17 WATER 19-JUL-12 05:50 FIELD BLANK	L1181718-18 WATER 19-JUL-12 01:45 TRAVEL BLANK		
Grouping	Analyte					
WATER						
Dissolved Metals	Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010		
	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030		
	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010		
	Titanium (Ti)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020		
	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010		
	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050		
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010		
	Zinc (Zn)-Dissolved (mg/L)	<0.0030	<0.0030	<0.0030		
	Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010		
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Duplicate	Cyanide, Free	DLA	L1181718-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -7, -8, -9
Duplicate	Manganese (Mn)-Total	DUP-H	L1181718-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -8, -9
Duplicate	Titanium (Ti)-Total	DUP-H	L1181718-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -8, -9
Matrix Spike	Aluminum (Al)-Total	MS-B	L1181718-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -8, -9
Matrix Spike	Calcium (Ca)-Total	MS-B	L1181718-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -8, -9
Matrix Spike	Magnesium (Mg)-Total	MS-B	L1181718-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -8, -9
Matrix Spike	Sodium (Na)-Total	MS-B	L1181718-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -8, -9
Matrix Spike	Strontium (Sr)-Total	MS-B	L1181718-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -8, -9
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1181718-1, -10, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1181718-1, -10, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1181718-1, -10, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1181718-1, -10, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1181718-1, -10, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1181718-1, -10, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1181718-1, -10, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1181718-1, -10, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Potassium (K)-Dissolved	MS-B	L1181718-1, -10, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1181718-1, -10, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1181718-1, -10, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1181718-1, -10, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1181718-1, -10, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1181718-1, -10, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1181718-1, -10, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Antimony (Sb)-Dissolved	MS-B	L1181718-1, -10, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1181718-1, -10, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1181718-1, -10, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1181718-1, -10, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Molybdenum (Mo)-Dissolved	MS-B	L1181718-1, -10, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Potassium (K)-Dissolved	MS-B	L1181718-1, -10, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1181718-1, -10, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1181718-1, -10, -12, -13, -14, -15, -16, -17, -18, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1181718-12
Matrix Spike	Aluminum (Al)-Dissolved	MS-B	L1181718-12

Reference Information

	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1181718-12
Matrix Spike	Boron (B)-Dissolved	MS-B	L1181718-12
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1181718-12
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1181718-12
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1181718-12
Matrix Spike	Potassium (K)-Dissolved	MS-B	L1181718-12
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1181718-12
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1181718-12
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1181718-12
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1181718-12
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1181718-12
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1181718-12
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1181718-12
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1181718-12

Qualifiers for Individual Parameters Listed:

Qualifier	Description
DLA	Detection Limit Adjusted For required dilution
DTC	Dissolved concentration exceeds total. Results were confirmed by re-analysis.
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RRV	Reported Result Verified By Repeat Analysis

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
ACIDITY-TB	Water	Acidity (as CaCO ₃)	APHA 2310 B-POTENTIOMETRIC TITRATION
Aqueous matrices are analyzed by potentiometry. Acidity reported includes acidity caused by hydrolyzable metals present in the sample.			
ALK-TOT-CAP-TB	Water	Alkalinity, Total (as CaCO ₃)	APHA 2320 B-Auto-Pot. Titration
CL-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.			
CN-FREE-CFA-VA	Water	Free Cyanide in water by CFA	ASTM 7237
This analysis is carried out using procedures adapted from ASTM Method 7237 "Free Cyanide with Flow Injection Analysis (FIA) Utilizing Gas Diffusion Separation and Amperometric Detection". Free cyanide is determined by in-line gas diffusion at pH 6 with final determination by colourimetric analysis.			
CN-TOT-WT	Water	Cyanide, Total	APHA 4500CN C E-STRONG ACID DIST COLORIM
Total cyanide is determined by the combination of UV digestion and distillation. Cyanide is converted to cyanogen chloride by reacting with chloramine-T, the cyanogen chloride then reacts with a combination of barbituric acid and isonicotinic acid to form a highly colored complex.			
When using this method, high levels of thiocyanate in samples can cause false positives at ~1-2% of the thiocyanate concentration. For samples with detectable cyanide analyzed by this method, ALS recommends analysis for thiocyanate to check for this potential interference			
CN-WAD-WT	Water	Cyanide, Weak Acid Diss	APHA 4500CN I-Weak acid Dist Colorimet
Weak acid dissociable cyanide (WAD) is determined by undergoing a distillation procedure. Cyanide is converted to cyanogen chloride by reacting with chloramine-T, the cyanogen chloride then reacts with a combination of barbituric acid and isonicotinic acid to form a highly colored complex.			
EC-CAP-TB	Water	Conductivity (EC)	APHA 2510 B-ELECTRODE
HARDNESS-CALC-TB	Water	Hardness (as CaCO ₃)	CALCULATION
HG-D-CVAF-TB	Water	Dissolved Mercury in Water by CVAFS	EPA 245.7
HG-T-CVAF-TB	Water	Total Mercury in Water by CVAFS	EPA 245.7
MET-D-MS-TB	Water	Dissolved Metals by ICPMS	APHA 3030B/EPA 6020A
This analysis involves filtration (APHA 3030B) and analysis by inductively coupled plasma - mass spectrometry (EPA Method 6020A).			
MET-T-MS-TB	Water	Total Metals by ICPMS	APHA 3030E/EPA 6020A
This analysis involves preliminary sample treatment by hotblock acid digestion (APHA 3030E). Instrumental analysis is by inductively coupled plasma - mass spectrometry (EPA Method 6020A).			
		Ammonia by Discrete Analyzer	APHA 4500-NH ₃ G. (modified)

Reference Information

NH3-COL-TB	Water		
Ammonia in aqueous matrices is analyzed using discrete analyzer with colourimetric detection.			
NO2-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.			
NO3-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.			
OGG-TOT-WT	Water	Oil and Grease, Total	APHA 5520 B
Sample is extracted with hexane, extract is then evaporated and the residue is weighed to determine total oil and grease.			
P-T-COL-TB	Water	Total Phosphorus by Discrete Analyzer	APHA 4500-P B, F, G (modified)
Phosphorus in aqueous matrices is analyzed using discrete Analyzer with colourimetric detection.			
PH-CAP-TB	Water	pH	APHA 4500-H-ELECTRODE
SO4-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.			
SOLIDS-TOTSUS-TB	Water	Total Suspended Solids	APHA 2540 D (modified)
Aqueous matrices are analyzed using gravimetry			

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
TB	ALS ENVIRONMENTAL - THUNDER BAY, ONTARIO, CANADA
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

mg/kg - milligrams per kilogram based on dry weight of sample.

mg/kg wwt - milligrams per kilogram based on wet weight of sample.

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.

mg/L - milligrams per litre.

< - Less than.

D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L1181718

Report Date: 07-SEP-12

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Client: TREASURY METALS INC.
 P.O. Box 789
 Dryden ON P8N 2Z4
 Contact: Mac Potter

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
ACIDITY-TB								
	Water							
Batch	R2407432							
WG1517116-2	LCS							
Acidity (as CaCO3)			105.6		%		85-115	30-JUL-12
WG1517116-1	MB							
Acidity (as CaCO3)			<2.0		mg/L		2	30-JUL-12
ALK-TOT-CAP-TB								
	Water							
Batch	R2404329							
WG1511893-2	LCS							
Alkalinity, Total (as CaCO3)			93.5		%		85-115	20-JUL-12
WG1511893-1	MB							
Alkalinity, Total (as CaCO3)			<5.0		mg/L CaCO3		5	20-JUL-12
CL-IC-TB								
	Water							
Batch	R2404488							
WG1514315-2	LCS							
Chloride (Cl)			97.7		%		90-110	24-JUL-12
WG1514315-1	MB							
Chloride (Cl)			<0.10		mg/L		0.1	24-JUL-12
WG1514315-4	MS	L1183216-6						
Chloride (Cl)			104.8		%		75-125	24-JUL-12
Batch	R2404831							
WG1512866-3	DUP	L1181718-8						
Chloride (Cl)		0.13	0.13		mg/L	1.4	20	20-JUL-12
WG1512866-2	LCS							
Chloride (Cl)			98.9		%		90-110	20-JUL-12
WG1512866-1	MB							
Chloride (Cl)			<0.10		mg/L		0.1	20-JUL-12
WG1512866-4	MS	L1181718-8						
Chloride (Cl)			102.4		%		75-125	20-JUL-12
WG1512866-6	MS	L1181792-4						
Chloride (Cl)			103.0		%		75-125	20-JUL-12
CN-FREE-CFA-VA								
	Water							
Batch	R2407699							
WG1516771-8	DUP	L1181718-6						
Cyanide, Free		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	28-JUL-12
WG1516771-11	LCS							
Cyanide, Free			102.6		%		80-120	28-JUL-12
WG1516771-15	LCS							
Cyanide, Free			104.2		%		80-120	28-JUL-12
WG1516771-2	LCS							



Quality Control Report

Workorder: L1181718

Report Date: 07-SEP-12

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CN-FREE-CFA-VA								
	Water							
Batch	R2407699							
WG1516771-2	LCS							
Cyanide, Free			102.8		%		80-120	28-JUL-12
WG1516771-7	LCS							
Cyanide, Free			102.6		%		80-120	28-JUL-12
WG1516771-1	MB							
Cyanide, Free			<0.0050		mg/L		0.005	28-JUL-12
WG1516771-10	MB							
Cyanide, Free			<0.0050		mg/L		0.005	28-JUL-12
WG1516771-14	MB							
Cyanide, Free			<0.0050		mg/L		0.005	28-JUL-12
WG1516771-6	MB							
Cyanide, Free			<0.0050		mg/L		0.005	28-JUL-12
WG1516771-13	MS	L1181792-10						
Cyanide, Free			100.6		%		70-130	28-JUL-12
WG1516771-5	MS	L1182442-3						
Cyanide, Free			100.7		%		70-130	28-JUL-12
WG1516771-9	MS	L1181718-6						
Cyanide, Free			102.0		%		70-130	28-JUL-12
CN-TOT-WT								
	Water							
Batch	R2404721							
WG1513680-4	CVS							
Cyanide, Total			102.5		%		85-115	24-JUL-12
WG1513680-6	DUP	L1181718-1						
Cyanide, Total		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	24-JUL-12
WG1513680-3	LCS							
Cyanide, Total			99.1		%		80-120	24-JUL-12
WG1513680-1	MB							
Cyanide, Total			<0.0020		mg/L		0.002	24-JUL-12
CN-WAD-WT								
	Water							
Batch	R2405217							
WG1514600-4	CVS							
Cyanide, Weak Acid Diss			89.5		%		85-115	25-JUL-12
WG1514600-2	DUP	L1181718-1						
Cyanide, Weak Acid Diss		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	25-JUL-12
WG1514600-3	LCS							
Cyanide, Weak Acid Diss			112.8		%		80-120	25-JUL-12
WG1514600-1	MB							
Cyanide, Weak Acid Diss			<0.0020		mg/L		0.002	25-JUL-12



Quality Control Report

Workorder: L1181718

Report Date: 07-SEP-12

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
EC-CAP-TB								
Water								
Batch	R2404329							
WG1511893-2	LCS							
Conductivity (EC)			96.9		%		90-110	20-JUL-12
WG1511893-1	MB							
Conductivity (EC)			<3.0		uS/cm		3	20-JUL-12
HG-D-CVAF-TB								
Water								
Batch	R2403080							
WG1512770-4	DUP	L1181718-7						
Mercury (Hg)-Dissolved		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	23-JUL-12
WG1512770-2	LCS							
Mercury (Hg)-Dissolved			100.5		%		80-120	23-JUL-12
WG1512770-1	MB							
Mercury (Hg)-Dissolved			<0.000010		mg/L		0.00001	23-JUL-12
WG1512770-5	MS	L1181718-7						
Mercury (Hg)-Dissolved			100.9		%		70-130	23-JUL-12
HG-T-CVAF-TB								
Water								
Batch	R2403072							
WG1512767-4	DUP	L1181718-9						
Mercury (Hg)-Total		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	23-JUL-12
WG1512767-2	LCS							
Mercury (Hg)-Total			100.5		%		80-120	23-JUL-12
WG1512767-1	MB							
Mercury (Hg)-Total			<0.000010		mg/L		0.00001	23-JUL-12
WG1512767-5	MS	L1181718-9						
Mercury (Hg)-Total			96.8		%		70-130	23-JUL-12
WG1512767-7	MS	L1181792-6						
Mercury (Hg)-Total			98.7		%		70-130	23-JUL-12
MET-D-MS-TB								
Water								
Batch	R2406665							
WG1515213-9	DUP	L1181718-3						
Aluminum (Al)-Dissolved		0.0114	0.0116		mg/L	1.8	20	26-JUL-12
Antimony (Sb)-Dissolved		<0.00060	<0.00060	RPD-NA	mg/L	N/A	20	26-JUL-12
Arsenic (As)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	26-JUL-12
Barium (Ba)-Dissolved		<0.010	<0.010	RPD-NA	mg/L	N/A	20	26-JUL-12
Beryllium (Be)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	26-JUL-12
Bismuth (Bi)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	26-JUL-12
Boron (B)-Dissolved		<0.050	<0.050	RPD-NA	mg/L	N/A	20	26-JUL-12
Cadmium (Cd)-Dissolved		<0.000017	<0.000017	RPD-NA	mg/L	N/A	20	26-JUL-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2406665							
WG1515213-9	DUP	L1181718-3						
Calcium (Ca)-Dissolved		19.8	20.1		mg/L	1.5	20	26-JUL-12
Chromium (Cr)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	26-JUL-12
Cobalt (Co)-Dissolved		<0.00050	<0.00050	RPD-NA	mg/L	N/A	20	26-JUL-12
Copper (Cu)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	26-JUL-12
Iron (Fe)-Dissolved		0.073	0.081		mg/L	9.6	20	26-JUL-12
Lead (Pb)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	26-JUL-12
Lithium (Li)-Dissolved		<0.050	<0.050	RPD-NA	mg/L	N/A	20	26-JUL-12
Magnesium (Mg)-Dissolved		4.95	5.04		mg/L	1.8	20	26-JUL-12
Manganese (Mn)-Dissolved		0.0231	0.0235		mg/L	1.8	20	26-JUL-12
Molybdenum (Mo)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	26-JUL-12
Nickel (Ni)-Dissolved		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	26-JUL-12
Potassium (K)-Dissolved		0.87	0.89		mg/L	1.2	20	26-JUL-12
Selenium (Se)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	26-JUL-12
Silver (Ag)-Dissolved		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	26-JUL-12
Sodium (Na)-Dissolved		11.1	11.2		mg/L	0.7	20	26-JUL-12
Strontium (Sr)-Dissolved		0.0512	0.0507		mg/L	1.1	20	26-JUL-12
Tellurium (Te)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	26-JUL-12
Thallium (Tl)-Dissolved		<0.00030	<0.00030	RPD-NA	mg/L	N/A	20	26-JUL-12
Tin (Sn)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	26-JUL-12
Titanium (Ti)-Dissolved		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	26-JUL-12
Tungsten (W)-Dissolved		<0.010	<0.010	RPD-NA	mg/L	N/A	20	26-JUL-12
Uranium (U)-Dissolved		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	26-JUL-12
Vanadium (V)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	26-JUL-12
Zinc (Zn)-Dissolved		<0.0030	<0.0030	RPD-NA	mg/L	N/A	20	26-JUL-12
Zirconium (Zr)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	26-JUL-12
WG1515213-2	LCS							
Aluminum (Al)-Dissolved			96.4		%		80-120	26-JUL-12
Antimony (Sb)-Dissolved			97.6		%		80-120	26-JUL-12
Arsenic (As)-Dissolved			102.5		%		80-120	26-JUL-12
Barium (Ba)-Dissolved			100.8		%		80-120	26-JUL-12
Beryllium (Be)-Dissolved			102.1		%		80-120	26-JUL-12
Bismuth (Bi)-Dissolved			103.5		%		80-120	26-JUL-12
Boron (B)-Dissolved			96.4		%		80-120	26-JUL-12
Cadmium (Cd)-Dissolved			104.8		%		80-120	26-JUL-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2406665							
WG1515213-2	LCS							
Calcium (Ca)-Dissolved			103.0		%		80-120	26-JUL-12
Chromium (Cr)-Dissolved			102.8		%		80-120	26-JUL-12
Cobalt (Co)-Dissolved			101.2		%		80-120	26-JUL-12
Copper (Cu)-Dissolved			99.4		%		80-120	26-JUL-12
Iron (Fe)-Dissolved			97.3		%		80-120	26-JUL-12
Lead (Pb)-Dissolved			102.3		%		80-120	26-JUL-12
Lithium (Li)-Dissolved			101.6		%		80-120	26-JUL-12
Magnesium (Mg)-Dissolved			107.1		%		80-120	26-JUL-12
Manganese (Mn)-Dissolved			103.8		%		80-120	26-JUL-12
Molybdenum (Mo)-Dissolved			101.4		%		80-120	26-JUL-12
Nickel (Ni)-Dissolved			104.7		%		80-120	26-JUL-12
Potassium (K)-Dissolved			107.7		%		80-120	26-JUL-12
Selenium (Se)-Dissolved			95.4		%		80-120	26-JUL-12
Silver (Ag)-Dissolved			96.2		%		80-120	26-JUL-12
Sodium (Na)-Dissolved			107.0		%		80-120	26-JUL-12
Strontium (Sr)-Dissolved			99.9		%		80-120	26-JUL-12
Tellurium (Te)-Dissolved			100.5		%		80-120	26-JUL-12
Thallium (Tl)-Dissolved			102.9		%		80-120	26-JUL-12
Tin (Sn)-Dissolved			101.1		%		80-120	26-JUL-12
Titanium (Ti)-Dissolved			100.9		%		80-120	26-JUL-12
Tungsten (W)-Dissolved			97.3		%		80-120	26-JUL-12
Uranium (U)-Dissolved			96.7		%		80-120	26-JUL-12
Vanadium (V)-Dissolved			103.1		%		80-120	26-JUL-12
Zinc (Zn)-Dissolved			99.0		%		80-120	26-JUL-12
Zirconium (Zr)-Dissolved			93.9		%		80-120	26-JUL-12
WG1515213-1		MB						
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	26-JUL-12
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	26-JUL-12
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	26-JUL-12
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	26-JUL-12
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	26-JUL-12
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	26-JUL-12
Boron (B)-Dissolved			<0.050		mg/L		0.05	26-JUL-12
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	26-JUL-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2406665							
WG1515213-1	MB							
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	26-JUL-12
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	26-JUL-12
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	26-JUL-12
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	26-JUL-12
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	26-JUL-12
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	26-JUL-12
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	26-JUL-12
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	26-JUL-12
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	26-JUL-12
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	26-JUL-12
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	26-JUL-12
Potassium (K)-Dissolved			<0.50		mg/L		0.5	26-JUL-12
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	26-JUL-12
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	26-JUL-12
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	26-JUL-12
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	26-JUL-12
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	26-JUL-12
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	26-JUL-12
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	26-JUL-12
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	26-JUL-12
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	26-JUL-12
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	26-JUL-12
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	26-JUL-12
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	26-JUL-12
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	26-JUL-12
WG1515213-10	MS	L1181718-3						
Aluminum (Al)-Dissolved			114.4		%		70-130	26-JUL-12
Antimony (Sb)-Dissolved			97.6		%		70-130	26-JUL-12
Arsenic (As)-Dissolved			115.8		%		70-130	26-JUL-12
Beryllium (Be)-Dissolved			109.7		%		70-130	26-JUL-12
Bismuth (Bi)-Dissolved			96.7		%		70-130	26-JUL-12
Boron (B)-Dissolved			102.3		%		70-130	26-JUL-12
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	26-JUL-12
Chromium (Cr)-Dissolved			111.8		%		70-130	26-JUL-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2406665							
WG1515213-10 MS		L1181718-3						
Cobalt (Co)-Dissolved			108.6		%		70-130	26-JUL-12
Copper (Cu)-Dissolved			110.2		%		70-130	26-JUL-12
Iron (Fe)-Dissolved			110.9		%		70-130	26-JUL-12
Lead (Pb)-Dissolved			110.5		%		70-130	26-JUL-12
Lithium (Li)-Dissolved			112.4		%		70-130	26-JUL-12
Magnesium (Mg)-Dissolved			N/A	MS-B	%		-	26-JUL-12
Manganese (Mn)-Dissolved			N/A	MS-B	%		-	26-JUL-12
Molybdenum (Mo)-Dissolved			98.3		%		70-130	26-JUL-12
Nickel (Ni)-Dissolved			112.5		%		70-130	26-JUL-12
Potassium (K)-Dissolved			115.6		%		70-130	26-JUL-12
Selenium (Se)-Dissolved			109.3		%		70-130	26-JUL-12
Silver (Ag)-Dissolved			106.1		%		70-130	26-JUL-12
Sodium (Na)-Dissolved			N/A	MS-B	%		-	26-JUL-12
Strontium (Sr)-Dissolved			N/A	MS-B	%		-	26-JUL-12
Tellurium (Te)-Dissolved			104.9		%		70-130	26-JUL-12
Thallium (Tl)-Dissolved			104.6		%		70-130	26-JUL-12
Tin (Sn)-Dissolved			101.4		%		70-130	26-JUL-12
Titanium (Ti)-Dissolved			100.3		%		70-130	26-JUL-12
Tungsten (W)-Dissolved			96.7		%		70-130	26-JUL-12
Uranium (U)-Dissolved			108.7		%		70-130	26-JUL-12
Vanadium (V)-Dissolved			116.9		%		70-130	26-JUL-12
Zinc (Zn)-Dissolved			109.0		%		70-130	26-JUL-12
Zirconium (Zr)-Dissolved			97.3		%		70-130	26-JUL-12
WG1515213-4 MS		L1180054-2						
Aluminum (Al)-Dissolved			104.1		%		70-130	26-JUL-12
Antimony (Sb)-Dissolved			101.1		%		70-130	26-JUL-12
Arsenic (As)-Dissolved			109.0		%		70-130	26-JUL-12
Barium (Ba)-Dissolved			N/A	MS-B	%		-	26-JUL-12
Beryllium (Be)-Dissolved			109.9		%		70-130	26-JUL-12
Bismuth (Bi)-Dissolved			89.4		%		70-130	26-JUL-12
Cadmium (Cd)-Dissolved			127.0		%		70-130	26-JUL-12
Chromium (Cr)-Dissolved			115.6		%		70-130	26-JUL-12
Cobalt (Co)-Dissolved			105.2		%		70-130	26-JUL-12
Copper (Cu)-Dissolved			89.8		%		70-130	26-JUL-12



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MET-D-MS-TB								
	Water							
Batch	R2406665							
WG1515213-4 MS		L1180054-2						
Iron (Fe)-Dissolved			113.8		%		70-130	26-JUL-12
Lead (Pb)-Dissolved			100.3		%		70-130	26-JUL-12
Lithium (Li)-Dissolved			110.7		%		70-130	26-JUL-12
Magnesium (Mg)-Dissolved			N/A	MS-B	%		-	26-JUL-12
Manganese (Mn)-Dissolved			N/A	MS-B	%		-	26-JUL-12
Molybdenum (Mo)-Dissolved			104.1		%		70-130	26-JUL-12
Nickel (Ni)-Dissolved			91.8		%		70-130	26-JUL-12
Potassium (K)-Dissolved			N/A	MS-B	%		-	26-JUL-12
Selenium (Se)-Dissolved			115.9		%		70-130	26-JUL-12
Silver (Ag)-Dissolved			84.3		%		70-130	26-JUL-12
Sodium (Na)-Dissolved			N/A	MS-B	%		-	26-JUL-12
Tellurium (Te)-Dissolved			113.6		%		70-130	26-JUL-12
Thallium (Tl)-Dissolved			96.9		%		70-130	26-JUL-12
Tin (Sn)-Dissolved			104.8		%		70-130	26-JUL-12
Titanium (Ti)-Dissolved			106.4		%		70-130	26-JUL-12
Tungsten (W)-Dissolved			99.7		%		70-130	26-JUL-12
Vanadium (V)-Dissolved			122.9		%		70-130	26-JUL-12
Zinc (Zn)-Dissolved			96.0		%		70-130	26-JUL-12
Zirconium (Zr)-Dissolved			93.2		%		70-130	26-JUL-12
WG1515213-6 MS		L1181233-2						
Antimony (Sb)-Dissolved			100.2		%		70-130	26-JUL-12
Arsenic (As)-Dissolved			112.9		%		70-130	26-JUL-12
Barium (Ba)-Dissolved			N/A	MS-B	%		-	26-JUL-12
Bismuth (Bi)-Dissolved			87.5		%		70-130	26-JUL-12
Cadmium (Cd)-Dissolved			123.6		%		70-130	26-JUL-12
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	26-JUL-12
Chromium (Cr)-Dissolved			102.9		%		70-130	26-JUL-12
Cobalt (Co)-Dissolved			96.6		%		70-130	26-JUL-12
Copper (Cu)-Dissolved			96.6		%		70-130	26-JUL-12
Iron (Fe)-Dissolved			99.0		%		70-130	26-JUL-12
Lead (Pb)-Dissolved			100.6		%		70-130	26-JUL-12
Magnesium (Mg)-Dissolved			N/A	MS-B	%		-	26-JUL-12
Manganese (Mn)-Dissolved			103.3		%		70-130	26-JUL-12
Molybdenum (Mo)-Dissolved			101.1		%		70-130	26-JUL-12



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MET-D-MS-TB								
	Water							
Batch	R2406665							
WG1515213-6 MS		L1181233-2						
Nickel (Ni)-Dissolved			96.0		%		70-130	26-JUL-12
Potassium (K)-Dissolved			107.3		%		70-130	26-JUL-12
Selenium (Se)-Dissolved			109.0		%		70-130	26-JUL-12
Silver (Ag)-Dissolved			102.5		%		70-130	26-JUL-12
Sodium (Na)-Dissolved			N/A	MS-B	%		-	26-JUL-12
Strontium (Sr)-Dissolved			N/A	MS-B	%		-	26-JUL-12
Tellurium (Te)-Dissolved			115.5		%		70-130	26-JUL-12
Thallium (Tl)-Dissolved			97.3		%		70-130	26-JUL-12
Tin (Sn)-Dissolved			101.7		%		70-130	26-JUL-12
Titanium (Ti)-Dissolved			98.7		%		70-130	26-JUL-12
Tungsten (W)-Dissolved			101.4		%		70-130	26-JUL-12
Vanadium (V)-Dissolved			107.9		%		70-130	26-JUL-12
Zinc (Zn)-Dissolved			96.4		%		70-130	26-JUL-12
Zirconium (Zr)-Dissolved			93.3		%		70-130	26-JUL-12
WG1515213-8 MS		L1181609-3						
Aluminum (Al)-Dissolved			120.8		%		70-130	26-JUL-12
Antimony (Sb)-Dissolved			N/A	MS-B	%		-	26-JUL-12
Arsenic (As)-Dissolved			105.0		%		70-130	26-JUL-12
Barium (Ba)-Dissolved			N/A	MS-B	%		-	26-JUL-12
Beryllium (Be)-Dissolved			110.4		%		70-130	26-JUL-12
Bismuth (Bi)-Dissolved			94.1		%		70-130	26-JUL-12
Boron (B)-Dissolved			114.9		%		70-130	26-JUL-12
Cadmium (Cd)-Dissolved			128.8		%		70-130	26-JUL-12
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	26-JUL-12
Chromium (Cr)-Dissolved			115.8		%		70-130	26-JUL-12
Cobalt (Co)-Dissolved			112.5		%		70-130	26-JUL-12
Copper (Cu)-Dissolved			96.3		%		70-130	26-JUL-12
Iron (Fe)-Dissolved			112.1		%		70-130	26-JUL-12
Lead (Pb)-Dissolved			103.6		%		70-130	26-JUL-12
Lithium (Li)-Dissolved			114.1		%		70-130	26-JUL-12
Magnesium (Mg)-Dissolved			N/A	MS-B	%		-	26-JUL-12
Manganese (Mn)-Dissolved			119.7		%		70-130	26-JUL-12
Molybdenum (Mo)-Dissolved			N/A	MS-B	%		-	26-JUL-12
Nickel (Ni)-Dissolved			99.8		%		70-130	26-JUL-12



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MET-D-MS-TB								
	Water							
Batch	R2406665							
WG1515213-8	MS	L1181609-3						
Potassium (K)-Dissolved			N/A	MS-B	%		-	26-JUL-12
Selenium (Se)-Dissolved			100.5		%		70-130	26-JUL-12
Silver (Ag)-Dissolved			101.7		%		70-130	26-JUL-12
Sodium (Na)-Dissolved			N/A	MS-B	%		-	26-JUL-12
Strontium (Sr)-Dissolved			N/A	MS-B	%		-	26-JUL-12
Tellurium (Te)-Dissolved			104.7		%		70-130	26-JUL-12
Thallium (Tl)-Dissolved			99.0		%		70-130	26-JUL-12
Tin (Sn)-Dissolved			103.4		%		70-130	26-JUL-12
Titanium (Ti)-Dissolved			108.5		%		70-130	26-JUL-12
Tungsten (W)-Dissolved			99.9		%		70-130	26-JUL-12
Uranium (U)-Dissolved			122.2		%		70-130	26-JUL-12
Vanadium (V)-Dissolved			123.9		%		70-130	26-JUL-12
Zinc (Zn)-Dissolved			100.3		%		70-130	26-JUL-12
Zirconium (Zr)-Dissolved			89.1		%		70-130	26-JUL-12
Batch	R2408986							
WG1517295-2	LCS							
Aluminum (Al)-Dissolved			94.3		%		80-120	30-JUL-12
Antimony (Sb)-Dissolved			97.6		%		80-120	30-JUL-12
Arsenic (As)-Dissolved			100.5		%		80-120	30-JUL-12
Barium (Ba)-Dissolved			99.4		%		80-120	30-JUL-12
Beryllium (Be)-Dissolved			99.4		%		80-120	30-JUL-12
Bismuth (Bi)-Dissolved			105.7		%		80-120	30-JUL-12
Boron (B)-Dissolved			91.4		%		80-120	30-JUL-12
Cadmium (Cd)-Dissolved			104.6		%		80-120	30-JUL-12
Calcium (Ca)-Dissolved			101.0		%		80-120	30-JUL-12
Chromium (Cr)-Dissolved			102.2		%		80-120	30-JUL-12
Cobalt (Co)-Dissolved			100.2		%		80-120	30-JUL-12
Copper (Cu)-Dissolved			99.0		%		80-120	30-JUL-12
Iron (Fe)-Dissolved			100.8		%		80-120	30-JUL-12
Lead (Pb)-Dissolved			103.5		%		80-120	30-JUL-12
Lithium (Li)-Dissolved			85.3		%		80-120	30-JUL-12
Magnesium (Mg)-Dissolved			102.7		%		80-120	30-JUL-12
Manganese (Mn)-Dissolved			102.5		%		80-120	30-JUL-12
Molybdenum (Mo)-Dissolved			102.8		%		80-120	30-JUL-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2408986							
WG1517295-2	LCS							
Nickel (Ni)-Dissolved			104.8		%		80-120	30-JUL-12
Potassium (K)-Dissolved			101.4		%		80-120	30-JUL-12
Selenium (Se)-Dissolved			93.8		%		80-120	30-JUL-12
Silver (Ag)-Dissolved			97.2		%		80-120	30-JUL-12
Sodium (Na)-Dissolved			103.2		%		80-120	30-JUL-12
Strontium (Sr)-Dissolved			102.8		%		80-120	30-JUL-12
Tellurium (Te)-Dissolved			102.4		%		80-120	30-JUL-12
Thallium (Tl)-Dissolved			111.4		%		80-120	30-JUL-12
Tin (Sn)-Dissolved			100.2		%		80-120	30-JUL-12
Titanium (Ti)-Dissolved			97.8		%		80-120	30-JUL-12
Tungsten (W)-Dissolved			97.4		%		80-120	30-JUL-12
Uranium (U)-Dissolved			97.4		%		80-120	30-JUL-12
Vanadium (V)-Dissolved			101.1		%		80-120	30-JUL-12
Zinc (Zn)-Dissolved			103.3		%		80-120	30-JUL-12
Zirconium (Zr)-Dissolved			95.1		%		80-120	30-JUL-12
WG1517295-6	LCS							
Aluminum (Al)-Dissolved			96.4		%		80-120	30-JUL-12
Antimony (Sb)-Dissolved			94.0		%		80-120	30-JUL-12
Arsenic (As)-Dissolved			99.5		%		80-120	30-JUL-12
Barium (Ba)-Dissolved			97.9		%		80-120	30-JUL-12
Beryllium (Be)-Dissolved			105.0		%		80-120	30-JUL-12
Bismuth (Bi)-Dissolved			99.2		%		80-120	30-JUL-12
Boron (B)-Dissolved			94.2		%		80-120	30-JUL-12
Cadmium (Cd)-Dissolved			102.3		%		80-120	30-JUL-12
Calcium (Ca)-Dissolved			100.6		%		80-120	30-JUL-12
Chromium (Cr)-Dissolved			103.4		%		80-120	30-JUL-12
Cobalt (Co)-Dissolved			100.9		%		80-120	30-JUL-12
Copper (Cu)-Dissolved			97.6		%		80-120	30-JUL-12
Iron (Fe)-Dissolved			96.0		%		80-120	30-JUL-12
Lead (Pb)-Dissolved			103.0		%		80-120	30-JUL-12
Lithium (Li)-Dissolved			100.7		%		80-120	30-JUL-12
Magnesium (Mg)-Dissolved			105.4		%		80-120	30-JUL-12
Manganese (Mn)-Dissolved			100.6		%		80-120	30-JUL-12
Molybdenum (Mo)-Dissolved			101.4		%		80-120	30-JUL-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2408986							
WG1517295-6	LCS							
Nickel (Ni)-Dissolved			105.0		%		80-120	30-JUL-12
Potassium (K)-Dissolved			103.5		%		80-120	30-JUL-12
Selenium (Se)-Dissolved			85.6		%		80-120	30-JUL-12
Silver (Ag)-Dissolved			93.6		%		80-120	30-JUL-12
Sodium (Na)-Dissolved			105.0		%		80-120	30-JUL-12
Strontium (Sr)-Dissolved			101.7		%		80-120	30-JUL-12
Tellurium (Te)-Dissolved			99.7		%		80-120	30-JUL-12
Thallium (Tl)-Dissolved			103.3		%		80-120	30-JUL-12
Tin (Sn)-Dissolved			96.8		%		80-120	30-JUL-12
Titanium (Ti)-Dissolved			99.0		%		80-120	30-JUL-12
Tungsten (W)-Dissolved			98.5		%		80-120	30-JUL-12
Uranium (U)-Dissolved			97.1		%		80-120	30-JUL-12
Vanadium (V)-Dissolved			102.7		%		80-120	30-JUL-12
Zinc (Zn)-Dissolved			101.3		%		80-120	30-JUL-12
Zirconium (Zr)-Dissolved			94.5		%		80-120	30-JUL-12
WG1517295-1		MB						
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	30-JUL-12
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	30-JUL-12
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	30-JUL-12
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	30-JUL-12
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	30-JUL-12
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	30-JUL-12
Boron (B)-Dissolved			<0.050		mg/L		0.05	30-JUL-12
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	30-JUL-12
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	30-JUL-12
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	30-JUL-12
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	30-JUL-12
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	30-JUL-12
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	30-JUL-12
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	30-JUL-12
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	30-JUL-12
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	30-JUL-12
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	30-JUL-12
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	30-JUL-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2408986							
WG1517295-1	MB							
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	30-JUL-12
Potassium (K)-Dissolved			<0.50		mg/L		0.5	30-JUL-12
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	30-JUL-12
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	30-JUL-12
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	30-JUL-12
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	30-JUL-12
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	30-JUL-12
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	30-JUL-12
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	30-JUL-12
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	30-JUL-12
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	30-JUL-12
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	30-JUL-12
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	30-JUL-12
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	30-JUL-12
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	30-JUL-12
WG1517295-5	MB							
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	30-JUL-12
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	30-JUL-12
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	30-JUL-12
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	30-JUL-12
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	30-JUL-12
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	30-JUL-12
Boron (B)-Dissolved			<0.050		mg/L		0.05	30-JUL-12
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	30-JUL-12
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	30-JUL-12
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	30-JUL-12
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	30-JUL-12
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	30-JUL-12
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	30-JUL-12
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	30-JUL-12
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	30-JUL-12
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	30-JUL-12
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	30-JUL-12
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	30-JUL-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2408986							
WG1517295-5 MB								
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	30-JUL-12
Potassium (K)-Dissolved			<0.50		mg/L		0.5	30-JUL-12
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	30-JUL-12
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	30-JUL-12
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	30-JUL-12
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	30-JUL-12
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	30-JUL-12
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	30-JUL-12
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	30-JUL-12
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	30-JUL-12
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	30-JUL-12
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	30-JUL-12
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	30-JUL-12
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	30-JUL-12
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	30-JUL-12
WG1517295-12 MS		L1183216-4						
Antimony (Sb)-Dissolved			109.6		%		70-130	30-JUL-12
Arsenic (As)-Dissolved			110.9		%		70-130	30-JUL-12
Beryllium (Be)-Dissolved			113.0		%		70-130	30-JUL-12
Bismuth (Bi)-Dissolved			102.1		%		70-130	30-JUL-12
Boron (B)-Dissolved			116.4		%		70-130	30-JUL-12
Calcium (Ca)-Dissolved			113.2		%		70-130	30-JUL-12
Chromium (Cr)-Dissolved			113.8		%		70-130	30-JUL-12
Cobalt (Co)-Dissolved			116.0		%		70-130	30-JUL-12
Copper (Cu)-Dissolved			114.4		%		70-130	30-JUL-12
Iron (Fe)-Dissolved			116.8		%		70-130	30-JUL-12
Lead (Pb)-Dissolved			115.0		%		70-130	30-JUL-12
Lithium (Li)-Dissolved			111.3		%		70-130	30-JUL-12
Magnesium (Mg)-Dissolved			119.8		%		70-130	30-JUL-12
Manganese (Mn)-Dissolved			N/A	MS-B	%		-	30-JUL-12
Molybdenum (Mo)-Dissolved			110.0		%		70-130	30-JUL-12
Nickel (Ni)-Dissolved			114.9		%		70-130	30-JUL-12
Potassium (K)-Dissolved			119.2		%		70-130	30-JUL-12
Selenium (Se)-Dissolved			98.5		%		70-130	30-JUL-12

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2408986							
WG1517295-12 MS		L1183216-4						
Silver (Ag)-Dissolved			115.7		%		70-130	30-JUL-12
Sodium (Na)-Dissolved			116.8		%		70-130	30-JUL-12
Strontium (Sr)-Dissolved			110.3		%		70-130	30-JUL-12
Tellurium (Te)-Dissolved			112.5		%		70-130	30-JUL-12
Thallium (Tl)-Dissolved			113.8		%		70-130	30-JUL-12
Tin (Sn)-Dissolved			111.3		%		70-130	30-JUL-12
Titanium (Ti)-Dissolved			114.9		%		70-130	30-JUL-12
Tungsten (W)-Dissolved			105.4		%		70-130	30-JUL-12
Uranium (U)-Dissolved			109.1		%		70-130	30-JUL-12
Vanadium (V)-Dissolved			114.3		%		70-130	30-JUL-12
Zinc (Zn)-Dissolved			115.3		%		70-130	30-JUL-12
Zirconium (Zr)-Dissolved			105.9		%		70-130	30-JUL-12
WG1517295-4 MS		L1183045-8						
Aluminum (Al)-Dissolved			N/A	MS-B	%		-	30-JUL-12
Antimony (Sb)-Dissolved			107.3		%		70-130	30-JUL-12
Arsenic (As)-Dissolved			110.7		%		70-130	30-JUL-12
Barium (Ba)-Dissolved			N/A	MS-B	%		-	30-JUL-12
Beryllium (Be)-Dissolved			114.7		%		70-130	30-JUL-12
Bismuth (Bi)-Dissolved			81.5		%		70-130	30-JUL-12
Boron (B)-Dissolved			N/A	MS-B	%		-	30-JUL-12
Cadmium (Cd)-Dissolved			130.0		%		70-130	30-JUL-12
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	30-JUL-12
Chromium (Cr)-Dissolved			100.7		%		70-130	30-JUL-12
Cobalt (Co)-Dissolved			99.9		%		70-130	30-JUL-12
Copper (Cu)-Dissolved			93.7		%		70-130	30-JUL-12
Iron (Fe)-Dissolved			97.8		%		70-130	30-JUL-12
Lead (Pb)-Dissolved			98.1		%		70-130	30-JUL-12
Magnesium (Mg)-Dissolved			N/A	MS-B	%		-	30-JUL-12
Manganese (Mn)-Dissolved			N/A	MS-B	%		-	30-JUL-12
Molybdenum (Mo)-Dissolved			98.3		%		70-130	30-JUL-12
Nickel (Ni)-Dissolved			95.0		%		70-130	30-JUL-12
Potassium (K)-Dissolved			N/A	MS-B	%		-	30-JUL-12
Selenium (Se)-Dissolved			112.9		%		70-130	30-JUL-12
Silver (Ag)-Dissolved			83.8		%		70-130	30-JUL-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2408986							
WG1517295-4 MS		L1183045-8						
Sodium (Na)-Dissolved			N/A	MS-B	%		-	30-JUL-12
Strontium (Sr)-Dissolved			N/A	MS-B	%		-	30-JUL-12
Tellurium (Te)-Dissolved			120.5		%		70-130	30-JUL-12
Thallium (Tl)-Dissolved			97.6		%		70-130	30-JUL-12
Tin (Sn)-Dissolved			102.1		%		70-130	30-JUL-12
Titanium (Ti)-Dissolved			99.4		%		70-130	30-JUL-12
Vanadium (V)-Dissolved			103.7		%		70-130	30-JUL-12
Zinc (Zn)-Dissolved			102.4		%		70-130	30-JUL-12
Zirconium (Zr)-Dissolved			92.4		%		70-130	30-JUL-12
WG1517295-8 MS		L1183056-1						
Antimony (Sb)-Dissolved			114.9		%		70-130	30-JUL-12
Barium (Ba)-Dissolved			N/A	MS-B	%		-	30-JUL-12
Bismuth (Bi)-Dissolved			87.9		%		70-130	30-JUL-12
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	30-JUL-12
Chromium (Cr)-Dissolved			109.8		%		70-130	30-JUL-12
Cobalt (Co)-Dissolved			104.2		%		70-130	30-JUL-12
Copper (Cu)-Dissolved			98.9		%		70-130	30-JUL-12
Iron (Fe)-Dissolved			107.3		%		70-130	30-JUL-12
Lead (Pb)-Dissolved			102.8		%		70-130	30-JUL-12
Magnesium (Mg)-Dissolved			N/A	MS-B	%		-	30-JUL-12
Manganese (Mn)-Dissolved			N/A	MS-B	%		-	30-JUL-12
Molybdenum (Mo)-Dissolved			107.2		%		70-130	30-JUL-12
Nickel (Ni)-Dissolved			100.6		%		70-130	30-JUL-12
Potassium (K)-Dissolved			110.9		%		70-130	30-JUL-12
Silver (Ag)-Dissolved			70.1		%		70-130	30-JUL-12
Sodium (Na)-Dissolved			N/A	MS-B	%		-	30-JUL-12
Strontium (Sr)-Dissolved			N/A	MS-B	%		-	30-JUL-12
Thallium (Tl)-Dissolved			102.9		%		70-130	30-JUL-12
Tin (Sn)-Dissolved			108.0		%		70-130	30-JUL-12
Titanium (Ti)-Dissolved			114.8		%		70-130	30-JUL-12
Tungsten (W)-Dissolved			102.9		%		70-130	30-JUL-12
Uranium (U)-Dissolved			104.0		%		70-130	30-JUL-12
Vanadium (V)-Dissolved			110.2		%		70-130	30-JUL-12
Zinc (Zn)-Dissolved			107.2		%		70-130	30-JUL-12



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MET-D-MS-TB								
	Water							
Batch	R2408986							
WG1517295-8	MS	L1183056-1						
Zirconium (Zr)-Dissolved			103.9		%		70-130	30-JUL-12
Batch	R2411905							
WG1520440-2	LCS							
Aluminum (Al)-Dissolved			111.8		%		80-120	04-AUG-12
Antimony (Sb)-Dissolved			100.8		%		80-120	04-AUG-12
Arsenic (As)-Dissolved			107.4		%		80-120	04-AUG-12
Barium (Ba)-Dissolved			109.0		%		80-120	04-AUG-12
Beryllium (Be)-Dissolved			112.1		%		80-120	04-AUG-12
Bismuth (Bi)-Dissolved			104.3		%		80-120	04-AUG-12
Boron (B)-Dissolved			104.0		%		80-120	04-AUG-12
Cadmium (Cd)-Dissolved			112.2		%		80-120	04-AUG-12
Calcium (Ca)-Dissolved			110.1		%		80-120	04-AUG-12
Chromium (Cr)-Dissolved			114.2		%		80-120	04-AUG-12
Cobalt (Co)-Dissolved			110.2		%		80-120	04-AUG-12
Copper (Cu)-Dissolved			105.2		%		80-120	04-AUG-12
Iron (Fe)-Dissolved			118.0		%		80-120	04-AUG-12
Lead (Pb)-Dissolved			106.5		%		80-120	04-AUG-12
Lithium (Li)-Dissolved			111.1		%		80-120	04-AUG-12
Magnesium (Mg)-Dissolved			114.6		%		80-120	04-AUG-12
Manganese (Mn)-Dissolved			117.6		%		80-120	04-AUG-12
Molybdenum (Mo)-Dissolved			106.7		%		80-120	04-AUG-12
Nickel (Ni)-Dissolved			108.8		%		80-120	04-AUG-12
Potassium (K)-Dissolved			113.6		%		80-120	04-AUG-12
Selenium (Se)-Dissolved			111.5		%		80-120	04-AUG-12
Silver (Ag)-Dissolved			102.7		%		80-120	04-AUG-12
Sodium (Na)-Dissolved			114.9		%		80-120	04-AUG-12
Strontium (Sr)-Dissolved			111.8		%		80-120	04-AUG-12
Tellurium (Te)-Dissolved			109.8		%		80-120	04-AUG-12
Thallium (Tl)-Dissolved			107.8		%		80-120	04-AUG-12
Tin (Sn)-Dissolved			106.2		%		80-120	04-AUG-12
Titanium (Ti)-Dissolved			107.2		%		80-120	04-AUG-12
Tungsten (W)-Dissolved			102.8		%		80-120	04-AUG-12
Uranium (U)-Dissolved			108.3		%		80-120	04-AUG-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2411905							
WG1520440-2	LCS							
Vanadium (V)-Dissolved			111.1		%		80-120	04-AUG-12
Zinc (Zn)-Dissolved			108.9		%		80-120	04-AUG-12
Zirconium (Zr)-Dissolved			99.6		%		80-120	04-AUG-12
WG1520440-1	MB							
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	04-AUG-12
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	04-AUG-12
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	04-AUG-12
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	04-AUG-12
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	04-AUG-12
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	04-AUG-12
Boron (B)-Dissolved			<0.050		mg/L		0.05	04-AUG-12
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	04-AUG-12
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	04-AUG-12
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	04-AUG-12
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	04-AUG-12
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	04-AUG-12
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	04-AUG-12
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	04-AUG-12
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	04-AUG-12
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	04-AUG-12
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	04-AUG-12
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	04-AUG-12
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	04-AUG-12
Potassium (K)-Dissolved			<0.50		mg/L		0.5	04-AUG-12
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	04-AUG-12
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	04-AUG-12
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	04-AUG-12
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	04-AUG-12
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	04-AUG-12
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	04-AUG-12
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	04-AUG-12
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	04-AUG-12
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	04-AUG-12
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	04-AUG-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2411905							
WG1520440-1	MB							
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	04-AUG-12
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	04-AUG-12
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	04-AUG-12
MET-T-MS-TB		Water						
Batch	R2405558							
WG1512642-3	DUP	L1181718-4						
Aluminum (Al)-Total		0.671	0.789		mg/L	16	20	25-JUL-12
Antimony (Sb)-Total		<0.00060	<0.00060	RPD-NA	mg/L	N/A	20	25-JUL-12
Arsenic (As)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	25-JUL-12
Barium (Ba)-Total		0.011	0.012		mg/L	6.7	20	25-JUL-12
Beryllium (Be)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	25-JUL-12
Bismuth (Bi)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	25-JUL-12
Boron (B)-Total		<0.050	<0.050	RPD-NA	mg/L	N/A	20	25-JUL-12
Cadmium (Cd)-Total		<0.000017	<0.000017	RPD-NA	mg/L	N/A	20	25-JUL-12
Calcium (Ca)-Total		14.3	14.2		mg/L	0.5	20	25-JUL-12
Chromium (Cr)-Total		<0.0010	0.0011	RPD-NA	mg/L	N/A	20	25-JUL-12
Cobalt (Co)-Total		<0.00050	<0.00050	RPD-NA	mg/L	N/A	20	25-JUL-12
Copper (Cu)-Total		0.0019	0.0019		mg/L	3.1	20	25-JUL-12
Iron (Fe)-Total		0.570	0.676		mg/L	17	20	25-JUL-12
Lead (Pb)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	25-JUL-12
Lithium (Li)-Total		<0.050	<0.050	RPD-NA	mg/L	N/A	20	25-JUL-12
Magnesium (Mg)-Total		2.83	2.81		mg/L	0.6	20	25-JUL-12
Manganese (Mn)-Total		0.0107	0.0143	DUP-H	mg/L	28	20	25-JUL-12
Molybdenum (Mo)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	25-JUL-12
Nickel (Ni)-Total		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	25-JUL-12
Potassium (K)-Total		0.93	0.93		mg/L	0.0	20	25-JUL-12
Selenium (Se)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	25-JUL-12
Silver (Ag)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	25-JUL-12
Sodium (Na)-Total		3.01	3.03		mg/L	0.8	20	25-JUL-12
Strontium (Sr)-Total		0.0272	0.0272		mg/L	0.0	20	25-JUL-12
Tellurium (Te)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	25-JUL-12
Thallium (Tl)-Total		<0.00030	<0.00030	RPD-NA	mg/L	N/A	20	25-JUL-12
Tin (Sn)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	25-JUL-12
Titanium (Ti)-Total		0.0206	0.0258	DUP-H	mg/L	22	20	25-JUL-12



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MET-T-MS-TB								
	Water							
Batch	R2405558							
WG1512642-3	DUP	L1181718-4						
Tungsten (W)-Total		<0.010	<0.010	RPD-NA	mg/L	N/A	20	25-JUL-12
Uranium (U)-Total		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	25-JUL-12
Vanadium (V)-Total		0.0011	0.0013		mg/L	14	20	25-JUL-12
Zinc (Zn)-Total		<0.0030	<0.0030	RPD-NA	mg/L	N/A	20	25-JUL-12
Zirconium (Zr)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	25-JUL-12
WG1512642-2	LCS							
Aluminum (Al)-Total			94.2		%		80-120	25-JUL-12
Antimony (Sb)-Total			98.5		%		80-120	25-JUL-12
Arsenic (As)-Total			102.7		%		80-120	25-JUL-12
Barium (Ba)-Total			99.1		%		80-120	25-JUL-12
Beryllium (Be)-Total			106.2		%		80-120	25-JUL-12
Bismuth (Bi)-Total			105.4		%		80-120	25-JUL-12
Boron (B)-Total			95.7		%		80-120	25-JUL-12
Cadmium (Cd)-Total			106.9		%		80-120	25-JUL-12
Calcium (Ca)-Total			102.5		%		80-120	25-JUL-12
Chromium (Cr)-Total			104.0		%		80-120	25-JUL-12
Cobalt (Co)-Total			98.8		%		80-120	25-JUL-12
Copper (Cu)-Total			97.8		%		80-120	25-JUL-12
Iron (Fe)-Total			84.3		%		80-120	25-JUL-12
Lead (Pb)-Total			104.2		%		80-120	25-JUL-12
Lithium (Li)-Total			97.2		%		80-120	25-JUL-12
Magnesium (Mg)-Total			105.0		%		80-120	25-JUL-12
Manganese (Mn)-Total			102.2		%		80-120	25-JUL-12
Molybdenum (Mo)-Total			103.2		%		80-120	25-JUL-12
Nickel (Ni)-Total			102.1		%		80-120	25-JUL-12
Potassium (K)-Total			102.2		%		80-120	25-JUL-12
Selenium (Se)-Total			99.7		%		80-120	25-JUL-12
Silver (Ag)-Total			99.0		%		80-120	25-JUL-12
Sodium (Na)-Total			107.5		%		80-120	25-JUL-12
Strontium (Sr)-Total			104.5		%		80-120	25-JUL-12
Tellurium (Te)-Total			103.9		%		80-120	25-JUL-12
Thallium (Tl)-Total			105.8		%		80-120	25-JUL-12
Tin (Sn)-Total			100.6		%		80-120	25-JUL-12
Titanium (Ti)-Total			100.7		%		80-120	25-JUL-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2405558							
WG1512642-2	LCS							
Tungsten (W)-Total			100.8		%		80-120	25-JUL-12
Uranium (U)-Total			101.4		%		80-120	25-JUL-12
Vanadium (V)-Total			102.2		%		80-120	25-JUL-12
Zinc (Zn)-Total			99.6		%		80-120	25-JUL-12
Zirconium (Zr)-Total			96.2		%		80-120	25-JUL-12
WG1512642-1	MB							
Aluminum (Al)-Total			<0.0050		mg/L		0.005	25-JUL-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	25-JUL-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	25-JUL-12
Barium (Ba)-Total			<0.010		mg/L		0.01	25-JUL-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	25-JUL-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	25-JUL-12
Boron (B)-Total			<0.050		mg/L		0.05	25-JUL-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	25-JUL-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	25-JUL-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	25-JUL-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	25-JUL-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	25-JUL-12
Iron (Fe)-Total			<0.020		mg/L		0.02	25-JUL-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	25-JUL-12
Lithium (Li)-Total			<0.050		mg/L		0.05	25-JUL-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	25-JUL-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	25-JUL-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	25-JUL-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	25-JUL-12
Potassium (K)-Total			<0.50		mg/L		0.5	25-JUL-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	25-JUL-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	25-JUL-12
Sodium (Na)-Total			<0.10		mg/L		0.1	25-JUL-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	25-JUL-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	25-JUL-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	25-JUL-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	25-JUL-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	25-JUL-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2405558							
WG1512642-1 MB								
Tungsten (W)-Total			<0.010		mg/L		0.01	25-JUL-12
Uranium (U)-Total			<0.0050		mg/L		0.005	25-JUL-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	25-JUL-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	25-JUL-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	25-JUL-12
WG1512642-4 MS		L1181718-4						
Aluminum (Al)-Total			N/A	MS-B	%		-	25-JUL-12
Antimony (Sb)-Total			94.2		%		70-130	25-JUL-12
Arsenic (As)-Total			101.4		%		70-130	25-JUL-12
Barium (Ba)-Total			96.5		%		70-130	25-JUL-12
Beryllium (Be)-Total			103.3		%		70-130	25-JUL-12
Bismuth (Bi)-Total			92.8		%		70-130	25-JUL-12
Boron (B)-Total			105.1		%		70-130	25-JUL-12
Cadmium (Cd)-Total			122.8		%		70-130	25-JUL-12
Calcium (Ca)-Total			N/A	MS-B	%		-	25-JUL-12
Chromium (Cr)-Total			100.4		%		70-130	25-JUL-12
Cobalt (Co)-Total			98.6		%		70-130	25-JUL-12
Copper (Cu)-Total			96.8		%		70-130	25-JUL-12
Iron (Fe)-Total			99.3		%		70-130	25-JUL-12
Lead (Pb)-Total			97.0		%		70-130	25-JUL-12
Lithium (Li)-Total			100.4		%		70-130	25-JUL-12
Magnesium (Mg)-Total			N/A	MS-B	%		-	25-JUL-12
Manganese (Mn)-Total			101.9		%		70-130	25-JUL-12
Molybdenum (Mo)-Total			95.9		%		70-130	25-JUL-12
Nickel (Ni)-Total			100.2		%		70-130	25-JUL-12
Potassium (K)-Total			97.9		%		70-130	25-JUL-12
Selenium (Se)-Total			100.9		%		70-130	25-JUL-12
Silver (Ag)-Total			99.1		%		70-130	25-JUL-12
Sodium (Na)-Total			N/A	MS-B	%		-	25-JUL-12
Strontium (Sr)-Total			N/A	MS-B	%		-	25-JUL-12
Tellurium (Te)-Total			100.7		%		70-130	25-JUL-12
Thallium (Tl)-Total			92.8		%		70-130	25-JUL-12
Tin (Sn)-Total			97.1		%		70-130	25-JUL-12
Titanium (Ti)-Total			93.8		%		70-130	25-JUL-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2405558							
WG1512642-4 MS		L1181718-4						
Tungsten (W)-Total			93.9		%		70-130	25-JUL-12
Uranium (U)-Total			96.8		%		70-130	25-JUL-12
Vanadium (V)-Total			101.9		%		70-130	25-JUL-12
Zinc (Zn)-Total			100.9		%		70-130	25-JUL-12
Zirconium (Zr)-Total			94.7		%		70-130	25-JUL-12
WG1512642-6 MS		L1181833-14						
Aluminum (Al)-Total			103.1		%		70-130	25-JUL-12
Antimony (Sb)-Total			97.0		%		70-130	25-JUL-12
Arsenic (As)-Total			105.9		%		70-130	25-JUL-12
Beryllium (Be)-Total			105.7		%		70-130	25-JUL-12
Bismuth (Bi)-Total			97.8		%		70-130	25-JUL-12
Boron (B)-Total			111.5		%		70-130	25-JUL-12
Cadmium (Cd)-Total			128.7		%		70-130	25-JUL-12
Calcium (Ca)-Total			101.1		%		70-130	25-JUL-12
Chromium (Cr)-Total			102.8		%		70-130	25-JUL-12
Cobalt (Co)-Total			101.4		%		70-130	25-JUL-12
Copper (Cu)-Total			103.2		%		70-130	25-JUL-12
Iron (Fe)-Total			105.4		%		70-130	25-JUL-12
Lead (Pb)-Total			102.0		%		70-130	25-JUL-12
Lithium (Li)-Total			106.9		%		70-130	25-JUL-12
Magnesium (Mg)-Total			96.2		%		70-130	25-JUL-12
Manganese (Mn)-Total			106.1		%		70-130	25-JUL-12
Molybdenum (Mo)-Total			99.9		%		70-130	25-JUL-12
Nickel (Ni)-Total			103.1		%		70-130	25-JUL-12
Potassium (K)-Total			108.6		%		70-130	25-JUL-12
Selenium (Se)-Total			107.4		%		70-130	25-JUL-12
Silver (Ag)-Total			105.7		%		70-130	25-JUL-12
Sodium (Na)-Total			99.5		%		70-130	25-JUL-12
Strontium (Sr)-Total			102.9		%		70-130	25-JUL-12
Tellurium (Te)-Total			102.6		%		70-130	25-JUL-12
Thallium (Tl)-Total			98.5		%		70-130	25-JUL-12
Tin (Sn)-Total			100.6		%		70-130	25-JUL-12
Titanium (Ti)-Total			98.4		%		70-130	25-JUL-12
Tungsten (W)-Total			98.2		%		70-130	25-JUL-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2405558							
WG1512642-6 MS		L1181833-14						
Uranium (U)-Total			101.3		%		70-130	25-JUL-12
Vanadium (V)-Total			107.8		%		70-130	25-JUL-12
Zinc (Zn)-Total			93.7		%		70-130	25-JUL-12
Zirconium (Zr)-Total			97.6		%		70-130	25-JUL-12
Batch	R2406522							
WG1512642-12 LCS								
Aluminum (Al)-Total			94.9		%		80-120	26-JUL-12
Antimony (Sb)-Total			98.7		%		80-120	26-JUL-12
Arsenic (As)-Total			102.6		%		80-120	26-JUL-12
Barium (Ba)-Total			100.7		%		80-120	26-JUL-12
Beryllium (Be)-Total			97.1		%		80-120	26-JUL-12
Bismuth (Bi)-Total			103.8		%		80-120	26-JUL-12
Boron (B)-Total			95.7		%		80-120	26-JUL-12
Cadmium (Cd)-Total			105.4		%		80-120	26-JUL-12
Calcium (Ca)-Total			102.0		%		80-120	26-JUL-12
Chromium (Cr)-Total			103.0		%		80-120	26-JUL-12
Cobalt (Co)-Total			100.0		%		80-120	26-JUL-12
Copper (Cu)-Total			99.9		%		80-120	26-JUL-12
Iron (Fe)-Total			89.2		%		80-120	26-JUL-12
Lead (Pb)-Total			102.5		%		80-120	26-JUL-12
Lithium (Li)-Total			103.2		%		80-120	26-JUL-12
Magnesium (Mg)-Total			105.4		%		80-120	26-JUL-12
Manganese (Mn)-Total			105.6		%		80-120	26-JUL-12
Molybdenum (Mo)-Total			101.0		%		80-120	26-JUL-12
Nickel (Ni)-Total			105.0		%		80-120	26-JUL-12
Potassium (K)-Total			103.7		%		80-120	26-JUL-12
Selenium (Se)-Total			97.1		%		80-120	26-JUL-12
Silver (Ag)-Total			95.7		%		80-120	26-JUL-12
Sodium (Na)-Total			104.4		%		80-120	26-JUL-12
Strontium (Sr)-Total			98.0		%		80-120	26-JUL-12
Tellurium (Te)-Total			104.3		%		80-120	26-JUL-12
Thallium (Tl)-Total			103.4		%		80-120	26-JUL-12
Tin (Sn)-Total			104.8		%		80-120	26-JUL-12
Titanium (Ti)-Total			99.6		%		80-120	26-JUL-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2406522							
WG1512642-12 LCS								
Tungsten (W)-Total			96.0		%		80-120	26-JUL-12
Uranium (U)-Total			96.6		%		80-120	26-JUL-12
Vanadium (V)-Total			103.8		%		80-120	26-JUL-12
Zinc (Zn)-Total			99.9		%		80-120	26-JUL-12
Zirconium (Zr)-Total			93.5		%		80-120	26-JUL-12
WG1512642-11 MB								
Aluminum (Al)-Total			<0.0050		mg/L		0.005	26-JUL-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	26-JUL-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	26-JUL-12
Barium (Ba)-Total			<0.010		mg/L		0.01	26-JUL-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	26-JUL-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	26-JUL-12
Boron (B)-Total			<0.050		mg/L		0.05	26-JUL-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	26-JUL-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	26-JUL-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	26-JUL-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	26-JUL-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	26-JUL-12
Iron (Fe)-Total			<0.020		mg/L		0.02	26-JUL-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	26-JUL-12
Lithium (Li)-Total			<0.050		mg/L		0.05	26-JUL-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	26-JUL-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	26-JUL-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	26-JUL-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	26-JUL-12
Potassium (K)-Total			<0.50		mg/L		0.5	26-JUL-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	26-JUL-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	26-JUL-12
Sodium (Na)-Total			<0.10		mg/L		0.1	26-JUL-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	26-JUL-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	26-JUL-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	26-JUL-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	26-JUL-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	26-JUL-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2406522							
WG1512642-11 MB								
Tungsten (W)-Total			<0.010		mg/L		0.01	26-JUL-12
Uranium (U)-Total			<0.0050		mg/L		0.005	26-JUL-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	26-JUL-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	26-JUL-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	26-JUL-12
Batch	R2407779							
WG1514131-2 LCS								
Aluminum (Al)-Total			99.7		%		80-120	27-JUL-12
Antimony (Sb)-Total			103.7		%		80-120	27-JUL-12
Arsenic (As)-Total			109.9		%		80-120	27-JUL-12
Barium (Ba)-Total			103.8		%		80-120	27-JUL-12
Beryllium (Be)-Total			107.5		%		80-120	27-JUL-12
Bismuth (Bi)-Total			109.2		%		80-120	27-JUL-12
Boron (B)-Total			100.4		%		80-120	27-JUL-12
Cadmium (Cd)-Total			111.3		%		80-120	27-JUL-12
Calcium (Ca)-Total			108.5		%		80-120	27-JUL-12
Chromium (Cr)-Total			111.3		%		80-120	27-JUL-12
Cobalt (Co)-Total			106.6		%		80-120	27-JUL-12
Copper (Cu)-Total			104.3		%		80-120	27-JUL-12
Iron (Fe)-Total			118.7		%		80-120	27-JUL-12
Lead (Pb)-Total			107.1		%		80-120	27-JUL-12
Lithium (Li)-Total			101.4		%		80-120	27-JUL-12
Magnesium (Mg)-Total			110.4		%		80-120	27-JUL-12
Manganese (Mn)-Total			112.7		%		80-120	27-JUL-12
Molybdenum (Mo)-Total			110.4		%		80-120	27-JUL-12
Nickel (Ni)-Total			111.4		%		80-120	27-JUL-12
Potassium (K)-Total			108.7		%		80-120	27-JUL-12
Selenium (Se)-Total			106.4		%		80-120	27-JUL-12
Silver (Ag)-Total			102.7		%		80-120	27-JUL-12
Sodium (Na)-Total			110.5		%		80-120	27-JUL-12
Strontium (Sr)-Total			106.2		%		80-120	27-JUL-12
Tellurium (Te)-Total			112.7		%		80-120	27-JUL-12
Thallium (Tl)-Total			111.3		%		80-120	27-JUL-12
Tin (Sn)-Total			105.9		%		80-120	27-JUL-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2407779							
WG1514131-2 LCS								
Titanium (Ti)-Total			105.6		%		80-120	27-JUL-12
Tungsten (W)-Total			101.8		%		80-120	27-JUL-12
Uranium (U)-Total			105.8		%		80-120	27-JUL-12
Vanadium (V)-Total			110.9		%		80-120	27-JUL-12
Zinc (Zn)-Total			107.6		%		80-120	27-JUL-12
Zirconium (Zr)-Total			101.6		%		80-120	27-JUL-12
WG1514131-1 MB								
Aluminum (Al)-Total			<0.0050		mg/L		0.005	27-JUL-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	27-JUL-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	27-JUL-12
Barium (Ba)-Total			<0.010		mg/L		0.01	27-JUL-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	27-JUL-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	27-JUL-12
Boron (B)-Total			<0.050		mg/L		0.05	27-JUL-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	27-JUL-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	27-JUL-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	27-JUL-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	27-JUL-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	27-JUL-12
Iron (Fe)-Total			<0.020		mg/L		0.02	27-JUL-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	27-JUL-12
Lithium (Li)-Total			<0.050		mg/L		0.05	27-JUL-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	27-JUL-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	27-JUL-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	27-JUL-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	27-JUL-12
Potassium (K)-Total			<0.50		mg/L		0.5	27-JUL-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	27-JUL-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	27-JUL-12
Sodium (Na)-Total			<0.10		mg/L		0.1	27-JUL-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	27-JUL-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	27-JUL-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	27-JUL-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	27-JUL-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
Water								
Batch	R2407779							
WG1514131-1	MB							
Titanium (Ti)-Total			<0.0020		mg/L		0.002	27-JUL-12
Tungsten (W)-Total			<0.010		mg/L		0.01	27-JUL-12
Uranium (U)-Total			<0.0050		mg/L		0.005	27-JUL-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	27-JUL-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	27-JUL-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	27-JUL-12
NH3-COL-TB								
Water								
Batch	R2405064							
WG1513387-3	DUP	L1181718-14						
Ammonia, Total (as N)		<0.020	<0.020	RPD-NA	mg/L	N/A	20	24-JUL-12
WG1513387-2	LCS							
Ammonia, Total (as N)			94.6		%		85-115	24-JUL-12
WG1513387-1	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	24-JUL-12
WG1513387-4	MS	L1181718-14						
Ammonia, Total (as N)			90.3		%		75-125	24-JUL-12
WG1513387-6	MS	L1181833-11						
Ammonia, Total (as N)			105.9		%		75-125	24-JUL-12
NO2-IC-TB								
Water								
Batch	R2404488							
WG1514315-2	LCS							
Nitrite (as N)			96.7		%		90-110	24-JUL-12
WG1514315-1	MB							
Nitrite (as N)			<0.020		mg/L		0.02	24-JUL-12
WG1514315-4	MS	L1183216-6						
Nitrite (as N)			101.8		%		75-115	24-JUL-12
Batch	R2404831							
WG1512866-3	DUP	L1181718-8						
Nitrite (as N)		<0.020	<0.020	RPD-NA	mg/L	N/A	20	20-JUL-12
WG1512866-2	LCS							
Nitrite (as N)			94.3		%		90-110	20-JUL-12
WG1512866-1	MB							
Nitrite (as N)			<0.020		mg/L		0.02	20-JUL-12
WG1512866-4	MS	L1181718-8						
Nitrite (as N)			103.1		%		75-115	20-JUL-12
WG1512866-6	MS	L1181792-4						



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO2-IC-TB								
Water								
Batch R2404831								
WG1512866-6	MS	L1181792-4	99.2		%		75-115	20-JUL-12
Nitrite (as N)								
NO3-IC-TB								
Water								
Batch R2404488								
WG1514315-2	LCS		100.7		%		90-110	24-JUL-12
Nitrate (as N)								
WG1514315-1	MB		<0.030		mg/L		0.03	24-JUL-12
Nitrate (as N)								
WG1514315-4	MS	L1183216-6	101.1		%		75-125	24-JUL-12
Nitrate (as N)								
Batch R2404831								
WG1512866-3	DUP	L1181718-8	0.037		mg/L	1.3	20	20-JUL-12
Nitrate (as N)								
WG1512866-2	LCS		99.96		%		90-110	20-JUL-12
Nitrate (as N)								
WG1512866-1	MB		<0.030		mg/L		0.03	20-JUL-12
Nitrate (as N)								
WG1512866-4	MS	L1181718-8	96.8		%		75-125	20-JUL-12
Nitrate (as N)								
WG1512866-6	MS	L1181792-4	102.2		%		75-125	20-JUL-12
Nitrate (as N)								
OGG-TOT-WT								
Water								
Batch R2405241								
WG1514113-2	LCS		89.9		%		75-120	25-JUL-12
Oil and Grease, Total								
WG1514113-3	LCSD	WG1514113-2	91		%	1.0	45	25-JUL-12
Oil and Grease, Total								
WG1514113-1	MB		<2.0		mg/L		2	25-JUL-12
Oil and Grease, Total								
Batch R2406066								
WG1514063-2	LCS		86.2		%		75-120	25-JUL-12
Oil and Grease, Total								
WG1514063-3	LCSD	WG1514063-2	88		%	2.2	45	25-JUL-12
Oil and Grease, Total								
WG1514063-1	MB		<2.0		mg/L		2	25-JUL-12
Oil and Grease, Total								
P-T-COL-TB								
Water								



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P-T-COL-TB		Water						
Batch	R2404062							
WG1512654-3	DUP	L1181718-6						
Phosphorus (P)-Total		0.0081	0.0078		mg/L	4.8	20	23-JUL-12
WG1512654-2	LCS							
Phosphorus (P)-Total			97.2		%		80-120	23-JUL-12
WG1512654-1	MB							
Phosphorus (P)-Total			<0.0050		mg/L		0.005	23-JUL-12
WG1512654-4	MS	L1181718-6						
Phosphorus (P)-Total			91.4		%		70-130	23-JUL-12
WG1512705-4	MS	L1181792-4						
Phosphorus (P)-Total			93.1		%		70-130	23-JUL-12
WG1512705-6	MS	L1181833-16						
Phosphorus (P)-Total			93.4		%		70-130	23-JUL-12
PH-CAP-TB		Water						
Batch	R2404329							
WG1511893-2	LCS							
pH			5.99		pH		5.9-6.1	20-JUL-12
SO4-IC-TB		Water						
Batch	R2404488							
WG1514315-2	LCS							
Sulfate (SO4)			99.8		%		90-110	24-JUL-12
WG1514315-1	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	24-JUL-12
WG1514315-4	MS	L1183216-6						
Sulfate (SO4)			104.5		%		75-125	24-JUL-12
Batch	R2404831							
WG1512866-3	DUP	L1181718-8						
Sulfate (SO4)		0.50	0.50		mg/L	0.8	20	20-JUL-12
WG1512866-2	LCS							
Sulfate (SO4)			101.2		%		90-110	20-JUL-12
WG1512866-1	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	20-JUL-12
WG1512866-4	MS	L1181718-8						
Sulfate (SO4)			103.7		%		75-125	20-JUL-12
WG1512866-6	MS	L1181792-4						
Sulfate (SO4)			104.9		%		75-125	20-JUL-12
SOLIDS-TOTSUS-TB		Water						



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SOLIDS-TOTSUS-TB								
Water								
Batch	R2405233							
WG1514168-3	DUP	L1181718-2						
Total Suspended Solids		45.2	44.0		mg/L	2.7	20	25-JUL-12
WG1514168-2	LCS							
Total Suspended Solids			100.6		%		85-115	25-JUL-12
WG1514168-1	MB							
Total Suspended Solids			<2.0		mg/L		2	25-JUL-12
Batch	R2406091							
WG1514961-2	LCS							
Total Suspended Solids			99.4		%		85-115	26-JUL-12
WG1514961-1	MB							
Total Suspended Solids			<2.0		mg/L		2	26-JUL-12

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Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.
J	Duplicate results and limits are expressed in terms of absolute difference.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

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Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
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Legend & Qualifier Definitions:

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.
EHTR: Exceeded ALS recommended hold time prior to sample receipt.
EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
EHT: Exceeded ALS recommended hold time prior to analysis.
Rec. HT: ALS recommended hold time (see units).

Notes*:

Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.
Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L1181718 were received on 20-JUL-12 10:00.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



Company: <u>Treasury Metals</u>		Information		Both questions below must answered for water samples	
Contact: <u>MAC POTTER</u>		Record of Site Condition <input type="checkbox"/> Yes <input type="checkbox"/> No		Are any samples taken from a regulated DW System? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Address: <u>899 TREE NURSERY RD WABIGON, ON, POV 2W0</u>		PWQO <input checked="" type="checkbox"/> MISA <input type="checkbox"/> MMR <input type="checkbox"/> CCME <input type="checkbox"/>		If yes, an authorized DW COC must be used.	
Phone: <u>807 938 6961</u> Fax: _____		Guideline Required:		Is the water sampled intended for human consumption? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Email: <u>mac@treasurymetals.com</u>		TCLP Regulation: <input checked="" type="checkbox"/> 558 <input type="checkbox"/> Other:		Analysis Request	
Project: <u>Goliath</u> PO: _____		Service Requested		Please indicate below Filtered, Preserved or both (F, P, F/P)	
Quote #: <u>G32690</u> <u>LSD GOLIATH PROJECT</u>		<input checked="" type="checkbox"/> Regular TAT (7 Days)		P P P P P P P P P P	
Invoice To: _____		<input type="checkbox"/> Priority TAT 50% Surcharge (3-5 Days)		A I K, P H, C o n d u c t i v i t y	
Company: _____		<input type="checkbox"/> Emergency TAT 100% Surcharge (1-2 Days)		C l N O 2, N O 3, S O 4	
Contact: _____		Specify Date Required:		A c i d i t y, T S S	
Address: _____		All TAT quoted material is in business days which exclude statutory holidays and weekends. Samples received past 3:00pm or Saturday/Sunday begin the next day.		T o t a l C y a n i d e	
Account Manager: <u>KAREN R.</u>		Sampler: <u>MAC POTTER</u>		W A D C y a n i d e	
				C O N - F R E E - C O L - V A	
				A m m o n i a, T o t a l P h o s.	
				O G G	
				T o t a l M e t a l s + H g	
				D i s s o l v e d M e t a l s + H g	
				H a r d n e s s	
				N u m b e r o f C o n t a i n e r s	

Sample #	Sample Identification (This description will appear on the report)	Date	Time	Sample Type	A I K, P H, C o n d u c t i v i t y	C l N O 2, N O 3, S O 4	A c i d i t y, T S S	T o t a l C y a n i d e	W A D C y a n i d e	C O N - F R E E - C O L - V A	A m m o n i a, T o t a l P h o s.	O G G	T o t a l M e t a l s + H g	D i s s o l v e d M e t a l s + H g	H a r d n e s s	N u m b e r o f C o n t a i n e r s
1	SW1	19/07/12	7 ²⁰	Water	X	X	X	X	X	X	X	X	X	X	X	9
2	SW2		6 ³⁰													
3	SW3		5 ⁵⁵													
4	SW4		3 ⁰⁰													
5	SW5		2 ¹⁵													
6	SW6		1 ⁴⁵													
7	SW7		10 ¹⁵										X	X		
8	SW8		10 ⁰⁰										X	X		
9	SW9		12 ⁰⁰													
10	SW10		9 ³⁰										X	X		
11	SW11		11 ⁰⁵													

Special Instructions / Comments

* No preservation is Total metals/Hg, Dissolved metals/Hg in samples SW4, SW5, SW6, SW9, SW11

SHIPMENT RELEASE (client use)		SHIPMENT RECEPTION (lab use only)			SHIPMENT VERIFICATION (lab use only)			
Released by: <u>MAC POTTER</u> <u>MP</u> 19/07/12	Date & Time	Received by: <u>[Signature]</u>	Date & Time: <u>July 20/12 10:00</u>	Temp: <u>14.3</u>	Cooling Initiated: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Verified by: <u>[Signature]</u>	Date & Time: <u>July 20/12 11:00</u>	Observations: Yes / No? If Yes add SIF

**Failure to complete all portions of this form may delay analysis. **TAT may vary dependant on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs. Any known or suspected hazards relating to a sample must be noted on the chain of custody in the comments section. By use of the form the user acknowledges and agrees with the Terms and Conditions as specified on the back page.



Company: <u>See Page 1</u>	Information <input type="checkbox"/> O. Reg 153 (O. Reg 511 Amend) Table: Record of Site Condition <input type="checkbox"/> Yes <input type="checkbox"/> No PWQO <input checked="" type="checkbox"/> MISA <input type="checkbox"/> MMR <input type="checkbox"/> CCME <input type="checkbox"/>	Both questions below must answered for water samples Are any samples taken from a regulated DW System? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, an authorized DW COC must be used. Is the water sampled intended for human consumption? <input type="checkbox"/> Yes <input type="checkbox"/> No
Contact:	Guideline Required:	Analysis Request Please indicate below Filtered, Preserved or both (F, P, F/P)
Address:	TCLP Regulation 558 <input type="checkbox"/> Other:	
Phone:	Service Requested	
Fax:	<input checked="" type="checkbox"/> Regular TAT (7 Days)	
Email:	<input type="checkbox"/> Priority TAT 50% Surcharge (3-5 Days)	
Project:	<input type="checkbox"/> Emergency TAT 100% Surcharge (1-2 Days)	
Quote #:	Specify Date Required:	
Invoice To:	All TAT quoted material is in business days which exclude statutory holidays and weekends. Samples received past 3:00pm or Saturday/Sunday begin the next day.	
Company:		
Contact:		
Address:		
Email:		
Account Manager: <u>KAREN R.</u>	Sampler: <u>MAC POTER</u>	

Sample #	Sample Identification (This description will appear on the report)	Date	Time	Sample Type	Alk. pH, Conductivity	Cl, NO ₂ , NO ₃ , SO ₄	Acidity, TSS	Total Cyanide	WAD Cyanide	CN-FREE-COL-VA	Ammonia, Total Phos.	066	Total Metals + Hg	Dissolved Metals + Hg	Hardness	Number of Containers
12	TL1q	19/07/12	6 ⁵¹	Water	X	X	X	X	X	X	X	X	X	X	X	9
13	TL2a		8 ⁵⁰													
14	TL3		8 ³⁰													
15	JCTa		8 ⁰⁰													
16	TL33		8 ³⁰													
17	Field Blank		5 ⁵⁰													
18	Travel Blank		/													

Special Instructions/Comments

SHIPMENT RELEASE (client use)		SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)		
Released by: <u>MAC POTER</u> <u>MP</u>	Date & Time: <u>19/07/12</u>	Received by:	Date & Time:	Temp:	Cooling initiated <input type="checkbox"/> Yes <input type="checkbox"/> No	Verified by:	Date & Time:	Observations: Yes / No ? If Yes add SIF

****Failure to complete all portions of this form may delay analysis.**** TAT may vary dependant on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs. Any known or suspected hazards relating to a sample must be noted on the chain of custody in the comments section. By use of the form the user acknowledges and agrees with the Terms and Conditions as specified on the back page.



TREASURY METALS INC.
ATTN: Mac Potter
P.O. Box 789
Dryden ON P8N 2Z4

Date Received: 24-AUG-12
Report Date: 07-SEP-12 07:19 (MT)
Version: FINAL

Client Phone: 807-938-6961

Certificate of Analysis

Lab Work Order #: L1199233
Project P.O. #: MO210-P0115
Job Reference: MO906A01
C of C Numbers: I1199233
Legal Site Desc: GOLIATH PROJECT



Karen Rutledge
Account Manager

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ADDRESS: 1081 Barton Street, Thunder Bay, ON P7B 5N3 Canada | Phone: +1 807 623 6463 | Fax: +1 807 623 7598
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1199233-1	L1199233-2	L1199233-3	L1199233-4	L1199233-5
		Description	WATER	WATER	WATER	WATER	WATER
		Sampled Date	22-AUG-12	22-AUG-12	22-AUG-12	22-AUG-12	22-AUG-12
		Sampled Time	07:00	06:05	05:30	09:30	09:45
		Client ID	SW1	SW2	SW3	SW7	SW8
Grouping	Analyte						
WATER							
Physical Tests	Conductivity (EC) (uS/cm)		143	134	191	130	173
	Hardness (as CaCO3) (mg/L)		75.0	75.7	76.2	67.2	92.5
	pH (pH)		7.45	7.74	7.41	7.68	7.92
	Total Suspended Solids (mg/L)		3.0	34.9	4.9	6.2	53.2
Anions and Nutrients	Acidity (as CaCO3) (mg/L)		3.6	2.8	5.4	2.8	2.8
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)		72.2	66.8	65.4	59.7	87.9
	Ammonia, Total (as N) (mg/L)		<0.020	<0.020	<0.020	<0.020	<0.020
	Chloride (Cl) (mg/L)		0.33	<0.10	17.5	0.22	0.20
	Nitrate (as N) (mg/L)		<0.030	0.039	<0.030	0.120	0.100
	Nitrite (as N) (mg/L)		<0.020	<0.020	<0.020	<0.020	<0.020
	Phosphorus (P)-Total (mg/L)		0.0080	0.139	0.0121	0.0187	0.0398
	Sulfate (SO4) (mg/L)		1.03	0.76	1.94	4.91	0.74
Cyanides	Cyanide, Weak Acid Diss (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Free (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)		0.0377	0.626	0.0369	0.0728	0.0587
	Antimony (Sb)-Total (mg/L)		<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Total (mg/L)		<0.0010	<0.0010	<0.0010	0.0013	<0.0010
	Barium (Ba)-Total (mg/L)		0.010	0.013	0.010	0.011	0.025
	Beryllium (Be)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Total (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Total (mg/L)		<0.000017	<0.000017	<0.000017	<0.000017	<0.000017
	Calcium (Ca)-Total (mg/L)		24.5	21.7	21.8	21.3	32.4
	Chromium (Cr)-Total (mg/L)		<0.0010	0.0015	<0.0010	<0.0010	<0.0010
	Cobalt (Co)-Total (mg/L)		<0.00050	0.00053	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Total (mg/L)		<0.0010	0.0018	<0.0010	<0.0010	<0.0010
	Iron (Fe)-Total (mg/L)		0.236	1.91	0.252	1.02	0.566
	Lead (Pb)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Total (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Total (mg/L)		3.61	5.50	5.15	3.68	2.76
	Manganese (Mn)-Total (mg/L)		0.115	0.0644	0.0270	0.0278	0.203
	Mercury (Hg)-Total (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Total (mg/L)		<0.0020	0.0021	<0.0020	<0.0020	<0.0020
Potassium (K)-Total (mg/L)		0.71	0.64	0.68	0.81	0.68	
Selenium (Se)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1199233-6 WATER 22-AUG-12 13:30 SW9	L1199233-7 WATER 22-AUG-12 08:55 SW10	L1199233-8 WATER 22-AUG-12 10:45 SW11	L1199233-9 WATER 22-AUG-12 08:07 TL1A	L1199233-10 WATER 22-AUG-12 08:37 TL2A
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (EC) (uS/cm)	282	134	36.1	123	159
	Hardness (as CaCO3) (mg/L)	152	70.9	25.3	65.1	84.0
	pH (pH)	8.02	7.54	5.94	7.08	7.65
	Total Suspended Solids (mg/L)	10.4	403	31.9	10.2	2.8
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	3.8	3.6	13.6	12.0	3.6
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)	154	67.4	9.4	61.1	78.6
	Ammonia, Total (as N) (mg/L)	<0.020	0.022	0.032	0.085	<0.020
	Chloride (Cl) (mg/L)	0.36	0.27	0.16	0.15	0.27
	Nitrate (as N) (mg/L)	0.082	0.071	<0.030	<0.030	<0.030
	Nitrite (as N) (mg/L)	<0.020	<0.020	<0.020	<0.020	<0.020
	Phosphorus (P)-Total (mg/L)	0.0103	0.0908	0.0255	0.0128	0.0215
	Sulfate (SO4) (mg/L)	0.53	1.75	<0.30	<0.30	1.18
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)	0.187	1.77	0.933	0.0540	0.0773
	Antimony (Sb)-Total (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Total (mg/L)	<0.0010	0.0021	0.0015	0.0011	<0.0010
	Barium (Ba)-Total (mg/L)	0.028	0.033	0.013	0.015	<0.010
	Beryllium (Be)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Total (mg/L)	<0.000017	0.000057	0.000034	<0.000017	<0.000017
	Calcium (Ca)-Total (mg/L)	49.6	25.2	7.39	19.1	22.7
	Chromium (Cr)-Total (mg/L)	<0.0010	0.0048	0.0021	<0.0010	<0.0010
	Cobalt (Co)-Total (mg/L)	<0.00050	0.00162	0.00087	0.00411	<0.00050
	Copper (Cu)-Total (mg/L)	0.0023	0.0028	0.0014	<0.0010	<0.0010
	Iron (Fe)-Total (mg/L)	0.482	8.71	2.82	3.97	0.615
	Lead (Pb)-Total (mg/L)	<0.0010	0.0011	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Total (mg/L)	8.20	3.68	1.62	4.23	6.29
	Manganese (Mn)-Total (mg/L)	0.336	0.261	0.0585	1.86	0.0944
	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Total (mg/L)	<0.0020	0.0022	0.0021	<0.0020	<0.0020
Potassium (K)-Total (mg/L)	1.90	0.88	<0.50	<0.50	1.92	
Selenium (Se)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1199233-11	L1199233-12	L1199233-13	L1199233-14	L1199233-15
		Description	WATER	WATER	WATER	WATER	WATER
		Sampled Date	22-AUG-12	22-AUG-12	22-AUG-12	22-AUG-12	22-AUG-12
		Sampled Time	06:35	07:25	07:30	08:30	08:45
		Client ID	TL3	JCTA	SW4	SW5	SW6
Grouping	Analyte						
WATER							
Physical Tests	Conductivity (EC) (uS/cm)		181	161	105	111	111
	Hardness (as CaCO3) (mg/L)		96.5	83.2	45.6	46.1	46.1
	pH (pH)		7.47	7.45	7.87	7.93	7.90
	Total Suspended Solids (mg/L)		14.4	9.7	10.5	<2.0	<2.0
Anions and Nutrients	Acidity (as CaCO3) (mg/L)		7.6	3.6	2.2	2.0	2.0
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)		90.3	80.6	44.0	45.2	45.1
	Ammonia, Total (as N) (mg/L)		<0.020	0.089	<0.020	<0.020	<0.020
	Chloride (Cl) (mg/L)		1.25	0.81	3.18	4.05	4.30
	Nitrate (as N) (mg/L)		<0.030	<0.030	<0.030	<0.030	<0.030
	Nitrite (as N) (mg/L)		<0.020	<0.020	<0.020	<0.020	<0.020
	Phosphorus (P)-Total (mg/L)		0.0311	0.0266	0.0207	0.0060	0.0077
	Sulfate (SO4) (mg/L)		0.56	0.51	1.70	2.76	4.53
Cyanides	Cyanide, Weak Acid Diss (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Free (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)		0.472	0.149	0.785	0.0118	0.0149
	Antimony (Sb)-Total (mg/L)		<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Total (mg/L)		<0.0010	0.0011	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Total (mg/L)		0.015	0.013	0.012	<0.010	<0.010
	Beryllium (Be)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Total (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Total (mg/L)		<0.000017	<0.000017	<0.000017	<0.000017	<0.000017
	Calcium (Ca)-Total (mg/L)		28.0	25.1	14.6	14.1	14.1
	Chromium (Cr)-Total (mg/L)		0.0012	<0.0010	0.0011	<0.0010	<0.0010
	Cobalt (Co)-Total (mg/L)		<0.00050	0.00072	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Total (mg/L)		0.0013	<0.0010	0.0026	0.0011	0.0012
	Iron (Fe)-Total (mg/L)		1.05	1.50	0.629	<0.020	<0.020
	Lead (Pb)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Total (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Total (mg/L)		6.97	6.02	2.79	2.97	3.00
	Manganese (Mn)-Total (mg/L)		0.201	0.510	0.0148	0.0030	0.0033
	Mercury (Hg)-Total (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Total (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Potassium (K)-Total (mg/L)		1.14	1.06	0.99	0.95	0.97	
Selenium (Se)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1199233-16	L1199233-17		
		Description	TRAVEL BLANK	WATER		
		Sampled Date	22-AUG-12	22-AUG-12		
		Sampled Time	10:45			
		Client ID	TRAVEL BLANK	TL111		
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (EC) (uS/cm)	<3.0	124			
	Hardness (as CaCO3) (mg/L)	<0.51	63.6			
	pH (pH)	5.98	7.17			
	Total Suspended Solids (mg/L)	<2.0	7.5			
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	<2.0	9.6			
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)	<5.0	61.6			
	Ammonia, Total (as N) (mg/L)	0.046	0.088			
	Chloride (Cl) (mg/L)	<0.10	0.19			
	Nitrate (as N) (mg/L)	<0.030	<0.030			
	Nitrite (as N) (mg/L)	<0.020	<0.020			
	Phosphorus (P)-Total (mg/L)	<0.0050	0.0135			
	Sulfate (SO4) (mg/L)	<0.30	<0.30			
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020	<0.0020			
	Cyanide, Total (mg/L)	<0.0020	<0.0020			
	Cyanide, Free (mg/L)	<0.0050	<0.0050			
Total Metals	Aluminum (Al)-Total (mg/L)	<0.0050	0.0519			
	Antimony (Sb)-Total (mg/L)	<0.00060	<0.00060			
	Arsenic (As)-Total (mg/L)	<0.0010	0.0011			
	Barium (Ba)-Total (mg/L)	<0.010	0.015			
	Beryllium (Be)-Total (mg/L)	<0.0010	<0.0010			
	Bismuth (Bi)-Total (mg/L)	<0.0010	<0.0010			
	Boron (B)-Total (mg/L)	<0.050	<0.050			
	Cadmium (Cd)-Total (mg/L)	<0.000017	<0.000017			
	Calcium (Ca)-Total (mg/L)	<0.20	19.4			
	Chromium (Cr)-Total (mg/L)	<0.0010	<0.0010			
	Cobalt (Co)-Total (mg/L)	<0.00050	0.00420			
	Copper (Cu)-Total (mg/L)	<0.0010	<0.0010			
	Iron (Fe)-Total (mg/L)	<0.020	3.99			
	Lead (Pb)-Total (mg/L)	<0.0010	<0.0010			
	Lithium (Li)-Total (mg/L)	<0.050	<0.050			
	Magnesium (Mg)-Total (mg/L)	<0.020	4.30			
	Manganese (Mn)-Total (mg/L)	<0.0010	1.87			
	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010			
	Molybdenum (Mo)-Total (mg/L)	<0.0010	<0.0010			
	Nickel (Ni)-Total (mg/L)	<0.0020	<0.0020			
	Potassium (K)-Total (mg/L)	<0.50	<0.50			
Selenium (Se)-Total (mg/L)	<0.0010	<0.0010				

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1199233-1 WATER 22-AUG-12 07:00 SW1	L1199233-2 WATER 22-AUG-12 06:05 SW2	L1199233-3 WATER 22-AUG-12 05:30 SW3	L1199233-4 WATER 22-AUG-12 09:30 SW7	L1199233-5 WATER 22-AUG-12 09:45 SW8	
Grouping	Analyte					
WATER						
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Total (mg/L)	1.79	1.83	11.3	1.70	1.28
	Strontium (Sr)-Total (mg/L)	0.0443	0.0366	0.0543	0.0395	0.0484
	Tellurium (Te)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Total (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Total (mg/L)	0.0022	0.0268	0.0023	0.0040	0.0037
	Tungsten (W)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Total (mg/L)	<0.0010	0.0020	<0.0010	0.0012	<0.0010
	Zinc (Zn)-Total (mg/L)	<0.0030	0.0046	<0.0030	<0.0030	<0.0030
	Zirconium (Zr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	<0.0050	0.0349	0.0085	0.0291	<0.0050
	Antimony (Sb)-Dissolved (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	0.0011	<0.0010
	Barium (Ba)-Dissolved (mg/L)	<0.010	<0.010	0.010	<0.010	0.021
	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Dissolved (mg/L)	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017
	Calcium (Ca)-Dissolved (mg/L)	24.0	21.5	21.9	20.9	32.4
	Chromium (Cr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Iron (Fe)-Dissolved (mg/L)	0.113	0.431	0.129	0.629	0.160
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Dissolved (mg/L)	3.65	5.38	5.21	3.66	2.79
	Manganese (Mn)-Dissolved (mg/L)	0.0971	0.0612	0.0181	0.0124	0.0869
	Mercury (Hg)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Potassium (K)-Dissolved (mg/L)	0.73	0.54	0.69	0.83	0.67
	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Dissolved (mg/L)	1.83	1.82	11.5	1.74	1.40
	Strontium (Sr)-Dissolved (mg/L)	0.0452	0.0360	0.0571	0.0400	0.0494

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1199233-6	L1199233-7	L1199233-8	L1199233-9	L1199233-10
					WATER	WATER	WATER	WATER	WATER
		22-AUG-12	13:30	SW9	22-AUG-12	22-AUG-12	22-AUG-12	22-AUG-12	22-AUG-12
					08:55	08:55	10:45	08:07	08:37
					SW10	SW10	SW11	TL1A	TL2A
Grouping	Analyte								
WATER									
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Total (mg/L)	3.64	1.93	0.98	1.21	3.00			
	Strontium (Sr)-Total (mg/L)	0.0778	0.0449	0.0175	0.0444	0.0526			
	Tellurium (Te)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Thallium (Tl)-Total (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030			
	Tin (Sn)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
	Titanium (Ti)-Total (mg/L)	0.0097	0.0921	0.0344	<0.0020	0.0047			
	Tungsten (W)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010			
	Uranium (U)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050			
	Vanadium (V)-Total (mg/L)	<0.0010	0.0096	0.0021	<0.0010	<0.0010			
	Zinc (Zn)-Total (mg/L)	<0.0030	0.0146	0.0072	<0.0030	<0.0030			
	Zirconium (Zr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	0.0084	0.0256	0.483	0.0479	0.0103			
	Antimony (Sb)-Dissolved (mg/L)	<0.00060	<0.00060	<0.0060 ^{DLA}	<0.00060	<0.00060			
	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	<0.010 ^{DLA}	0.0010	<0.0010			
	Barium (Ba)-Dissolved (mg/L)	0.023	0.013	<0.10 ^{DLA}	0.014	<0.010			
	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010	<0.010 ^{DLA}	<0.0010	<0.0010			
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010	<0.010 ^{DLA}	<0.0010	<0.0010			
	Boron (B)-Dissolved (mg/L)	<0.050	<0.050	<0.50 ^{DLA}	<0.050	<0.050			
	Cadmium (Cd)-Dissolved (mg/L)	<0.000017	<0.000017	<0.00017 ^{DLA}	<0.000017	<0.000017			
	Calcium (Ca)-Dissolved (mg/L)	47.9	23.1	7.9	19.1	23.0			
	Chromium (Cr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.010 ^{DLA}	<0.0010	<0.0010			
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.0050 ^{DLA}	0.00407	<0.00050			
	Copper (Cu)-Dissolved (mg/L)	<0.0010	<0.0010	<0.010 ^{DLA}	<0.0010	<0.0010			
	Iron (Fe)-Dissolved (mg/L)	0.031	1.62	1.79	2.98	0.378			
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.010 ^{DLA}	<0.0010	<0.0010			
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.50 ^{DLA}	<0.050	<0.050			
	Magnesium (Mg)-Dissolved (mg/L)	7.99	3.21	1.34	4.25	6.45			
	Manganese (Mn)-Dissolved (mg/L)	0.110	0.0961	0.053	1.84	0.0375			
	Mercury (Hg)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010 ^{DLA}	<0.000010	<0.000010			
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.010 ^{DLA}	<0.0010	<0.0010			
	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020	<0.020 ^{DLA}	<0.0020	<0.0020			
	Potassium (K)-Dissolved (mg/L)	1.77	0.73	<5.0 ^{DLA}	<0.50	1.96			
	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010	<0.010 ^{DLA}	<0.0010	<0.0010			
	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.00010	<0.0010 ^{DLA}	<0.00010	<0.00010			
	Sodium (Na)-Dissolved (mg/L)	3.80	1.93	1.1	1.34	3.29			
	Strontium (Sr)-Dissolved (mg/L)	0.0789	0.0392	0.016	0.0453	0.0545			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1199233-11 WATER 22-AUG-12 06:35 TL3	L1199233-12 WATER 22-AUG-12 07:25 JCTA	L1199233-13 WATER 22-AUG-12 07:30 SW4	L1199233-14 WATER 22-AUG-12 08:30 SW5	L1199233-15 WATER 22-AUG-12 08:45 SW6	
Grouping	Analyte					
WATER						
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Total (mg/L)	2.22	1.89	2.82	3.06	3.13
	Strontium (Sr)-Total (mg/L)	0.0589	0.0517	0.0259	0.0266	0.0267
	Tellurium (Te)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Total (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Total (mg/L)	0.0209	0.0072	0.0241	<0.0020	<0.0020
	Tungsten (W)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Total (mg/L)	0.0013	<0.0010	0.0013	<0.0010	<0.0010
	Zinc (Zn)-Total (mg/L)	0.0032	<0.0030	0.0038	<0.0030	<0.0030
	Zirconium (Zr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	0.0126	0.0190	0.0094	<0.0050	<0.0050
	Antimony (Sb)-Dissolved (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Dissolved (mg/L)	<0.0010	0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Dissolved (mg/L)	0.011	0.010	<0.010	<0.010	<0.010
	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Dissolved (mg/L)	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017
	Calcium (Ca)-Dissolved (mg/L)	27.7	23.9	14.2	13.7	13.7
	Chromium (Cr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Dissolved (mg/L)	<0.0010	<0.0010	0.0013	<0.0010	<0.0010
	Iron (Fe)-Dissolved (mg/L)	0.293	0.885	<0.020	<0.020	<0.020
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Dissolved (mg/L)	6.64	5.73	2.50	2.87	2.88
	Manganese (Mn)-Dissolved (mg/L)	0.175	0.464	<0.0010	<0.0010	<0.0010
	Mercury (Hg)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Potassium (K)-Dissolved (mg/L)	1.00	0.97	0.72	0.89	0.90
	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Dissolved (mg/L)	2.25	1.91	2.69	3.14	3.11
	Strontium (Sr)-Dissolved (mg/L)	0.0566	0.0493	0.0232	0.0254	0.0258

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1199233-16	L1199233-17			
Description	TRAVEL BLANK	WATER			
Sampled Date	22-AUG-12	22-AUG-12			
Sampled Time	10:45				
Client ID	TRAVEL BLANK	TL111			
Grouping	Analyte				
WATER					
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010	<0.00010		
	Sodium (Na)-Total (mg/L)	<0.10	1.24		
	Strontium (Sr)-Total (mg/L)	<0.0010	0.0456		
	Tellurium (Te)-Total (mg/L)	<0.0010	<0.0010		
	Thallium (Tl)-Total (mg/L)	<0.00030	<0.00030		
	Tin (Sn)-Total (mg/L)	0.0028 ^{RRV}	<0.0010		
	Titanium (Ti)-Total (mg/L)	<0.0020	<0.0020		
	Tungsten (W)-Total (mg/L)	<0.010	<0.010		
	Uranium (U)-Total (mg/L)	<0.0050	<0.0050		
	Vanadium (V)-Total (mg/L)	<0.0010	<0.0010		
	Zinc (Zn)-Total (mg/L)	<0.0030	<0.0030		
	Zirconium (Zr)-Total (mg/L)	<0.0010	<0.0010		
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	<0.0050	0.0387		
	Antimony (Sb)-Dissolved (mg/L)	<0.00060	<0.00060		
	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010		
	Barium (Ba)-Dissolved (mg/L)	<0.010	0.014		
	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010		
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010		
	Boron (B)-Dissolved (mg/L)	<0.050	<0.050		
	Cadmium (Cd)-Dissolved (mg/L)	<0.000017	<0.000017		
	Calcium (Ca)-Dissolved (mg/L)	<0.20	18.7		
	Chromium (Cr)-Dissolved (mg/L)	<0.0010	<0.0010		
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	0.00400		
	Copper (Cu)-Dissolved (mg/L)	<0.0010	<0.0010		
	Iron (Fe)-Dissolved (mg/L)	<0.020	2.69		
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010		
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050		
	Magnesium (Mg)-Dissolved (mg/L)	<0.020	4.10		
	Manganese (Mn)-Dissolved (mg/L)	<0.0010	1.82		
	Mercury (Hg)-Dissolved (mg/L)	<0.000010	<0.000010		
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010		
	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020		
	Potassium (K)-Dissolved (mg/L)	<0.50	<0.50		
	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010		
	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.00010		
	Sodium (Na)-Dissolved (mg/L)	<0.10	1.27		
	Strontium (Sr)-Dissolved (mg/L)	<0.0010	0.0433		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1199233-1	L1199233-2	L1199233-3	L1199233-4	L1199233-5
					WATER	WATER	WATER	WATER	WATER
		22-AUG-12	07:00	SW1	22-AUG-12	06:05	22-AUG-12	05:30	22-AUG-12
					SW1	SW2	SW3	SW7	SW8
Grouping	Analyte								
WATER									
Dissolved Metals	Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	<0.0030	<0.0030	<0.0030	0.0035	<0.0030	<0.0030	0.0035	<0.0030
	Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1199233-6	L1199233-7	L1199233-8	L1199233-9	L1199233-10
					WATER	WATER	WATER	WATER	WATER
		22-AUG-12	13:30	SW9	22-AUG-12	22-AUG-12	22-AUG-12	22-AUG-12	22-AUG-12
					SW9	SW10	SW11	TL1A	TL2A
Grouping	Analyte								
WATER									
Dissolved Metals	Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010	<0.010 ^{DLA}	<0.0010	<0.0010	<0.010 ^{DLA}	<0.0010	<0.0010
	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.0030 ^{DLA}	<0.00030	<0.00030	<0.0030 ^{DLA}	<0.00030	<0.00030
	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.010 ^{DLA}	<0.0010	<0.0010	<0.010 ^{DLA}	<0.0010	<0.0010
	Titanium (Ti)-Dissolved (mg/L)	<0.0020	<0.0020	<0.020 ^{DLA}	<0.0020	<0.0020	<0.020 ^{DLA}	<0.0020	<0.0020
	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.10 ^{DLA}	<0.010	<0.010	<0.10 ^{DLA}	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.050 ^{DLA}	<0.0050	<0.0050	<0.050 ^{DLA}	<0.0050	<0.0050
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.010 ^{DLA}	<0.0010	<0.0010	<0.010 ^{DLA}	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	0.0034	<0.0030	<0.030 ^{DLA}	0.0034	<0.0030	<0.030 ^{DLA}	<0.0030	0.0047
	Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.010 ^{DLA}	<0.0010	<0.0010	<0.010 ^{DLA}	<0.0010	<0.0010
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1199233-11	L1199233-12	L1199233-13	L1199233-14	L1199233-15
		Description	WATER	WATER	WATER	WATER	WATER
		Sampled Date	22-AUG-12	22-AUG-12	22-AUG-12	22-AUG-12	22-AUG-12
		Sampled Time	06:35	07:25	07:30	08:30	08:45
		Client ID	TL3	JCTA	SW4	SW5	SW6
Grouping	Analyte						
WATER							
Dissolved Metals	Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
	Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1199233-16	L1199233-17			
		Description	TRAVEL BLANK	WATER			
		Sampled Date	22-AUG-12	22-AUG-12			
		Sampled Time	10:45				
		Client ID	TRAVEL BLANK	TL111			
Grouping	Analyte						
WATER							
Dissolved Metals	Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010				
	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030				
	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010				
	Titanium (Ti)-Dissolved (mg/L)	<0.0020	<0.0020				
	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010				
	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050				
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010				
	Zinc (Zn)-Dissolved (mg/L)	<0.0030	<0.0030				
	Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010				
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0				

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

Qualifiers for Sample Submission Listed:

Qualifier	Description
SFPL	Sample was Filtered and Preserved at the laboratory - SW9, SW11, SW4, SW5, SW6 dissolved metals and mercury
SPL	Sample was Preserved at the laboratory - SW9, SW11, SW4, SW5, SW6 total metals and mercury

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Method Blank	Iron (Fe)-Total	A	L1199233-1, -2, -3, -4, -5, -6, -7, -8, -9
Comments:	No Fe samples <5x LOR in run.		
Matrix Spike	Antimony (Sb)-Total	MS-B	L1199233-1, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Barium (Ba)-Total	MS-B	L1199233-1, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Boron (B)-Total	MS-B	L1199233-1, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Total	MS-B	L1199233-1, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Total	MS-B	L1199233-1, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Total	MS-B	L1199233-1, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Molybdenum (Mo)-Total	MS-B	L1199233-1, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Total	MS-B	L1199233-1, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Total	MS-B	L1199233-1, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Total	MS-B	L1199233-1, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Total	MS-B	L1199233-1, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Total	MS-B	L1199233-1, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Barium (Ba)-Total	MS-B	L1199233-10, -11, -12, -13, -14, -15, -16, -17
Matrix Spike	Boron (B)-Total	MS-B	L1199233-10, -11, -12, -13, -14, -15, -16, -17
Matrix Spike	Calcium (Ca)-Total	MS-B	L1199233-10, -11, -12, -13, -14, -15, -16, -17
Matrix Spike	Magnesium (Mg)-Total	MS-B	L1199233-10, -11, -12, -13, -14, -15, -16, -17
Matrix Spike	Manganese (Mn)-Total	MS-B	L1199233-10, -11, -12, -13, -14, -15, -16, -17
Matrix Spike	Potassium (K)-Total	MS-B	L1199233-10, -11, -12, -13, -14, -15, -16, -17
Matrix Spike	Sodium (Na)-Total	MS-B	L1199233-10, -11, -12, -13, -14, -15, -16, -17
Matrix Spike	Strontium (Sr)-Total	MS-B	L1199233-10, -11, -12, -13, -14, -15, -16, -17
Matrix Spike	Barium (Ba)-Total	MS-B	L1199233-10, -11, -12, -13, -14, -15, -16, -17
Matrix Spike	Calcium (Ca)-Total	MS-B	L1199233-10, -11, -12, -13, -14, -15, -16, -17
Matrix Spike	Magnesium (Mg)-Total	MS-B	L1199233-10, -11, -12, -13, -14, -15, -16, -17
Matrix Spike	Potassium (K)-Total	MS-B	L1199233-10, -11, -12, -13, -14, -15, -16, -17
Matrix Spike	Strontium (Sr)-Total	MS-B	L1199233-10, -11, -12, -13, -14, -15, -16, -17
Matrix Spike	Calcium (Ca)-Total	MS-B	L1199233-1, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Iron (Fe)-Total	MS-B	L1199233-1, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Total	MS-B	L1199233-1, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Total	MS-B	L1199233-1, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Total	MS-B	L1199233-1, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1199233-1, -10, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1199233-1, -10, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1199233-1, -10, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1199233-1, -10, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1199233-1, -10, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1199233-1, -10, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1199233-1, -10, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1199233-1, -10, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1199233-1, -10, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1199233-1, -10, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1199233-1, -10, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1199233-11, -12, -13, -14, -15, -16, -17
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1199233-11, -12, -13, -14, -15, -16, -17
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1199233-11, -12, -13, -14, -15, -16, -17
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1199233-11, -12, -13, -14, -15, -16, -17

Reference Information

	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1199233-11, -12, -13, -14, -15, -16, -17
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1199233-11, -12, -13, -14, -15, -16, -17
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1199233-11, -12, -13, -14, -15, -16, -17
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1199233-11, -12, -13, -14, -15, -16, -17

Qualifiers for Individual Parameters Listed:

Qualifier	Description
A	Method Blank exceeds ALS DQO. Refer to narrative comments for further information.
DLA	Detection Limit Adjusted For required dilution
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RRV	Reported Result Verified By Repeat Analysis

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
ACIDITY-TB	Water	Acidity (as CaCO ₃)	APHA 2310 B-POTENTIOMETRIC TITRATION
		Aqueous matrices are analyzed by potentiometry. Acidity reported includes acidity caused by hydrolyzable metals present in the sample.	
ALK-TOT-CAP-TB	Water	Alkalinity, Total (as CaCO ₃)	APHA 2320 B-Auto-Pot. Titration
CL-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
		Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.	
CN-FREE-CFA-VA	Water	Free Cyanide in water by CFA	ASTM 7237
		This analysis is carried out using procedures adapted from ASTM Method 7237 "Free Cyanide with Flow Injection Analysis (FIA) Utilizing Gas Diffusion Separation and Amperometric Detection". Free cyanide is determined by in-line gas diffusion at pH 6 with final determination by colourimetric analysis.	
CN-TOT-WT	Water	Cyanide, Total	APHA 4500CN C E-STRONG ACID DIST COLORIM
		Total cyanide is determined by the combination of UV digestion and distillation. Cyanide is converted to cyanogen chloride by reacting with chloramine-T, the cyanogen chloride then reacts with a combination of barbituric acid and isonicotinic acid to form a highly colored complex.	
		When using this method, high levels of thiocyanate in samples can cause false positives at ~1-2% of the thiocyanate concentration. For samples with detectable cyanide analyzed by this method, ALS recommends analysis for thiocyanate to check for this potential interference	
CN-WAD-WT	Water	Cyanide, Weak Acid Diss	APHA 4500CN I-Weak acid Dist Colorimet
		Weak acid dissociable cyanide (WAD) is determined by undergoing a distillation procedure. Cyanide is converted to cyanogen chloride by reacting with chloramine-T, the cyanogen chloride then reacts with a combination of barbituric acid and isonicotinic acid to form a highly colored complex.	
EC-CAP-TB	Water	Conductivity (EC)	APHA 2510 B-ELECTRODE
HARDNESS-CALC-TB	Water	Hardness (as CaCO ₃)	CALCULATION
HG-D-CVAF-TB	Water	Dissolved Mercury in Water by CVAFS	EPA 245.7
HG-T-CVAF-TB	Water	Total Mercury in Water by CVAFS	EPA 245.7
MET-D-MS-TB	Water	Dissolved Metals by ICPMS	APHA 3030B/EPA 6020A
		This analysis involves filtration (APHA 3030B) and analysis by inductively coupled plasma - mass spectrometry (EPA Method 6020A).	
MET-T-MS-TB	Water	Total Metals by ICPMS	APHA 3030E/EPA 6020A
		This analysis involves preliminary sample treatment by hotblock acid digestion (APHA 3030E). Instrumental analysis is by inductively coupled plasma - mass spectrometry (EPA Method 6020A).	
NH3-COL-TB	Water	Ammonia by Discrete Analyzer	APHA 4500-NH3 G. (modified)
		Ammonia in aqueous matrices is analyzed using discrete analyzer with colourimetric detection.	
NO2-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
		Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.	
NO3-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
		Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.	
OGG-TOT-WT	Water	Oil and Grease, Total	APHA 5520 B
		Sample is extracted with hexane, extract is then evaporated and the residue is weighed to determine total oil and grease.	
P-T-COL-TB	Water	Total Phosphorus by Discrete Analyzer	APHA 4500-P B, F, G (modified)

Reference Information

Phosphorus in aqueous matrices is analyzed using discrete Analyzer with colourimetric detection.

PH-CAP-TB Water pH APHA 4500-H-ELECTRODE

SO4-IC-TB Water Anions by Ion Chromatography EPA 300.1 (modified)

Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.

SOLIDS-TOTSUS-TB Water Total Suspended Solids APHA 2540 D (modified)

Aqueous matrices are analyzed using gravimetry

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
TB	ALS ENVIRONMENTAL - THUNDER BAY, ONTARIO, CANADA
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

I1199233

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

mg/kg - milligrams per kilogram based on dry weight of sample.

mg/kg wwt - milligrams per kilogram based on wet weight of sample.

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.

mg/L - milligrams per litre.

< - Less than.

D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L1199233

Report Date: 07-SEP-12

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Client: TREASURY METALS INC.
 P.O. Box 789
 Dryden ON P8N 2Z4
 Contact: Mac Potter

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
ACIDITY-TB								
	Water							
Batch	R2428960							
WG1539172-6	DUP	L1199233-7						
Acidity (as CaCO3)		3.6	3.6		mg/L	0.0	20	04-SEP-12
WG1539172-2	LCS							
Acidity (as CaCO3)			102.4		%		85-115	04-SEP-12
WG1539172-5	LCS							
Acidity (as CaCO3)			101.6		%		85-115	04-SEP-12
WG1539172-1	MB							
Acidity (as CaCO3)			<2.0		mg/L		2	04-SEP-12
WG1539172-4	MB							
Acidity (as CaCO3)			<2.0		mg/L		2	04-SEP-12
ALK-TOT-CAP-TB								
	Water							
Batch	R2424516							
WG1534369-6	DUP	L1199233-17						
Alkalinity, Total (as CaCO3)		61.6	62.0		mg/L CaCO3	0.6	20	24-AUG-12
WG1534369-2	LCS							
Alkalinity, Total (as CaCO3)			92.5		%		85-115	24-AUG-12
WG1534369-5	LCS							
Alkalinity, Total (as CaCO3)			93.4		%		85-115	24-AUG-12
WG1534369-1	MB							
Alkalinity, Total (as CaCO3)			<5.0		mg/L CaCO3		5	24-AUG-12
WG1534369-4	MB							
Alkalinity, Total (as CaCO3)			<5.0		mg/L CaCO3		5	24-AUG-12
CL-IC-TB								
	Water							
Batch	R2424550							
WG1534702-15	DUP	L1199233-1						
Chloride (Cl)		0.33	0.34		mg/L	0.3	20	24-AUG-12
WG1534702-10	LCS							
Chloride (Cl)			97.5		%		90-110	24-AUG-12
WG1534702-14	LCS							
Chloride (Cl)			97.3		%		90-110	24-AUG-12
WG1534702-18	LCS							
Chloride (Cl)			98.2		%		90-110	24-AUG-12
WG1534702-2	LCS							
Chloride (Cl)			97.4		%		90-110	24-AUG-12
WG1534702-22	LCS							
Chloride (Cl)			97.5		%		90-110	24-AUG-12
WG1534702-6	LCS							
Chloride (Cl)			97.3		%		90-110	24-AUG-12



Quality Control Report

Workorder: L1199233

Report Date: 07-SEP-12

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CL-IC-TB								
Water								
Batch	R2424550							
WG1534702-1	MB							
Chloride (Cl)			<0.10		mg/L		0.1	24-AUG-12
WG1534702-13	MB							
Chloride (Cl)			<0.10		mg/L		0.1	24-AUG-12
WG1534702-17	MB							
Chloride (Cl)			<0.10		mg/L		0.1	24-AUG-12
WG1534702-21	MB							
Chloride (Cl)			<0.10		mg/L		0.1	24-AUG-12
WG1534702-5	MB							
Chloride (Cl)			<0.10		mg/L		0.1	24-AUG-12
WG1534702-9	MB							
Chloride (Cl)			<0.10		mg/L		0.1	24-AUG-12
WG1534702-12	MS	L1199180-7						
Chloride (Cl)			93.5		%		75-125	24-AUG-12
WG1534702-16	MS	L1199233-1						
Chloride (Cl)			102.6		%		75-125	24-AUG-12
WG1534702-20	MS	L1199413-1						
Chloride (Cl)			102.1		%		75-125	24-AUG-12
WG1534702-4	MS	L1199105-2						
Chloride (Cl)			102.1		%		75-125	24-AUG-12
WG1534702-8	MS	L1199128-3						
Chloride (Cl)			102.7		%		75-125	24-AUG-12
CN-FREE-CFA-VA								
Water								
Batch	R2428833							
WG1538477-3	DUP	L1199233-7						
Cyanide, Free		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	31-AUG-12
WG1538477-10	LCS							
Cyanide, Free			102.2		%		80-120	31-AUG-12
WG1538477-12	LCS							
Cyanide, Free			101.9		%		80-120	31-AUG-12
WG1538477-16	LCS							
Cyanide, Free			102.2		%		80-120	31-AUG-12
WG1538477-18	LCS							
Cyanide, Free			99.0		%		80-120	31-AUG-12
WG1538477-2	LCS							
Cyanide, Free			102.6		%		80-120	31-AUG-12
WG1538477-6	LCS							
Cyanide, Free			101.9		%		80-120	31-AUG-12
WG1538477-1	MB							



Quality Control Report

Workorder: L1199233

Report Date: 07-SEP-12

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CN-FREE-CFA-VA								
	Water							
Batch	R2428833							
WG1538477-1	MB							
Cyanide, Free			<0.0050		mg/L		0.005	31-AUG-12
WG1538477-11	MB							
Cyanide, Free			<0.0050		mg/L		0.005	31-AUG-12
WG1538477-15	MB							
Cyanide, Free			<0.0050		mg/L		0.005	31-AUG-12
WG1538477-17	MB							
Cyanide, Free			<0.0050		mg/L		0.005	31-AUG-12
WG1538477-5	MB							
Cyanide, Free			<0.0050		mg/L		0.005	31-AUG-12
WG1538477-9	MB							
Cyanide, Free			<0.0050		mg/L		0.005	31-AUG-12
WG1538477-4	MS	L1199233-7						
Cyanide, Free			98.2		%		70-130	31-AUG-12
WG1538477-8	MS	L1199606-1						
Cyanide, Free			98.1		%		70-130	31-AUG-12
CN-TOT-WT								
	Water							
Batch	R2427800							
WG1538336-4	CVS							
Cyanide, Total			101.0		%		85-115	31-AUG-12
WG1538336-3	LCS							
Cyanide, Total			93.9		%		80-120	31-AUG-12
WG1538336-1	MB							
Cyanide, Total			<0.0020		mg/L		0.002	31-AUG-12
CN-WAD-WT								
	Water							
Batch	R2427619							
WG1537442-4	CVS							
Cyanide, Weak Acid Diss			103.5		%		85-115	30-AUG-12
WG1537442-5	DUP	L1199233-1						
Cyanide, Weak Acid Diss		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	30-AUG-12
WG1537442-3	LCS							
Cyanide, Weak Acid Diss			95.8		%		80-120	30-AUG-12
WG1537442-1	MB							
Cyanide, Weak Acid Diss			<0.0020		mg/L		0.002	30-AUG-12
EC-CAP-TB								
	Water							

Quality Control Report

Workorder: L1199233

Report Date: 07-SEP-12

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
EC-CAP-TB								
Water								
Batch	R2424516							
WG1534369-6	DUP	L1199233-17						
Conductivity (EC)		124	124		uS/cm	0.0	10	24-AUG-12
WG1534369-2	LCS							
Conductivity (EC)			99.3		%		90-110	24-AUG-12
WG1534369-5	LCS							
Conductivity (EC)			100.4		%		90-110	24-AUG-12
WG1534369-1	MB							
Conductivity (EC)			<3.0		uS/cm		3	24-AUG-12
WG1534369-4	MB							
Conductivity (EC)			<3.0		uS/cm		3	24-AUG-12
HG-D-CVAF-TB								
Water								
Batch	R2424655							
WG1534481-7	DUP	L1199233-10						
Mercury (Hg)-Dissolved		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	27-AUG-12
WG1534481-2	LCS							
Mercury (Hg)-Dissolved			100.7		%		80-120	27-AUG-12
WG1534481-6	LCS							
Mercury (Hg)-Dissolved			99.96		%		80-120	27-AUG-12
WG1534481-1	MB							
Mercury (Hg)-Dissolved			<0.000010		mg/L		0.00001	27-AUG-12
WG1534481-5	MB							
Mercury (Hg)-Dissolved			<0.000010		mg/L		0.00001	27-AUG-12
WG1534481-4	MS	L1199180-13						
Mercury (Hg)-Dissolved			77.6		%		70-130	27-AUG-12
WG1534481-8	MS	L1199233-10						
Mercury (Hg)-Dissolved			105.6		%		70-130	27-AUG-12
HG-T-CVAF-TB								
Water								
Batch	R2425299							
WG1534474-13	DUP	L1199233-1						
Mercury (Hg)-Total		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	28-AUG-12
WG1534474-12	LCS							
Mercury (Hg)-Total			100.4		%		80-120	28-AUG-12
WG1534474-2	LCS							
Mercury (Hg)-Total			102.1		%		80-120	28-AUG-12
WG1534474-8	LCS							
Mercury (Hg)-Total			100.9		%		80-120	28-AUG-12
WG1534474-1	MB							
Mercury (Hg)-Total			<0.000010		mg/L		0.00001	28-AUG-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-T-CVAF-TB								
	Water							
Batch	R2425299							
WG1534474-11 MB								
Mercury (Hg)-Total			<0.000010		mg/L		0.00001	28-AUG-12
WG1534474-7 MB								
Mercury (Hg)-Total			<0.000010		mg/L		0.00001	28-AUG-12
WG1534474-10 MS		L1199128-11						
Mercury (Hg)-Total			107.0		%		70-130	28-AUG-12
WG1534474-14 MS		L1199233-1						
Mercury (Hg)-Total			101.5		%		70-130	28-AUG-12
WG1534474-6 MS		L1199089-1						
Mercury (Hg)-Total			100.1		%		70-130	28-AUG-12
MET-D-MS-TB								
	Water							
Batch	R2430038							
WG1537917-7 DUP		L1199233-10						
Aluminum (Al)-Dissolved		0.0103	0.0105		mg/L	2.3	20	31-AUG-12
Antimony (Sb)-Dissolved		<0.00060	<0.00060	RPD-NA	mg/L	N/A	20	31-AUG-12
Arsenic (As)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-AUG-12
Barium (Ba)-Dissolved		<0.010	<0.010	RPD-NA	mg/L	N/A	20	31-AUG-12
Beryllium (Be)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-AUG-12
Bismuth (Bi)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-AUG-12
Boron (B)-Dissolved		<0.050	<0.050	RPD-NA	mg/L	N/A	20	31-AUG-12
Cadmium (Cd)-Dissolved		<0.000017	<0.000017	RPD-NA	mg/L	N/A	20	31-AUG-12
Calcium (Ca)-Dissolved		23.0	23.5		mg/L	2.2	20	31-AUG-12
Chromium (Cr)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-AUG-12
Cobalt (Co)-Dissolved		<0.00050	<0.00050	RPD-NA	mg/L	N/A	20	31-AUG-12
Copper (Cu)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-AUG-12
Iron (Fe)-Dissolved		0.378	0.405		mg/L	6.9	20	31-AUG-12
Lead (Pb)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-AUG-12
Lithium (Li)-Dissolved		<0.050	<0.050	RPD-NA	mg/L	N/A	20	31-AUG-12
Magnesium (Mg)-Dissolved		6.45	6.66		mg/L	3.3	20	31-AUG-12
Manganese (Mn)-Dissolved		0.0375	0.0383		mg/L	2.2	20	31-AUG-12
Molybdenum (Mo)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-AUG-12
Nickel (Ni)-Dissolved		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	31-AUG-12
Potassium (K)-Dissolved		1.96	2.01		mg/L	2.5	20	31-AUG-12
Selenium (Se)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-AUG-12
Silver (Ag)-Dissolved		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	31-AUG-12
Sodium (Na)-Dissolved		3.29	3.42		mg/L	3.8	20	31-AUG-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2430038							
WG1537917-7	DUP	L1199233-10						
Strontium (Sr)-Dissolved		0.0545	0.0556		mg/L	2.0	20	31-AUG-12
Tellurium (Te)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-AUG-12
Thallium (Tl)-Dissolved		<0.00030	<0.00030	RPD-NA	mg/L	N/A	20	31-AUG-12
Tin (Sn)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-AUG-12
Titanium (Ti)-Dissolved		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	31-AUG-12
Tungsten (W)-Dissolved		<0.010	<0.010	RPD-NA	mg/L	N/A	20	31-AUG-12
Uranium (U)-Dissolved		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	31-AUG-12
Vanadium (V)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-AUG-12
Zinc (Zn)-Dissolved		0.0047	0.0038	J	mg/L	0.0009	0.006	31-AUG-12
Zirconium (Zr)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	31-AUG-12
WG1537917-2	LCS							
Aluminum (Al)-Dissolved			97.4		%		80-120	31-AUG-12
Antimony (Sb)-Dissolved			102.3		%		80-120	31-AUG-12
Arsenic (As)-Dissolved			101.9		%		80-120	31-AUG-12
Barium (Ba)-Dissolved			97.8		%		80-120	31-AUG-12
Beryllium (Be)-Dissolved			100.7		%		80-120	31-AUG-12
Bismuth (Bi)-Dissolved			103.2		%		80-120	31-AUG-12
Boron (B)-Dissolved			93.1		%		80-120	31-AUG-12
Cadmium (Cd)-Dissolved			104.1		%		80-120	31-AUG-12
Calcium (Ca)-Dissolved			102.5		%		80-120	31-AUG-12
Chromium (Cr)-Dissolved			105.2		%		80-120	31-AUG-12
Cobalt (Co)-Dissolved			102.5		%		80-120	31-AUG-12
Copper (Cu)-Dissolved			100.3		%		80-120	31-AUG-12
Iron (Fe)-Dissolved			112.8		%		80-120	31-AUG-12
Lead (Pb)-Dissolved			98.8		%		80-120	31-AUG-12
Lithium (Li)-Dissolved			109.7		%		80-120	31-AUG-12
Magnesium (Mg)-Dissolved			103.1		%		80-120	31-AUG-12
Manganese (Mn)-Dissolved			102.8		%		80-120	31-AUG-12
Molybdenum (Mo)-Dissolved			101.9		%		80-120	31-AUG-12
Nickel (Ni)-Dissolved			100.9		%		80-120	31-AUG-12
Potassium (K)-Dissolved			103.8		%		80-120	31-AUG-12
Selenium (Se)-Dissolved			107.5		%		80-120	31-AUG-12
Silver (Ag)-Dissolved			103.7		%		80-120	31-AUG-12
Sodium (Na)-Dissolved			107.3		%		80-120	31-AUG-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2430038							
WG1537917-2	LCS							
Strontium (Sr)-Dissolved			99.4		%		80-120	31-AUG-12
Tellurium (Te)-Dissolved			104.6		%		80-120	31-AUG-12
Thallium (Tl)-Dissolved			102.0		%		80-120	31-AUG-12
Tin (Sn)-Dissolved			101.4		%		80-120	31-AUG-12
Titanium (Ti)-Dissolved			107.2		%		80-120	31-AUG-12
Tungsten (W)-Dissolved			99.1		%		80-120	31-AUG-12
Uranium (U)-Dissolved			97.5		%		80-120	31-AUG-12
Vanadium (V)-Dissolved			104.7		%		80-120	31-AUG-12
Zinc (Zn)-Dissolved			104.2		%		80-120	31-AUG-12
Zirconium (Zr)-Dissolved			98.8		%		80-120	31-AUG-12
WG1537917-6	LCS							
Aluminum (Al)-Dissolved			96.0		%		80-120	31-AUG-12
Antimony (Sb)-Dissolved			101.9		%		80-120	31-AUG-12
Arsenic (As)-Dissolved			102.8		%		80-120	31-AUG-12
Barium (Ba)-Dissolved			97.4		%		80-120	31-AUG-12
Beryllium (Be)-Dissolved			99.1		%		80-120	31-AUG-12
Bismuth (Bi)-Dissolved			100.6		%		80-120	31-AUG-12
Boron (B)-Dissolved			92.0		%		80-120	31-AUG-12
Cadmium (Cd)-Dissolved			103.1		%		80-120	31-AUG-12
Calcium (Ca)-Dissolved			101.6		%		80-120	31-AUG-12
Chromium (Cr)-Dissolved			103.8		%		80-120	31-AUG-12
Cobalt (Co)-Dissolved			100.9		%		80-120	31-AUG-12
Copper (Cu)-Dissolved			100.1		%		80-120	31-AUG-12
Iron (Fe)-Dissolved			113.8		%		80-120	31-AUG-12
Lead (Pb)-Dissolved			97.1		%		80-120	31-AUG-12
Lithium (Li)-Dissolved			107.0		%		80-120	31-AUG-12
Magnesium (Mg)-Dissolved			100.4		%		80-120	31-AUG-12
Manganese (Mn)-Dissolved			102.6		%		80-120	31-AUG-12
Molybdenum (Mo)-Dissolved			100.6		%		80-120	31-AUG-12
Nickel (Ni)-Dissolved			99.0		%		80-120	31-AUG-12
Potassium (K)-Dissolved			101.1		%		80-120	31-AUG-12
Selenium (Se)-Dissolved			102.9		%		80-120	31-AUG-12
Silver (Ag)-Dissolved			102.4		%		80-120	31-AUG-12
Sodium (Na)-Dissolved			103.8		%		80-120	31-AUG-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2430038							
WG1537917-6 LCS								
Strontium (Sr)-Dissolved			98.1		%		80-120	31-AUG-12
Tellurium (Te)-Dissolved			100.5		%		80-120	31-AUG-12
Thallium (Tl)-Dissolved			99.9		%		80-120	31-AUG-12
Tin (Sn)-Dissolved			100.3		%		80-120	31-AUG-12
Titanium (Ti)-Dissolved			101.3		%		80-120	31-AUG-12
Tungsten (W)-Dissolved			97.9		%		80-120	31-AUG-12
Uranium (U)-Dissolved			91.4		%		80-120	31-AUG-12
Vanadium (V)-Dissolved			103.8		%		80-120	31-AUG-12
Zinc (Zn)-Dissolved			103.7		%		80-120	31-AUG-12
Zirconium (Zr)-Dissolved			96.3		%		80-120	31-AUG-12
WG1537917-1 MB								
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	31-AUG-12
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	31-AUG-12
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	31-AUG-12
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	31-AUG-12
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	31-AUG-12
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	31-AUG-12
Boron (B)-Dissolved			<0.050		mg/L		0.05	31-AUG-12
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	31-AUG-12
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	31-AUG-12
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	31-AUG-12
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	31-AUG-12
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	31-AUG-12
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	31-AUG-12
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	31-AUG-12
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	31-AUG-12
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	31-AUG-12
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	31-AUG-12
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	31-AUG-12
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	31-AUG-12
Potassium (K)-Dissolved			<0.50		mg/L		0.5	31-AUG-12
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	31-AUG-12
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	31-AUG-12
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	31-AUG-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2430038							
WG1537917-1 MB								
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	31-AUG-12
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	31-AUG-12
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	31-AUG-12
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	31-AUG-12
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	31-AUG-12
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	31-AUG-12
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	31-AUG-12
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	31-AUG-12
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	31-AUG-12
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	31-AUG-12
WG1537917-5 MB								
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	31-AUG-12
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	31-AUG-12
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	31-AUG-12
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	31-AUG-12
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	31-AUG-12
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	31-AUG-12
Boron (B)-Dissolved			<0.050		mg/L		0.05	31-AUG-12
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	31-AUG-12
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	31-AUG-12
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	31-AUG-12
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	31-AUG-12
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	31-AUG-12
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	31-AUG-12
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	31-AUG-12
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	31-AUG-12
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	31-AUG-12
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	31-AUG-12
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	31-AUG-12
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	31-AUG-12
Potassium (K)-Dissolved			<0.50		mg/L		0.5	31-AUG-12
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	31-AUG-12
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	31-AUG-12
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	31-AUG-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2430038							
WG1537917-5 MB								
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	31-AUG-12
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	31-AUG-12
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	31-AUG-12
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	31-AUG-12
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	31-AUG-12
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	31-AUG-12
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	31-AUG-12
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	31-AUG-12
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	31-AUG-12
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	31-AUG-12
WG1537917-4 MS		L1199180-13						
Aluminum (Al)-Dissolved			102.7		%		70-130	31-AUG-12
Antimony (Sb)-Dissolved			104.3		%		70-130	31-AUG-12
Barium (Ba)-Dissolved			N/A	MS-B	%		-	31-AUG-12
Beryllium (Be)-Dissolved			111.7		%		70-130	31-AUG-12
Bismuth (Bi)-Dissolved			90.4		%		70-130	31-AUG-12
Cadmium (Cd)-Dissolved			126.8		%		70-130	31-AUG-12
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	31-AUG-12
Chromium (Cr)-Dissolved			86.6		%		70-130	31-AUG-12
Cobalt (Co)-Dissolved			112.3		%		70-130	31-AUG-12
Copper (Cu)-Dissolved			113.2		%		70-130	31-AUG-12
Iron (Fe)-Dissolved			93.4		%		70-130	31-AUG-12
Lead (Pb)-Dissolved			92.0		%		70-130	31-AUG-12
Magnesium (Mg)-Dissolved			N/A	MS-B	%		-	31-AUG-12
Manganese (Mn)-Dissolved			N/A	MS-B	%		-	31-AUG-12
Molybdenum (Mo)-Dissolved			112.9		%		70-130	31-AUG-12
Nickel (Ni)-Dissolved			115.0		%		70-130	31-AUG-12
Sodium (Na)-Dissolved			N/A	MS-B	%		-	31-AUG-12
Strontium (Sr)-Dissolved			N/A	MS-B	%		-	31-AUG-12
Thallium (Tl)-Dissolved			93.6		%		70-130	31-AUG-12
Tin (Sn)-Dissolved			98.9		%		70-130	31-AUG-12
Titanium (Ti)-Dissolved			97.4		%		70-130	31-AUG-12
Tungsten (W)-Dissolved			98.3		%		70-130	31-AUG-12
Vanadium (V)-Dissolved			103.1		%		70-130	31-AUG-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2430038							
WG1537917-4 MS		L1199180-13						
Zinc (Zn)-Dissolved			103.2		%		70-130	31-AUG-12
Zirconium (Zr)-Dissolved			96.1		%		70-130	31-AUG-12
WG1537917-8 MS		L1199233-10						
Aluminum (Al)-Dissolved			94.5		%		70-130	31-AUG-12
Antimony (Sb)-Dissolved			101.8		%		70-130	31-AUG-12
Arsenic (As)-Dissolved			108.6		%		70-130	31-AUG-12
Barium (Ba)-Dissolved			129.0		%		70-130	31-AUG-12
Beryllium (Be)-Dissolved			105.6		%		70-130	31-AUG-12
Bismuth (Bi)-Dissolved			93.7		%		70-130	31-AUG-12
Boron (B)-Dissolved			111.2		%		70-130	31-AUG-12
Cadmium (Cd)-Dissolved			127.9		%		70-130	31-AUG-12
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	31-AUG-12
Chromium (Cr)-Dissolved			98.9		%		70-130	31-AUG-12
Cobalt (Co)-Dissolved			98.1		%		70-130	31-AUG-12
Copper (Cu)-Dissolved			102.6		%		70-130	31-AUG-12
Iron (Fe)-Dissolved			98.3		%		70-130	31-AUG-12
Lead (Pb)-Dissolved			97.2		%		70-130	31-AUG-12
Lithium (Li)-Dissolved			111.9		%		70-130	31-AUG-12
Magnesium (Mg)-Dissolved			N/A	MS-B	%		-	31-AUG-12
Manganese (Mn)-Dissolved			N/A	MS-B	%		-	31-AUG-12
Molybdenum (Mo)-Dissolved			99.8		%		70-130	31-AUG-12
Nickel (Ni)-Dissolved			99.98		%		70-130	31-AUG-12
Potassium (K)-Dissolved			98.0		%		70-130	31-AUG-12
Selenium (Se)-Dissolved			113.8		%		70-130	31-AUG-12
Silver (Ag)-Dissolved			91.8		%		70-130	31-AUG-12
Sodium (Na)-Dissolved			N/A	MS-B	%		-	31-AUG-12
Strontium (Sr)-Dissolved			N/A	MS-B	%		-	31-AUG-12
Tellurium (Te)-Dissolved			103.0		%		70-130	31-AUG-12
Thallium (Tl)-Dissolved			96.4		%		70-130	31-AUG-12
Tin (Sn)-Dissolved			99.8		%		70-130	31-AUG-12
Titanium (Ti)-Dissolved			98.2		%		70-130	31-AUG-12
Tungsten (W)-Dissolved			99.3		%		70-130	31-AUG-12
Uranium (U)-Dissolved			99.0		%		70-130	31-AUG-12
Vanadium (V)-Dissolved			102.3		%		70-130	31-AUG-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2430038							
WG1537917-8 MS		L1199233-10						
Zinc (Zn)-Dissolved			98.5		%		70-130	31-AUG-12
Zirconium (Zr)-Dissolved			98.7		%		70-130	31-AUG-12
Batch	R2430778							
WG1539328-10 LCS								
Aluminum (Al)-Dissolved			88.7		%		80-120	04-SEP-12
Antimony (Sb)-Dissolved			100.8		%		80-120	04-SEP-12
Arsenic (As)-Dissolved			98.9		%		80-120	04-SEP-12
Barium (Ba)-Dissolved			95.0		%		80-120	04-SEP-12
Beryllium (Be)-Dissolved			100.1		%		80-120	04-SEP-12
Bismuth (Bi)-Dissolved			100.1		%		80-120	04-SEP-12
Boron (B)-Dissolved			91.0		%		80-120	04-SEP-12
Cadmium (Cd)-Dissolved			99.98		%		80-120	04-SEP-12
Calcium (Ca)-Dissolved			96.5		%		80-120	04-SEP-12
Chromium (Cr)-Dissolved			101.0		%		80-120	04-SEP-12
Cobalt (Co)-Dissolved			100.8		%		80-120	04-SEP-12
Copper (Cu)-Dissolved			94.2		%		80-120	04-SEP-12
Iron (Fe)-Dissolved			105.6		%		80-120	04-SEP-12
Lead (Pb)-Dissolved			99.6		%		80-120	04-SEP-12
Lithium (Li)-Dissolved			97.8		%		80-120	04-SEP-12
Magnesium (Mg)-Dissolved			95.1		%		80-120	04-SEP-12
Manganese (Mn)-Dissolved			104.6		%		80-120	04-SEP-12
Molybdenum (Mo)-Dissolved			97.8		%		80-120	04-SEP-12
Nickel (Ni)-Dissolved			98.1		%		80-120	04-SEP-12
Potassium (K)-Dissolved			99.4		%		80-120	04-SEP-12
Selenium (Se)-Dissolved			88.8		%		80-120	04-SEP-12
Silver (Ag)-Dissolved			102.2		%		80-120	04-SEP-12
Sodium (Na)-Dissolved			97.7		%		80-120	04-SEP-12
Strontium (Sr)-Dissolved			94.5		%		80-120	04-SEP-12
Tellurium (Te)-Dissolved			104.9		%		80-120	04-SEP-12
Thallium (Tl)-Dissolved			100.6		%		80-120	04-SEP-12
Tin (Sn)-Dissolved			101.4		%		80-120	04-SEP-12
Titanium (Ti)-Dissolved			97.6		%		80-120	04-SEP-12
Tungsten (W)-Dissolved			97.1		%		80-120	04-SEP-12
Uranium (U)-Dissolved			98.7		%		80-120	04-SEP-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2430778							
WG1539328-10 LCS								
Vanadium (V)-Dissolved			99.8		%		80-120	04-SEP-12
Zinc (Zn)-Dissolved			98.0		%		80-120	04-SEP-12
Zirconium (Zr)-Dissolved			93.3		%		80-120	04-SEP-12
WG1539328-14 LCS								
Aluminum (Al)-Dissolved			89.3		%		80-120	04-SEP-12
Antimony (Sb)-Dissolved			103.1		%		80-120	04-SEP-12
Arsenic (As)-Dissolved			100.5		%		80-120	04-SEP-12
Barium (Ba)-Dissolved			97.6		%		80-120	04-SEP-12
Beryllium (Be)-Dissolved			95.8		%		80-120	04-SEP-12
Bismuth (Bi)-Dissolved			102.4		%		80-120	04-SEP-12
Boron (B)-Dissolved			89.7		%		80-120	04-SEP-12
Cadmium (Cd)-Dissolved			102.8		%		80-120	04-SEP-12
Calcium (Ca)-Dissolved			98.4		%		80-120	04-SEP-12
Chromium (Cr)-Dissolved			101.3		%		80-120	04-SEP-12
Cobalt (Co)-Dissolved			99.3		%		80-120	04-SEP-12
Copper (Cu)-Dissolved			96.9		%		80-120	04-SEP-12
Iron (Fe)-Dissolved			103.5		%		80-120	04-SEP-12
Lead (Pb)-Dissolved			101.2		%		80-120	04-SEP-12
Lithium (Li)-Dissolved			100.3		%		80-120	04-SEP-12
Magnesium (Mg)-Dissolved			93.8		%		80-120	04-SEP-12
Manganese (Mn)-Dissolved			104.3		%		80-120	04-SEP-12
Molybdenum (Mo)-Dissolved			96.6		%		80-120	04-SEP-12
Nickel (Ni)-Dissolved			100.3		%		80-120	04-SEP-12
Potassium (K)-Dissolved			99.4		%		80-120	04-SEP-12
Selenium (Se)-Dissolved			87.1		%		80-120	04-SEP-12
Silver (Ag)-Dissolved			103.4		%		80-120	04-SEP-12
Sodium (Na)-Dissolved			96.9		%		80-120	04-SEP-12
Strontium (Sr)-Dissolved			95.0		%		80-120	04-SEP-12
Tellurium (Te)-Dissolved			106.7		%		80-120	04-SEP-12
Thallium (Tl)-Dissolved			101.7		%		80-120	04-SEP-12
Tin (Sn)-Dissolved			102.1		%		80-120	04-SEP-12
Titanium (Ti)-Dissolved			103.1		%		80-120	04-SEP-12
Tungsten (W)-Dissolved			99.8		%		80-120	04-SEP-12
Uranium (U)-Dissolved			100.6		%		80-120	04-SEP-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2430778							
WG1539328-14 LCS								
Vanadium (V)-Dissolved			98.8		%		80-120	04-SEP-12
Zinc (Zn)-Dissolved			100.5		%		80-120	04-SEP-12
Zirconium (Zr)-Dissolved			94.7		%		80-120	04-SEP-12
WG1539328-2 LCS								
Aluminum (Al)-Dissolved			90.0		%		80-120	04-SEP-12
Antimony (Sb)-Dissolved			101.2		%		80-120	04-SEP-12
Arsenic (As)-Dissolved			97.8		%		80-120	04-SEP-12
Barium (Ba)-Dissolved			96.3		%		80-120	04-SEP-12
Beryllium (Be)-Dissolved			92.7		%		80-120	04-SEP-12
Bismuth (Bi)-Dissolved			99.7		%		80-120	04-SEP-12
Boron (B)-Dissolved			92.3		%		80-120	04-SEP-12
Cadmium (Cd)-Dissolved			100.6		%		80-120	04-SEP-12
Calcium (Ca)-Dissolved			98.4		%		80-120	04-SEP-12
Chromium (Cr)-Dissolved			100.4		%		80-120	04-SEP-12
Cobalt (Co)-Dissolved			97.3		%		80-120	04-SEP-12
Copper (Cu)-Dissolved			93.5		%		80-120	04-SEP-12
Iron (Fe)-Dissolved			102.7		%		80-120	04-SEP-12
Lead (Pb)-Dissolved			98.3		%		80-120	04-SEP-12
Lithium (Li)-Dissolved			95.4		%		80-120	04-SEP-12
Magnesium (Mg)-Dissolved			95.6		%		80-120	04-SEP-12
Manganese (Mn)-Dissolved			102.3		%		80-120	04-SEP-12
Molybdenum (Mo)-Dissolved			98.1		%		80-120	04-SEP-12
Nickel (Ni)-Dissolved			95.4		%		80-120	04-SEP-12
Potassium (K)-Dissolved			96.5		%		80-120	04-SEP-12
Selenium (Se)-Dissolved			89.6		%		80-120	04-SEP-12
Silver (Ag)-Dissolved			101.3		%		80-120	04-SEP-12
Sodium (Na)-Dissolved			98.1		%		80-120	04-SEP-12
Strontium (Sr)-Dissolved			93.8		%		80-120	04-SEP-12
Tellurium (Te)-Dissolved			100.3		%		80-120	04-SEP-12
Thallium (Tl)-Dissolved			99.2		%		80-120	04-SEP-12
Tin (Sn)-Dissolved			101.8		%		80-120	04-SEP-12
Titanium (Ti)-Dissolved			98.2		%		80-120	04-SEP-12
Tungsten (W)-Dissolved			98.8		%		80-120	04-SEP-12
Uranium (U)-Dissolved			96.9		%		80-120	04-SEP-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2430778							
WG1539328-2	LCS							
Vanadium (V)-Dissolved			97.5		%		80-120	04-SEP-12
Zinc (Zn)-Dissolved			97.0		%		80-120	04-SEP-12
Zirconium (Zr)-Dissolved			101.3		%		80-120	04-SEP-12
WG1539328-6	LCS							
Aluminum (Al)-Dissolved			91.7		%		80-120	04-SEP-12
Antimony (Sb)-Dissolved			102.5		%		80-120	04-SEP-12
Arsenic (As)-Dissolved			100.4		%		80-120	04-SEP-12
Barium (Ba)-Dissolved			96.1		%		80-120	04-SEP-12
Beryllium (Be)-Dissolved			99.0		%		80-120	04-SEP-12
Bismuth (Bi)-Dissolved			101.2		%		80-120	04-SEP-12
Boron (B)-Dissolved			93.9		%		80-120	04-SEP-12
Cadmium (Cd)-Dissolved			102.1		%		80-120	04-SEP-12
Calcium (Ca)-Dissolved			99.3		%		80-120	04-SEP-12
Chromium (Cr)-Dissolved			103.2		%		80-120	04-SEP-12
Cobalt (Co)-Dissolved			101.6		%		80-120	04-SEP-12
Copper (Cu)-Dissolved			97.1		%		80-120	04-SEP-12
Iron (Fe)-Dissolved			102.9		%		80-120	04-SEP-12
Lead (Pb)-Dissolved			100.3		%		80-120	04-SEP-12
Lithium (Li)-Dissolved			101.2		%		80-120	04-SEP-12
Magnesium (Mg)-Dissolved			97.2		%		80-120	04-SEP-12
Manganese (Mn)-Dissolved			107.2		%		80-120	04-SEP-12
Molybdenum (Mo)-Dissolved			98.8		%		80-120	04-SEP-12
Nickel (Ni)-Dissolved			101.0		%		80-120	04-SEP-12
Potassium (K)-Dissolved			102.0		%		80-120	04-SEP-12
Selenium (Se)-Dissolved			86.5		%		80-120	04-SEP-12
Silver (Ag)-Dissolved			103.4		%		80-120	04-SEP-12
Sodium (Na)-Dissolved			99.6		%		80-120	04-SEP-12
Strontium (Sr)-Dissolved			95.5		%		80-120	04-SEP-12
Tellurium (Te)-Dissolved			105.6		%		80-120	04-SEP-12
Thallium (Tl)-Dissolved			101.2		%		80-120	04-SEP-12
Tin (Sn)-Dissolved			100.6		%		80-120	04-SEP-12
Titanium (Ti)-Dissolved			100.7		%		80-120	04-SEP-12
Tungsten (W)-Dissolved			100.3		%		80-120	04-SEP-12
Uranium (U)-Dissolved			100.4		%		80-120	04-SEP-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2430778							
WG1539328-6	LCS							
Vanadium (V)-Dissolved			100.7		%		80-120	04-SEP-12
Zinc (Zn)-Dissolved			99.3		%		80-120	04-SEP-12
Zirconium (Zr)-Dissolved			103.0		%		80-120	04-SEP-12
WG1539328-1	MB							
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	04-SEP-12
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	04-SEP-12
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	04-SEP-12
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Boron (B)-Dissolved			<0.050		mg/L		0.05	04-SEP-12
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	04-SEP-12
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	04-SEP-12
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	04-SEP-12
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	04-SEP-12
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	04-SEP-12
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	04-SEP-12
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	04-SEP-12
Potassium (K)-Dissolved			<0.50		mg/L		0.5	04-SEP-12
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	04-SEP-12
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	04-SEP-12
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	04-SEP-12
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	04-SEP-12
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	04-SEP-12
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	04-SEP-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2430778							
WG1539328-1 MB								
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	04-SEP-12
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
WG1539328-13 MB								
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	04-SEP-12
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	04-SEP-12
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	04-SEP-12
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Boron (B)-Dissolved			<0.050		mg/L		0.05	04-SEP-12
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	04-SEP-12
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	04-SEP-12
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	04-SEP-12
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	04-SEP-12
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	04-SEP-12
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	04-SEP-12
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	04-SEP-12
Potassium (K)-Dissolved			<0.50		mg/L		0.5	04-SEP-12
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	04-SEP-12
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	04-SEP-12
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	04-SEP-12
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	04-SEP-12
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	04-SEP-12
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	04-SEP-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2430778							
WG1539328-13 MB								
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	04-SEP-12
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
WG1539328-5 MB								
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	04-SEP-12
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	04-SEP-12
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	04-SEP-12
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Boron (B)-Dissolved			<0.050		mg/L		0.05	04-SEP-12
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	04-SEP-12
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	04-SEP-12
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	04-SEP-12
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	04-SEP-12
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	04-SEP-12
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	04-SEP-12
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	04-SEP-12
Potassium (K)-Dissolved			<0.50		mg/L		0.5	04-SEP-12
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	04-SEP-12
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	04-SEP-12
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	04-SEP-12
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	04-SEP-12
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	04-SEP-12
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	04-SEP-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2430778							
WG1539328-5 MB								
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	04-SEP-12
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
WG1539328-9 MB								
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	04-SEP-12
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	04-SEP-12
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	04-SEP-12
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Boron (B)-Dissolved			<0.050		mg/L		0.05	04-SEP-12
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	04-SEP-12
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	04-SEP-12
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	04-SEP-12
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	04-SEP-12
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	04-SEP-12
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	04-SEP-12
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	04-SEP-12
Potassium (K)-Dissolved			<0.50		mg/L		0.5	04-SEP-12
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	04-SEP-12
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	04-SEP-12
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	04-SEP-12
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	04-SEP-12
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	04-SEP-12
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	04-SEP-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2430778							
WG1539328-9	MB							
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	04-SEP-12
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	04-SEP-12
WG1539328-16	MS	L1201429-8						
Aluminum (Al)-Dissolved			94.3		%		70-130	04-SEP-12
Antimony (Sb)-Dissolved			104.8		%		70-130	04-SEP-12
Arsenic (As)-Dissolved			99.9		%		70-130	04-SEP-12
Barium (Ba)-Dissolved			105.8		%		70-130	04-SEP-12
Beryllium (Be)-Dissolved			101.3		%		70-130	04-SEP-12
Bismuth (Bi)-Dissolved			90.5		%		70-130	04-SEP-12
Boron (B)-Dissolved			103.9		%		70-130	04-SEP-12
Cadmium (Cd)-Dissolved			125.4		%		70-130	04-SEP-12
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	04-SEP-12
Chromium (Cr)-Dissolved			100.4		%		70-130	04-SEP-12
Cobalt (Co)-Dissolved			99.5		%		70-130	04-SEP-12
Copper (Cu)-Dissolved			99.0		%		70-130	04-SEP-12
Iron (Fe)-Dissolved			100.1		%		70-130	04-SEP-12
Lead (Pb)-Dissolved			97.2		%		70-130	04-SEP-12
Lithium (Li)-Dissolved			100.7		%		70-130	04-SEP-12
Magnesium (Mg)-Dissolved			N/A	MS-B	%		-	04-SEP-12
Manganese (Mn)-Dissolved			104.8		%		70-130	04-SEP-12
Molybdenum (Mo)-Dissolved			95.9		%		70-130	04-SEP-12
Nickel (Ni)-Dissolved			99.3		%		70-130	04-SEP-12
Potassium (K)-Dissolved			99.4		%		70-130	04-SEP-12
Selenium (Se)-Dissolved			90.3		%		70-130	04-SEP-12
Silver (Ag)-Dissolved			104.5		%		70-130	04-SEP-12
Sodium (Na)-Dissolved			94.1		%		70-130	04-SEP-12
Strontium (Sr)-Dissolved			N/A	MS-B	%		-	04-SEP-12
Tellurium (Te)-Dissolved			107.6		%		70-130	04-SEP-12
Thallium (Tl)-Dissolved			96.5		%		70-130	04-SEP-12
Tin (Sn)-Dissolved			104.0		%		70-130	04-SEP-12
Titanium (Ti)-Dissolved			98.8		%		70-130	04-SEP-12
Tungsten (W)-Dissolved			100.8		%		70-130	04-SEP-12
Uranium (U)-Dissolved			100.3		%		70-130	04-SEP-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2430778							
WG1539328-16 MS		L1201429-8						
Vanadium (V)-Dissolved			99.2		%		70-130	04-SEP-12
Zinc (Zn)-Dissolved			102.6		%		70-130	04-SEP-12
Zirconium (Zr)-Dissolved			95.8		%		70-130	04-SEP-12
WG1539328-4 MS		L1199831-2						
Aluminum (Al)-Dissolved			96.6		%		70-130	04-SEP-12
Antimony (Sb)-Dissolved			106.5		%		70-130	04-SEP-12
Arsenic (As)-Dissolved			100.3		%		70-130	04-SEP-12
Barium (Ba)-Dissolved			99.0		%		70-130	04-SEP-12
Beryllium (Be)-Dissolved			107.1		%		70-130	04-SEP-12
Bismuth (Bi)-Dissolved			93.6		%		70-130	04-SEP-12
Boron (B)-Dissolved			96.8		%		70-130	04-SEP-12
Calcium (Ca)-Dissolved			103.0		%		70-130	04-SEP-12
Chromium (Cr)-Dissolved			104.3		%		70-130	04-SEP-12
Cobalt (Co)-Dissolved			103.7		%		70-130	04-SEP-12
Copper (Cu)-Dissolved			102.3		%		70-130	04-SEP-12
Iron (Fe)-Dissolved			103.3		%		70-130	04-SEP-12
Lead (Pb)-Dissolved			102.5		%		70-130	04-SEP-12
Lithium (Li)-Dissolved			102.6		%		70-130	04-SEP-12
Magnesium (Mg)-Dissolved			99.4		%		70-130	04-SEP-12
Manganese (Mn)-Dissolved			110.6		%		70-130	04-SEP-12
Molybdenum (Mo)-Dissolved			95.9		%		70-130	04-SEP-12
Nickel (Ni)-Dissolved			104.0		%		70-130	04-SEP-12
Potassium (K)-Dissolved			103.6		%		70-130	04-SEP-12
Selenium (Se)-Dissolved			86.9		%		70-130	04-SEP-12
Silver (Ag)-Dissolved			109.6		%		70-130	04-SEP-12
Sodium (Na)-Dissolved			100.7		%		70-130	04-SEP-12
Strontium (Sr)-Dissolved			96.0		%		70-130	04-SEP-12
Tellurium (Te)-Dissolved			104.3		%		70-130	04-SEP-12
Thallium (Tl)-Dissolved			99.5		%		70-130	04-SEP-12
Tin (Sn)-Dissolved			103.2		%		70-130	04-SEP-12
Titanium (Ti)-Dissolved			101.6		%		70-130	04-SEP-12
Tungsten (W)-Dissolved			99.4		%		70-130	04-SEP-12
Uranium (U)-Dissolved			100.9		%		70-130	04-SEP-12
Vanadium (V)-Dissolved			102.9		%		70-130	04-SEP-12



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MET-D-MS-TB								
	Water							
Batch	R2430778							
WG1539328-4 MS		L1199831-2						
Zinc (Zn)-Dissolved			105.1		%		70-130	04-SEP-12
Zirconium (Zr)-Dissolved			94.7		%		70-130	04-SEP-12
WG1539328-8 MS		L1200426-3						
Aluminum (Al)-Dissolved			102.3		%		70-130	04-SEP-12
Antimony (Sb)-Dissolved			104.6		%		70-130	04-SEP-12
Arsenic (As)-Dissolved			117.0		%		70-130	04-SEP-12
Barium (Ba)-Dissolved			N/A	MS-B	%		-	04-SEP-12
Beryllium (Be)-Dissolved			106.0		%		70-130	04-SEP-12
Bismuth (Bi)-Dissolved			94.4		%		70-130	04-SEP-12
Boron (B)-Dissolved			109.6		%		70-130	04-SEP-12
Cadmium (Cd)-Dissolved			128.4		%		70-130	04-SEP-12
Chromium (Cr)-Dissolved			103.2		%		70-130	04-SEP-12
Cobalt (Co)-Dissolved			102.2		%		70-130	04-SEP-12
Copper (Cu)-Dissolved			98.7		%		70-130	04-SEP-12
Iron (Fe)-Dissolved			105.9		%		70-130	04-SEP-12
Lead (Pb)-Dissolved			98.8		%		70-130	04-SEP-12
Lithium (Li)-Dissolved			102.8		%		70-130	04-SEP-12
Magnesium (Mg)-Dissolved			N/A	MS-B	%		-	04-SEP-12
Manganese (Mn)-Dissolved			N/A	MS-B	%		-	04-SEP-12
Molybdenum (Mo)-Dissolved			100.8		%		70-130	04-SEP-12
Nickel (Ni)-Dissolved			97.2		%		70-130	04-SEP-12
Potassium (K)-Dissolved			104.1		%		70-130	04-SEP-12
Selenium (Se)-Dissolved			109.5		%		70-130	04-SEP-12
Silver (Ag)-Dissolved			77.1		%		70-130	04-SEP-12
Sodium (Na)-Dissolved			N/A	MS-B	%		-	04-SEP-12
Strontium (Sr)-Dissolved			N/A	MS-B	%		-	04-SEP-12
Tellurium (Te)-Dissolved			121.6		%		70-130	04-SEP-12
Thallium (Tl)-Dissolved			97.6		%		70-130	04-SEP-12
Tin (Sn)-Dissolved			104.0		%		70-130	04-SEP-12
Titanium (Ti)-Dissolved			102.6		%		70-130	04-SEP-12
Tungsten (W)-Dissolved			101.2		%		70-130	04-SEP-12
Uranium (U)-Dissolved			104.1		%		70-130	04-SEP-12
Vanadium (V)-Dissolved			103.8		%		70-130	04-SEP-12
Zinc (Zn)-Dissolved			101.1		%		70-130	04-SEP-12



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MET-D-MS-TB								
	Water							
Batch	R2430778							
WG1539328-8 MS		L1200426-3						
Zirconium (Zr)-Dissolved			97.1		%		70-130	04-SEP-12
MET-T-MS-TB								
	Water							
Batch	R2426842							
WG1535255-10 LCS								
Aluminum (Al)-Total			88.8		%		80-120	29-AUG-12
Antimony (Sb)-Total			102.4		%		80-120	29-AUG-12
Arsenic (As)-Total			101.1		%		80-120	29-AUG-12
Barium (Ba)-Total			90.5		%		80-120	29-AUG-12
Beryllium (Be)-Total			102.1		%		80-120	29-AUG-12
Bismuth (Bi)-Total			105.2		%		80-120	29-AUG-12
Boron (B)-Total			90.3		%		80-120	29-AUG-12
Cadmium (Cd)-Total			101.6		%		80-120	29-AUG-12
Calcium (Ca)-Total			99.1		%		80-120	29-AUG-12
Chromium (Cr)-Total			102.5		%		80-120	29-AUG-12
Cobalt (Co)-Total			96.8		%		80-120	29-AUG-12
Copper (Cu)-Total			98.8		%		80-120	29-AUG-12
Iron (Fe)-Total			99.9		%		80-120	29-AUG-12
Lead (Pb)-Total			102.8		%		80-120	29-AUG-12
Lithium (Li)-Total			114.9		%		80-120	29-AUG-12
Magnesium (Mg)-Total			96.3		%		80-120	29-AUG-12
Manganese (Mn)-Total			104.2		%		80-120	29-AUG-12
Molybdenum (Mo)-Total			97.8		%		80-120	29-AUG-12
Nickel (Ni)-Total			98.8		%		80-120	29-AUG-12
Potassium (K)-Total			96.7		%		80-120	29-AUG-12
Selenium (Se)-Total			101.7		%		80-120	29-AUG-12
Silver (Ag)-Total			104.3		%		80-120	29-AUG-12
Sodium (Na)-Total			97.0		%		80-120	29-AUG-12
Strontium (Sr)-Total			91.4		%		80-120	29-AUG-12
Tellurium (Te)-Total			102.3		%		80-120	29-AUG-12
Thallium (Tl)-Total			103.6		%		80-120	29-AUG-12
Tin (Sn)-Total			103.8		%		80-120	29-AUG-12
Titanium (Ti)-Total			100.2		%		80-120	29-AUG-12
Tungsten (W)-Total			101.3		%		80-120	29-AUG-12



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MET-T-MS-TB	Water							
Batch	R2426842							
WG1535255-10	LCS							
Uranium (U)-Total			93.9		%		80-120	29-AUG-12
Vanadium (V)-Total			99.4		%		80-120	29-AUG-12
Zinc (Zn)-Total			100.8		%		80-120	29-AUG-12
Zirconium (Zr)-Total			96.1		%		80-120	29-AUG-12
WG1535255-2	LCS							
Aluminum (Al)-Total			90.5		%		80-120	29-AUG-12
Antimony (Sb)-Total			103.3		%		80-120	29-AUG-12
Arsenic (As)-Total			100.4		%		80-120	29-AUG-12
Barium (Ba)-Total			91.5		%		80-120	29-AUG-12
Beryllium (Be)-Total			97.0		%		80-120	29-AUG-12
Bismuth (Bi)-Total			105.9		%		80-120	29-AUG-12
Boron (B)-Total			88.6		%		80-120	29-AUG-12
Cadmium (Cd)-Total			103.5		%		80-120	29-AUG-12
Calcium (Ca)-Total			100.4		%		80-120	29-AUG-12
Chromium (Cr)-Total			104.3		%		80-120	29-AUG-12
Cobalt (Co)-Total			99.3		%		80-120	29-AUG-12
Copper (Cu)-Total			97.0		%		80-120	29-AUG-12
Iron (Fe)-Total			99.7		%		80-120	29-AUG-12
Lead (Pb)-Total			102.0		%		80-120	29-AUG-12
Lithium (Li)-Total			103.9		%		80-120	29-AUG-12
Magnesium (Mg)-Total			97.3		%		80-120	29-AUG-12
Manganese (Mn)-Total			105.6		%		80-120	29-AUG-12
Molybdenum (Mo)-Total			97.2		%		80-120	29-AUG-12
Nickel (Ni)-Total			99.8		%		80-120	29-AUG-12
Potassium (K)-Total			98.2		%		80-120	29-AUG-12
Selenium (Se)-Total			97.1		%		80-120	29-AUG-12
Silver (Ag)-Total			103.1		%		80-120	29-AUG-12
Sodium (Na)-Total			101.2		%		80-120	29-AUG-12
Strontium (Sr)-Total			91.2		%		80-120	29-AUG-12
Tellurium (Te)-Total			108.1		%		80-120	29-AUG-12
Thallium (Tl)-Total			103.3		%		80-120	29-AUG-12
Tin (Sn)-Total			104.0		%		80-120	29-AUG-12
Titanium (Ti)-Total			97.8		%		80-120	29-AUG-12
Tungsten (W)-Total			100.2		%		80-120	29-AUG-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2426842							
WG1535255-2	LCS							
Uranium (U)-Total			94.3		%		80-120	29-AUG-12
Vanadium (V)-Total			100.4		%		80-120	29-AUG-12
Zinc (Zn)-Total			99.6		%		80-120	29-AUG-12
Zirconium (Zr)-Total			96.2		%		80-120	29-AUG-12
WG1535255-6	LCS							
Aluminum (Al)-Total			92.9		%		80-120	29-AUG-12
Antimony (Sb)-Total			104.2		%		80-120	29-AUG-12
Arsenic (As)-Total			103.9		%		80-120	29-AUG-12
Barium (Ba)-Total			92.4		%		80-120	29-AUG-12
Beryllium (Be)-Total			99.96		%		80-120	29-AUG-12
Bismuth (Bi)-Total			103.8		%		80-120	29-AUG-12
Boron (B)-Total			89.3		%		80-120	29-AUG-12
Cadmium (Cd)-Total			105.1		%		80-120	29-AUG-12
Calcium (Ca)-Total			102.8		%		80-120	29-AUG-12
Chromium (Cr)-Total			105.0		%		80-120	29-AUG-12
Cobalt (Co)-Total			100.4		%		80-120	29-AUG-12
Copper (Cu)-Total			101.2		%		80-120	29-AUG-12
Iron (Fe)-Total			100.7		%		80-120	29-AUG-12
Lead (Pb)-Total			101.1		%		80-120	29-AUG-12
Lithium (Li)-Total			99.9		%		80-120	29-AUG-12
Magnesium (Mg)-Total			101.6		%		80-120	29-AUG-12
Manganese (Mn)-Total			108.4		%		80-120	29-AUG-12
Molybdenum (Mo)-Total			101.4		%		80-120	29-AUG-12
Nickel (Ni)-Total			104.4		%		80-120	29-AUG-12
Potassium (K)-Total			100.7		%		80-120	29-AUG-12
Selenium (Se)-Total			95.9		%		80-120	29-AUG-12
Silver (Ag)-Total			107.5		%		80-120	29-AUG-12
Sodium (Na)-Total			103.1		%		80-120	29-AUG-12
Strontium (Sr)-Total			95.3		%		80-120	29-AUG-12
Tellurium (Te)-Total			104.1		%		80-120	29-AUG-12
Thallium (Tl)-Total			103.2		%		80-120	29-AUG-12
Tin (Sn)-Total			105.0		%		80-120	29-AUG-12
Titanium (Ti)-Total			103.1		%		80-120	29-AUG-12
Tungsten (W)-Total			101.4		%		80-120	29-AUG-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2426842							
WG1535255-6	LCS							
Uranium (U)-Total			92.2		%		80-120	29-AUG-12
Vanadium (V)-Total			101.9		%		80-120	29-AUG-12
Zinc (Zn)-Total			101.8		%		80-120	29-AUG-12
Zirconium (Zr)-Total			99.6		%		80-120	29-AUG-12
WG1535255-1	MB							
Aluminum (Al)-Total			<0.0050		mg/L		0.005	29-AUG-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	29-AUG-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	29-AUG-12
Barium (Ba)-Total			<0.010		mg/L		0.01	29-AUG-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	29-AUG-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	29-AUG-12
Boron (B)-Total			<0.050		mg/L		0.05	29-AUG-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	29-AUG-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	29-AUG-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	29-AUG-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	29-AUG-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	29-AUG-12
Iron (Fe)-Total			<0.020		mg/L		0.02	29-AUG-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	29-AUG-12
Lithium (Li)-Total			<0.050		mg/L		0.05	29-AUG-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	29-AUG-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	29-AUG-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	29-AUG-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	29-AUG-12
Potassium (K)-Total			<0.50		mg/L		0.5	29-AUG-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	29-AUG-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	29-AUG-12
Sodium (Na)-Total			<0.10		mg/L		0.1	29-AUG-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	29-AUG-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	29-AUG-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	29-AUG-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	29-AUG-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	29-AUG-12
Tungsten (W)-Total			<0.010		mg/L		0.01	29-AUG-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2426842							
WG1535255-1 MB								
Uranium (U)-Total			<0.0050		mg/L		0.005	29-AUG-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	29-AUG-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	29-AUG-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	29-AUG-12
WG1535255-5 MB								
Aluminum (Al)-Total			<0.0050		mg/L		0.005	29-AUG-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	29-AUG-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	29-AUG-12
Barium (Ba)-Total			<0.010		mg/L		0.01	29-AUG-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	29-AUG-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	29-AUG-12
Boron (B)-Total			<0.050		mg/L		0.05	29-AUG-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	29-AUG-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	29-AUG-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	29-AUG-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	29-AUG-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	29-AUG-12
Iron (Fe)-Total			<0.020		mg/L		0.02	29-AUG-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	29-AUG-12
Lithium (Li)-Total			<0.050		mg/L		0.05	29-AUG-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	29-AUG-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	29-AUG-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	29-AUG-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	29-AUG-12
Potassium (K)-Total			<0.50		mg/L		0.5	29-AUG-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	29-AUG-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	29-AUG-12
Sodium (Na)-Total			<0.10		mg/L		0.1	29-AUG-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	29-AUG-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	29-AUG-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	29-AUG-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	29-AUG-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	29-AUG-12
Tungsten (W)-Total			<0.010		mg/L		0.01	29-AUG-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2426842							
WG1535255-5 MB								
Uranium (U)-Total			<0.0050		mg/L		0.005	29-AUG-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	29-AUG-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	29-AUG-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	29-AUG-12
WG1535255-9 MB								
Aluminum (Al)-Total			<0.0050		mg/L		0.005	29-AUG-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	29-AUG-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	29-AUG-12
Barium (Ba)-Total			<0.010		mg/L		0.01	29-AUG-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	29-AUG-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	29-AUG-12
Boron (B)-Total			<0.050		mg/L		0.05	29-AUG-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	29-AUG-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	29-AUG-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	29-AUG-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	29-AUG-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	29-AUG-12
Iron (Fe)-Total			<0.020		mg/L		0.02	29-AUG-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	29-AUG-12
Lithium (Li)-Total			<0.050		mg/L		0.05	29-AUG-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	29-AUG-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	29-AUG-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	29-AUG-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	29-AUG-12
Potassium (K)-Total			<0.50		mg/L		0.5	29-AUG-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	29-AUG-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	29-AUG-12
Sodium (Na)-Total			<0.10		mg/L		0.1	29-AUG-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	29-AUG-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	29-AUG-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	29-AUG-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	29-AUG-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	29-AUG-12
Tungsten (W)-Total			<0.010		mg/L		0.01	29-AUG-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2426842							
WG1535255-9 MB								
Uranium (U)-Total			<0.0050		mg/L		0.005	29-AUG-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	29-AUG-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	29-AUG-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	29-AUG-12
WG1535255-4 MS		L1199086-1						
Aluminum (Al)-Total			95.5		%		70-130	29-AUG-12
Antimony (Sb)-Total			N/A	MS-B	%		-	29-AUG-12
Arsenic (As)-Total			106.9		%		70-130	29-AUG-12
Barium (Ba)-Total			N/A	MS-B	%		-	29-AUG-12
Beryllium (Be)-Total			108.4		%		70-130	29-AUG-12
Bismuth (Bi)-Total			84.8		%		70-130	29-AUG-12
Boron (B)-Total			N/A	MS-B	%		-	29-AUG-12
Cadmium (Cd)-Total			127.6		%		70-130	29-AUG-12
Calcium (Ca)-Total			N/A	MS-B	%		-	29-AUG-12
Chromium (Cr)-Total			103.2		%		70-130	29-AUG-12
Cobalt (Co)-Total			95.9		%		70-130	29-AUG-12
Copper (Cu)-Total			98.4		%		70-130	29-AUG-12
Iron (Fe)-Total			99.4		%		70-130	29-AUG-12
Lead (Pb)-Total			95.5		%		70-130	29-AUG-12
Lithium (Li)-Total			124.6		%		70-130	29-AUG-12
Magnesium (Mg)-Total			N/A	MS-B	%		-	29-AUG-12
Manganese (Mn)-Total			N/A	MS-B	%		-	29-AUG-12
Molybdenum (Mo)-Total			N/A	MS-B	%		-	29-AUG-12
Nickel (Ni)-Total			93.1		%		70-130	29-AUG-12
Selenium (Se)-Total			102.7		%		70-130	29-AUG-12
Silver (Ag)-Total			99.6		%		70-130	29-AUG-12
Sodium (Na)-Total			N/A	MS-B	%		-	29-AUG-12
Strontium (Sr)-Total			N/A	MS-B	%		-	29-AUG-12
Tellurium (Te)-Total			109.5		%		70-130	29-AUG-12
Thallium (Tl)-Total			88.9		%		70-130	29-AUG-12
Tin (Sn)-Total			105.3		%		70-130	29-AUG-12
Titanium (Ti)-Total			97.7		%		70-130	29-AUG-12
Tungsten (W)-Total			100.3		%		70-130	29-AUG-12
Uranium (U)-Total			93.1		%		70-130	29-AUG-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2426842							
WG1535255-4 MS		L1199086-1						
Vanadium (V)-Total			105.4		%		70-130	29-AUG-12
Zinc (Zn)-Total			98.6		%		70-130	29-AUG-12
Zirconium (Zr)-Total			96.5		%		70-130	29-AUG-12
WG1535255-8 MS		L1199128-11						
Aluminum (Al)-Total			115.0		%		70-130	29-AUG-12
Antimony (Sb)-Total			104.9		%		70-130	29-AUG-12
Arsenic (As)-Total			105.4		%		70-130	29-AUG-12
Barium (Ba)-Total			94.2		%		70-130	29-AUG-12
Beryllium (Be)-Total			110.4		%		70-130	29-AUG-12
Bismuth (Bi)-Total			96.0		%		70-130	29-AUG-12
Boron (B)-Total			107.0		%		70-130	29-AUG-12
Calcium (Ca)-Total			N/A	MS-B	%		-	29-AUG-12
Chromium (Cr)-Total			106.1		%		70-130	29-AUG-12
Cobalt (Co)-Total			100.7		%		70-130	29-AUG-12
Copper (Cu)-Total			101.7		%		70-130	29-AUG-12
Iron (Fe)-Total			100.7		%		70-130	29-AUG-12
Lead (Pb)-Total			106.7		%		70-130	29-AUG-12
Lithium (Li)-Total			123.1		%		70-130	29-AUG-12
Magnesium (Mg)-Total			N/A	MS-B	%		-	29-AUG-12
Manganese (Mn)-Total			108.5		%		70-130	29-AUG-12
Molybdenum (Mo)-Total			101.0		%		70-130	29-AUG-12
Nickel (Ni)-Total			105.0		%		70-130	29-AUG-12
Potassium (K)-Total			101.7		%		70-130	29-AUG-12
Selenium (Se)-Total			105.0		%		70-130	29-AUG-12
Silver (Ag)-Total			108.0		%		70-130	29-AUG-12
Sodium (Na)-Total			98.8		%		70-130	29-AUG-12
Strontium (Sr)-Total			N/A	MS-B	%		-	29-AUG-12
Tellurium (Te)-Total			105.4		%		70-130	29-AUG-12
Thallium (Tl)-Total			94.9		%		70-130	29-AUG-12
Tin (Sn)-Total			105.6		%		70-130	29-AUG-12
Titanium (Ti)-Total			98.6		%		70-130	29-AUG-12
Tungsten (W)-Total			100.8		%		70-130	29-AUG-12
Uranium (U)-Total			104.2		%		70-130	29-AUG-12
Vanadium (V)-Total			104.9		%		70-130	29-AUG-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2426842							
WG1535255-8 MS		L1199128-11						
Zinc (Zn)-Total			103.2		%		70-130	29-AUG-12
Zirconium (Zr)-Total			100.3		%		70-130	29-AUG-12
Batch	R2427823							
WG1536097-10 LCS								
Aluminum (Al)-Total			89.5		%		80-120	30-AUG-12
Antimony (Sb)-Total			102.8		%		80-120	30-AUG-12
Arsenic (As)-Total			99.5		%		80-120	30-AUG-12
Barium (Ba)-Total			97.1		%		80-120	30-AUG-12
Beryllium (Be)-Total			112.4		%		80-120	30-AUG-12
Bismuth (Bi)-Total			102.0		%		80-120	30-AUG-12
Boron (B)-Total			99.4		%		80-120	30-AUG-12
Cadmium (Cd)-Total			101.3		%		80-120	30-AUG-12
Calcium (Ca)-Total			100.6		%		80-120	30-AUG-12
Chromium (Cr)-Total			105.6		%		80-120	30-AUG-12
Cobalt (Co)-Total			102.1		%		80-120	30-AUG-12
Copper (Cu)-Total			97.4		%		80-120	30-AUG-12
Iron (Fe)-Total			103.0		%		80-120	30-AUG-12
Lead (Pb)-Total			99.6		%		80-120	30-AUG-12
Lithium (Li)-Total			106.1		%		80-120	30-AUG-12
Magnesium (Mg)-Total			98.4		%		80-120	30-AUG-12
Manganese (Mn)-Total			102.7		%		80-120	30-AUG-12
Molybdenum (Mo)-Total			100.6		%		80-120	30-AUG-12
Nickel (Ni)-Total			98.9		%		80-120	30-AUG-12
Potassium (K)-Total			99.3		%		80-120	30-AUG-12
Selenium (Se)-Total			94.7		%		80-120	30-AUG-12
Silver (Ag)-Total			100.9		%		80-120	30-AUG-12
Sodium (Na)-Total			99.1		%		80-120	30-AUG-12
Strontium (Sr)-Total			94.6		%		80-120	30-AUG-12
Tellurium (Te)-Total			100.5		%		80-120	30-AUG-12
Thallium (Tl)-Total			102.0		%		80-120	30-AUG-12
Tin (Sn)-Total			101.9		%		80-120	30-AUG-12
Titanium (Ti)-Total			102.6		%		80-120	30-AUG-12
Tungsten (W)-Total			98.6		%		80-120	30-AUG-12
Uranium (U)-Total			93.5		%		80-120	30-AUG-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2427823							
WG1536097-10	LCS							
Vanadium (V)-Total			104.4		%		80-120	30-AUG-12
Zinc (Zn)-Total			100.5		%		80-120	30-AUG-12
Zirconium (Zr)-Total			95.4		%		80-120	30-AUG-12
WG1536097-2	LCS							
Aluminum (Al)-Total			84.1		%		80-120	30-AUG-12
Antimony (Sb)-Total			97.4		%		80-120	30-AUG-12
Arsenic (As)-Total			92.3		%		80-120	30-AUG-12
Barium (Ba)-Total			92.3		%		80-120	30-AUG-12
Beryllium (Be)-Total			93.8		%		80-120	30-AUG-12
Bismuth (Bi)-Total			96.0		%		80-120	30-AUG-12
Boron (B)-Total			90.9		%		80-120	30-AUG-12
Cadmium (Cd)-Total			96.9		%		80-120	30-AUG-12
Calcium (Ca)-Total			94.5		%		80-120	30-AUG-12
Chromium (Cr)-Total			98.8		%		80-120	30-AUG-12
Cobalt (Co)-Total			95.4		%		80-120	30-AUG-12
Copper (Cu)-Total			91.7		%		80-120	30-AUG-12
Iron (Fe)-Total			92.4		%		80-120	30-AUG-12
Lead (Pb)-Total			96.0		%		80-120	30-AUG-12
Lithium (Li)-Total			91.8		%		80-120	30-AUG-12
Magnesium (Mg)-Total			91.9		%		80-120	30-AUG-12
Manganese (Mn)-Total			95.9		%		80-120	30-AUG-12
Molybdenum (Mo)-Total			91.7		%		80-120	30-AUG-12
Nickel (Ni)-Total			94.1		%		80-120	30-AUG-12
Potassium (K)-Total			93.5		%		80-120	30-AUG-12
Selenium (Se)-Total			90.1		%		80-120	30-AUG-12
Silver (Ag)-Total			94.5		%		80-120	30-AUG-12
Sodium (Na)-Total			88.4		%		80-120	30-AUG-12
Strontium (Sr)-Total			86.9		%		80-120	30-AUG-12
Tellurium (Te)-Total			97.1		%		80-120	30-AUG-12
Thallium (Tl)-Total			95.8		%		80-120	30-AUG-12
Tin (Sn)-Total			96.0		%		80-120	30-AUG-12
Titanium (Ti)-Total			96.3		%		80-120	30-AUG-12
Tungsten (W)-Total			94.3		%		80-120	30-AUG-12
Uranium (U)-Total			90.9		%		80-120	30-AUG-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2427823							
WG1536097-2	LCS							
Vanadium (V)-Total			95.9		%		80-120	30-AUG-12
Zinc (Zn)-Total			95.2		%		80-120	30-AUG-12
Zirconium (Zr)-Total			87.9		%		80-120	30-AUG-12
WG1536097-6	LCS							
Aluminum (Al)-Total			87.1		%		80-120	30-AUG-12
Antimony (Sb)-Total			96.7		%		80-120	30-AUG-12
Arsenic (As)-Total			94.9		%		80-120	30-AUG-12
Barium (Ba)-Total			91.8		%		80-120	30-AUG-12
Beryllium (Be)-Total			95.2		%		80-120	30-AUG-12
Bismuth (Bi)-Total			95.4		%		80-120	30-AUG-12
Boron (B)-Total			92.8		%		80-120	30-AUG-12
Cadmium (Cd)-Total			96.3		%		80-120	30-AUG-12
Calcium (Ca)-Total			95.7		%		80-120	30-AUG-12
Chromium (Cr)-Total			101.0		%		80-120	30-AUG-12
Cobalt (Co)-Total			97.8		%		80-120	30-AUG-12
Copper (Cu)-Total			95.6		%		80-120	30-AUG-12
Iron (Fe)-Total			98.1		%		80-120	30-AUG-12
Lead (Pb)-Total			94.6		%		80-120	30-AUG-12
Lithium (Li)-Total			97.9		%		80-120	30-AUG-12
Magnesium (Mg)-Total			96.2		%		80-120	30-AUG-12
Manganese (Mn)-Total			99.4		%		80-120	30-AUG-12
Molybdenum (Mo)-Total			94.4		%		80-120	30-AUG-12
Nickel (Ni)-Total			94.6		%		80-120	30-AUG-12
Potassium (K)-Total			96.4		%		80-120	30-AUG-12
Selenium (Se)-Total			92.0		%		80-120	30-AUG-12
Silver (Ag)-Total			94.7		%		80-120	30-AUG-12
Sodium (Na)-Total			94.6		%		80-120	30-AUG-12
Strontium (Sr)-Total			89.1		%		80-120	30-AUG-12
Tellurium (Te)-Total			95.3		%		80-120	30-AUG-12
Thallium (Tl)-Total			95.2		%		80-120	30-AUG-12
Tin (Sn)-Total			94.9		%		80-120	30-AUG-12
Titanium (Ti)-Total			95.9		%		80-120	30-AUG-12
Tungsten (W)-Total			93.5		%		80-120	30-AUG-12
Uranium (U)-Total			89.9		%		80-120	30-AUG-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB	Water							
Batch	R2427823							
WG1536097-6	LCS							
Vanadium (V)-Total			97.7		%		80-120	30-AUG-12
Zinc (Zn)-Total			97.4		%		80-120	30-AUG-12
Zirconium (Zr)-Total			91.2		%		80-120	30-AUG-12
WG1536097-1	MB							
Aluminum (Al)-Total			<0.0050		mg/L		0.005	30-AUG-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	30-AUG-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	30-AUG-12
Barium (Ba)-Total			<0.010		mg/L		0.01	30-AUG-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	30-AUG-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	30-AUG-12
Boron (B)-Total			<0.050		mg/L		0.05	30-AUG-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	30-AUG-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	30-AUG-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	30-AUG-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	30-AUG-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	30-AUG-12
Iron (Fe)-Total			<0.020		mg/L		0.02	30-AUG-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	30-AUG-12
Lithium (Li)-Total			<0.050		mg/L		0.05	30-AUG-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	30-AUG-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	30-AUG-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	30-AUG-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	30-AUG-12
Potassium (K)-Total			<0.50		mg/L		0.5	30-AUG-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	30-AUG-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	30-AUG-12
Sodium (Na)-Total			<0.10		mg/L		0.1	30-AUG-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	30-AUG-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	30-AUG-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	30-AUG-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	30-AUG-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	30-AUG-12
Tungsten (W)-Total			<0.010		mg/L		0.01	30-AUG-12
Uranium (U)-Total			<0.0050		mg/L		0.005	30-AUG-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB	Water							
Batch	R2427823							
WG1536097-1 MB								
Vanadium (V)-Total			<0.0010		mg/L		0.001	30-AUG-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	30-AUG-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	30-AUG-12
WG1536097-5 MB								
Aluminum (Al)-Total			<0.0050		mg/L		0.005	30-AUG-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	30-AUG-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	30-AUG-12
Barium (Ba)-Total			<0.010		mg/L		0.01	30-AUG-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	30-AUG-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	30-AUG-12
Boron (B)-Total			<0.050		mg/L		0.05	30-AUG-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	30-AUG-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	30-AUG-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	30-AUG-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	30-AUG-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	30-AUG-12
Iron (Fe)-Total			<0.020		mg/L		0.02	30-AUG-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	30-AUG-12
Lithium (Li)-Total			<0.050		mg/L		0.05	30-AUG-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	30-AUG-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	30-AUG-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	30-AUG-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	30-AUG-12
Potassium (K)-Total			<0.50		mg/L		0.5	30-AUG-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	30-AUG-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	30-AUG-12
Sodium (Na)-Total			<0.10		mg/L		0.1	30-AUG-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	30-AUG-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	30-AUG-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	30-AUG-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	30-AUG-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	30-AUG-12
Tungsten (W)-Total			<0.010		mg/L		0.01	30-AUG-12
Uranium (U)-Total			<0.0050		mg/L		0.005	30-AUG-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB	Water							
Batch	R2427823							
WG1536097-5 MB								
Vanadium (V)-Total			<0.0010		mg/L		0.001	30-AUG-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	30-AUG-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	30-AUG-12
WG1536097-9 MB								
Aluminum (Al)-Total			<0.0050		mg/L		0.005	30-AUG-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	30-AUG-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	30-AUG-12
Barium (Ba)-Total			<0.010		mg/L		0.01	30-AUG-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	30-AUG-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	30-AUG-12
Boron (B)-Total			<0.050		mg/L		0.05	30-AUG-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	30-AUG-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	30-AUG-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	30-AUG-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	30-AUG-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	30-AUG-12
Iron (Fe)-Total			<0.020		mg/L		0.02	30-AUG-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	30-AUG-12
Lithium (Li)-Total			<0.050		mg/L		0.05	30-AUG-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	30-AUG-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	30-AUG-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	30-AUG-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	30-AUG-12
Potassium (K)-Total			<0.50		mg/L		0.5	30-AUG-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	30-AUG-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	30-AUG-12
Sodium (Na)-Total			<0.10		mg/L		0.1	30-AUG-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	30-AUG-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	30-AUG-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	30-AUG-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	30-AUG-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	30-AUG-12
Tungsten (W)-Total			<0.010		mg/L		0.01	30-AUG-12
Uranium (U)-Total			<0.0050		mg/L		0.005	30-AUG-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2427823							
WG1536097-9 MB								
Vanadium (V)-Total			<0.0010		mg/L		0.001	30-AUG-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	30-AUG-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	30-AUG-12
WG1536097-12 MS		L1200564-6						
Aluminum (Al)-Total			101.6		%		70-130	30-AUG-12
Antimony (Sb)-Total			104.5		%		70-130	30-AUG-12
Arsenic (As)-Total			109.2		%		70-130	30-AUG-12
Barium (Ba)-Total			N/A	MS-B	%		-	30-AUG-12
Beryllium (Be)-Total			122.1		%		70-130	30-AUG-12
Bismuth (Bi)-Total			91.8		%		70-130	30-AUG-12
Boron (B)-Total			N/A	MS-B	%		-	30-AUG-12
Cadmium (Cd)-Total			124.6		%		70-130	30-AUG-12
Calcium (Ca)-Total			N/A	MS-B	%		-	30-AUG-12
Chromium (Cr)-Total			117.5		%		70-130	30-AUG-12
Cobalt (Co)-Total			129.3		%		70-130	30-AUG-12
Copper (Cu)-Total			93.9		%		70-130	30-AUG-12
Lead (Pb)-Total			96.8		%		70-130	30-AUG-12
Magnesium (Mg)-Total			N/A	MS-B	%		-	30-AUG-12
Manganese (Mn)-Total			N/A	MS-B	%		-	30-AUG-12
Molybdenum (Mo)-Total			112.1		%		70-130	30-AUG-12
Nickel (Ni)-Total			95.7		%		70-130	30-AUG-12
Potassium (K)-Total			N/A	MS-B	%		-	30-AUG-12
Selenium (Se)-Total			109.3		%		70-130	30-AUG-12
Silver (Ag)-Total			96.3		%		70-130	30-AUG-12
Sodium (Na)-Total			N/A	MS-B	%		-	30-AUG-12
Strontium (Sr)-Total			N/A	MS-B	%		-	30-AUG-12
Tellurium (Te)-Total			111.4		%		70-130	30-AUG-12
Thallium (Tl)-Total			95.2		%		70-130	30-AUG-12
Tin (Sn)-Total			100.9		%		70-130	30-AUG-12
Tungsten (W)-Total			100.4		%		70-130	30-AUG-12
Vanadium (V)-Total			122.9		%		70-130	30-AUG-12
Zinc (Zn)-Total			99.0		%		70-130	30-AUG-12
Zirconium (Zr)-Total			94.3		%		70-130	30-AUG-12
WG1536097-8 MS		L1200045-3						



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2427823							
WG1536097-8 MS		L1200045-3						
Aluminum (Al)-Total			123.1		%		70-130	30-AUG-12
Antimony (Sb)-Total			103.2		%		70-130	30-AUG-12
Arsenic (As)-Total			109.7		%		70-130	30-AUG-12
Barium (Ba)-Total			N/A	MS-B	%		-	30-AUG-12
Beryllium (Be)-Total			113.3		%		70-130	30-AUG-12
Bismuth (Bi)-Total			97.0		%		70-130	30-AUG-12
Boron (B)-Total			119.4		%		70-130	30-AUG-12
Cadmium (Cd)-Total			126.3		%		70-130	30-AUG-12
Calcium (Ca)-Total			N/A	MS-B	%		-	30-AUG-12
Chromium (Cr)-Total			107.9		%		70-130	30-AUG-12
Cobalt (Co)-Total			103.1		%		70-130	30-AUG-12
Copper (Cu)-Total			98.1		%		70-130	30-AUG-12
Iron (Fe)-Total			111.2		%		70-130	30-AUG-12
Lead (Pb)-Total			99.0		%		70-130	30-AUG-12
Lithium (Li)-Total			125.8		%		70-130	30-AUG-12
Magnesium (Mg)-Total			N/A	MS-B	%		-	30-AUG-12
Manganese (Mn)-Total			124.7		%		70-130	30-AUG-12
Molybdenum (Mo)-Total			99.8		%		70-130	30-AUG-12
Nickel (Ni)-Total			94.8		%		70-130	30-AUG-12
Potassium (K)-Total			N/A	MS-B	%		-	30-AUG-12
Selenium (Se)-Total			95.2		%		70-130	30-AUG-12
Silver (Ag)-Total			101.5		%		70-130	30-AUG-12
Sodium (Na)-Total			121.9		%		70-130	30-AUG-12
Strontium (Sr)-Total			N/A	MS-B	%		-	30-AUG-12
Tellurium (Te)-Total			100.2		%		70-130	30-AUG-12
Thallium (Tl)-Total			98.2		%		70-130	30-AUG-12
Tin (Sn)-Total			102.0		%		70-130	30-AUG-12
Titanium (Ti)-Total			115.3		%		70-130	30-AUG-12
Tungsten (W)-Total			100.7		%		70-130	30-AUG-12
Vanadium (V)-Total			108.7		%		70-130	30-AUG-12
Zinc (Zn)-Total			100.4		%		70-130	30-AUG-12
Zirconium (Zr)-Total			92.5		%		70-130	30-AUG-12



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MET-T-MS-TB								
	Water							
Batch	R2427839							
WG1535255-11	DUP	L1199233-9						
Aluminum (Al)-Total		0.0540	0.0557		mg/L	3.1	20	30-AUG-12
Antimony (Sb)-Total		<0.00060	<0.00060	RPD-NA	mg/L	N/A	20	30-AUG-12
Arsenic (As)-Total		0.0011	0.0011		mg/L	3.4	20	30-AUG-12
Barium (Ba)-Total		0.015	0.015		mg/L	1.3	20	30-AUG-12
Beryllium (Be)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	30-AUG-12
Bismuth (Bi)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	30-AUG-12
Boron (B)-Total		<0.050	<0.050	RPD-NA	mg/L	N/A	20	30-AUG-12
Cadmium (Cd)-Total		<0.000017	<0.000017	RPD-NA	mg/L	N/A	20	30-AUG-12
Calcium (Ca)-Total		19.1	19.5		mg/L	2.0	20	30-AUG-12
Chromium (Cr)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	30-AUG-12
Cobalt (Co)-Total		0.00411	0.00421		mg/L	2.4	20	30-AUG-12
Copper (Cu)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	30-AUG-12
Iron (Fe)-Total		3.97	4.03		mg/L	1.7	20	30-AUG-12
Lead (Pb)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	30-AUG-12
Lithium (Li)-Total		<0.050	<0.050	RPD-NA	mg/L	N/A	20	30-AUG-12
Magnesium (Mg)-Total		4.23	4.25		mg/L	0.5	20	30-AUG-12
Manganese (Mn)-Total		1.86	1.87		mg/L	0.4	20	30-AUG-12
Molybdenum (Mo)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	30-AUG-12
Nickel (Ni)-Total		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	30-AUG-12
Potassium (K)-Total		<0.50	<0.50	RPD-NA	mg/L	N/A	20	30-AUG-12
Selenium (Se)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	30-AUG-12
Silver (Ag)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	30-AUG-12
Sodium (Na)-Total		1.21	1.21		mg/L	0.6	20	30-AUG-12
Strontium (Sr)-Total		0.0444	0.0457		mg/L	2.9	20	30-AUG-12
Tellurium (Te)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	30-AUG-12
Thallium (Tl)-Total		<0.00030	<0.00030	RPD-NA	mg/L	N/A	20	30-AUG-12
Tin (Sn)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	30-AUG-12
Titanium (Ti)-Total		<0.0020	0.0020	RPD-NA	mg/L	N/A	20	30-AUG-12
Tungsten (W)-Total		<0.010	<0.010	RPD-NA	mg/L	N/A	20	30-AUG-12
Uranium (U)-Total		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	30-AUG-12
Vanadium (V)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	30-AUG-12
Zinc (Zn)-Total		<0.0030	<0.0030	RPD-NA	mg/L	N/A	20	30-AUG-12
Zirconium (Zr)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	30-AUG-12
WG1535255-14	LCS							



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2427839							
WG1535255-14	LCS							
Aluminum (Al)-Total			91.5		%		80-120	30-AUG-12
Antimony (Sb)-Total			104.4		%		80-120	30-AUG-12
Arsenic (As)-Total			98.4		%		80-120	30-AUG-12
Barium (Ba)-Total			99.0		%		80-120	30-AUG-12
Beryllium (Be)-Total			103.8		%		80-120	30-AUG-12
Bismuth (Bi)-Total			101.5		%		80-120	30-AUG-12
Boron (B)-Total			93.8		%		80-120	30-AUG-12
Cadmium (Cd)-Total			102.9		%		80-120	30-AUG-12
Calcium (Ca)-Total			100.0		%		80-120	30-AUG-12
Chromium (Cr)-Total			104.4		%		80-120	30-AUG-12
Cobalt (Co)-Total			100.8		%		80-120	30-AUG-12
Copper (Cu)-Total			98.0		%		80-120	30-AUG-12
Iron (Fe)-Total			98.1		%		80-120	30-AUG-12
Lead (Pb)-Total			101.6		%		80-120	30-AUG-12
Lithium (Li)-Total			102.2		%		80-120	30-AUG-12
Magnesium (Mg)-Total			100.6		%		80-120	30-AUG-12
Manganese (Mn)-Total			103.4		%		80-120	30-AUG-12
Molybdenum (Mo)-Total			99.0		%		80-120	30-AUG-12
Nickel (Ni)-Total			99.4		%		80-120	30-AUG-12
Potassium (K)-Total			100.6		%		80-120	30-AUG-12
Selenium (Se)-Total			96.7		%		80-120	30-AUG-12
Silver (Ag)-Total			100.9		%		80-120	30-AUG-12
Sodium (Na)-Total			96.1		%		80-120	30-AUG-12
Strontium (Sr)-Total			92.4		%		80-120	30-AUG-12
Tellurium (Te)-Total			102.2		%		80-120	30-AUG-12
Thallium (Tl)-Total			102.8		%		80-120	30-AUG-12
Tin (Sn)-Total			102.0		%		80-120	30-AUG-12
Titanium (Ti)-Total			103.5		%		80-120	30-AUG-12
Tungsten (W)-Total			99.1		%		80-120	30-AUG-12
Uranium (U)-Total			94.9		%		80-120	30-AUG-12
Vanadium (V)-Total			100.8		%		80-120	30-AUG-12
Zinc (Zn)-Total			101.6		%		80-120	30-AUG-12
Zirconium (Zr)-Total			94.8		%		80-120	30-AUG-12
WG1535255-13	MB							



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB	Water							
Batch	R2427839							
WG1535255-13 MB								
Aluminum (Al)-Total			<0.0050		mg/L		0.005	30-AUG-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	30-AUG-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	30-AUG-12
Barium (Ba)-Total			<0.010		mg/L		0.01	30-AUG-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	30-AUG-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	30-AUG-12
Boron (B)-Total			<0.050		mg/L		0.05	30-AUG-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	30-AUG-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	30-AUG-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	30-AUG-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	30-AUG-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	30-AUG-12
Iron (Fe)-Total			0.041	A	mg/L		0.02	30-AUG-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	30-AUG-12
Lithium (Li)-Total			<0.050		mg/L		0.05	30-AUG-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	30-AUG-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	30-AUG-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	30-AUG-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	30-AUG-12
Potassium (K)-Total			<0.50		mg/L		0.5	30-AUG-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	30-AUG-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	30-AUG-12
Sodium (Na)-Total			<0.10		mg/L		0.1	30-AUG-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	30-AUG-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	30-AUG-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	30-AUG-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	30-AUG-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	30-AUG-12
Tungsten (W)-Total			<0.010		mg/L		0.01	30-AUG-12
Uranium (U)-Total			<0.0050		mg/L		0.005	30-AUG-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	30-AUG-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	30-AUG-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	30-AUG-12

COMMENTS: No Fe samples <5x LOR in run.

WG1535255-12 MS

L1199233-9



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MET-T-MS-TB	Water							
Batch	R2427839							
WG1535255-12 MS		L1199233-9						
Aluminum (Al)-Total			96.1		%		70-130	30-AUG-12
Antimony (Sb)-Total			103.4		%		70-130	30-AUG-12
Arsenic (As)-Total			99.5		%		70-130	30-AUG-12
Barium (Ba)-Total			98.6		%		70-130	30-AUG-12
Beryllium (Be)-Total			113.2		%		70-130	30-AUG-12
Bismuth (Bi)-Total			100.4		%		70-130	30-AUG-12
Boron (B)-Total			103.8		%		70-130	30-AUG-12
Calcium (Ca)-Total			N/A	MS-B	%		-	30-AUG-12
Chromium (Cr)-Total			104.2		%		70-130	30-AUG-12
Cobalt (Co)-Total			102.5		%		70-130	30-AUG-12
Copper (Cu)-Total			102.6		%		70-130	30-AUG-12
Iron (Fe)-Total			N/A	MS-B	%		-	30-AUG-12
Lead (Pb)-Total			102.9		%		70-130	30-AUG-12
Lithium (Li)-Total			120.2		%		70-130	30-AUG-12
Magnesium (Mg)-Total			N/A	MS-B	%		-	30-AUG-12
Manganese (Mn)-Total			N/A	MS-B	%		-	30-AUG-12
Molybdenum (Mo)-Total			99.4		%		70-130	30-AUG-12
Nickel (Ni)-Total			101.6		%		70-130	30-AUG-12
Potassium (K)-Total			107.5		%		70-130	30-AUG-12
Selenium (Se)-Total			105.2		%		70-130	30-AUG-12
Silver (Ag)-Total			104.3		%		70-130	30-AUG-12
Sodium (Na)-Total			88.8		%		70-130	30-AUG-12
Strontium (Sr)-Total			N/A	MS-B	%		-	30-AUG-12
Tellurium (Te)-Total			102.8		%		70-130	30-AUG-12
Thallium (Tl)-Total			101.6		%		70-130	30-AUG-12
Tin (Sn)-Total			103.2		%		70-130	30-AUG-12
Titanium (Ti)-Total			105.6		%		70-130	30-AUG-12
Tungsten (W)-Total			100.1		%		70-130	30-AUG-12
Uranium (U)-Total			103.2		%		70-130	30-AUG-12
Vanadium (V)-Total			105.1		%		70-130	30-AUG-12
Zinc (Zn)-Total			102.7		%		70-130	30-AUG-12
Zirconium (Zr)-Total			95.7		%		70-130	30-AUG-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2430558							
WG1536097-14 LCS								
Aluminum (Al)-Total			93.6		%		80-120	04-SEP-12
Antimony (Sb)-Total			106.2		%		80-120	04-SEP-12
Arsenic (As)-Total			106.2		%		80-120	04-SEP-12
Barium (Ba)-Total			99.6		%		80-120	04-SEP-12
Beryllium (Be)-Total			97.7		%		80-120	04-SEP-12
Bismuth (Bi)-Total			103.4		%		80-120	04-SEP-12
Boron (B)-Total			91.3		%		80-120	04-SEP-12
Cadmium (Cd)-Total			105.3		%		80-120	04-SEP-12
Calcium (Ca)-Total			99.6		%		80-120	04-SEP-12
Chromium (Cr)-Total			101.9		%		80-120	04-SEP-12
Cobalt (Co)-Total			99.0		%		80-120	04-SEP-12
Copper (Cu)-Total			100.9		%		80-120	04-SEP-12
Iron (Fe)-Total			109.7		%		80-120	04-SEP-12
Lead (Pb)-Total			102.5		%		80-120	04-SEP-12
Lithium (Li)-Total			99.3		%		80-120	04-SEP-12
Magnesium (Mg)-Total			98.9		%		80-120	04-SEP-12
Manganese (Mn)-Total			104.0		%		80-120	04-SEP-12
Molybdenum (Mo)-Total			104.4		%		80-120	04-SEP-12
Nickel (Ni)-Total			103.0		%		80-120	04-SEP-12
Potassium (K)-Total			100.4		%		80-120	04-SEP-12
Selenium (Se)-Total			102.7		%		80-120	04-SEP-12
Silver (Ag)-Total			107.6		%		80-120	04-SEP-12
Sodium (Na)-Total			100.2		%		80-120	04-SEP-12
Strontium (Sr)-Total			99.5		%		80-120	04-SEP-12
Tellurium (Te)-Total			108.2		%		80-120	04-SEP-12
Thallium (Tl)-Total			103.8		%		80-120	04-SEP-12
Tin (Sn)-Total			105.0		%		80-120	04-SEP-12
Titanium (Ti)-Total			101.6		%		80-120	04-SEP-12
Tungsten (W)-Total			102.1		%		80-120	04-SEP-12
Uranium (U)-Total			100.6		%		80-120	04-SEP-12
Vanadium (V)-Total			101.0		%		80-120	04-SEP-12
Zinc (Zn)-Total			104.4		%		80-120	04-SEP-12
Zirconium (Zr)-Total			99.4		%		80-120	04-SEP-12
WG1536097-13 MB								



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2430558							
WG1536097-13 MB								
Aluminum (Al)-Total			<0.0050		mg/L		0.005	04-SEP-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	04-SEP-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	04-SEP-12
Barium (Ba)-Total			<0.010		mg/L		0.01	04-SEP-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	04-SEP-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	04-SEP-12
Boron (B)-Total			<0.050		mg/L		0.05	04-SEP-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	04-SEP-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	04-SEP-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	04-SEP-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	04-SEP-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	04-SEP-12
Iron (Fe)-Total			<0.020		mg/L		0.02	04-SEP-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	04-SEP-12
Lithium (Li)-Total			<0.050		mg/L		0.05	04-SEP-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	04-SEP-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	04-SEP-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	04-SEP-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	04-SEP-12
Potassium (K)-Total			<0.50		mg/L		0.5	04-SEP-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	04-SEP-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	04-SEP-12
Sodium (Na)-Total			<0.10		mg/L		0.1	04-SEP-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	04-SEP-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	04-SEP-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	04-SEP-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	04-SEP-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	04-SEP-12
Tungsten (W)-Total			<0.010		mg/L		0.01	04-SEP-12
Uranium (U)-Total			<0.0050		mg/L		0.005	04-SEP-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	04-SEP-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	04-SEP-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	04-SEP-12

NH3-COL-TB

Water

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NH3-COL-TB								
Water								
Batch	R2426382							
WG1535176-10	LCS							
Ammonia, Total (as N)			97.0		%		85-115	28-AUG-12
WG1535176-2	LCS							
Ammonia, Total (as N)			96.6		%		85-115	28-AUG-12
WG1535176-6	LCS							
Ammonia, Total (as N)			97.7		%		85-115	28-AUG-12
WG1535176-1	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	28-AUG-12
WG1535176-5	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	28-AUG-12
WG1535176-9	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	28-AUG-12
WG1535176-12	MS	L1199180-18						
Ammonia, Total (as N)			117.1		%		75-125	28-AUG-12
WG1535176-4	MS	L1199075-1						
Ammonia, Total (as N)			88.5		%		75-125	28-AUG-12
WG1535176-8	MS	L1199114-10						
Ammonia, Total (as N)			98.2		%		75-125	28-AUG-12
NO2-IC-TB								
Water								
Batch	R2424550							
WG1534702-15	DUP	L1199233-1						
Nitrite (as N)		<0.020	<0.020	RPD-NA	mg/L	N/A	20	24-AUG-12
WG1534702-10	LCS							
Nitrite (as N)			94.9		%		90-110	24-AUG-12
WG1534702-14	LCS							
Nitrite (as N)			96.2		%		90-110	24-AUG-12
WG1534702-18	LCS							
Nitrite (as N)			98.1		%		90-110	24-AUG-12
WG1534702-2	LCS							
Nitrite (as N)			93.3		%		90-110	24-AUG-12
WG1534702-22	LCS							
Nitrite (as N)			96.4		%		90-110	24-AUG-12
WG1534702-6	LCS							
Nitrite (as N)			94.5		%		90-110	24-AUG-12
WG1534702-1	MB							
Nitrite (as N)			<0.020		mg/L		0.02	24-AUG-12
WG1534702-13	MB							
Nitrite (as N)			<0.020		mg/L		0.02	24-AUG-12
WG1534702-17	MB							



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NO2-IC-TB								
	Water							
Batch	R2424550							
WG1534702-17	MB							
Nitrite (as N)			<0.020		mg/L		0.02	24-AUG-12
WG1534702-21	MB							
Nitrite (as N)			<0.020		mg/L		0.02	24-AUG-12
WG1534702-5	MB							
Nitrite (as N)			<0.020		mg/L		0.02	24-AUG-12
WG1534702-9	MB							
Nitrite (as N)			<0.020		mg/L		0.02	24-AUG-12
WG1534702-12	MS	L1199180-7						
Nitrite (as N)			94.0		%		75-115	24-AUG-12
WG1534702-16	MS	L1199233-1						
Nitrite (as N)			100.4		%		75-115	24-AUG-12
WG1534702-20	MS	L1199413-1						
Nitrite (as N)			97.4		%		75-115	24-AUG-12
WG1534702-4	MS	L1199105-2						
Nitrite (as N)			99.2		%		75-115	24-AUG-12
WG1534702-8	MS	L1199128-3						
Nitrite (as N)			101.8		%		75-115	24-AUG-12
NO3-IC-TB								
	Water							
Batch	R2424550							
WG1534702-15	DUP	L1199233-1						
Nitrate (as N)		<0.030	<0.030	RPD-NA	mg/L	N/A	20	24-AUG-12
WG1534702-10	LCS							
Nitrate (as N)			101.4		%		90-110	24-AUG-12
WG1534702-14	LCS							
Nitrate (as N)			101.5		%		90-110	24-AUG-12
WG1534702-18	LCS							
Nitrate (as N)			102.1		%		90-110	24-AUG-12
WG1534702-2	LCS							
Nitrate (as N)			101.2		%		90-110	24-AUG-12
WG1534702-22	LCS							
Nitrate (as N)			100.4		%		90-110	24-AUG-12
WG1534702-6	LCS							
Nitrate (as N)			98.3		%		90-110	24-AUG-12
WG1534702-1	MB							
Nitrate (as N)			<0.030		mg/L		0.03	24-AUG-12
WG1534702-13	MB							
Nitrate (as N)			<0.030		mg/L		0.03	24-AUG-12
WG1534702-17	MB							



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NO3-IC-TB								
Water								
Batch	R2424550							
WG1534702-17	MB							
Nitrate (as N)			<0.030		mg/L		0.03	24-AUG-12
WG1534702-21	MB							
Nitrate (as N)			<0.030		mg/L		0.03	24-AUG-12
WG1534702-5	MB							
Nitrate (as N)			<0.030		mg/L		0.03	24-AUG-12
WG1534702-9	MB							
Nitrate (as N)			<0.030		mg/L		0.03	24-AUG-12
WG1534702-12	MS	L1199180-7						
Nitrate (as N)			98.4		%		75-125	24-AUG-12
WG1534702-16	MS	L1199233-1						
Nitrate (as N)			105.0		%		75-125	24-AUG-12
WG1534702-20	MS	L1199413-1						
Nitrate (as N)			102.7		%		75-125	24-AUG-12
WG1534702-4	MS	L1199105-2						
Nitrate (as N)			100.3		%		75-125	24-AUG-12
WG1534702-8	MS	L1199128-3						
Nitrate (as N)			102.8		%		75-125	24-AUG-12
OGG-TOT-WT								
Water								
Batch	R2425136							
WG1534340-2	LCS							
Oil and Grease, Total			77.8		%		75-120	27-AUG-12
WG1534340-3	LCSD	WG1534340-2						
Oil and Grease, Total		77.8	83		%	6.8	45	27-AUG-12
WG1534340-1	MB							
Oil and Grease, Total			<2.0		mg/L		2	27-AUG-12
Batch	R2425707							
WG1535203-2	LCS							
Oil and Grease, Total			88.6		%		75-120	28-AUG-12
WG1535203-3	LCSD	WG1535203-2						
Oil and Grease, Total		88.6	93		%	4.5	45	28-AUG-12
WG1535203-1	MB							
Oil and Grease, Total			<2.0		mg/L		2	28-AUG-12
P-T-COL-TB								
Water								
Batch	R2427081							
WG1536441-3	DUP	L1199233-1						
Phosphorus (P)-Total		0.0080	0.0085		mg/L	6.3	20	29-AUG-12
WG1536441-2	LCS							



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
P-T-COL-TB								
Batch R2427081								
WG1536441-2	LCS							
Phosphorus (P)-Total			95.4		%		80-120	29-AUG-12
WG1536441-1	MB							
Phosphorus (P)-Total			<0.0050		mg/L		0.005	29-AUG-12
WG1536441-4	MS	L1199233-1						
Phosphorus (P)-Total			80.0		%		70-130	29-AUG-12
PH-CAP-TB								
Batch R2424516								
WG1534369-6	DUP	L1199233-17						
pH		7.17	7.18	J	pH	0.01	0.2	24-AUG-12
WG1534369-2	LCS							
pH			5.99		pH		5.9-6.1	24-AUG-12
WG1534369-5	LCS							
pH			6.00		pH		5.9-6.1	24-AUG-12
SO4-IC-TB								
Batch R2424550								
WG1534702-15	DUP	L1199233-1						
Sulfate (SO4)		1.03	1.04		mg/L	0.3	20	24-AUG-12
WG1534702-10	LCS							
Sulfate (SO4)			98.6		%		90-110	24-AUG-12
WG1534702-14	LCS							
Sulfate (SO4)			98.5		%		90-110	24-AUG-12
WG1534702-18	LCS							
Sulfate (SO4)			99.4		%		90-110	24-AUG-12
WG1534702-2	LCS							
Sulfate (SO4)			99.2		%		90-110	24-AUG-12
WG1534702-22	LCS							
Sulfate (SO4)			98.2		%		90-110	24-AUG-12
WG1534702-6	LCS							
Sulfate (SO4)			98.4		%		90-110	24-AUG-12
WG1534702-1	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	24-AUG-12
WG1534702-13	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	24-AUG-12
WG1534702-17	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	24-AUG-12
WG1534702-21	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	24-AUG-12



Quality Control Report

Workorder: L1199233

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SO4-IC-TB								
	Water							
Batch	R2424550							
WG1534702-5	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	24-AUG-12
WG1534702-9	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	24-AUG-12
WG1534702-12	MS	L1199180-7						
Sulfate (SO4)			93.2		%		75-125	24-AUG-12
WG1534702-16	MS	L1199233-1						
Sulfate (SO4)			102.9		%		75-125	24-AUG-12
WG1534702-20	MS	L1199413-1						
Sulfate (SO4)			101.5		%		75-125	24-AUG-12
WG1534702-4	MS	L1199105-2						
Sulfate (SO4)			102.9		%		75-125	24-AUG-12
WG1534702-8	MS	L1199128-3						
Sulfate (SO4)			102.5		%		75-125	24-AUG-12
SOLIDS-TOTSUS-TB								
	Water							
Batch	R2427442							
WG1536103-3	DUP	L1199233-12						
Total Suspended Solids		9.7	9.7		mg/L	0.0	20	29-AUG-12
WG1536103-2	LCS							
Total Suspended Solids			97.4		%		85-115	29-AUG-12
WG1536103-1	MB							
Total Suspended Solids			<2.0		mg/L		2	29-AUG-12
Batch	R2427472							
WG1536542-3	DUP	L1199233-5						
Total Suspended Solids		53.2	61.9		mg/L	15	20	29-AUG-12
WG1536542-2	LCS							
Total Suspended Solids			109.0		%		85-115	29-AUG-12
WG1536542-1	MB							
Total Suspended Solids			<2.0		mg/L		2	29-AUG-12

Quality Control Report

Workorder: L1199233

Report Date: 07-SEP-12

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Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
A	Method Blank exceeds ALS DQO. Refer to narrative comments for further information.
J	Duplicate results and limits are expressed in terms of absolute difference.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



Company: Treasury Metals Contact: Mac Potter Address: 899 Tree Nursery Rd Wabigoon DN POV 2W0 Phone: 807-938-6961 Fax: _____ Email: mac@treasuremetals.com Project: Job M0906A01 PO: M0210-P0115 Quote #: Q32690 LSD Goliath Project Invoice To: _____ Same as Report: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Company: _____ Contact: _____ Address: _____ Email: _____ Account Manager: Karen R. Sampler: MP AT CR		Record of Site Condition <input type="checkbox"/> Yes <input type="checkbox"/> No PWOC: <input checked="" type="checkbox"/> MISA <input type="checkbox"/> MMR <input type="checkbox"/> CCME <input type="checkbox"/> Guideline Required: _____ TGLP Regulation: 558 <input type="checkbox"/> Other: _____ Service Requested <input checked="" type="checkbox"/> Regular TAT (7 Days) <input type="checkbox"/> Priority TAT 50% Surcharge (3-5 Days) <input type="checkbox"/> Emergency TAT 100% Surcharge (1-2 Days) Specify Date Required: _____ All TAT quoted material is in business days which exclude statutory holidays and weekends. Samples received past 3:00pm or Saturday/Sunday begin the next day.		Both questions below must answered for water samples g 511 Amend) Table: _____ Are any samples taken from a regulated DW System? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, an authorized DW COC must be used. Is the water sampled intended for human consumption? <input type="checkbox"/> Yes <input type="checkbox"/> No Analysis Request Please indicate below Filtered, Preserved or both (F, P, F/P)												
Sample #	Sample Identification (This description will appear on the report)	Date	Time	Sample Type	Alk, pH Conductivity	Cl, NO2, NO3, SO4	Acidity, TSS	Total Cyanide	WAD Cyanide	CN-FREE-COL-VA	Ammonia, Total Phosphorus	OGG	Total Metals +Hg	Dissolved Metals + Hg	Hardness	Number of Containers
	JCTA	22/08/12	7 ²⁵	Water	X	X	X	X	X	X	X	X	X	X	X	9
	SW4 *	23/08/12	7 ⁰⁰	↓	X	X	X	X	X	X	X	X	X	X	X	↓
	SW5 *	↓	8 ³⁰	↓	X	X	X	X	X	X	X	X	X	X	X	↓
	Swb *	↓	8 ⁴⁵	↓	X	X	X	X	X	X	X	X	X	X	X	↓
	Travel Blank		/	↓	X	X	X	X	X	X	X	X	X	X	X	↓
					X	X	X	X	X	X	X	X	X	X	X	
					X	X	X	X	X	X	X	X	X	X	X	
					X	X	X	X	X	X	X	X	X	X	X	
					X	X	X	X	X	X	X	X	X	X	X	
					X	X	X	X	X	X	X	X	X	X	X	
Special Instructions/Comments																
* NO PRESERVATIVE IN TOTAL METALS/MERCURY + DISSOLVED METALS/MERCURY NOT ENOUGH PROVIDED																
SHIPMENT RELEASE (client use)					SHIPMENT RECEPTION (lab use only)					SHIPMENT VERIFICATION (lab use only)						
Released by: 	Date & Time: 23/08/12	Received by:	Date & Time:	Temp:	Cooling Inflatd: <input type="checkbox"/> Yes <input type="checkbox"/> No	Verified by:	Date & Time:	Observations: Yes / No ? If Yes add SIF								

****Failure to complete all portions of this form may delay analysis.**** TAT may vary dependant on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs. Any known or suspected hazards relating to a sample must be noted on the chain of custody in the comments section. By use of the form the user acknowledges and agrees with the Terms and Conditions as specified on the back page.



TREASURY METALS INC.
ATTN: Mac Potter
P.O. Box 789
Dryden ON P8N 2Z4

Date Received: 19-SEP-12
Report Date: 08-OCT-12 13:20 (MT)
Version: FINAL

Client Phone: 807-938-6961

Certificate of Analysis

Lab Work Order #: L1211071
Project P.O. #: M0210-P0115
Job Reference: JOB M0906A01
C of C Numbers:
Legal Site Desc:

Tricia Sampson
Account Manager Supervisor

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ADDRESS: 1081 Barton Street, Thunder Bay, ON P7B 5N3 Canada | Phone: +1 807 623 6463 | Fax: +1 807 623 7598
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1211071-1 SURFACEWATE 17-SEP-12 09:04 SW3	L1211071-2 SURFACEWATE 17-SEP-12 09:55 TL3	L1211071-3 SURFACEWATE 17-SEP-12 09:35 SW2	L1211071-4 SURFACEWATE 17-SEP-12 10:05 SW1	L1211071-5 SURFACEWATE 17-SEP-12 10:39 JCTA
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (EC) (uS/cm)	187	270	138	170	222
	Hardness (as CaCO3) (mg/L)	71.4	131	69.0	66.5	114
	pH (pH)	7.45	7.40	7.79	7.59	7.58
	Total Suspended Solids (mg/L)	3.3	57.0	26.5	15.9	40.2
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	2.0	9.0	2.8	4.0	6.8
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)	60.5	130	64.7	81.0	106
	Ammonia, Total (as N) (mg/L)	<0.020	<0.020	<0.020	<0.020	0.031
	Chloride (Cl) (mg/L)	16.4	2.09	<0.10	0.49	1.37
	Nitrate (as N) (mg/L)	<0.030	<0.030	<0.030	<0.030	0.063
	Nitrite (as N) (mg/L)	<0.020	<0.020	<0.020	<0.020	<0.020
	Phosphorus (P)-Total (mg/L)	0.0145	0.0313	0.0466	0.0120	0.0543
	Sulfate (SO4) (mg/L)	1.64	0.81	0.83	1.44	1.04
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)	0.0545	0.666	0.310	0.247	0.555
	Antimony (Sb)-Total (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Total (mg/L)	<0.010	0.014	<0.010	0.015	0.015
	Beryllium (Be)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Total (mg/L)	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017
	Calcium (Ca)-Total (mg/L)	20.3	36.8	17.5	25.2	30.4
	Chromium (Cr)-Total (mg/L)	<0.0010	0.0013	<0.0010	<0.0010	0.0010
	Cobalt (Co)-Total (mg/L)	<0.00050	0.00059	<0.00050	<0.00050	0.00096
	Copper (Cu)-Total (mg/L)	<0.0010	0.0011	0.0010	<0.0010	<0.0010
	Iron (Fe)-Total (mg/L)	0.170	1.12	0.914	0.545	1.59
	Lead (Pb)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Total (mg/L)	4.90	9.81	4.77	4.06	7.98
	Manganese (Mn)-Total (mg/L)	0.0172	0.361	0.0229	0.258	1.09
	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Potassium (K)-Total (mg/L)	<0.50	1.11	0.53	0.92	1.18
	Selenium (Se)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1211071-6 SURFACEWATE 17-SEP-12 11:00 TL1A	L1211071-7 SURFACEWATE 17-SEP-12 11:35 SW10	L1211071-8 SURFACEWATE 17-SEP-12 12:03 SW8	L1211071-9 SURFACEWATE 17-SEP-12 12:30 SW7	L1211071-10 SURFACEWATE 18-SEP-12 08:00 SW9
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (EC) (uS/cm)	131	154	158	189	307
	Hardness (as CaCO3) (mg/L)	64.8	69.1	73.8	100	148
	pH (pH)	7.16	7.68	7.85	7.86	7.86
	Total Suspended Solids (mg/L)	4.6	54.4	15.4	<2.0	55.9
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	6.8	2.8	2.8	2.4	5.2
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)	62.9	73.1	67.6	95.4	163
	Ammonia, Total (as N) (mg/L)	0.081	0.021	<0.020	<0.020	0.023
	Chloride (Cl) (mg/L)	0.15	0.27	0.38	0.28	0.42
	Nitrate (as N) (mg/L)	<0.030	0.051	0.205	0.084	0.228
	Nitrite (as N) (mg/L)	<0.020	<0.020	<0.020	<0.020	<0.020
	Phosphorus (P)-Total (mg/L)	0.0055	0.0055	0.0982	<0.0050	0.0064
	Sulfate (SO4) (mg/L)	<0.30	1.88	7.00	1.14	0.49
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)	0.0457	0.0431	0.0632	<0.0050	0.0261
	Antimony (Sb)-Total (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Total (mg/L)	<0.010	0.012	<0.010	0.016	0.024
	Beryllium (Be)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Total (mg/L)	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017
	Calcium (Ca)-Total (mg/L)	16.0	20.3	19.0	33.3	41.1
	Chromium (Cr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Cobalt (Co)-Total (mg/L)	0.00216	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Iron (Fe)-Total (mg/L)	1.99	1.23	0.752	0.180	0.158
	Lead (Pb)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Total (mg/L)	4.05	3.03	3.67	3.28	8.77
	Manganese (Mn)-Total (mg/L)	1.23	0.0894	0.0261	0.0747	0.301
	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Potassium (K)-Total (mg/L)	<0.50	0.67	0.84	0.58	1.54
	Selenium (Se)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1211071-11 SURFACEWATE 18-SEP-12 09:30 SW4	L1211071-12 SURFACEWATE 18-SEP-12 09:35 SW444	L1211071-13 SURFACEWATE 18-SEP-12 09:40 FIELD BLANK	L1211071-14 SURFACEWATE 17-SEP-12 TRAVEL BLANK
Grouping	Analyte				
WATER					
Physical Tests	Conductivity (EC) (uS/cm)	108	108	<3.0	<3.0
	Hardness (as CaCO3) (mg/L)	48.1	49.0	<0.51	<0.51
	pH (pH)	7.75	7.75	5.60	5.61
	Total Suspended Solids (mg/L)	7.0	10.4	<2.0	<2.0
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	2.0	2.0	<2.0	<2.0
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)	45.2	45.1	<5.0	<5.0
	Ammonia, Total (as N) (mg/L)	<0.020	<0.020	<0.020	0.020 ^{RRV}
	Chloride (Cl) (mg/L)	3.18	3.24	<0.10	<0.10
	Nitrate (as N) (mg/L)	<0.030	<0.030	<0.030	<0.030
	Nitrite (as N) (mg/L)	<0.020	<0.020	<0.020	<0.020
	Phosphorus (P)-Total (mg/L)	0.0248	0.0245	<0.0050	<0.0050
	Sulfate (SO4) (mg/L)	1.84	1.84	<0.30	<0.30
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)	0.721	0.712	<0.0050	<0.0050
	Antimony (Sb)-Total (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Total (mg/L)	0.011	0.011	<0.010	<0.010
	Beryllium (Be)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Total (mg/L)	<0.000017	<0.000017	<0.000017	<0.000017
	Calcium (Ca)-Total (mg/L)	15.1	12.1	<0.20	<0.20
	Chromium (Cr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
	Cobalt (Co)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Total (mg/L)	0.0019	0.0021	<0.0010	<0.0010
	Iron (Fe)-Total (mg/L)	0.440	0.457	<0.020	<0.020
	Lead (Pb)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Total (mg/L)	2.98	3.00	<0.020	<0.020
	Manganese (Mn)-Total (mg/L)	0.0111	0.0121	<0.0010	<0.0010
	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020
Potassium (K)-Total (mg/L)	0.80	0.83	<0.50	<0.50	
Selenium (Se)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1211071-1	L1211071-2	L1211071-3	L1211071-4	L1211071-5
		SURFACEWATE 17-SEP-12 09:04 SW3	SURFACEWATE 17-SEP-12 09:55 TL3	SURFACEWATE 17-SEP-12 09:35 SW2	SURFACEWATE 17-SEP-12 10:05 SW1	SURFACEWATE 17-SEP-12 10:39 JCTA
Grouping	Analyte					
WATER						
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Total (mg/L)	10.6	3.23	1.62	2.05	2.66
	Strontium (Sr)-Total (mg/L)	0.0510	0.0788	0.0305	0.0415	0.0514
	Tellurium (Te)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Total (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Total (mg/L)	0.0025	0.0295	0.0139	0.0113	0.0226
	Tungsten (W)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Total (mg/L)	<0.0010	0.0015	<0.0010	<0.0010	0.0012
	Zinc (Zn)-Total (mg/L)	<0.0030	0.0030	<0.0030	<0.0030	0.0030
	Zirconium (Zr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	0.0061	0.0079	0.0285	<0.0050	0.0092
	Antimony (Sb)-Dissolved (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Dissolved (mg/L)	<0.010	0.012	<0.010	0.010	0.010
	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Dissolved (mg/L)	<0.000017 ^{RRV}	<0.000017 ^{RRV}	<0.000017 ^{RRV}	<0.000017	<0.000017 ^{RRV}
	Calcium (Ca)-Dissolved (mg/L)	20.0	36.0	20.3	21.0	31.6
	Chromium (Cr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Iron (Fe)-Dissolved (mg/L)	0.050	0.266	0.283	0.037	0.325
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Dissolved (mg/L)	5.24 ^{RRV}	10.0 ^{RRV}	4.48	3.38	8.53 ^{RRV}
	Manganese (Mn)-Dissolved (mg/L)	0.0160	0.379	0.0266	0.0905	0.679
	Mercury (Hg)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Potassium (K)-Dissolved (mg/L)	0.66	1.26	0.57	1.03	1.34
	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Dissolved (mg/L)	10.6 ^{RRV}	3.08 ^{RRV}	1.49	1.74	2.67 ^{RRV}
	Strontium (Sr)-Dissolved (mg/L)	0.0493 ^{RRV}	0.0744 ^{RRV}	0.0281	0.0497	0.0620

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1211071-6 SURFACEWATE 17-SEP-12 11:00 TL1A	L1211071-7 SURFACEWATE 17-SEP-12 11:35 SW10	L1211071-8 SURFACEWATE 17-SEP-12 12:03 SW8	L1211071-9 SURFACEWATE 17-SEP-12 12:30 SW7	L1211071-10 SURFACEWATE 18-SEP-12 08:00 SW9
Grouping	Analyte					
WATER						
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Total (mg/L)	1.21	1.58	1.50	1.58	3.91
	Strontium (Sr)-Total (mg/L)	0.0371	0.0340	0.0367	0.0510	0.0687
	Tellurium (Te)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Total (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Total (mg/L)	<0.0020	0.0021	0.0034	<0.0020	<0.0020
	Tungsten (W)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Total (mg/L)	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
	Zirconium (Zr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	0.0175	0.0126	0.0187	<0.0050	0.0069
	Antimony (Sb)-Dissolved (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Dissolved (mg/L)	<0.010	0.011	0.010	0.021	0.026
	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Dissolved (mg/L)	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017
	Calcium (Ca)-Dissolved (mg/L)	18.4	22.1	22.3	34.4 ^{RRV}	44
	Chromium (Cr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Cobalt (Co)-Dissolved (mg/L)	0.00217	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Iron (Fe)-Dissolved (mg/L)	0.849	0.715	0.486	0.173	0.071
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Dissolved (mg/L)	4.61	3.37	4.42	3.53 ^{RRV}	9.08 ^{RRV}
	Manganese (Mn)-Dissolved (mg/L)	1.26	0.0872	0.0278	0.0719 ^{RRV}	0.232
	Mercury (Hg)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Potassium (K)-Dissolved (mg/L)	<0.50	0.66	0.91	0.73	1.76
	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Dissolved (mg/L)	1.42	1.80	1.83	1.61 ^{RRV}	3.85 ^{RRV}
	Strontium (Sr)-Dissolved (mg/L)	0.0412	0.0364	0.0412	0.0513 ^{RRV}	0.0768

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID Description Sampled Date Sampled Time Client ID	L1211071-11 SURFACEWATE 18-SEP-12 09:30 SW4	L1211071-12 SURFACEWATE 18-SEP-12 09:35 SW444	L1211071-13 SURFACEWATE 18-SEP-12 09:40 FIELD BLANK	L1211071-14 SURFACEWATE 17-SEP-12 TRAVEL BLANK
Grouping	Analyte					
WATER						
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Total (mg/L)	3.07	3.10	<0.10	<0.10	<0.10
	Strontium (Sr)-Total (mg/L)	0.0218	0.0231	<0.0010	<0.0010	<0.0010
	Tellurium (Te)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Total (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Total (mg/L)	0.0216	0.0226	<0.0020	<0.0020	<0.0020
	Tungsten (W)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Total (mg/L)	0.0010	0.0011	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Total (mg/L)	<0.0030	0.0040	<0.0030	<0.0030	<0.0030
	Zirconium (Zr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	0.0068	0.0076	<0.0050	<0.0050	<0.0050
	Antimony (Sb)-Dissolved (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Dissolved (mg/L)	<0.000017 ^{RRV}	<0.000017	<0.000017	<0.000017	<0.000017
	Calcium (Ca)-Dissolved (mg/L)	14.5	14.7	<0.20	<0.20	<0.20
	Chromium (Cr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Dissolved (mg/L)	0.0014	0.0015	<0.0010	<0.0010	<0.0010
	Iron (Fe)-Dissolved (mg/L)	<0.020	<0.020	<0.020	<0.020	<0.020
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Dissolved (mg/L)	2.87 ^{RRV}	2.95 ^{RRV}	<0.020	<0.020	<0.020
	Manganese (Mn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Mercury (Hg)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Potassium (K)-Dissolved (mg/L)	0.73	0.75	<0.50	<0.50	<0.50
	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Dissolved (mg/L)	2.81 ^{RRV}	2.89 ^{RRV}	<0.10	<0.10	<0.10
	Strontium (Sr)-Dissolved (mg/L)	0.0241	0.0244	<0.0010	<0.0010	<0.0010

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1211071-1 SURFACEWATE 17-SEP-12 09:04 SW3	L1211071-2 SURFACEWATE 17-SEP-12 09:55 TL3	L1211071-3 SURFACEWATE 17-SEP-12 09:35 SW2	L1211071-4 SURFACEWATE 17-SEP-12 10:05 SW1	L1211071-5 SURFACEWATE 17-SEP-12 10:39 JCTA																																																						
Grouping	Analyte																																																										
WATER																																																											
Dissolved Metals	<table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Tellurium (Te)-Dissolved (mg/L)</td> <td style="width: 15%; text-align: center;"><0.0010</td> <td style="width: 15%; text-align: center;"><0.0010</td> <td style="width: 15%; text-align: center;"><0.0010</td> <td style="width: 15%; text-align: center;"><0.0010</td> <td style="width: 15%; text-align: center;"><0.0010</td> </tr> <tr> <td>Thallium (Tl)-Dissolved (mg/L)</td> <td style="text-align: center;"><0.00030</td> <td style="text-align: center;"><0.00030</td> <td style="text-align: center;"><0.00030</td> <td style="text-align: center;"><0.00030</td> <td style="text-align: center;"><0.00030</td> </tr> <tr> <td>Tin (Sn)-Dissolved (mg/L)</td> <td style="text-align: center;"><0.0010</td> <td style="text-align: center;"><0.0010</td> <td style="text-align: center;"><0.0010</td> <td style="text-align: center;"><0.0010</td> <td style="text-align: center;"><0.0010</td> </tr> <tr> <td>Titanium (Ti)-Dissolved (mg/L)</td> <td style="text-align: center;"><0.0020</td> <td style="text-align: center;"><0.0020</td> <td style="text-align: center;"><0.0020</td> <td style="text-align: center;"><0.0020</td> <td style="text-align: center;"><0.0020</td> </tr> <tr> <td>Tungsten (W)-Dissolved (mg/L)</td> <td style="text-align: center;"><0.010</td> <td style="text-align: center;"><0.010</td> <td style="text-align: center;"><0.010</td> <td style="text-align: center;"><0.010</td> <td style="text-align: center;"><0.010</td> </tr> <tr> <td>Uranium (U)-Dissolved (mg/L)</td> <td style="text-align: center;"><0.0050</td> <td style="text-align: center;"><0.0050</td> <td style="text-align: center;"><0.0050</td> <td style="text-align: center;"><0.0050</td> <td style="text-align: center;"><0.0050</td> </tr> <tr> <td>Vanadium (V)-Dissolved (mg/L)</td> <td style="text-align: center;"><0.0010</td> <td style="text-align: center;"><0.0010</td> <td style="text-align: center;"><0.0010</td> <td style="text-align: center;"><0.0010</td> <td style="text-align: center;"><0.0010</td> </tr> <tr> <td>Zinc (Zn)-Dissolved (mg/L)</td> <td style="text-align: center;"><0.0030</td> <td style="text-align: center;"><0.0030</td> <td style="text-align: center;"><0.0030</td> <td style="text-align: center;"><0.0030</td> <td style="text-align: center;"><0.0030</td> </tr> <tr> <td>Zirconium (Zr)-Dissolved (mg/L)</td> <td style="text-align: center;"><0.0010</td> <td style="text-align: center;"><0.0010</td> <td style="text-align: center;"><0.0010</td> <td style="text-align: center;"><0.0010</td> <td style="text-align: center;"><0.0010</td> </tr> </table>					Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	Titanium (Ti)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	Zinc (Zn)-Dissolved (mg/L)	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010																																																						
Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030																																																						
Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010																																																						
Titanium (Ti)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020																																																						
Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010																																																						
Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050																																																						
Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010																																																						
Zinc (Zn)-Dissolved (mg/L)	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030																																																						
Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010																																																						
Aggregate Organics	<table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Oil and Grease, Total (mg/L)</td> <td style="width: 15%; text-align: center;"><2.0</td> <td style="width: 15%; text-align: center;"><2.0</td> <td style="width: 15%; text-align: center;"><2.0</td> <td style="width: 15%; text-align: center;"><2.0</td> <td style="width: 15%; text-align: center;"><2.0</td> </tr> </table>					Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0																																																
Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0																																																						

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1211071-6	L1211071-7	L1211071-8	L1211071-9	L1211071-10
Description	Description	SURFACEWATE	SURFACEWATE	SURFACEWATE	SURFACEWATE	SURFACEWATE
Sampled Date	Sampled Date	17-SEP-12	17-SEP-12	17-SEP-12	17-SEP-12	18-SEP-12
Sampled Time	Sampled Time	11:00	11:35	12:03	12:30	08:00
Client ID	Client ID	TL1A	SW10	SW8	SW7	SW9
Grouping	Analyte					
WATER						
Dissolved Metals	Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
	Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1211071-11	L1211071-12	L1211071-13	L1211071-14
Description	SURFACEWATE	SURFACEWATE	SURFACEWATE	SURFACEWATE	SURFACEWATE
Sampled Date	18-SEP-12	18-SEP-12	18-SEP-12	18-SEP-12	17-SEP-12
Sampled Time	09:30	09:35	09:40	09:40	
Client ID	SW4	SW444	FIELD BLANK	TRAVEL BLANK	
Grouping	Analyte				
WATER					
Dissolved Metals	Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020
	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	<0.0030	<0.0030	<0.0030	<0.0030
	Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Barium (Ba)-Total	MS-B	L1211071-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Total	MS-B	L1211071-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Total	MS-B	L1211071-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Potassium (K)-Total	MS-B	L1211071-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Total	MS-B	L1211071-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Total	MS-B	L1211071-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Total	MS-B	L1211071-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Total	MS-B	L1211071-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Total	MS-B	L1211071-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Total	MS-B	L1211071-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Total	MS-B	L1211071-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Total	MS-B	L1211071-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Total	MS-B	L1211071-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Potassium (K)-Total	MS-B	L1211071-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Total	MS-B	L1211071-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Total	MS-B	L1211071-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1211071-1, -10, -11, -12, -13, -14, -2, -3, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1211071-1, -10, -11, -12, -13, -14, -2, -3, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1211071-1, -10, -11, -12, -13, -14, -2, -3, -5, -6, -7, -8, -9
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1211071-10
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1211071-10
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1211071-10
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1211071-10
Matrix Spike	Potassium (K)-Dissolved	MS-B	L1211071-10
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1211071-10
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1211071-10

Qualifiers for Individual Parameters Listed:

Qualifier	Description
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RRV	Reported Result Verified By Repeat Analysis

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
ACIDITY-TB	Water	Acidity (as CaCO ₃)	APHA 2310 B-POTENTIOMETRIC TITRATION
Aqueous matrices are analyzed by potentiometry. Acidity reported includes acidity caused by hydrolyzable metals present in the sample.			
ALK-TOT-CAP-TB	Water	Alkalinity, Total (as CaCO ₃)	APHA 2320 B-Auto-Pot. Titration
CL-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.			
CN-FREE-CFA-VA	Water	Free Cyanide in water by CFA	ASTM 7237

Reference Information

This analysis is carried out using procedures adapted from ASTM Method 7237 "Free Cyanide with Flow Injection Analysis (FIA) Utilizing Gas Diffusion Separation and Amperometric Detection". Free cyanide is determined by in-line gas diffusion at pH 6 with final determination by colourimetric analysis.

CN-TOT-WT Water Cyanide, Total APHA 4500CN C E-STRONG ACID DIST COLORIM

Total cyanide is determined by the combination of UV digestion and distillation. Cyanide is converted to cyanogen chloride by reacting with chloramine-T, the cyanogen chloride then reacts with a combination of barbituric acid and isonicotinic acid to form a highly colored complex.

When using this method, high levels of thiocyanate in samples can cause false positives at ~1-2% of the thiocyanate concentration. For samples with detectable cyanide analyzed by this method, ALS recommends analysis for thiocyanate to check for this potential interference

CN-WAD-WT Water Cyanide, Weak Acid Diss APHA 4500CN I-Weak acid Dist Colorimet

Weak acid dissociable cyanide (WAD) is determined by undergoing a distillation procedure. Cyanide is converted to cyanogen chloride by reacting with chloramine-T, the cyanogen chloride then reacts with a combination of barbituric acid and isonicotinic acid to form a highly colored complex.

EC-CAP-TB Water Conductivity (EC) APHA 2510 B-ELECTRODE

HARDNESS-CALC-TB Water Hardness (as CaCO₃) CALCULATION

HG-D-CVAF-TB Water Dissolved Mercury in Water by CVAFS EPA 245.7

HG-T-CVAF-TB Water Total Mercury in Water by CVAFS EPA 245.7

MET-D-MS-TB Water Dissolved Metals by ICPMS APHA 3030B/EPA 6020A

This analysis involves filtration (APHA 3030B) and analysis by inductively coupled plasma - mass spectrometry (EPA Method 6020A).

MET-T-MS-TB Water Total Metals by ICPMS APHA 3030E/EPA 6020A

This analysis involves preliminary sample treatment by hotblock acid digestion (APHA 3030E). Instrumental analysis is by inductively coupled plasma - mass spectrometry (EPA Method 6020A).

NH3-COL-TB Water Ammonia by Discrete Analyzer APHA 4500-NH₃ G. (modified)

Ammonia in aqueous matrices is analyzed using discrete analyzer with colourimetric detection.

NO2-IC-TB Water Anions by Ion Chromatography EPA 300.1 (modified)

Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.

NO3-IC-TB Water Anions by Ion Chromatography EPA 300.1 (modified)

Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.

OGG-TOT-WT Water Oil and Grease, Total APHA 5520 B

Sample is extracted with hexane, extract is then evaporated and the residue is weighed to determine total oil and grease.

P-T-COL-TB Water Total Phosphorus by Discrete Analyzer APHA 4500-P B, F, G (modified)

Phosphorus in aqueous matrices is analyzed using discrete Analyzer with colourimetric detection.

PH-CAP-TB Water pH APHA 4500-H-ELECTRODE

SO4-IC-TB Water Anions by Ion Chromatography EPA 300.1 (modified)

Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.

SOLIDS-TOTSUS-TB Water Total Suspended Solids APHA 2540 D (modified)

Aqueous matrices are analyzed using gravimetry

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
TB	ALS ENVIRONMENTAL - THUNDER BAY, ONTARIO, CANADA
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

Reference Information

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

mg/kg - milligrams per kilogram based on dry weight of sample.

mg/kg wwt - milligrams per kilogram based on wet weight of sample.

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.

mg/L - milligrams per litre.

< - Less than.

D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L1211071

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Client: TREASURY METALS INC.
 P.O. Box 789
 Dryden ON P8N 2Z4
 Contact: Mac Potter

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
ACIDITY-TB								
	Water							
Batch	R2441984							
WG1552260-2	LCS							
Acidity (as CaCO3)			102.4		%		85-115	24-SEP-12
WG1552260-5	LCS							
Acidity (as CaCO3)			103.2		%		85-115	24-SEP-12
WG1552260-1	MB							
Acidity (as CaCO3)			<2.0		mg/L		2	24-SEP-12
WG1552260-4	MB							
Acidity (as CaCO3)			<2.0		mg/L		2	24-SEP-12
ALK-TOT-CAP-TB								
	Water							
Batch	R2439529							
WG1549968-6	DUP	L1211071-8						
Alkalinity, Total (as CaCO3)		67.6	68.5		mg/L CaCO3	1.3	20	19-SEP-12
WG1549968-2	LCS							
Alkalinity, Total (as CaCO3)			93.7		%		85-115	19-SEP-12
WG1549968-5	LCS							
Alkalinity, Total (as CaCO3)			93.5		%		85-115	19-SEP-12
WG1549968-1	MB							
Alkalinity, Total (as CaCO3)			<5.0		mg/L CaCO3		5	19-SEP-12
WG1549968-4	MB							
Alkalinity, Total (as CaCO3)			<5.0		mg/L CaCO3		5	19-SEP-12
Batch	R2440460							
WG1550195-3	DUP	L1211071-10						
Alkalinity, Total (as CaCO3)		163	165		mg/L CaCO3	1.2	20	20-SEP-12
WG1550195-2	LCS							
Alkalinity, Total (as CaCO3)			92.4		%		85-115	20-SEP-12
WG1550195-5	LCS							
Alkalinity, Total (as CaCO3)			92.4		%		85-115	20-SEP-12
WG1550195-8	LCS							
Alkalinity, Total (as CaCO3)			92.5		%		85-115	20-SEP-12
WG1550195-1	MB							
Alkalinity, Total (as CaCO3)			<5.0		mg/L CaCO3		5	20-SEP-12
WG1550195-4	MB							
Alkalinity, Total (as CaCO3)			<5.0		mg/L CaCO3		5	20-SEP-12
WG1550195-7	MB							
Alkalinity, Total (as CaCO3)			<5.0		mg/L CaCO3		5	20-SEP-12
CL-IC-TB	Water							



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CL-IC-TB								
Water								
Batch	R2441474							
WG1550591-3	DUP	L1211071-4						
Chloride (Cl)		0.49	0.50		mg/L	1.3	20	19-SEP-12
WG1550591-10	LCS							
Chloride (Cl)			101.0		%		90-110	19-SEP-12
WG1550591-14	LCS							
Chloride (Cl)			100.2		%		90-110	19-SEP-12
WG1550591-18	LCS							
Chloride (Cl)			101.8		%		90-110	19-SEP-12
WG1550591-2	LCS							
Chloride (Cl)			98.9		%		90-110	19-SEP-12
WG1550591-6	LCS							
Chloride (Cl)			100.9		%		90-110	19-SEP-12
WG1550591-1	MB							
Chloride (Cl)			<0.10		mg/L		0.1	19-SEP-12
WG1550591-13	MB							
Chloride (Cl)			<0.10		mg/L		0.1	19-SEP-12
WG1550591-17	MB							
Chloride (Cl)			<0.10		mg/L		0.1	19-SEP-12
WG1550591-5	MB							
Chloride (Cl)			<0.10		mg/L		0.1	19-SEP-12
WG1550591-9	MB							
Chloride (Cl)			<0.10		mg/L		0.1	19-SEP-12
WG1550591-16	MS	L1211053-6						
Chloride (Cl)			107.3		%		75-125	19-SEP-12
WG1550591-4	MS	L1211071-4						
Chloride (Cl)			109.3		%		75-125	19-SEP-12
WG1550591-8	MS	L1211159-1						
Chloride (Cl)			93.0		%		75-125	19-SEP-12
CN-FREE-CFA-VA								
Water								
Batch	R2444687							
WG1554203-27	DUP	L1211071-8						
Cyanide, Free		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	26-SEP-12
WG1554203-10	LCS							
Cyanide, Free			101.6		%		80-120	26-SEP-12
WG1554203-12	LCS							
Cyanide, Free			101.0		%		80-120	26-SEP-12
WG1554203-16	LCS							
Cyanide, Free			101.4		%		80-120	26-SEP-12
WG1554203-2	LCS							



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CN-FREE-CFA-VA								
	Water							
Batch	R2444687							
WG1554203-2	LCS							
Cyanide, Free			101.9		%		80-120	26-SEP-12
WG1554203-20	LCS							
Cyanide, Free			101.6		%		80-120	26-SEP-12
WG1554203-26	LCS							
Cyanide, Free			101.6		%		80-120	26-SEP-12
WG1554203-32	LCS							
Cyanide, Free			103.6		%		80-120	26-SEP-12
WG1554203-8	LCS							
Cyanide, Free			101.6		%		80-120	26-SEP-12
WG1554203-1	MB							
Cyanide, Free			<0.0050		mg/L		0.005	26-SEP-12
WG1554203-11	MB							
Cyanide, Free			<0.0050		mg/L		0.005	26-SEP-12
WG1554203-15	MB							
Cyanide, Free			<0.0050		mg/L		0.005	26-SEP-12
WG1554203-19	MB							
Cyanide, Free			<0.0050		mg/L		0.005	26-SEP-12
WG1554203-25	MB							
Cyanide, Free			<0.0050		mg/L		0.005	26-SEP-12
WG1554203-31	MB							
Cyanide, Free			<0.0050		mg/L		0.005	26-SEP-12
WG1554203-7	MB							
Cyanide, Free			<0.0050		mg/L		0.005	26-SEP-12
WG1554203-9	MB							
Cyanide, Free			<0.0050		mg/L		0.005	26-SEP-12
WG1554203-18	MS	L1210258-4						
Cyanide, Free			95.8		%		70-130	26-SEP-12
WG1554203-22	MS	L1210041-1						
Cyanide, Free			97.2		%		70-130	26-SEP-12
WG1554203-24	MS	L1211486-5						
Cyanide, Free			97.3		%		70-130	26-SEP-12
WG1554203-28	MS	L1211071-8						
Cyanide, Free			97.2		%		70-130	26-SEP-12
WG1554203-30	MS	L1211423-2						
Cyanide, Free			98.2		%		70-130	26-SEP-12
CN-TOT-WT	Water							



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CN-TOT-WT								
Water								
Batch	R2444550							
WG1555111-4	CVS							
Cyanide, Total			95.0		%		85-115	26-SEP-12
WG1555111-5	DUP	L1211071-1						
Cyanide, Total		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	26-SEP-12
WG1555111-3	LCS							
Cyanide, Total			94.0		%		80-120	26-SEP-12
WG1555111-1	MB							
Cyanide, Total			<0.0020		mg/L		0.002	26-SEP-12
CN-WAD-WT								
Water								
Batch	R2442624							
WG1553093-4	CVS							
Cyanide, Weak Acid Diss			98.5		%		85-115	25-SEP-12
WG1553093-5	DUP	L1211071-1						
Cyanide, Weak Acid Diss		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	25-SEP-12
WG1553093-3	LCS							
Cyanide, Weak Acid Diss			98.6		%		80-120	25-SEP-12
WG1553093-1	MB							
Cyanide, Weak Acid Diss			<0.0020		mg/L		0.002	25-SEP-12
EC-CAP-TB								
Water								
Batch	R2439529							
WG1549968-6	DUP	L1211071-8						
Conductivity (EC)		158	158		uS/cm	0.2	10	19-SEP-12
WG1549968-2	LCS							
Conductivity (EC)			102.7		%		90-110	19-SEP-12
WG1549968-5	LCS							
Conductivity (EC)			104.0		%		90-110	19-SEP-12
WG1549968-1	MB							
Conductivity (EC)			<3.0		uS/cm		3	19-SEP-12
WG1549968-4	MB							
Conductivity (EC)			<3.0		uS/cm		3	19-SEP-12
Batch	R2440460							
WG1550195-3	DUP	L1211071-10						
Conductivity (EC)		307	307		uS/cm	0.2	10	20-SEP-12
WG1550195-2	LCS							
Conductivity (EC)			101.1		%		90-110	20-SEP-12
WG1550195-5	LCS							
Conductivity (EC)			102.0		%		90-110	20-SEP-12
WG1550195-8	LCS							



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
EC-CAP-TB								
Water								
Batch	R2440460							
WG1550195-8	LCS							
Conductivity (EC)			101.6		%		90-110	20-SEP-12
WG1550195-1	MB							
Conductivity (EC)			<3.0		uS/cm		3	20-SEP-12
WG1550195-4	MB							
Conductivity (EC)			<3.0		uS/cm		3	20-SEP-12
WG1550195-7	MB							
Conductivity (EC)			<3.0		uS/cm		3	20-SEP-12
HG-D-CVAF-TB								
Water								
Batch	R2439686							
WG1550285-3	DUP	L1211071-11						
Mercury (Hg)-Dissolved		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	20-SEP-12
WG1550285-2	LCS							
Mercury (Hg)-Dissolved			96.5		%		80-120	20-SEP-12
WG1550285-6	LCS							
Mercury (Hg)-Dissolved			91.5		%		80-120	20-SEP-12
WG1550285-1	MB							
Mercury (Hg)-Dissolved			<0.000010		mg/L		0.00001	20-SEP-12
WG1550285-5	MB							
Mercury (Hg)-Dissolved			<0.000010		mg/L		0.00001	20-SEP-12
WG1550285-4	MS	L1211071-11						
Mercury (Hg)-Dissolved			95.7		%		70-130	20-SEP-12
WG1550285-8	MS	L1211049-11						
Mercury (Hg)-Dissolved			88.1		%		70-130	20-SEP-12
HG-T-CVAF-TB								
Water								
Batch	R2439665							
WG1550283-5	DUP	L1211071-10						
Mercury (Hg)-Total		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	20-SEP-12
WG1550283-2	LCS							
Mercury (Hg)-Total			99.2		%		80-120	20-SEP-12
WG1550283-8	LCS							
Mercury (Hg)-Total			96.5		%		80-120	20-SEP-12
WG1550283-1	MB							
Mercury (Hg)-Total			<0.000010		mg/L		0.00001	20-SEP-12
WG1550283-7	MB							
Mercury (Hg)-Total			<0.000010		mg/L		0.00001	20-SEP-12
WG1550283-10	MS	L1211812-6						
Mercury (Hg)-Total			95.3		%		70-130	20-SEP-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-T-CVAF-TB								
	Water							
Batch	R2439665							
WG1550283-6 MS		L1211071-10						
Mercury (Hg)-Total			96.3		%		70-130	20-SEP-12
MET-D-MS-TB								
	Water							
Batch	R2444871							
WG1553052-2 LCS								
Aluminum (Al)-Dissolved			94.0		%		80-120	25-SEP-12
Antimony (Sb)-Dissolved			99.4		%		80-120	25-SEP-12
Arsenic (As)-Dissolved			98.6		%		80-120	25-SEP-12
Barium (Ba)-Dissolved			99.4		%		80-120	25-SEP-12
Beryllium (Be)-Dissolved			94.9		%		80-120	25-SEP-12
Bismuth (Bi)-Dissolved			101.9		%		80-120	25-SEP-12
Boron (B)-Dissolved			88.3		%		80-120	25-SEP-12
Cadmium (Cd)-Dissolved			100.9		%		80-120	25-SEP-12
Calcium (Ca)-Dissolved			102.5		%		80-120	25-SEP-12
Chromium (Cr)-Dissolved			101.0		%		80-120	25-SEP-12
Cobalt (Co)-Dissolved			98.5		%		80-120	25-SEP-12
Copper (Cu)-Dissolved			97.7		%		80-120	25-SEP-12
Iron (Fe)-Dissolved			89.4		%		80-120	25-SEP-12
Lead (Pb)-Dissolved			97.7		%		80-120	25-SEP-12
Lithium (Li)-Dissolved			100.7		%		80-120	25-SEP-12
Magnesium (Mg)-Dissolved			112.4		%		80-120	25-SEP-12
Manganese (Mn)-Dissolved			103.8		%		80-120	25-SEP-12
Molybdenum (Mo)-Dissolved			98.2		%		80-120	25-SEP-12
Nickel (Ni)-Dissolved			100.2		%		80-120	25-SEP-12
Potassium (K)-Dissolved			99.6		%		80-120	25-SEP-12
Selenium (Se)-Dissolved			107.8		%		80-120	25-SEP-12
Silver (Ag)-Dissolved			101.6		%		80-120	25-SEP-12
Sodium (Na)-Dissolved			104.3		%		80-120	25-SEP-12
Strontium (Sr)-Dissolved			97.0		%		80-120	25-SEP-12
Tellurium (Te)-Dissolved			104.9		%		80-120	25-SEP-12
Thallium (Tl)-Dissolved			100.1		%		80-120	25-SEP-12
Tin (Sn)-Dissolved			98.2		%		80-120	25-SEP-12
Titanium (Ti)-Dissolved			97.8		%		80-120	25-SEP-12
Tungsten (W)-Dissolved			98.3		%		80-120	25-SEP-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2444871							
WG1553052-2	LCS							
Uranium (U)-Dissolved			97.0		%		80-120	25-SEP-12
Vanadium (V)-Dissolved			99.7		%		80-120	25-SEP-12
Zinc (Zn)-Dissolved			104.3		%		80-120	25-SEP-12
Zirconium (Zr)-Dissolved			91.1		%		80-120	25-SEP-12
WG1553052-6	LCS							
Aluminum (Al)-Dissolved			93.0		%		80-120	25-SEP-12
Antimony (Sb)-Dissolved			97.8		%		80-120	25-SEP-12
Arsenic (As)-Dissolved			97.4		%		80-120	25-SEP-12
Barium (Ba)-Dissolved			97.4		%		80-120	25-SEP-12
Beryllium (Be)-Dissolved			93.8		%		80-120	25-SEP-12
Bismuth (Bi)-Dissolved			102.7		%		80-120	25-SEP-12
Boron (B)-Dissolved			90.9		%		80-120	25-SEP-12
Cadmium (Cd)-Dissolved			98.5		%		80-120	25-SEP-12
Calcium (Ca)-Dissolved			100.4		%		80-120	25-SEP-12
Chromium (Cr)-Dissolved			99.8		%		80-120	25-SEP-12
Cobalt (Co)-Dissolved			95.9		%		80-120	25-SEP-12
Copper (Cu)-Dissolved			94.4		%		80-120	25-SEP-12
Iron (Fe)-Dissolved			95.3		%		80-120	25-SEP-12
Lead (Pb)-Dissolved			98.2		%		80-120	25-SEP-12
Lithium (Li)-Dissolved			91.8		%		80-120	25-SEP-12
Magnesium (Mg)-Dissolved			108.0		%		80-120	25-SEP-12
Manganese (Mn)-Dissolved			101.3		%		80-120	25-SEP-12
Molybdenum (Mo)-Dissolved			97.9		%		80-120	25-SEP-12
Nickel (Ni)-Dissolved			97.6		%		80-120	25-SEP-12
Potassium (K)-Dissolved			96.4		%		80-120	25-SEP-12
Selenium (Se)-Dissolved			115.9		%		80-120	25-SEP-12
Silver (Ag)-Dissolved			100.4		%		80-120	25-SEP-12
Sodium (Na)-Dissolved			101.5		%		80-120	25-SEP-12
Strontium (Sr)-Dissolved			97.3		%		80-120	25-SEP-12
Tellurium (Te)-Dissolved			101.2		%		80-120	25-SEP-12
Thallium (Tl)-Dissolved			97.9		%		80-120	25-SEP-12
Tin (Sn)-Dissolved			96.9		%		80-120	25-SEP-12
Titanium (Ti)-Dissolved			97.6		%		80-120	25-SEP-12
Tungsten (W)-Dissolved			96.9		%		80-120	25-SEP-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2444871							
WG1553052-6	LCS							
Uranium (U)-Dissolved			94.5		%		80-120	25-SEP-12
Vanadium (V)-Dissolved			98.7		%		80-120	25-SEP-12
Zinc (Zn)-Dissolved			101.3		%		80-120	25-SEP-12
Zirconium (Zr)-Dissolved			92.3		%		80-120	25-SEP-12
WG1553052-1	MB							
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	25-SEP-12
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	25-SEP-12
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	25-SEP-12
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	25-SEP-12
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	25-SEP-12
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	25-SEP-12
Boron (B)-Dissolved			<0.050		mg/L		0.05	25-SEP-12
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	25-SEP-12
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	25-SEP-12
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	25-SEP-12
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	25-SEP-12
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	25-SEP-12
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	25-SEP-12
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	25-SEP-12
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	25-SEP-12
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	25-SEP-12
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	25-SEP-12
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	25-SEP-12
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	25-SEP-12
Potassium (K)-Dissolved			<0.50		mg/L		0.5	25-SEP-12
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	25-SEP-12
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-12
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	25-SEP-12
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	25-SEP-12
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	25-SEP-12
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	25-SEP-12
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	25-SEP-12
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	25-SEP-12
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	25-SEP-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2444871							
WG1553052-1 MB								
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	25-SEP-12
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	25-SEP-12
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	25-SEP-12
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	25-SEP-12
WG1553052-5 MB								
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	25-SEP-12
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	25-SEP-12
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	25-SEP-12
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	25-SEP-12
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	25-SEP-12
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	25-SEP-12
Boron (B)-Dissolved			<0.050		mg/L		0.05	25-SEP-12
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	25-SEP-12
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	25-SEP-12
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	25-SEP-12
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	25-SEP-12
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	25-SEP-12
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	25-SEP-12
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	25-SEP-12
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	25-SEP-12
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	25-SEP-12
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	25-SEP-12
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	25-SEP-12
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	25-SEP-12
Potassium (K)-Dissolved			<0.50		mg/L		0.5	25-SEP-12
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	25-SEP-12
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-12
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	25-SEP-12
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	25-SEP-12
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	25-SEP-12
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	25-SEP-12
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	25-SEP-12
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	25-SEP-12
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	25-SEP-12

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2444871							
WG1553052-5	MB							
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	25-SEP-12
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	25-SEP-12
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	25-SEP-12
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	25-SEP-12
WG1553052-8	MS	L1211812-1						
Aluminum (Al)-Dissolved			95.4		%		70-130	25-SEP-12
Antimony (Sb)-Dissolved			101.4		%		70-130	25-SEP-12
Arsenic (As)-Dissolved			100.1		%		70-130	25-SEP-12
Beryllium (Be)-Dissolved			98.4		%		70-130	25-SEP-12
Bismuth (Bi)-Dissolved			92.9		%		70-130	25-SEP-12
Boron (B)-Dissolved			102.9		%		70-130	25-SEP-12
Cadmium (Cd)-Dissolved			125.9		%		70-130	25-SEP-12
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	25-SEP-12
Chromium (Cr)-Dissolved			98.8		%		70-130	25-SEP-12
Cobalt (Co)-Dissolved			97.8		%		70-130	25-SEP-12
Copper (Cu)-Dissolved			96.4		%		70-130	25-SEP-12
Iron (Fe)-Dissolved			90.3		%		70-130	25-SEP-12
Lead (Pb)-Dissolved			98.9		%		70-130	25-SEP-12
Lithium (Li)-Dissolved			101.6		%		70-130	25-SEP-12
Magnesium (Mg)-Dissolved			N/A	MS-B	%		-	25-SEP-12
Manganese (Mn)-Dissolved			121.0		%		70-130	25-SEP-12
Molybdenum (Mo)-Dissolved			96.1		%		70-130	25-SEP-12
Nickel (Ni)-Dissolved			97.2		%		70-130	25-SEP-12
Potassium (K)-Dissolved			99.1		%		70-130	25-SEP-12
Selenium (Se)-Dissolved			102.4		%		70-130	25-SEP-12
Silver (Ag)-Dissolved			101.0		%		70-130	25-SEP-12
Sodium (Na)-Dissolved			N/A	MS-B	%		-	25-SEP-12
Strontium (Sr)-Dissolved			93.9		%		70-130	25-SEP-12
Tellurium (Te)-Dissolved			104.1		%		70-130	25-SEP-12
Thallium (Tl)-Dissolved			96.5		%		70-130	25-SEP-12
Tin (Sn)-Dissolved			100.6		%		70-130	25-SEP-12
Titanium (Ti)-Dissolved			99.96		%		70-130	25-SEP-12
Tungsten (W)-Dissolved			97.8		%		70-130	25-SEP-12
Uranium (U)-Dissolved			101.0		%		70-130	25-SEP-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2444871							
WG1553052-8	MS	L1211812-1						
Vanadium (V)-Dissolved			101.4		%		70-130	25-SEP-12
Zinc (Zn)-Dissolved			102.4		%		70-130	25-SEP-12
Zirconium (Zr)-Dissolved			94.0		%		70-130	25-SEP-12
Batch	R2446803							
WG1557363-2	LCS							
Aluminum (Al)-Dissolved			91.5		%		80-120	28-SEP-12
Antimony (Sb)-Dissolved			97.1		%		80-120	28-SEP-12
Arsenic (As)-Dissolved			92.3		%		80-120	28-SEP-12
Barium (Ba)-Dissolved			98.6		%		80-120	28-SEP-12
Beryllium (Be)-Dissolved			94.6		%		80-120	28-SEP-12
Bismuth (Bi)-Dissolved			96.4		%		80-120	28-SEP-12
Boron (B)-Dissolved			89.3		%		80-120	28-SEP-12
Cadmium (Cd)-Dissolved			98.5		%		80-120	28-SEP-12
Calcium (Ca)-Dissolved			95.7		%		80-120	28-SEP-12
Chromium (Cr)-Dissolved			97.6		%		80-120	28-SEP-12
Cobalt (Co)-Dissolved			94.4		%		80-120	28-SEP-12
Copper (Cu)-Dissolved			90.6		%		80-120	28-SEP-12
Iron (Fe)-Dissolved			99.7		%		80-120	28-SEP-12
Lead (Pb)-Dissolved			94.0		%		80-120	28-SEP-12
Lithium (Li)-Dissolved			86.6		%		80-120	28-SEP-12
Magnesium (Mg)-Dissolved			96.7		%		80-120	28-SEP-12
Manganese (Mn)-Dissolved			95.6		%		80-120	28-SEP-12
Molybdenum (Mo)-Dissolved			94.7		%		80-120	28-SEP-12
Nickel (Ni)-Dissolved			94.3		%		80-120	28-SEP-12
Potassium (K)-Dissolved			95.7		%		80-120	28-SEP-12
Selenium (Se)-Dissolved			102.4		%		80-120	28-SEP-12
Silver (Ag)-Dissolved			101.4		%		80-120	28-SEP-12
Sodium (Na)-Dissolved			96.2		%		80-120	28-SEP-12
Strontium (Sr)-Dissolved			95.8		%		80-120	28-SEP-12
Tellurium (Te)-Dissolved			98.9		%		80-120	28-SEP-12
Thallium (Tl)-Dissolved			94.8		%		80-120	28-SEP-12
Tin (Sn)-Dissolved			96.3		%		80-120	28-SEP-12
Titanium (Ti)-Dissolved			94.9		%		80-120	28-SEP-12
Tungsten (W)-Dissolved			95.4		%		80-120	28-SEP-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2446803							
WG1557363-2	LCS							
Uranium (U)-Dissolved			93.4		%		80-120	28-SEP-12
Vanadium (V)-Dissolved			95.2		%		80-120	28-SEP-12
Zinc (Zn)-Dissolved			94.7		%		80-120	28-SEP-12
Zirconium (Zr)-Dissolved			90.8		%		80-120	28-SEP-12
WG1557363-1	MB							
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	28-SEP-12
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	28-SEP-12
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	28-SEP-12
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	28-SEP-12
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	28-SEP-12
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	28-SEP-12
Boron (B)-Dissolved			<0.050		mg/L		0.05	28-SEP-12
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	28-SEP-12
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	28-SEP-12
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	28-SEP-12
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	28-SEP-12
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	28-SEP-12
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	28-SEP-12
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	28-SEP-12
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	28-SEP-12
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	28-SEP-12
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	28-SEP-12
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	28-SEP-12
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	28-SEP-12
Potassium (K)-Dissolved			<0.50		mg/L		0.5	28-SEP-12
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	28-SEP-12
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	28-SEP-12
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	28-SEP-12
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	28-SEP-12
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	28-SEP-12
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	28-SEP-12
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	28-SEP-12
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	28-SEP-12
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	28-SEP-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2446803							
WG1557363-1	MB							
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	28-SEP-12
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	28-SEP-12
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	28-SEP-12
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	28-SEP-12
Batch	R2450603							
WG1558237-2	LCS							
Aluminum (Al)-Dissolved			95.3		%		80-120	02-OCT-12
Antimony (Sb)-Dissolved			101.7		%		80-120	02-OCT-12
Arsenic (As)-Dissolved			99.9		%		80-120	02-OCT-12
Barium (Ba)-Dissolved			100.0		%		80-120	02-OCT-12
Beryllium (Be)-Dissolved			95.4		%		80-120	02-OCT-12
Bismuth (Bi)-Dissolved			102.5		%		80-120	02-OCT-12
Boron (B)-Dissolved			91.2		%		80-120	02-OCT-12
Cadmium (Cd)-Dissolved			104.2		%		80-120	02-OCT-12
Calcium (Ca)-Dissolved			94.3		%		80-120	02-OCT-12
Chromium (Cr)-Dissolved			103.2		%		80-120	02-OCT-12
Cobalt (Co)-Dissolved			103.2		%		80-120	02-OCT-12
Copper (Cu)-Dissolved			103.0		%		80-120	02-OCT-12
Iron (Fe)-Dissolved			108.7		%		80-120	02-OCT-12
Lead (Pb)-Dissolved			101.1		%		80-120	02-OCT-12
Lithium (Li)-Dissolved			117.1		%		80-120	02-OCT-12
Magnesium (Mg)-Dissolved			105.4		%		80-120	02-OCT-12
Manganese (Mn)-Dissolved			104.2		%		80-120	02-OCT-12
Molybdenum (Mo)-Dissolved			99.0		%		80-120	02-OCT-12
Nickel (Ni)-Dissolved			102.1		%		80-120	02-OCT-12
Potassium (K)-Dissolved			96.2		%		80-120	02-OCT-12
Selenium (Se)-Dissolved			106.4		%		80-120	02-OCT-12
Silver (Ag)-Dissolved			104.6		%		80-120	02-OCT-12
Sodium (Na)-Dissolved			101.0		%		80-120	02-OCT-12
Strontium (Sr)-Dissolved			97.6		%		80-120	02-OCT-12
Tellurium (Te)-Dissolved			104.3		%		80-120	02-OCT-12
Thallium (Tl)-Dissolved			100.1		%		80-120	02-OCT-12
Tin (Sn)-Dissolved			101.0		%		80-120	02-OCT-12
Titanium (Ti)-Dissolved			100.9		%		80-120	02-OCT-12

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2450603							
WG1558237-2	LCS							
Tungsten (W)-Dissolved			97.6		%		80-120	02-OCT-12
Uranium (U)-Dissolved			104.6		%		80-120	02-OCT-12
Vanadium (V)-Dissolved			102.4		%		80-120	02-OCT-12
Zinc (Zn)-Dissolved			103.4		%		80-120	02-OCT-12
Zirconium (Zr)-Dissolved			99.2		%		80-120	02-OCT-12
WG1558237-6	LCS							
Aluminum (Al)-Dissolved			99.1		%		80-120	02-OCT-12
Antimony (Sb)-Dissolved			103.9		%		80-120	02-OCT-12
Arsenic (As)-Dissolved			103.5		%		80-120	02-OCT-12
Barium (Ba)-Dissolved			101.4		%		80-120	02-OCT-12
Beryllium (Be)-Dissolved			114.1		%		80-120	02-OCT-12
Bismuth (Bi)-Dissolved			105.7		%		80-120	02-OCT-12
Boron (B)-Dissolved			88.1		%		80-120	02-OCT-12
Cadmium (Cd)-Dissolved			105.0		%		80-120	02-OCT-12
Calcium (Ca)-Dissolved			100.0		%		80-120	02-OCT-12
Chromium (Cr)-Dissolved			104.3		%		80-120	02-OCT-12
Cobalt (Co)-Dissolved			105.7		%		80-120	02-OCT-12
Copper (Cu)-Dissolved			106.3		%		80-120	02-OCT-12
Iron (Fe)-Dissolved			112.2		%		80-120	02-OCT-12
Lead (Pb)-Dissolved			104.2		%		80-120	02-OCT-12
Lithium (Li)-Dissolved			117.7		%		80-120	02-OCT-12
Magnesium (Mg)-Dissolved			110.3		%		80-120	02-OCT-12
Manganese (Mn)-Dissolved			104.3		%		80-120	02-OCT-12
Molybdenum (Mo)-Dissolved			101.8		%		80-120	02-OCT-12
Nickel (Ni)-Dissolved			102.8		%		80-120	02-OCT-12
Potassium (K)-Dissolved			100.3		%		80-120	02-OCT-12
Selenium (Se)-Dissolved			102.2		%		80-120	02-OCT-12
Silver (Ag)-Dissolved			109.5		%		80-120	02-OCT-12
Sodium (Na)-Dissolved			105.6		%		80-120	02-OCT-12
Strontium (Sr)-Dissolved			102.2		%		80-120	02-OCT-12
Tellurium (Te)-Dissolved			101.0		%		80-120	02-OCT-12
Thallium (Tl)-Dissolved			105.0		%		80-120	02-OCT-12
Tin (Sn)-Dissolved			101.4		%		80-120	02-OCT-12
Titanium (Ti)-Dissolved			101.0		%		80-120	02-OCT-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2450603							
WG1558237-6	LCS							
Tungsten (W)-Dissolved			100.0		%		80-120	02-OCT-12
Uranium (U)-Dissolved			104.9		%		80-120	02-OCT-12
Vanadium (V)-Dissolved			104.3		%		80-120	02-OCT-12
Zinc (Zn)-Dissolved			106.2		%		80-120	02-OCT-12
Zirconium (Zr)-Dissolved			101.8		%		80-120	02-OCT-12
WG1558237-1	MB							
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	02-OCT-12
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	02-OCT-12
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	02-OCT-12
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	02-OCT-12
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	02-OCT-12
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	02-OCT-12
Boron (B)-Dissolved			<0.050		mg/L		0.05	02-OCT-12
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	02-OCT-12
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	02-OCT-12
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	02-OCT-12
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	02-OCT-12
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	02-OCT-12
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	02-OCT-12
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	02-OCT-12
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	02-OCT-12
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	02-OCT-12
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	02-OCT-12
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	02-OCT-12
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	02-OCT-12
Potassium (K)-Dissolved			<0.50		mg/L		0.5	02-OCT-12
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	02-OCT-12
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	02-OCT-12
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	02-OCT-12
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	02-OCT-12
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	02-OCT-12
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	02-OCT-12
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	02-OCT-12
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	02-OCT-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2450603							
WG1558237-1 MB								
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	02-OCT-12
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	02-OCT-12
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	02-OCT-12
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	02-OCT-12
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	02-OCT-12
WG1558237-5 MB								
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	02-OCT-12
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	02-OCT-12
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	02-OCT-12
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	02-OCT-12
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	02-OCT-12
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	02-OCT-12
Boron (B)-Dissolved			<0.050		mg/L		0.05	02-OCT-12
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	02-OCT-12
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	02-OCT-12
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	02-OCT-12
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	02-OCT-12
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	02-OCT-12
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	02-OCT-12
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	02-OCT-12
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	02-OCT-12
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	02-OCT-12
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	02-OCT-12
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	02-OCT-12
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	02-OCT-12
Potassium (K)-Dissolved			<0.50		mg/L		0.5	02-OCT-12
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	02-OCT-12
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	02-OCT-12
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	02-OCT-12
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	02-OCT-12
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	02-OCT-12
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	02-OCT-12
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	02-OCT-12
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	02-OCT-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2450603							
WG1558237-5	MB							
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	02-OCT-12
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	02-OCT-12
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	02-OCT-12
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	02-OCT-12
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	02-OCT-12
WG1558237-4	MS	L1215320-1						
Aluminum (Al)-Dissolved			102.4		%		70-130	02-OCT-12
Antimony (Sb)-Dissolved			108.7		%		70-130	02-OCT-12
Arsenic (As)-Dissolved			112.2		%		70-130	02-OCT-12
Barium (Ba)-Dissolved			N/A	MS-B	%		-	02-OCT-12
Beryllium (Be)-Dissolved			112.4		%		70-130	02-OCT-12
Bismuth (Bi)-Dissolved			105.1		%		70-130	02-OCT-12
Cadmium (Cd)-Dissolved			125.6		%		70-130	02-OCT-12
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	02-OCT-12
Cobalt (Co)-Dissolved			110.9		%		70-130	02-OCT-12
Copper (Cu)-Dissolved			114.1		%		70-130	02-OCT-12
Iron (Fe)-Dissolved			103.0		%		70-130	02-OCT-12
Lead (Pb)-Dissolved			106.1		%		70-130	02-OCT-12
Lithium (Li)-Dissolved			129.6		%		70-130	02-OCT-12
Magnesium (Mg)-Dissolved			N/A	MS-B	%		-	02-OCT-12
Manganese (Mn)-Dissolved			N/A	MS-B	%		-	02-OCT-12
Molybdenum (Mo)-Dissolved			106.3		%		70-130	02-OCT-12
Nickel (Ni)-Dissolved			104.4		%		70-130	02-OCT-12
Potassium (K)-Dissolved			N/A	MS-B	%		-	02-OCT-12
Selenium (Se)-Dissolved			116.7		%		70-130	02-OCT-12
Silver (Ag)-Dissolved			103.4		%		70-130	02-OCT-12
Sodium (Na)-Dissolved			N/A	MS-B	%		-	02-OCT-12
Strontium (Sr)-Dissolved			N/A	MS-B	%		-	02-OCT-12
Tellurium (Te)-Dissolved			112.4		%		70-130	02-OCT-12
Thallium (Tl)-Dissolved			104.2		%		70-130	02-OCT-12
Tin (Sn)-Dissolved			104.6		%		70-130	02-OCT-12
Titanium (Ti)-Dissolved			103.1		%		70-130	02-OCT-12
Tungsten (W)-Dissolved			101.6		%		70-130	02-OCT-12
Vanadium (V)-Dissolved			109.2		%		70-130	02-OCT-12



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MET-D-MS-TB								
	Water							
Batch	R2450603							
WG1558237-4 MS		L1215320-1						
Zinc (Zn)-Dissolved			111.1		%		70-130	02-OCT-12
Zirconium (Zr)-Dissolved			104.9		%		70-130	02-OCT-12
MET-T-MS-TB								
	Water							
Batch	R2442491							
WG1550108-2 LCS								
Aluminum (Al)-Total			82.7		%		80-120	21-SEP-12
Antimony (Sb)-Total			86.7		%		80-120	21-SEP-12
Arsenic (As)-Total			86.4		%		80-120	21-SEP-12
Barium (Ba)-Total			85.6		%		80-120	21-SEP-12
Beryllium (Be)-Total			90.8		%		80-120	21-SEP-12
Bismuth (Bi)-Total			95.3		%		80-120	21-SEP-12
Boron (B)-Total			80.3		%		80-120	21-SEP-12
Cadmium (Cd)-Total			88.3		%		80-120	21-SEP-12
Calcium (Ca)-Total			84.4		%		80-120	21-SEP-12
Chromium (Cr)-Total			87.6		%		80-120	21-SEP-12
Cobalt (Co)-Total			84.9		%		80-120	21-SEP-12
Copper (Cu)-Total			84.6		%		80-120	21-SEP-12
Iron (Fe)-Total			85.8		%		80-120	21-SEP-12
Lead (Pb)-Total			85.7		%		80-120	21-SEP-12
Lithium (Li)-Total			91.9		%		80-120	21-SEP-12
Magnesium (Mg)-Total			94.2		%		80-120	21-SEP-12
Manganese (Mn)-Total			90.8		%		80-120	21-SEP-12
Molybdenum (Mo)-Total			88.5		%		80-120	21-SEP-12
Nickel (Ni)-Total			86.9		%		80-120	21-SEP-12
Potassium (K)-Total			87.2		%		80-120	21-SEP-12
Selenium (Se)-Total			89.8		%		80-120	21-SEP-12
Silver (Ag)-Total			89.0		%		80-120	21-SEP-12
Sodium (Na)-Total			84.1		%		80-120	21-SEP-12
Strontium (Sr)-Total			85.8		%		80-120	21-SEP-12
Tellurium (Te)-Total			88.0		%		80-120	21-SEP-12
Thallium (Tl)-Total			87.9		%		80-120	21-SEP-12
Tin (Sn)-Total			87.0		%		80-120	21-SEP-12
Titanium (Ti)-Total			84.4		%		80-120	21-SEP-12
Tungsten (W)-Total			85.3		%		80-120	21-SEP-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2442491							
WG1550108-2	LCS							
Uranium (U)-Total			87.9		%		80-120	21-SEP-12
Vanadium (V)-Total			87.7		%		80-120	21-SEP-12
Zinc (Zn)-Total			87.8		%		80-120	21-SEP-12
Zirconium (Zr)-Total			83.1		%		80-120	21-SEP-12
WG1550108-1	MB							
Aluminum (Al)-Total			<0.0050		mg/L		0.005	21-SEP-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	21-SEP-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	21-SEP-12
Barium (Ba)-Total			<0.010		mg/L		0.01	21-SEP-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	21-SEP-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	21-SEP-12
Boron (B)-Total			<0.050		mg/L		0.05	21-SEP-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	21-SEP-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	21-SEP-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	21-SEP-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	21-SEP-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	21-SEP-12
Iron (Fe)-Total			<0.020		mg/L		0.02	21-SEP-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	21-SEP-12
Lithium (Li)-Total			<0.050		mg/L		0.05	21-SEP-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	21-SEP-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	21-SEP-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	21-SEP-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	21-SEP-12
Potassium (K)-Total			<0.50		mg/L		0.5	21-SEP-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	21-SEP-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	21-SEP-12
Sodium (Na)-Total			<0.10		mg/L		0.1	21-SEP-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	21-SEP-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	21-SEP-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	21-SEP-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	21-SEP-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	21-SEP-12
Tungsten (W)-Total			<0.010		mg/L		0.01	21-SEP-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
Water								
Batch	R2442491							
WG1550108-1	MB							
Uranium (U)-Total			<0.0050		mg/L		0.005	21-SEP-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	21-SEP-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	21-SEP-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	21-SEP-12
Batch	R2444216							
WG1550108-3	DUP	L1211071-9						
Aluminum (Al)-Total		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	24-SEP-12
Antimony (Sb)-Total		<0.00060	<0.00060	RPD-NA	mg/L	N/A	20	24-SEP-12
Arsenic (As)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	24-SEP-12
Barium (Ba)-Total		0.016	0.017		mg/L	1.4	20	24-SEP-12
Beryllium (Be)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	24-SEP-12
Bismuth (Bi)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	24-SEP-12
Boron (B)-Total		<0.050	<0.050	RPD-NA	mg/L	N/A	20	24-SEP-12
Cadmium (Cd)-Total		<0.000017	<0.000017	RPD-NA	mg/L	N/A	20	24-SEP-12
Calcium (Ca)-Total		33.3	25.3		mg/L	4.0	20	24-SEP-12
Chromium (Cr)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	24-SEP-12
Cobalt (Co)-Total		<0.00050	<0.00050	RPD-NA	mg/L	N/A	20	24-SEP-12
Copper (Cu)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	24-SEP-12
Iron (Fe)-Total		0.180	0.185		mg/L	3.0	20	24-SEP-12
Lead (Pb)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	24-SEP-12
Lithium (Li)-Total		<0.050	<0.050	RPD-NA	mg/L	N/A	20	24-SEP-12
Magnesium (Mg)-Total		3.28	2.44		mg/L	2.4	20	24-SEP-12
Manganese (Mn)-Total		0.0747	0.0531		mg/L	3.7	20	24-SEP-12
Molybdenum (Mo)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	24-SEP-12
Nickel (Ni)-Total		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	24-SEP-12
Potassium (K)-Total		0.58	0.60		mg/L	3.4	20	24-SEP-12
Selenium (Se)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	24-SEP-12
Silver (Ag)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	24-SEP-12
Sodium (Na)-Total		1.58	1.18		mg/L	0.9	20	24-SEP-12
Strontium (Sr)-Total		0.0510	0.0429		mg/L	3.4	20	24-SEP-12
Tellurium (Te)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	24-SEP-12
Thallium (Tl)-Total		<0.00030	<0.00030	RPD-NA	mg/L	N/A	20	24-SEP-12
Tin (Sn)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	24-SEP-12
Titanium (Ti)-Total		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	24-SEP-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2444216							
WG1550108-3	DUP	L1211071-9						
Tungsten (W)-Total		<0.010	<0.010	RPD-NA	mg/L	N/A	20	24-SEP-12
Uranium (U)-Total		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	24-SEP-12
Vanadium (V)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	24-SEP-12
Zinc (Zn)-Total		<0.0030	<0.0030	RPD-NA	mg/L	N/A	20	24-SEP-12
Zirconium (Zr)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	24-SEP-12
WG1550108-5	MB							
Aluminum (Al)-Total			<0.0050		mg/L		0.005	24-SEP-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	24-SEP-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	24-SEP-12
Barium (Ba)-Total			<0.010		mg/L		0.01	24-SEP-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	24-SEP-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	24-SEP-12
Boron (B)-Total			<0.050		mg/L		0.05	24-SEP-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	24-SEP-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	24-SEP-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	24-SEP-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	24-SEP-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	24-SEP-12
Iron (Fe)-Total			<0.020		mg/L		0.02	24-SEP-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	24-SEP-12
Lithium (Li)-Total			<0.050		mg/L		0.05	24-SEP-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	24-SEP-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	24-SEP-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	24-SEP-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	24-SEP-12
Potassium (K)-Total			<0.50		mg/L		0.5	24-SEP-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	24-SEP-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	24-SEP-12
Sodium (Na)-Total			<0.10		mg/L		0.1	24-SEP-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	24-SEP-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	24-SEP-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	24-SEP-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	24-SEP-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	24-SEP-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2444216							
WG1550108-5 MB								
Tungsten (W)-Total			<0.010		mg/L		0.01	24-SEP-12
Uranium (U)-Total			<0.0050		mg/L		0.005	24-SEP-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	24-SEP-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	24-SEP-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	24-SEP-12
WG1550108-9 MB								
Aluminum (Al)-Total			<0.0050		mg/L		0.005	24-SEP-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	24-SEP-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	24-SEP-12
Barium (Ba)-Total			<0.010		mg/L		0.01	24-SEP-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	24-SEP-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	24-SEP-12
Boron (B)-Total			<0.050		mg/L		0.05	24-SEP-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	24-SEP-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	24-SEP-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	24-SEP-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	24-SEP-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	24-SEP-12
Iron (Fe)-Total			<0.020		mg/L		0.02	24-SEP-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	24-SEP-12
Lithium (Li)-Total			<0.050		mg/L		0.05	24-SEP-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	24-SEP-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	24-SEP-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	24-SEP-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	24-SEP-12
Potassium (K)-Total			<0.50		mg/L		0.5	24-SEP-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	24-SEP-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	24-SEP-12
Sodium (Na)-Total			<0.10		mg/L		0.1	24-SEP-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	24-SEP-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	24-SEP-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	24-SEP-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	24-SEP-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	24-SEP-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB	Water							
Batch	R2444216							
WG1550108-9 MB								
Tungsten (W)-Total			<0.010		mg/L		0.01	24-SEP-12
Uranium (U)-Total			<0.0050		mg/L		0.005	24-SEP-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	24-SEP-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	24-SEP-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	24-SEP-12
WG1550108-12 MS		L1211810-1						
Aluminum (Al)-Total			122.1		%		70-130	24-SEP-12
Antimony (Sb)-Total			100.3		%		70-130	24-SEP-12
Arsenic (As)-Total			96.9		%		70-130	24-SEP-12
Barium (Ba)-Total			N/A	MS-B	%		-	24-SEP-12
Beryllium (Be)-Total			112.1		%		70-130	24-SEP-12
Bismuth (Bi)-Total			91.0		%		70-130	24-SEP-12
Boron (B)-Total			95.8		%		70-130	24-SEP-12
Cadmium (Cd)-Total			124.3		%		70-130	24-SEP-12
Calcium (Ca)-Total			N/A	MS-B	%		-	24-SEP-12
Chromium (Cr)-Total			102.2		%		70-130	24-SEP-12
Cobalt (Co)-Total			94.2		%		70-130	24-SEP-12
Copper (Cu)-Total			109.1		%		70-130	24-SEP-12
Iron (Fe)-Total			101.9		%		70-130	24-SEP-12
Lead (Pb)-Total			97.7		%		70-130	24-SEP-12
Magnesium (Mg)-Total			N/A	MS-B	%		-	24-SEP-12
Molybdenum (Mo)-Total			103.0		%		70-130	24-SEP-12
Nickel (Ni)-Total			94.3		%		70-130	24-SEP-12
Potassium (K)-Total			N/A	MS-B	%		-	24-SEP-12
Selenium (Se)-Total			111.6		%		70-130	24-SEP-12
Silver (Ag)-Total			99.9		%		70-130	24-SEP-12
Sodium (Na)-Total			N/A	MS-B	%		-	24-SEP-12
Strontium (Sr)-Total			N/A	MS-B	%		-	24-SEP-12
Tellurium (Te)-Total			102.1		%		70-130	24-SEP-12
Thallium (Tl)-Total			93.0		%		70-130	24-SEP-12
Tin (Sn)-Total			100.7		%		70-130	24-SEP-12
Titanium (Ti)-Total			106.5		%		70-130	24-SEP-12
Tungsten (W)-Total			98.8		%		70-130	24-SEP-12
Uranium (U)-Total			97.4		%		70-130	24-SEP-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2444216							
WG1550108-12 MS		L1211810-1						
Vanadium (V)-Total			113.6		%		70-130	24-SEP-12
Zinc (Zn)-Total			99.9		%		70-130	24-SEP-12
Zirconium (Zr)-Total			98.0		%		70-130	24-SEP-12
WG1550108-4 MS		L1211071-9						
Aluminum (Al)-Total			97.6		%		70-130	24-SEP-12
Antimony (Sb)-Total			100.2		%		70-130	24-SEP-12
Arsenic (As)-Total			100.3		%		70-130	24-SEP-12
Beryllium (Be)-Total			97.5		%		70-130	24-SEP-12
Bismuth (Bi)-Total			93.8		%		70-130	24-SEP-12
Boron (B)-Total			86.2		%		70-130	24-SEP-12
Cadmium (Cd)-Total			122.6		%		70-130	24-SEP-12
Calcium (Ca)-Total			N/A	MS-B	%		-	24-SEP-12
Chromium (Cr)-Total			91.8		%		70-130	24-SEP-12
Cobalt (Co)-Total			84.8		%		70-130	24-SEP-12
Copper (Cu)-Total			101.6		%		70-130	24-SEP-12
Iron (Fe)-Total			95.4		%		70-130	24-SEP-12
Lead (Pb)-Total			93.5		%		70-130	24-SEP-12
Lithium (Li)-Total			91.4		%		70-130	24-SEP-12
Magnesium (Mg)-Total			N/A	MS-B	%		-	24-SEP-12
Manganese (Mn)-Total			N/A	MS-B	%		-	24-SEP-12
Molybdenum (Mo)-Total			99.5		%		70-130	24-SEP-12
Nickel (Ni)-Total			97.2		%		70-130	24-SEP-12
Potassium (K)-Total			96.9		%		70-130	24-SEP-12
Selenium (Se)-Total			94.6		%		70-130	24-SEP-12
Silver (Ag)-Total			102.2		%		70-130	24-SEP-12
Sodium (Na)-Total			96.2		%		70-130	24-SEP-12
Strontium (Sr)-Total			N/A	MS-B	%		-	24-SEP-12
Tellurium (Te)-Total			99.7		%		70-130	24-SEP-12
Thallium (Tl)-Total			94.7		%		70-130	24-SEP-12
Tin (Sn)-Total			99.3		%		70-130	24-SEP-12
Titanium (Ti)-Total			94.1		%		70-130	24-SEP-12
Tungsten (W)-Total			95.7		%		70-130	24-SEP-12
Uranium (U)-Total			98.8		%		70-130	24-SEP-12
Vanadium (V)-Total			99.4		%		70-130	24-SEP-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2444216							
WG1550108-4 MS		L1211071-9						
Zinc (Zn)-Total			97.8		%		70-130	24-SEP-12
Zirconium (Zr)-Total			101.9		%		70-130	24-SEP-12
WG1550108-8 MS		L1211376-1						
Antimony (Sb)-Total			102.8		%		70-130	24-SEP-12
Arsenic (As)-Total			113.5		%		70-130	24-SEP-12
Beryllium (Be)-Total			108.9		%		70-130	24-SEP-12
Bismuth (Bi)-Total			93.4		%		70-130	24-SEP-12
Boron (B)-Total			104.1		%		70-130	24-SEP-12
Cadmium (Cd)-Total			124.7		%		70-130	24-SEP-12
Calcium (Ca)-Total			N/A	MS-B	%		-	24-SEP-12
Chromium (Cr)-Total			99.3		%		70-130	24-SEP-12
Cobalt (Co)-Total			103.8		%		70-130	24-SEP-12
Copper (Cu)-Total			116.4		%		70-130	24-SEP-12
Iron (Fe)-Total			107.7		%		70-130	24-SEP-12
Lead (Pb)-Total			95.4		%		70-130	24-SEP-12
Lithium (Li)-Total			122.6		%		70-130	24-SEP-12
Magnesium (Mg)-Total			N/A	MS-B	%		-	24-SEP-12
Manganese (Mn)-Total			N/A	MS-B	%		-	24-SEP-12
Molybdenum (Mo)-Total			109.2		%		70-130	24-SEP-12
Nickel (Ni)-Total			101.0		%		70-130	24-SEP-12
Potassium (K)-Total			N/A	MS-B	%		-	24-SEP-12
Selenium (Se)-Total			104.1		%		70-130	24-SEP-12
Silver (Ag)-Total			99.9		%		70-130	24-SEP-12
Sodium (Na)-Total			N/A	MS-B	%		-	24-SEP-12
Strontium (Sr)-Total			N/A	MS-B	%		-	24-SEP-12
Tellurium (Te)-Total			104.2		%		70-130	24-SEP-12
Thallium (Tl)-Total			94.3		%		70-130	24-SEP-12
Tin (Sn)-Total			97.6		%		70-130	24-SEP-12
Titanium (Ti)-Total			98.8		%		70-130	24-SEP-12
Uranium (U)-Total			106.5		%		70-130	24-SEP-12
Vanadium (V)-Total			106.2		%		70-130	24-SEP-12
Zinc (Zn)-Total			101.3		%		70-130	24-SEP-12
Zirconium (Zr)-Total			96.1		%		70-130	24-SEP-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2446794							
WG1550108-14 LCS								
Aluminum (Al)-Total			82.6		%		80-120	28-SEP-12
Antimony (Sb)-Total			85.9		%		80-120	28-SEP-12
Arsenic (As)-Total			82.1		%		80-120	28-SEP-12
Barium (Ba)-Total			86.9		%		80-120	28-SEP-12
Beryllium (Be)-Total			84.6		%		80-120	28-SEP-12
Bismuth (Bi)-Total			86.5		%		80-120	28-SEP-12
Boron (B)-Total			80.7		%		80-120	28-SEP-12
Cadmium (Cd)-Total			87.6		%		80-120	28-SEP-12
Calcium (Ca)-Total			85.4		%		80-120	28-SEP-12
Chromium (Cr)-Total			87.7		%		80-120	28-SEP-12
Cobalt (Co)-Total			85.4		%		80-120	28-SEP-12
Copper (Cu)-Total			82.2		%		80-120	28-SEP-12
Iron (Fe)-Total			90.3		%		80-120	28-SEP-12
Lead (Pb)-Total			83.9		%		80-120	28-SEP-12
Lithium (Li)-Total			87.4		%		80-120	28-SEP-12
Magnesium (Mg)-Total			87.8		%		80-120	28-SEP-12
Manganese (Mn)-Total			86.8		%		80-120	28-SEP-12
Molybdenum (Mo)-Total			85.6		%		80-120	28-SEP-12
Nickel (Ni)-Total			85.2		%		80-120	28-SEP-12
Potassium (K)-Total			84.7		%		80-120	28-SEP-12
Selenium (Se)-Total			94.9		%		80-120	28-SEP-12
Silver (Ag)-Total			88.8		%		80-120	28-SEP-12
Sodium (Na)-Total			88.0		%		80-120	28-SEP-12
Strontium (Sr)-Total			85.0		%		80-120	28-SEP-12
Tellurium (Te)-Total			91.8		%		80-120	28-SEP-12
Thallium (Tl)-Total			85.6		%		80-120	28-SEP-12
Tin (Sn)-Total			85.2		%		80-120	28-SEP-12
Titanium (Ti)-Total			84.6		%		80-120	28-SEP-12
Tungsten (W)-Total			84.6		%		80-120	28-SEP-12
Uranium (U)-Total			85.6		%		80-120	28-SEP-12
Vanadium (V)-Total			83.8		%		80-120	28-SEP-12
Zinc (Zn)-Total			84.8		%		80-120	28-SEP-12
Zirconium (Zr)-Total			83.5		%		80-120	28-SEP-12
WG1550108-13 MB								



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB	Water							
Batch	R2446794							
WG1550108-13 MB								
Aluminum (Al)-Total			<0.0050		mg/L		0.005	28-SEP-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	28-SEP-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	28-SEP-12
Barium (Ba)-Total			<0.010		mg/L		0.01	28-SEP-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	28-SEP-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	28-SEP-12
Boron (B)-Total			<0.050		mg/L		0.05	28-SEP-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	28-SEP-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	28-SEP-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	28-SEP-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	28-SEP-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	28-SEP-12
Iron (Fe)-Total			<0.020		mg/L		0.02	28-SEP-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	28-SEP-12
Lithium (Li)-Total			<0.050		mg/L		0.05	28-SEP-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	28-SEP-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	28-SEP-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	28-SEP-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	28-SEP-12
Potassium (K)-Total			<0.50		mg/L		0.5	28-SEP-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	28-SEP-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	28-SEP-12
Sodium (Na)-Total			<0.10		mg/L		0.1	28-SEP-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	28-SEP-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	28-SEP-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	28-SEP-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	28-SEP-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	28-SEP-12
Tungsten (W)-Total			<0.010		mg/L		0.01	28-SEP-12
Uranium (U)-Total			<0.0050		mg/L		0.005	28-SEP-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	28-SEP-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	28-SEP-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	28-SEP-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2446847							
WG1550108-16 LCS								
Aluminum (Al)-Total			86.8		%		80-120	27-SEP-12
Antimony (Sb)-Total			89.6		%		80-120	27-SEP-12
Arsenic (As)-Total			88.1		%		80-120	27-SEP-12
Barium (Ba)-Total			85.9		%		80-120	27-SEP-12
Beryllium (Be)-Total			94.8		%		80-120	27-SEP-12
Bismuth (Bi)-Total			89.2		%		80-120	27-SEP-12
Boron (B)-Total			83.9		%		80-120	27-SEP-12
Cadmium (Cd)-Total			91.2		%		80-120	27-SEP-12
Calcium (Ca)-Total			95.1		%		80-120	27-SEP-12
Chromium (Cr)-Total			91.8		%		80-120	27-SEP-12
Cobalt (Co)-Total			89.6		%		80-120	27-SEP-12
Copper (Cu)-Total			85.3		%		80-120	27-SEP-12
Iron (Fe)-Total			97.8		%		80-120	27-SEP-12
Lead (Pb)-Total			87.0		%		80-120	27-SEP-12
Lithium (Li)-Total			97.3		%		80-120	27-SEP-12
Magnesium (Mg)-Total			95.6		%		80-120	27-SEP-12
Manganese (Mn)-Total			91.0		%		80-120	27-SEP-12
Molybdenum (Mo)-Total			85.0		%		80-120	27-SEP-12
Nickel (Ni)-Total			86.7		%		80-120	27-SEP-12
Potassium (K)-Total			94.6		%		80-120	27-SEP-12
Selenium (Se)-Total			86.0		%		80-120	27-SEP-12
Silver (Ag)-Total			89.3		%		80-120	27-SEP-12
Sodium (Na)-Total			94.5		%		80-120	27-SEP-12
Strontium (Sr)-Total			84.8		%		80-120	27-SEP-12
Tellurium (Te)-Total			94.4		%		80-120	27-SEP-12
Thallium (Tl)-Total			87.5		%		80-120	27-SEP-12
Tin (Sn)-Total			90.7		%		80-120	27-SEP-12
Titanium (Ti)-Total			88.3		%		80-120	27-SEP-12
Tungsten (W)-Total			84.6		%		80-120	27-SEP-12
Uranium (U)-Total			84.4		%		80-120	27-SEP-12
Vanadium (V)-Total			89.7		%		80-120	27-SEP-12
Zinc (Zn)-Total			90.3		%		80-120	27-SEP-12
Zirconium (Zr)-Total			85.8		%		80-120	27-SEP-12
WG1550108-15 MB								



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB	Water							
Batch	R2446847							
WG1550108-15 MB								
Aluminum (Al)-Total			<0.0050		mg/L		0.005	27-SEP-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	27-SEP-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	27-SEP-12
Barium (Ba)-Total			<0.010		mg/L		0.01	27-SEP-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	27-SEP-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	27-SEP-12
Boron (B)-Total			<0.050		mg/L		0.05	27-SEP-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	27-SEP-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	27-SEP-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	27-SEP-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	27-SEP-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	27-SEP-12
Iron (Fe)-Total			<0.020		mg/L		0.02	27-SEP-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	27-SEP-12
Lithium (Li)-Total			<0.050		mg/L		0.05	27-SEP-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	27-SEP-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	27-SEP-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	27-SEP-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	27-SEP-12
Potassium (K)-Total			<0.50		mg/L		0.5	27-SEP-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	27-SEP-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	27-SEP-12
Sodium (Na)-Total			<0.10		mg/L		0.1	27-SEP-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	27-SEP-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	27-SEP-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	27-SEP-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	27-SEP-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	27-SEP-12
Tungsten (W)-Total			<0.010		mg/L		0.01	27-SEP-12
Uranium (U)-Total			<0.0050		mg/L		0.005	27-SEP-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	27-SEP-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	27-SEP-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	27-SEP-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2448351							
WG1550108-18 LCS								
Aluminum (Al)-Total			81.7		%		80-120	01-OCT-12
Antimony (Sb)-Total			81.3		%		80-120	01-OCT-12
Arsenic (As)-Total			84.2		%		80-120	01-OCT-12
Barium (Ba)-Total			81.4		%		80-120	01-OCT-12
Beryllium (Be)-Total			80.7		%		80-120	01-OCT-12
Bismuth (Bi)-Total			83.4		%		80-120	01-OCT-12
Boron (B)-Total			81.3		%		80-120	01-OCT-12
Cadmium (Cd)-Total			84.6		%		80-120	01-OCT-12
Calcium (Ca)-Total			80.3		%		80-120	01-OCT-12
Chromium (Cr)-Total			87.4		%		80-120	01-OCT-12
Cobalt (Co)-Total			84.6		%		80-120	01-OCT-12
Copper (Cu)-Total			91.0		%		80-120	01-OCT-12
Iron (Fe)-Total			80.5		%		80-120	01-OCT-12
Lead (Pb)-Total			82.9		%		80-120	01-OCT-12
Lithium (Li)-Total			88.2		%		80-120	01-OCT-12
Magnesium (Mg)-Total			91.0		%		80-120	01-OCT-12
Manganese (Mn)-Total			85.5		%		80-120	01-OCT-12
Molybdenum (Mo)-Total			80.1		%		80-120	01-OCT-12
Nickel (Ni)-Total			85.0		%		80-120	01-OCT-12
Potassium (K)-Total			83.2		%		80-120	01-OCT-12
Selenium (Se)-Total			80.2		%		80-120	01-OCT-12
Silver (Ag)-Total			84.6		%		80-120	01-OCT-12
Sodium (Na)-Total			84.9		%		80-120	01-OCT-12
Strontium (Sr)-Total			80.6		%		80-120	01-OCT-12
Tellurium (Te)-Total			84.0		%		80-120	01-OCT-12
Thallium (Tl)-Total			81.8		%		80-120	01-OCT-12
Tin (Sn)-Total			82.0		%		80-120	01-OCT-12
Titanium (Ti)-Total			83.2		%		80-120	01-OCT-12
Tungsten (W)-Total			80.0		%		80-120	01-OCT-12
Uranium (U)-Total			80.5		%		80-120	01-OCT-12
Vanadium (V)-Total			85.4		%		80-120	01-OCT-12
Zinc (Zn)-Total			83.0		%		80-120	01-OCT-12
Zirconium (Zr)-Total			80.5		%		80-120	01-OCT-12
WG1550108-17 MB								



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2448351							
WG1550108-17 MB								
Aluminum (Al)-Total			<0.0050		mg/L		0.005	01-OCT-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	01-OCT-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	01-OCT-12
Barium (Ba)-Total			<0.010		mg/L		0.01	01-OCT-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	01-OCT-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	01-OCT-12
Boron (B)-Total			<0.050		mg/L		0.05	01-OCT-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	01-OCT-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	01-OCT-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	01-OCT-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	01-OCT-12
Iron (Fe)-Total			<0.020		mg/L		0.02	01-OCT-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	01-OCT-12
Lithium (Li)-Total			<0.050		mg/L		0.05	01-OCT-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	01-OCT-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	01-OCT-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	01-OCT-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	01-OCT-12
Potassium (K)-Total			<0.50		mg/L		0.5	01-OCT-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	01-OCT-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	01-OCT-12
Sodium (Na)-Total			<0.10		mg/L		0.1	01-OCT-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	01-OCT-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	01-OCT-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	01-OCT-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	01-OCT-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	01-OCT-12
Tungsten (W)-Total			<0.010		mg/L		0.01	01-OCT-12
Uranium (U)-Total			<0.0050		mg/L		0.005	01-OCT-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	01-OCT-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	01-OCT-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	01-OCT-12

NH3-COL-TB

Water



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NH3-COL-TB								
Water								
Batch	R2440302							
WG1549982-7	DUP	L1211071-2						
Ammonia, Total (as N)		<0.020	<0.020	RPD-NA	mg/L	N/A	20	20-SEP-12
WG1549982-10	LCS							
Ammonia, Total (as N)			97.2		%		85-115	20-SEP-12
WG1549982-14	LCS							
Ammonia, Total (as N)			96.8		%		85-115	20-SEP-12
WG1549982-2	LCS							
Ammonia, Total (as N)			95.8		%		85-115	20-SEP-12
WG1549982-6	LCS							
Ammonia, Total (as N)			96.7		%		85-115	20-SEP-12
WG1549982-1	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	20-SEP-12
WG1549982-13	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	20-SEP-12
WG1549982-5	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	20-SEP-12
WG1549982-9	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	20-SEP-12
WG1549982-12	MS	L1211178-2						
Ammonia, Total (as N)			77.2		%		75-125	20-SEP-12
WG1549982-16	MS	L1211866-1						
Ammonia, Total (as N)			92.2		%		75-125	20-SEP-12
WG1549982-4	MS	L1210726-10						
Ammonia, Total (as N)			89.9		%		75-125	20-SEP-12
WG1549982-8	MS	L1211071-2						
Ammonia, Total (as N)			92.6		%		75-125	20-SEP-12
Batch	R2441407							
WG1551886-2	LCS							
Ammonia, Total (as N)			97.3		%		85-115	22-SEP-12
WG1551886-6	LCS							
Ammonia, Total (as N)			98.4		%		85-115	22-SEP-12
WG1551886-1	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	22-SEP-12
WG1551886-5	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	22-SEP-12
WG1551886-4	MS	L1212545-1						
Ammonia, Total (as N)			96.0		%		75-125	22-SEP-12
WG1551886-8	MS	L1212553-2						
Ammonia, Total (as N)			123.2		%		75-125	22-SEP-12



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NO2-IC-TB								
Water								
Batch	R2441474							
WG1550591-3	DUP	L1211071-4						
Nitrite (as N)		<0.020	<0.020	RPD-NA	mg/L	N/A	20	19-SEP-12
WG1550591-10	LCS							
Nitrite (as N)			99.6		%		90-110	19-SEP-12
WG1550591-14	LCS							
Nitrite (as N)			98.2		%		90-110	19-SEP-12
WG1550591-18	LCS							
Nitrite (as N)			98.7		%		90-110	19-SEP-12
WG1550591-2	LCS							
Nitrite (as N)			95.5		%		90-110	19-SEP-12
WG1550591-6	LCS							
Nitrite (as N)			96.0		%		90-110	19-SEP-12
WG1550591-1	MB							
Nitrite (as N)			<0.020		mg/L		0.02	19-SEP-12
WG1550591-13	MB							
Nitrite (as N)			<0.020		mg/L		0.02	19-SEP-12
WG1550591-17	MB							
Nitrite (as N)			<0.020		mg/L		0.02	19-SEP-12
WG1550591-5	MB							
Nitrite (as N)			<0.020		mg/L		0.02	19-SEP-12
WG1550591-9	MB							
Nitrite (as N)			<0.020		mg/L		0.02	19-SEP-12
WG1550591-16	MS	L1211053-6						
Nitrite (as N)			102.7		%		75-115	19-SEP-12
WG1550591-4	MS	L1211071-4						
Nitrite (as N)			101.2		%		75-115	19-SEP-12
WG1550591-8	MS	L1211159-1						
Nitrite (as N)			93.4		%		75-115	19-SEP-12
NO3-IC-TB								
Water								
Batch	R2441474							
WG1550591-3	DUP	L1211071-4						
Nitrate (as N)		<0.030	<0.030	RPD-NA	mg/L	N/A	20	19-SEP-12
WG1550591-10	LCS							
Nitrate (as N)			102.3		%		90-110	19-SEP-12
WG1550591-14	LCS							
Nitrate (as N)			101.7		%		90-110	19-SEP-12
WG1550591-18	LCS							
Nitrate (as N)			104.4		%		90-110	19-SEP-12
WG1550591-2	LCS							



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NO3-IC-TB								
	Water							
Batch	R2441474							
WG1550591-2	LCS							
Nitrate (as N)			100.7		%		90-110	19-SEP-12
WG1550591-6	LCS							
Nitrate (as N)			101.8		%		90-110	19-SEP-12
WG1550591-1	MB							
Nitrate (as N)			<0.030		mg/L		0.03	19-SEP-12
WG1550591-13	MB							
Nitrate (as N)			<0.030		mg/L		0.03	19-SEP-12
WG1550591-17	MB							
Nitrate (as N)			<0.030		mg/L		0.03	19-SEP-12
WG1550591-5	MB							
Nitrate (as N)			<0.030		mg/L		0.03	19-SEP-12
WG1550591-9	MB							
Nitrate (as N)			<0.030		mg/L		0.03	19-SEP-12
WG1550591-16	MS	L1211053-6						
Nitrate (as N)			102.9		%		75-125	19-SEP-12
WG1550591-4	MS	L1211071-4						
Nitrate (as N)			106.8		%		75-125	19-SEP-12
WG1550591-8	MS	L1211159-1						
Nitrate (as N)			92.8		%		75-125	19-SEP-12
OGG-TOT-WT								
	Water							
Batch	R2440968							
WG1550876-2	LCS							
Oil and Grease, Total			85.0		%		75-120	21-SEP-12
WG1550876-3	LCSD	WG1550876-2						
Oil and Grease, Total		85.0	85		%	0.6	45	21-SEP-12
WG1550876-1	MB							
Oil and Grease, Total			<2.0		mg/L		2	21-SEP-12
Batch	R2441518							
WG1551353-2	LCS							
Oil and Grease, Total			91.6		%		75-120	21-SEP-12
WG1551353-3	LCSD	WG1551353-2						
Oil and Grease, Total		91.6	94		%	2.2	45	21-SEP-12
WG1551353-1	MB							
Oil and Grease, Total			<2.0		mg/L		2	21-SEP-12
P-T-COL-TB	Water							



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P-T-COL-TB								
Water								
Batch	R2440787							
WG1550939-2	LCS							
Phosphorus (P)-Total			97.5		%		80-120	21-SEP-12
WG1550939-6	LCS							
Phosphorus (P)-Total			97.3		%		80-120	21-SEP-12
WG1550939-1	MB							
Phosphorus (P)-Total			<0.0050		mg/L		0.005	21-SEP-12
WG1550939-5	MB							
Phosphorus (P)-Total			<0.0050		mg/L		0.005	21-SEP-12
WG1550939-4	MS	L1211376-1						
Phosphorus (P)-Total			87.0		%		70-130	21-SEP-12
WG1550939-8	MS	L1211812-4						
Phosphorus (P)-Total			91.1		%		70-130	21-SEP-12
PH-CAP-TB								
Water								
Batch	R2439529							
WG1549968-6	DUP	L1211071-8						
pH		7.85	7.85	J	pH	0.01	0.2	19-SEP-12
WG1549968-2	LCS							
pH			6.00		pH		5.9-6.1	19-SEP-12
WG1549968-5	LCS							
pH			6.02		pH		5.9-6.1	19-SEP-12
Batch	R2440460							
WG1550195-3	DUP	L1211071-10						
pH		7.86	7.92	J	pH	0.05	0.2	20-SEP-12
WG1550195-2	LCS							
pH			6.01		pH		5.9-6.1	20-SEP-12
WG1550195-5	LCS							
pH			6.02		pH		5.9-6.1	20-SEP-12
WG1550195-8	LCS							
pH			6.01		pH		5.9-6.1	20-SEP-12
SO4-IC-TB								
Water								
Batch	R2441474							
WG1550591-3	DUP	L1211071-4						
Sulfate (SO4)		1.44	1.45		mg/L	0.2	20	19-SEP-12
WG1550591-10	LCS							
Sulfate (SO4)			107.5		%		90-110	19-SEP-12
WG1550591-14	LCS							
Sulfate (SO4)			105.2		%		90-110	19-SEP-12
WG1550591-18	LCS							



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SO4-IC-TB								
	Water							
Batch	R2441474							
WG1550591-18	LCS							
Sulfate (SO4)			108.0		%		90-110	19-SEP-12
WG1550591-2	LCS							
Sulfate (SO4)			104.8		%		90-110	19-SEP-12
WG1550591-6	LCS							
Sulfate (SO4)			107.1		%		90-110	19-SEP-12
WG1550591-1	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	19-SEP-12
WG1550591-13	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	19-SEP-12
WG1550591-17	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	19-SEP-12
WG1550591-5	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	19-SEP-12
WG1550591-9	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	19-SEP-12
WG1550591-16	MS	L1211053-6						
Sulfate (SO4)			111.9		%		75-125	19-SEP-12
WG1550591-4	MS	L1211071-4						
Sulfate (SO4)			115.0		%		75-125	19-SEP-12
WG1550591-8	MS	L1211159-1						
Sulfate (SO4)			94.9		%		75-125	19-SEP-12
SOLIDS-TOTSUS-TB								
	Water							
Batch	R2439781							
WG1549492-3	DUP	L1211071-10						
Total Suspended Solids		55.9	53.2		mg/L	4.9	20	19-SEP-12
WG1549492-2	LCS							
Total Suspended Solids			102.2		%		85-115	19-SEP-12
WG1549492-1	MB							
Total Suspended Solids			<2.0		mg/L		2	19-SEP-12

Quality Control Report

Workorder: L1211071

Report Date: 08-OCT-12

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Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
J	Duplicate results and limits are expressed in terms of absolute difference.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



L1211071-COFC

Company: TREASURY METALS	Record of Site Condition <input type="checkbox"/> Yes <input type="checkbox"/> No	Information	Both questions below must answered for water samples	
Contact: MAC POTER	PWQO <input checked="" type="checkbox"/> MISA <input type="checkbox"/> MMER <input type="checkbox"/> CCME <input type="checkbox"/>	and) Table: _____	Are any samples taken from a regulated DW System? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Address: 899 TREE NURSERY RD WARRINGTON ON	Guideline Required:		If yes, an authorized DW COC must be used.	
Phone: 807 938 696 Fax: _____	TCLP Regulation 558 <input type="checkbox"/> Other: _____		Is the water sampled intended for human consumption? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Email: mcc@treasurymetals.com	Service Requested	Analysis Request		
Project: Job M0906A01 PO: M0210-PO115	<input checked="" type="checkbox"/> Regular TAT (7 Days)	Please indicate below Filtered, Preserved or both (F, P, F/P)		
Quote # Q32690 LSD 60 MONTH PROJECT	<input type="checkbox"/> Priority TAT 50% Surcharge (3-5 Days)		P	P
Invoice To: _____ Same as Report: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Emergency TAT 100% Surcharge (1-2 Days)		P	P
Company: _____	Specify Date Required: _____		P	P
Contact: _____	All TAT quoted material is in business days which exclude statutory holidays and weekends. Samples received past 3:00pm or Saturday/Sunday begin the next day.		P	P
Address: _____			P	P
Email: _____			P	P
Account Manager: KAREN RUTENLOFF			P	P
Sampler: MD + CR			P	P

Sample #	Sample Identification (This description will appear on the report)	Date	Time	Sample Type	ALK, pH, CONDUCTIVITY	CL, NO ₂ , NO ₃ , SO ₄	ACIDITY, TSS	TOTAL CYANIDE	W/AD CYANIDE	CN-FREE-CAL-VN	AMMONIA, TOTAL PHOSPHORUS	OGG	TOTAL METALS + Hg	DISSOLVED METALS + Hg	ARSENIC	Number of Containers
1	SW3	12/09/12	9:04	WATER	x	x	x	x	x	x	x	x	x	x	x	9
2	TL3		9:55													
3	SW2		9:25													
4	SW1		10:05													
5	JCTa		10:39													
6	TL19		11:00													
7	TL29 SW10		11:35													
8	SW8		12:03													
9	SW7		12:30													
10	SW9	12/09/12	8:00													
11	SW4		9:20													

Special Instructions / Comments

SHIPMENT RELEASE (client use)		SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)		
Released by: MAC	Date & Time: 10:50 12/10/12	Received by: KUM	Date & Time: 9:15 Sept 19/12	Temp: 8.9	Cooling initiated: <input type="checkbox"/> Yes <input type="checkbox"/> No	Verified by: KUM	Date & Time: 9:30 Sept 19/12	Observations: Yes No? If Yes add SIF

Failure to complete all portions of this form may delay analysis. TAT may vary dependant on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs. Any known or suspected hazards relating to a sample must be noted on the chain of custody in the comments section. By use of the form the user acknowledges and agrees with the Terms and Conditions as specified on the back page.





L1211071-COFC

Company:		Information		Both questions below must answered for water samples															
Contact: SEE PAGE 1		end) Table: _____		Are any samples taken from a regulated DW System? <input type="checkbox"/> Yes <input type="checkbox"/> No															
Address:		<input type="checkbox"/> Yes <input type="checkbox"/> No		If yes, an authorized DW COC must be used.															
Phone:		PWQO <input checked="" type="checkbox"/> MISA <input type="checkbox"/> MMER <input type="checkbox"/> CCME <input type="checkbox"/>		Is the water sampled intended for human consumption? <input type="checkbox"/> Yes <input type="checkbox"/> No															
Fax:		Guideline Required:		Analysis Request															
Email:		TCLP Regulation 558 <input type="checkbox"/> Dther: _____		Please indicate below Filtered, Preserved or both (F, P, F/P)															
Project:		Service Requested																	
Quote #		<input checked="" type="checkbox"/> Regular TAT (7 Days)																	
Invoice To:		<input type="checkbox"/> Priority TAT 50% Surcharge (3-5 Days)																	
Same as Report: <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Emergency TAT 100% Surcharge (1-2 Days)																	
Company:		Specify Date Required:																	
Contact:		All TAT quoted material is in business days which exclude statutory holidays and weekends. Samples received past 3:00pm or Saturday/Sunday begin the next day.																	
Address:																			
Email:																			
Account Manager: K.R.		Sampler: MA + CR																	
Sample #		Sample Identification (This description will appear on the report)		Date		Time		Sample Type											
12		SW444		18/09/12		9 ³⁵		WATER											
13		Field Blank		18/09/12		9 ⁴⁰		↓											
14		Travel Blank		-		-		↓											
Special Instructions / Comments																			
TL2a, SW11 - DRY, SW5, SW6 - CANNOT ENTER																			
SHIPMENT RELEASE (client use)				SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)											
Released by: MDH		Date & Time: 18/09/12		Received by: KEM		Date & Time: 18/09/12		Temp: 8.9		Cooling Initiated: <input type="checkbox"/> Yes <input type="checkbox"/> No		Verified by: KEM		Date & Time: Sept. 19/12 9:30		Observations: (Yes) No?			
													If Yes add SIF						



****Failure to complete all portions of this form may delay analysis.**** TAT may vary dependant on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs. Any known or suspected hazards relating to a sample must be noted on the chain of custody in the comments section. By use of the form the user acknowledges and agrees with the Terms and Conditions as specified on the back page.



TREASURY METALS INC.
ATTN: Mac Potter
P.O. Box 789
Dryden ON P8N 2Z4

Date Received: 02-NOV-12
Report Date: 19-NOV-12 14:48 (MT)
Version: FINAL

Client Phone: 807-938-6961

Certificate of Analysis

Lab Work Order #: L1232517
Project P.O. #: M0210-P0115
Job Reference: JOB M0906A01
C of C Numbers:
Legal Site Desc: GOLIATH PROJECT

Tricia Sampson
Account Manager Supervisor

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ADDRESS: 1081 Barton Street, Thunder Bay, ON P7B 5N3 Canada | Phone: +1 807 623 6463 | Fax: +1 807 623 7598
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1232517-1 WATER 31-OCT-12 SW3	L1232517-2 WATER 31-OCT-12 SW2	L1232517-3 WATER 31-OCT-12 SW1	L1232517-4 WATER 31-OCT-12 TL3	L1232517-5 WATER 31-OCT-12 TL1A
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (EC) (uS/cm)	150	139	86.9	82.9	54.0
	Hardness (as CaCO3) (mg/L)	53.2	66.6	42.4	40.8	26.5
	pH (pH)	7.27	7.41	7.09	7.10	6.70
	Total Suspended Solids (mg/L)	3.5	17.2	4.0	6.9	5.7
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	3.0	2.6	4.0	4.4	5.4
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)	51.2	63.3	38.8	33.8	20.2
	Ammonia, Total (as N) (mg/L)	<0.020	<0.020	<0.020	<0.020	<0.020
	Chloride (Cl) (mg/L)	12.4	2.20	0.76	1.37	0.87
	Nitrate (as N) (mg/L)	<0.030	<0.030	<0.030	0.064	0.070
	Nitrite (as N) (mg/L)	<0.020	<0.020	<0.020	<0.020	<0.020
	Phosphorus (P)-Total (mg/L)	0.0160	0.0268	0.0086	0.0225	0.0240
	Sulfate (SO4) (mg/L)	1.63	1.02	1.72	2.50	1.78
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)	0.0293	1.07	0.0404	0.321	0.239
	Antimony (Sb)-Total (mg/L)	<0.00060	<0.0060 ^{DLA}	<0.00060	<0.0060 ^{DLA}	<0.0060 ^{DLA}
	Arsenic (As)-Total (mg/L)	<0.0010	<0.010 ^{DLA}	<0.0010	<0.010 ^{DLA}	<0.010 ^{DLA}
	Barium (Ba)-Total (mg/L)	<0.010	<0.10 ^{DLA}	<0.010	<0.10 ^{DLA}	<0.10 ^{DLA}
	Beryllium (Be)-Total (mg/L)	<0.0010	<0.010 ^{DLA}	<0.0010	<0.010 ^{DLA}	<0.010 ^{DLA}
	Bismuth (Bi)-Total (mg/L)	<0.0010	<0.010 ^{DLA}	<0.0010	<0.010 ^{DLA}	<0.010 ^{DLA}
	Boron (B)-Total (mg/L)	<0.050	<0.50 ^{DLA}	<0.050	<0.50 ^{DLA}	<0.50 ^{DLA}
	Cadmium (Cd)-Total (mg/L)	<0.000017	<0.00017 ^{DLA}	<0.000017	<0.00017 ^{DLA}	<0.00017 ^{DLA}
	Calcium (Ca)-Total (mg/L)	13.0	21.6 ^{DLA}	12.3	11.4 ^{DLA}	9.0 ^{DLA}
	Chromium (Cr)-Total (mg/L)	<0.0010	<0.010 ^{DLA}	<0.0010	<0.010 ^{DLA}	<0.010 ^{DLA}
	Cobalt (Co)-Total (mg/L)	<0.00050	<0.0050 ^{DLA}	<0.00050	<0.0050 ^{DLA}	<0.0050 ^{DLA}
	Copper (Cu)-Total (mg/L)	<0.0010	<0.010 ^{DLA}	<0.0010	<0.010 ^{DLA}	<0.010 ^{DLA}
	Iron (Fe)-Total (mg/L)	0.072	1.63 ^{DLA}	0.308	1.05 ^{DLA}	1.82 ^{DLA}
	Lead (Pb)-Total (mg/L)	<0.0010	<0.010 ^{DLA}	<0.0010	<0.010 ^{DLA}	<0.010 ^{DLA}
	Lithium (Li)-Total (mg/L)	<0.050	<0.50 ^{DLA}	<0.050	<0.50 ^{DLA}	<0.50 ^{DLA}
	Magnesium (Mg)-Total (mg/L)	3.14	6.67	1.98	3.12	2.23
	Manganese (Mn)-Total (mg/L)	0.0059	0.055	0.0123	0.029	0.085
	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010 ^{DLA}	<0.000010	<0.000010 ^{DLA}	<0.000010 ^{DLA}
	Molybdenum (Mo)-Total (mg/L)	<0.0010	<0.010 ^{DLA}	<0.0010	<0.010 ^{DLA}	<0.010 ^{DLA}
	Nickel (Ni)-Total (mg/L)	<0.0020	<0.020 ^{DLA}	<0.0020	<0.020 ^{DLA}	<0.020 ^{DLA}
	Potassium (K)-Total (mg/L)	1.00	<5.0 ^{DLA}	0.89	<5.0 ^{DLA}	<5.0 ^{DLA}
	Selenium (Se)-Total (mg/L)	<0.0010	<0.010 ^{DLA}	<0.0010	<0.010 ^{DLA}	<0.010 ^{DLA}

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1232517-6 WATER 31-OCT-12 TL2A	L1232517-7 WATER 31-OCT-12 TL22	L1232517-8 WATER 31-OCT-12 SW7	L1232517-9 WATER 31-OCT-12 SW8	L1232517-10 WATER 31-OCT-12 SW9	
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (EC) (uS/cm)	142	141	64.0	131	146
	Hardness (as CaCO3) (mg/L)	66.4	67.5	33.0	61.6	70.5
	pH (pH)	7.12	7.13	7.13	7.61	7.41
	Total Suspended Solids (mg/L)	6.9	14.4	5.0	5.2	3.1
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	7.0	8.0	3.4	3.0	4.8
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)	63.5	62.9	25.5	62.8	69.8
	Ammonia, Total (as N) (mg/L)	0.040	0.033	<0.020	<0.020	<0.020
	Chloride (Cl) (mg/L)	0.93	0.94	0.43	0.41	0.56
	Nitrate (as N) (mg/L)	<0.030	<0.030	0.138	0.059	0.137
	Nitrite (as N) (mg/L)	<0.020	<0.020	<0.020	<0.020	<0.020
	Phosphorus (P)-Total (mg/L)	0.0423	0.0483	0.0110	<0.0050	0.0111
	Sulfate (SO4) (mg/L)	2.08	2.08	2.82	0.86	1.16
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)	0.243	0.588	0.213	<0.050 ^{DLA}	0.0586
	Antimony (Sb)-Total (mg/L)	<0.0060 ^{DLA}	<0.0060 ^{DLA}	<0.0060 ^{DLA}	<0.0060 ^{DLA}	<0.00060
	Arsenic (As)-Total (mg/L)	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.0010
	Barium (Ba)-Total (mg/L)	<0.10 ^{DLA}	<0.10 ^{DLA}	<0.10 ^{DLA}	<0.10 ^{DLA}	0.012
	Beryllium (Be)-Total (mg/L)	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.0010
	Bismuth (Bi)-Total (mg/L)	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.0010
	Boron (B)-Total (mg/L)	<0.50 ^{DLA}	<0.50 ^{DLA}	<0.50 ^{DLA}	<0.50 ^{DLA}	<0.050
	Cadmium (Cd)-Total (mg/L)	<0.00017 ^{DLA}	<0.00017 ^{DLA}	<0.00017 ^{DLA}	<0.00017 ^{DLA}	<0.000017
	Calcium (Ca)-Total (mg/L)	19.0	20.7	11.0	22.4	21.5
	Chromium (Cr)-Total (mg/L)	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.0010
	Cobalt (Co)-Total (mg/L)	<0.0050 ^{DLA}	<0.0050 ^{DLA}	<0.0050 ^{DLA}	<0.0050 ^{DLA}	<0.00050
	Copper (Cu)-Total (mg/L)	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.0010
	Iron (Fe)-Total (mg/L)	0.76	1.11	0.85	0.54	0.414
	Lead (Pb)-Total (mg/L)	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.0010
	Lithium (Li)-Total (mg/L)	<0.50 ^{DLA}	<0.50 ^{DLA}	<0.50 ^{DLA}	<0.50 ^{DLA}	<0.050
	Magnesium (Mg)-Total (mg/L)	6.05	6.64	1.95	1.79	4.43
	Manganese (Mn)-Total (mg/L)	0.056 ^{DLA}	0.068	0.032	0.073	0.0940 ^{DTC}
	Mercury (Hg)-Total (mg/L)	<0.000010 ^{DLA}	<0.000010 ^{DLA}	<0.000010 ^{DLA}	<0.000010 ^{DLA}	<0.000010
	Molybdenum (Mo)-Total (mg/L)	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.0010
	Nickel (Ni)-Total (mg/L)	<0.020 ^{DLA}	<0.020 ^{DLA}	<0.020 ^{DLA}	<0.020 ^{DLA}	<0.0020
	Potassium (K)-Total (mg/L)	<5.0 ^{DLA}	<5.0 ^{DLA}	<5.0 ^{DLA}	<5.0 ^{DLA}	1.26
	Selenium (Se)-Total (mg/L)	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.0010

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1232517-11 WATER 31-OCT-12 SW10	L1232517-12 WATER 31-OCT-12 FIELD BALNK	L1232517-13 WATER 31-OCT-12 TRAVEL BLANK	
Grouping	Analyte				
WATER					
Physical Tests	Conductivity (EC) (uS/cm)	90.0	<3.0	<3.0	
	Hardness (as CaCO3) (mg/L)	43.9	<0.51	<0.51	
	pH (pH)	7.33	5.48	5.62	
	Total Suspended Solids (mg/L)	4.8	<2.0	<2.0	
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	5.0	<2.0	<2.0	
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)	41.0	<5.0	<5.0	
	Ammonia, Total (as N) (mg/L)	0.027	<0.020	0.050 ^{RRV}	
	Chloride (Cl) (mg/L)	0.40	<0.10	<0.10	
	Nitrate (as N) (mg/L)	0.060	<0.030	<0.030	
	Nitrite (as N) (mg/L)	<0.020	<0.020	<0.020	
	Phosphorus (P)-Total (mg/L)	0.0142	<0.0050	<0.0050	
	Sulfate (SO4) (mg/L)	1.93	<0.30	<0.30	
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020	<0.0020	<0.0020	
	Cyanide, Total (mg/L)	<0.0020	<0.0020	<0.0020	
	Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	
Total Metals	Aluminum (Al)-Total (mg/L)	0.104	<0.0050	<0.0050	
	Antimony (Sb)-Total (mg/L)	<0.00060	<0.00060	<0.00060	
	Arsenic (As)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Barium (Ba)-Total (mg/L)	<0.010	<0.010	<0.010	
	Beryllium (Be)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Bismuth (Bi)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Boron (B)-Total (mg/L)	<0.050	<0.050	<0.050	
	Cadmium (Cd)-Total (mg/L)	<0.000017	<0.000017	<0.000017	
	Calcium (Ca)-Total (mg/L)	14.5	<0.20	<0.20	
	Chromium (Cr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Cobalt (Co)-Total (mg/L)	<0.00050	<0.00050	<0.00050	
	Copper (Cu)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Iron (Fe)-Total (mg/L)	1.54	<0.020	<0.020	
	Lead (Pb)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Lithium (Li)-Total (mg/L)	<0.050	<0.050	<0.050	
	Magnesium (Mg)-Total (mg/L)	2.13	<0.020	<0.020	
	Manganese (Mn)-Total (mg/L)	0.123	<0.0010	<0.0010	
	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010	<0.000010	
	Molybdenum (Mo)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Nickel (Ni)-Total (mg/L)	<0.0020	<0.0020	<0.0020	
	Potassium (K)-Total (mg/L)	<0.50	<0.50	<0.50	
	Selenium (Se)-Total (mg/L)	<0.0010	<0.0010	<0.0010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1232517-1 WATER 31-OCT-12 SW3	L1232517-2 WATER 31-OCT-12 SW2	L1232517-3 WATER 31-OCT-12 SW1	L1232517-4 WATER 31-OCT-12 TL3	L1232517-5 WATER 31-OCT-12 TL1A
Grouping	Analyte					
WATER						
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010	<0.0010 ^{DLA}	<0.00010	<0.0010 ^{DLA}	<0.0010 ^{DLA}
	Sodium (Na)-Total (mg/L)	6.99	2.7	1.37	1.6	1.3
	Strontium (Sr)-Total (mg/L)	0.0296	0.038	0.0216	0.023	0.019
	Tellurium (Te)-Total (mg/L)	<0.0010	<0.010 ^{DLA}	<0.0010	<0.010 ^{DLA}	<0.010 ^{DLA}
	Thallium (Tl)-Total (mg/L)	<0.00030	<0.0030 ^{DLA}	<0.00030	<0.0030 ^{DLA}	<0.0030 ^{DLA}
	Tin (Sn)-Total (mg/L)	<0.0010	<0.010 ^{DLA}	<0.0010	<0.010 ^{DLA}	<0.010 ^{DLA}
	Titanium (Ti)-Total (mg/L)	<0.0020	0.047 ^{DLA}	<0.0020	<0.020 ^{DLA}	<0.020 ^{DLA}
	Tungsten (W)-Total (mg/L)	<0.010	<0.10 ^{DLA}	<0.010	<0.10 ^{DLA}	<0.10 ^{DLA}
	Uranium (U)-Total (mg/L)	<0.0050	<0.050 ^{DLA}	<0.0050	<0.050 ^{DLA}	<0.050 ^{DLA}
	Vanadium (V)-Total (mg/L)	<0.0010	<0.010 ^{DLA}	<0.0010	<0.010 ^{DLA}	<0.010 ^{DLA}
	Zinc (Zn)-Total (mg/L)	<0.0030	<0.030 ^{DLA}	<0.0030	<0.030 ^{DLA}	<0.030 ^{DLA}
	Zirconium (Zr)-Total (mg/L)	<0.0010	<0.010 ^{DLA}	<0.0010	<0.010 ^{DLA}	<0.010 ^{DLA}
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	0.0061	0.0383	0.0183	0.0803	0.110
	Antimony (Sb)-Dissolved (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Dissolved (mg/L)	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017
	Calcium (Ca)-Dissolved (mg/L)	15.1	18.1	13.4	11.3	7.52
	Chromium (Cr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	0.0010	<0.0010
	Iron (Fe)-Dissolved (mg/L)	0.022	0.201	0.150	0.541	0.818
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Dissolved (mg/L)	3.75	5.21	2.19	3.04	1.87
	Manganese (Mn)-Dissolved (mg/L)	0.0046	0.0188	0.0106	0.0228	0.0359
	Mercury (Hg)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Potassium (K)-Dissolved (mg/L)	1.08	1.50	0.95	0.87	<0.50
	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Dissolved (mg/L)	8.07	2.22	1.45	1.75	1.19
	Strontium (Sr)-Dissolved (mg/L)	0.0359	0.0313	0.0226	0.0235	0.0160

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1232517-6 WATER 31-OCT-12 TL2A	L1232517-7 WATER 31-OCT-12 TL22	L1232517-8 WATER 31-OCT-12 SW7	L1232517-9 WATER 31-OCT-12 SW8	L1232517-10 WATER 31-OCT-12 SW9
Grouping	Analyte					
WATER						
Total Metals	Silver (Ag)-Total (mg/L)	<0.0010 ^{DLA}	<0.0010 ^{DLA}	<0.0010 ^{DLA}	<0.0010 ^{DLA}	<0.00010
	Sodium (Na)-Total (mg/L)	2.9	3.1	1.1	<1.0 ^{DLA}	2.30
	Strontium (Sr)-Total (mg/L)	0.041	0.047	0.021	0.029	0.0392
	Tellurium (Te)-Total (mg/L)	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.0010
	Thallium (Tl)-Total (mg/L)	<0.0030 ^{DLA}	<0.0030 ^{DLA}	<0.0030 ^{DLA}	<0.0030 ^{DLA}	<0.00030
	Tin (Sn)-Total (mg/L)	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.0010
	Titanium (Ti)-Total (mg/L)	<0.020 ^{DLA}	0.021 ^{DLA}	<0.020 ^{DLA}	<0.020 ^{DLA}	<0.0020
	Tungsten (W)-Total (mg/L)	<0.10 ^{DLA}	<0.10 ^{DLA}	<0.10 ^{DLA}	<0.10 ^{DLA}	<0.010
	Uranium (U)-Total (mg/L)	<0.050 ^{DLA}	<0.050 ^{DLA}	<0.050 ^{DLA}	<0.050 ^{DLA}	<0.0050
	Vanadium (V)-Total (mg/L)	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.0010
	Zinc (Zn)-Total (mg/L)	<0.030 ^{DLA}	<0.030 ^{DLA}	<0.030 ^{DLA}	<0.030 ^{DLA}	<0.0030
	Zirconium (Zr)-Total (mg/L)	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.0010
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	0.0678	0.0705	0.168	<0.0050	0.0493
	Antimony (Sb)-Dissolved (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Dissolved (mg/L)	0.012	0.012	<0.010	0.014	0.012
	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Dissolved (mg/L)	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017
	Calcium (Ca)-Dissolved (mg/L)	17.5	17.8	10.2	21.7	21.0
	Chromium (Cr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Dissolved (mg/L)	<0.0010	<0.0010	0.0010	<0.0010	<0.0010
	Iron (Fe)-Dissolved (mg/L)	0.421	0.413	0.670	0.173	0.223
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Dissolved (mg/L)	5.48	5.63	1.85	1.83	4.42
	Manganese (Mn)-Dissolved (mg/L)	0.0431	0.0406	0.0271	0.0630	0.209 ^{DTC}
	Mercury (Hg)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Potassium (K)-Dissolved (mg/L)	2.92	2.98	<0.50	0.59	1.21
	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Dissolved (mg/L)	2.69	2.77	1.12	1.03	2.34
	Strontium (Sr)-Dissolved (mg/L)	0.0402	0.0401	0.0209	0.0282	0.0374

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1232517-11 WATER 31-OCT-12 SW10	L1232517-12 WATER 31-OCT-12 FIELD BALNK	L1232517-13 WATER 31-OCT-12 TRAVEL BLANK	
Grouping	Analyte				
WATER					
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010	<0.00010	<0.00010	
	Sodium (Na)-Total (mg/L)	1.43	<0.10	<0.10	
	Strontium (Sr)-Total (mg/L)	0.0254	<0.0010	<0.0010	
	Tellurium (Te)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Thallium (Tl)-Total (mg/L)	<0.00030	<0.00030	<0.00030	
	Tin (Sn)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Titanium (Ti)-Total (mg/L)	0.0030	<0.0020	<0.0020	
	Tungsten (W)-Total (mg/L)	<0.010	<0.010	<0.010	
	Uranium (U)-Total (mg/L)	<0.0050	<0.0050	<0.0050	
	Vanadium (V)-Total (mg/L)	0.0011	<0.0010	<0.0010	
	Zinc (Zn)-Total (mg/L)	<0.0030	<0.0030	<0.0030	
	Zirconium (Zr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	0.0900	<0.0050	<0.0050	
	Antimony (Sb)-Dissolved (mg/L)	<0.00060	<0.00060	<0.00060	
	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Barium (Ba)-Dissolved (mg/L)	<0.010	<0.010	<0.010	
	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Boron (B)-Dissolved (mg/L)	<0.050	<0.050	<0.050	
	Cadmium (Cd)-Dissolved (mg/L)	<0.000017	<0.000017	<0.000017	
	Calcium (Ca)-Dissolved (mg/L)	14.1	<0.20	<0.20	
	Chromium (Cr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	
	Copper (Cu)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Iron (Fe)-Dissolved (mg/L)	1.15	<0.020	<0.020	
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.050	
	Magnesium (Mg)-Dissolved (mg/L)	2.13	<0.020	<0.020	
	Manganese (Mn)-Dissolved (mg/L)	0.108	<0.0010	<0.0010	
	Mercury (Hg)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	
	Potassium (K)-Dissolved (mg/L)	<0.50	<0.50	<0.50	
	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	
	Sodium (Na)-Dissolved (mg/L)	1.45	<0.10	<0.10	
	Strontium (Sr)-Dissolved (mg/L)	0.0241	<0.0010	<0.0010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1232517-1 WATER 31-OCT-12 SW3	L1232517-2 WATER 31-OCT-12 SW2	L1232517-3 WATER 31-OCT-12 SW1	L1232517-4 WATER 31-OCT-12 TL3	L1232517-5 WATER 31-OCT-12 TL1A
Grouping	Analyte					
WATER						
Dissolved Metals	Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	0.0021	0.0026
	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	<0.0030	<0.0030	0.0046	0.0041	0.0055
	Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1232517-6 WATER 31-OCT-12 TL2A	L1232517-7 WATER 31-OCT-12 TL22	L1232517-8 WATER 31-OCT-12 SW7	L1232517-9 WATER 31-OCT-12 SW8	L1232517-10 WATER 31-OCT-12 SW9
Grouping	Analyte					
WATER						
Dissolved Metals	Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Dissolved (mg/L)	<0.0020	<0.0020	0.0033	<0.0020	<0.0020
	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	<0.0030	<0.0030	0.0076	0.0038	0.0048
	Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1232517-11 WATER 31-OCT-12 SW10	L1232517-12 WATER 31-OCT-12 FIELD BALNK	L1232517-13 WATER 31-OCT-12 TRAVEL BLANK		
Grouping	Analyte					
WATER						
Dissolved Metals	Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010		
	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030		
	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010		
	Titanium (Ti)-Dissolved (mg/L)	0.0022	<0.0020	<0.0020		
	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010		
	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050		
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010		
	Zinc (Zn)-Dissolved (mg/L)	0.0052	<0.0030	<0.0030		
	Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010		
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Method Blank	Lead (Pb)-Total	A	L1232517-3
Matrix Spike	Chloride (Cl)	MS-B	L1232517-13
Matrix Spike	Ammonia, Total (as N)	MS-B	L1232517-1, -10, -11, -12, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1232517-1, -10, -11, -12, -13, -2, -4, -5, -6, -7, -8, -9
Matrix Spike	Boron (B)-Dissolved	MS-B	L1232517-1, -10, -11, -12, -13, -2, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1232517-1, -10, -11, -12, -13, -2, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1232517-1, -10, -11, -12, -13, -2, -4, -5, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1232517-1, -10, -11, -12, -13, -2, -4, -5, -6, -7, -8, -9
Matrix Spike	Potassium (K)-Dissolved	MS-B	L1232517-1, -10, -11, -12, -13, -2, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1232517-1, -10, -11, -12, -13, -2, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1232517-1, -10, -11, -12, -13, -2, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1232517-1, -10, -11, -12, -13, -2, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1232517-1, -10, -11, -12, -13, -2, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1232517-1, -10, -11, -12, -13, -2, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Total	MS-B	L1232517-1, -10, -11, -12, -13, -2, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Total	MS-B	L1232517-1, -10, -11, -12, -13, -2, -4, -5, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Total	MS-B	L1232517-1, -10, -11, -12, -13, -2, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Total	MS-B	L1232517-1, -10, -11, -12, -13, -2, -4, -5, -6, -7, -8, -9
Matrix Spike	Aluminum (Al)-Total	MS-B	L1232517-1, -10, -11, -12, -13, -2, -4, -5, -6, -7, -8, -9
Matrix Spike	Barium (Ba)-Total	MS-B	L1232517-1, -10, -11, -12, -13, -2, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Total	MS-B	L1232517-1, -10, -11, -12, -13, -2, -4, -5, -6, -7, -8, -9
Matrix Spike	Iron (Fe)-Total	MS-B	L1232517-1, -10, -11, -12, -13, -2, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Total	MS-B	L1232517-1, -10, -11, -12, -13, -2, -4, -5, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Total	MS-B	L1232517-1, -10, -11, -12, -13, -2, -4, -5, -6, -7, -8, -9
Matrix Spike	Potassium (K)-Total	MS-B	L1232517-1, -10, -11, -12, -13, -2, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Total	MS-B	L1232517-1, -10, -11, -12, -13, -2, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Total	MS-B	L1232517-1, -10, -11, -12, -13, -2, -4, -5, -6, -7, -8, -9
Matrix Spike	Ammonia, Total (as N)	MS-B	L1232517-13
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1232517-3
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1232517-3
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1232517-3
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1232517-3
Matrix Spike	Potassium (K)-Dissolved	MS-B	L1232517-3
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1232517-3
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1232517-3
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1232517-3
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1232517-3
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1232517-3
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1232517-3
Matrix Spike	Boron (B)-Dissolved	MS-B	L1232517-3
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1232517-3
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1232517-3
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1232517-3
Matrix Spike	Potassium (K)-Dissolved	MS-B	L1232517-3
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1232517-3
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1232517-3
Matrix Spike	Uranium (U)-Dissolved	MS-B	L1232517-3

Qualifiers for Individual Parameters Listed:

Qualifier	Description
A	Method Blank exceeds ALS DQO. Refer to narrative comments for further information.
DLA	Detection Limit Adjusted For required dilution

Reference Information

DTC	Dissolved concentration exceeds total. Results were confirmed by re-analysis.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RRV	Reported Result Verified By Repeat Analysis

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
ACIDITY-TB	Water	Acidity (as CaCO ₃)	APHA 2310 B-POTENTIOMETRIC TITRATION
Aqueous matrices are analyzed by potentiometry. Acidity reported includes acidity caused by hydrolyzable metals present in the sample.			
ALK-TOT-CAP-TB	Water	Alkalinity, Total (as CaCO ₃)	APHA 2320 B-Auto-Pot. Titration
CL-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.			
CN-FREE-CFA-VA	Water	Free Cyanide in water by CFA	ASTM 7237
This analysis is carried out using procedures adapted from ASTM Method 7237 "Free Cyanide with Flow Injection Analysis (FIA) Utilizing Gas Diffusion Separation and Amperometric Detection". Free cyanide is determined by in-line gas diffusion at pH 6 with final determination by colourimetric analysis.			
CN-TOT-WT	Water	Cyanide, Total	APHA 4500CN C E-STRONG ACID DIST COLORIM
Total cyanide is determined by the combination of UV digestion and distillation. Cyanide is converted to cyanogen chloride by reacting with chloramine-T, the cyanogen chloride then reacts with a combination of barbituric acid and isonicotinic acid to form a highly colored complex.			
When using this method, high levels of thiocyanate in samples can cause false positives at ~1-2% of the thiocyanate concentration. For samples with detectable cyanide analyzed by this method, ALS recommends analysis for thiocyanate to check for this potential interference			
CN-WAD-WT	Water	Cyanide, Weak Acid Diss	APHA 4500CN I-Weak acid Dist Colorimet
Weak acid dissociable cyanide (WAD) is determined by undergoing a distillation procedure. Cyanide is converted to cyanogen chloride by reacting with chloramine-T, the cyanogen chloride then reacts with a combination of barbituric acid and isonicotinic acid to form a highly colored complex.			
EC-CAP-TB	Water	Conductivity (EC)	APHA 2510 B-ELECTRODE
HARDNESS-CALC-TB	Water	Hardness (as CaCO ₃)	CALCULATION
HG-D-CVAF-TB	Water	Dissolved Mercury in Water by CVAFS	EPA 245.7
HG-T-CVAF-TB	Water	Total Mercury in Water by CVAFS	EPA 245.7
MET-D-MS-TB	Water	Dissolved Metals by ICPMS	APHA 3030B/EPA 6020A
This analysis involves filtration (APHA 3030B) and analysis by inductively coupled plasma - mass spectrometry (EPA Method 6020A).			
MET-T-MS-TB	Water	Total Metals by ICPMS	APHA 3030E/EPA 6020A
This analysis involves preliminary sample treatment by hotblock acid digestion (APHA 3030E). Instrumental analysis is by inductively coupled plasma - mass spectrometry (EPA Method 6020A).			
NH3-COL-TB	Water	Ammonia by Discrete Analyzer	APHA 4500-NH3 G. (modified)
Ammonia in aqueous matrices is analyzed using discrete analyzer with colourimetric detection.			
NO2-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.			
NO3-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.			
OGG-TOT-WT	Water	Oil and Grease, Total	APHA 5520 B
Sample is extracted with hexane, extract is then evaporated and the residue is weighed to determine total oil and grease.			
P-T-COL-TB	Water	Total Phosphorus by Discrete Analyzer	APHA 4500-P B, F, G (modified)
Phosphorus in aqueous matrices is analyzed using discrete Analyzer with colourimetric detection.			
PH-CAP-TB	Water	pH	APHA 4500-H-ELECTRODE
SO4-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.			
SOLIDS-TOTSUS-TB	Water	Total Suspended Solids	APHA 2540 D (modified)
Aqueous matrices are analyzed using gravimetry			

Reference Information

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
TB	ALS ENVIRONMENTAL - THUNDER BAY, ONTARIO, CANADA
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

mg/kg - milligrams per kilogram based on dry weight of sample.

mg/kg wwt - milligrams per kilogram based on wet weight of sample.

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.

mg/L - milligrams per litre.

< - Less than.

D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L1232517

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Client: TREASURY METALS INC.
P.O. Box 789
Dryden ON P8N 2Z4
Contact: Mac Potter

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
ACIDITY-TB								
	Water							
Batch	R2470054							
WG1581596-2	LCS							
Acidity (as CaCO3)			99.2		%		85-115	07-NOV-12
WG1581596-5	LCS							
Acidity (as CaCO3)			98.4		%		85-115	07-NOV-12
WG1581596-1	MB							
Acidity (as CaCO3)			<2.0		mg/L		2	07-NOV-12
WG1581596-4	MB							
Acidity (as CaCO3)			<2.0		mg/L		2	07-NOV-12
ALK-TOT-CAP-TB								
	Water							
Batch	R2469148							
WG1579983-3	DUP	L1232517-1						
Alkalinity, Total (as CaCO3)		51.2	51.0		mg/L CaCO3	0.4	20	03-NOV-12
WG1579983-2	LCS							
Alkalinity, Total (as CaCO3)			91.9		%		85-115	03-NOV-12
WG1579983-5	LCS							
Alkalinity, Total (as CaCO3)			92.3		%		85-115	03-NOV-12
WG1579983-8	LCS							
Alkalinity, Total (as CaCO3)			92.7		%		85-115	03-NOV-12
WG1579983-1	MB							
Alkalinity, Total (as CaCO3)			<5.0		mg/L CaCO3		5	03-NOV-12
WG1579983-4	MB							
Alkalinity, Total (as CaCO3)			<5.0		mg/L CaCO3		5	03-NOV-12
WG1579983-7	MB							
Alkalinity, Total (as CaCO3)			<5.0		mg/L CaCO3		5	03-NOV-12
CL-IC-TB								
	Water							
Batch	R2469040							
WG1580561-10	LCS							
Chloride (Cl)			98.1		%		90-110	04-NOV-12
WG1580561-14	LCS							
Chloride (Cl)			99.6		%		90-110	04-NOV-12
WG1580561-18	LCS							
Chloride (Cl)			97.7		%		90-110	04-NOV-12
WG1580561-2	LCS							
Chloride (Cl)			99.4		%		90-110	04-NOV-12
WG1580561-6	LCS							
Chloride (Cl)			102.0		%		90-110	04-NOV-12
WG1580561-1	MB							
Chloride (Cl)			<0.10		mg/L		0.1	04-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CL-IC-TB								
Water								
Batch	R2469040							
WG1580561-13	MB							
Chloride (Cl)			<0.10		mg/L		0.1	04-NOV-12
WG1580561-17	MB							
Chloride (Cl)			<0.10		mg/L		0.1	04-NOV-12
WG1580561-5	MB							
Chloride (Cl)			<0.10		mg/L		0.1	04-NOV-12
WG1580561-9	MB							
Chloride (Cl)			<0.10		mg/L		0.1	04-NOV-12
WG1580561-12	MS	L1232441-24						
Chloride (Cl)			103.0		%		75-125	04-NOV-12
WG1580561-16	MS	L1232661-1						
Chloride (Cl)			104.8		%		75-125	04-NOV-12
WG1580561-4	MS	L1232481-3						
Chloride (Cl)			99.6		%		75-125	04-NOV-12
WG1580561-8	MS	L1232686-6						
Chloride (Cl)			107.0		%		75-125	04-NOV-12
Batch	R2470518							
WG1582083-10	LCS							
Chloride (Cl)			103.1		%		90-110	06-NOV-12
WG1582083-14	LCS							
Chloride (Cl)			103.3		%		90-110	06-NOV-12
WG1582083-18	LCS							
Chloride (Cl)			103.5		%		90-110	06-NOV-12
WG1582083-2	LCS							
Chloride (Cl)			99.6		%		90-110	06-NOV-12
WG1582083-6	LCS							
Chloride (Cl)			102.8		%		90-110	06-NOV-12
WG1582083-1	MB							
Chloride (Cl)			<0.10		mg/L		0.1	06-NOV-12
WG1582083-13	MB							
Chloride (Cl)			<0.10		mg/L		0.1	06-NOV-12
WG1582083-17	MB							
Chloride (Cl)			<0.10		mg/L		0.1	06-NOV-12
WG1582083-5	MB							
Chloride (Cl)			<0.10		mg/L		0.1	06-NOV-12
WG1582083-9	MB							
Chloride (Cl)			<0.10		mg/L		0.1	06-NOV-12
WG1582083-12	MS	L1232686-15						
Chloride (Cl)			109.6		%		75-125	06-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CL-IC-TB								
Water								
Batch	R2470518							
WG1582083-16	MS	L1232895-5						
Chloride (Cl)			N/A	MS-B	%		-	06-NOV-12
WG1582083-4	MS	L1232441-11						
Chloride (Cl)			107.4		%		75-125	06-NOV-12
WG1582083-8	MS	L1232476-8						
Chloride (Cl)			94.0		%		75-125	06-NOV-12
CN-FREE-CFA-VA								
Water								
Batch	R2469454							
WG1580431-3	DUP	L1232517-6						
Cyanide, Free		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	05-NOV-12
WG1580431-10	LCS							
Cyanide, Free			99.0		%		80-120	05-NOV-12
WG1580431-2	LCS							
Cyanide, Free			99.4		%		80-120	05-NOV-12
WG1580431-6	LCS							
Cyanide, Free			99.5		%		80-120	05-NOV-12
WG1580431-1	MB							
Cyanide, Free			<0.0050		mg/L		0.005	05-NOV-12
WG1580431-5	MB							
Cyanide, Free			<0.0050		mg/L		0.005	05-NOV-12
WG1580431-9	MB							
Cyanide, Free			<0.0050		mg/L		0.005	05-NOV-12
WG1580431-4	MS	L1232517-6						
Cyanide, Free			96.2		%		70-130	05-NOV-12
WG1580431-8	MS	L1232603-3						
Cyanide, Free			97.3		%		70-130	05-NOV-12
CN-TOT-WT								
Water								
Batch	R2470604							
WG1581957-4	CVS							
Cyanide, Total			93.0		%		85-115	07-NOV-12
WG1581957-3	LCS							
Cyanide, Total			97.6		%		80-120	07-NOV-12
WG1581957-1	MB							
Cyanide, Total			<0.0020		mg/L		0.002	07-NOV-12
CN-WAD-WT								
Water								



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CN-WAD-WT								
Water								
Batch	R2470600							
WG1581974-4	CVS							
Cyanide, Weak Acid Diss			95.0		%		85-115	07-NOV-12
WG1581974-3	LCS							
Cyanide, Weak Acid Diss			102.6		%		80-120	07-NOV-12
WG1581974-1	MB							
Cyanide, Weak Acid Diss			<0.0020		mg/L		0.002	07-NOV-12
EC-CAP-TB								
Water								
Batch	R2469148							
WG1579983-3	DUP	L1232517-1						
Conductivity (EC)		150	150		uS/cm	0.3	10	03-NOV-12
WG1579983-2	LCS							
Conductivity (EC)			100.0		%		90-110	03-NOV-12
WG1579983-5	LCS							
Conductivity (EC)			102.9		%		90-110	03-NOV-12
WG1579983-8	LCS							
Conductivity (EC)			102.5		%		90-110	03-NOV-12
WG1579983-1	MB							
Conductivity (EC)			<3.0		uS/cm		3	03-NOV-12
WG1579983-4	MB							
Conductivity (EC)			<3.0		uS/cm		3	03-NOV-12
WG1579983-7	MB							
Conductivity (EC)			<3.0		uS/cm		3	03-NOV-12
HG-D-CVAF-TB								
Water								
Batch	R2468865							
WG1580142-3	DUP	L1232517-10						
Mercury (Hg)-Dissolved		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	05-NOV-12
WG1580142-7	DUP	L1232517-11						
Mercury (Hg)-Dissolved		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	05-NOV-12
WG1580142-2	LCS							
Mercury (Hg)-Dissolved			96.7		%		80-120	05-NOV-12
WG1580142-6	LCS							
Mercury (Hg)-Dissolved			100.5		%		80-120	05-NOV-12
WG1580142-1	MB							
Mercury (Hg)-Dissolved			<0.000010		mg/L		0.00001	05-NOV-12
WG1580142-5	MB							
Mercury (Hg)-Dissolved			<0.000010		mg/L		0.00001	05-NOV-12
WG1580142-4	MS	L1232517-10						
Mercury (Hg)-Dissolved			103.3		%		70-130	05-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-D-CVAF-TB								
Water								
Batch	R2468865							
WG1580142-8 MS		L1232517-11						
Mercury (Hg)-Dissolved			101.4		%		70-130	05-NOV-12
HG-T-CVAF-TB								
Water								
Batch	R2468845							
WG1580129-15 DUP		L1232517-11						
Mercury (Hg)-Total		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	05-NOV-12
WG1580129-10 LCS								
Mercury (Hg)-Total			101.8		%		80-120	05-NOV-12
WG1580129-14 LCS								
Mercury (Hg)-Total			100.5		%		80-120	05-NOV-12
WG1580129-2 LCS								
Mercury (Hg)-Total			101.3		%		80-120	05-NOV-12
WG1580129-1 MB								
Mercury (Hg)-Total			<0.000010		mg/L		0.00001	05-NOV-12
WG1580129-13 MB								
Mercury (Hg)-Total			<0.000010		mg/L		0.00001	05-NOV-12
WG1580129-9 MB								
Mercury (Hg)-Total			<0.000010		mg/L		0.00001	05-NOV-12
WG1580129-12 MS		L1232686-16						
Mercury (Hg)-Total			97.2		%		70-130	05-NOV-12
WG1580129-16 MS		L1232517-11						
Mercury (Hg)-Total			102.6		%		70-130	05-NOV-12
WG1580129-8 MS		L1232481-17						
Mercury (Hg)-Total			97.0		%		70-130	05-NOV-12
MET-D-MS-TB								
Water								
Batch	R2472910							
WG1583101-15 DUP		L1232517-1						
Aluminum (Al)-Dissolved		0.0061	0.0064		mg/L	4.3	20	09-NOV-12
Antimony (Sb)-Dissolved		<0.00060	<0.00060	RPD-NA	mg/L	N/A	20	09-NOV-12
Arsenic (As)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	09-NOV-12
Barium (Ba)-Dissolved		<0.010	<0.010	RPD-NA	mg/L	N/A	20	09-NOV-12
Beryllium (Be)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	09-NOV-12
Bismuth (Bi)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	09-NOV-12
Boron (B)-Dissolved		<0.050	<0.050	RPD-NA	mg/L	N/A	20	09-NOV-12
Cadmium (Cd)-Dissolved		<0.000017	<0.000017	RPD-NA	mg/L	N/A	20	09-NOV-12
Calcium (Ca)-Dissolved		15.1	15.4		mg/L	1.6	20	09-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2472910							
WG1583101-15	DUP	L1232517-1						
Chromium (Cr)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	09-NOV-12
Cobalt (Co)-Dissolved		<0.00050	<0.00050	RPD-NA	mg/L	N/A	20	09-NOV-12
Copper (Cu)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	09-NOV-12
Iron (Fe)-Dissolved		0.022	0.023		mg/L	7.7	20	09-NOV-12
Lead (Pb)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	09-NOV-12
Lithium (Li)-Dissolved		<0.050	<0.050	RPD-NA	mg/L	N/A	20	09-NOV-12
Magnesium (Mg)-Dissolved		3.75	3.83		mg/L	2.2	20	09-NOV-12
Manganese (Mn)-Dissolved		0.0046	0.0047		mg/L	3.1	20	09-NOV-12
Molybdenum (Mo)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	09-NOV-12
Nickel (Ni)-Dissolved		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	09-NOV-12
Potassium (K)-Dissolved		1.08	1.11		mg/L	2.4	20	09-NOV-12
Selenium (Se)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	09-NOV-12
Silver (Ag)-Dissolved		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	09-NOV-12
Sodium (Na)-Dissolved		8.07	8.16		mg/L	1.0	20	09-NOV-12
Strontium (Sr)-Dissolved		0.0359	0.0358		mg/L	0.2	20	09-NOV-12
Tellurium (Te)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	09-NOV-12
Thallium (Tl)-Dissolved		<0.00030	<0.00030	RPD-NA	mg/L	N/A	20	09-NOV-12
Tin (Sn)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	09-NOV-12
Titanium (Ti)-Dissolved		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	09-NOV-12
Tungsten (W)-Dissolved		<0.010	<0.010	RPD-NA	mg/L	N/A	20	09-NOV-12
Uranium (U)-Dissolved		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	09-NOV-12
Vanadium (V)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	09-NOV-12
Zinc (Zn)-Dissolved		<0.0030	<0.0030	RPD-NA	mg/L	N/A	20	09-NOV-12
Zirconium (Zr)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	09-NOV-12
WG1583101-10	LCS							
Aluminum (Al)-Dissolved			90.4		%		80-120	09-NOV-12
Antimony (Sb)-Dissolved			101.6		%		80-120	09-NOV-12
Arsenic (As)-Dissolved			99.7		%		80-120	09-NOV-12
Barium (Ba)-Dissolved			97.2		%		80-120	09-NOV-12
Beryllium (Be)-Dissolved			98.1		%		80-120	09-NOV-12
Bismuth (Bi)-Dissolved			103.1		%		80-120	09-NOV-12
Boron (B)-Dissolved			90.2		%		80-120	09-NOV-12
Cadmium (Cd)-Dissolved			101.5		%		80-120	09-NOV-12
Calcium (Ca)-Dissolved			95.8		%		80-120	09-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2472910							
WG1583101-10 LCS								
Chromium (Cr)-Dissolved			97.3		%		80-120	09-NOV-12
Cobalt (Co)-Dissolved			95.5		%		80-120	09-NOV-12
Copper (Cu)-Dissolved			99.3		%		80-120	09-NOV-12
Iron (Fe)-Dissolved			102.6		%		80-120	09-NOV-12
Lead (Pb)-Dissolved			98.7		%		80-120	09-NOV-12
Lithium (Li)-Dissolved			107.3		%		80-120	09-NOV-12
Magnesium (Mg)-Dissolved			96.4		%		80-120	09-NOV-12
Manganese (Mn)-Dissolved			94.5		%		80-120	09-NOV-12
Molybdenum (Mo)-Dissolved			98.0		%		80-120	09-NOV-12
Nickel (Ni)-Dissolved			98.8		%		80-120	09-NOV-12
Potassium (K)-Dissolved			95.1		%		80-120	09-NOV-12
Selenium (Se)-Dissolved			96.9		%		80-120	09-NOV-12
Silver (Ag)-Dissolved			101.0		%		80-120	09-NOV-12
Sodium (Na)-Dissolved			98.5		%		80-120	09-NOV-12
Strontium (Sr)-Dissolved			96.4		%		80-120	09-NOV-12
Tellurium (Te)-Dissolved			101.8		%		80-120	09-NOV-12
Thallium (Tl)-Dissolved			99.8		%		80-120	09-NOV-12
Tin (Sn)-Dissolved			98.0		%		80-120	09-NOV-12
Titanium (Ti)-Dissolved			98.6		%		80-120	09-NOV-12
Tungsten (W)-Dissolved			99.1		%		80-120	09-NOV-12
Uranium (U)-Dissolved			94.6		%		80-120	09-NOV-12
Vanadium (V)-Dissolved			96.6		%		80-120	09-NOV-12
Zinc (Zn)-Dissolved			99.5		%		80-120	09-NOV-12
Zirconium (Zr)-Dissolved			95.1		%		80-120	09-NOV-12
WG1583101-14 LCS								
Aluminum (Al)-Dissolved			90.0		%		80-120	09-NOV-12
Antimony (Sb)-Dissolved			99.6		%		80-120	09-NOV-12
Arsenic (As)-Dissolved			97.6		%		80-120	09-NOV-12
Barium (Ba)-Dissolved			95.1		%		80-120	09-NOV-12
Beryllium (Be)-Dissolved			92.6		%		80-120	09-NOV-12
Bismuth (Bi)-Dissolved			99.8		%		80-120	09-NOV-12
Boron (B)-Dissolved			80.4		%		80-120	09-NOV-12
Cadmium (Cd)-Dissolved			100.1		%		80-120	09-NOV-12
Calcium (Ca)-Dissolved			95.1		%		80-120	09-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2472910							
WG1583101-14 LCS								
Chromium (Cr)-Dissolved			95.6		%		80-120	09-NOV-12
Cobalt (Co)-Dissolved			97.8		%		80-120	09-NOV-12
Copper (Cu)-Dissolved			97.3		%		80-120	09-NOV-12
Iron (Fe)-Dissolved			95.5		%		80-120	09-NOV-12
Lead (Pb)-Dissolved			97.6		%		80-120	09-NOV-12
Lithium (Li)-Dissolved			99.4		%		80-120	09-NOV-12
Magnesium (Mg)-Dissolved			94.2		%		80-120	09-NOV-12
Manganese (Mn)-Dissolved			93.5		%		80-120	09-NOV-12
Molybdenum (Mo)-Dissolved			96.2		%		80-120	09-NOV-12
Nickel (Ni)-Dissolved			97.0		%		80-120	09-NOV-12
Potassium (K)-Dissolved			95.4		%		80-120	09-NOV-12
Selenium (Se)-Dissolved			99.0		%		80-120	09-NOV-12
Silver (Ag)-Dissolved			98.9		%		80-120	09-NOV-12
Sodium (Na)-Dissolved			96.3		%		80-120	09-NOV-12
Strontium (Sr)-Dissolved			93.8		%		80-120	09-NOV-12
Tellurium (Te)-Dissolved			105.4		%		80-120	09-NOV-12
Thallium (Tl)-Dissolved			97.4		%		80-120	09-NOV-12
Tin (Sn)-Dissolved			96.4		%		80-120	09-NOV-12
Titanium (Ti)-Dissolved			100.0		%		80-120	09-NOV-12
Tungsten (W)-Dissolved			99.3		%		80-120	09-NOV-12
Uranium (U)-Dissolved			93.2		%		80-120	09-NOV-12
Vanadium (V)-Dissolved			94.3		%		80-120	09-NOV-12
Zinc (Zn)-Dissolved			98.2		%		80-120	09-NOV-12
Zirconium (Zr)-Dissolved			93.2		%		80-120	09-NOV-12
WG1583101-2 LCS								
Aluminum (Al)-Dissolved			91.9		%		80-120	09-NOV-12
Antimony (Sb)-Dissolved			102.3		%		80-120	09-NOV-12
Arsenic (As)-Dissolved			98.9		%		80-120	09-NOV-12
Barium (Ba)-Dissolved			97.4		%		80-120	09-NOV-12
Beryllium (Be)-Dissolved			97.9		%		80-120	09-NOV-12
Bismuth (Bi)-Dissolved			101.0		%		80-120	09-NOV-12
Boron (B)-Dissolved			87.0		%		80-120	09-NOV-12
Cadmium (Cd)-Dissolved			102.1		%		80-120	09-NOV-12
Calcium (Ca)-Dissolved			97.6		%		80-120	09-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2472910							
WG1583101-2	LCS							
Chromium (Cr)-Dissolved			98.1		%		80-120	09-NOV-12
Cobalt (Co)-Dissolved			98.3		%		80-120	09-NOV-12
Copper (Cu)-Dissolved			97.9		%		80-120	09-NOV-12
Iron (Fe)-Dissolved			90.8		%		80-120	09-NOV-12
Lead (Pb)-Dissolved			98.2		%		80-120	09-NOV-12
Lithium (Li)-Dissolved			110.2		%		80-120	09-NOV-12
Magnesium (Mg)-Dissolved			97.3		%		80-120	09-NOV-12
Manganese (Mn)-Dissolved			95.6		%		80-120	09-NOV-12
Molybdenum (Mo)-Dissolved			102.9		%		80-120	09-NOV-12
Nickel (Ni)-Dissolved			97.9		%		80-120	09-NOV-12
Potassium (K)-Dissolved			97.6		%		80-120	09-NOV-12
Selenium (Se)-Dissolved			99.7		%		80-120	09-NOV-12
Silver (Ag)-Dissolved			102.4		%		80-120	09-NOV-12
Sodium (Na)-Dissolved			98.6		%		80-120	09-NOV-12
Strontium (Sr)-Dissolved			95.6		%		80-120	09-NOV-12
Tellurium (Te)-Dissolved			100.6		%		80-120	09-NOV-12
Thallium (Tl)-Dissolved			97.1		%		80-120	09-NOV-12
Tin (Sn)-Dissolved			99.1		%		80-120	09-NOV-12
Titanium (Ti)-Dissolved			99.2		%		80-120	09-NOV-12
Tungsten (W)-Dissolved			99.0		%		80-120	09-NOV-12
Uranium (U)-Dissolved			93.2		%		80-120	09-NOV-12
Vanadium (V)-Dissolved			97.4		%		80-120	09-NOV-12
Zinc (Zn)-Dissolved			100.6		%		80-120	09-NOV-12
Zirconium (Zr)-Dissolved			96.8		%		80-120	09-NOV-12
WG1583101-6	LCS							
Aluminum (Al)-Dissolved			90.0		%		80-120	09-NOV-12
Antimony (Sb)-Dissolved			100.1		%		80-120	09-NOV-12
Arsenic (As)-Dissolved			97.0		%		80-120	09-NOV-12
Barium (Ba)-Dissolved			94.4		%		80-120	09-NOV-12
Beryllium (Be)-Dissolved			98.5		%		80-120	09-NOV-12
Bismuth (Bi)-Dissolved			104.8		%		80-120	09-NOV-12
Boron (B)-Dissolved			80.4		%		80-120	09-NOV-12
Cadmium (Cd)-Dissolved			100.8		%		80-120	09-NOV-12
Calcium (Ca)-Dissolved			96.2		%		80-120	09-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2472910							
WG1583101-6	LCS							
Chromium (Cr)-Dissolved			98.7		%		80-120	09-NOV-12
Cobalt (Co)-Dissolved			98.9		%		80-120	09-NOV-12
Copper (Cu)-Dissolved			97.7		%		80-120	09-NOV-12
Iron (Fe)-Dissolved			96.7		%		80-120	09-NOV-12
Lead (Pb)-Dissolved			96.5		%		80-120	09-NOV-12
Lithium (Li)-Dissolved			108.8		%		80-120	09-NOV-12
Magnesium (Mg)-Dissolved			99.2		%		80-120	09-NOV-12
Manganese (Mn)-Dissolved			95.8		%		80-120	09-NOV-12
Molybdenum (Mo)-Dissolved			94.7		%		80-120	09-NOV-12
Nickel (Ni)-Dissolved			95.8		%		80-120	09-NOV-12
Potassium (K)-Dissolved			97.5		%		80-120	09-NOV-12
Selenium (Se)-Dissolved			94.5		%		80-120	09-NOV-12
Silver (Ag)-Dissolved			99.7		%		80-120	09-NOV-12
Sodium (Na)-Dissolved			100.2		%		80-120	09-NOV-12
Strontium (Sr)-Dissolved			92.1		%		80-120	09-NOV-12
Tellurium (Te)-Dissolved			102.5		%		80-120	09-NOV-12
Thallium (Tl)-Dissolved			97.2		%		80-120	09-NOV-12
Tin (Sn)-Dissolved			98.2		%		80-120	09-NOV-12
Titanium (Ti)-Dissolved			101.7		%		80-120	09-NOV-12
Tungsten (W)-Dissolved			97.3		%		80-120	09-NOV-12
Uranium (U)-Dissolved			92.8		%		80-120	09-NOV-12
Vanadium (V)-Dissolved			99.2		%		80-120	09-NOV-12
Zinc (Zn)-Dissolved			97.6		%		80-120	09-NOV-12
Zirconium (Zr)-Dissolved			92.4		%		80-120	09-NOV-12
WG1583101-1	MB							
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	09-NOV-12
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	09-NOV-12
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	09-NOV-12
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Boron (B)-Dissolved			<0.050		mg/L		0.05	09-NOV-12
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	09-NOV-12
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	09-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2472910							
WG1583101-1 MB								
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	09-NOV-12
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	09-NOV-12
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	09-NOV-12
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	09-NOV-12
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	09-NOV-12
Potassium (K)-Dissolved			<0.50		mg/L		0.5	09-NOV-12
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	09-NOV-12
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	09-NOV-12
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	09-NOV-12
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	09-NOV-12
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	09-NOV-12
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	09-NOV-12
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	09-NOV-12
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
WG1583101-13 MB								
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	09-NOV-12
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	09-NOV-12
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	09-NOV-12
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Boron (B)-Dissolved			<0.050		mg/L		0.05	09-NOV-12
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	09-NOV-12
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	09-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2472910							
WG1583101-13 MB								
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	09-NOV-12
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	09-NOV-12
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	09-NOV-12
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	09-NOV-12
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	09-NOV-12
Potassium (K)-Dissolved			<0.50		mg/L		0.5	09-NOV-12
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	09-NOV-12
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	09-NOV-12
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	09-NOV-12
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	09-NOV-12
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	09-NOV-12
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	09-NOV-12
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	09-NOV-12
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
WG1583101-5 MB								
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	09-NOV-12
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	09-NOV-12
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	09-NOV-12
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Boron (B)-Dissolved			<0.050		mg/L		0.05	09-NOV-12
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	09-NOV-12
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	09-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2472910							
WG1583101-5 MB								
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	09-NOV-12
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	09-NOV-12
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	09-NOV-12
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	09-NOV-12
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	09-NOV-12
Potassium (K)-Dissolved			<0.50		mg/L		0.5	09-NOV-12
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	09-NOV-12
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	09-NOV-12
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	09-NOV-12
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	09-NOV-12
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	09-NOV-12
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	09-NOV-12
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	09-NOV-12
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
WG1583101-9 MB								
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	09-NOV-12
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	09-NOV-12
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	09-NOV-12
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Boron (B)-Dissolved			<0.050		mg/L		0.05	09-NOV-12
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	09-NOV-12
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	09-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2472910							
WG1583101-9	MB							
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	09-NOV-12
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	09-NOV-12
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	09-NOV-12
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	09-NOV-12
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	09-NOV-12
Potassium (K)-Dissolved			<0.50		mg/L		0.5	09-NOV-12
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	09-NOV-12
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	09-NOV-12
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	09-NOV-12
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	09-NOV-12
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	09-NOV-12
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	09-NOV-12
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	09-NOV-12
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	09-NOV-12
WG1583101-12	MS	L1232441-30						
Aluminum (Al)-Dissolved			94.2		%		70-130	09-NOV-12
Antimony (Sb)-Dissolved			101.7		%		70-130	09-NOV-12
Arsenic (As)-Dissolved			107.8		%		70-130	09-NOV-12
Barium (Ba)-Dissolved			N/A	MS-B	%		-	09-NOV-12
Beryllium (Be)-Dissolved			101.1		%		70-130	09-NOV-12
Boron (B)-Dissolved			N/A	MS-B	%		-	09-NOV-12
Cadmium (Cd)-Dissolved			122.6		%		70-130	09-NOV-12
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	09-NOV-12
Chromium (Cr)-Dissolved			95.3		%		70-130	09-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2472910							
WG1583101-12 MS		L1232441-30						
Cobalt (Co)-Dissolved			99.98		%		70-130	09-NOV-12
Copper (Cu)-Dissolved			96.7		%		70-130	09-NOV-12
Iron (Fe)-Dissolved			98.5		%		70-130	09-NOV-12
Lead (Pb)-Dissolved			97.2		%		70-130	09-NOV-12
Magnesium (Mg)-Dissolved			N/A	MS-B	%		-	09-NOV-12
Manganese (Mn)-Dissolved			N/A	MS-B	%		-	09-NOV-12
Molybdenum (Mo)-Dissolved			95.7		%		70-130	09-NOV-12
Nickel (Ni)-Dissolved			97.1		%		70-130	09-NOV-12
Potassium (K)-Dissolved			N/A	MS-B	%		-	09-NOV-12
Selenium (Se)-Dissolved			92.7		%		70-130	09-NOV-12
Sodium (Na)-Dissolved			N/A	MS-B	%		-	09-NOV-12
Thallium (Tl)-Dissolved			94.3		%		70-130	09-NOV-12
Tin (Sn)-Dissolved			100.1		%		70-130	09-NOV-12
Titanium (Ti)-Dissolved			98.4		%		70-130	09-NOV-12
Tungsten (W)-Dissolved			102.6		%		70-130	09-NOV-12
Uranium (U)-Dissolved			96.9		%		70-130	09-NOV-12
Vanadium (V)-Dissolved			101.9		%		70-130	09-NOV-12
Zinc (Zn)-Dissolved			102.4		%		70-130	09-NOV-12
Zirconium (Zr)-Dissolved			92.5		%		70-130	09-NOV-12
WG1583101-16 MS		L1232517-1						
Aluminum (Al)-Dissolved			108.9		%		70-130	09-NOV-12
Antimony (Sb)-Dissolved			115.6		%		70-130	09-NOV-12
Arsenic (As)-Dissolved			121.0		%		70-130	09-NOV-12
Beryllium (Be)-Dissolved			123.6		%		70-130	09-NOV-12
Bismuth (Bi)-Dissolved			108.0		%		70-130	09-NOV-12
Boron (B)-Dissolved			103.0		%		70-130	09-NOV-12
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	09-NOV-12
Chromium (Cr)-Dissolved			115.9		%		70-130	09-NOV-12
Cobalt (Co)-Dissolved			119.6		%		70-130	09-NOV-12
Copper (Cu)-Dissolved			115.5		%		70-130	09-NOV-12
Iron (Fe)-Dissolved			117.2		%		70-130	09-NOV-12
Lead (Pb)-Dissolved			113.1		%		70-130	09-NOV-12
Magnesium (Mg)-Dissolved			N/A	MS-B	%		-	09-NOV-12
Manganese (Mn)-Dissolved			116.7		%		70-130	09-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2472910							
WG1583101-16	MS	L1232517-1						
Molybdenum (Mo)-Dissolved			110.4		%		70-130	09-NOV-12
Nickel (Ni)-Dissolved			112.9		%		70-130	09-NOV-12
Potassium (K)-Dissolved			111.6		%		70-130	09-NOV-12
Selenium (Se)-Dissolved			128.1		%		70-130	09-NOV-12
Silver (Ag)-Dissolved			116.6		%		70-130	09-NOV-12
Sodium (Na)-Dissolved			N/A	MS-B	%		-	09-NOV-12
Strontium (Sr)-Dissolved			N/A	MS-B	%		-	09-NOV-12
Tellurium (Te)-Dissolved			121.7		%		70-130	09-NOV-12
Thallium (Tl)-Dissolved			109.1		%		70-130	09-NOV-12
Tin (Sn)-Dissolved			115.4		%		70-130	09-NOV-12
Titanium (Ti)-Dissolved			116.1		%		70-130	09-NOV-12
Tungsten (W)-Dissolved			115.0		%		70-130	09-NOV-12
Uranium (U)-Dissolved			113.7		%		70-130	09-NOV-12
Vanadium (V)-Dissolved			117.5		%		70-130	09-NOV-12
Zinc (Zn)-Dissolved			118.0		%		70-130	09-NOV-12
Zirconium (Zr)-Dissolved			110.7		%		70-130	09-NOV-12
Batch	R2475157							
WG1586190-10	LCS							
Aluminum (Al)-Dissolved			89.5		%		80-120	15-NOV-12
Antimony (Sb)-Dissolved			103.5		%		80-120	15-NOV-12
Arsenic (As)-Dissolved			101.5		%		80-120	15-NOV-12
Barium (Ba)-Dissolved			96.1		%		80-120	15-NOV-12
Beryllium (Be)-Dissolved			98.1		%		80-120	15-NOV-12
Bismuth (Bi)-Dissolved			97.7		%		80-120	15-NOV-12
Boron (B)-Dissolved			99.4		%		80-120	15-NOV-12
Cadmium (Cd)-Dissolved			101.3		%		80-120	15-NOV-12
Calcium (Ca)-Dissolved			99.5		%		80-120	15-NOV-12
Chromium (Cr)-Dissolved			98.7		%		80-120	15-NOV-12
Cobalt (Co)-Dissolved			97.0		%		80-120	15-NOV-12
Copper (Cu)-Dissolved			98.7		%		80-120	15-NOV-12
Iron (Fe)-Dissolved			100.0		%		80-120	15-NOV-12
Lead (Pb)-Dissolved			97.2		%		80-120	15-NOV-12
Lithium (Li)-Dissolved			92.6		%		80-120	15-NOV-12
Magnesium (Mg)-Dissolved			99.5		%		80-120	15-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2475157							
WG1586190-10 LCS								
Manganese (Mn)-Dissolved			97.4		%		80-120	15-NOV-12
Molybdenum (Mo)-Dissolved			100.0		%		80-120	15-NOV-12
Nickel (Ni)-Dissolved			100.3		%		80-120	15-NOV-12
Potassium (K)-Dissolved			100.6		%		80-120	15-NOV-12
Selenium (Se)-Dissolved			94.5		%		80-120	15-NOV-12
Silver (Ag)-Dissolved			102.3		%		80-120	15-NOV-12
Sodium (Na)-Dissolved			100.9		%		80-120	15-NOV-12
Strontium (Sr)-Dissolved			97.1		%		80-120	15-NOV-12
Tellurium (Te)-Dissolved			105.1		%		80-120	15-NOV-12
Thallium (Tl)-Dissolved			97.4		%		80-120	15-NOV-12
Tin (Sn)-Dissolved			101.5		%		80-120	15-NOV-12
Titanium (Ti)-Dissolved			98.2		%		80-120	15-NOV-12
Tungsten (W)-Dissolved			99.6		%		80-120	15-NOV-12
Uranium (U)-Dissolved			93.9		%		80-120	15-NOV-12
Vanadium (V)-Dissolved			98.0		%		80-120	15-NOV-12
Zinc (Zn)-Dissolved			100.8		%		80-120	15-NOV-12
Zirconium (Zr)-Dissolved			97.1		%		80-120	15-NOV-12
WG1586190-14 LCS								
Aluminum (Al)-Dissolved			89.2		%		80-120	15-NOV-12
Antimony (Sb)-Dissolved			104.4		%		80-120	15-NOV-12
Arsenic (As)-Dissolved			99.3		%		80-120	15-NOV-12
Barium (Ba)-Dissolved			96.5		%		80-120	15-NOV-12
Beryllium (Be)-Dissolved			95.2		%		80-120	15-NOV-12
Bismuth (Bi)-Dissolved			96.3		%		80-120	15-NOV-12
Boron (B)-Dissolved			80.3		%		80-120	15-NOV-12
Cadmium (Cd)-Dissolved			101.6		%		80-120	15-NOV-12
Calcium (Ca)-Dissolved			96.5		%		80-120	15-NOV-12
Chromium (Cr)-Dissolved			99.6		%		80-120	15-NOV-12
Cobalt (Co)-Dissolved			96.9		%		80-120	15-NOV-12
Copper (Cu)-Dissolved			95.4		%		80-120	15-NOV-12
Iron (Fe)-Dissolved			95.4		%		80-120	15-NOV-12
Lead (Pb)-Dissolved			95.8		%		80-120	15-NOV-12
Lithium (Li)-Dissolved			98.1		%		80-120	15-NOV-12
Magnesium (Mg)-Dissolved			96.8		%		80-120	15-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2475157							
WG1586190-14 LCS								
Manganese (Mn)-Dissolved			96.0		%		80-120	15-NOV-12
Molybdenum (Mo)-Dissolved			98.0		%		80-120	15-NOV-12
Nickel (Ni)-Dissolved			96.1		%		80-120	15-NOV-12
Potassium (K)-Dissolved			99.9		%		80-120	15-NOV-12
Selenium (Se)-Dissolved			110.4		%		80-120	15-NOV-12
Silver (Ag)-Dissolved			103.8		%		80-120	15-NOV-12
Sodium (Na)-Dissolved			100.3		%		80-120	15-NOV-12
Strontium (Sr)-Dissolved			95.8		%		80-120	15-NOV-12
Tellurium (Te)-Dissolved			104.4		%		80-120	15-NOV-12
Thallium (Tl)-Dissolved			95.4		%		80-120	15-NOV-12
Tin (Sn)-Dissolved			100.4		%		80-120	15-NOV-12
Titanium (Ti)-Dissolved			104.1		%		80-120	15-NOV-12
Tungsten (W)-Dissolved			97.6		%		80-120	15-NOV-12
Uranium (U)-Dissolved			90.7		%		80-120	15-NOV-12
Vanadium (V)-Dissolved			97.6		%		80-120	15-NOV-12
Zinc (Zn)-Dissolved			97.7		%		80-120	15-NOV-12
Zirconium (Zr)-Dissolved			94.9		%		80-120	15-NOV-12
WG1586190-2 LCS								
Aluminum (Al)-Dissolved			92.1		%		80-120	15-NOV-12
Antimony (Sb)-Dissolved			104.5		%		80-120	15-NOV-12
Arsenic (As)-Dissolved			100.4		%		80-120	15-NOV-12
Barium (Ba)-Dissolved			97.1		%		80-120	15-NOV-12
Beryllium (Be)-Dissolved			108.6		%		80-120	15-NOV-12
Bismuth (Bi)-Dissolved			101.7		%		80-120	15-NOV-12
Boron (B)-Dissolved			94.8		%		80-120	15-NOV-12
Cadmium (Cd)-Dissolved			104.7		%		80-120	15-NOV-12
Calcium (Ca)-Dissolved			100.6		%		80-120	15-NOV-12
Chromium (Cr)-Dissolved			102.2		%		80-120	15-NOV-12
Cobalt (Co)-Dissolved			100.2		%		80-120	15-NOV-12
Copper (Cu)-Dissolved			99.8		%		80-120	15-NOV-12
Iron (Fe)-Dissolved			104.7		%		80-120	15-NOV-12
Lead (Pb)-Dissolved			99.96		%		80-120	15-NOV-12
Lithium (Li)-Dissolved			104.2		%		80-120	15-NOV-12
Magnesium (Mg)-Dissolved			101.0		%		80-120	15-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2475157							
WG1586190-2		LCS						
Manganese (Mn)-Dissolved			100.7		%		80-120	15-NOV-12
Molybdenum (Mo)-Dissolved			99.4		%		80-120	15-NOV-12
Nickel (Ni)-Dissolved			99.6		%		80-120	15-NOV-12
Potassium (K)-Dissolved			102.4		%		80-120	15-NOV-12
Selenium (Se)-Dissolved			110.0		%		80-120	15-NOV-12
Silver (Ag)-Dissolved			104.6		%		80-120	15-NOV-12
Sodium (Na)-Dissolved			103.2		%		80-120	15-NOV-12
Strontium (Sr)-Dissolved			96.2		%		80-120	15-NOV-12
Tellurium (Te)-Dissolved			107.5		%		80-120	15-NOV-12
Thallium (Tl)-Dissolved			101.3		%		80-120	15-NOV-12
Tin (Sn)-Dissolved			102.6		%		80-120	15-NOV-12
Titanium (Ti)-Dissolved			103.4		%		80-120	15-NOV-12
Tungsten (W)-Dissolved			102.4		%		80-120	15-NOV-12
Uranium (U)-Dissolved			94.8		%		80-120	15-NOV-12
Vanadium (V)-Dissolved			100.8		%		80-120	15-NOV-12
Zinc (Zn)-Dissolved			102.2		%		80-120	15-NOV-12
Zirconium (Zr)-Dissolved			97.8		%		80-120	15-NOV-12
WG1586190-6		LCS						
Aluminum (Al)-Dissolved			91.0		%		80-120	15-NOV-12
Antimony (Sb)-Dissolved			106.2		%		80-120	15-NOV-12
Arsenic (As)-Dissolved			99.3		%		80-120	15-NOV-12
Barium (Ba)-Dissolved			96.6		%		80-120	15-NOV-12
Beryllium (Be)-Dissolved			101.1		%		80-120	15-NOV-12
Bismuth (Bi)-Dissolved			102.2		%		80-120	15-NOV-12
Boron (B)-Dissolved			91.5		%		80-120	15-NOV-12
Cadmium (Cd)-Dissolved			104.4		%		80-120	15-NOV-12
Calcium (Ca)-Dissolved			98.8		%		80-120	15-NOV-12
Chromium (Cr)-Dissolved			100.9		%		80-120	15-NOV-12
Cobalt (Co)-Dissolved			99.5		%		80-120	15-NOV-12
Copper (Cu)-Dissolved			97.4		%		80-120	15-NOV-12
Iron (Fe)-Dissolved			101.3		%		80-120	15-NOV-12
Lead (Pb)-Dissolved			99.8		%		80-120	15-NOV-12
Lithium (Li)-Dissolved			103.3		%		80-120	15-NOV-12
Magnesium (Mg)-Dissolved			98.5		%		80-120	15-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2475157							
WG1586190-6		LCS						
Manganese (Mn)-Dissolved			100.0		%		80-120	15-NOV-12
Molybdenum (Mo)-Dissolved			96.6		%		80-120	15-NOV-12
Nickel (Ni)-Dissolved			96.8		%		80-120	15-NOV-12
Potassium (K)-Dissolved			101.3		%		80-120	15-NOV-12
Selenium (Se)-Dissolved			105.5		%		80-120	15-NOV-12
Silver (Ag)-Dissolved			104.7		%		80-120	15-NOV-12
Sodium (Na)-Dissolved			102.2		%		80-120	15-NOV-12
Strontium (Sr)-Dissolved			94.5		%		80-120	15-NOV-12
Tellurium (Te)-Dissolved			109.0		%		80-120	15-NOV-12
Thallium (Tl)-Dissolved			99.4		%		80-120	15-NOV-12
Tin (Sn)-Dissolved			101.9		%		80-120	15-NOV-12
Titanium (Ti)-Dissolved			101.4		%		80-120	15-NOV-12
Tungsten (W)-Dissolved			101.6		%		80-120	15-NOV-12
Uranium (U)-Dissolved			95.0		%		80-120	15-NOV-12
Vanadium (V)-Dissolved			100.2		%		80-120	15-NOV-12
Zinc (Zn)-Dissolved			100.6		%		80-120	15-NOV-12
Zirconium (Zr)-Dissolved			92.7		%		80-120	15-NOV-12
WG1586190-1		MB						
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	15-NOV-12
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	15-NOV-12
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	15-NOV-12
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Boron (B)-Dissolved			<0.050		mg/L		0.05	15-NOV-12
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	15-NOV-12
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	15-NOV-12
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	15-NOV-12
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	15-NOV-12
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	15-NOV-12
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	15-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2475157							
WG1586190-1 MB								
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	15-NOV-12
Potassium (K)-Dissolved			<0.50		mg/L		0.5	15-NOV-12
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	15-NOV-12
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	15-NOV-12
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	15-NOV-12
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	15-NOV-12
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	15-NOV-12
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	15-NOV-12
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	15-NOV-12
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
WG1586190-13 MB								
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	15-NOV-12
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	15-NOV-12
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	15-NOV-12
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Boron (B)-Dissolved			<0.050		mg/L		0.05	15-NOV-12
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	15-NOV-12
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	15-NOV-12
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	15-NOV-12
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	15-NOV-12
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	15-NOV-12
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	15-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2475157							
WG1586190-13 MB								
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	15-NOV-12
Potassium (K)-Dissolved			<0.50		mg/L		0.5	15-NOV-12
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	15-NOV-12
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	15-NOV-12
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	15-NOV-12
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	15-NOV-12
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	15-NOV-12
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	15-NOV-12
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	15-NOV-12
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
WG1586190-5 MB								
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	15-NOV-12
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	15-NOV-12
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	15-NOV-12
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Boron (B)-Dissolved			<0.050		mg/L		0.05	15-NOV-12
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	15-NOV-12
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	15-NOV-12
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	15-NOV-12
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	15-NOV-12
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	15-NOV-12
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	15-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2475157							
WG1586190-5 MB								
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	15-NOV-12
Potassium (K)-Dissolved			<0.50		mg/L		0.5	15-NOV-12
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	15-NOV-12
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	15-NOV-12
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	15-NOV-12
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	15-NOV-12
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	15-NOV-12
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	15-NOV-12
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	15-NOV-12
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
WG1586190-9 MB								
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	15-NOV-12
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	15-NOV-12
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	15-NOV-12
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Boron (B)-Dissolved			<0.050		mg/L		0.05	15-NOV-12
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	15-NOV-12
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	15-NOV-12
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	15-NOV-12
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	15-NOV-12
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	15-NOV-12
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	15-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2475157							
WG1586190-9	MB							
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	15-NOV-12
Potassium (K)-Dissolved			<0.50		mg/L		0.5	15-NOV-12
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	15-NOV-12
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	15-NOV-12
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	15-NOV-12
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	15-NOV-12
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	15-NOV-12
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	15-NOV-12
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	15-NOV-12
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	15-NOV-12
WG1586190-12	MS	L1232905-17						
Aluminum (Al)-Dissolved			99.0		%		70-130	15-NOV-12
Antimony (Sb)-Dissolved			108.6		%		70-130	15-NOV-12
Arsenic (As)-Dissolved			119.1		%		70-130	15-NOV-12
Barium (Ba)-Dissolved			N/A	MS-B	%		-	15-NOV-12
Beryllium (Be)-Dissolved			114.8		%		70-130	15-NOV-12
Bismuth (Bi)-Dissolved			86.9		%		70-130	15-NOV-12
Boron (B)-Dissolved			88.4		%		70-130	15-NOV-12
Cadmium (Cd)-Dissolved			123.9		%		70-130	15-NOV-12
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	15-NOV-12
Chromium (Cr)-Dissolved			107.0		%		70-130	15-NOV-12
Cobalt (Co)-Dissolved			105.3		%		70-130	15-NOV-12
Copper (Cu)-Dissolved			94.5		%		70-130	15-NOV-12
Iron (Fe)-Dissolved			97.8		%		70-130	15-NOV-12
Lead (Pb)-Dissolved			98.9		%		70-130	15-NOV-12
Magnesium (Mg)-Dissolved			N/A	MS-B	%		-	15-NOV-12
Manganese (Mn)-Dissolved			N/A	MS-B	%		-	15-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2475157							
WG1586190-12 MS		L1232905-17						
Molybdenum (Mo)-Dissolved			100.6		%		70-130	15-NOV-12
Nickel (Ni)-Dissolved			95.0		%		70-130	15-NOV-12
Potassium (K)-Dissolved			N/A	MS-B	%		-	15-NOV-12
Sodium (Na)-Dissolved			N/A	MS-B	%		-	15-NOV-12
Strontium (Sr)-Dissolved			N/A	MS-B	%		-	15-NOV-12
Tellurium (Te)-Dissolved			115.9		%		70-130	15-NOV-12
Thallium (Tl)-Dissolved			97.0		%		70-130	15-NOV-12
Tin (Sn)-Dissolved			103.3		%		70-130	15-NOV-12
Titanium (Ti)-Dissolved			110.9		%		70-130	15-NOV-12
Tungsten (W)-Dissolved			104.0		%		70-130	15-NOV-12
Vanadium (V)-Dissolved			111.2		%		70-130	15-NOV-12
Zinc (Zn)-Dissolved			101.6		%		70-130	15-NOV-12
Zirconium (Zr)-Dissolved			100.3		%		70-130	15-NOV-12
WG1586190-16 MS		L1233618-7						
Aluminum (Al)-Dissolved			92.8		%		70-130	15-NOV-12
Antimony (Sb)-Dissolved			107.2		%		70-130	15-NOV-12
Arsenic (As)-Dissolved			110.3		%		70-130	15-NOV-12
Barium (Ba)-Dissolved			104.4		%		70-130	15-NOV-12
Beryllium (Be)-Dissolved			108.7		%		70-130	15-NOV-12
Bismuth (Bi)-Dissolved			93.2		%		70-130	15-NOV-12
Boron (B)-Dissolved			101.8		%		70-130	15-NOV-12
Cadmium (Cd)-Dissolved			126.1		%		70-130	15-NOV-12
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	15-NOV-12
Chromium (Cr)-Dissolved			103.5		%		70-130	15-NOV-12
Cobalt (Co)-Dissolved			103.9		%		70-130	15-NOV-12
Copper (Cu)-Dissolved			107.6		%		70-130	15-NOV-12
Iron (Fe)-Dissolved			98.9		%		70-130	15-NOV-12
Lead (Pb)-Dissolved			102.6		%		70-130	15-NOV-12
Lithium (Li)-Dissolved			101.3		%		70-130	15-NOV-12
Magnesium (Mg)-Dissolved			N/A	MS-B	%		-	15-NOV-12
Manganese (Mn)-Dissolved			103.4		%		70-130	15-NOV-12
Molybdenum (Mo)-Dissolved			99.2		%		70-130	15-NOV-12
Nickel (Ni)-Dissolved			99.1		%		70-130	15-NOV-12
Potassium (K)-Dissolved			113.1		%		70-130	15-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2475157							
WG1586190-16 MS		L1233618-7						
Selenium (Se)-Dissolved			111.8		%		70-130	15-NOV-12
Silver (Ag)-Dissolved			105.4		%		70-130	15-NOV-12
Sodium (Na)-Dissolved			102.1		%		70-130	15-NOV-12
Strontium (Sr)-Dissolved			N/A	MS-B	%		-	15-NOV-12
Tellurium (Te)-Dissolved			109.3		%		70-130	15-NOV-12
Thallium (Tl)-Dissolved			100.0		%		70-130	15-NOV-12
Tin (Sn)-Dissolved			102.7		%		70-130	15-NOV-12
Titanium (Ti)-Dissolved			106.8		%		70-130	15-NOV-12
Tungsten (W)-Dissolved			104.2		%		70-130	15-NOV-12
Uranium (U)-Dissolved			105.6		%		70-130	15-NOV-12
Vanadium (V)-Dissolved			105.8		%		70-130	15-NOV-12
Zinc (Zn)-Dissolved			105.9		%		70-130	15-NOV-12
Zirconium (Zr)-Dissolved			97.4		%		70-130	15-NOV-12
WG1586190-8 MS		L1232905-3						
Aluminum (Al)-Dissolved			103.6		%		70-130	15-NOV-12
Antimony (Sb)-Dissolved			124.4		%		70-130	15-NOV-12
Barium (Ba)-Dissolved			N/A	MS-B	%		-	15-NOV-12
Beryllium (Be)-Dissolved			123.7		%		70-130	15-NOV-12
Bismuth (Bi)-Dissolved			90.3		%		70-130	15-NOV-12
Boron (B)-Dissolved			N/A	MS-B	%		-	15-NOV-12
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	15-NOV-12
Chromium (Cr)-Dissolved			110.5		%		70-130	15-NOV-12
Cobalt (Co)-Dissolved			116.2		%		70-130	15-NOV-12
Copper (Cu)-Dissolved			106.0		%		70-130	15-NOV-12
Iron (Fe)-Dissolved			110.4		%		70-130	15-NOV-12
Lead (Pb)-Dissolved			104.1		%		70-130	15-NOV-12
Magnesium (Mg)-Dissolved			N/A	MS-B	%		-	15-NOV-12
Manganese (Mn)-Dissolved			N/A	MS-B	%		-	15-NOV-12
Molybdenum (Mo)-Dissolved			119.1		%		70-130	15-NOV-12
Nickel (Ni)-Dissolved			104.1		%		70-130	15-NOV-12
Potassium (K)-Dissolved			N/A	MS-B	%		-	15-NOV-12
Selenium (Se)-Dissolved			128.3		%		70-130	15-NOV-12
Silver (Ag)-Dissolved			110.3		%		70-130	15-NOV-12
Sodium (Na)-Dissolved			N/A	MS-B	%		-	15-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2475157							
WG1586190-8 MS		L1232905-3						
Strontium (Sr)-Dissolved			N/A	MS-B	%		-	15-NOV-12
Thallium (Tl)-Dissolved			103.6		%		70-130	15-NOV-12
Tin (Sn)-Dissolved			121.0		%		70-130	15-NOV-12
Titanium (Ti)-Dissolved			126.7		%		70-130	15-NOV-12
Tungsten (W)-Dissolved			120.4		%		70-130	15-NOV-12
Uranium (U)-Dissolved			N/A	MS-B	%		-	15-NOV-12
Vanadium (V)-Dissolved			117.4		%		70-130	15-NOV-12
Zinc (Zn)-Dissolved			109.9		%		70-130	15-NOV-12
Zirconium (Zr)-Dissolved			116.8		%		70-130	15-NOV-12
MET-T-MS-TB								
	Water							
Batch	R2472658							
WG1580112-2 LCS								
Aluminum (Al)-Total			91.1		%		80-120	09-NOV-12
Antimony (Sb)-Total			102.8		%		80-120	09-NOV-12
Arsenic (As)-Total			96.2		%		80-120	09-NOV-12
Barium (Ba)-Total			99.2		%		80-120	09-NOV-12
Beryllium (Be)-Total			101.3		%		80-120	09-NOV-12
Bismuth (Bi)-Total			101.8		%		80-120	09-NOV-12
Boron (B)-Total			94.4		%		80-120	09-NOV-12
Cadmium (Cd)-Total			102.2		%		80-120	09-NOV-12
Calcium (Ca)-Total			98.6		%		80-120	09-NOV-12
Chromium (Cr)-Total			97.1		%		80-120	09-NOV-12
Cobalt (Co)-Total			95.7		%		80-120	09-NOV-12
Copper (Cu)-Total			97.0		%		80-120	09-NOV-12
Iron (Fe)-Total			94.9		%		80-120	09-NOV-12
Lead (Pb)-Total			98.7		%		80-120	09-NOV-12
Lithium (Li)-Total			103.5		%		80-120	09-NOV-12
Magnesium (Mg)-Total			98.0		%		80-120	09-NOV-12
Manganese (Mn)-Total			95.2		%		80-120	09-NOV-12
Molybdenum (Mo)-Total			99.7		%		80-120	09-NOV-12
Nickel (Ni)-Total			98.2		%		80-120	09-NOV-12
Potassium (K)-Total			97.1		%		80-120	09-NOV-12
Selenium (Se)-Total			98.8		%		80-120	09-NOV-12
Silver (Ag)-Total			103.2		%		80-120	09-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2472658							
WG1580112-2 LCS								
Sodium (Na)-Total			98.6		%		80-120	09-NOV-12
Strontium (Sr)-Total			95.4		%		80-120	09-NOV-12
Tellurium (Te)-Total			105.1		%		80-120	09-NOV-12
Thallium (Tl)-Total			98.0		%		80-120	09-NOV-12
Tin (Sn)-Total			99.5		%		80-120	09-NOV-12
Titanium (Ti)-Total			100.6		%		80-120	09-NOV-12
Tungsten (W)-Total			99.2		%		80-120	09-NOV-12
Uranium (U)-Total			93.6		%		80-120	09-NOV-12
Vanadium (V)-Total			98.2		%		80-120	09-NOV-12
Zinc (Zn)-Total			100.2		%		80-120	09-NOV-12
Zirconium (Zr)-Total			96.0		%		80-120	09-NOV-12
WG1580112-1 MB								
Aluminum (Al)-Total			<0.0050		mg/L		0.005	09-NOV-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	09-NOV-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	09-NOV-12
Barium (Ba)-Total			<0.010		mg/L		0.01	09-NOV-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	09-NOV-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	09-NOV-12
Boron (B)-Total			<0.050		mg/L		0.05	09-NOV-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	09-NOV-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	09-NOV-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	09-NOV-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	09-NOV-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	09-NOV-12
Iron (Fe)-Total			<0.020		mg/L		0.02	09-NOV-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	09-NOV-12
Lithium (Li)-Total			<0.050		mg/L		0.05	09-NOV-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	09-NOV-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	09-NOV-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	09-NOV-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	09-NOV-12
Potassium (K)-Total			<0.50		mg/L		0.5	09-NOV-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	09-NOV-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	09-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2472658							
WG1580112-1	MB							
Sodium (Na)-Total			<0.10		mg/L		0.1	09-NOV-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	09-NOV-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	09-NOV-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	09-NOV-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	09-NOV-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	09-NOV-12
Tungsten (W)-Total			<0.010		mg/L		0.01	09-NOV-12
Uranium (U)-Total			<0.0050		mg/L		0.005	09-NOV-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	09-NOV-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	09-NOV-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	09-NOV-12
Batch	R2472665							
WG1581686-2	LCS							
Aluminum (Al)-Total			90.5		%		80-120	09-NOV-12
Antimony (Sb)-Total			103.4		%		80-120	09-NOV-12
Arsenic (As)-Total			100.6		%		80-120	09-NOV-12
Barium (Ba)-Total			98.4		%		80-120	09-NOV-12
Beryllium (Be)-Total			99.98		%		80-120	09-NOV-12
Bismuth (Bi)-Total			103.3		%		80-120	09-NOV-12
Boron (B)-Total			97.6		%		80-120	09-NOV-12
Cadmium (Cd)-Total			102.7		%		80-120	09-NOV-12
Calcium (Ca)-Total			98.0		%		80-120	09-NOV-12
Chromium (Cr)-Total			98.2		%		80-120	09-NOV-12
Cobalt (Co)-Total			97.6		%		80-120	09-NOV-12
Copper (Cu)-Total			102.1		%		80-120	09-NOV-12
Iron (Fe)-Total			92.9		%		80-120	09-NOV-12
Lead (Pb)-Total			99.9		%		80-120	09-NOV-12
Lithium (Li)-Total			100.5		%		80-120	09-NOV-12
Magnesium (Mg)-Total			97.8		%		80-120	09-NOV-12
Manganese (Mn)-Total			96.1		%		80-120	09-NOV-12
Molybdenum (Mo)-Total			101.9		%		80-120	09-NOV-12
Nickel (Ni)-Total			100.6		%		80-120	09-NOV-12
Potassium (K)-Total			96.7		%		80-120	09-NOV-12
Selenium (Se)-Total			104.5		%		80-120	09-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2472665							
WG1581686-2	LCS							
Silver (Ag)-Total			103.3		%		80-120	09-NOV-12
Sodium (Na)-Total			98.2		%		80-120	09-NOV-12
Strontium (Sr)-Total			96.8		%		80-120	09-NOV-12
Tellurium (Te)-Total			102.7		%		80-120	09-NOV-12
Thallium (Tl)-Total			99.2		%		80-120	09-NOV-12
Tin (Sn)-Total			99.6		%		80-120	09-NOV-12
Titanium (Ti)-Total			101.5		%		80-120	09-NOV-12
Tungsten (W)-Total			101.3		%		80-120	09-NOV-12
Uranium (U)-Total			97.6		%		80-120	09-NOV-12
Vanadium (V)-Total			99.1		%		80-120	09-NOV-12
Zinc (Zn)-Total			102.6		%		80-120	09-NOV-12
Zirconium (Zr)-Total			99.7		%		80-120	09-NOV-12
WG1581686-1	MB							
Aluminum (Al)-Total			<0.0050		mg/L		0.005	09-NOV-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	09-NOV-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	09-NOV-12
Barium (Ba)-Total			<0.010		mg/L		0.01	09-NOV-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	09-NOV-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	09-NOV-12
Boron (B)-Total			<0.050		mg/L		0.05	09-NOV-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	09-NOV-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	09-NOV-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	09-NOV-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	09-NOV-12
Iron (Fe)-Total			<0.020		mg/L		0.02	09-NOV-12
Lead (Pb)-Total			0.0027	A	mg/L		0.001	09-NOV-12
Lithium (Li)-Total			<0.050		mg/L		0.05	09-NOV-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	09-NOV-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	09-NOV-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	09-NOV-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	09-NOV-12
Potassium (K)-Total			<0.50		mg/L		0.5	09-NOV-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	09-NOV-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	09-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2472665							
WG1581686-1	MB							
Sodium (Na)-Total			<0.10		mg/L		0.1	09-NOV-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	09-NOV-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	09-NOV-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	09-NOV-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	09-NOV-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	09-NOV-12
Tungsten (W)-Total			<0.010		mg/L		0.01	09-NOV-12
Uranium (U)-Total			<0.0050		mg/L		0.005	09-NOV-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	09-NOV-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	09-NOV-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	09-NOV-12
Batch	R2473531							
WG1580112-10	LCS							
Aluminum (Al)-Total			87.0		%		80-120	12-NOV-12
Antimony (Sb)-Total			96.8		%		80-120	12-NOV-12
Arsenic (As)-Total			99.5		%		80-120	12-NOV-12
Barium (Ba)-Total			91.4		%		80-120	12-NOV-12
Beryllium (Be)-Total			100.8		%		80-120	12-NOV-12
Bismuth (Bi)-Total			99.2		%		80-120	12-NOV-12
Boron (B)-Total			95.9		%		80-120	12-NOV-12
Cadmium (Cd)-Total			99.3		%		80-120	12-NOV-12
Calcium (Ca)-Total			96.5		%		80-120	12-NOV-12
Chromium (Cr)-Total			100.2		%		80-120	12-NOV-12
Cobalt (Co)-Total			97.0		%		80-120	12-NOV-12
Copper (Cu)-Total			100.1		%		80-120	12-NOV-12
Iron (Fe)-Total			86.7		%		80-120	12-NOV-12
Lead (Pb)-Total			98.7		%		80-120	12-NOV-12
Lithium (Li)-Total			99.8		%		80-120	12-NOV-12
Magnesium (Mg)-Total			97.9		%		80-120	12-NOV-12
Manganese (Mn)-Total			94.6		%		80-120	12-NOV-12
Molybdenum (Mo)-Total			100.2		%		80-120	12-NOV-12
Nickel (Ni)-Total			100.8		%		80-120	12-NOV-12
Potassium (K)-Total			99.6		%		80-120	12-NOV-12
Selenium (Se)-Total			99.5		%		80-120	12-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2473531							
WG1580112-10 LCS								
Silver (Ag)-Total			95.6		%		80-120	12-NOV-12
Sodium (Na)-Total			96.5		%		80-120	12-NOV-12
Strontium (Sr)-Total			92.6		%		80-120	12-NOV-12
Tellurium (Te)-Total			98.9		%		80-120	12-NOV-12
Thallium (Tl)-Total			98.9		%		80-120	12-NOV-12
Tin (Sn)-Total			93.2		%		80-120	12-NOV-12
Titanium (Ti)-Total			92.7		%		80-120	12-NOV-12
Tungsten (W)-Total			99.0		%		80-120	12-NOV-12
Uranium (U)-Total			89.8		%		80-120	12-NOV-12
Vanadium (V)-Total			94.0		%		80-120	12-NOV-12
Zinc (Zn)-Total			100.3		%		80-120	12-NOV-12
Zirconium (Zr)-Total			93.2		%		80-120	12-NOV-12
WG1580112-6 LCS								
Aluminum (Al)-Total			92.1		%		80-120	12-NOV-12
Antimony (Sb)-Total			100.2		%		80-120	12-NOV-12
Arsenic (As)-Total			103.9		%		80-120	12-NOV-12
Barium (Ba)-Total			98.6		%		80-120	12-NOV-12
Beryllium (Be)-Total			103.7		%		80-120	12-NOV-12
Bismuth (Bi)-Total			99.6		%		80-120	12-NOV-12
Boron (B)-Total			98.1		%		80-120	12-NOV-12
Cadmium (Cd)-Total			101.7		%		80-120	12-NOV-12
Calcium (Ca)-Total			98.6		%		80-120	12-NOV-12
Chromium (Cr)-Total			103.5		%		80-120	12-NOV-12
Cobalt (Co)-Total			101.3		%		80-120	12-NOV-12
Copper (Cu)-Total			105.8		%		80-120	12-NOV-12
Iron (Fe)-Total			103.0		%		80-120	12-NOV-12
Lead (Pb)-Total			99.9		%		80-120	12-NOV-12
Lithium (Li)-Total			106.4		%		80-120	12-NOV-12
Magnesium (Mg)-Total			104.0		%		80-120	12-NOV-12
Manganese (Mn)-Total			99.0		%		80-120	12-NOV-12
Molybdenum (Mo)-Total			108.2		%		80-120	12-NOV-12
Nickel (Ni)-Total			106.2		%		80-120	12-NOV-12
Potassium (K)-Total			102.9		%		80-120	12-NOV-12
Selenium (Se)-Total			100.5		%		80-120	12-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2473531							
WG1580112-6	LCS							
Silver (Ag)-Total			98.3		%		80-120	12-NOV-12
Sodium (Na)-Total			104.5		%		80-120	12-NOV-12
Strontium (Sr)-Total			97.4		%		80-120	12-NOV-12
Tellurium (Te)-Total			103.7		%		80-120	12-NOV-12
Thallium (Tl)-Total			103.7		%		80-120	12-NOV-12
Tin (Sn)-Total			99.0		%		80-120	12-NOV-12
Titanium (Ti)-Total			100.4		%		80-120	12-NOV-12
Tungsten (W)-Total			99.0		%		80-120	12-NOV-12
Uranium (U)-Total			93.2		%		80-120	12-NOV-12
Vanadium (V)-Total			100.4		%		80-120	12-NOV-12
Zinc (Zn)-Total			102.9		%		80-120	12-NOV-12
Zirconium (Zr)-Total			101.7		%		80-120	12-NOV-12
WG1580112-5	MB							
Aluminum (Al)-Total			<0.0050		mg/L		0.005	12-NOV-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	12-NOV-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	12-NOV-12
Barium (Ba)-Total			<0.010		mg/L		0.01	12-NOV-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	12-NOV-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	12-NOV-12
Boron (B)-Total			<0.050		mg/L		0.05	12-NOV-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	12-NOV-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	12-NOV-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	12-NOV-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	12-NOV-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	12-NOV-12
Iron (Fe)-Total			<0.020		mg/L		0.02	12-NOV-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	12-NOV-12
Lithium (Li)-Total			<0.050		mg/L		0.05	12-NOV-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	12-NOV-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	12-NOV-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	12-NOV-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	12-NOV-12
Potassium (K)-Total			<0.50		mg/L		0.5	12-NOV-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	12-NOV-12



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MET-T-MS-TB	Water							
Batch	R2473531							
WG1580112-5 MB								
Silver (Ag)-Total			<0.00010		mg/L		0.0001	12-NOV-12
Sodium (Na)-Total			<0.10		mg/L		0.1	12-NOV-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	12-NOV-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	12-NOV-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	12-NOV-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	12-NOV-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	12-NOV-12
Tungsten (W)-Total			<0.010		mg/L		0.01	12-NOV-12
Uranium (U)-Total			<0.0050		mg/L		0.005	12-NOV-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	12-NOV-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	12-NOV-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	12-NOV-12
WG1580112-9 MB								
Aluminum (Al)-Total			<0.0050		mg/L		0.005	12-NOV-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	12-NOV-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	12-NOV-12
Barium (Ba)-Total			<0.010		mg/L		0.01	12-NOV-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	12-NOV-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	12-NOV-12
Boron (B)-Total			<0.050		mg/L		0.05	12-NOV-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	12-NOV-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	12-NOV-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	12-NOV-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	12-NOV-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	12-NOV-12
Iron (Fe)-Total			<0.020		mg/L		0.02	12-NOV-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	12-NOV-12
Lithium (Li)-Total			<0.050		mg/L		0.05	12-NOV-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	12-NOV-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	12-NOV-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	12-NOV-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	12-NOV-12
Potassium (K)-Total			<0.50		mg/L		0.5	12-NOV-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	12-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2473531							
WG1580112-9 MB								
Silver (Ag)-Total			<0.00010		mg/L		0.0001	12-NOV-12
Sodium (Na)-Total			<0.10		mg/L		0.1	12-NOV-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	12-NOV-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	12-NOV-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	12-NOV-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	12-NOV-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	12-NOV-12
Tungsten (W)-Total			<0.010		mg/L		0.01	12-NOV-12
Uranium (U)-Total			<0.0050		mg/L		0.005	12-NOV-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	12-NOV-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	12-NOV-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	12-NOV-12
WG1580112-4 MS		L1232422-10						
Aluminum (Al)-Total			101.1		%		70-130	12-NOV-12
Antimony (Sb)-Total			103.9		%		70-130	12-NOV-12
Arsenic (As)-Total			111.5		%		70-130	12-NOV-12
Beryllium (Be)-Total			112.3		%		70-130	12-NOV-12
Bismuth (Bi)-Total			90.8		%		70-130	12-NOV-12
Boron (B)-Total			106.4		%		70-130	12-NOV-12
Cadmium (Cd)-Total			124.7		%		70-130	12-NOV-12
Calcium (Ca)-Total			N/A	MS-B	%		-	12-NOV-12
Chromium (Cr)-Total			109.9		%		70-130	12-NOV-12
Cobalt (Co)-Total			109.7		%		70-130	12-NOV-12
Copper (Cu)-Total			102.1		%		70-130	12-NOV-12
Iron (Fe)-Total			107.7		%		70-130	12-NOV-12
Lead (Pb)-Total			97.4		%		70-130	12-NOV-12
Lithium (Li)-Total			108.3		%		70-130	12-NOV-12
Magnesium (Mg)-Total			N/A	MS-B	%		-	12-NOV-12
Manganese (Mn)-Total			N/A	MS-B	%		-	12-NOV-12
Molybdenum (Mo)-Total			113.5		%		70-130	12-NOV-12
Nickel (Ni)-Total			102.2		%		70-130	12-NOV-12
Potassium (K)-Total			113.2		%		70-130	12-NOV-12
Selenium (Se)-Total			101.5		%		70-130	12-NOV-12
Silver (Ag)-Total			100.1		%		70-130	12-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2473531							
WG1580112-4 MS		L1232422-10						
Sodium (Na)-Total			122.8		%		70-130	12-NOV-12
Strontium (Sr)-Total			N/A	MS-B	%		-	12-NOV-12
Tellurium (Te)-Total			107.4		%		70-130	12-NOV-12
Thallium (Tl)-Total			95.8		%		70-130	12-NOV-12
Tin (Sn)-Total			102.6		%		70-130	12-NOV-12
Titanium (Ti)-Total			108.4		%		70-130	12-NOV-12
Tungsten (W)-Total			101.8		%		70-130	12-NOV-12
Uranium (U)-Total			95.5		%		70-130	12-NOV-12
Vanadium (V)-Total			109.9		%		70-130	12-NOV-12
Zinc (Zn)-Total			99.7		%		70-130	12-NOV-12
Zirconium (Zr)-Total			108.3		%		70-130	12-NOV-12
Batch	R2473708							
WG1581686-6 LCS								
Aluminum (Al)-Total			93.6		%		80-120	13-NOV-12
Antimony (Sb)-Total			99.9		%		80-120	13-NOV-12
Arsenic (As)-Total			105.2		%		80-120	13-NOV-12
Barium (Ba)-Total			95.0		%		80-120	13-NOV-12
Beryllium (Be)-Total			97.9		%		80-120	13-NOV-12
Bismuth (Bi)-Total			102.2		%		80-120	13-NOV-12
Boron (B)-Total			102.8		%		80-120	13-NOV-12
Cadmium (Cd)-Total			101.2		%		80-120	13-NOV-12
Calcium (Ca)-Total			99.8		%		80-120	13-NOV-12
Chromium (Cr)-Total			103.6		%		80-120	13-NOV-12
Cobalt (Co)-Total			97.8		%		80-120	13-NOV-12
Copper (Cu)-Total			107.4		%		80-120	13-NOV-12
Iron (Fe)-Total			100.6		%		80-120	13-NOV-12
Lead (Pb)-Total			99.0		%		80-120	13-NOV-12
Lithium (Li)-Total			97.8		%		80-120	13-NOV-12
Magnesium (Mg)-Total			104.5		%		80-120	13-NOV-12
Manganese (Mn)-Total			100.8		%		80-120	13-NOV-12
Molybdenum (Mo)-Total			106.2		%		80-120	13-NOV-12
Nickel (Ni)-Total			105.3		%		80-120	13-NOV-12
Potassium (K)-Total			103.6		%		80-120	13-NOV-12
Selenium (Se)-Total			111.0		%		80-120	13-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2473708							
WG1581686-6	LCS							
Silver (Ag)-Total			102.9		%		80-120	13-NOV-12
Sodium (Na)-Total			103.1		%		80-120	13-NOV-12
Strontium (Sr)-Total			100.1		%		80-120	13-NOV-12
Tellurium (Te)-Total			101.3		%		80-120	13-NOV-12
Thallium (Tl)-Total			102.3		%		80-120	13-NOV-12
Tin (Sn)-Total			103.3		%		80-120	13-NOV-12
Titanium (Ti)-Total			105.0		%		80-120	13-NOV-12
Tungsten (W)-Total			99.3		%		80-120	13-NOV-12
Uranium (U)-Total			93.6		%		80-120	13-NOV-12
Vanadium (V)-Total			101.7		%		80-120	13-NOV-12
Zinc (Zn)-Total			105.3		%		80-120	13-NOV-12
Zirconium (Zr)-Total			100.7		%		80-120	13-NOV-12
WG1581686-5	MB							
Aluminum (Al)-Total			<0.0050		mg/L		0.005	13-NOV-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	13-NOV-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	13-NOV-12
Barium (Ba)-Total			<0.010		mg/L		0.01	13-NOV-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	13-NOV-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	13-NOV-12
Boron (B)-Total			<0.050		mg/L		0.05	13-NOV-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	13-NOV-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	13-NOV-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	13-NOV-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	13-NOV-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	13-NOV-12
Iron (Fe)-Total			<0.020		mg/L		0.02	13-NOV-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	13-NOV-12
Lithium (Li)-Total			<0.050		mg/L		0.05	13-NOV-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	13-NOV-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	13-NOV-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	13-NOV-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	13-NOV-12
Potassium (K)-Total			<0.50		mg/L		0.5	13-NOV-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	13-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2473708							
WG1581686-5	MB							
Silver (Ag)-Total			<0.00010		mg/L		0.0001	13-NOV-12
Sodium (Na)-Total			<0.10		mg/L		0.1	13-NOV-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	13-NOV-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	13-NOV-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	13-NOV-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	13-NOV-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	13-NOV-12
Tungsten (W)-Total			<0.010		mg/L		0.01	13-NOV-12
Uranium (U)-Total			<0.0050		mg/L		0.005	13-NOV-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	13-NOV-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	13-NOV-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	13-NOV-12
Batch	R2473747							
WG1580112-14	LCS							
Aluminum (Al)-Total			91.7		%		80-120	13-NOV-12
Antimony (Sb)-Total			97.6		%		80-120	13-NOV-12
Arsenic (As)-Total			103.8		%		80-120	13-NOV-12
Barium (Ba)-Total			93.0		%		80-120	13-NOV-12
Beryllium (Be)-Total			103.9		%		80-120	13-NOV-12
Bismuth (Bi)-Total			102.4		%		80-120	13-NOV-12
Boron (B)-Total			101.5		%		80-120	13-NOV-12
Cadmium (Cd)-Total			98.9		%		80-120	13-NOV-12
Calcium (Ca)-Total			97.1		%		80-120	13-NOV-12
Chromium (Cr)-Total			101.8		%		80-120	13-NOV-12
Cobalt (Co)-Total			96.0		%		80-120	13-NOV-12
Copper (Cu)-Total			105.9		%		80-120	13-NOV-12
Iron (Fe)-Total			98.2		%		80-120	13-NOV-12
Lead (Pb)-Total			99.7		%		80-120	13-NOV-12
Lithium (Li)-Total			97.0		%		80-120	13-NOV-12
Magnesium (Mg)-Total			100.9		%		80-120	13-NOV-12
Manganese (Mn)-Total			98.7		%		80-120	13-NOV-12
Molybdenum (Mo)-Total			103.8		%		80-120	13-NOV-12
Nickel (Ni)-Total			103.6		%		80-120	13-NOV-12
Potassium (K)-Total			101.9		%		80-120	13-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2473747							
WG1580112-14 LCS								
Selenium (Se)-Total			108.1		%		80-120	13-NOV-12
Silver (Ag)-Total			100.5		%		80-120	13-NOV-12
Sodium (Na)-Total			100.0		%		80-120	13-NOV-12
Strontium (Sr)-Total			97.6		%		80-120	13-NOV-12
Tellurium (Te)-Total			96.7		%		80-120	13-NOV-12
Thallium (Tl)-Total			103.4		%		80-120	13-NOV-12
Tin (Sn)-Total			101.3		%		80-120	13-NOV-12
Titanium (Ti)-Total			100.8		%		80-120	13-NOV-12
Tungsten (W)-Total			99.0		%		80-120	13-NOV-12
Uranium (U)-Total			96.9		%		80-120	13-NOV-12
Vanadium (V)-Total			99.0		%		80-120	13-NOV-12
Zinc (Zn)-Total			103.9		%		80-120	13-NOV-12
Zirconium (Zr)-Total			94.4		%		80-120	13-NOV-12
WG1580112-13 MB								
Aluminum (Al)-Total			<0.0050		mg/L		0.005	13-NOV-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	13-NOV-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	13-NOV-12
Barium (Ba)-Total			<0.010		mg/L		0.01	13-NOV-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	13-NOV-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	13-NOV-12
Boron (B)-Total			<0.050		mg/L		0.05	13-NOV-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	13-NOV-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	13-NOV-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	13-NOV-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	13-NOV-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	13-NOV-12
Iron (Fe)-Total			<0.020		mg/L		0.02	13-NOV-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	13-NOV-12
Lithium (Li)-Total			<0.050		mg/L		0.05	13-NOV-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	13-NOV-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	13-NOV-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	13-NOV-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	13-NOV-12
Potassium (K)-Total			<0.50		mg/L		0.5	13-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2473747							
WG1580112-13 MB								
Selenium (Se)-Total			<0.0010		mg/L		0.001	13-NOV-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	13-NOV-12
Sodium (Na)-Total			<0.10		mg/L		0.1	13-NOV-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	13-NOV-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	13-NOV-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	13-NOV-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	13-NOV-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	13-NOV-12
Tungsten (W)-Total			<0.010		mg/L		0.01	13-NOV-12
Uranium (U)-Total			<0.0050		mg/L		0.005	13-NOV-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	13-NOV-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	13-NOV-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	13-NOV-12
WG1580112-12 MS		L1232547-3						
Aluminum (Al)-Total			N/A	MS-B	%		-	13-NOV-12
Antimony (Sb)-Total			98.7		%		70-130	13-NOV-12
Arsenic (As)-Total			110.5		%		70-130	13-NOV-12
Barium (Ba)-Total			N/A	MS-B	%		-	13-NOV-12
Beryllium (Be)-Total			106.1		%		70-130	13-NOV-12
Bismuth (Bi)-Total			94.3		%		70-130	13-NOV-12
Boron (B)-Total			97.0		%		70-130	13-NOV-12
Cadmium (Cd)-Total			124.6		%		70-130	13-NOV-12
Calcium (Ca)-Total			N/A	MS-B	%		-	13-NOV-12
Chromium (Cr)-Total			105.0		%		70-130	13-NOV-12
Cobalt (Co)-Total			99.3		%		70-130	13-NOV-12
Copper (Cu)-Total			106.6		%		70-130	13-NOV-12
Iron (Fe)-Total			N/A	MS-B	%		-	13-NOV-12
Lead (Pb)-Total			99.7		%		70-130	13-NOV-12
Lithium (Li)-Total			129.5		%		70-130	13-NOV-12
Magnesium (Mg)-Total			N/A	MS-B	%		-	13-NOV-12
Manganese (Mn)-Total			N/A	MS-B	%		-	13-NOV-12
Molybdenum (Mo)-Total			108.9		%		70-130	13-NOV-12
Nickel (Ni)-Total			104.6		%		70-130	13-NOV-12
Potassium (K)-Total			N/A	MS-B	%		-	13-NOV-12



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MET-T-MS-TB								
	Water							
Batch	R2473747							
WG1580112-12 MS		L1232547-3						
Selenium (Se)-Total			117.7		%		70-130	13-NOV-12
Silver (Ag)-Total			105.9		%		70-130	13-NOV-12
Sodium (Na)-Total			N/A	MS-B	%		-	13-NOV-12
Strontium (Sr)-Total			N/A	MS-B	%		-	13-NOV-12
Tellurium (Te)-Total			98.9		%		70-130	13-NOV-12
Thallium (Tl)-Total			97.7		%		70-130	13-NOV-12
Tin (Sn)-Total			104.5		%		70-130	13-NOV-12
Titanium (Ti)-Total			103.0		%		70-130	13-NOV-12
Tungsten (W)-Total			103.6		%		70-130	13-NOV-12
Uranium (U)-Total			106.7		%		70-130	13-NOV-12
Vanadium (V)-Total			109.3		%		70-130	13-NOV-12
Zinc (Zn)-Total			104.5		%		70-130	13-NOV-12
Zirconium (Zr)-Total			101.0		%		70-130	13-NOV-12
Batch	R2476534							
WG1581686-10 LCS								
Aluminum (Al)-Total			90.3		%		80-120	16-NOV-12
Antimony (Sb)-Total			100.6		%		80-120	16-NOV-12
Arsenic (As)-Total			100.9		%		80-120	16-NOV-12
Barium (Ba)-Total			93.8		%		80-120	16-NOV-12
Beryllium (Be)-Total			105.5		%		80-120	16-NOV-12
Bismuth (Bi)-Total			99.4		%		80-120	16-NOV-12
Boron (B)-Total			101.6		%		80-120	16-NOV-12
Cadmium (Cd)-Total			100.5		%		80-120	16-NOV-12
Calcium (Ca)-Total			102.6		%		80-120	16-NOV-12
Chromium (Cr)-Total			105.3		%		80-120	16-NOV-12
Cobalt (Co)-Total			98.6		%		80-120	16-NOV-12
Copper (Cu)-Total			99.1		%		80-120	16-NOV-12
Iron (Fe)-Total			104.3		%		80-120	16-NOV-12
Lead (Pb)-Total			95.7		%		80-120	16-NOV-12
Lithium (Li)-Total			103.3		%		80-120	16-NOV-12
Magnesium (Mg)-Total			99.7		%		80-120	16-NOV-12
Manganese (Mn)-Total			99.4		%		80-120	16-NOV-12
Molybdenum (Mo)-Total			104.0		%		80-120	16-NOV-12
Nickel (Ni)-Total			101.0		%		80-120	16-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2476534							
WG1581686-10 LCS								
Potassium (K)-Total			101.4		%		80-120	16-NOV-12
Selenium (Se)-Total			94.8		%		80-120	16-NOV-12
Silver (Ag)-Total			101.7		%		80-120	16-NOV-12
Sodium (Na)-Total			103.9		%		80-120	16-NOV-12
Strontium (Sr)-Total			99.5		%		80-120	16-NOV-12
Tellurium (Te)-Total			96.8		%		80-120	16-NOV-12
Thallium (Tl)-Total			98.0		%		80-120	16-NOV-12
Tin (Sn)-Total			100.7		%		80-120	16-NOV-12
Titanium (Ti)-Total			102.6		%		80-120	16-NOV-12
Tungsten (W)-Total			100.8		%		80-120	16-NOV-12
Uranium (U)-Total			94.2		%		80-120	16-NOV-12
Vanadium (V)-Total			101.6		%		80-120	16-NOV-12
Zinc (Zn)-Total			100.4		%		80-120	16-NOV-12
Zirconium (Zr)-Total			95.7		%		80-120	16-NOV-12
WG1581686-9 MB								
Aluminum (Al)-Total			<0.0050		mg/L		0.005	16-NOV-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	16-NOV-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	16-NOV-12
Barium (Ba)-Total			<0.010		mg/L		0.01	16-NOV-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	16-NOV-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	16-NOV-12
Boron (B)-Total			<0.050		mg/L		0.05	16-NOV-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	16-NOV-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	16-NOV-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	16-NOV-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	16-NOV-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	16-NOV-12
Iron (Fe)-Total			<0.020		mg/L		0.02	16-NOV-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	16-NOV-12
Lithium (Li)-Total			<0.050		mg/L		0.05	16-NOV-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	16-NOV-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	16-NOV-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	16-NOV-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	16-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2476534							
WG1581686-9 MB								
Potassium (K)-Total			<0.50		mg/L		0.5	16-NOV-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	16-NOV-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	16-NOV-12
Sodium (Na)-Total			<0.10		mg/L		0.1	16-NOV-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	16-NOV-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	16-NOV-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	16-NOV-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	16-NOV-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	16-NOV-12
Tungsten (W)-Total			<0.010		mg/L		0.01	16-NOV-12
Uranium (U)-Total			<0.0050		mg/L		0.005	16-NOV-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	16-NOV-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	16-NOV-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	16-NOV-12
NH3-COL-TB								
	Water							
Batch	R2471031							
WG1580762-11 DUP		L1232517-9						
Ammonia, Total (as N)		<0.020	0.020	RPD-NA	mg/L	N/A	20	06-NOV-12
WG1580762-10 LCS								
Ammonia, Total (as N)			92.8		%		85-115	06-NOV-12
WG1580762-14 LCS								
Ammonia, Total (as N)			92.9		%		85-115	06-NOV-12
WG1580762-18 LCS								
Ammonia, Total (as N)			93.4		%		85-115	06-NOV-12
WG1580762-2 LCS								
Ammonia, Total (as N)			91.8		%		85-115	06-NOV-12
WG1580762-6 LCS								
Ammonia, Total (as N)			93.2		%		85-115	06-NOV-12
WG1580762-1 MB								
Ammonia, Total (as N)			<0.020		mg/L		0.02	06-NOV-12
WG1580762-13 MB								
Ammonia, Total (as N)			<0.020		mg/L		0.02	06-NOV-12
WG1580762-17 MB								
Ammonia, Total (as N)			<0.020		mg/L		0.02	06-NOV-12
WG1580762-5 MB								
Ammonia, Total (as N)			<0.020		mg/L		0.02	06-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NH3-COL-TB								
Water								
Batch	R2471031							
WG1580762-9	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	06-NOV-12
WG1580762-12	MS	L1232517-9						
Ammonia, Total (as N)			94.1		%		75-125	06-NOV-12
WG1580762-16	MS	L1232661-12						
Ammonia, Total (as N)			91.7		%		75-125	06-NOV-12
WG1580762-20	MS	L1232686-18						
Ammonia, Total (as N)			90.8		%		75-125	06-NOV-12
WG1580762-4	MS	L1232396-3						
Ammonia, Total (as N)			91.9		%		75-125	06-NOV-12
WG1580762-8	MS	L1232476-7						
Ammonia, Total (as N)			N/A	MS-B	%		-	06-NOV-12
Batch	R2474483							
WG1584052-10	LCS							
Ammonia, Total (as N)			92.2		%		85-115	10-NOV-12
WG1584052-2	LCS							
Ammonia, Total (as N)			92.1		%		85-115	10-NOV-12
WG1584052-6	LCS							
Ammonia, Total (as N)			92.4		%		85-115	10-NOV-12
WG1584052-1	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	10-NOV-12
WG1584052-5	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	10-NOV-12
WG1584052-9	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	10-NOV-12
WG1584052-12	MS	L1235616-4						
Ammonia, Total (as N)			N/A	MS-B	%		-	10-NOV-12
WG1584052-4	MS	L1234984-1						
Ammonia, Total (as N)			90.4		%		75-125	10-NOV-12
WG1584052-8	MS	L1235292-2						
Ammonia, Total (as N)			81.5		%		75-125	10-NOV-12
NO2-IC-TB								
Water								
Batch	R2469040							
WG1580561-10	LCS							
Nitrite (as N)			94.4		%		90-110	04-NOV-12
WG1580561-14	LCS							
Nitrite (as N)			96.2		%		90-110	04-NOV-12
WG1580561-18	LCS							



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO2-IC-TB								
Batch R2469040								
WG1580561-18	LCS							
Nitrite (as N)			96.6		%		90-110	04-NOV-12
WG1580561-2	LCS							
Nitrite (as N)			94.2		%		90-110	04-NOV-12
WG1580561-6	LCS							
Nitrite (as N)			97.0		%		90-110	04-NOV-12
WG1580561-1	MB							
Nitrite (as N)			<0.020		mg/L		0.02	04-NOV-12
WG1580561-13	MB							
Nitrite (as N)			<0.020		mg/L		0.02	04-NOV-12
WG1580561-17	MB							
Nitrite (as N)			<0.020		mg/L		0.02	04-NOV-12
WG1580561-5	MB							
Nitrite (as N)			<0.020		mg/L		0.02	04-NOV-12
WG1580561-9	MB							
Nitrite (as N)			<0.020		mg/L		0.02	04-NOV-12
WG1580561-12	MS	L1232441-24						
Nitrite (as N)			100.8		%		75-115	04-NOV-12
WG1580561-16	MS	L1232661-1						
Nitrite (as N)			102.1		%		75-115	04-NOV-12
WG1580561-4	MS	L1232481-3						
Nitrite (as N)			98.9		%		75-115	04-NOV-12
WG1580561-8	MS	L1232686-6						
Nitrite (as N)			102.7		%		75-115	04-NOV-12
Batch R2470518								
WG1582083-10	LCS							
Nitrite (as N)			96.3		%		90-110	06-NOV-12
WG1582083-14	LCS							
Nitrite (as N)			100.1		%		90-110	06-NOV-12
WG1582083-18	LCS							
Nitrite (as N)			98.6		%		90-110	06-NOV-12
WG1582083-2	LCS							
Nitrite (as N)			96.1		%		90-110	06-NOV-12
WG1582083-6	LCS							
Nitrite (as N)			103.3		%		90-110	06-NOV-12
WG1582083-1	MB							
Nitrite (as N)			<0.020		mg/L		0.02	06-NOV-12
WG1582083-13	MB							
Nitrite (as N)			<0.020		mg/L		0.02	06-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO2-IC-TB								
	Water							
Batch	R2470518							
WG1582083-17	MB							
Nitrite (as N)			<0.020		mg/L		0.02	06-NOV-12
WG1582083-5	MB							
Nitrite (as N)			<0.020		mg/L		0.02	06-NOV-12
WG1582083-9	MB							
Nitrite (as N)			<0.020		mg/L		0.02	06-NOV-12
WG1582083-12	MS	L1232686-15						
Nitrite (as N)			112.0		%		75-115	06-NOV-12
WG1582083-16	MS	L1232895-5						
Nitrite (as N)			102.7		%		75-115	06-NOV-12
WG1582083-4	MS	L1232441-11						
Nitrite (as N)			103.7		%		75-115	06-NOV-12
WG1582083-8	MS	L1232476-8						
Nitrite (as N)			102.2		%		75-115	06-NOV-12
NO3-IC-TB								
	Water							
Batch	R2469040							
WG1580561-10	LCS							
Nitrate (as N)			98.7		%		90-110	04-NOV-12
WG1580561-14	LCS							
Nitrate (as N)			100.5		%		90-110	04-NOV-12
WG1580561-18	LCS							
Nitrate (as N)			98.0		%		90-110	04-NOV-12
WG1580561-2	LCS							
Nitrate (as N)			99.8		%		90-110	04-NOV-12
WG1580561-6	LCS							
Nitrate (as N)			102.4		%		90-110	04-NOV-12
WG1580561-1	MB							
Nitrate (as N)			<0.030		mg/L		0.03	04-NOV-12
WG1580561-13	MB							
Nitrate (as N)			<0.030		mg/L		0.03	04-NOV-12
WG1580561-17	MB							
Nitrate (as N)			<0.030		mg/L		0.03	04-NOV-12
WG1580561-5	MB							
Nitrate (as N)			<0.030		mg/L		0.03	04-NOV-12
WG1580561-9	MB							
Nitrate (as N)			<0.030		mg/L		0.03	04-NOV-12
WG1580561-12	MS	L1232441-24						
Nitrate (as N)			102.8		%		75-125	04-NOV-12
WG1580561-16	MS	L1232661-1						



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO3-IC-TB								
Water								
Batch	R2469040							
WG1580561-16	MS	L1232661-1						
Nitrate (as N)			105.2		%		75-125	04-NOV-12
WG1580561-4	MS	L1232481-3						
Nitrate (as N)			98.8		%		75-125	04-NOV-12
WG1580561-8	MS	L1232686-6						
Nitrate (as N)			108.5		%		75-125	04-NOV-12
Batch	R2470518							
WG1582083-10	LCS							
Nitrate (as N)			103.1		%		90-110	06-NOV-12
WG1582083-14	LCS							
Nitrate (as N)			101.6		%		90-110	06-NOV-12
WG1582083-18	LCS							
Nitrate (as N)			103.2		%		90-110	06-NOV-12
WG1582083-2	LCS							
Nitrate (as N)			100.9		%		90-110	06-NOV-12
WG1582083-6	LCS							
Nitrate (as N)			103.1		%		90-110	06-NOV-12
WG1582083-1	MB							
Nitrate (as N)			<0.030		mg/L		0.03	06-NOV-12
WG1582083-13	MB							
Nitrate (as N)			<0.030		mg/L		0.03	06-NOV-12
WG1582083-17	MB							
Nitrate (as N)			<0.030		mg/L		0.03	06-NOV-12
WG1582083-5	MB							
Nitrate (as N)			<0.030		mg/L		0.03	06-NOV-12
WG1582083-9	MB							
Nitrate (as N)			<0.030		mg/L		0.03	06-NOV-12
WG1582083-12	MS	L1232686-15						
Nitrate (as N)			107.9		%		75-125	06-NOV-12
WG1582083-16	MS	L1232895-5						
Nitrate (as N)			100.8		%		75-125	06-NOV-12
WG1582083-4	MS	L1232441-11						
Nitrate (as N)			101.1		%		75-125	06-NOV-12
WG1582083-8	MS	L1232476-8						
Nitrate (as N)			97.9		%		75-125	06-NOV-12
OGG-TOT-WT	Water							



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
OGG-TOT-WT								
Water								
Batch	R2469906							
WG1580198-2	LCS							
Oil and Grease, Total			92.6		%		70-130	05-NOV-12
WG1580198-3	LCS	WG1580198-2						
Oil and Grease, Total		92.6	95		%	2.3	40	05-NOV-12
WG1580198-1	MB							
Oil and Grease, Total			<2.0		mg/L		2	05-NOV-12
Batch								
R2469908								
WG1580628-2	LCS							
Oil and Grease, Total			94.0		%		70-130	06-NOV-12
WG1580628-3	LCS	WG1580628-2						
Oil and Grease, Total		94.0	96		%	2.5	40	06-NOV-12
WG1580628-1	MB							
Oil and Grease, Total			<2.0		mg/L		2	06-NOV-12
P-T-COL-TB								
Water								
Batch	R2469122							
WG1580199-10	LCS							
Phosphorus (P)-Total			102.8		%		80-120	05-NOV-12
WG1580199-2	LCS							
Phosphorus (P)-Total			103.7		%		80-120	05-NOV-12
WG1580199-6	LCS							
Phosphorus (P)-Total			103.6		%		80-120	05-NOV-12
WG1580199-1	MB							
Phosphorus (P)-Total			<0.0050		mg/L		0.005	05-NOV-12
WG1580199-5	MB							
Phosphorus (P)-Total			<0.0050		mg/L		0.005	05-NOV-12
WG1580199-9	MB							
Phosphorus (P)-Total			<0.0050		mg/L		0.005	05-NOV-12
WG1580199-12	MS	L1232601-2						
Phosphorus (P)-Total			90.9		%		70-130	05-NOV-12
WG1580199-4	MS	L1232422-10						
Phosphorus (P)-Total			89.4		%		70-130	05-NOV-12
WG1580199-8	MS	L1232481-16						
Phosphorus (P)-Total			85.5		%		70-130	05-NOV-12
PH-CAP-TB								
Water								
Batch	R2469148							
WG1579983-3	DUP	L1232517-1						
pH		7.27	7.26	J	pH	0.02	0.2	03-NOV-12
WG1579983-2	LCS							



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PH-CAP-TB								
	Water							
Batch	R2469148							
WG1579983-2	LCS							
pH			5.99		pH		5.9-6.1	03-NOV-12
WG1579983-5	LCS							
pH			6.01		pH		5.9-6.1	03-NOV-12
WG1579983-8	LCS							
pH			6.01		pH		5.9-6.1	03-NOV-12
SO4-IC-TB								
	Water							
Batch	R2469040							
WG1580561-10	LCS							
Sulfate (SO4)			100.6		%		90-110	04-NOV-12
WG1580561-14	LCS							
Sulfate (SO4)			102.3		%		90-110	04-NOV-12
WG1580561-18	LCS							
Sulfate (SO4)			100.3		%		90-110	04-NOV-12
WG1580561-2	LCS							
Sulfate (SO4)			102.0		%		90-110	04-NOV-12
WG1580561-6	LCS							
Sulfate (SO4)			104.7		%		90-110	04-NOV-12
WG1580561-1	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	04-NOV-12
WG1580561-13	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	04-NOV-12
WG1580561-17	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	04-NOV-12
WG1580561-5	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	04-NOV-12
WG1580561-9	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	04-NOV-12
WG1580561-12	MS	L1232441-24						
Sulfate (SO4)			102.1		%		75-125	04-NOV-12
WG1580561-16	MS	L1232661-1						
Sulfate (SO4)			107.6		%		75-125	04-NOV-12
WG1580561-4	MS	L1232481-3						
Sulfate (SO4)			101.4		%		75-125	04-NOV-12
WG1580561-8	MS	L1232686-6						
Sulfate (SO4)			109.1		%		75-125	04-NOV-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SO4-IC-TB								
Water								
Batch	R2470518							
WG1582083-10	LCS							
Sulfate (SO4)			105.7		%		90-110	06-NOV-12
WG1582083-14	LCS							
Sulfate (SO4)			106.0		%		90-110	06-NOV-12
WG1582083-18	LCS							
Sulfate (SO4)			106.1		%		90-110	06-NOV-12
WG1582083-2	LCS							
Sulfate (SO4)			102.2		%		90-110	06-NOV-12
WG1582083-6	LCS							
Sulfate (SO4)			105.5		%		90-110	06-NOV-12
WG1582083-1	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	06-NOV-12
WG1582083-13	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	06-NOV-12
WG1582083-17	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	06-NOV-12
WG1582083-5	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	06-NOV-12
WG1582083-9	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	06-NOV-12
WG1582083-12	MS	L1232686-15						
Sulfate (SO4)			112.5		%		75-125	06-NOV-12
WG1582083-16	MS	L1232895-5						
Sulfate (SO4)			103.6		%		75-125	06-NOV-12
WG1582083-4	MS	L1232441-11						
Sulfate (SO4)			110.7		%		75-125	06-NOV-12
WG1582083-8	MS	L1232476-8						
Sulfate (SO4)			99.9		%		75-125	06-NOV-12
SOLIDS-TOTSUS-TB								
Water								
Batch	R2470548							
WG1581528-2	LCS							
Total Suspended Solids			100.6		%		85-115	07-NOV-12
WG1581528-1	MB							
Total Suspended Solids			<2.0		mg/L		2	07-NOV-12

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Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
A	Method Blank exceeds ALS DQO. Refer to narrative comments for further information.
J	Duplicate results and limits are expressed in terms of absolute difference.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

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Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Leachable Anions & Nutrients							
Anions by Ion Chromatography	13	31-OCT-12	06-NOV-12 21:59	5	6	days	EHT
Anions by Ion Chromatography	13	31-OCT-12	06-NOV-12 21:59	5	6	days	EHT

Legend & Qualifier Definitions:

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.
EHTR: Exceeded ALS recommended hold time prior to sample receipt.
EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
EHT: Exceeded ALS recommended hold time prior to analysis.
Rec. HT: ALS recommended hold time (see units).

Notes*:

Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.
Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L1232517 were received on 02-NOV-12 11:15.


ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



L1232517-COFC

Company: Treasury Metals		Regulatory Information				Both questions below must answered for water samples																			
Contact: Mac Potter		LVO, Reg 153 (O, Reg 511 Amend) Table: _____				Are any samples taken from a regulated DW System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																			
Address: 899 Tree Nursery Rd Wabigoon ON P0V 2W0		Record of Site Condition <input type="checkbox"/> Yes <input type="checkbox"/> No				If yes, an authorized DW COC must be used.																			
Phone: 807-938-6961 Fax: _____		PWQO: <input checked="" type="checkbox"/> MISA <input type="checkbox"/> MMER <input type="checkbox"/> CCME <input type="checkbox"/>				Is the water sampled intended for human consumption? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																			
Email: mac@treasurymetals.com		Guideline Required: _____				Analysis Request																			
Project: Job M0906A01 PO: M0210-P0115		TCLP Regulation 558 <input type="checkbox"/> Other: _____																							
Quote #: Q32690 LSD Goliath Project		Service Requested				Please indicate below Filtered, Preserved or both (F, P, F/P)																			
Invoice To: _____ Same as Report: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input checked="" type="checkbox"/> Regular TAT (7 Days)				Alk, pH Conductivity	Cl, NO2, NO3, SO4	Acidity, TSS	Total Cyanide	WAD Cyanide	CN-FREE-COL-VA	Ammonia, Total Phosphorus	OCG	Total Metals +Hg	Dissolved Metals + Hg	Hardness	Number of Containers								
Company: _____		<input type="checkbox"/> Priority TAT 50% Surcharge (3-5 Days)																F	P	F	P	P	P	F/P	F/P
Contact: _____		<input type="checkbox"/> Emergency TAT 100% Surcharge (1-2 Days)																P	P	P	P	P	P	P	P
Address: _____		Specify Date Required: _____				All TAT quoted material is in business days which exclude statutory holidays and weekends. Samples received past 3:00pm or Saturday/Sunday begin the next day.																			
Account Manager: Karen R. Sampler: _____		Sample Identification																							
		(This description will appear on the report)																							
		Date																							
		Time																							
		Sample Type																							
1 SW3		OCT 31/12				WATER																			
2 SW2		↓				↓																			
3 SW1																									
4 TL3																									
5 TL1a																									
6 TL2a																									
7 TL22																									
8 TL7 SW7																									
9 SW8																									
10 SW9																									
11 SW10																									
Special Instructions / Comments																									
EMPTY CONTAINERS RETURNED. SEDIMENT + BENTHOS + SW CONTAINERS																									
SHIPMENT RELEASE (client use)				SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)																	
Released By: 		Date & Time: NOV 1 2012 14:20		Received by: CPA		Date & Time: 02-NOV-12 11:15		Temp: 4.35		Cooling Initiated: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Verified by: WBS		Date & Time: 02-NOV-12 11:45		Observations: Yes / No? If Yes add SIF									

**** Failure to complete all portions of this form may delay analysis. **** TAT may vary dependant on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs. Any known or suspected hazards relating to a sample must be noted on the chain of custody in the comments section. By use of the form the user acknowledges and agrees with the Terms and Conditions as specified on the back page.



TREASURY METALS INC.
ATTN: Mac Potter
899 Tree Nursery Rd
Wabigoon ON P0V 2W0

Date Received: 29-NOV-12
Report Date: 07-DEC-12 15:18 (MT)
Version: FINAL

Client Phone: 807-938-6961

Certificate of Analysis

Lab Work Order #: L1243259
Project P.O. #: M0210-P0115
Job Reference: M0906A01
C of C Numbers:
Legal Site Desc: GOLIATH PROJECT

Tricia Sampson
Account Manager Supervisor

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ADDRESS: 1081 Barton Street, Thunder Bay, ON P7B 5N3 Canada | Phone: +1 807 623 6463 | Fax: +1 807 623 7598
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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1243259-1 SURFACEWATE 27-NOV-12 13:00 TRAVEL BLANK	L1243259-2 SURFACEWATE 27-NOV-12 13:00 FIELD BLANK	L1243259-3 SURFACEWATE 27-NOV-12 13:00 DUPLICATE	L1243259-4 SURFACEWATE 27-NOV-12 13:00 TL1A	L1243259-5 SURFACEWATE 27-NOV-12 13:00 TL3	
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (EC) (uS/cm)	<3.0	<3.0	122	70.3	108
	Hardness (as CaCO3) (mg/L)	<0.51	<0.51	57.3	34.1	53.4
	pH (pH)	5.44	5.55	7.17	6.70	7.20
	Total Suspended Solids (mg/L)	<2.0	<2.0	<2.0	2.2	97.6
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	<2.0	3.0	5.2	5.4	6.4
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)	<5.0	<5.0	57.5	27.3	47.4
	Ammonia, Total (as N) (mg/L)	<0.020	<0.020	<0.020	0.029	0.021
	Chloride (Cl) (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0
	Nitrate-N (NO3-N) (mg/L)	<0.10	<0.10	<0.10	<0.10	<0.10
	Nitrite-N (NO2-N) (mg/L)	<0.10	<0.10	<0.10	<0.10	<0.10
	Phosphorus (P)-Total (mg/L)	<0.0050	<0.0050	0.0068	0.0265	0.106
Sulphate (SO4) (mg/L)	<2.0	<2.0	<2.0	2.2	2.2	
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Free (mg/L)	<0.0050 ^{USF}	<0.0050 ^{USF}	<0.0050 ^{USF}	<0.0050 ^{USF}	<0.0050 ^{USF}
Total Metals	Aluminum (Al)-Total (mg/L)	<0.0050	<0.0050	0.090	0.156	0.659
	Antimony (Sb)-Total (mg/L)	<0.00060	<0.00060	<0.0060 ^{DLA}	<0.0060 ^{DLA}	<0.0060 ^{DLA}
	Arsenic (As)-Total (mg/L)	<0.0010	<0.0010	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}
	Barium (Ba)-Total (mg/L)	<0.010	<0.010	<0.10 ^{DLA}	<0.10 ^{DLA}	<0.10 ^{DLA}
	Beryllium (Be)-Total (mg/L)	<0.0010	<0.0010	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}
	Bismuth (Bi)-Total (mg/L)	<0.0010	<0.0010	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}
	Boron (B)-Total (mg/L)	<0.050	<0.050	<0.50 ^{DLA}	<0.50 ^{DLA}	<0.50 ^{DLA}
	Cadmium (Cd)-Total (mg/L)	<0.000017	<0.000017	<0.00017 ^{DLA}	<0.00017 ^{DLA}	<0.00017 ^{DLA}
	Calcium (Ca)-Total (mg/L)	<0.20	<0.20	19.1	9.6	15.8
	Chromium (Cr)-Total (mg/L)	<0.0010	<0.0010	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}
	Cobalt (Co)-Total (mg/L)	<0.00050	<0.00050	<0.0050 ^{DLA}	<0.0050 ^{DLA}	<0.0050 ^{DLA}
	Copper (Cu)-Total (mg/L)	<0.0010	<0.0010	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}
	Iron (Fe)-Total (mg/L)	<0.020	<0.020	0.45	1.79	2.04
	Lead (Pb)-Total (mg/L)	<0.0010	<0.0010	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}
	Lithium (Li)-Total (mg/L)	<0.050	<0.050	<0.50 ^{DLA}	<0.50 ^{DLA}	<0.50 ^{DLA}
	Magnesium (Mg)-Total (mg/L)	<0.020	<0.020	2.90	2.44	4.31
	Manganese (Mn)-Total (mg/L)	<0.0010	<0.0010	0.051	0.095	0.140
	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010	<0.000010 ^{DLA}	<0.000010 ^{DLA}	<0.000010 ^{DLA}
	Molybdenum (Mo)-Total (mg/L)	<0.0010	<0.0010	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}
	Nickel (Ni)-Total (mg/L)	<0.0020	<0.0020	<0.020 ^{DLA}	<0.020 ^{DLA}	<0.020 ^{DLA}
	Potassium (K)-Total (mg/L)	<0.50	<0.50	<5.0 ^{DLA}	<5.0 ^{DLA}	<5.0 ^{DLA}
	Selenium (Se)-Total (mg/L)	<0.0010	<0.0010	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1243259-6 SURFACEWATE 27-NOV-12 13:00 SW1	L1243259-7 SURFACEWATE 27-NOV-12 13:00 SW2	L1243259-8 SURFACEWATE 27-NOV-12 13:00 SW3	L1243259-9 SURFACEWATE 27-NOV-12 13:00 SW7	L1243259-10 SURFACEWATE 27-NOV-12 13:00 SW8	
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (EC) (uS/cm)	122	141	139	102	157
	Hardness (as CaCO3) (mg/L)	60.8	73.9	55.2	49.6	75.4
	pH (pH)	7.16	7.38	7.22	7.39	7.76
	Total Suspended Solids (mg/L)	<2.0	10.8	<2.0	3.4	<2.0
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	5.4	4.8	4.8	5.0	3.8
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)	57.9	67.8	49.0	43.0	77.6
	Ammonia, Total (as N) (mg/L)	<0.020	<0.020	<0.020	0.023	0.074
	Chloride (Cl) (mg/L)	<2.0	<2.0	9.2	<2.0	<2.0
	Nitrate-N (NO3-N) (mg/L)	<0.10	<0.10	<0.10	0.32	0.11
	Nitrite-N (NO2-N) (mg/L)	<0.10	<0.10	<0.10	<0.10	<0.10
	Phosphorus (P)-Total (mg/L)	0.0061	0.0223	0.0129	0.0107	<0.0050
	Sulphate (SO4) (mg/L)	<2.0	<2.0	2.7	4.5	<2.0
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Free (mg/L)	<0.0050 ^{USF}	<0.0050 ^{USF}	<0.0050 ^{USF}	<0.0050 ^{USF}	<0.0050 ^{USF}
Total Metals	Aluminum (Al)-Total (mg/L)	0.087	0.555	0.0809	0.148	0.0148
	Antimony (Sb)-Total (mg/L)	<0.0060 ^{DLA}	<0.00060	<0.00060	<0.0060 ^{DLA}	<0.00060
	Arsenic (As)-Total (mg/L)	<0.010 ^{DLA}	<0.0010	<0.0010	<0.010 ^{DLA}	<0.0010
	Barium (Ba)-Total (mg/L)	<0.10 ^{DLA}	0.017	<0.010	<0.10 ^{DLA}	0.017
	Beryllium (Be)-Total (mg/L)	<0.010 ^{DLA}	<0.0010	<0.0010	<0.010 ^{DLA}	<0.0010
	Bismuth (Bi)-Total (mg/L)	<0.010 ^{DLA}	<0.0010	<0.0010	<0.010 ^{DLA}	<0.0010
	Boron (B)-Total (mg/L)	<0.50 ^{DLA}	<0.050	<0.050	<0.50 ^{DLA}	<0.050
	Cadmium (Cd)-Total (mg/L)	<0.00017 ^{DLA}	<0.000017	<0.000017	<0.00017 ^{DLA}	<0.000017
	Calcium (Ca)-Total (mg/L)	19.7	20.7	17.0	16.3	28.2
	Chromium (Cr)-Total (mg/L)	<0.010 ^{DLA}	0.0012	<0.0010	<0.010 ^{DLA}	<0.0010
	Cobalt (Co)-Total (mg/L)	<0.0050 ^{DLA}	<0.00050	<0.00050	<0.0050 ^{DLA}	<0.00050
	Copper (Cu)-Total (mg/L)	<0.010 ^{DLA}	0.0025	0.0013	<0.010 ^{DLA}	<0.0010
	Iron (Fe)-Total (mg/L)	0.45	1.01	0.323	0.92	0.861
	Lead (Pb)-Total (mg/L)	<0.010 ^{DLA}	<0.0010	<0.0010	<0.010 ^{DLA}	<0.0010
	Lithium (Li)-Total (mg/L)	<0.50 ^{DLA}	<0.050	<0.050	<0.50 ^{DLA}	<0.050
	Magnesium (Mg)-Total (mg/L)	3.04	5.67	3.65	2.99	2.24
	Manganese (Mn)-Total (mg/L)	0.053	0.0395	0.0542	0.039	0.140
	Mercury (Hg)-Total (mg/L)	<0.000010 ^{DLA}	<0.000010	<0.000010	<0.000010 ^{DLA}	<0.000010
	Molybdenum (Mo)-Total (mg/L)	<0.010 ^{DLA}	<0.0010	<0.0010	<0.010 ^{DLA}	<0.0010
	Nickel (Ni)-Total (mg/L)	<0.020 ^{DLA}	<0.0020	<0.0020	<0.020 ^{DLA}	<0.0020
	Potassium (K)-Total (mg/L)	<5.0 ^{DLA}	1.45	1.33	<5.0 ^{DLA}	0.52
	Selenium (Se)-Total (mg/L)	<0.010 ^{DLA}	<0.0010	<0.0010	<0.010 ^{DLA}	<0.0010

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	L1243259-11	L1243259-12	L1243259-13	L1243259-14
Sampled Date	Sampled Time	Client ID	Client ID	Client ID	Client ID
		L1243259-11 SURFACEWATE 27-NOV-12 13:00 SW10	L1243259-12 SURFACEWATE 27-NOV-12 13:00 JCTA	L1243259-13 SURFACEWATE 28-NOV-12 13:00 SW9	L1243259-14 SURFACEWATE 28-NOV-12 13:00 SW11
Grouping	Analyte				
WATER					
Physical Tests	Conductivity (EC) (uS/cm)	128	95.8	235	35.2
	Hardness (as CaCO3) (mg/L)	60.0	44.4	114	19.3
	pH (pH)	7.53	7.09	7.83	5.63
	Total Suspended Solids (mg/L)	<2.0	<2.0	3.4	<2.0
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	3.6	7.0	4.4	12.2
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)	61.0	40.4	121	6.6
	Ammonia, Total (as N) (mg/L)	0.036	0.038	0.026	<0.020
	Chloride (Cl) (mg/L)	<2.0	<2.0	<2.0	<2.0
	Nitrate-N (NO3-N) (mg/L)	<0.10	<0.10	<0.10	0.12
	Nitrite-N (NO2-N) (mg/L)	<0.10	<0.10	<0.10	<0.10
	Phosphorus (P)-Total (mg/L)	0.0062	0.0266	0.0114	0.0204
	Sulphate (SO4) (mg/L)	<2.0	2.1	<2.0	<2.0
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Free (mg/L)	<0.0050 ^{USF}	<0.0050 ^{USF}	<0.0050 ^{USF}	<0.0050 ^{USF}
Total Metals	Aluminum (Al)-Total (mg/L)	0.0563	0.178	0.0913	0.449
	Antimony (Sb)-Total (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Total (mg/L)	0.011	<0.010	0.021	<0.010
	Beryllium (Be)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Total (mg/L)	<0.000017	<0.000017	<0.000017	0.000030
	Calcium (Ca)-Total (mg/L)	20.7	13.7	38.6	5.73
	Chromium (Cr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
	Cobalt (Co)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
	Iron (Fe)-Total (mg/L)	1.28	1.72	0.476	1.48
	Lead (Pb)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Total (mg/L)	2.83	3.48	6.45	1.28
	Manganese (Mn)-Total (mg/L)	0.171	0.175	0.220	0.0411
	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020
	Potassium (K)-Total (mg/L)	0.65	0.88	1.62	<0.50
	Selenium (Se)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1243259-1 SURFACEWATE 27-NOV-12 13:00 TRAVEL BLANK	L1243259-2 SURFACEWATE 27-NOV-12 13:00 FIELD BLANK	L1243259-3 SURFACEWATE 27-NOV-12 13:00 DUPLICATE	L1243259-4 SURFACEWATE 27-NOV-12 13:00 TL1A	L1243259-5 SURFACEWATE 27-NOV-12 13:00 TL3
Grouping	Analyte					
WATER						
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010	<0.00010	<0.0010 ^{DLA}	<0.0010 ^{DLA}	<0.0010 ^{DLA}
	Sodium (Na)-Total (mg/L)	<0.10	<0.10	1.8	1.4	2.1
	Strontium (Sr)-Total (mg/L)	<0.0010	<0.0010	0.032	0.020	0.033
	Tellurium (Te)-Total (mg/L)	<0.0010	<0.0010	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}
	Thallium (Tl)-Total (mg/L)	<0.00030	<0.00030	<0.0030 ^{DLA}	<0.0030 ^{DLA}	<0.0030 ^{DLA}
	Tin (Sn)-Total (mg/L)	<0.0010	<0.0010	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}
	Titanium (Ti)-Total (mg/L)	<0.0020	<0.0020	<0.020 ^{DLA}	<0.020 ^{DLA}	0.027 ^{DLA}
	Tungsten (W)-Total (mg/L)	<0.010	<0.010	<0.10 ^{DLA}	<0.10 ^{DLA}	<0.10 ^{DLA}
	Uranium (U)-Total (mg/L)	<0.0050	<0.0050	<0.050 ^{DLA}	<0.050 ^{DLA}	<0.050 ^{DLA}
	Vanadium (V)-Total (mg/L)	<0.0010	<0.0010	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}
	Zinc (Zn)-Total (mg/L)	0.0034 ^{RRV}	<0.0030	<0.030 ^{DLA}	<0.030 ^{DLA}	<0.030 ^{DLA}
	Zirconium (Zr)-Total (mg/L)	<0.0010	<0.0010	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	<0.0050	<0.0050	0.0108	0.111	0.0678
	Antimony (Sb)-Dissolved (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Dissolved (mg/L)	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017
	Calcium (Ca)-Dissolved (mg/L)	<0.20	<0.20	18.3	9.72	15.0
	Chromium (Cr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	0.0010
	Iron (Fe)-Dissolved (mg/L)	<0.020	<0.020	0.153	1.19	0.796
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Dissolved (mg/L)	<0.020	<0.020	2.79	2.39	3.88
	Manganese (Mn)-Dissolved (mg/L)	<0.0010	<0.0010	0.0486	0.0950	0.0526
	Mercury (Hg)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Potassium (K)-Dissolved (mg/L)	<0.50	<0.50	0.98	<0.50	0.88
	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Dissolved (mg/L)	<0.10	<0.10	1.70	1.40	2.01
	Strontium (Sr)-Dissolved (mg/L)	<0.0010	<0.0010	0.0301	0.0213	0.0312

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1243259-6 SURFACEWATE 27-NOV-12 13:00 SW1	L1243259-7 SURFACEWATE 27-NOV-12 13:00 SW2	L1243259-8 SURFACEWATE 27-NOV-12 13:00 SW3	L1243259-9 SURFACEWATE 27-NOV-12 13:00 SW7	L1243259-10 SURFACEWATE 27-NOV-12 13:00 SW8
Grouping	Analyte					
WATER						
Total Metals	Silver (Ag)-Total (mg/L)	<0.0010 ^{DLA}	<0.00010	<0.00010	<0.0010 ^{DLA}	<0.00010
	Sodium (Na)-Total (mg/L)	1.8	2.10	6.57	1.6	1.25
	Strontium (Sr)-Total (mg/L)	0.032	0.0377	0.0375	0.029	0.0358
	Tellurium (Te)-Total (mg/L)	<0.010 ^{DLA}	<0.0010	<0.0010	<0.010 ^{DLA}	<0.0010
	Thallium (Tl)-Total (mg/L)	<0.0030 ^{DLA}	<0.00030	<0.00030	<0.0030 ^{DLA}	<0.00030
	Tin (Sn)-Total (mg/L)	<0.010 ^{DLA}	<0.0010	<0.0010	<0.010 ^{DLA}	<0.0010
	Titanium (Ti)-Total (mg/L)	<0.020 ^{DLA}	0.0221	0.0028	<0.020 ^{DLA}	<0.0020
	Tungsten (W)-Total (mg/L)	<0.10 ^{DLA}	<0.010	<0.010	<0.10 ^{DLA}	<0.010
	Uranium (U)-Total (mg/L)	<0.050 ^{DLA}	<0.0050	<0.0050	<0.050 ^{DLA}	<0.0050
	Vanadium (V)-Total (mg/L)	<0.010 ^{DLA}	0.0012	<0.0010	<0.010 ^{DLA}	<0.0010
	Zinc (Zn)-Total (mg/L)	<0.030 ^{DLA}	0.0070	<0.0030	<0.030 ^{DLA}	<0.0030
	Zirconium (Zr)-Total (mg/L)	<0.010 ^{DLA}	<0.0010	<0.0010	<0.010 ^{DLA}	<0.0010
	Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	0.0120	0.0527	0.0149	0.0810
Antimony (Sb)-Dissolved (mg/L)		<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
Arsenic (As)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Barium (Ba)-Dissolved (mg/L)		<0.010	0.013	<0.010	<0.010	0.017
Beryllium (Be)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Bismuth (Bi)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Boron (B)-Dissolved (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
Cadmium (Cd)-Dissolved (mg/L)		<0.000017	<0.000017	<0.000017	<0.000017	<0.000017
Calcium (Ca)-Dissolved (mg/L)		19.3	20.0	16.0	15.1	26.4
Chromium (Cr)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cobalt (Co)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Copper (Cu)-Dissolved (mg/L)		<0.0010	0.0014	0.0014	<0.0010	<0.0010
Iron (Fe)-Dissolved (mg/L)		0.155	0.199	0.134	0.606	0.320
Lead (Pb)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Lithium (Li)-Dissolved (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
Magnesium (Mg)-Dissolved (mg/L)		3.07	5.82	3.68	2.90	2.31
Manganese (Mn)-Dissolved (mg/L)		0.0513	0.0186	0.0461	0.0336	0.128
Mercury (Hg)-Dissolved (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum (Mo)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Nickel (Ni)-Dissolved (mg/L)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Potassium (K)-Dissolved (mg/L)		1.04	1.26	1.26	0.59	0.50
Selenium (Se)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Silver (Ag)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Sodium (Na)-Dissolved (mg/L)		1.79	2.04	6.56	1.49	1.25
Strontium (Sr)-Dissolved (mg/L)		0.0312	0.0351	0.0334	0.0283	0.0329

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1243259-11	L1243259-12	L1243259-13	L1243259-14
		Description	SURFACEWATE	SURFACEWATE	SURFACEWATE	SURFACEWATE
		Sampled Date	27-NOV-12	27-NOV-12	28-NOV-12	28-NOV-12
		Sampled Time	13:00	13:00	13:00	13:00
		Client ID	SW10	JCTA	SW9	SW11
Grouping	Analyte					
WATER						
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Total (mg/L)	1.75	1.94	3.25	1.17	
	Strontium (Sr)-Total (mg/L)	0.0329	0.0295	0.0615	0.0141	
	Tellurium (Te)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	
	Thallium (Tl)-Total (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	
	Tin (Sn)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	
	Titanium (Ti)-Total (mg/L)	0.0026	0.0058	0.0041	0.0121	
	Tungsten (W)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	
	Uranium (U)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	
	Vanadium (V)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	
	Zinc (Zn)-Total (mg/L)	0.0039	0.0049	<0.0030	0.0064	
	Zirconium (Zr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	0.0346	0.0781	0.0243	0.421	
	Antimony (Sb)-Dissolved (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	
	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	
	Barium (Ba)-Dissolved (mg/L)	0.011	<0.010	0.020	<0.010	
	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	
	Boron (B)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	
	Cadmium (Cd)-Dissolved (mg/L)	<0.000017	<0.000017	<0.000017	0.000028	
	Calcium (Ca)-Dissolved (mg/L)	19.2	12.2	35.0	5.52	
	Chromium (Cr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	
	Copper (Cu)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	
	Iron (Fe)-Dissolved (mg/L)	0.739	0.867	0.258	1.26	
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	
	Magnesium (Mg)-Dissolved (mg/L)	2.90	3.40	6.49	1.34	
	Manganese (Mn)-Dissolved (mg/L)	0.153	0.147	0.166	0.0382	
	Mercury (Hg)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	
	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	
	Potassium (K)-Dissolved (mg/L)	0.59	0.77	1.50	<0.50	
	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	
	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	
	Sodium (Na)-Dissolved (mg/L)	1.73	1.80	3.30	1.26	
	Strontium (Sr)-Dissolved (mg/L)	0.0306	0.0261	0.0556	0.0127	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1243259-1 SURFACEWATE 27-NOV-12 13:00 TRAVEL BLANK	L1243259-2 SURFACEWATE 27-NOV-12 13:00 FIELD BLANK	L1243259-3 SURFACEWATE 27-NOV-12 13:00 DUPLICATE	L1243259-4 SURFACEWATE 27-NOV-12 13:00 TL1A	L1243259-5 SURFACEWATE 27-NOV-12 13:00 TL3
Grouping	Analyte					
WATER						
Dissolved Metals	Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	0.0026	<0.0020
	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	<0.0030	<0.0030	<0.0030	0.0061	0.0051
	Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1243259-6 SURFACEWATE 27-NOV-12 13:00 SW1	L1243259-7 SURFACEWATE 27-NOV-12 13:00 SW2	L1243259-8 SURFACEWATE 27-NOV-12 13:00 SW3	L1243259-9 SURFACEWATE 27-NOV-12 13:00 SW7	L1243259-10 SURFACEWATE 27-NOV-12 13:00 SW8																																																						
Grouping	Analyte																																																										
WATER																																																											
Dissolved Metals	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Tellurium (Te)-Dissolved (mg/L)</td> <td style="width: 15%; text-align: center;"><0.0010</td> <td style="width: 15%; text-align: center;"><0.0010</td> <td style="width: 15%; text-align: center;"><0.0010</td> <td style="width: 15%; text-align: center;"><0.0010</td> <td style="width: 15%; text-align: center;"><0.0010</td> </tr> <tr> <td>Thallium (Tl)-Dissolved (mg/L)</td> <td style="text-align: center;"><0.00030</td> <td style="text-align: center;"><0.00030</td> <td style="text-align: center;"><0.00030</td> <td style="text-align: center;"><0.00030</td> <td style="text-align: center;"><0.00030</td> </tr> <tr> <td>Tin (Sn)-Dissolved (mg/L)</td> <td style="text-align: center;"><0.0010</td> <td style="text-align: center;"><0.0010</td> <td style="text-align: center;"><0.0010</td> <td style="text-align: center;"><0.0010</td> <td style="text-align: center;"><0.0010</td> </tr> <tr> <td>Titanium (Ti)-Dissolved (mg/L)</td> <td style="text-align: center;"><0.0020</td> <td style="text-align: center;"><0.0020</td> <td style="text-align: center;"><0.0020</td> <td style="text-align: center;"><0.0020</td> <td style="text-align: center;"><0.0020</td> </tr> <tr> <td>Tungsten (W)-Dissolved (mg/L)</td> <td style="text-align: center;"><0.010</td> <td style="text-align: center;"><0.010</td> <td style="text-align: center;"><0.010</td> <td style="text-align: center;"><0.010</td> <td style="text-align: center;"><0.010</td> </tr> <tr> <td>Uranium (U)-Dissolved (mg/L)</td> <td style="text-align: center;"><0.0050</td> <td style="text-align: center;"><0.0050</td> <td style="text-align: center;"><0.0050</td> <td style="text-align: center;"><0.0050</td> <td style="text-align: center;"><0.0050</td> </tr> <tr> <td>Vanadium (V)-Dissolved (mg/L)</td> <td style="text-align: center;"><0.0010</td> <td style="text-align: center;"><0.0010</td> <td style="text-align: center;"><0.0010</td> <td style="text-align: center;"><0.0010</td> <td style="text-align: center;"><0.0010</td> </tr> <tr> <td>Zinc (Zn)-Dissolved (mg/L)</td> <td style="text-align: center;"><0.0030</td> <td style="text-align: center;"><0.0030</td> <td style="text-align: center;">0.0061</td> <td style="text-align: center;">0.0050</td> <td style="text-align: center;">0.0042</td> </tr> <tr> <td>Zirconium (Zr)-Dissolved (mg/L)</td> <td style="text-align: center;"><0.0010</td> <td style="text-align: center;"><0.0010</td> <td style="text-align: center;"><0.0010</td> <td style="text-align: center;"><0.0010</td> <td style="text-align: center;"><0.0010</td> </tr> </table>					Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	Titanium (Ti)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	Zinc (Zn)-Dissolved (mg/L)	<0.0030	<0.0030	0.0061	0.0050	0.0042	Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010																																																						
Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030																																																						
Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010																																																						
Titanium (Ti)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020																																																						
Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010																																																						
Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050																																																						
Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010																																																						
Zinc (Zn)-Dissolved (mg/L)	<0.0030	<0.0030	0.0061	0.0050	0.0042																																																						
Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010																																																						
Aggregate Organics	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Oil and Grease, Total (mg/L)</td> <td style="width: 15%; text-align: center;"><2.0</td> <td style="width: 15%; text-align: center;"><2.0</td> <td style="width: 15%; text-align: center;"><2.0</td> <td style="width: 15%; text-align: center;"><2.0</td> <td style="width: 15%; text-align: center;"><2.0</td> </tr> </table>					Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0																																																
Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0																																																						

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1243259-11 SURFACEWATE 27-NOV-12 13:00 SW10	L1243259-12 SURFACEWATE 27-NOV-12 13:00 JCTA	L1243259-13 SURFACEWATE 28-NOV-12 13:00 SW9	L1243259-14 SURFACEWATE 28-NOV-12 13:00 SW11
Grouping	Analyte				
WATER					
Dissolved Metals	Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	0.0092
	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	0.0045	0.0048	<0.0030	0.0041
	Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

Qualifiers for Individual Samples Listed:

Sample Number	Client Sample ID	Qualifier	Description
L1243259-1	TRAVEL BLANK	SRPF	Sample received partially frozen - ROUTINE
L1243259-10	SW8	SRPF	Sample received partially frozen - CN,MET,OGG,ROUTINE
L1243259-11	SW10	SRPF	Sample received partially frozen - CN,MET,OGG,ROUTINE,NUT
L1243259-12	JCTA	SRPF	Sample received partially frozen - CN,MET,ROUTINE
L1243259-13	SW9	SFPL	Sample was Filtered and Preserved at the laboratory - HG-D, MET-D
L1243259-14	SW11	SFPL	Sample was Filtered and Preserved at the laboratory - HG-D, MET-D
		SRPF	Sample received partially frozen - CN,MET,OGG,ROUTINE,NUT,HG-D
L1243259-2	FIELD BLANK	SPL	Sample was Preserved at the laboratory - CN,MET,OGG,HG,NUT
L1243259-3	DUPLICATE	SRPF	Sample received partially frozen - CN,MET
L1243259-4	TL1A	SRPF	Sample received partially frozen - CN,MET,HG-T,NUT,OGG,ROUTINE
L1243259-5	TL3	SRPF	Sample received partially frozen - CN,MET,OGG,ROUTINE
L1243259-6	SW1	SRPF	Sample received partially frozen - CN,MET,OGG,ROUTINE
L1243259-7	SW2	SRPF	Sample received partially frozen - CN,MET,OGG,ROUTINE,NUT
		SPL	Sample was Preserved at the laboratory - NUT
L1243259-8	SW3	SRPF	Sample received partially frozen - CN,MET,OGG,ROUTINE,HG-D
L1243259-9	SW7	SRPF	Sample received partially frozen - CN,MET,OGG,ROUTINE,HG

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1243259-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1243259-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1243259-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Potassium (K)-Dissolved	MS-B	L1243259-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1243259-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1243259-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Duplicate	Cyanide, Free	USF	L1243259-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9

Qualifiers for Individual Parameters Listed:

Qualifier	Description
DLA	Detection Limit Adjusted For required dilution
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RRV	Reported Result Verified By Repeat Analysis
USF	Unreliable: Sample Frozen in Transit

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
ACIDITY-TB	Water	Acidity (as CaCO ₃)	APHA 2310 B-POTENTIOMETRIC TITRATION
Aqueous matrices are analyzed by potentiometry. Acidity reported includes acidity caused by hydrolyzable metals present in the sample.			
ALK-TOT-CAP-TB	Water	Alkalinity, Total (as CaCO ₃)	APHA 2320 B-Auto-Pot. Titration
CL-WT	Water	Chloride	EPA 300.0 (IC)
CN-FREE-CFA-VA	Water	Free Cyanide in water by CFA	ASTM 7237
This analysis is carried out using procedures adapted from ASTM Method 7237 "Free Cyanide with Flow Injection Analysis (FIA) Utilizing Gas Diffusion Separation and Amperometric Detection". Free cyanide is determined by in-line gas diffusion at pH 6 with final determination by colourimetric analysis.			
CN-TOT-WT	Water	Cyanide, Total	APHA 4500CN C E-STRONG ACID DIST COLORIM
Total cyanide is determined by the combination of UV digestion and distillation. Cyanide is converted to cyanogen chloride by reacting with chloramine-T, the cyanogen chloride then reacts with a combination of barbituric acid and isonicotinic acid to form a highly colored complex.			

When using this method, high levels of thiocyanate in samples can cause false positives at ~1-2% of the thiocyanate concentration. For samples with detectable cyanide analyzed by this method, ALS recommends analysis for thiocyanate to check for this potential interference

Reference Information

CN-WAD-WT	Water	Cyanide, Weak Acid Diss	APHA 4500CN I-Weak acid Dist Colorimet
Weak acid dissociable cyanide (WAD) is determined by undergoing a distillation procedure. Cyanide is converted to cyanogen chloride by reacting with chloramine-T, the cyanogen chloride then reacts with a combination of barbituric acid and isonicotinic acid to form a highly colored complex.			
EC-CAP-TB	Water	Conductivity (EC)	APHA 2510 B-ELECTRODE
HARDNESS-CALC-TB	Water	Hardness (as CaCO ₃)	CALCULATION
HG-D-CVAF-TB	Water	Dissolved Mercury in Water by CVAFS	EPA 245.7
HG-T-CVAF-TB	Water	Total Mercury in Water by CVAFS	EPA 245.7
MET-D-MS-TB	Water	Dissolved Metals by ICPMS	APHA 3030B/EPA 6020A
This analysis involves filtration (APHA 3030B) and analysis by inductively coupled plasma - mass spectrometry (EPA Method 6020A).			
MET-T-MS-TB	Water	Total Metals by ICPMS	APHA 3030E/EPA 6020A
This analysis involves preliminary sample treatment by hotblock acid digestion (APHA 3030E). Instrumental analysis is by inductively coupled plasma - mass spectrometry (EPA Method 6020A).			
NH3-COL-TB	Water	Ammonia by Discrete Analyzer	APHA 4500-NH3 G. (modified)
Ammonia in aqueous matrices is analyzed using discrete analyzer with colourimetric detection.			
NO2-WT	Water	Nitrite-N	EPA 300.0 (IC)
A filtered water sample (drinking waters-unfiltered) is analyzed by ion chromatography.			
NO3-WT	Water	Nitrate-N	EPA 300.0 (IC)
A filtered water sample (drinking waters-unfiltered) is analyzed by ion chromatography.			
OGG-TOT-WT	Water	Oil and Grease, Total	APHA 5520 B
Sample is extracted with hexane, extract is then evaporated and the residue is weighed to determine total oil and grease.			
P-T-COL-TB	Water	Total Phosphorus by Discrete Analyzer	APHA 4500-P B, F, G (modified)
Phosphorus in aqueous matrices is analyzed using discrete Analyzer with colourimetric detection.			
PH-CAP-TB	Water	pH	APHA 4500-H-ELECTRODE
SO4-WT	Water	Sulphate	EPA 300.0 (IC)
SOLIDS-TOTSUS-TB	Water	Total Suspended Solids	APHA 2540 D (modified)
Aqueous matrices are analyzed using gravimetry			

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
TB	ALS ENVIRONMENTAL - THUNDER BAY, ONTARIO, CANADA
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

mg/kg - milligrams per kilogram based on dry weight of sample.

mg/kg wwt - milligrams per kilogram based on wet weight of sample.

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.

mg/L - milligrams per litre.

< - Less than.

D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L1243259

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Client: TREASURY METALS INC.
 899 Tree Nursery Rd
 Wabigoon ON P0V 2W0
 Contact: Mac Potter

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed	
ACIDITY-TB		Water							
Batch R2492031									
WG1596255-3	DUP	L1243259-4							
Acidity (as CaCO3)			5.4	5.2	mg/L	3.8	20	04-DEC-12	
WG1596255-2	LCS								
Acidity (as CaCO3)				98.0	%		85-115	04-DEC-12	
WG1596255-5	LCS								
Acidity (as CaCO3)				103.2	%		85-115	04-DEC-12	
WG1596255-1	MB								
Acidity (as CaCO3)				<2.0	mg/L		2	04-DEC-12	
WG1596255-4	MB								
Acidity (as CaCO3)				<2.0	mg/L		2	04-DEC-12	
ALK-TOT-CAP-TB		Water							
Batch R2490904									
WG1594668-6	DUP	L1243259-14							
Alkalinity, Total (as CaCO3)			6.6	6.4	mg/L CaCO3	2.4	20	29-NOV-12	
WG1594668-2	LCS								
Alkalinity, Total (as CaCO3)				91.6	%		85-115	29-NOV-12	
WG1594668-5	LCS								
Alkalinity, Total (as CaCO3)				91.3	%		85-115	29-NOV-12	
WG1594668-1	MB								
Alkalinity, Total (as CaCO3)				<5.0	mg/L CaCO3		5	29-NOV-12	
WG1594668-4	MB								
Alkalinity, Total (as CaCO3)				<5.0	mg/L CaCO3		5	29-NOV-12	
CL-WT		Water							
Batch R2490507									
WG1594689-7	DUP	L1243259-5							
Chloride (Cl)			<2.0	<2.0	mg/L	RPD-NA	N/A	20	30-NOV-12
WG1594689-3	LCS								
Chloride (Cl)				97.1	%		85-115	30-NOV-12	
WG1594689-4	LCSD	WG1594689-3							
Chloride (Cl)			97.1	97	%	0.3	25	30-NOV-12	
WG1594689-1	MB								
Chloride (Cl)				<2.0	mg/L		2	30-NOV-12	
CN-FREE-CFA-VA		Water							
Batch R2492206									
WG1596073-5	DUP	L1243259-4							
Cyanide, Free			<0.0050	<0.0050	mg/L	RPD-NA	N/A	20	03-DEC-12
WG1596073-2	LCS								
Cyanide, Free				103.4	%		80-120	03-DEC-12	



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CN-FREE-CFA-VA								
	Water							
Batch	R2492206							
WG1596073-4	LCS							
Cyanide, Free			104.0		%		80-120	03-DEC-12
WG1596073-8	LCS							
Cyanide, Free			102.8		%		80-120	03-DEC-12
WG1596073-1	MB							
Cyanide, Free			<0.0050		mg/L		0.005	03-DEC-12
WG1596073-3	MB							
Cyanide, Free			<0.0050		mg/L		0.005	03-DEC-12
WG1596073-7	MB							
Cyanide, Free			<0.0050		mg/L		0.005	03-DEC-12
WG1596073-6	MS	L1243259-4						
Cyanide, Free			100.7		%		70-130	03-DEC-12
CN-TOT-WT								
	Water							
Batch	R2492489							
WG1597070-4	CVS							
Cyanide, Total			101.0		%		85-115	05-DEC-12
WG1597070-3	LCS							
Cyanide, Total			100.9		%		80-120	05-DEC-12
WG1597070-1	MB							
Cyanide, Total			<0.0020		mg/L		0.002	05-DEC-12
Batch	R2493320							
WG1597670-4	CVS							
Cyanide, Total			94.5		%		85-115	06-DEC-12
WG1597670-5	DUP	L1243259-2						
Cyanide, Total		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	06-DEC-12
WG1597670-3	LCS							
Cyanide, Total			100.0		%		80-120	06-DEC-12
WG1597670-1	MB							
Cyanide, Total			<0.0020		mg/L		0.002	06-DEC-12
CN-WAD-WT								
	Water							
Batch	R2492606							
WG1597172-4	CVS							
Cyanide, Weak Acid Diss			100.0		%		85-115	05-DEC-12
WG1597172-2	DUP	L1243259-1						
Cyanide, Weak Acid Diss		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	05-DEC-12
WG1597172-3	LCS							
Cyanide, Weak Acid Diss			111.6		%		80-120	05-DEC-12
WG1597172-1	MB							



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CN-WAD-WT								
Water								
Batch	R2492606							
WG1597172-1	MB							
Cyanide, Weak Acid Diss			<0.0020		mg/L		0.002	05-DEC-12
Batch	R2493761							
WG1597994-4	CVS							
Cyanide, Weak Acid Diss			113.0		%		85-115	06-DEC-12
WG1597994-2	DUP	L1243259-2						
Cyanide, Weak Acid Diss		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	06-DEC-12
WG1597994-3	LCS							
Cyanide, Weak Acid Diss			110.9		%		80-120	06-DEC-12
WG1597994-1	MB							
Cyanide, Weak Acid Diss			<0.0020		mg/L		0.002	06-DEC-12
EC-CAP-TB								
Water								
Batch	R2490904							
WG1594668-3	DUP	L1243259-2						
Conductivity (EC)		<3.0	<3.0	RPD-NA	uS/cm	N/A	10	29-NOV-12
WG1594668-6	DUP	L1243259-14						
Conductivity (EC)		35.2	35.2		uS/cm	0.0	10	29-NOV-12
WG1594668-2	LCS							
Conductivity (EC)			96.0		%		90-110	29-NOV-12
WG1594668-5	LCS							
Conductivity (EC)			99.1		%		90-110	29-NOV-12
WG1594668-1	MB							
Conductivity (EC)			<3.0		uS/cm		3	29-NOV-12
WG1594668-4	MB							
Conductivity (EC)			<3.0		uS/cm		3	29-NOV-12
HG-D-CVAF-TB								
Water								
Batch	R2490142							
WG1594822-3	DUP	L1243259-13						
Mercury (Hg)-Dissolved		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	30-NOV-12
WG1594822-2	LCS							
Mercury (Hg)-Dissolved			104.5		%		80-120	30-NOV-12
WG1594822-1	MB							
Mercury (Hg)-Dissolved			<0.000010		mg/L		0.00001	30-NOV-12
WG1594822-4	MS	L1243259-13						
Mercury (Hg)-Dissolved			105.2		%		70-130	30-NOV-12
HG-T-CVAF-TB								
Water								



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-T-CVAF-TB								
	Water							
Batch	R2490133							
WG1594818-5	DUP	L1243259-9						
Mercury (Hg)-Total		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	30-NOV-12
WG1594818-9	DUP	L1243259-13						
Mercury (Hg)-Total		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	30-NOV-12
WG1594818-2	LCS							
Mercury (Hg)-Total			101.6		%		80-120	30-NOV-12
WG1594818-8	LCS							
Mercury (Hg)-Total			104.5		%		80-120	30-NOV-12
WG1594818-1	MB							
Mercury (Hg)-Total			<0.000010		mg/L		0.00001	30-NOV-12
WG1594818-7	MB							
Mercury (Hg)-Total			<0.000010		mg/L		0.00001	30-NOV-12
WG1594818-10	MS	L1243259-13						
Mercury (Hg)-Total			105.7		%		70-130	30-NOV-12
WG1594818-6	MS	L1243259-9						
Mercury (Hg)-Total			103.2		%		70-130	30-NOV-12
MET-D-MS-TB								
	Water							
Batch	R2492100							
WG1595977-2	LCS							
Aluminum (Al)-Dissolved			88.3		%		80-120	03-DEC-12
Antimony (Sb)-Dissolved			98.1		%		80-120	03-DEC-12
Arsenic (As)-Dissolved			98.4		%		80-120	03-DEC-12
Barium (Ba)-Dissolved			98.5		%		80-120	03-DEC-12
Beryllium (Be)-Dissolved			94.0		%		80-120	03-DEC-12
Bismuth (Bi)-Dissolved			96.9		%		80-120	03-DEC-12
Boron (B)-Dissolved			95.0		%		80-120	03-DEC-12
Cadmium (Cd)-Dissolved			97.5		%		80-120	03-DEC-12
Calcium (Ca)-Dissolved			95.7		%		80-120	03-DEC-12
Chromium (Cr)-Dissolved			94.2		%		80-120	03-DEC-12
Cobalt (Co)-Dissolved			94.4		%		80-120	03-DEC-12
Copper (Cu)-Dissolved			95.6		%		80-120	03-DEC-12
Iron (Fe)-Dissolved			89.7		%		80-120	03-DEC-12
Lead (Pb)-Dissolved			92.0		%		80-120	03-DEC-12
Lithium (Li)-Dissolved			90.2		%		80-120	03-DEC-12
Magnesium (Mg)-Dissolved			96.3		%		80-120	03-DEC-12
Manganese (Mn)-Dissolved			93.2		%		80-120	03-DEC-12
Molybdenum (Mo)-Dissolved			97.7		%		80-120	03-DEC-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2492100							
WG1595977-2 LCS								
Nickel (Ni)-Dissolved			95.8		%		80-120	03-DEC-12
Potassium (K)-Dissolved			96.3		%		80-120	03-DEC-12
Selenium (Se)-Dissolved			94.9		%		80-120	03-DEC-12
Silver (Ag)-Dissolved			99.6		%		80-120	03-DEC-12
Sodium (Na)-Dissolved			97.6		%		80-120	03-DEC-12
Strontium (Sr)-Dissolved			92.5		%		80-120	03-DEC-12
Tellurium (Te)-Dissolved			100.6		%		80-120	03-DEC-12
Thallium (Tl)-Dissolved			96.9		%		80-120	03-DEC-12
Tin (Sn)-Dissolved			93.7		%		80-120	03-DEC-12
Titanium (Ti)-Dissolved			94.5		%		80-120	03-DEC-12
Tungsten (W)-Dissolved			95.5		%		80-120	03-DEC-12
Uranium (U)-Dissolved			91.4		%		80-120	03-DEC-12
Vanadium (V)-Dissolved			95.1		%		80-120	03-DEC-12
Zinc (Zn)-Dissolved			97.7		%		80-120	03-DEC-12
Zirconium (Zr)-Dissolved			96.0		%		80-120	03-DEC-12
WG1595977-1 MB								
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	03-DEC-12
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	03-DEC-12
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	03-DEC-12
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	03-DEC-12
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	03-DEC-12
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	03-DEC-12
Boron (B)-Dissolved			<0.050		mg/L		0.05	03-DEC-12
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	03-DEC-12
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	03-DEC-12
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	03-DEC-12
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	03-DEC-12
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	03-DEC-12
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	03-DEC-12
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	03-DEC-12
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	03-DEC-12
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	03-DEC-12
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	03-DEC-12
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	03-DEC-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2492100							
WG1595977-1 MB								
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	03-DEC-12
Potassium (K)-Dissolved			<0.50		mg/L		0.5	03-DEC-12
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	03-DEC-12
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	03-DEC-12
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	03-DEC-12
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	03-DEC-12
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	03-DEC-12
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	03-DEC-12
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	03-DEC-12
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	03-DEC-12
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	03-DEC-12
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	03-DEC-12
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	03-DEC-12
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	03-DEC-12
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	03-DEC-12
WG1595977-4 MS		L1244327-1						
Aluminum (Al)-Dissolved			114.1		%		70-130	03-DEC-12
Antimony (Sb)-Dissolved			100.8		%		70-130	03-DEC-12
Arsenic (As)-Dissolved			112.8		%		70-130	03-DEC-12
Barium (Ba)-Dissolved			104.7		%		70-130	03-DEC-12
Beryllium (Be)-Dissolved			107.9		%		70-130	03-DEC-12
Bismuth (Bi)-Dissolved			84.0		%		70-130	03-DEC-12
Boron (B)-Dissolved			129.2		%		70-130	03-DEC-12
Cadmium (Cd)-Dissolved			119.5		%		70-130	03-DEC-12
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	03-DEC-12
Chromium (Cr)-Dissolved			109.3		%		70-130	03-DEC-12
Cobalt (Co)-Dissolved			111.3		%		70-130	03-DEC-12
Copper (Cu)-Dissolved			94.1		%		70-130	03-DEC-12
Iron (Fe)-Dissolved			106.2		%		70-130	03-DEC-12
Lead (Pb)-Dissolved			91.9		%		70-130	03-DEC-12
Lithium (Li)-Dissolved			118.0		%		70-130	03-DEC-12
Magnesium (Mg)-Dissolved			N/A	MS-B	%		-	03-DEC-12
Manganese (Mn)-Dissolved			N/A	MS-B	%		-	03-DEC-12
Molybdenum (Mo)-Dissolved			106.4		%		70-130	03-DEC-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2492100							
WG1595977-4	MS	L1244327-1						
Nickel (Ni)-Dissolved			96.9		%		70-130	03-DEC-12
Potassium (K)-Dissolved			N/A	MS-B	%		-	03-DEC-12
Selenium (Se)-Dissolved			116.6		%		70-130	03-DEC-12
Silver (Ag)-Dissolved			73.9		%		70-130	03-DEC-12
Sodium (Na)-Dissolved			N/A	MS-B	%		-	03-DEC-12
Strontium (Sr)-Dissolved			N/A	MS-B	%		-	03-DEC-12
Tellurium (Te)-Dissolved			113.8		%		70-130	03-DEC-12
Thallium (Tl)-Dissolved			91.8		%		70-130	03-DEC-12
Tin (Sn)-Dissolved			96.7		%		70-130	03-DEC-12
Titanium (Ti)-Dissolved			107.5		%		70-130	03-DEC-12
Tungsten (W)-Dissolved			98.7		%		70-130	03-DEC-12
Uranium (U)-Dissolved			95.5		%		70-130	03-DEC-12
Vanadium (V)-Dissolved			118.9		%		70-130	03-DEC-12
Zinc (Zn)-Dissolved			98.8		%		70-130	03-DEC-12
Zirconium (Zr)-Dissolved			96.4		%		70-130	03-DEC-12
MET-T-MS-TB								
	Water							
Batch	R2492048							
WG1594839-2	LCS							
Aluminum (Al)-Total			90.8		%		80-120	03-DEC-12
Antimony (Sb)-Total			99.4		%		80-120	03-DEC-12
Arsenic (As)-Total			98.2		%		80-120	03-DEC-12
Barium (Ba)-Total			96.6		%		80-120	03-DEC-12
Beryllium (Be)-Total			99.2		%		80-120	03-DEC-12
Bismuth (Bi)-Total			97.9		%		80-120	03-DEC-12
Boron (B)-Total			103.3		%		80-120	03-DEC-12
Cadmium (Cd)-Total			99.1		%		80-120	03-DEC-12
Calcium (Ca)-Total			98.8		%		80-120	03-DEC-12
Chromium (Cr)-Total			97.0		%		80-120	03-DEC-12
Cobalt (Co)-Total			96.7		%		80-120	03-DEC-12
Copper (Cu)-Total			95.8		%		80-120	03-DEC-12
Iron (Fe)-Total			97.5		%		80-120	03-DEC-12
Lead (Pb)-Total			95.6		%		80-120	03-DEC-12
Lithium (Li)-Total			95.5		%		80-120	03-DEC-12
Magnesium (Mg)-Total			98.9		%		80-120	03-DEC-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2492048							
WG1594839-2 LCS								
Manganese (Mn)-Total			98.0		%		80-120	03-DEC-12
Molybdenum (Mo)-Total			98.4		%		80-120	03-DEC-12
Nickel (Ni)-Total			100.0		%		80-120	03-DEC-12
Potassium (K)-Total			100.3		%		80-120	03-DEC-12
Selenium (Se)-Total			94.1		%		80-120	03-DEC-12
Silver (Ag)-Total			99.2		%		80-120	03-DEC-12
Sodium (Na)-Total			100.3		%		80-120	03-DEC-12
Strontium (Sr)-Total			94.8		%		80-120	03-DEC-12
Tellurium (Te)-Total			101.6		%		80-120	03-DEC-12
Thallium (Tl)-Total			99.5		%		80-120	03-DEC-12
Tin (Sn)-Total			95.2		%		80-120	03-DEC-12
Titanium (Ti)-Total			93.9		%		80-120	03-DEC-12
Tungsten (W)-Total			98.7		%		80-120	03-DEC-12
Uranium (U)-Total			93.0		%		80-120	03-DEC-12
Vanadium (V)-Total			95.6		%		80-120	03-DEC-12
Zinc (Zn)-Total			97.6		%		80-120	03-DEC-12
Zirconium (Zr)-Total			97.1		%		80-120	03-DEC-12
WG1594839-1 MB								
Aluminum (Al)-Total			<0.0050		mg/L		0.005	03-DEC-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	03-DEC-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	03-DEC-12
Barium (Ba)-Total			<0.010		mg/L		0.01	03-DEC-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	03-DEC-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	03-DEC-12
Boron (B)-Total			<0.050		mg/L		0.05	03-DEC-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	03-DEC-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	03-DEC-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	03-DEC-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	03-DEC-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	03-DEC-12
Iron (Fe)-Total			<0.020		mg/L		0.02	03-DEC-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	03-DEC-12
Lithium (Li)-Total			<0.050		mg/L		0.05	03-DEC-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	03-DEC-12



Quality Control Report

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2492048							
WG1594839-1	MB							
Manganese (Mn)-Total			<0.0010		mg/L		0.001	03-DEC-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	03-DEC-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	03-DEC-12
Potassium (K)-Total			<0.50		mg/L		0.5	03-DEC-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	03-DEC-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	03-DEC-12
Sodium (Na)-Total			<0.10		mg/L		0.1	03-DEC-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	03-DEC-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	03-DEC-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	03-DEC-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	03-DEC-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	03-DEC-12
Tungsten (W)-Total			<0.010		mg/L		0.01	03-DEC-12
Uranium (U)-Total			<0.0050		mg/L		0.005	03-DEC-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	03-DEC-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	03-DEC-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	03-DEC-12
Batch	R2492424							
WG1594839-6	LCS							
Aluminum (Al)-Total			94.5		%		80-120	04-DEC-12
Antimony (Sb)-Total			101.5		%		80-120	04-DEC-12
Arsenic (As)-Total			96.8		%		80-120	04-DEC-12
Barium (Ba)-Total			99.1		%		80-120	04-DEC-12
Beryllium (Be)-Total			95.9		%		80-120	04-DEC-12
Bismuth (Bi)-Total			103.6		%		80-120	04-DEC-12
Boron (B)-Total			99.3		%		80-120	04-DEC-12
Cadmium (Cd)-Total			102.1		%		80-120	04-DEC-12
Calcium (Ca)-Total			102.5		%		80-120	04-DEC-12
Chromium (Cr)-Total			101.6		%		80-120	04-DEC-12
Cobalt (Co)-Total			101.5		%		80-120	04-DEC-12
Copper (Cu)-Total			96.4		%		80-120	04-DEC-12
Iron (Fe)-Total			100.0		%		80-120	04-DEC-12
Lead (Pb)-Total			101.5		%		80-120	04-DEC-12
Lithium (Li)-Total			101.2		%		80-120	04-DEC-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2492424							
WG1594839-6	LCS							
Magnesium (Mg)-Total			102.6		%		80-120	04-DEC-12
Manganese (Mn)-Total			104.8		%		80-120	04-DEC-12
Molybdenum (Mo)-Total			100.9		%		80-120	04-DEC-12
Nickel (Ni)-Total			98.9		%		80-120	04-DEC-12
Potassium (K)-Total			103.2		%		80-120	04-DEC-12
Selenium (Se)-Total			90.9		%		80-120	04-DEC-12
Silver (Ag)-Total			101.0		%		80-120	04-DEC-12
Sodium (Na)-Total			100.5		%		80-120	04-DEC-12
Strontium (Sr)-Total			96.3		%		80-120	04-DEC-12
Tellurium (Te)-Total			101.8		%		80-120	04-DEC-12
Thallium (Tl)-Total			101.7		%		80-120	04-DEC-12
Tin (Sn)-Total			103.2		%		80-120	04-DEC-12
Titanium (Ti)-Total			102.9		%		80-120	04-DEC-12
Tungsten (W)-Total			103.1		%		80-120	04-DEC-12
Uranium (U)-Total			99.0		%		80-120	04-DEC-12
Vanadium (V)-Total			103.3		%		80-120	04-DEC-12
Zinc (Zn)-Total			97.4		%		80-120	04-DEC-12
Zirconium (Zr)-Total			96.6		%		80-120	04-DEC-12
WG1594839-5	MB							
Aluminum (Al)-Total			<0.0050		mg/L		0.005	04-DEC-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	04-DEC-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	04-DEC-12
Barium (Ba)-Total			<0.010		mg/L		0.01	04-DEC-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	04-DEC-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	04-DEC-12
Boron (B)-Total			<0.050		mg/L		0.05	04-DEC-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	04-DEC-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	04-DEC-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	04-DEC-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	04-DEC-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	04-DEC-12
Iron (Fe)-Total			<0.020		mg/L		0.02	04-DEC-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	04-DEC-12
Lithium (Li)-Total			<0.050		mg/L		0.05	04-DEC-12



Quality Control Report

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2492424							
WG1594839-5	MB							
Magnesium (Mg)-Total			<0.020		mg/L		0.02	04-DEC-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	04-DEC-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	04-DEC-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	04-DEC-12
Potassium (K)-Total			<0.50		mg/L		0.5	04-DEC-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	04-DEC-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	04-DEC-12
Sodium (Na)-Total			<0.10		mg/L		0.1	04-DEC-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	04-DEC-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	04-DEC-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	04-DEC-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	04-DEC-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	04-DEC-12
Tungsten (W)-Total			<0.010		mg/L		0.01	04-DEC-12
Uranium (U)-Total			<0.0050		mg/L		0.005	04-DEC-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	04-DEC-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	04-DEC-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	04-DEC-12
NH3-COL-TB								
	Water							
Batch	R2489068							
WG1593921-7	DUP	L1243259-8						
Ammonia, Total (as N)		<0.020	<0.020	RPD-NA	mg/L	N/A	20	29-NOV-12
WG1593921-2	LCS							
Ammonia, Total (as N)			93.9		%		85-115	29-NOV-12
WG1593921-6	LCS							
Ammonia, Total (as N)			94.8		%		85-115	29-NOV-12
WG1593921-1	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	29-NOV-12
WG1593921-5	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	29-NOV-12
WG1593921-4	MS	L1242115-2						
Ammonia, Total (as N)			87.1		%		75-125	29-NOV-12
WG1593921-8	MS	L1243259-8						
Ammonia, Total (as N)			89.8		%		75-125	29-NOV-12
NO2-WT	Water							



Quality Control Report

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO2-WT								
Water								
Batch	R2490507							
WG1594689-7	DUP	L1243259-5						
Nitrite-N (NO2-N)		<0.10	<0.10	RPD-NA	mg/L	N/A	25	30-NOV-12
WG1594689-3	LCS							
Nitrite-N (NO2-N)			97.4		%		70-130	30-NOV-12
WG1594689-4	LCSD	WG1594689-3						
Nitrite-N (NO2-N)		97.4	95		%	2.7	25	30-NOV-12
WG1594689-1	MB							
Nitrite-N (NO2-N)			<0.10		mg/L		0.1	30-NOV-12
NO3-WT								
Water								
Batch	R2490507							
WG1594689-7	DUP	L1243259-5						
Nitrate-N (NO3-N)		<0.10	<0.10	RPD-NA	mg/L	N/A	25	30-NOV-12
WG1594689-3	LCS							
Nitrate-N (NO3-N)			94.0		%		70-130	30-NOV-12
WG1594689-4	LCSD	WG1594689-3						
Nitrate-N (NO3-N)		94.0	94		%	0.5	25	30-NOV-12
WG1594689-1	MB							
Nitrate-N (NO3-N)			<0.10		mg/L		0.1	30-NOV-12
OGG-TOT-WT								
Water								
Batch	R2492093							
WG1596201-2	LCS							
Oil and Grease, Total			84.1		%		70-130	04-DEC-12
WG1596201-3	LCSD	WG1596201-2						
Oil and Grease, Total		84.1	83		%	1.0	40	04-DEC-12
WG1596201-1	MB							
Oil and Grease, Total			<2.0		mg/L		2	04-DEC-12
Batch	R2492995							
WG1595995-2	LCS							
Oil and Grease, Total			94.3		%		70-130	03-DEC-12
WG1595995-3	LCSD	WG1595995-2						
Oil and Grease, Total		94.3	97		%	2.7	40	03-DEC-12
WG1595995-1	MB							
Oil and Grease, Total			<2.0		mg/L		2	03-DEC-12
P-T-COL-TB								
Water								
Batch	R2490173							
WG1594322-7	DUP	L1243259-6						
Phosphorus (P)-Total		0.0061	<0.0050	RPD-NA	mg/L	N/A	20	30-NOV-12
WG1594322-2	LCS							



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
P-T-COL-TB		Water						
Batch	R2490173							
WG1594322-2	LCS							
Phosphorus (P)-Total			97.4		%		80-120	30-NOV-12
WG1594322-6	LCS							
Phosphorus (P)-Total			98.1		%		80-120	30-NOV-12
WG1594322-1	MB							
Phosphorus (P)-Total			<0.0050		mg/L		0.005	30-NOV-12
WG1594322-5	MB							
Phosphorus (P)-Total			<0.0050		mg/L		0.005	30-NOV-12
WG1594322-4	MS	L1242081-1						
Phosphorus (P)-Total			85.2		%		70-130	30-NOV-12
WG1594322-8	MS	L1243259-6						
Phosphorus (P)-Total			88.4		%		70-130	30-NOV-12
PH-CAP-TB		Water						
Batch	R2490844							
WG1595674-2	LCS							
pH			6.01		pH		5.9-6.1	30-NOV-12
Batch	R2490904							
WG1594668-6	DUP	L1243259-14						
pH		5.63	5.63	J	pH	0.00	0.2	29-NOV-12
WG1594668-2	LCS							
pH			6.01		pH		5.9-6.1	29-NOV-12
WG1594668-5	LCS							
pH			6.03		pH		5.9-6.1	29-NOV-12
SO4-WT		Water						
Batch	R2490507							
WG1594689-7	DUP	L1243259-5						
Sulphate (SO4)		2.2	2.2		mg/L	0.3	25	30-NOV-12
WG1594689-3	LCS							
Sulphate (SO4)			98.7		%		70-130	30-NOV-12
WG1594689-4	LCSD	WG1594689-3						
Sulphate (SO4)		98.7	98		%	0.5	25	30-NOV-12
WG1594689-1	MB							
Sulphate (SO4)			<2.0		mg/L		2	30-NOV-12
SOLIDS-TOTSUS-TB		Water						



Quality Control Report

Workorder: L1243259

Report Date: 07-DEC-12

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SOLIDS-TOTSUS-TB	Water							
Batch	R2490467							
WG1594966-2 LCS								
Total Suspended Solids			93.2		%		85-115	30-NOV-12
WG1594966-1 MB								
Total Suspended Solids			<2.0		mg/L		2	30-NOV-12

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Report Date: 07-DEC-12

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Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
J	Duplicate results and limits are expressed in terms of absolute difference.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



Company: Treasury Metals		<input type="checkbox"/> O. Reg. 153 (O. Reg 511 Amend) Table:		Both questions below must answered for water samples																	
Contact: Mac Potter		<input type="checkbox"/> Record of Site Condition <input type="checkbox"/> Yes <input type="checkbox"/> No		Are any samples taken from a regulated DW System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																	
Address: 899 Tree Nursery Rd		PWQO: <input checked="" type="checkbox"/> MISA <input type="checkbox"/> MMER <input type="checkbox"/> CCME <input type="checkbox"/>		If yes, an authorized DW COC must be used.																	
Wabigoon ON P0V 2W0		Guideline Required:		is the water sampled intended for human consumption? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																	
Phone: 807-938-6961 Fax:		TCPL Regulation 558 <input type="checkbox"/> Other:		Analysis Request																	
Email: mac@treasurymetals.com		Service Requested		Please indicate below Filtered, Preserved or both (F, P, F/P)																	
Project: Job M0906A01 PO: M0210-P0115		<input checked="" type="checkbox"/> Regular TAT (7 Days)																			
Quote #: Q32690 LSD Goliath Project		<input type="checkbox"/> Priority TAT 50% Surcharge (3-5 Days)																			
Invoice To:		<input type="checkbox"/> Emergency TAT 100% Surcharge (1-2 Days)																			
Company:		Specify Date Required:																			
Contact:		All TAT quoted material is in business days which exclude statutory holidays and weekends. Samples received past 3:00pm or Saturday/Sunday begin the next day.																			
Address:																					
Email:																					
Account Manager: Karen R.		Sampler: Mac Potter																			
Sample #	Sample Identification (This description will appear on the report)	Date	Time	Sample Type	Alk, pH Conductivity	Cl, NO2, NO3, SO4	Acidity, TSS	Total Cyanide	WAD Cyanide	CN-FREE-COL-VA	Ammonia, Total Phosphorus	OGG	Total Metals +Hg	Dissolved Metals + Hg	Hardness	Number of Containers					
1	Tavel Blank	—	—	Water	X	X	X	X	X	X	X	X	X	X	X					9	
2	Field Blank	27/11/12	1:00		X	X	X	X	X	X	X	X	X	X	X					1	
3	Duplicate				X	X	X	X	X	X	X	X	X	X	X					1	
4	TL1a				X	X	X	X	X	X	X	X	X	X	X					1	
5	TL3				X	X	X	X	X	X	X	X	X	X	X					1	
6	SW1				X	X	X	X	X	X	X	X	X	X	X					1	
7	SW2 * See note				X	X	X	X	X	X	X	X	X	X	X					8	
8	SW3				X	X	X	X	X	X	X	X	X	X	X					9	
9	SW7				X	X	X	X	X	X	X	X	X	X	X					1	
10	SW8				X	X	X	X	X	X	X	X	X	X	X					1	
11	SW10				X	X	X	X	X	X	X	X	X	X	X					1	

Special Instructions // Comments

* No nutrient bottle, last under ice

SEE IT

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)				Observations: Yes / No ? If Yes add SIF
Released by: MOM	Date & Time: Nov 28, 2012 12:00 PM	Received by: Cully	Date & Time: 29-NOV-12 9:00	Temp: 1.6	Cooling Initiated: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Verified by: Cully	Date & Time: 29-NOV-12 9:45				

**** Failure to complete all portions of this form may delay analysis. **** TAT may vary dependant on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs. Any known or suspected hazards relating to a sample must be noted on the chain of custody in the comments section. By use of the form the user acknowledges and agrees with the Terms and Conditions as specified on the back page.



TREASURY METALS INC.
ATTN: Mac Potter
P.O. Box 789
Dryden ON P8N 2Z4

Date Received: 20-DEC-12
Report Date: 02-JAN-13 14:57 (MT)
Version: FINAL

Client Phone: 807-938-6961

Certificate of Analysis

Lab Work Order #: L1251708
Project P.O. #: NOT SUBMITTED
Job Reference: JOB M0906A01
C of C Numbers:
Legal Site Desc:

Tricia Sampson
Account Manager Supervisor

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ADDRESS: 1081 Barton Street, Thunder Bay, ON P7B 5N3 Canada | Phone: +1 807 623 6463 | Fax: +1 807 623 7598
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1251708-1 WATER 18-DEC-12 13:00 FIELD BLANK	L1251708-2 WATER 18-DEC-12 13:00 TRAVEL BLANK	L1251708-3 WATER 18-DEC-12 13:00 DUPLICATE	L1251708-4 WATER 18-DEC-12 13:00 SW1	L1251708-5 WATER 18-DEC-12 13:00 SW3
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (EC) (uS/cm)	<3.0	<3.0	170	170	163
	Hardness (as CaCO3) (mg/L)	<0.51	<0.51	69.4	68.2	55.8
	pH (pH)	5.54	5.48	7.24	7.29	7.03
	Total Suspended Solids (mg/L)	<2.0	<2.0	<2.0	6.0	2.3
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	<2.0	<2.0	7.0	7.8	9.8
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)	<5.0	<5.0	79.9	81.0	57.9
	Ammonia, Total (as N) (mg/L)	<0.020	<0.020	<0.020	<0.020	<0.020
	Chloride (Cl) (mg/L)	<0.10	<0.10	0.79	0.77	10.9
	Nitrate (as N) (mg/L)	<0.030	<0.030	0.180	<0.030	<0.030
	Nitrite (as N) (mg/L)	<0.020	<0.020	<0.020	<0.020	<0.020
	Phosphorus (P)-Total (mg/L)	<0.0050	<0.0050	0.0068	0.0063	0.0182
Sulfate (SO4) (mg/L)	<0.30	<0.30	2.53	2.49	2.84	
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)	<0.0050	<0.0050	0.0605	0.0584	0.0718
	Antimony (Sb)-Total (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Total (mg/L)	<0.010	<0.010	0.012	0.012	0.011
	Beryllium (Be)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Total (mg/L)	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017
	Calcium (Ca)-Total (mg/L)	<0.20	<0.20	26.0	26.0	18.6
	Chromium (Cr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Cobalt (Co)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	0.0012
	Iron (Fe)-Total (mg/L)	<0.020	<0.020	0.610	0.622	0.711
	Lead (Pb)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Total (mg/L)	<0.020	<0.020	3.56	3.67	3.96
	Manganese (Mn)-Total (mg/L)	<0.0010	<0.0010	0.353	0.350	0.243
	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Potassium (K)-Total (mg/L)	<0.50	<0.50	1.35	1.35	1.35	
Selenium (Se)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1251708-6 WATER 18-DEC-12 13:00 SW7	L1251708-7 WATER 18-DEC-12 13:00 SW8	L1251708-8 WATER 19-DEC-12 13:00 SW9	L1251708-9 WATER 18-DEC-12 13:00 SW10	L1251708-10 WATER 19-DEC-12 13:00 SW11
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (EC) (uS/cm)	151	193	285	144	60.8
	Hardness (as CaCO3) (mg/L)	62.7	81.6	120	58.3	27.1
	pH (pH)	7.52	7.80	7.89	7.61	6.46
	Total Suspended Solids (mg/L)	<2.0	2.5	3.2	<2.0	88.4
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	6.4	5.6	5.0	6.4	20.0
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)	63.2	95.4	148	69.8	20.3
	Ammonia, Total (as N) (mg/L)	0.093	0.154	0.038	0.044	0.108
	Chloride (Cl) (mg/L)	0.57	0.31	0.46	0.24	1.44
	Nitrate (as N) (mg/L)	0.457	0.156	0.104	0.053	0.100
	Nitrite (as N) (mg/L)	<0.020	<0.020	<0.020	<0.020	<0.020
	Phosphorus (P)-Total (mg/L)	0.0139	0.0059	0.0108	0.0057	0.0454
	Sulfate (SO4) (mg/L)	7.28	1.50	0.39	2.17	2.29
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)	0.103	0.0249	0.0563	0.0221	0.740
	Antimony (Sb)-Total (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Total (mg/L)	0.012	0.021	0.025	0.011	0.011
	Beryllium (Be)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Total (mg/L)	<0.000017	<0.000017	<0.000017	<0.000017	0.000038
	Calcium (Ca)-Total (mg/L)	22.2	33.7	45.0	22.4	8.86
	Chromium (Cr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	0.0014
	Cobalt (Co)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	0.00074
	Copper (Cu)-Total (mg/L)	0.0015	<0.0010	<0.0010	<0.0010	<0.0010
	Iron (Fe)-Total (mg/L)	0.901	0.760	0.296	0.854	2.02
	Lead (Pb)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Total (mg/L)	3.93	2.71	7.06	3.04	2.13
	Manganese (Mn)-Total (mg/L)	0.0519	0.249	0.192	0.145	0.0693
	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Potassium (K)-Total (mg/L)	0.98	0.62	1.69	0.66	<0.50
	Selenium (Se)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1251708-11 WATER 18-DEC-12 13:00 TL1A	L1251708-12 WATER 18-DEC-12 13:00 TL3	L1251708-13 WATER 19-DEC-12 13:00 JCTA	
Grouping	Analyte				
WATER					
Physical Tests	Conductivity (EC) (uS/cm)	102	165	146	
	Hardness (as CaCO3) (mg/L)	40.2	67.6	60.8	
	pH (pH)	6.76	7.49	7.30	
	Total Suspended Solids (mg/L)	5.2	16.4	2.2	
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	10.4	6.0	8.0	
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)	42.8	73.6	64.9	
	Ammonia, Total (as N) (mg/L)	0.230	0.147	0.163	
	Chloride (Cl) (mg/L)	1.56	2.55	1.83	
	Nitrate (as N) (mg/L)	0.053	0.135	0.054	
	Nitrite (as N) (mg/L)	<0.020	<0.020	<0.020	
	Phosphorus (P)-Total (mg/L)	0.0306	0.0420	0.0365	
	Sulfate (SO4) (mg/L)	1.77	3.01	2.55	
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020	<0.0020	<0.0020	
	Cyanide, Total (mg/L)	<0.0020	<0.0020	<0.0020	
	Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	
Total Metals	Aluminum (Al)-Total (mg/L)	0.249	0.709	0.225	
	Antimony (Sb)-Total (mg/L)	<0.00060	<0.00060	<0.00060	
	Arsenic (As)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Barium (Ba)-Total (mg/L)	0.013	0.015	0.012	
	Beryllium (Be)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Bismuth (Bi)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Boron (B)-Total (mg/L)	<0.050	<0.050	<0.050	
	Cadmium (Cd)-Total (mg/L)	0.000022	0.000020	<0.000017	
	Calcium (Ca)-Total (mg/L)	13.4	21.6	19.6	
	Chromium (Cr)-Total (mg/L)	<0.0010	0.0015	<0.0010	
	Cobalt (Co)-Total (mg/L)	0.00303	0.00058	0.00097	
	Copper (Cu)-Total (mg/L)	<0.0010	0.0020	<0.0010	
	Iron (Fe)-Total (mg/L)	3.91	2.80	2.85	
	Lead (Pb)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Lithium (Li)-Total (mg/L)	<0.050	<0.050	<0.050	
	Magnesium (Mg)-Total (mg/L)	3.29	5.64	4.93	
	Manganese (Mn)-Total (mg/L)	0.930	0.135	0.597	
	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010	<0.000010	
	Molybdenum (Mo)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Nickel (Ni)-Total (mg/L)	<0.0020	<0.0020	<0.0020	
	Potassium (K)-Total (mg/L)	0.63	1.46	1.10	
	Selenium (Se)-Total (mg/L)	<0.0010	<0.0010	<0.0010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1251708-1 WATER 18-DEC-12 13:00 FIELD BLANK	L1251708-2 WATER 18-DEC-12 13:00 TRAVEL BLANK	L1251708-3 WATER 18-DEC-12 13:00 DUPLICATE	L1251708-4 WATER 18-DEC-12 13:00 SW1	L1251708-5 WATER 18-DEC-12 13:00 SW3
Grouping	Analyte					
WATER						
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Total (mg/L)	<0.10	<0.10	2.05	2.14	6.76
	Strontium (Sr)-Total (mg/L)	<0.0010	<0.0010	0.0440	0.0436	0.0396
	Tellurium (Te)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Total (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Total (mg/L)	<0.0020	<0.0020	0.0032	0.0030	0.0027
	Tungsten (W)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Total (mg/L)	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
	Zirconium (Zr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	<0.0050	<0.0050	0.0096	0.0073	0.0202
	Antimony (Sb)-Dissolved (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Dissolved (mg/L)	<0.010	<0.010	0.012	0.011	0.010
	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Cadmium (Cd)-Dissolved (mg/L)	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017
	Calcium (Ca)-Dissolved (mg/L)	<0.20	<0.20	22.2	21.9	16.2
	Chromium (Cr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Iron (Fe)-Dissolved (mg/L)	<0.020	<0.020	0.233	0.233	0.420
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Dissolved (mg/L)	<0.020	<0.020	3.38	3.31	3.71
	Manganese (Mn)-Dissolved (mg/L)	<0.0010	<0.0010	0.330	0.315	0.214
	Mercury (Hg)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Potassium (K)-Dissolved (mg/L)	<0.50	<0.50	1.31	1.28	1.33
	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Dissolved (mg/L)	<0.10	<0.10	1.96	1.90	6.26
	Strontium (Sr)-Dissolved (mg/L)	<0.0010	<0.0010	0.0408	0.0411	0.0372

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1251708-6	L1251708-7	L1251708-8	L1251708-9	L1251708-10
		Description	WATER	WATER	WATER	WATER	WATER
		Sampled Date	18-DEC-12	18-DEC-12	19-DEC-12	18-DEC-12	19-DEC-12
		Sampled Time	13:00	13:00	13:00	13:00	13:00
		Client ID	SW7	SW8	SW9	SW10	SW11
Grouping	Analyte						
WATER							
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Total (mg/L)	1.99	1.44	3.38	1.77	1.70	
	Strontium (Sr)-Total (mg/L)	0.0417	0.0422	0.0687	0.0346	0.0192	
	Tellurium (Te)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	Thallium (Tl)-Total (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	
	Tin (Sn)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	Titanium (Ti)-Total (mg/L)	0.0042	<0.0020	0.0026	<0.0020	0.0266	
	Tungsten (W)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010	
	Uranium (U)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	
	Vanadium (V)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	0.0016	
	Zinc (Zn)-Total (mg/L)	0.0079	<0.0030	<0.0030	<0.0030	0.0083	
	Zirconium (Zr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	0.0450	<0.0050	0.0069	0.0128	0.354	
	Antimony (Sb)-Dissolved (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	
	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	Barium (Ba)-Dissolved (mg/L)	0.011	0.019	0.022	0.011	<0.010	
	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	Boron (B)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050	
	Cadmium (Cd)-Dissolved (mg/L)	<0.000017	<0.000017	<0.000017	<0.000017	0.000030	
	Calcium (Ca)-Dissolved (mg/L)	19.1	28.5	37.6	18.7	7.62	
	Chromium (Cr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	0.00059	
	Copper (Cu)-Dissolved (mg/L)	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	Iron (Fe)-Dissolved (mg/L)	0.614	0.046	0.073	0.451	1.54	
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050	
	Magnesium (Mg)-Dissolved (mg/L)	3.66	2.52	6.43	2.82	1.95	
	Manganese (Mn)-Dissolved (mg/L)	0.0469	0.218	0.150	0.128	0.0627	
	Mercury (Hg)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	Potassium (K)-Dissolved (mg/L)	0.94	0.60	1.61	0.64	<0.50	
	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
	Sodium (Na)-Dissolved (mg/L)	1.87	1.32	3.00	1.56	1.57	
	Strontium (Sr)-Dissolved (mg/L)	0.0407	0.0395	0.0629	0.0319	0.0173	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1251708-11	L1251708-12	L1251708-13
		Description	WATER	WATER	WATER
		Sampled Date	18-DEC-12	18-DEC-12	19-DEC-12
		Sampled Time	13:00	13:00	13:00
		Client ID	TL1A	TL3	JCTA
Grouping	Analyte				
WATER					
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010	<0.00010	<0.00010	
	Sodium (Na)-Total (mg/L)	1.79	2.97	2.44	
	Strontium (Sr)-Total (mg/L)	0.0301	0.0487	0.0413	
	Tellurium (Te)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Thallium (Tl)-Total (mg/L)	<0.00030	<0.00030	<0.00030	
	Tin (Sn)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
	Titanium (Ti)-Total (mg/L)	0.0088	0.0306	0.0086	
	Tungsten (W)-Total (mg/L)	<0.010	<0.010	<0.010	
	Uranium (U)-Total (mg/L)	<0.0050	<0.0050	<0.0050	
	Vanadium (V)-Total (mg/L)	0.0015	0.0019	0.0012	
	Zinc (Zn)-Total (mg/L)	0.0062	0.0079	0.0043	
	Zirconium (Zr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	0.0950	0.0461	0.0706	
	Antimony (Sb)-Dissolved (mg/L)	<0.00060	<0.00060	<0.00060	
	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Barium (Ba)-Dissolved (mg/L)	0.011	0.011	0.010	
	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Boron (B)-Dissolved (mg/L)	<0.050	<0.050	<0.050	
	Cadmium (Cd)-Dissolved (mg/L)	<0.000017	<0.000017	<0.000017	
	Calcium (Ca)-Dissolved (mg/L)	11.1	18.4	16.6	
	Chromium (Cr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Cobalt (Co)-Dissolved (mg/L)	0.00296	<0.00050	0.00087	
	Copper (Cu)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Iron (Fe)-Dissolved (mg/L)	2.51	1.33	1.81	
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.050	
	Magnesium (Mg)-Dissolved (mg/L)	3.05	5.25	4.68	
	Manganese (Mn)-Dissolved (mg/L)	0.848	0.108	0.546	
	Mercury (Hg)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	
	Potassium (K)-Dissolved (mg/L)	0.66	1.32	1.08	
	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	
	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	
	Sodium (Na)-Dissolved (mg/L)	1.75	2.75	2.39	
	Strontium (Sr)-Dissolved (mg/L)	0.0275	0.0486	0.0395	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1251708-1	L1251708-2	L1251708-3	L1251708-4	L1251708-5
					L1251708-1 WATER 18-DEC-12 13:00 FIELD BLANK	L1251708-2 WATER 18-DEC-12 13:00 TRAVEL BLANK	L1251708-3 WATER 18-DEC-12 13:00 DUPLICATE	L1251708-4 WATER 18-DEC-12 13:00 SW1	L1251708-5 WATER 18-DEC-12 13:00 SW3
Grouping	Analyte								
WATER									
Dissolved Metals	Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	<0.0030	<0.0030	0.0032	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
	Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1251708-6	L1251708-7	L1251708-8	L1251708-9	L1251708-10
					WATER	WATER	WATER	WATER	WATER
		18-DEC-12	13:00		18-DEC-12	18-DEC-12	19-DEC-12	18-DEC-12	19-DEC-12
			13:00		13:00	13:00	13:00	13:00	13:00
					SW7	SW8	SW9	SW10	SW11
Grouping	Analyte								
WATER									
Dissolved Metals	Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0102
	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	0.0053	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	0.0048
	Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1251708-11	L1251708-12	L1251708-13		
	Description	WATER	WATER	WATER		
	Sampled Date	18-DEC-12	18-DEC-12	19-DEC-12		
	Sampled Time	13:00	13:00	13:00		
	Client ID	TL1A	TL3	JCTA		
Grouping	Analyte					
WATER						
Dissolved Metals	Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010		
	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030		
	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010		
	Titanium (Ti)-Dissolved (mg/L)	0.0032	0.0021	0.0026		
	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010		
	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050		
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010		
	Zinc (Zn)-Dissolved (mg/L)	0.0054	0.0031	<0.0030		
	Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010		
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Ammonia, Total (as N)	MS-B	L1251708-1, -10, -11, -12, -13, -2, -3, -4, -5, -6, -7, -8, -9

Qualifiers for Individual Parameters Listed:

Qualifier	Description
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
ACIDITY-TB	Water	Acidity (as CaCO ₃)	APHA 2310 B-POTENTIOMETRIC TITRATION
Aqueous matrices are analyzed by potentiometry. Acidity reported includes acidity caused by hydrolyzable metals present in the sample.			
ALK-TOT-CAP-TB	Water	Alkalinity, Total (as CaCO ₃)	APHA 2320 B-Auto-Pot. Titration
CL-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.			
CN-FREE-CFA-VA	Water	Free Cyanide in water by CFA	ASTM 7237
This analysis is carried out using procedures adapted from ASTM Method 7237 "Free Cyanide with Flow Injection Analysis (FIA) Utilizing Gas Diffusion Separation and Amperometric Detection". Free cyanide is determined by in-line gas diffusion at pH 6 with final determination by colourimetric analysis.			
CN-TOT-WT	Water	Cyanide, Total	APHA 4500CN C E-STRONG ACID DIST COLORIM
Total cyanide is determined by the combination of UV digestion and distillation. Cyanide is converted to cyanogen chloride by reacting with chloramine-T, the cyanogen chloride then reacts with a combination of barbituric acid and isonicotinic acid to form a highly colored complex.			
When using this method, high levels of thiocyanate in samples can cause false positives at ~1-2% of the thiocyanate concentration. For samples with detectable cyanide analyzed by this method, ALS recommends analysis for thiocyanate to check for this potential interference			
CN-WAD-WT	Water	Cyanide, Weak Acid Diss	APHA 4500CN I-Weak acid Dist Colorimet
Weak acid dissociable cyanide (WAD) is determined by undergoing a distillation procedure. Cyanide is converted to cyanogen chloride by reacting with chloramine-T, the cyanogen chloride then reacts with a combination of barbituric acid and isonicotinic acid to form a highly colored complex.			
EC-CAP-TB	Water	Conductivity (EC)	APHA 2510 B-ELECTRODE
This analysis is carried out using procedures adapted from APHA Method 2510 "Conductivity". Conductivity is determined using a conductivity electrode.			
HARDNESS-CALC-TB	Water	Hardness (as CaCO ₃)	CALCULATION
HG-D-CVAF-TB	Water	Dissolved Mercury in Water by CVAFS	Modified from EPA1631 E
HG-T-CVAF-TB	Water	Total Mercury in Water by CVAFS	Modified from EPA1631 E
MET-D-MS-TB	Water	Dissolved Metals by ICPMS	APHA 3030B/EPA 6020A
This analysis involves filtration (APHA 3030B) and analysis by inductively coupled plasma - mass spectrometry (EPA Method 6020A).			
MET-T-MS-TB	Water	Total Metals by ICPMS	APHA 3030E/EPA 6020A
This analysis involves preliminary sample treatment by hotblock acid digestion (APHA 3030E). Instrumental analysis is by inductively coupled plasma - mass spectrometry (EPA Method 6020A).			
NH3-COL-TB	Water	Ammonia by Discrete Analyzer	APHA 4500-NH3 G. (modified)
Ammonia in aqueous matrices is analyzed using discrete analyzer with colourimetric detection.			
NO2-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.			
NO3-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.			
OGG-TOT-WT	Water	Oil and Grease, Total	APHA 5520 B
Sample is extracted with hexane, extract is then evaporated and the residue is weighed to determine total oil and grease.			
P-T-COL-TB	Water	Total Phosphorus by Discrete Analyzer	APHA 4500-P B, F, G (modified)
Phosphorus in aqueous matrices is analyzed using discrete Analyzer with colourimetric detection.			
PH-CAP-TB	Water	pH	APHA 4500-H-ELECTRODE
SO4-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)

Reference Information

Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.

SOLIDS-TOTSUS-TB Water Total Suspended Solids APHA 2540 D (modified)
Aqueous matrices are analyzed using gravimetry

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
TB	ALS ENVIRONMENTAL - THUNDER BAY, ONTARIO, CANADA
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

mg/kg - milligrams per kilogram based on dry weight of sample.

mg/kg wwt - milligrams per kilogram based on wet weight of sample.

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.

mg/L - milligrams per litre.

< - Less than.

D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L1251708

Report Date: 02-JAN-13

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Client: TREASURY METALS INC.
P.O. Box 789
Dryden ON P8N 2Z4
Contact: Mac Potter

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
ACIDITY-TB		Water						
Batch	R2502117							
WG1605954-2	LCS							
Acidity (as CaCO3)			100.0		%		85-115	21-DEC-12
WG1605954-1	MB							
Acidity (as CaCO3)			<2.0		mg/L		2	21-DEC-12
Batch	R2502251							
WG1606497-2	LCS							
Acidity (as CaCO3)			100.4		%		85-115	22-DEC-12
WG1606497-1	MB							
Acidity (as CaCO3)			<2.0		mg/L		2	22-DEC-12
ALK-TOT-CAP-TB		Water						
Batch	R2502476							
WG1606641-3	DUP	L1251708-13						
Alkalinity, Total (as CaCO3)		64.9	65.3		mg/L CaCO3	0.7	20	21-DEC-12
WG1606641-2	LCS							
Alkalinity, Total (as CaCO3)			90.2		%		85-115	21-DEC-12
WG1606641-1	MB							
Alkalinity, Total (as CaCO3)			<5.0		mg/L CaCO3		5	21-DEC-12
CL-IC-TB		Water						
Batch	R2502427							
WG1606667-3	DUP	L1251708-13						
Chloride (Cl)		1.83	1.83		mg/L	0.1	20	21-DEC-12
WG1606667-2	LCS							
Chloride (Cl)			100.6		%		90-110	21-DEC-12
WG1606667-1	MB							
Chloride (Cl)			<0.10		mg/L		0.1	21-DEC-12
WG1606667-4	MS	L1251708-13						
Chloride (Cl)			97.4		%		75-125	21-DEC-12
CN-FREE-CFA-VA		Water						
Batch	R2503452							
WG1607329-14	DUP	L1251708-13						
Cyanide, Free		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	27-DEC-12
WG1607329-10	LCS							
Cyanide, Free			101.1		%		80-120	27-DEC-12
WG1607329-12	LCS							
Cyanide, Free			103.7		%		80-120	27-DEC-12
WG1607329-2	LCS							
Cyanide, Free			100.7		%		80-120	27-DEC-12
WG1607329-4	LCS							



Quality Control Report

Workorder: L1251708

Report Date: 02-JAN-13

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CN-FREE-CFA-VA								
	Water							
Batch	R2503452							
WG1607329-4	LCS							
Cyanide, Free			100.7		%		80-120	27-DEC-12
WG1607329-6	LCS							
Cyanide, Free			101.0		%		80-120	27-DEC-12
WG1607329-8	LCS							
Cyanide, Free			100.4		%		80-120	27-DEC-12
WG1607329-1	MB							
Cyanide, Free			<0.0050		mg/L		0.005	27-DEC-12
WG1607329-11	MB							
Cyanide, Free			<0.0050		mg/L		0.005	27-DEC-12
WG1607329-3	MB							
Cyanide, Free			<0.0050		mg/L		0.005	27-DEC-12
WG1607329-5	MB							
Cyanide, Free			<0.0050		mg/L		0.005	27-DEC-12
WG1607329-7	MB							
Cyanide, Free			<0.0050		mg/L		0.005	27-DEC-12
WG1607329-9	MB							
Cyanide, Free			<0.0050		mg/L		0.005	27-DEC-12
Batch	R2504080							
WG1607705-5	DUP	L1251708-4						
Cyanide, Free		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	28-DEC-12
WG1607705-10	LCS							
Cyanide, Free			101.8		%		80-120	28-DEC-12
WG1607705-2	LCS							
Cyanide, Free			101.0		%		80-120	28-DEC-12
WG1607705-4	LCS							
Cyanide, Free			101.0		%		80-120	28-DEC-12
WG1607705-1	MB							
Cyanide, Free			<0.0050		mg/L		0.005	28-DEC-12
WG1607705-3	MB							
Cyanide, Free			<0.0050		mg/L		0.005	28-DEC-12
WG1607705-9	MB							
Cyanide, Free			<0.0050		mg/L		0.005	28-DEC-12
WG1607705-6	MS	L1251708-4						
Cyanide, Free			97.9		%		70-130	28-DEC-12
CN-TOT-WT	Water							



Quality Control Report

Workorder: L1251708

Report Date: 02-JAN-13

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CN-TOT-WT		Water						
Batch	R2504049							
WG1608218-4	CVS							
Cyanide, Total			98.5		%		85-115	31-DEC-12
WG1608218-2	DUP	L1251708-1						
Cyanide, Total		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	31-DEC-12
WG1608218-3	LCS							
Cyanide, Total			111.5		%		80-120	31-DEC-12
WG1608218-1	MB							
Cyanide, Total			<0.0020		mg/L		0.002	31-DEC-12
CN-WAD-WT		Water						
Batch	R2503276							
WG1607483-4	CVS							
Cyanide, Weak Acid Diss			114.5		%		85-115	28-DEC-12
WG1607483-2	DUP	L1251708-1						
Cyanide, Weak Acid Diss		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	28-DEC-12
WG1607483-3	LCS							
Cyanide, Weak Acid Diss			108.2		%		80-120	28-DEC-12
WG1607483-1	MB							
Cyanide, Weak Acid Diss			<0.0020		mg/L		0.002	28-DEC-12
WG1607483-5	MS	L1251708-1						
Cyanide, Weak Acid Diss			90.0		%		70-130	28-DEC-12
EC-CAP-TB		Water						
Batch	R2502476							
WG1606641-3	DUP	L1251708-13						
Conductivity (EC)		146	146		uS/cm	0.2	10	21-DEC-12
WG1606641-2	LCS							
Conductivity (EC)			106.9		%		90-110	21-DEC-12
WG1606641-1	MB							
Conductivity (EC)			<3.0		uS/cm		3	21-DEC-12
HG-D-CVAF-TB		Water						
Batch	R2501604							
WG1605932-3	DUP	L1251708-13						
Mercury (Hg)-Dissolved		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	21-DEC-12
WG1605932-2	LCS							
Mercury (Hg)-Dissolved			104.8		%		80-120	21-DEC-12
WG1605932-1	MB							
Mercury (Hg)-Dissolved			<0.000010		mg/L		0.00001	21-DEC-12
WG1605932-4	MS	L1251708-13						
Mercury (Hg)-Dissolved			100.3		%		70-130	21-DEC-12



Quality Control Report

Workorder: L1251708

Report Date: 02-JAN-13

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-T-CVAF-TB								
Water								
Batch	R2501592							
WG1605928-5	DUP	L1251708-9						
Mercury (Hg)-Total		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	21-DEC-12
WG1605928-2	LCS							
Mercury (Hg)-Total			102.4		%		80-120	21-DEC-12
WG1605928-8	LCS							
Mercury (Hg)-Total			104.8		%		80-120	21-DEC-12
WG1605928-1	MB							
Mercury (Hg)-Total			<0.000010		mg/L		0.00001	21-DEC-12
WG1605928-7	MB							
Mercury (Hg)-Total			<0.000010		mg/L		0.00001	21-DEC-12
WG1605928-10	MS	L1251351-5						
Mercury (Hg)-Total			97.8		%		70-130	21-DEC-12
WG1605928-6	MS	L1251708-9						
Mercury (Hg)-Total			84.1		%		70-130	21-DEC-12
MET-D-MS-TB								
Water								
Batch	R2503024							
WG1606673-7	DUP	L1251708-7						
Aluminum (Al)-Dissolved		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	24-DEC-12
Antimony (Sb)-Dissolved		<0.00060	<0.00060	RPD-NA	mg/L	N/A	20	24-DEC-12
Arsenic (As)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	24-DEC-12
Barium (Ba)-Dissolved		0.019	0.021		mg/L	6.2	20	24-DEC-12
Beryllium (Be)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	24-DEC-12
Bismuth (Bi)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	24-DEC-12
Boron (B)-Dissolved		<0.050	<0.050	RPD-NA	mg/L	N/A	20	24-DEC-12
Cadmium (Cd)-Dissolved		<0.000017	<0.000017	RPD-NA	mg/L	N/A	20	24-DEC-12
Calcium (Ca)-Dissolved		28.5	29.1		mg/L	2.0	20	24-DEC-12
Chromium (Cr)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	24-DEC-12
Cobalt (Co)-Dissolved		<0.00050	<0.00050	RPD-NA	mg/L	N/A	20	24-DEC-12
Copper (Cu)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	24-DEC-12
Iron (Fe)-Dissolved		0.046	0.048		mg/L	2.4	20	24-DEC-12
Lead (Pb)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	24-DEC-12
Lithium (Li)-Dissolved		<0.050	<0.050	RPD-NA	mg/L	N/A	20	24-DEC-12
Magnesium (Mg)-Dissolved		2.52	2.57		mg/L	2.0	20	24-DEC-12
Manganese (Mn)-Dissolved		0.218	0.221		mg/L	1.6	20	24-DEC-12
Molybdenum (Mo)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	24-DEC-12
Nickel (Ni)-Dissolved		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	24-DEC-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2503024							
WG1606673-7	DUP	L1251708-7						
Potassium (K)-Dissolved		0.60	0.62		mg/L	2.3	20	24-DEC-12
Selenium (Se)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	24-DEC-12
Silver (Ag)-Dissolved		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	24-DEC-12
Sodium (Na)-Dissolved		1.32	1.33		mg/L	0.9	20	24-DEC-12
Strontium (Sr)-Dissolved		0.0395	0.0401		mg/L	1.3	20	24-DEC-12
Tellurium (Te)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	24-DEC-12
Thallium (Tl)-Dissolved		<0.00030	<0.00030	RPD-NA	mg/L	N/A	20	24-DEC-12
Tin (Sn)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	24-DEC-12
Titanium (Ti)-Dissolved		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	24-DEC-12
Tungsten (W)-Dissolved		<0.010	<0.010	RPD-NA	mg/L	N/A	20	24-DEC-12
Uranium (U)-Dissolved		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	24-DEC-12
Vanadium (V)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	24-DEC-12
Zinc (Zn)-Dissolved		<0.0030	<0.0030	RPD-NA	mg/L	N/A	20	24-DEC-12
Zirconium (Zr)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	24-DEC-12
WG1606673-2	LCS							
Aluminum (Al)-Dissolved			82.2		%		80-120	24-DEC-12
Antimony (Sb)-Dissolved			100.3		%		80-120	24-DEC-12
Arsenic (As)-Dissolved			93.2		%		80-120	24-DEC-12
Barium (Ba)-Dissolved			95.5		%		80-120	24-DEC-12
Beryllium (Be)-Dissolved			88.9		%		80-120	24-DEC-12
Bismuth (Bi)-Dissolved			90.9		%		80-120	24-DEC-12
Boron (B)-Dissolved			84.5		%		80-120	24-DEC-12
Cadmium (Cd)-Dissolved			101.9		%		80-120	24-DEC-12
Calcium (Ca)-Dissolved			80.0		%		80-120	24-DEC-12
Chromium (Cr)-Dissolved			93.5		%		80-120	24-DEC-12
Cobalt (Co)-Dissolved			92.1		%		80-120	24-DEC-12
Copper (Cu)-Dissolved			92.2		%		80-120	24-DEC-12
Iron (Fe)-Dissolved			91.4		%		80-120	24-DEC-12
Lead (Pb)-Dissolved			94.4		%		80-120	24-DEC-12
Lithium (Li)-Dissolved			84.7		%		80-120	24-DEC-12
Magnesium (Mg)-Dissolved			84.1		%		80-120	24-DEC-12
Manganese (Mn)-Dissolved			87.3		%		80-120	24-DEC-12
Molybdenum (Mo)-Dissolved			93.1		%		80-120	24-DEC-12
Nickel (Ni)-Dissolved			92.7		%		80-120	24-DEC-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2503024							
WG1606673-2 LCS								
Potassium (K)-Dissolved			92.1		%		80-120	24-DEC-12
Selenium (Se)-Dissolved			105.7		%		80-120	24-DEC-12
Silver (Ag)-Dissolved			100.6		%		80-120	24-DEC-12
Sodium (Na)-Dissolved			83.4		%		80-120	24-DEC-12
Strontium (Sr)-Dissolved			87.0		%		80-120	24-DEC-12
Tellurium (Te)-Dissolved			103.7		%		80-120	24-DEC-12
Thallium (Tl)-Dissolved			91.1		%		80-120	24-DEC-12
Tin (Sn)-Dissolved			96.8		%		80-120	24-DEC-12
Titanium (Ti)-Dissolved			96.4		%		80-120	24-DEC-12
Tungsten (W)-Dissolved			98.9		%		80-120	24-DEC-12
Uranium (U)-Dissolved			91.5		%		80-120	24-DEC-12
Vanadium (V)-Dissolved			94.4		%		80-120	24-DEC-12
Zinc (Zn)-Dissolved			93.9		%		80-120	24-DEC-12
Zirconium (Zr)-Dissolved			91.2		%		80-120	24-DEC-12
WG1606673-6 LCS								
Aluminum (Al)-Dissolved			86.3		%		80-120	24-DEC-12
Antimony (Sb)-Dissolved			102.7		%		80-120	24-DEC-12
Arsenic (As)-Dissolved			96.8		%		80-120	24-DEC-12
Barium (Ba)-Dissolved			99.3		%		80-120	24-DEC-12
Beryllium (Be)-Dissolved			93.5		%		80-120	24-DEC-12
Bismuth (Bi)-Dissolved			95.3		%		80-120	24-DEC-12
Boron (B)-Dissolved			94.3		%		80-120	24-DEC-12
Cadmium (Cd)-Dissolved			105.1		%		80-120	24-DEC-12
Calcium (Ca)-Dissolved			84.4		%		80-120	24-DEC-12
Chromium (Cr)-Dissolved			99.2		%		80-120	24-DEC-12
Cobalt (Co)-Dissolved			96.4		%		80-120	24-DEC-12
Copper (Cu)-Dissolved			93.7		%		80-120	24-DEC-12
Iron (Fe)-Dissolved			96.0		%		80-120	24-DEC-12
Lead (Pb)-Dissolved			97.2		%		80-120	24-DEC-12
Lithium (Li)-Dissolved			89.3		%		80-120	24-DEC-12
Magnesium (Mg)-Dissolved			91.0		%		80-120	24-DEC-12
Manganese (Mn)-Dissolved			91.0		%		80-120	24-DEC-12
Molybdenum (Mo)-Dissolved			96.6		%		80-120	24-DEC-12
Nickel (Ni)-Dissolved			95.3		%		80-120	24-DEC-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2503024							
WG1606673-6	LCS							
Potassium (K)-Dissolved			98.3		%		80-120	24-DEC-12
Selenium (Se)-Dissolved			100.4		%		80-120	24-DEC-12
Silver (Ag)-Dissolved			102.5		%		80-120	24-DEC-12
Sodium (Na)-Dissolved			90.9		%		80-120	24-DEC-12
Strontium (Sr)-Dissolved			88.2		%		80-120	24-DEC-12
Tellurium (Te)-Dissolved			103.2		%		80-120	24-DEC-12
Thallium (Tl)-Dissolved			96.0		%		80-120	24-DEC-12
Tin (Sn)-Dissolved			100.8		%		80-120	24-DEC-12
Titanium (Ti)-Dissolved			97.4		%		80-120	24-DEC-12
Tungsten (W)-Dissolved			98.3		%		80-120	24-DEC-12
Uranium (U)-Dissolved			94.7		%		80-120	24-DEC-12
Vanadium (V)-Dissolved			101.6		%		80-120	24-DEC-12
Zinc (Zn)-Dissolved			97.2		%		80-120	24-DEC-12
Zirconium (Zr)-Dissolved			92.4		%		80-120	24-DEC-12
WG1606673-1	MB							
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	24-DEC-12
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	24-DEC-12
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	24-DEC-12
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	24-DEC-12
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	24-DEC-12
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	24-DEC-12
Boron (B)-Dissolved			<0.050		mg/L		0.05	24-DEC-12
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	24-DEC-12
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	24-DEC-12
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	24-DEC-12
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	24-DEC-12
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	24-DEC-12
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	24-DEC-12
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	24-DEC-12
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	24-DEC-12
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	24-DEC-12
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	24-DEC-12
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	24-DEC-12
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	24-DEC-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2503024							
WG1606673-1 MB								
Potassium (K)-Dissolved			<0.50		mg/L		0.5	24-DEC-12
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	24-DEC-12
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	24-DEC-12
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	24-DEC-12
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	24-DEC-12
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	24-DEC-12
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	24-DEC-12
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	24-DEC-12
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	24-DEC-12
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	24-DEC-12
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	24-DEC-12
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	24-DEC-12
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	24-DEC-12
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	24-DEC-12
WG1606673-5 MB								
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	24-DEC-12
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	24-DEC-12
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	24-DEC-12
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	24-DEC-12
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	24-DEC-12
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	24-DEC-12
Boron (B)-Dissolved			<0.050		mg/L		0.05	24-DEC-12
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	24-DEC-12
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	24-DEC-12
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	24-DEC-12
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	24-DEC-12
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	24-DEC-12
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	24-DEC-12
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	24-DEC-12
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	24-DEC-12
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	24-DEC-12
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	24-DEC-12
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	24-DEC-12
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	24-DEC-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2503024							
WG1606673-5	MB							
Potassium (K)-Dissolved			<0.50		mg/L		0.5	24-DEC-12
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	24-DEC-12
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	24-DEC-12
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	24-DEC-12
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	24-DEC-12
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	24-DEC-12
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	24-DEC-12
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	24-DEC-12
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	24-DEC-12
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	24-DEC-12
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	24-DEC-12
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	24-DEC-12
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	24-DEC-12
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	24-DEC-12
MET-T-MS-TB		Water						
Batch	R2503017							
WG1605745-2	LCS							
Aluminum (Al)-Total			94.0		%		80-120	24-DEC-12
Antimony (Sb)-Total			113.0		%		80-120	24-DEC-12
Arsenic (As)-Total			105.4		%		80-120	24-DEC-12
Barium (Ba)-Total			107.2		%		80-120	24-DEC-12
Beryllium (Be)-Total			98.8		%		80-120	24-DEC-12
Bismuth (Bi)-Total			104.5		%		80-120	24-DEC-12
Boron (B)-Total			102.6		%		80-120	24-DEC-12
Cadmium (Cd)-Total			115.2		%		80-120	24-DEC-12
Calcium (Ca)-Total			105.5		%		80-120	24-DEC-12
Chromium (Cr)-Total			105.2		%		80-120	24-DEC-12
Cobalt (Co)-Total			104.9		%		80-120	24-DEC-12
Copper (Cu)-Total			105.3		%		80-120	24-DEC-12
Iron (Fe)-Total			99.3		%		80-120	24-DEC-12
Lead (Pb)-Total			106.6		%		80-120	24-DEC-12
Lithium (Li)-Total			101.5		%		80-120	24-DEC-12
Magnesium (Mg)-Total			105.0		%		80-120	24-DEC-12
Manganese (Mn)-Total			104.7		%		80-120	24-DEC-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2503017							
WG1605745-2 LCS								
Molybdenum (Mo)-Total			106.3		%		80-120	24-DEC-12
Nickel (Ni)-Total			104.5		%		80-120	24-DEC-12
Potassium (K)-Total			105.4		%		80-120	24-DEC-12
Selenium (Se)-Total			108.4		%		80-120	24-DEC-12
Silver (Ag)-Total			111.3		%		80-120	24-DEC-12
Sodium (Na)-Total			104.8		%		80-120	24-DEC-12
Strontium (Sr)-Total			97.9		%		80-120	24-DEC-12
Tellurium (Te)-Total			113.0		%		80-120	24-DEC-12
Thallium (Tl)-Total			104.5		%		80-120	24-DEC-12
Tin (Sn)-Total			110.0		%		80-120	24-DEC-12
Titanium (Ti)-Total			105.5		%		80-120	24-DEC-12
Tungsten (W)-Total			109.9		%		80-120	24-DEC-12
Uranium (U)-Total			100.8		%		80-120	24-DEC-12
Vanadium (V)-Total			107.0		%		80-120	24-DEC-12
Zinc (Zn)-Total			105.8		%		80-120	24-DEC-12
Zirconium (Zr)-Total			103.7		%		80-120	24-DEC-12
WG1605745-1 MB								
Aluminum (Al)-Total			<0.0050		mg/L		0.005	24-DEC-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	24-DEC-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	24-DEC-12
Barium (Ba)-Total			<0.010		mg/L		0.01	24-DEC-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	24-DEC-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	24-DEC-12
Boron (B)-Total			<0.050		mg/L		0.05	24-DEC-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	24-DEC-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	24-DEC-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	24-DEC-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	24-DEC-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	24-DEC-12
Iron (Fe)-Total			<0.020		mg/L		0.02	24-DEC-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	24-DEC-12
Lithium (Li)-Total			<0.050		mg/L		0.05	24-DEC-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	24-DEC-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	24-DEC-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2503017							
WG1605745-1 MB								
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	24-DEC-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	24-DEC-12
Potassium (K)-Total			<0.50		mg/L		0.5	24-DEC-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	24-DEC-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	24-DEC-12
Sodium (Na)-Total			<0.10		mg/L		0.1	24-DEC-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	24-DEC-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	24-DEC-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	24-DEC-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	24-DEC-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	24-DEC-12
Tungsten (W)-Total			<0.010		mg/L		0.01	24-DEC-12
Uranium (U)-Total			<0.0050		mg/L		0.005	24-DEC-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	24-DEC-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	24-DEC-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	24-DEC-12
WG1605745-5 MB								
Aluminum (Al)-Total			<0.0050		mg/L		0.005	24-DEC-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	24-DEC-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	24-DEC-12
Barium (Ba)-Total			<0.010		mg/L		0.01	24-DEC-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	24-DEC-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	24-DEC-12
Boron (B)-Total			<0.050		mg/L		0.05	24-DEC-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	24-DEC-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	24-DEC-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	24-DEC-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	24-DEC-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	24-DEC-12
Iron (Fe)-Total			<0.020		mg/L		0.02	24-DEC-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	24-DEC-12
Lithium (Li)-Total			<0.050		mg/L		0.05	24-DEC-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	24-DEC-12
Manganese (Mn)-Total			<0.0010		mg/L		0.001	24-DEC-12



Quality Control Report

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2503017							
WG1605745-5	MB							
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	24-DEC-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	24-DEC-12
Potassium (K)-Total			<0.50		mg/L		0.5	24-DEC-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	24-DEC-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	24-DEC-12
Sodium (Na)-Total			<0.10		mg/L		0.1	24-DEC-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	24-DEC-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	24-DEC-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	24-DEC-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	24-DEC-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	24-DEC-12
Tungsten (W)-Total			<0.010		mg/L		0.01	24-DEC-12
Uranium (U)-Total			<0.0050		mg/L		0.005	24-DEC-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	24-DEC-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	24-DEC-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	24-DEC-12
Batch	R2504459							
WG1605745-10	LCS							
Aluminum (Al)-Total			95.8		%		80-120	31-DEC-12
Antimony (Sb)-Total			96.2		%		80-120	31-DEC-12
Arsenic (As)-Total			96.6		%		80-120	31-DEC-12
Barium (Ba)-Total			91.5		%		80-120	31-DEC-12
Beryllium (Be)-Total			106.7		%		80-120	31-DEC-12
Bismuth (Bi)-Total			99.3		%		80-120	31-DEC-12
Boron (B)-Total			98.8		%		80-120	31-DEC-12
Cadmium (Cd)-Total			95.2		%		80-120	31-DEC-12
Calcium (Ca)-Total			99.0		%		80-120	31-DEC-12
Chromium (Cr)-Total			102.3		%		80-120	31-DEC-12
Cobalt (Co)-Total			103.4		%		80-120	31-DEC-12
Copper (Cu)-Total			93.5		%		80-120	31-DEC-12
Iron (Fe)-Total			105.5		%		80-120	31-DEC-12
Lead (Pb)-Total			98.6		%		80-120	31-DEC-12
Lithium (Li)-Total			109.8		%		80-120	31-DEC-12
Magnesium (Mg)-Total			100.6		%		80-120	31-DEC-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2504459							
WG1605745-10 LCS								
Manganese (Mn)-Total			102.8		%		80-120	31-DEC-12
Molybdenum (Mo)-Total			99.1		%		80-120	31-DEC-12
Nickel (Ni)-Total			98.2		%		80-120	31-DEC-12
Potassium (K)-Total			104.3		%		80-120	31-DEC-12
Selenium (Se)-Total			102.7		%		80-120	31-DEC-12
Silver (Ag)-Total			97.1		%		80-120	31-DEC-12
Sodium (Na)-Total			108.0		%		80-120	31-DEC-12
Strontium (Sr)-Total			94.7		%		80-120	31-DEC-12
Tellurium (Te)-Total			96.6		%		80-120	31-DEC-12
Thallium (Tl)-Total			99.8		%		80-120	31-DEC-12
Tin (Sn)-Total			96.8		%		80-120	31-DEC-12
Titanium (Ti)-Total			100.9		%		80-120	31-DEC-12
Tungsten (W)-Total			98.0		%		80-120	31-DEC-12
Uranium (U)-Total			97.7		%		80-120	31-DEC-12
Vanadium (V)-Total			103.3		%		80-120	31-DEC-12
Zinc (Zn)-Total			94.8		%		80-120	31-DEC-12
Zirconium (Zr)-Total			92.2		%		80-120	31-DEC-12
WG1605745-9 MB								
Aluminum (Al)-Total			<0.0050		mg/L		0.005	31-DEC-12
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	31-DEC-12
Arsenic (As)-Total			<0.0010		mg/L		0.001	31-DEC-12
Barium (Ba)-Total			<0.010		mg/L		0.01	31-DEC-12
Beryllium (Be)-Total			<0.0010		mg/L		0.001	31-DEC-12
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	31-DEC-12
Boron (B)-Total			<0.050		mg/L		0.05	31-DEC-12
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	31-DEC-12
Calcium (Ca)-Total			<0.20		mg/L		0.2	31-DEC-12
Chromium (Cr)-Total			<0.0010		mg/L		0.001	31-DEC-12
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	31-DEC-12
Copper (Cu)-Total			<0.0010		mg/L		0.001	31-DEC-12
Iron (Fe)-Total			<0.020		mg/L		0.02	31-DEC-12
Lead (Pb)-Total			<0.0010		mg/L		0.001	31-DEC-12
Lithium (Li)-Total			<0.050		mg/L		0.05	31-DEC-12
Magnesium (Mg)-Total			<0.020		mg/L		0.02	31-DEC-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2504459							
WG1605745-9	MB							
Manganese (Mn)-Total			<0.0010		mg/L		0.001	31-DEC-12
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	31-DEC-12
Nickel (Ni)-Total			<0.0020		mg/L		0.002	31-DEC-12
Potassium (K)-Total			<0.50		mg/L		0.5	31-DEC-12
Selenium (Se)-Total			<0.0010		mg/L		0.001	31-DEC-12
Silver (Ag)-Total			<0.00010		mg/L		0.0001	31-DEC-12
Sodium (Na)-Total			<0.10		mg/L		0.1	31-DEC-12
Strontium (Sr)-Total			<0.0010		mg/L		0.001	31-DEC-12
Tellurium (Te)-Total			<0.0010		mg/L		0.001	31-DEC-12
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	31-DEC-12
Tin (Sn)-Total			<0.0010		mg/L		0.001	31-DEC-12
Titanium (Ti)-Total			<0.0020		mg/L		0.002	31-DEC-12
Tungsten (W)-Total			<0.010		mg/L		0.01	31-DEC-12
Uranium (U)-Total			<0.0050		mg/L		0.005	31-DEC-12
Vanadium (V)-Total			<0.0010		mg/L		0.001	31-DEC-12
Zinc (Zn)-Total			<0.0030		mg/L		0.003	31-DEC-12
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	31-DEC-12
NH3-COL-TB								
	Water							
Batch	R2501414							
WG1605059-2	LCS							
Ammonia, Total (as N)			93.6		%		85-115	20-DEC-12
WG1605059-6	LCS							
Ammonia, Total (as N)			95.5		%		85-115	20-DEC-12
WG1605059-1	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	20-DEC-12
WG1605059-5	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	20-DEC-12
WG1605059-4	MS	L1251041-2						
Ammonia, Total (as N)			N/A	MS-B	%		-	20-DEC-12
WG1605059-8	MS	L1251804-2						
Ammonia, Total (as N)			90.2		%		75-125	20-DEC-12
NO2-IC-TB	Water							



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO2-IC-TB								
Water								
Batch	R2502427							
WG1606667-3	DUP	L1251708-13						
Nitrite (as N)		<0.020	<0.020	RPD-NA	mg/L	N/A	20	21-DEC-12
WG1606667-2	LCS							
Nitrite (as N)			102.3		%		90-110	21-DEC-12
WG1606667-1	MB							
Nitrite (as N)			<0.020		mg/L		0.02	21-DEC-12
WG1606667-4	MS	L1251708-13						
Nitrite (as N)			100.6		%		75-115	21-DEC-12
NO3-IC-TB								
Water								
Batch	R2502427							
WG1606667-3	DUP	L1251708-13						
Nitrate (as N)		0.054	0.054		mg/L	0.6	20	21-DEC-12
WG1606667-2	LCS							
Nitrate (as N)			101.6		%		90-110	21-DEC-12
WG1606667-1	MB							
Nitrate (as N)			<0.030		mg/L		0.03	21-DEC-12
WG1606667-4	MS	L1251708-13						
Nitrate (as N)			96.9		%		75-125	21-DEC-12
OGG-TOT-WT								
Water								
Batch	R2503902							
WG1607442-2	LCS							
Oil and Grease, Total			90.1		%		70-130	28-DEC-12
WG1607442-3	LCSD	WG1607442-2						
Oil and Grease, Total		90.1	91		%	1.2	40	28-DEC-12
WG1607442-1	MB							
Oil and Grease, Total			<2.0		mg/L		2	28-DEC-12
Batch	R2504066							
WG1607674-2	LCS							
Oil and Grease, Total			95.8		%		70-130	28-DEC-12
WG1607674-3	LCSD	WG1607674-2						
Oil and Grease, Total		95.8	94		%	1.5	40	28-DEC-12
WG1607674-1	MB							
Oil and Grease, Total			<2.0		mg/L		2	28-DEC-12
Batch	R2504206							
WG1608103-2	LCS							
Oil and Grease, Total			86.2		%		70-130	31-DEC-12
WG1608103-3	LCSD	WG1608103-2						
Oil and Grease, Total		86.2	88		%	2.1	40	31-DEC-12



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
OGG-TOT-WT	Water							
Batch	R2504206							
WG1608103-1 MB								
Oil and Grease, Total			<2.0		mg/L		2	31-DEC-12
P-T-COL-TB	Water							
Batch	R2502406							
WG1605824-2 LCS								
Phosphorus (P)-Total			101.5		%		80-120	21-DEC-12
WG1605824-6 LCS								
Phosphorus (P)-Total			103.5		%		80-120	21-DEC-12
WG1605824-1 MB								
Phosphorus (P)-Total			<0.0050		mg/L		0.005	21-DEC-12
WG1605824-5 MB								
Phosphorus (P)-Total			<0.0050		mg/L		0.005	21-DEC-12
WG1605824-4 MS		L1250921-7						
Phosphorus (P)-Total			102.6		%		70-130	21-DEC-12
Batch	R2503007							
WG1607157-2 LCS								
Phosphorus (P)-Total			101.5		%		80-120	27-DEC-12
WG1607157-1 MB								
Phosphorus (P)-Total			<0.0050		mg/L		0.005	27-DEC-12
PH-CAP-TB	Water							
Batch	R2502476							
WG1606641-3 DUP		L1251708-13						
pH		7.30	7.32	J	pH	0.02	0.2	21-DEC-12
WG1606641-2 LCS								
pH			6.01		pH		5.9-6.1	21-DEC-12
SO4-IC-TB	Water							
Batch	R2502427							
WG1606667-3 DUP		L1251708-13						
Sulfate (SO4)		2.55	2.54		mg/L	0.4	20	21-DEC-12
WG1606667-2 LCS								
Sulfate (SO4)			103.4		%		90-110	21-DEC-12
WG1606667-1 MB								
Sulfate (SO4)			<0.30		mg/L		0.3	21-DEC-12
WG1606667-4 MS		L1251708-13						
Sulfate (SO4)			99.6		%		75-125	21-DEC-12
SOLIDS-TOTSUS-TB	Water							



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SOLIDS-TOTSUS-TB								
Water								
Batch	R2502842							
WG1606621-2	LCS							
Total Suspended Solids			98.8		%		85-115	24-DEC-12
WG1606621-1	MB							
Total Suspended Solids			<2.0		mg/L		2	24-DEC-12
Batch	R2502937							
WG1605744-2	LCS							
Total Suspended Solids			99.0		%		85-115	21-DEC-12
WG1605744-1	MB							
Total Suspended Solids			<2.0		mg/L		2	21-DEC-12
Batch	R2502942							
WG1606072-2	LCS							
Total Suspended Solids			94.2		%		85-115	21-DEC-12
WG1606072-1	MB							
Total Suspended Solids			<2.0		mg/L		2	21-DEC-12

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Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
J	Duplicate results and limits are expressed in terms of absolute difference.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



Company: Treasury Metals		Regulatory Information				Both questions below must answered for water samples														
Contact: Mac Potter		<input checked="" type="checkbox"/> O. Reg 153 (O. Reg 511 Amend) Table: _____				Are any samples taken from a regulated DW System? <input type="checkbox"/> Yes <input type="checkbox"/> No														
Address: 899 Tree Nursery Rd		Record of Site Condition <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				If yes, an authorized DW COC must be used:														
Wabigoon ON P0V 2W0		PWQO: <input checked="" type="checkbox"/> MISA <input type="checkbox"/> MMER <input type="checkbox"/> CCME <input type="checkbox"/>				Is the water sampled intended for human consumption? <input type="checkbox"/> Yes <input type="checkbox"/> No														
Phone: 807-938-6961 Fax: _____		Guideline Required:				Analysis Request														
Email: mac@treasurymetals.com		TCLP Regulation 558: <input type="checkbox"/> Other: _____				Please indicate below Filtered, Preserved or both (F, P, F/P)														
Project: Job M0906A01 PO: M0210-P0115		Service Requested																		
Quote #: Q32690 LSD Goliath Project		<input checked="" type="checkbox"/> Regular TAT (7 Days)																		
Invoice To: _____ Same as Report: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Priority TAT 50% Surcharge (3-5 Days)																		
Company: _____		<input type="checkbox"/> Emergency TAT 100% Surcharge (1-2 Days)																		
Contact: _____		Specify Date Required:																		
Address: _____		All TAT quoted material is in business days which exclude statutory holidays and weekends. Samples received past 3:00pm or Saturday/Sunday begin the next day.																		
Email: _____																				
Account Manager: Karen R. Sampler: _____																				
Sample #	Sample Identification (This description will appear on the report)	Date	Time	Sample Type	Alk, pH Conductivity	Cl, NO2, NO3, SO4	Acidity, TSS	Total Cyanide	WAD Cyanide	CN-FREE-COL-VA	Ammonia, Total Phosphorus	OGG	Total Metals +Hg	Dissolved Metals + Hg	Hardness	Number of Containers				
1	Field Blank	18/12/12	1:00	WATER	x	x	x	x	x	x	x	x	x	x	x	9				
2	Travel Blank				x	x	x	x	x	x	x	x	x	x	x					
3	Duplicate				x	x	x	x	x	x	x	x	x	x	x					
4	SW1				x	x	x	x	x	x	x	x	x	x	x					
5	SW2				x	x	x	x	x	x	x	x	x	x	x					
1	SW3				x	x	x	x	x	x	x	x	x	x	x					
7	SW7				x	x	x	x	x	x	x	x	x	x	x					
8	SW8				x	x	x	x	x	x	x	x	x	x	x					
9	SW9	19/12/12			x	x	x	x	x	x	x	x	x	x	x					
10	SW10	18/12/12			x	x	x	x	x	x	x	x	x	x	x					
11	SW11	19/12/12			x	x	x	x	x	x	x	x	x	x	x					
Special Instructions/Comments																				
No field filter on dissolved metals + Hg																				
Custody seals intact for Travel Blank <i>KUM</i>																				
SHIPMENT RELEASE (client use)					SHIPMENT RECEPTION (lab use only)					SHIPMENT VERIFICATION (lab use only)										
Released by: <i>Mac Potter</i>		Date & Time: 18/12/12			Received by: <i>KUM</i>		Date & Time: Dec. 20/12 11:15			Temp: 6.4		Cooling Initiated: <input type="checkbox"/> Yes <input type="checkbox"/> No		Verified by: <i>KUM</i>		Date & Time: Dec. 20/12 11:30			Observations: <input type="checkbox"/> Yes <input type="checkbox"/> No? If Yes add SIF	

** Failure to complete all portions of this form may delay analysis. ** TAT may vary dependant on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs. Any known or suspected hazards relating to a sample must be noted on the chain of custody in the comments section. By use of the form the user acknowledges and agrees with the Terms and Conditions as specified on the back page.

Code #1: 1,2,4 #2: 12,4,12 #3: 1,3,2,6 #4: 6,6,8,7 #5: 2,1,4,0 See SIF



Company: Treasury Metals		Laboratory Information			Both questions below must answered for water samples														
Contact: Mac Potter		Reg 511 Amend) Table: _____			Are any samples taken from a regulated DW System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No														
Address: 899 Tree Nursery Rd		Record of Site Condition <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			If yes, an authorized DW COC must be used.														
Wabigoon ON P0V 2W0		PW00 <input checked="" type="checkbox"/> MISA <input type="checkbox"/> MMR <input type="checkbox"/> CCME <input type="checkbox"/>			Is the water sampled intended for human consumption? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No														
Phone: 807-938-6961	Fax:	Guideline Required:			Analysis Request														
Email: mac@treasurymetals.com		TCLP Regulation 558 <input type="checkbox"/> Other:			Please indicate below Filtered, Preserved or both (F, P, F/P)														
Project: Job M0906A01	PO: M0210-P0115	Service Requested			Aik, pH Conductivity	Cl, NO2, NO3, SO4	Acidity, TSS	Total Cyanide	WAD Cyanide	CN-FREE-COL-VA	Ammonia, Total Phosphorus	OGG	Total Metals +Hg	Dissolved Metals + Hg	Hardness	Number of Containers			
Quote #: Q32690	LSD Goliath Project	<input checked="" type="checkbox"/> Regular TAT (7 Days)																	
Invoice To:	Same as Report: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Priority TAT 50% Surcharge (3-5 Days)																	
Company:		<input type="checkbox"/> Emergency TAT 100% Surcharge (1-2 Days)																	
Contact:		Specify Date Required:																	
Address:		All TAT quoted material is in business days which exclude statutory holidays and weekends. Samples received past 3:00pm or Saturday/Sunday begin the next day.																	
Email:																			
Account Manager: Karen R.	Sampler:																		
Sample #	Sample Identification (This description will appear on the report)	Date	Time	Sample Type	Aik, pH Conductivity	Cl, NO2, NO3, SO4	Acidity, TSS	Total Cyanide	WAD Cyanide	CN-FREE-COL-VA	Ammonia, Total Phosphorus	OGG	Total Metals +Hg	Dissolved Metals + Hg	Hardness	Number of Containers			
12	TL1a	18/12/12	1 ⁰⁰	WATER	X	X	X	X	X	X	X	X	X	X	X	9			
13	TL3	↓	↓	↓	X	X	X	X	X	X	X	X	X	X	X	↓			
14	TCTa	19/12/12	↓	↓	X	X	X	X	X	X	X	X	X	X	X	↓			
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> CUSTODY SEALS INTACT When Received At ALS THUNDER BAY </div>					X	X	X	X	X	X	X	X	X	X	X	X	X		
					X	X	X	X	X	X	X	X	X	X	X				
					X	X	X	X	X	X	X	X	X	X	X				
					X	X	X	X	X	X	X	X	X	X	X				
					X	X	X	X	X	X	X	X	X	X	X				
					X	X	X	X	X	X	X	X	X	X	X				
					X	X	X	X	X	X	X	X	X	X	X				
Special Instructions/Comments																			
No field filter on dissolved metals +Hg																			
SHIPMENT RELEASE (client use)					SHIPMENT RECEPTION (lab use only)					SHIPMENT VERIFICATION (lab use only)									
Released by: <i>[Signature]</i>	Date & Time: 19/12/12	Received by: KUM	Date & Time: Dec. 20/12	Temp: 12.4	Cooling Initiated: <input type="checkbox"/> Yes <input type="checkbox"/> No	Verified by: KUM	Date & Time: Dec. 20/12	11:30	Observations: Yes/No? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No? If Yes add SIF										

****Failure to complete all portions of this form may delay analysis.**** TAT may vary dependant on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs. Any known or suspected hazards relating to a sample must be noted on the chain of custody in the comments section. By use of the form the user acknowledges and agrees with the Terms and Conditions as specified on the back page.

[Handwritten signature]

CLIENT NAME: TREASURY METALS INC
130 KING ST. W SUITE 3680, BOX 99
TORONTO, ON M5A1B1
(416) 214-4654

ATTENTION TO: MAC POTTER

PROJECT NO: Goliath

AGAT WORK ORDER: 13B708167

TRACE ORGANICS REVIEWED BY: Oksana Gushyla, Analyst

WATER ANALYSIS REVIEWED BY: Inesa Alizarchyk, Inorganic Lab Supervisor

DATE REPORTED: Apr 30, 2013

PAGES (INCLUDING COVER): 19

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.



Certificate of Analysis

AGAT WORK ORDER: 13B708167

PROJECT NO: Goliath

5835 COOPERS AVENUE
 MISSISSAUGA, ONTARIO
 CANADA L4Z 1Y2
 TEL (905)712-5100
 FAX (905)712-5122
<http://www.agatlabs.com>

CLIENT NAME: TREASURY METALS INC

ATTENTION TO: MAC POTTER

Total Oil and Grease [water]

DATE RECEIVED: 2013-04-22

DATE REPORTED: 2013-04-30

		SAMPLE DESCRIPTION:		SW9	SW2	SW1	TL3	TL1a	JCTa	SW11	SW10
		SAMPLE TYPE:		Water	Water	Water	Water	Water	Water	Water	Water
		DATE SAMPLED:		4/16/2013	4/17/2013	4/17/2013	4/17/2013	4/17/2013	4/17/2013	4/18/2013	4/18/2013
Parameter	Unit	G / S	RDL	4285424	4285571	4285586	4285601	4285614	4285630	4285644	4285659
Total Oil and Grease in water	mg/L	0.5	<0.5	0.73	<0.5	0.65	<0.5	<0.5	<0.5	<0.5	0.94
		SAMPLE DESCRIPTION:		SW7	SW8	Duplicate	Trip Blank	Field Blank			
		SAMPLE TYPE:		Water	Water	Water	Water	Water			
		DATE SAMPLED:		4/18/2013	4/18/2013	4/17/2013	4/16/2013	4/16/2013			
Parameter	Unit	G / S	RDL	4285676	4285692	4285706	4285723	4285745			
Total Oil and Grease in water	mg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Certified By: _____



Certificate of Analysis

AGAT WORK ORDER: 13B708167

PROJECT NO: Goliath

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CLIENT NAME: TREASURY METALS INC

ATTENTION TO: MAC POTTER

Dissolved Metals & Cations (Water)

DATE RECEIVED: 2013-04-22

DATE REPORTED: 2013-04-30

Parameter	Unit	SAMPLE DESCRIPTION:		SW9	SW2	SW1	TL3	TL1a	JCTa	SW11	SW10	
		SAMPLE TYPE:		Water	Water	Water	Water	Water	Water	Water	Water	Water
		DATE SAMPLED:		4/16/2013	4/17/2013	4/17/2013	4/17/2013	4/17/2013	4/17/2013	4/17/2013	4/18/2013	4/18/2013
		G / S	RDL	4285424	4285571	4285586	4285601	4285614	4285630	4285644	4285659	
Aluminum	mg/L	0.004	0.014	0.083	0.054	0.019	0.042	0.034	0.349	0.021		
Antimony	mg/L	0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003		
Arsenic	mg/L	0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003		
Barium	mg/L	0.002	0.022	0.015	0.009	0.014	0.013	0.013	0.012	0.011		
Beryllium	mg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
Bismuth	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
Boron	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		
Cadmium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		
Calcium	mg/L	0.05	39.5	26.3	28.1	28.7	16.6	24.5	11.4	25.6		
Chromium	mg/L	0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003		
Cobalt	mg/L	0.0005	<0.0005	0.0006	<0.0005	<0.0005	0.0026	0.0007	0.0008	<0.0005		
Copper	mg/L	0.002	<0.002	0.002	<0.002	<0.002	<0.002	0.006	0.003	<0.002		
Iron	mg/L	0.01	0.09	0.69	0.21	0.78	2.69	1.18	1.58	0.54		
Lead	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
Lithium	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		
Magnesium	mg/L	0.05	7.14	7.34	4.03	7.77	4.49	7.07	2.51	3.73		
Manganese	mg/L	0.002	0.119	0.058	0.126	0.091	0.860	0.363	0.083	0.089		
Mercury	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		
Molybdenum	mg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
Nickel	mg/L	0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003		
Potassium	mg/L	0.05	1.88	2.20	1.67	2.13	1.23	1.73	1.67	0.80		
Selenium	mg/L	0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004		
Silicon	mg/L	0.05	6.35	4.76	6.72	5.27	6.35	6.02	10.2	6.68		
Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		
Sodium	mg/L	0.05	3.51	3.94	2.26	5.49	2.35	4.03	3.32	1.98		
Strontium	mg/L	0.005	0.057	0.048	0.055	0.065	0.039	0.052	0.030	0.035		
Tellurium	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
Thallium	mg/L	0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003		
Tin	mg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
Titanium	mg/L	0.002	<0.002	0.004	<0.002	<0.002	<0.002	<0.002	0.013	<0.002		
Tungsten	mg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 13B708167

PROJECT NO: Goliath

5835 COOPERS AVENUE
 MISSISSAUGA, ONTARIO
 CANADA L4Z 1Y2
 TEL (905)712-5100
 FAX (905)712-5122
<http://www.agatlabs.com>

CLIENT NAME: TREASURY METALS INC

ATTENTION TO: MAC POTTER

Dissolved Metals & Cations (Water)

DATE RECEIVED: 2013-04-22

DATE REPORTED: 2013-04-30

		SAMPLE DESCRIPTION:		SW9	SW2	SW1	TL3	TL1a	JCTa	SW11	SW10
		SAMPLE TYPE:		Water	Water	Water	Water	Water	Water	Water	Water
		DATE SAMPLED:		4/16/2013	4/17/2013	4/17/2013	4/17/2013	4/17/2013	4/17/2013	4/18/2013	4/18/2013
Parameter	Unit	G / S	RDL	4285424	4285571	4285586	4285601	4285614	4285630	4285644	4285659
Uranium	mg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Vanadium	mg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Zinc	mg/L	0.005	<0.005	0.011	<0.005	0.008	<0.005	0.005	0.009	0.011	0.011

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CLIENT NAME: TREASURY METALS INC

ATTENTION TO: MAC POTTER

Dissolved Metals & Cations (Water)

DATE RECEIVED: 2013-04-22

DATE REPORTED: 2013-04-30

Parameter	Unit	SAMPLE DESCRIPTION:		SW7	SW8	Duplicate	Trip Blank	Field Blank
		SAMPLE TYPE:		Water	Water	Water	Water	Water
		DATE SAMPLED:		4/18/2013	4/18/2013	4/17/2013	4/16/2013	4/16/2013
		G / S	RDL	4285676	4285692	4285706	4285723	4285745
Aluminum	mg/L	0.004	0.019	0.005	0.027	<0.004	0.008	
Antimony	mg/L	0.003	<0.003	<0.003	<0.003	<0.003	<0.003	
Arsenic	mg/L	0.003	<0.003	<0.003	<0.003	<0.003	<0.003	
Barium	mg/L	0.002	0.008	0.032	0.011	<0.002	<0.002	
Beryllium	mg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Bismuth	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Boron	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
Cadmium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
Calcium	mg/L	0.05	17.3	43.0	28.0	<0.05	0.08	
Chromium	mg/L	0.003	<0.003	<0.003	<0.003	<0.003	<0.003	
Cobalt	mg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
Copper	mg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Iron	mg/L	0.01	0.36	0.11	0.85	<0.01	<0.01	
Lead	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Lithium	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
Magnesium	mg/L	0.05	3.58	3.83	7.62	<0.05	<0.05	
Manganese	mg/L	0.002	0.029	0.790	0.091	<0.002	<0.002	
Mercury	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
Molybdenum	mg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Nickel	mg/L	0.003	<0.003	<0.003	<0.003	<0.003	<0.003	
Potassium	mg/L	0.05	2.10	0.98	2.11	<0.05	<0.05	
Selenium	mg/L	0.004	<0.004	<0.004	<0.004	<0.004	<0.004	
Silicon	mg/L	0.05	4.83	5.22	5.09	<0.05	0.08	
Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
Sodium	mg/L	0.05	1.52	1.86	5.83	<0.05	<0.05	
Strontium	mg/L	0.005	0.031	<0.005	0.070	<0.005	<0.005	
Tellurium	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Thallium	mg/L	0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	
Tin	mg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Titanium	mg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Tungsten	mg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 13B708167

PROJECT NO: Goliath

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
<http://www.agatlabs.com>

CLIENT NAME: TREASURY METALS INC

ATTENTION TO: MAC POTTER

Dissolved Metals & Cations (Water)

DATE RECEIVED: 2013-04-22

DATE REPORTED: 2013-04-30

Parameter	Unit	SAMPLE DESCRIPTION:		Duplicate	Trip Blank	Field Blank
		SW7	SW8			
		SAMPLE TYPE:				
		DATE SAMPLED:				
		G / S	RDL	4285706	4285723	4285745
Uranium	mg/L	0.002	<0.002	<0.002	<0.002	<0.002
Vanadium	mg/L	0.002	<0.002	<0.002	<0.002	<0.002
Zinc	mg/L	0.005	0.007	<0.005	0.009	<0.005

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Certified By: _____



Certificate of Analysis

AGAT WORK ORDER: 13B708167

PROJECT NO: Goliath

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MISSISSAUGA, ONTARIO
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<http://www.agatlabs.com>

CLIENT NAME: TREASURY METALS INC

ATTENTION TO: MAC POTTER

Inorganic Chemistry (Water)

DATE RECEIVED: 2013-04-22

DATE REPORTED: 2013-04-30

Parameter	Unit	SAMPLE DESCRIPTION:		SW9	SW2	SW1	TL3	TL1a	JCTa	SW11	SW10	
		SAMPLE TYPE:		Water	Water	Water	Water	Water	Water	Water	Water	Water
		DATE SAMPLED:		4/16/2013	4/17/2013	4/17/2013	4/17/2013	4/17/2013	4/17/2013	4/17/2013	4/18/2013	4/18/2013
		G / S	RDL	4285424	4285571	4285586	4285601	4285614	4285630	4285644	4285659	
pH	pH Units	NA		7.94	7.69	7.55	7.81	7.16	7.61	6.61	7.72	
Alkalinity (as CaCO3)	mg/L	5		127	83	83	87	56	81	<5	74	
Electrical Conductivity	uS/cm	2		243	186	172	212	121	180	100	150	
Total Hardness (as CaCO3)	mg/L	0.5		128	95.9	86.8	104	59.9	90.3	38.8	79.3	
Total Suspended Solids	mg/L	10		21	<10	<10	23	<10	12	<10	<10	
Acidity (as CaCO3)	mg/L	5		<5	<5	<5	<5	<5	<5	<5	<5	
Chloride	mg/L	0.10		0.82	5.60	1.04	10.4	1.87	3.68	7.26	0.50	
Nitrate as N	mg/L	0.05		0.19	0.08	0.11	0.27	0.08	0.19	0.49	0.12	
Nitrite as N	mg/L	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Sulphate	mg/L	0.10		0.79	2.01	3.34	5.57	2.28	5.07	8.32	2.87	
Ammonia as N	mg/L	0.02		0.09	<0.02	<0.02	0.23	0.36	0.36	0.26	<0.02	
Total Phosphorus	mg/L	0.02		0.02	0.07	0.02	0.06	0.06	0.03	0.10	0.03	
Cyanide, Free	mg/L	0.002		<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Total Cyanide	mg/L	0.002		<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 13B708167

PROJECT NO: Goliath

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CLIENT NAME: TREASURY METALS INC

ATTENTION TO: MAC POTTER

Inorganic Chemistry (Water)

DATE RECEIVED: 2013-04-22

DATE REPORTED: 2013-04-30

Parameter	Unit	SAMPLE DESCRIPTION:		SW7	SW8	Duplicate	Trip Blank	Field Blank
		G / S	RDL	4285676	4285692	4285706	4285723	4285745
pH	pH Units	NA		7.59	7.98	7.73	5.27	5.43
Alkalinity (as CaCO3)	mg/L	5		50	124	87	<5	<5
Electrical Conductivity	uS/cm	2		117	236	216	<2	<2
Total Hardness (as CaCO3)	mg/L	0.5		57.9	123	101	<0.5	<0.5
Total Suspended Solids	mg/L	10		<10	<10	24	<10	<10
Acidity (as CaCO3)	mg/L	5		<5	<5	<5	<5	<5
Chloride	mg/L	0.10		0.57	0.69	10.7	<0.10	<0.10
Nitrate as N	mg/L	0.05		0.44	0.16	0.28	<0.05	<0.05
Nitrite as N	mg/L	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	0.10		5.62	1.75	6.12	<0.10	<0.10
Ammonia as N	mg/L	0.02		<0.02	0.38	0.27	<0.02	<0.02
Total Phosphorus	mg/L	0.02		0.07	0.02	0.07	0.02	0.02
Cyanide, Free	mg/L	0.002		<0.002	<0.002	<0.002	<0.002	<0.002
Total Cyanide	mg/L	0.002		<0.002	<0.002	<0.002	<0.002	<0.002

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 13B708167

PROJECT NO: Goliath

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CLIENT NAME: TREASURY METALS INC

ATTENTION TO: MAC POTTER

Total Metals & Cations in water

DATE RECEIVED: 2013-04-22

DATE REPORTED: 2013-04-30

Parameter	Unit	SAMPLE DESCRIPTION:		SW9	SW2	SW1	TL3	TL1a	JCTa	SW11	SW10	
		SAMPLE TYPE:		Water	Water	Water	Water	Water	Water	Water	Water	Water
		DATE SAMPLED:		4/16/2013	4/17/2013	4/17/2013	4/17/2013	4/17/2013	4/17/2013	4/17/2013	4/18/2013	4/18/2013
		G / S	RDL	4285424	4285571	4285586	4285601	4285614	4285630	4285644	4285659	
Total Aluminum	mg/L	0.004	0.418	0.440	0.061	0.906	0.167	0.414	0.384	0.032		
Total Antimony	mg/L	0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003		
Total Arsenic	mg/L	0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003		
Total Barium	mg/L	0.002	0.031	0.025	0.009	0.017	0.012	0.013	0.011	0.010		
Total Beryllium	mg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
Total Bismuth	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
Total Boron	mg/L	0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		
Total Cadmium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		
Total Calcium	mg/L	0.05	40.4	26.9	28.4	29.5	18.0	25.9	16.3	25.7		
Total Chromium	mg/L	0.003	<0.003	<0.003	<0.003	0.006	<0.003	<0.003	<0.003	<0.003		
Total Cobalt	mg/L	0.0005	<0.0005	<0.0005	<0.0005	0.0008	0.0027	0.0010	0.0011	<0.0005		
Total Copper	mg/L	0.002	<0.002	<0.002	<0.002	0.003	<0.002	<0.002	0.002	<0.002		
Total Iron	mg/L	0.01	0.73	0.71	0.58	2.65	4.08	2.57	1.70	0.94		
Total Lead	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
Total Lithium	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		
Total Magnesium	mg/L	0.05	7.47	7.37	4.14	8.24	4.64	7.26	2.96	3.88		
Total Manganese	mg/L	0.002	0.214	0.229	0.138	0.177	0.912	0.459	0.129	0.121		
Total Mercury	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		
Total Molybdenum	mg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
Total Nickel	mg/L	0.003	<0.003	<0.003	<0.003	0.004	<0.003	<0.003	<0.003	<0.003		
Total Potassium	mg/L	0.05	2.17	2.19	1.83	2.33	1.44	1.94	4.44	1.18		
Total Selenium	mg/L	0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004		
Total Silicon	mg/L	0.05	8.06	8.88	7.43	7.75	6.38	6.47	10.2	6.70		
Total Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		
Total Sodium	mg/L	0.05	3.68	4.21	2.32	5.75	2.74	4.38	3.43	2.25		
Total Strontium	mg/L	0.005	0.065	0.072	0.050	0.078	0.043	0.057	0.039	0.042		
Total Tellurium	mg/L	0.05	<0.05	<0.05	<0.05	0.05	0.06	<0.05	<0.05	0.07		
Total Thallium	mg/L	0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003		
Total Tin	mg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.003	<0.002		
Total Titanium	mg/L	0.002	0.021	0.023	0.003	0.047	0.006	0.018	0.013	<0.002		
Total Tungsten	mg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 13B708167

PROJECT NO: Goliath

5835 COOPERS AVENUE
 MISSISSAUGA, ONTARIO
 CANADA L4Z 1Y2
 TEL (905)712-5100
 FAX (905)712-5122
<http://www.agatlabs.com>

CLIENT NAME: TREASURY METALS INC

ATTENTION TO: MAC POTTER

Total Metals & Cations in water

DATE RECEIVED: 2013-04-22

DATE REPORTED: 2013-04-30

Parameter	Unit	SAMPLE DESCRIPTION:		SW9	SW2	SW1	TL3	TL1a	JCTa	SW11	SW10
		SAMPLE TYPE:		Water	Water	Water	Water	Water	Water	Water	Water
		DATE SAMPLED:		4/16/2013	4/17/2013	4/17/2013	4/17/2013	4/17/2013	4/17/2013	4/17/2013	4/18/2013
		G / S	RDL	4285424	4285571	4285586	4285601	4285614	4285630	4285644	4285659
Total Uranium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Vanadium	mg/L	0.002	<0.002	<0.002	<0.002	<0.002	0.003	<0.002	<0.002	<0.002	<0.002
Total Zinc	mg/L	0.005	0.018	0.019	<0.005	0.020	0.007	0.024	0.051	<0.005	<0.005

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 13B708167

PROJECT NO: Goliath

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CLIENT NAME: TREASURY METALS INC

ATTENTION TO: MAC POTTER

Total Metals & Cations in water

DATE RECEIVED: 2013-04-22

DATE REPORTED: 2013-04-30

Parameter	Unit	SAMPLE DESCRIPTION:		SW7	SW8	Duplicate	Trip Blank	Field Blank
		SAMPLE TYPE:		Water	Water	Water	Water	Water
		DATE SAMPLED:		4/18/2013	4/18/2013	4/17/2013	4/16/2013	4/16/2013
		G / S	RDL	4285676	4285692	4285706	4285723	4285745
Total Aluminum	mg/L	0.004	0.109	0.076	1.67	<0.004	0.008	
Total Antimony	mg/L	0.003	<0.003	<0.003	<0.003	<0.003	<0.003	
Total Arsenic	mg/L	0.003	<0.003	<0.003	<0.003	<0.003	<0.003	
Total Barium	mg/L	0.002	0.008	0.033	0.021	<0.002	<0.002	
Total Beryllium	mg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Total Bismuth	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Total Boron	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
Total Cadmium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
Total Calcium	mg/L	0.05	26.5	43.4	29.7	0.15	0.20	
Total Chromium	mg/L	0.003	<0.003	<0.003	0.013	<0.003	<0.003	
Total Cobalt	mg/L	0.0005	<0.0005	<0.0005	0.0013	<0.0005	<0.0005	
Total Copper	mg/L	0.002	<0.002	<0.002	0.005	<0.002	<0.002	
Total Iron	mg/L	0.01	0.62	2.18	3.54	0.03	0.03	
Total Lead	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Total Lithium	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
Total Magnesium	mg/L	0.05	4.43	3.93	8.56	0.24	0.23	
Total Manganese	mg/L	0.002	0.043	0.921	0.241	<0.002	<0.002	
Total Mercury	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
Total Molybdenum	mg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Total Nickel	mg/L	0.003	<0.003	<0.003	0.003	<0.003	<0.003	
Total Potassium	mg/L	0.05	2.16	1.05	2.53	<0.05	0.05	
Total Selenium	mg/L	0.004	<0.004	<0.004	<0.004	<0.004	<0.004	
Total Silicon	mg/L	0.05	5.15	5.51	9.00	<0.05	<0.05	
Total Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
Total Sodium	mg/L	0.05	1.66	2.17	5.86	<0.05	<0.05	
Total Strontium	mg/L	0.005	0.040	0.060	0.082	<0.005	<0.005	
Total Tellurium	mg/L	0.05	<0.05	<0.05	0.10	0.06	0.08	
Total Thallium	mg/L	0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	
Total Tin	mg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Total Titanium	mg/L	0.002	0.003	0.004	0.091	<0.002	<0.002	
Total Tungsten	mg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 13B708167

PROJECT NO: Goliath

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MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
<http://www.agatlabs.com>

CLIENT NAME: TREASURY METALS INC

ATTENTION TO: MAC POTTER

Total Metals & Cations in water

DATE RECEIVED: 2013-04-22

DATE REPORTED: 2013-04-30

Parameter	Unit	SAMPLE DESCRIPTION:		Duplicate	Trip Blank	Field Blank
		SW7	SW8			
		SAMPLE TYPE:				
		Water		Water		
		DATE SAMPLED:				
		4/18/2013	4/18/2013	4/17/2013	4/16/2013	4/16/2013
		G / S	RDL	4285676	4285692	4285706
		4285723	4285745			
Total Uranium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Total Vanadium	mg/L	0.002	<0.002	<0.002	0.004	<0.002
Total Zinc	mg/L	0.005	0.158	<0.005	0.034	<0.005

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Certified By:

Quality Assurance

CLIENT NAME: TREASURY METALS INC
 PROJECT NO: Goliath

AGAT WORK ORDER: 13B708167
 ATTENTION TO: MAC POTTER

Trace Organics Analysis																
RPT Date: Apr 30, 2013			DUPLICATE				Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Measured Value		Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits		
								Lower	Upper		Lower	Upper		Lower	Upper	
Total Oil and Grease [water]																
Total Oil and Grease in water	1		0.6	0.6	0.0%	< 0.5	NA	70%	130%	96%	70%	130%	101%	70%	130%	

Certified By: _____



Quality Assurance

CLIENT NAME: TREASURY METALS INC

AGAT WORK ORDER: 13B708167

PROJECT NO: Goliath

ATTENTION TO: MAC POTTER

Water Analysis															
RPT Date: Apr 30, 2013			DUPLICATE				Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE		MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Measured Value		Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Inorganic Chemistry (Water)															
pH	1	4285644	6.61	6.81	3.0%	NA	100%	90%	110%	NA	0%	0%	NA	0%	0%
Alkalinity (as CaCO ₃)	1	4285644	17	21	NA	< 5	96%	80%	120%	NA	0%	0%	NA	0%	0%
Electrical Conductivity	1	4285644	100	99	1.0%	< 2	98%	80%	120%	NA	0%	0%	NA	0%	0%
Total Suspended Solids	1	4285644	< 10	< 10	0.0%	< 10	106%	80%	120%	NA	0%	0%	NA	0%	0%
Chloride	4283790		68.6	69.5	1.3%	< 0.10	98%	90%	110%	99%	90%	110%	98%	80%	120%
Nitrate as N	4283790		2.21	2.09	5.6%	< 0.05	95%	90%	110%	107%	90%	110%	108%	80%	120%
Nitrite as N	4283790		<0.05	<0.05	0.0%	< 0.05	NA	90%	110%	103%	90%	110%	109%	80%	120%
Sulphate	4283790		4.85	4.49	7.8%	< 0.10	101%	90%	110%	100%	90%	110%	100%	80%	120%
Ammonia as N	1	4285630	0.36	0.35	2.8%	< 0.02	103%	90%	110%	104%	90%	110%	114%	80%	120%
Total Phosphorus	1		1.08	1.14	5.4%	< 0.02	96%	90%	110%	92%	90%	110%	104%	80%	120%
Cyanide, Free	1	4285424	< 0.002	< 0.002	0.0%	< 0.002	100%	90%	110%	101%	90%	110%	106%	70%	130%
Total Cyanide	1	4285745	< 0.002	< 0.002	0.0%	< 0.002	101%	80%	120%	104%	90%	110%	109%	70%	130%
Dissolved Metals & Cations (Water)															
Aluminum	1	4285424	0.014	0.014	0.0%	< 0.004	92%	90%	110%	96%	90%	110%	97%	70%	130%
Antimony	1	4285424	< 0.003	< 0.003	0.0%	< 0.003	102%	90%	110%	97%	90%	110%	100%	70%	130%
Arsenic	1	4285424	< 0.003	< 0.003	0.0%	< 0.003	99%	90%	110%	101%	90%	110%	105%	70%	130%
Barium	1	4285424	0.022	0.023	4.4%	< 0.002	101%	90%	110%	103%	90%	110%	105%	70%	130%
Beryllium	1	4285424	< 0.001	< 0.001	0.0%	< 0.001	96%	90%	110%	105%	90%	110%	107%	70%	130%
Bismuth	1	4285424	< 0.002	< 0.002	0.0%	< 0.002	97%	90%	110%	94%	90%	110%	98%	70%	130%
Boron	1	4285424	< 0.01	< 0.01	0.0%	< 0.01	101%	90%	110%	105%	90%	110%	109%	70%	130%
Cadmium	1	4285424	< 0.0001	< 0.0001	0.0%	< 0.0001	99%	90%	110%	107%	90%	110%	106%	70%	130%
Calcium	1	4285424	39.5	38.8	1.8%	< 0.05	102%	90%	110%	104%	90%	110%	100%	70%	130%
Chromium	1	4285424	< 0.003	< 0.003	0.0%	< 0.003	98%	90%	110%	103%	90%	110%	96%	70%	130%
Cobalt	1	4285424	< 0.0005	< 0.0005	0.0%	< 0.0005	94%	90%	110%	99%	90%	110%	101%	70%	130%
Copper	1	4285424	< 0.002	< 0.002	0.0%	< 0.002	98%	90%	110%	97%	90%	110%	101%	70%	130%
Iron	1	4285424	0.087	0.082	5.9%	< 0.01	95%	90%	110%	99%	90%	110%	82%	70%	130%
Lead	1	4285424	< 0.001	< 0.001	0.0%	< 0.001	95%	90%	110%	94%	90%	110%	98%	70%	130%
Lithium	1	4285424	< 0.010	< 0.010	0.0%	< 0.010	94%	90%	110%	99%	90%	110%	98%	70%	130%
Magnesium	1	4285424	7.14	7.09	0.7%	< 0.05	104%	90%	110%	105%	90%	110%	102%	70%	130%
Manganese	1	4285424	0.119	0.119	0.0%	< 0.002	91%	90%	110%	97%	90%	110%	90%	70%	130%
Mercury	1	4285424	< 0.0001	< 0.0001	0.0%	< 0.0001	99%	90%	110%	100%	90%	110%	102%	80%	120%
Molybdenum	1	4285424	< 0.002	< 0.002	0.0%	< 0.002	100%	90%	110%	100%	90%	110%	100%	70%	130%
Nickel	1	4285424	< 0.003	< 0.003	0.0%	< 0.003	95%	90%	110%	101%	90%	110%	101%	70%	130%
Potassium	1	4285424	1.88	1.84	2.2%	< 0.05	104%	90%	110%	100%	90%	110%	99%	70%	130%
Selenium	1	4285424	< 0.004	< 0.004	0.0%	< 0.004	100%	90%	110%	103%	90%	110%	107%	70%	130%
Silicon	1	4285424	6.35	6.67	4.9%	< 0.05	99%	90%	110%	105%	90%	110%	105%	70%	130%
Silver	1	4285424	< 0.0001	< 0.0001	0.0%	< 0.0001	102%	90%	110%	108%	90%	110%	94%	70%	130%
Sodium	1	4285424	3.68	3.63	1.4%	< 0.05	104%	90%	110%	101%	90%	110%	100%	70%	130%

Quality Assurance

CLIENT NAME: TREASURY METALS INC

AGAT WORK ORDER: 13B708167

PROJECT NO: Goliath

ATTENTION TO: MAC POTTER

Water Analysis (Continued)

RPT Date: Apr 30, 2013			DUPLICATE				Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Measured Value		Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits		
								Lower	Upper		Lower	Upper		Lower	Upper	
Strontium	1	4285424	0.057	0.060	5.1%	< 0.005	99%	90%	110%	103%	90%	110%	100%	70%	130%	
Tellurium	1	4285424	< 0.05	< 0.05	0.0%	< 0.05	101%	90%	110%	106%	90%	110%	104%	70%	130%	
Thallium	1	4285424	< 0.0003	< 0.0003	0.0%	< 0.0003	95%	90%	110%	100%	90%	110%	103%	70%	130%	
Tin	1	4285424	< 0.002	< 0.002	0.0%	< 0.002	102%	90%	110%	97%	90%	110%	99%	70%	130%	
Titanium	1	4285424	< 0.002	< 0.002	0.0%	< 0.002	101%	90%	110%	103%	90%	110%	100%	70%	130%	
Tungsten	1	4285424	< 0.002	< 0.002	0.0%	< 0.002	104%	90%	110%	97%	90%	110%	100%	70%	130%	
Uranium	1	4285424	< 0.002	< 0.002	0.0%	< 0.002	103%	90%	110%	93%	90%	110%	100%	70%	130%	
Vanadium	1	4285424	< 0.002	< 0.002	0.0%	< 0.002	101%	90%	110%	103%	90%	110%	101%	70%	130%	
Zinc	1	4285424	< 0.005	< 0.005	0.0%	< 0.005	98%	90%	110%	102%	90%	110%	103%	70%	130%	
Total Metals & Cations in water																
Total Aluminum	1	4285424	0.418	0.420	0.5%	< 0.020	99%	90%	110%	101%	80%	120%	96%	70%	130%	
Total Antimony	1	4285424	< 0.020	< 0.020	0.0%	< 0.020	99%	90%	110%	99%	80%	120%	100%	70%	130%	
Total Arsenic	1	4285424	< 0.015	< 0.015	0.0%	< 0.015	96%	90%	110%	99%	80%	120%	97%	70%	130%	
Total Barium	1	4285424	0.031	0.030	3.3%	< 0.010	101%	90%	110%	104%	80%	120%	104%	70%	130%	
Total Beryllium	1	4285424	< 0.010	< 0.010	0.0%	< 0.010	104%	90%	110%	107%	80%	120%	105%	70%	130%	
Total Bismuth	1	4285424	< 0.010	< 0.010	0.0%	< 0.010	102%	90%	110%	93%	80%	120%	91%	70%	130%	
Total Boron	1	4285424	< 0.050	< 0.050	0.0%	< 0.050	110%	90%	110%	110%	80%	120%	109%	70%	130%	
Total Cadmium	1	4285424	< 0.010	< 0.010	0.0%	< 0.010	102%	90%	110%	119%	80%	120%	101%	70%	130%	
Total Calcium	1	4285424	40.4	40.8	1.0%	< 0.20	100%	90%	110%	102%	80%	120%	96%	70%	130%	
Total Chromium	1	4285424	< 0.015	< 0.015	0.0%	< 0.015	102%	90%	110%	108%	80%	120%	106%	70%	130%	
Total Cobalt	1	4285424	< 0.010	< 0.010	0.0%	< 0.010	99%	90%	110%	108%	80%	120%	104%	70%	130%	
Total Copper	1	4285424	< 0.015	< 0.015	0.0%	< 0.015	101%	90%	110%	106%	80%	120%	102%	70%	130%	
Total Iron	1	4285424	0.727	0.721	0.8%	< 0.050	98%	90%	110%	94%	80%	120%	96%	70%	130%	
Total Lead	1	4285424	< 0.010	< 0.010	0.0%	< 0.010	93%	90%	110%	94%	80%	120%	89%	70%	130%	
Total Lithium	1	4285424	< 0.010	< 0.010	0.0%	< 0.010	106%	90%	110%	110%	80%	120%	103%	70%	130%	
Total Magnesium	1	4285424	7.47	7.43	0.5%	< 0.20	98%	90%	110%	100%	80%	120%	96%	70%	130%	
Total Manganese	1	4285424	0.214	0.204	4.8%	< 0.015	107%	90%	110%	108%	80%	120%	107%	70%	130%	
Total Mercury	1	4285424	< 0.0002	< 0.0002	0.0%	< 0.0002	99%	90%	110%	100%	90%	110%	102%	80%	120%	
Total Molybdenum	1	4285424	< 0.010	< 0.010	0.0%	< 0.010	100%	90%	110%	99%	80%	120%	95%	70%	130%	
Total Nickel	1	4285424	< 0.015	< 0.015	0.0%	< 0.015	98%	90%	110%	103%	80%	120%	101%	70%	130%	
Total Potassium	1	4285424	2.17	1.89	13.8%	< 0.20	99%	90%	110%	100%	80%	120%	95%	70%	130%	
Total Selenium	1	4285424	< 0.020	< 0.020	0.0%	< 0.020	100%	90%	110%	101%	80%	120%	99%	70%	130%	
Total Silicon	1	4285424	8.06	7.84	2.8%	< 0.050	104%	90%	110%	109%	80%	120%	109%	70%	130%	
Total Silver	1	4285424	< 0.010	< 0.010	0.0%	< 0.010	101%	90%	110%	110%	80%	120%	117%	70%	130%	
Total Sodium	1	4285424	3.51	3.47	1.1%	< 0.20	98%	90%	110%	98%	80%	120%	94%	70%	130%	
Total Strontium	1	4285424	0.065	0.063	3.1%	< 0.020	99%	90%	110%	104%	80%	120%	102%	70%	130%	
Total Tellurium	1	4285424	< 0.006	< 0.006	0.0%	< 0.006	98%	90%	110%	99%	90%	110%	101%	70%	130%	
Total Thallium	1	4285424	< 0.030	< 0.030	0.0%	< 0.030	97%	90%	110%	90%	80%	120%	88%	70%	130%	
Total Tin	1	4285424	< 0.015	< 0.015	0.0%	< 0.015	109%	90%	110%	109%	80%	120%	105%	70%	130%	

Quality Assurance

CLIENT NAME: TREASURY METALS INC
 PROJECT NO: Goliath

AGAT WORK ORDER: 13B708167
 ATTENTION TO: MAC POTTER

Water Analysis (Continued)

RPT Date: Apr 30, 2013			DUPLICATE				Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Measured Value		Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits		
								Lower	Upper		Lower	Upper		Lower	Upper	
Total Titanium	1	4285424	0.021	0.021	0.0%	< 0.010	105%	90%	110%	105%	80%	120%	105%	70%	130%	
Total Tungsten	1	4285424	< 0.050	< 0.050	0.0%	< 0.050	104%	90%	110%	96%	80%	120%	97%	70%	130%	
Total Uranium	1	4285424	< 0.010	< 0.010	0.0%	< 0.010	110%	90%	110%	102%	80%	120%	100%	70%	130%	
Total Vanadium	1	4285424	< 0.010	< 0.010	0.0%	< 0.010	108%	90%	110%	109%	80%	120%	107%	70%	130%	
Total Zinc	1	4285424	< 0.020	< 0.020	0.0%	< 0.020	100%	90%	110%	105%	80%	120%	102%	70%	130%	

Certified By: _____



Method Summary

CLIENT NAME: TREASURY METALS INC

AGAT WORK ORDER: 13B708167

PROJECT NO: Goliath

ATTENTION TO: MAC POTTER

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Total Oil and Grease in water	VOL 5011	EPA SW-846 3510C & 8015B	GRAVIMETRIC

Method Summary

CLIENT NAME: TREASURY METALS INC

AGAT WORK ORDER: 13B708167

PROJECT NO: Goliath

ATTENTION TO: MAC POTTER

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Water Analysis			
Aluminum	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Antimony	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Arsenic	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Barium	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Beryllium	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Bismuth	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Boron	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Cadmium	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Calcium	MET-93-6105	EPA SW-846 6010C & 200.7	ICP/OES
Chromium	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Cobalt	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Copper	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Iron	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Lead	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Lithium	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Magnesium	MET-93-6105	EPA SW-846 6010C & 200.7	ICP/OES
Manganese	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Mercury	MET-93-6100	EPA SW-846 7470 & 245.1	CVAAS
Molybdenum	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Nickel	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Potassium	MET-93-6105	EPA SW-846 6010C & 200.7	ICP/OES
Selenium	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Silicon	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Silver	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Sodium	MET-93-6105	EPA SW-846 6010C & 200.7	ICP/OES
Strontium	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Tellurium	MET-93-6103	EPA SW 846-6020A & 200.8	ICP-MS
Thallium	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Tin	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Titanium	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Tungsten	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Uranium	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Vanadium	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Zinc	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
pH	INOR-93-6000	SM 4500-H+ B	PC TITRATE
Alkalinity (as CaCO ₃)	INOR-93-6000	SM 2320 B	PC TITRATE
Electrical Conductivity	INOR-93-6000	SM 2510 B	PC TITRATE
Total Hardness (as CaCO ₃)	MET-93-6105	EPA SW-846 6010C & 200.7 & SM 2340 B	ICP/OES
Total Suspended Solids	INOR-93-6028	SM 2540 D	BALANCE
Acidity (as CaCO ₃)		SM 2310 B	TITRATION
Chloride	INOR-93-6004	SM 4110 B	ION CHROMATOGRAPH
Nitrate as N	INOR-93-6004	SM 4110 B	ION CHROMATOGRAPH
Nitrite as N	INOR-93-6004	SM 4110 B	ION CHROMATOGRAPH
Sulphate	INOR-93-6004	SM 4110 B	ION CHROMATOGRAPH
Ammonia as N	INOR-93-6002	AQ2 EPA-103A & SM 4500 NH ₃ -F	AQ-2 DISCRETE ANALYZER
Total Phosphorus	INOR-93-6022	SM 4500-P B&E	SPECTROPHOTOMETER
Cyanide, Free	INOR-93-6052	MOE CN-3015 & SM 4500 CN- I	TECHNICON AUTO ANALYZER
Total Cyanide	INOR-93-6051	MOE 3015 & SM 4500 CN- A,B,C	TECHNICON AUTO ANALYZER

Method Summary

CLIENT NAME: TREASURY METALS INC

AGAT WORK ORDER: 13B708167

PROJECT NO: Goliath

ATTENTION TO: MAC POTTER

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Total Aluminum	MET-93-6103	EPA SW-846 3010A & 6020A	ICP-MS
Total Antimony	MET-93-6103	EPA SW-846 3010A & 6020A	ICP-MS
Total Arsenic	MET-93-6103	EPA SW-846 3010A & 6020A	ICP-MS
Total Barium	MET-93-6103	EPA SW-846 3010A & 6020A	ICP-MS
Total Beryllium	MET-93-6103	EPA SW-846 3010A & 6020A	ICP-MS
Total Bismuth	MET-93-6103	EPA SW-846 3010A & 6020A	ICP-MS
Total Boron	MET-93-6103	EPA SW-846 3010A & 6020A	ICP-MS
Total Cadmium	MET-93-6103	EPA SW-846 3010A & 6020A	ICP-MS
Total Calcium	MET-93-6105	EPA SW-846 3010A & 6010C	ICP/OES
Total Chromium	MET-93-6103	EPA SW-846 3010A & 6020A	ICP-MS
Total Cobalt	MET-93-6103	EPA SW-846 3010A & 6020A	ICP-MS
Total Copper	MET-93-6103	EPA SW-846 3010A & 6020A	ICP-MS
Total Iron	MET-93-6103	EPA SW-846 3010A & 6020A	ICP-MS
Total Lead	MET-93-6103	EPA SW-846 3010A & 6020A	ICP-MS
Total Lithium	MET-93-6103	EPA SW-846 3010A & 6020A	ICP-MS
Total Magnesium	MET-93-6105	EPA SW-846 3010A & 6020A	ICP/OES
Total Manganese	MET-93-6103	EPA SW-846 3010A & 6020A	ICP-MS
Total Mercury	MET-93-6100	EPA SW-846 7470 & 245.1	CVAAS
Total Molybdenum	MET-93-6103	EPA SW-846 3010A & 6020A	ICP-MS
Total Nickel	MET-93-6103	EPA SW-846 3010A & 6020A	ICP-MS
Total Potassium	MET-93-6105	EPA SW-846 3010A & 6020A	ICP/OES
Total Selenium	MET-93-6103	EPA SW-846 3010A & 6020A	ICP-MS
Total Silicon	MET-93-6103	EPA SW-846 3010A & 6010C	ICP-MS
Total Silver	MET-93-6103	EPA SW-846 3010A & 6020A	ICP-MS
Total Sodium	MET-93-6105	EPA SW-846 3010A & 6020A	ICP/OES
Total Strontium	MET-93-6103	EPA SW-846 3010A & 6020A	ICP-MS
Total Tellurium	MET-93-6103	EPA SW-846 3010A & 6020A	ICP-MS
Total Thallium	MET-93-6103	EPA SW-846 3010A & 6020A	ICP-MS
Total Tin	MET-93-6103	EPA SW-846 3010A & 6020A	ICP-MS
Total Titanium	MET-93-6103	EPA SW-846 3010A & 6020A	ICP-MS
Total Tungsten	MET-93-6103	EPA SW-846 3010A & 6020A	ICP-MS
Total Uranium	MET-93-6103	EPA SW-846 3010A & 6020A	ICP-MS
Total Vanadium	MET-93-6103	EPA SW-846 3010A & 6020A	ICP-MS
Total Zinc	MET-93-6103	EPA SW-846 3010A & 6020A	ICP-MS



AGAT
Laboratories

Bay Branch
APRIL 22/13
Candler #1
#3 9.5-8.7-7.6
#4 9.1-9.8-9.7
#5 9.1-9.7-9.1
#6 9.1-9.6-8.8
5062000
www.agatlabs.com · weearth.agatlabs.com

5835 Coopers Avenue
Mississauga, ON
L4Z 1Y2
AGAT WO #: 13B708167
Lab Temperature: *See attached*
Notes: _____

Chain of Custody Record

P: 905.712.5100 · F: 905.712.5122 · TF: 800.856.6261

Client Information

Company: Treasury Metals
Contract: Mac Rother
Address: 899 Tree Nursery Rd.
Phone: 807 938 6961 Fax: 807 938 6499
Project: Goliath PO: _____
AGAT Quotation #: 17860
Please note, if quotation number is not provided, client will be billed full price for analysis.

Regulatory Requirements

Regulation 153/04 (reg. 513 Amend.)
Table _____ Indicate one
 Ind/Corn
 Res/Park
 Agriculture
Soil Texture (check one):
 Coarse Fine
Region _____ Indicate one
 Sanitary
 Storm
 Regulation 339
CCME
Other (specify): _____
 Prov. Water Quality Objectives (PWQO)
 None

Invoice To

Company: _____ Same: Yes No
Contact: _____
Address: _____

Is this a drinking water sample?
(potable water intended for human consumption)
 Yes No
If "Yes", please use the Drinking Water Chain of Custody Form

Is this submission for a Record of Site Condition?
 Yes No

Legend Matrix

GW Ground Water O Oil
SW Surface Water P Paint
SD Sediment S Soil

Report Information - reports to be sent to:

1. Name: Mac Rother
Email: mac@treasurymetals.com
2. Name: _____
Email: _____

Sample Identification	Date Sampled	Time Sampled	Sample Matrix	# of Containers	Site/Sample Information	Comments	Metals and Inorganics	Metal Scan	Hydride Forming Metals	Client Custom Metals	ORPs: <input type="checkbox"/> B-HWS <input checked="" type="checkbox"/> Cl- <input checked="" type="checkbox"/> CN- <input checked="" type="checkbox"/> EC <input type="checkbox"/> FOC <input checked="" type="checkbox"/> Cr+6 <input type="checkbox"/> SAR <input checked="" type="checkbox"/> NO ₃ /NO ₂ <input type="checkbox"/> N. Total <input checked="" type="checkbox"/> Hg <input checked="" type="checkbox"/> pH	Nutrients: <input checked="" type="checkbox"/> TP <input type="checkbox"/> NH ₃ <input type="checkbox"/> TKN <input type="checkbox"/> NO ₃ <input checked="" type="checkbox"/> NO ₂ <input type="checkbox"/> NO ₃ /NO ₂	VOC: <input type="checkbox"/> VOC <input type="checkbox"/> THM <input type="checkbox"/> BTEX	CCME Fractions 1 to 4	ABNs	PAHs	Chlorophenols	PCBs	Organochlorine Pesticides	TCLP Metals/Inorganics	Sewer Use	
Sw9	16/04/13	1 ⁰⁰	SW	10	ALL DISCOVERED		X	X			X	X										
Sw2	17/04/13				METALS/MERCURY PETRO FILTEED																	
Sw1					COC MAY BE IN EQUER PLEASE SEE QUOTE FOR RESPECTIVE ANALYSIS																	
TL3					ANY QUESTIONS PLEASE CALL 807-938 6961 ext 217																	
TL19																						
ICTa																						
SW11	19/04/13																					
SW10																						
SW7																						
SW8																						
Duplicate	17/04/13																					
Travel Field Book	16/04/13																					

Samples Relinquished By (Print Name and Sign): Mac Rother Date/Time: 18/04/13 1:30 PM
Samples Relinquished By (Print Name and Sign): Frank Conci Date/Time: 19/04/13 2:00 PM
Samples Received By (Print Name and Sign): Alvina Date/Time: APR 30 2013
Samples Received By (Print Name and Sign): Frank Conci Date/Time: 9:05 AM
Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT
Page 1 of 1
No: 194675
Date Issued: July 23, 2012

Treasury Metals

5 black coolers

① 6.4/7.3/6.9

② 5.1/5.4/5.6

③ 6.3/6.0/7.1

④ 4.3/5.7/5.5

⑤ 6.6/6.3/6.0.

Alazmi

Apr 23/2013.

9:05am.



TREASURY METALS INC.
ATTN: Mac Potter
P.O. Box 789
Dryden ON P8N 2Z4

Date Received: 31-JAN-13
Report Date: 13-FEB-13 13:59 (MT)
Version: FINAL

Client Phone: 807-938-6961

Certificate of Analysis

Lab Work Order #: L1263671
Project P.O. #: M0210-P0115
Job Reference: JOB M0906A01
C of C Numbers:
Legal Site Desc: GOLIATH PROJECT

Tricia Sampson
Account Manager Supervisor

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 1081 Barton Street, Thunder Bay, ON P7B 5N3 Canada | Phone: +1 807 623 6463 | Fax: +1 807 623 7598
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1263671-1 WATER 29-JAN-13 13:00 SW1	L1263671-2 WATER 29-JAN-13 13:00 SW2	L1263671-3 WATER 29-JAN-13 13:00 SW4	L1263671-4 WATER 29-JAN-13 13:00 SW5	L1263671-5 WATER 29-JAN-13 13:00 SW6
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (EC) (uS/cm)	177	152	113	122	118
	Hardness (as CaCO3) (mg/L)	98	93	60	59	63
	pH (pH)	7.26	7.41	7.52	7.60	7.56
	Total Suspended Solids (mg/L)	<2.0	10.1	<2.0	<2.0	<2.0
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	9.8	9.8	7.6	7.2	6.2
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)	84.8	74.8	45.6	49.1	50.0
	Ammonia, Total (as N) (mg/L)	0.070	0.066	<0.020	<0.020	<0.020
	Chloride (Cl) (mg/L)	0.86	0.78	4.13	4.75	3.64
	Nitrate (as N) (mg/L)	0.047	0.053	0.038	0.055	0.075
	Nitrite (as N) (mg/L)	<0.020	<0.020	<0.020	<0.020	<0.020
	Phosphorus (P)-Total (mg/L)	0.0069	0.0293	0.0087	0.0077	0.0292
	Sulfate (SO4) (mg/L)	2.95	2.31	3.06	3.91	2.46
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)	0.096	0.262	<0.010	0.012	0.846
	Antimony (Sb)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Arsenic (As)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Total (mg/L)	0.0147	0.0178	0.0087	0.0090	0.0162
	Beryllium (Be)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Bismuth (Bi)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Total (mg/L)	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090
	Calcium (Ca)-Total (mg/L)	31.9	26.2	17.9	17.5	19.2
	Chromium (Cr)-Total (mg/L)	<0.00050	0.00092	<0.00050	<0.00050	0.00132
	Cobalt (Co)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Total (mg/L)	<0.0010	0.0025	0.0015	0.0020	0.0036
	Iron (Fe)-Total (mg/L)	1.13	1.24	<0.050	<0.050	0.734
	Lead (Pb)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Lithium (Li)-Total (mg/L)	<0.10	<0.10	<0.10	<0.10	<0.10
	Magnesium (Mg)-Total (mg/L)	4.45	6.80	3.72	3.69	3.70
	Manganese (Mn)-Total (mg/L)	0.193	0.0382	<0.0010	0.0010	0.0105
	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Nickel (Ni)-Total (mg/L)	<0.0010	0.0016	<0.0010	<0.0010	0.0012
Phosphorus (P)-Total (mg/L)	<0.050	0.051	<0.050	<0.050	0.057	
Potassium (K)-Total (mg/L)	1.8	<1.0	1.2	1.2	1.2	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1263671-6 WATER 28-JAN-13 13:00 SW7	L1263671-7 WATER 28-JAN-13 13:00 SW8	L1263671-8 WATER 28-JAN-13 13:00 SW10	L1263671-9 WATER 29-JAN-13 13:00 TL1A	L1263671-10 WATER 29-JAN-13 13:00 TL3
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (EC) (uS/cm)	151	219	150	135	214
	Hardness (as CaCO3) (mg/L)	88	130	86	75	133
	pH (pH)	7.58	7.66	7.58	6.77	7.63
	Total Suspended Solids (mg/L)	4.5	4.4	<2.0	12.0	6.3
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	7.0	6.8	8.2	22.4	7.8
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)	66.6	111	75.2	56.4	102
	Ammonia, Total (as N) (mg/L)	0.065	0.270	0.034	0.552	0.320
	Chloride (Cl) (mg/L)	0.70	0.38	0.38	3.10	2.75
	Nitrate (as N) (mg/L)	0.533	0.177	0.066	0.056	0.159
	Nitrite (as N) (mg/L)	<0.020	<0.020	<0.020	<0.020	0.037
	Phosphorus (P)-Total (mg/L)	0.0106	<0.0050	<0.0050	0.0636	0.0529
	Sulfate (SO4) (mg/L)	8.35	1.69	2.56	5.58	3.29
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)	0.057	0.034	0.030	0.428	0.470
	Antimony (Sb)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Arsenic (As)-Total (mg/L)	<0.0010	<0.0010	<0.0010	0.0014	<0.0010
	Barium (Ba)-Total (mg/L)	0.0137	0.0410	0.0182	0.0258	0.0187
	Beryllium (Be)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Bismuth (Bi)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Total (mg/L)	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090
	Calcium (Ca)-Total (mg/L)	27.0	45.5	28.1	21.5	37.3
	Chromium (Cr)-Total (mg/L)	<0.00050	<0.00050	0.00062	0.00123	0.00123
	Cobalt (Co)-Total (mg/L)	<0.00050	<0.00050	<0.00050	0.00723	0.00071
	Copper (Cu)-Total (mg/L)	0.0015	0.0012	0.0014	0.0013	0.0018
	Iron (Fe)-Total (mg/L)	0.939	1.42	1.13	10.4	6.47
	Lead (Pb)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Lithium (Li)-Total (mg/L)	<0.10	<0.10	<0.10	<0.10	<0.10
	Magnesium (Mg)-Total (mg/L)	5.04	4.06	3.91	5.13	9.74
	Manganese (Mn)-Total (mg/L)	0.0405	0.829	0.173	2.14	0.254
	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Nickel (Ni)-Total (mg/L)	<0.0010	<0.0010	0.0011	0.0015	0.0012
	Phosphorus (P)-Total (mg/L)	<0.050	<0.050	<0.050	0.090	0.085
	Potassium (K)-Total (mg/L)	<1.0	<1.0	<1.0	<1.0	1.8

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1263671-11	L1263671-12	L1263671-13	L1263671-14
	Description	WATER	WATER	WATER	WATER
	Sampled Date	28-JAN-13	29-JAN-13	29-JAN-13	29-JAN-13
	Sampled Time	13:00	13:00	13:00	13:00
	Client ID	JCTA	TRAVEL	FIELD	DUPLICATE
Grouping	Analyte				
WATER					
Physical Tests	Conductivity (EC) (uS/cm)	191	<3.0	<3.0	136
	Hardness (as CaCO3) (mg/L)	108	<10	<10	71
	pH (pH)	7.86	5.53	5.52	6.83
	Total Suspended Solids (mg/L)		<2.0	<2.0	11.7
Anions and Nutrients	Acidity (as CaCO3) (mg/L)		<2.0	<2.0	21.0
	Alkalinity, Total (as CaCO3) (mg/L CaCO3)		<5.0	<5.0	57.2
	Ammonia, Total (as N) (mg/L)		<0.020	<0.020	0.545
	Chloride (Cl) (mg/L)		<0.10	<0.10	2.68
	Nitrate (as N) (mg/L)		<0.030	<0.030	<0.030
	Nitrite (as N) (mg/L)		<0.020	<0.020	<0.020
	Phosphorus (P)-Total (mg/L)		<0.0050	<0.0050	0.0574
	Sulfate (SO4) (mg/L)		<0.30	<0.30	4.57
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)	0.529	<0.010	<0.010	0.453
	Antimony (Sb)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050
	Arsenic (As)-Total (mg/L)	0.0011	<0.0010	<0.0010	0.0013
	Barium (Ba)-Total (mg/L)	0.0262	<0.0020	<0.0020	0.0247
	Beryllium (Be)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050
	Bismuth (Bi)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Total (mg/L)	<0.000090	<0.000090	<0.000090	<0.000090
	Calcium (Ca)-Total (mg/L)	30.4	<0.50	<0.50	20.3
	Chromium (Cr)-Total (mg/L)	0.00141	<0.00050	<0.00050	0.00129
	Cobalt (Co)-Total (mg/L)	0.00314	<0.00050	<0.00050	0.00691
	Copper (Cu)-Total (mg/L)	0.0014	<0.0010	<0.0010	0.0016
	Iron (Fe)-Total (mg/L)	9.11	<0.050	<0.050	9.81
	Lead (Pb)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050
	Lithium (Li)-Total (mg/L)	<0.10	<0.10	<0.10	<0.10
	Magnesium (Mg)-Total (mg/L)	7.75	<0.50	<0.50	4.95
	Manganese (Mn)-Total (mg/L)	2.08	<0.0010	<0.0010	2.02
	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050
	Nickel (Ni)-Total (mg/L)	0.0014	<0.0010	<0.0010	0.0015
Phosphorus (P)-Total (mg/L)	0.101	<0.050	<0.050	0.091	
Potassium (K)-Total (mg/L)	1.5	<1.0	<1.0	<1.0	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1263671-1	L1263671-2	L1263671-3	L1263671-4	L1263671-5
		Description	WATER	WATER	WATER	WATER	WATER
		Sampled Date	29-JAN-13	29-JAN-13	29-JAN-13	29-JAN-13	29-JAN-13
		Sampled Time	13:00	13:00	13:00	13:00	13:00
		Client ID	SW1	SW2	SW4	SW5	SW6
Grouping	Analyte						
WATER							
Total Metals	Selenium (Se)-Total (mg/L)		<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
	Silicon (Si)-Total (mg/L)		7.9	4.8	1.5	1.4	2.4
	Silver (Ag)-Total (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Total (mg/L)		2.57	1.82	3.98	3.93	3.75
	Strontium (Sr)-Total (mg/L)		0.0554	0.0524	0.0340	0.0342	0.0345
	Thallium (Tl)-Total (mg/L)		<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Total (mg/L)		0.0043	0.0097	<0.0020	<0.0020	0.0269
	Tungsten (W)-Total (mg/L)		<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Vanadium (V)-Total (mg/L)		<0.00050	0.00108	<0.00050	<0.00050	0.00152
	Zinc (Zn)-Total (mg/L)		<0.0030	0.0076	<0.0030	0.0041	<0.0030
	Zirconium (Zr)-Total (mg/L)		<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
Dissolved Metals	Dissolved Metals Filtration Location		FIELD	FIELD	LAB	LAB	LAB
	Aluminum (Al)-Dissolved (mg/L)		0.012	0.113	<0.010	<0.010	0.125
	Antimony (Sb)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Arsenic (As)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Barium (Ba)-Dissolved (mg/L)		0.0126	0.0140	0.0077	0.0076	0.0100
	Beryllium (Be)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Bismuth (Bi)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Dissolved (mg/L)		<0.010	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Dissolved (mg/L)		<0.000090	<0.000090	<0.000090	<0.000090	<0.000090
	Calcium (Ca)-Dissolved (mg/L)		29.7	24.8	15.5	15.8	16.1
	Chromium (Cr)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Cobalt (Co)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Copper (Cu)-Dissolved (mg/L)		<0.0010	0.0017	<0.0010	0.0010	0.0018
	Iron (Fe)-Dissolved (mg/L)		0.333	0.663	<0.050	<0.050	0.127
	Lead (Pb)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Lithium (Li)-Dissolved (mg/L)		<0.10	<0.10	<0.10	<0.10	<0.10
	Magnesium (Mg)-Dissolved (mg/L)		4.13	6.43	3.55	3.65	3.32
	Manganese (Mn)-Dissolved (mg/L)		0.161	0.0258	<0.0010	<0.0010	0.0038
	Mercury (Hg)-Dissolved (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Nickel (Ni)-Dissolved (mg/L)		<0.0010	0.0014	<0.0010	<0.0010	<0.0010
	Phosphorus (P)-Dissolved (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)		1.6	<1.0	1.0	1.1	<1.0
	Selenium (Se)-Dissolved (mg/L)		<0.00040	<0.00040	<0.00040	<0.00040	<0.00040

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1263671-6	L1263671-7	L1263671-8	L1263671-9	L1263671-10
		Description	WATER	WATER	WATER	WATER	WATER
		Sampled Date	28-JAN-13	28-JAN-13	28-JAN-13	29-JAN-13	29-JAN-13
		Sampled Time	13:00	13:00	13:00	13:00	13:00
		Client ID	SW7	SW8	SW10	TL1A	TL3
Grouping	Analyte						
WATER							
Total Metals	Selenium (Se)-Total (mg/L)		<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
	Silicon (Si)-Total (mg/L)		7.5	5.9	7.7	8.7	8.2
	Silver (Ag)-Total (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Total (mg/L)		2.27	2.10	2.15	2.61	4.49
	Strontium (Sr)-Total (mg/L)		0.0486	0.0627	0.0436	0.0512	0.0809
	Thallium (Tl)-Total (mg/L)		<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Total (mg/L)		0.0025	<0.0020	<0.0020	0.0147	0.0197
	Tungsten (W)-Total (mg/L)		<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Vanadium (V)-Total (mg/L)		0.00075	<0.00050	0.00091	0.00362	0.00264
	Zinc (Zn)-Total (mg/L)		0.0034	<0.0030	<0.0030	0.0045	0.0056
	Zirconium (Zr)-Total (mg/L)		<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
Dissolved Metals	Dissolved Metals Filtration Location		FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)		0.022	<0.010	0.015	0.176	0.047
	Antimony (Sb)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Arsenic (As)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	0.0011	<0.0010
	Barium (Ba)-Dissolved (mg/L)		0.0097	0.0355	0.0116	0.0200	0.0122
	Beryllium (Be)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Bismuth (Bi)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Dissolved (mg/L)		<0.010	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Dissolved (mg/L)		<0.000090	<0.000090	<0.000090	<0.000090	<0.000090
	Calcium (Ca)-Dissolved (mg/L)		24.6	40.7	26.2	19.5	33.7
	Chromium (Cr)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Cobalt (Co)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	0.00593	<0.00050
	Copper (Cu)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	0.0010
	Iron (Fe)-Dissolved (mg/L)		0.459	0.156	0.502	6.67	3.18
	Lead (Pb)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Lithium (Li)-Dissolved (mg/L)		<0.10	<0.10	<0.10	<0.10	<0.10
	Magnesium (Mg)-Dissolved (mg/L)		4.52	3.69	3.77	4.60	8.67
	Manganese (Mn)-Dissolved (mg/L)		0.0317	0.675	0.144	1.76	0.197
	Mercury (Hg)-Dissolved (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Nickel (Ni)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	0.0012	<0.0010
	Phosphorus (P)-Dissolved (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)		<1.0	<1.0	<1.0	<1.0	1.6
	Selenium (Se)-Dissolved (mg/L)		<0.00040	<0.00040	<0.00040	<0.00040	<0.00040

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1263671-11	L1263671-12	L1263671-13	L1263671-14
		Description	WATER	WATER	WATER	WATER
		Sampled Date	28-JAN-13	29-JAN-13	29-JAN-13	29-JAN-13
		Sampled Time	13:00	13:00	13:00	13:00
		Client ID	JCTA	TRAVEL	FIELD	DUPLICATE
Grouping	Analyte					
WATER						
Total Metals	Selenium (Se)-Total (mg/L)		<0.00040	<0.00040	<0.00040	<0.00040
	Silicon (Si)-Total (mg/L)		8.2	<1.0	<1.0	8.3
	Silver (Ag)-Total (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Total (mg/L)		3.52	<0.50	<0.50	2.49
	Strontium (Sr)-Total (mg/L)		0.0678	<0.0010	<0.0010	0.0484
	Thallium (Tl)-Total (mg/L)		<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Total (mg/L)		0.0217	<0.0020	<0.0020	0.0164
	Tungsten (W)-Total (mg/L)		<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Total (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010
	Vanadium (V)-Total (mg/L)		0.00320	<0.00050	<0.00050	0.00340
	Zinc (Zn)-Total (mg/L)		0.0040	<0.0030	<0.0030	0.0051
	Zirconium (Zr)-Total (mg/L)		<0.0040	<0.0040	<0.0040	<0.0040
Dissolved Metals	Dissolved Metals Filtration Location		FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)		0.077	<0.010	<0.010	0.183
	Antimony (Sb)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050
	Arsenic (As)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	0.0011
	Barium (Ba)-Dissolved (mg/L)		0.0180	<0.0020	<0.0020	0.0199
	Beryllium (Be)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050
	Bismuth (Bi)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010
	Boron (B)-Dissolved (mg/L)		<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Dissolved (mg/L)		<0.000090	<0.000090	<0.000090	<0.000090
	Calcium (Ca)-Dissolved (mg/L)		27.4	<0.50	<0.50	19.2
	Chromium (Cr)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050
	Cobalt (Co)-Dissolved (mg/L)		0.00225	<0.00050	<0.00050	0.00601
	Copper (Cu)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	0.0011
	Iron (Fe)-Dissolved (mg/L)		4.48	<0.050	<0.050	6.64
	Lead (Pb)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050
	Lithium (Li)-Dissolved (mg/L)		<0.10	<0.10	<0.10	<0.10
	Magnesium (Mg)-Dissolved (mg/L)		6.94	<0.50	<0.50	4.65
	Manganese (Mn)-Dissolved (mg/L)		1.69	<0.0010	<0.0010	1.76
	Mercury (Hg)-Dissolved (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050
	Nickel (Ni)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	0.0012
	Phosphorus (P)-Dissolved (mg/L)		<0.050	<0.050	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)		1.3	<1.0	<1.0	<1.0
	Selenium (Se)-Dissolved (mg/L)		<0.00040	<0.00040	<0.00040	<0.00040

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1263671-1	L1263671-2	L1263671-3	L1263671-4	L1263671-5
		Description	WATER	WATER	WATER	WATER	WATER
		Sampled Date	29-JAN-13	29-JAN-13	29-JAN-13	29-JAN-13	29-JAN-13
		Sampled Time	13:00	13:00	13:00	13:00	13:00
		Client ID	SW1	SW2	SW4	SW5	SW6
Grouping	Analyte						
WATER							
Dissolved Metals	Silicon (Si)-Dissolved (mg/L)		6.8	4.5	1.2	1.2	<1.0
	Silver (Ag)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Dissolved (mg/L)		2.34	1.71	3.66	3.83	3.29
	Strontium (Sr)-Dissolved (mg/L)		0.0461	0.0430	0.0276	0.0309	0.0271
	Thallium (Tl)-Dissolved (mg/L)		<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Dissolved (mg/L)		<0.0020	0.0036	<0.0020	<0.0020	<0.0020
	Tungsten (W)-Dissolved (mg/L)		<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Vanadium (V)-Dissolved (mg/L)		<0.00050	0.00060	<0.00050	<0.00050	0.00062
	Zinc (Zn)-Dissolved (mg/L)		<0.0030	0.0076	<0.0030	0.0033	<0.0030
	Zirconium (Zr)-Dissolved (mg/L)		<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
Aggregate Organics	Oil and Grease, Total (mg/L)		<2.0	14.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1263671-6	L1263671-7	L1263671-8	L1263671-9	L1263671-10
		Description	WATER	WATER	WATER	WATER	WATER
		Sampled Date	28-JAN-13	28-JAN-13	28-JAN-13	29-JAN-13	29-JAN-13
		Sampled Time	13:00	13:00	13:00	13:00	13:00
		Client ID	SW7	SW8	SW10	TL1A	TL3
Grouping	Analyte						
WATER							
Dissolved Metals	Silicon (Si)-Dissolved (mg/L)		6.5	5.2	7.2	7.4	6.9
	Silver (Ag)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Dissolved (mg/L)		1.95	1.89	2.01	2.34	3.97
	Strontium (Sr)-Dissolved (mg/L)		0.0400	0.0524	0.0375	0.0407	0.0632
	Thallium (Tl)-Dissolved (mg/L)		<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Dissolved (mg/L)		<0.0020	<0.0020	<0.0020	0.0059	0.0023
	Tungsten (W)-Dissolved (mg/L)		<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Vanadium (V)-Dissolved (mg/L)		<0.00050	<0.00050	0.00064	0.00197	0.00116
	Zinc (Zn)-Dissolved (mg/L)		<0.0030	0.0047	<0.0030	0.0084	0.0058
	Zirconium (Zr)-Dissolved (mg/L)		<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
Aggregate Organics	Oil and Grease, Total (mg/L)		<2.0	<2.0		<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1263671-11	L1263671-12	L1263671-13	L1263671-14
		Description	WATER	WATER	WATER	WATER
		Sampled Date	28-JAN-13	29-JAN-13	29-JAN-13	29-JAN-13
		Sampled Time	13:00	13:00	13:00	13:00
		Client ID	JCTA	TRAVEL	FIELD	DUPLICATE
Grouping	Analyte					
WATER						
Dissolved Metals	Silicon (Si)-Dissolved (mg/L)		6.5	<1.0	<1.0	7.5
	Silver (Ag)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010
	Sodium (Na)-Dissolved (mg/L)		3.02	<0.50	<0.50	2.35
	Strontium (Sr)-Dissolved (mg/L)		0.0534	<0.0010	<0.0010	0.0410
	Thallium (Tl)-Dissolved (mg/L)		<0.00030	<0.00030	<0.00030	<0.00030
	Tin (Sn)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010
	Titanium (Ti)-Dissolved (mg/L)		0.0032	<0.0020	<0.0020	0.0059
	Tungsten (W)-Dissolved (mg/L)		<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010
	Vanadium (V)-Dissolved (mg/L)		0.00141	<0.00050	<0.00050	0.00199
	Zinc (Zn)-Dissolved (mg/L)		<0.0030	<0.0030	<0.0030	0.0070
	Zirconium (Zr)-Dissolved (mg/L)		<0.0040	<0.0040	<0.0040	<0.0040
Aggregate Organics	Oil and Grease, Total (mg/L)		<2.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

Qualifiers for Individual Samples Listed:

Sample Number	Client Sample ID	Qualifier	Description
L1263671-3	SW4	SFPL	Sample was Filtered and Preserved at the laboratory - Dissolved Metals, Dissolved Mercury
L1263671-4	SW5	SFPL	Sample was Filtered and Preserved at the laboratory - Dissolved Metals, Dissolved Mercury
L1263671-5	SW6	SFPL	Sample was Filtered and Preserved at the laboratory - Dissolved Metals, Dissolved Mercury

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Duplicate	Sodium (Na)-Total	DLM	L1263671-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Total	MS-B	L1263671-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Total	MS-B	L1263671-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Total	MS-B	L1263671-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Aluminum (Al)-Total	MS-B	L1263671-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Total	MS-B	L1263671-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Total	MS-B	L1263671-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Silicon (Si)-Total	MS-B	L1263671-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1263671-3, -4, -5
Matrix Spike	Silicon (Si)-Dissolved	MS-B	L1263671-3, -4, -5
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1263671-3, -4, -5
Matrix Spike	Silicon (Si)-Dissolved	MS-B	L1263671-3, -4, -5
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1263671-1, -10, -11, -12, -13, -14, -2, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1263671-1, -10, -11, -12, -13, -14, -2, -6, -7, -8, -9
Matrix Spike	Silicon (Si)-Dissolved	MS-B	L1263671-1, -10, -11, -12, -13, -14, -2, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1263671-1, -10, -11, -12, -13, -14, -2, -6, -7, -8, -9
Matrix Spike	Nitrate (as N)	MS-B	L1263671-1, -10, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9

Qualifiers for Individual Parameters Listed:

Qualifier	Description
DLM	Detection Limit Adjusted For Sample Matrix Effects
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
ACIDITY-TB	Water	Acidity (as CaCO ₃)	APHA 2310 B-POTENTIOMETRIC TITRATION
Aqueous matrices are analyzed by potentiometry. Acidity reported includes acidity caused by hydrolyzable metals present in the sample.			
ALK-TOT-CAP-TB	Water	Alkalinity, Total (as CaCO ₃)	APHA 2320 B-Auto-Pot. Titration
CL-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.			
CN-FREE-CFA-VA	Water	Free Cyanide in water by CFA	ASTM 7237
This analysis is carried out using procedures adapted from ASTM Method 7237 "Free Cyanide with Flow Injection Analysis (FIA) Utilizing Gas Diffusion Separation and Amperometric Detection". Free cyanide is determined by in-line gas diffusion at pH 6 with final determination by colourimetric analysis.			
CN-TOT-WT	Water	Cyanide, Total	APHA 4500CN C E-STRONG ACID DIST COLORIM
Total cyanide is determined by the combination of UV digestion and distillation. Cyanide is converted to cyanogen chloride by reacting with chloramine-T, the cyanogen chloride then reacts with a combination of barbituric acid and isonicotinic acid to form a highly colored complex.			
When using this method, high levels of thiocyanate in samples can cause false positives at ~1-2% of the thiocyanate concentration. For samples with detectable cyanide analyzed by this method, ALS recommends analysis for thiocyanate to check for this potential interference			
CN-WAD-WT	Water	Cyanide, Weak Acid Diss	APHA 4500CN I-Weak acid Dist Colorimet

Reference Information

Weak acid dissociable cyanide (WAD) is determined by undergoing a distillation procedure. Cyanide is converted to cyanogen chloride by reacting with chloramine-T, the cyanogen chloride then reacts with a combination of barbituric acid and isonicotinic acid to form a highly colored complex.

EC-CAP-TB Water Conductivity (EC) APHA 2510 B-ELECTRODE

This analysis is carried out using procedures adapted from APHA Method 2510 "Conductivity". Conductivity is determined using a conductivity electrode.

ETL-HARDNESS-CALC-WT Water Hardness (as CaCO₃) APHA 2340 B

HG-D-CVAF-TB Water Dissolved Mercury in Water by CVAFS Modified from EPA1631 E

HG-T-CVAF-TB Water Total Mercury in Water by CVAFS Modified from EPA1631 E

MET-D-MS-WT Water Dissolved Metals in Water by ICPMS EPA 200.8

The metal constituents of a non-acidified sample that pass through a membrane filter prior to ICP/MS analysis.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

MET-T-MS-WT Water Total Metals in Water by ICPMS EPA 200.8

The concentration of metals is determined on an unfiltered aqueous sample. The sample is digested with nitric acid and then analyzed directly by ICP-MS.

NH3-COL-TB Water Ammonia by Discrete Analyzer APHA 4500-NH3 G. (modified)

Ammonia in aqueous matrices is analyzed using discrete analyzer with colourimetric detection.

NO2-IC-TB Water Anions by Ion Chromatography EPA 300.1 (modified)

Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.

NO3-IC-TB Water Anions by Ion Chromatography EPA 300.1 (modified)

Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.

OGG-TOT-WT Water Oil and Grease, Total APHA 5520 B

Sample is extracted with hexane, extract is then evaporated and the residue is weighed to determine total oil and grease.

P-T-COL-TB Water Total Phosphorus by Discrete Analyzer APHA 4500-P B, F, G (modified)

Phosphorus in aqueous matrices is analyzed using discrete Analyzer with colourimetric detection.

PH-CAP-TB Water pH APHA 4500-H-ELECTRODE

SO4-IC-TB Water Anions by Ion Chromatography EPA 300.1 (modified)

Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.

SOLIDS-TOTSUS-TB Water Total Suspended Solids APHA 2540 D (modified)

Aqueous matrices are analyzed using gravimetry

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
TB	ALS ENVIRONMENTAL - THUNDER BAY, ONTARIO, CANADA
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

Reference Information

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

mg/kg - milligrams per kilogram based on dry weight of sample.

mg/kg wwt - milligrams per kilogram based on wet weight of sample.

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.

mg/L - milligrams per litre.

< - Less than.

D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L1263671

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Client: TREASURY METALS INC.
 P.O. Box 789
 Dryden ON P8N 2Z4
 Contact: Mac Potter

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
ACIDITY-TB								
	Water							
Batch	R2518618							
WG1621691-2	LCS							
Acidity (as CaCO3)			105.2		%		85-115	01-FEB-13
WG1621691-1	MB							
Acidity (as CaCO3)			<2.0		mg/L		2	01-FEB-13
ALK-TOT-CAP-TB								
	Water							
Batch	R2520149							
WG1622299-2	LCS							
Alkalinity, Total (as CaCO3)			88.7		%		85-115	01-FEB-13
WG1622299-5	LCS							
Alkalinity, Total (as CaCO3)			88.2		%		85-115	01-FEB-13
WG1622299-8	LCS							
Alkalinity, Total (as CaCO3)			88.8		%		85-115	01-FEB-13
WG1622299-1	MB							
Alkalinity, Total (as CaCO3)			<5.0		mg/L CaCO3		5	01-FEB-13
WG1622299-4	MB							
Alkalinity, Total (as CaCO3)			<5.0		mg/L CaCO3		5	01-FEB-13
WG1622299-7	MB							
Alkalinity, Total (as CaCO3)			<5.0		mg/L CaCO3		5	01-FEB-13
CL-IC-TB								
	Water							
Batch	R2521730							
WG1623351-10	LCS							
Chloride (Cl)			100.8		%		90-110	05-FEB-13
WG1623351-2	LCS							
Chloride (Cl)			98.5		%		90-110	05-FEB-13
WG1623351-6	LCS							
Chloride (Cl)			98.6		%		90-110	05-FEB-13
WG1623351-1	MB							
Chloride (Cl)			<0.10		mg/L		0.1	05-FEB-13
WG1623351-5	MB							
Chloride (Cl)			<0.10		mg/L		0.1	05-FEB-13
WG1623351-9	MB							
Chloride (Cl)			<0.10		mg/L		0.1	05-FEB-13
WG1623351-4	MS	L1262741-1						
Chloride (Cl)			103.4		%		75-125	05-FEB-13
WG1623351-8	MS	L1263367-16						
Chloride (Cl)			91.8		%		75-125	05-FEB-13
CN-FREE-CFA-VA	Water							



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CN-FREE-CFA-VA								
	Water							
Batch	R2525657							
WG1624290-13	DUP	L1263671-5						
Cyanide, Free		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	07-FEB-13
WG1624290-12	LCS							
Cyanide, Free			102.3		%		80-120	07-FEB-13
WG1624290-15	LCS							
Cyanide, Free			103.3		%		80-120	07-FEB-13
WG1624290-2	LCS							
Cyanide, Free			102.2		%		80-120	07-FEB-13
WG1624290-4	LCS							
Cyanide, Free			102.4		%		80-120	07-FEB-13
WG1624290-8	LCS							
Cyanide, Free			102.0		%		80-120	07-FEB-13
WG1624290-1	MB							
Cyanide, Free			<0.0050		mg/L		0.005	07-FEB-13
WG1624290-11	MB							
Cyanide, Free			<0.0050		mg/L		0.005	07-FEB-13
WG1624290-14	MB							
Cyanide, Free			<0.0050		mg/L		0.005	07-FEB-13
WG1624290-3	MB							
Cyanide, Free			<0.0050		mg/L		0.005	07-FEB-13
WG1624290-7	MB							
Cyanide, Free			<0.0050		mg/L		0.005	07-FEB-13
WG1624290-10	MS	L1263843-1						
Cyanide, Free			98.5		%		70-130	07-FEB-13
CN-TOT-WT								
	Water							
Batch	R2529186							
WG1626449-4	CVS							
Cyanide, Total			101.0		%		85-115	13-FEB-13
WG1626449-2	DUP	L1263671-1						
Cyanide, Total		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	13-FEB-13
WG1626449-3	LCS							
Cyanide, Total			89.3		%		80-120	13-FEB-13
WG1626449-1	MB							
Cyanide, Total			<0.0020		mg/L		0.002	13-FEB-13
WG1626449-5	MS	L1263671-1						
Cyanide, Total			94.0		%		70-130	13-FEB-13
CN-WAD-WT	Water							



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CN-WAD-WT								
Water								
Batch	R2529086							
WG1626198-4	CVS							
Cyanide, Weak Acid Diss			95.5		%		85-115	12-FEB-13
WG1626198-2	DUP	L1263671-1						
Cyanide, Weak Acid Diss		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	12-FEB-13
WG1626198-3	LCS							
Cyanide, Weak Acid Diss			100.8		%		80-120	12-FEB-13
WG1626198-1	MB							
Cyanide, Weak Acid Diss			<0.0020		mg/L		0.002	12-FEB-13
EC-CAP-TB								
Water								
Batch	R2520149							
WG1622299-2	LCS							
Conductivity (EC)			99.6		%		90-110	01-FEB-13
WG1622299-5	LCS							
Conductivity (EC)			102.2		%		90-110	01-FEB-13
WG1622299-8	LCS							
Conductivity (EC)			102.0		%		90-110	01-FEB-13
WG1622299-1	MB							
Conductivity (EC)			<3.0		uS/cm		3	01-FEB-13
WG1622299-4	MB							
Conductivity (EC)			<3.0		uS/cm		3	01-FEB-13
WG1622299-7	MB							
Conductivity (EC)			<3.0		uS/cm		3	01-FEB-13
HG-D-CVAF-TB								
Water								
Batch	R2518450							
WG1621576-3	DUP	L1263671-4						
Mercury (Hg)-Dissolved		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	01-FEB-13
WG1621576-7	DUP	L1263671-7						
Mercury (Hg)-Dissolved		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	01-FEB-13
WG1621576-2	LCS							
Mercury (Hg)-Dissolved			98.5		%		80-120	01-FEB-13
WG1621576-6	LCS							
Mercury (Hg)-Dissolved			96.4		%		80-120	01-FEB-13
WG1621576-1	MB							
Mercury (Hg)-Dissolved			<0.000010		mg/L		0.00001	01-FEB-13
WG1621576-5	MB							
Mercury (Hg)-Dissolved			<0.000010		mg/L		0.00001	01-FEB-13
WG1621576-4	MS	L1263671-4						
Mercury (Hg)-Dissolved			87.9		%		70-130	01-FEB-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-D-CVAF-TB								
Batch	R2518450							
WG1621576-8 MS		L1263671-7						
Mercury (Hg)-Dissolved			89.6		%		70-130	01-FEB-13
HG-T-CVAF-TB								
Batch	R2518444							
WG1621564-3 DUP		L1263671-8						
Mercury (Hg)-Total		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	01-FEB-13
WG1621564-5 DUP		L1263671-10						
Mercury (Hg)-Total		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	01-FEB-13
WG1621564-2 LCS								
Mercury (Hg)-Total			98.5		%		80-120	01-FEB-13
WG1621564-1 MB								
Mercury (Hg)-Total			<0.000010		mg/L		0.00001	01-FEB-13
WG1621564-4 MS		L1263671-8						
Mercury (Hg)-Total			98.6		%		70-130	01-FEB-13
WG1621564-6 MS		L1263671-10						
Mercury (Hg)-Total			101.8		%		70-130	01-FEB-13
MET-D-MS-WT								
Batch	R2520152							
WG1622370-10 CVS								
Aluminum (Al)-Dissolved			97.0		%		80-120	06-FEB-13
Antimony (Sb)-Dissolved			102.7		%		80-120	06-FEB-13
Arsenic (As)-Dissolved			104.9		%		80-120	06-FEB-13
Barium (Ba)-Dissolved			103.8		%		80-120	06-FEB-13
Beryllium (Be)-Dissolved			100.7		%		80-120	06-FEB-13
Bismuth (Bi)-Dissolved			101.1		%		80-120	06-FEB-13
Boron (B)-Dissolved			94.2		%		80-120	06-FEB-13
Cadmium (Cd)-Dissolved			103.2		%		80-120	06-FEB-13
Calcium (Ca)-Dissolved			103.7		%		80-120	06-FEB-13
Chromium (Cr)-Dissolved			97.5		%		80-120	06-FEB-13
Cobalt (Co)-Dissolved			102.1		%		80-120	06-FEB-13
Copper (Cu)-Dissolved			101.4		%		80-120	06-FEB-13
Iron (Fe)-Dissolved			101.5		%		80-120	06-FEB-13
Lead (Pb)-Dissolved			102.2		%		80-120	06-FEB-13
Lithium (Li)-Dissolved			99.5		%		80-120	06-FEB-13
Magnesium (Mg)-Dissolved			102.2		%		80-120	06-FEB-13
Manganese (Mn)-Dissolved			96.9		%		80-120	06-FEB-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-WT		Water						
Batch	R2520152							
WG1622370-10 CVS								
Molybdenum (Mo)-Dissolved			101.0		%		80-120	06-FEB-13
Nickel (Ni)-Dissolved			99.3		%		80-120	06-FEB-13
Phosphorus (P)-Dissolved			95.0		%		80-120	06-FEB-13
Potassium (K)-Dissolved			101.1		%		80-120	06-FEB-13
Selenium (Se)-Dissolved			98.0		%		80-120	06-FEB-13
Silicon (Si)-Dissolved			95.6		%		80-120	06-FEB-13
Silver (Ag)-Dissolved			107.1		%		80-120	06-FEB-13
Sodium (Na)-Dissolved			100.6		%		80-120	06-FEB-13
Strontium (Sr)-Dissolved			101.6		%		80-120	06-FEB-13
Thallium (Tl)-Dissolved			102.7		%		80-120	06-FEB-13
Tin (Sn)-Dissolved			101.6		%		80-120	06-FEB-13
Titanium (Ti)-Dissolved			100.1		%		80-120	06-FEB-13
Tungsten (W)-Dissolved			98.5		%		80-120	06-FEB-13
Uranium (U)-Dissolved			103.3		%		80-120	06-FEB-13
Vanadium (V)-Dissolved			98.1		%		80-120	06-FEB-13
Zinc (Zn)-Dissolved			103.2		%		80-120	06-FEB-13
Zirconium (Zr)-Dissolved			99.0		%		80-120	06-FEB-13
WG1622370-8 CVS								
Aluminum (Al)-Dissolved			102.0		%		80-120	05-FEB-13
Antimony (Sb)-Dissolved			102.6		%		80-120	05-FEB-13
Arsenic (As)-Dissolved			107.1		%		80-120	05-FEB-13
Barium (Ba)-Dissolved			104.8		%		80-120	05-FEB-13
Beryllium (Be)-Dissolved			106.5		%		80-120	05-FEB-13
Bismuth (Bi)-Dissolved			103.9		%		80-120	05-FEB-13
Boron (B)-Dissolved			99.95		%		80-120	05-FEB-13
Cadmium (Cd)-Dissolved			105.3		%		80-120	05-FEB-13
Calcium (Ca)-Dissolved			100.8		%		80-120	05-FEB-13
Chromium (Cr)-Dissolved			100.1		%		80-120	05-FEB-13
Cobalt (Co)-Dissolved			102.6		%		80-120	05-FEB-13
Copper (Cu)-Dissolved			102.5		%		80-120	05-FEB-13
Iron (Fe)-Dissolved			100.4		%		80-120	05-FEB-13
Lead (Pb)-Dissolved			104.3		%		80-120	05-FEB-13
Lithium (Li)-Dissolved			104.8		%		80-120	05-FEB-13
Magnesium (Mg)-Dissolved			98.6		%		80-120	05-FEB-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-WT		Water						
Batch	R2520152							
WG1622370-8		CVS						
Manganese (Mn)-Dissolved			100.4		%		80-120	05-FEB-13
Molybdenum (Mo)-Dissolved			101.7		%		80-120	05-FEB-13
Nickel (Ni)-Dissolved			101.1		%		80-120	05-FEB-13
Phosphorus (P)-Dissolved			98.4		%		80-120	05-FEB-13
Potassium (K)-Dissolved			98.4		%		80-120	05-FEB-13
Selenium (Se)-Dissolved			100.1		%		80-120	05-FEB-13
Silicon (Si)-Dissolved			98.0		%		80-120	05-FEB-13
Silver (Ag)-Dissolved			108.3		%		80-120	05-FEB-13
Sodium (Na)-Dissolved			98.7		%		80-120	05-FEB-13
Strontium (Sr)-Dissolved			101.9		%		80-120	05-FEB-13
Thallium (Tl)-Dissolved			105.7		%		80-120	05-FEB-13
Tin (Sn)-Dissolved			102.1		%		80-120	05-FEB-13
Titanium (Ti)-Dissolved			103.7		%		80-120	05-FEB-13
Tungsten (W)-Dissolved			101.0		%		80-120	05-FEB-13
Uranium (U)-Dissolved			104.3		%		80-120	05-FEB-13
Vanadium (V)-Dissolved			100.7		%		80-120	05-FEB-13
Zinc (Zn)-Dissolved			104.5		%		80-120	05-FEB-13
Zirconium (Zr)-Dissolved			100.9		%		80-120	05-FEB-13
WG1621725-2		LCS						
Aluminum (Al)-Dissolved			111.3		%		80-120	05-FEB-13
Antimony (Sb)-Dissolved			100.4		%		80-120	05-FEB-13
Arsenic (As)-Dissolved			106.4		%		80-120	05-FEB-13
Barium (Ba)-Dissolved			101.5		%		80-120	05-FEB-13
Beryllium (Be)-Dissolved			119.9		%		80-120	05-FEB-13
Bismuth (Bi)-Dissolved			92.0		%		80-120	06-FEB-13
Boron (B)-Dissolved			110.9		%		80-120	05-FEB-13
Cadmium (Cd)-Dissolved			109.5		%		80-120	05-FEB-13
Calcium (Ca)-Dissolved			108.2		%		80-120	05-FEB-13
Chromium (Cr)-Dissolved			96.6		%		80-120	05-FEB-13
Cobalt (Co)-Dissolved			105.5		%		80-120	05-FEB-13
Copper (Cu)-Dissolved			106.5		%		80-120	05-FEB-13
Iron (Fe)-Dissolved			93.6		%		80-120	05-FEB-13
Lead (Pb)-Dissolved			103.0		%		80-120	05-FEB-13
Lithium (Li)-Dissolved			108.6		%		80-120	06-FEB-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-WT		Water						
Batch	R2520152							
WG1621725-2		LCS						
Magnesium (Mg)-Dissolved			101.3		%		80-120	05-FEB-13
Manganese (Mn)-Dissolved			99.0		%		80-120	05-FEB-13
Molybdenum (Mo)-Dissolved			92.2		%		80-120	05-FEB-13
Nickel (Ni)-Dissolved			104.7		%		80-120	05-FEB-13
Phosphorus (P)-Dissolved			116.6		%		80-120	05-FEB-13
Potassium (K)-Dissolved			104.7		%		80-120	05-FEB-13
Selenium (Se)-Dissolved			115.7		%		80-120	05-FEB-13
Silicon (Si)-Dissolved			105.1		%		80-120	05-FEB-13
Silver (Ag)-Dissolved			104.5		%		80-120	05-FEB-13
Sodium (Na)-Dissolved			101.5		%		80-120	05-FEB-13
Strontium (Sr)-Dissolved			95.4		%		80-120	05-FEB-13
Thallium (Tl)-Dissolved			102.0		%		80-120	05-FEB-13
Tin (Sn)-Dissolved			104.2		%		80-120	05-FEB-13
Titanium (Ti)-Dissolved			104.9		%		80-120	05-FEB-13
Tungsten (W)-Dissolved			104.2		%		80-120	05-FEB-13
Uranium (U)-Dissolved			96.4		%		80-120	05-FEB-13
Vanadium (V)-Dissolved			98.3		%		80-120	05-FEB-13
Zinc (Zn)-Dissolved			108.4		%		80-120	06-FEB-13
Zirconium (Zr)-Dissolved			94.0		%		80-120	05-FEB-13
WG1621729-2		LCS						
Aluminum (Al)-Dissolved			114.0		%		80-120	05-FEB-13
Antimony (Sb)-Dissolved			101.4		%		80-120	05-FEB-13
Arsenic (As)-Dissolved			107.3		%		80-120	05-FEB-13
Barium (Ba)-Dissolved			102.7		%		80-120	05-FEB-13
Beryllium (Be)-Dissolved			110.6		%		80-120	06-FEB-13
Bismuth (Bi)-Dissolved			100.0		%		80-120	06-FEB-13
Boron (B)-Dissolved			112.5		%		80-120	05-FEB-13
Cadmium (Cd)-Dissolved			108.9		%		80-120	05-FEB-13
Calcium (Ca)-Dissolved			105.9		%		80-120	05-FEB-13
Chromium (Cr)-Dissolved			98.1		%		80-120	05-FEB-13
Cobalt (Co)-Dissolved			108.3		%		80-120	05-FEB-13
Copper (Cu)-Dissolved			105.6		%		80-120	05-FEB-13
Iron (Fe)-Dissolved			96.1		%		80-120	05-FEB-13
Lead (Pb)-Dissolved			98.1		%		80-120	05-FEB-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-WT		Water						
Batch	R2520152							
WG1621729-2	LCS							
Lithium (Li)-Dissolved			116.8		%		80-120	06-FEB-13
Magnesium (Mg)-Dissolved			105.8		%		80-120	05-FEB-13
Manganese (Mn)-Dissolved			102.8		%		80-120	05-FEB-13
Molybdenum (Mo)-Dissolved			93.8		%		80-120	05-FEB-13
Nickel (Ni)-Dissolved			106.0		%		80-120	05-FEB-13
Phosphorus (P)-Dissolved			113.1		%		80-120	05-FEB-13
Potassium (K)-Dissolved			106.5		%		80-120	05-FEB-13
Selenium (Se)-Dissolved			116.2		%		80-120	05-FEB-13
Silicon (Si)-Dissolved			104.0		%		80-120	05-FEB-13
Silver (Ag)-Dissolved			104.4		%		80-120	05-FEB-13
Sodium (Na)-Dissolved			106.2		%		80-120	05-FEB-13
Strontium (Sr)-Dissolved			96.5		%		80-120	05-FEB-13
Thallium (Tl)-Dissolved			97.7		%		80-120	05-FEB-13
Tin (Sn)-Dissolved			104.1		%		80-120	05-FEB-13
Titanium (Ti)-Dissolved			106.1		%		80-120	05-FEB-13
Tungsten (W)-Dissolved			102.7		%		80-120	05-FEB-13
Uranium (U)-Dissolved			91.3		%		80-120	05-FEB-13
Vanadium (V)-Dissolved			99.2		%		80-120	05-FEB-13
Zinc (Zn)-Dissolved			106.8		%		80-120	06-FEB-13
Zirconium (Zr)-Dissolved			95.2		%		80-120	05-FEB-13
WG1621725-1	MB							
Aluminum (Al)-Dissolved			<0.010		mg/L		0.01	05-FEB-13
Antimony (Sb)-Dissolved			<0.00050		mg/L		0.0005	05-FEB-13
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	05-FEB-13
Barium (Ba)-Dissolved			<0.0020		mg/L		0.002	05-FEB-13
Beryllium (Be)-Dissolved			<0.00050		mg/L		0.0005	05-FEB-13
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	05-FEB-13
Boron (B)-Dissolved			<0.010		mg/L		0.01	05-FEB-13
Cadmium (Cd)-Dissolved			<0.000090		mg/L		0.00009	05-FEB-13
Calcium (Ca)-Dissolved			<0.50		mg/L		0.5	05-FEB-13
Chromium (Cr)-Dissolved			<0.00050		mg/L		0.0005	05-FEB-13
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	05-FEB-13
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	05-FEB-13
Iron (Fe)-Dissolved			<0.050		mg/L		0.05	05-FEB-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-WT		Water						
Batch	R2520152							
WG1621725-1 MB								
Lead (Pb)-Dissolved			<0.00050		mg/L		0.0005	05-FEB-13
Lithium (Li)-Dissolved			<0.10		mg/L		0.1	06-FEB-13
Magnesium (Mg)-Dissolved			<0.50		mg/L		0.5	05-FEB-13
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	05-FEB-13
Molybdenum (Mo)-Dissolved			<0.00050		mg/L		0.0005	05-FEB-13
Nickel (Ni)-Dissolved			<0.0010		mg/L		0.001	05-FEB-13
Phosphorus (P)-Dissolved			<0.050		mg/L		0.05	05-FEB-13
Potassium (K)-Dissolved			<1.0		mg/L		1	05-FEB-13
Selenium (Se)-Dissolved			<0.00040		mg/L		0.0004	05-FEB-13
Silicon (Si)-Dissolved			<1.0		mg/L		1	05-FEB-13
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	05-FEB-13
Sodium (Na)-Dissolved			<0.50		mg/L		0.5	05-FEB-13
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	05-FEB-13
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	05-FEB-13
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	05-FEB-13
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	05-FEB-13
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	05-FEB-13
Uranium (U)-Dissolved			<0.0010		mg/L		0.001	05-FEB-13
Vanadium (V)-Dissolved			<0.00050		mg/L		0.0005	05-FEB-13
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	05-FEB-13
Zirconium (Zr)-Dissolved			<0.0040		mg/L		0.004	05-FEB-13
WG1621729-1 MB								
Aluminum (Al)-Dissolved			<0.010		mg/L		0.01	05-FEB-13
Antimony (Sb)-Dissolved			<0.00050		mg/L		0.0005	05-FEB-13
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	05-FEB-13
Barium (Ba)-Dissolved			<0.0020		mg/L		0.002	05-FEB-13
Beryllium (Be)-Dissolved			<0.00050		mg/L		0.0005	05-FEB-13
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	05-FEB-13
Boron (B)-Dissolved			<0.010		mg/L		0.01	05-FEB-13
Cadmium (Cd)-Dissolved			<0.000090		mg/L		0.00009	05-FEB-13
Calcium (Ca)-Dissolved			<0.50		mg/L		0.5	05-FEB-13
Chromium (Cr)-Dissolved			<0.00050		mg/L		0.0005	05-FEB-13
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	05-FEB-13
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	05-FEB-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-WT								
	Water							
Batch	R2520152							
WG1621729-1	MB							
Iron (Fe)-Dissolved			<0.050		mg/L		0.05	05-FEB-13
Lead (Pb)-Dissolved			<0.00050		mg/L		0.0005	05-FEB-13
Lithium (Li)-Dissolved			<0.10		mg/L		0.1	06-FEB-13
Magnesium (Mg)-Dissolved			<0.50		mg/L		0.5	05-FEB-13
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	05-FEB-13
Molybdenum (Mo)-Dissolved			<0.00050		mg/L		0.0005	05-FEB-13
Nickel (Ni)-Dissolved			<0.0010		mg/L		0.001	05-FEB-13
Phosphorus (P)-Dissolved			<0.050		mg/L		0.05	05-FEB-13
Potassium (K)-Dissolved			<1.0		mg/L		1	05-FEB-13
Selenium (Se)-Dissolved			<0.00040		mg/L		0.0004	05-FEB-13
Silicon (Si)-Dissolved			<1.0		mg/L		1	05-FEB-13
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	05-FEB-13
Sodium (Na)-Dissolved			<0.50		mg/L		0.5	05-FEB-13
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	05-FEB-13
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	05-FEB-13
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	05-FEB-13
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	05-FEB-13
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	05-FEB-13
Uranium (U)-Dissolved			<0.0010		mg/L		0.001	05-FEB-13
Vanadium (V)-Dissolved			<0.00050		mg/L		0.0005	05-FEB-13
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	05-FEB-13
Zirconium (Zr)-Dissolved			<0.0040		mg/L		0.004	05-FEB-13
WG1621725-5	MS	WG1621725-3						
Aluminum (Al)-Dissolved			103.9		%		70-130	05-FEB-13
Antimony (Sb)-Dissolved			93.4		%		70-130	05-FEB-13
Arsenic (As)-Dissolved			100.9		%		70-130	05-FEB-13
Barium (Ba)-Dissolved			96.0		%		70-130	05-FEB-13
Beryllium (Be)-Dissolved			115.5		%		70-130	05-FEB-13
Bismuth (Bi)-Dissolved			83.5		%		70-130	05-FEB-13
Boron (B)-Dissolved			103.7		%		70-130	05-FEB-13
Cadmium (Cd)-Dissolved			101.2		%		70-130	05-FEB-13
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	05-FEB-13
Chromium (Cr)-Dissolved			90.2		%		70-130	05-FEB-13
Cobalt (Co)-Dissolved			99.1		%		70-130	05-FEB-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-WT								
	Water							
Batch	R2520152							
WG1621725-5 MS		WG1621725-3						
Copper (Cu)-Dissolved			99.6		%		70-130	05-FEB-13
Iron (Fe)-Dissolved			89.4		%		70-130	05-FEB-13
Lead (Pb)-Dissolved			92.4		%		70-130	05-FEB-13
Lithium (Li)-Dissolved			108.1		%		70-130	06-FEB-13
Magnesium (Mg)-Dissolved			92.5		%		70-130	05-FEB-13
Manganese (Mn)-Dissolved			91.7		%		70-130	05-FEB-13
Molybdenum (Mo)-Dissolved			87.7		%		80-120	05-FEB-13
Nickel (Ni)-Dissolved			97.7		%		70-130	05-FEB-13
Phosphorus (P)-Dissolved			107.1		%		70-130	05-FEB-13
Selenium (Se)-Dissolved			104.3		%		70-130	05-FEB-13
Silicon (Si)-Dissolved			N/A	MS-B	%		-	05-FEB-13
Silver (Ag)-Dissolved			95.6		%		70-130	05-FEB-13
Sodium (Na)-Dissolved			93.1		%		70-130	05-FEB-13
Strontium (Sr)-Dissolved			87.1		%		70-130	05-FEB-13
Thallium (Tl)-Dissolved			92.7		%		70-130	05-FEB-13
Tin (Sn)-Dissolved			95.2		%		70-130	05-FEB-13
Titanium (Ti)-Dissolved			95.4		%		80-120	05-FEB-13
Tungsten (W)-Dissolved			96.1		%		70-130	05-FEB-13
Uranium (U)-Dissolved			87.7		%		70-130	05-FEB-13
Vanadium (V)-Dissolved			92.0		%		70-130	05-FEB-13
Zinc (Zn)-Dissolved			110.6		%		70-130	05-FEB-13
Zirconium (Zr)-Dissolved			86.9		%		70-130	05-FEB-13
WG1621725-8 MS		WG1621725-6						
Aluminum (Al)-Dissolved			108.1		%		70-130	05-FEB-13
Antimony (Sb)-Dissolved			93.7		%		70-130	05-FEB-13
Arsenic (As)-Dissolved			100.3		%		70-130	05-FEB-13
Barium (Ba)-Dissolved			97.6		%		70-130	05-FEB-13
Beryllium (Be)-Dissolved			117.8		%		70-130	05-FEB-13
Bismuth (Bi)-Dissolved			82.2		%		70-130	05-FEB-13
Boron (B)-Dissolved			104.2		%		70-130	05-FEB-13
Cadmium (Cd)-Dissolved			100.6		%		70-130	05-FEB-13
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	05-FEB-13
Chromium (Cr)-Dissolved			90.9		%		70-130	05-FEB-13
Cobalt (Co)-Dissolved			99.7		%		70-130	05-FEB-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-WT								
	Water							
Batch	R2520152							
WG1621725-8 MS		WG1621725-6						
Copper (Cu)-Dissolved			98.3		%		70-130	05-FEB-13
Iron (Fe)-Dissolved			91.1		%		70-130	05-FEB-13
Lead (Pb)-Dissolved			91.7		%		70-130	05-FEB-13
Magnesium (Mg)-Dissolved			96.9		%		70-130	05-FEB-13
Manganese (Mn)-Dissolved			94.2		%		70-130	05-FEB-13
Molybdenum (Mo)-Dissolved			86.7		%		80-120	05-FEB-13
Nickel (Ni)-Dissolved			98.6		%		70-130	05-FEB-13
Phosphorus (P)-Dissolved			105.3		%		70-130	05-FEB-13
Selenium (Se)-Dissolved			105.1		%		70-130	05-FEB-13
Silicon (Si)-Dissolved			N/A	MS-B	%		-	05-FEB-13
Silver (Ag)-Dissolved			89.2		%		70-130	05-FEB-13
Sodium (Na)-Dissolved			98.3		%		70-130	05-FEB-13
Strontium (Sr)-Dissolved			88.6		%		70-130	05-FEB-13
Thallium (Tl)-Dissolved			93.3		%		70-130	05-FEB-13
Tin (Sn)-Dissolved			94.8		%		70-130	05-FEB-13
Titanium (Ti)-Dissolved			93.6		%		80-120	05-FEB-13
Tungsten (W)-Dissolved			96.0		%		70-130	05-FEB-13
Uranium (U)-Dissolved			84.7		%		70-130	05-FEB-13
Vanadium (V)-Dissolved			93.2		%		70-130	05-FEB-13
Zinc (Zn)-Dissolved			111.8		%		70-130	05-FEB-13
Zirconium (Zr)-Dissolved			85.5		%		70-130	05-FEB-13
WG1621729-5 MS		WG1621729-3						
Aluminum (Al)-Dissolved			111.2		%		70-130	05-FEB-13
Antimony (Sb)-Dissolved			97.1		%		70-130	05-FEB-13
Arsenic (As)-Dissolved			104.8		%		70-130	05-FEB-13
Barium (Ba)-Dissolved			94.2		%		70-130	05-FEB-13
Beryllium (Be)-Dissolved			114.6		%		70-130	05-FEB-13
Bismuth (Bi)-Dissolved			80.3		%		70-130	05-FEB-13
Boron (B)-Dissolved			103.8		%		70-130	05-FEB-13
Cadmium (Cd)-Dissolved			104.0		%		70-130	05-FEB-13
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	05-FEB-13
Chromium (Cr)-Dissolved			91.0		%		70-130	05-FEB-13
Cobalt (Co)-Dissolved			101.6		%		70-130	05-FEB-13
Copper (Cu)-Dissolved			99.5		%		70-130	05-FEB-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-WT								
	Water							
Batch	R2520152							
WG1621729-5 MS		WG1621729-3						
Iron (Fe)-Dissolved			89.2		%		70-130	05-FEB-13
Lead (Pb)-Dissolved			93.8		%		70-130	05-FEB-13
Lithium (Li)-Dissolved			99		%		70-130	06-FEB-13
Magnesium (Mg)-Dissolved			92.3		%		70-130	05-FEB-13
Manganese (Mn)-Dissolved			N/A	MS-B	%		-	05-FEB-13
Molybdenum (Mo)-Dissolved			91.8		%		80-120	05-FEB-13
Nickel (Ni)-Dissolved			100.0		%		70-130	05-FEB-13
Phosphorus (P)-Dissolved			107.3		%		70-130	05-FEB-13
Potassium (K)-Dissolved			88.6		%		70-130	06-FEB-13
Selenium (Se)-Dissolved			112.0		%		70-130	05-FEB-13
Silicon (Si)-Dissolved			N/A	MS-B	%		-	05-FEB-13
Silver (Ag)-Dissolved			96.6		%		70-130	05-FEB-13
Sodium (Na)-Dissolved			92.3		%		70-130	05-FEB-13
Strontium (Sr)-Dissolved			N/A	MS-B	%		-	05-FEB-13
Thallium (Tl)-Dissolved			95.5		%		70-130	05-FEB-13
Tin (Sn)-Dissolved			97.8		%		70-130	05-FEB-13
Titanium (Ti)-Dissolved			96.6		%		80-120	05-FEB-13
Tungsten (W)-Dissolved			98.8		%		70-130	05-FEB-13
Uranium (U)-Dissolved			90.3		%		70-130	05-FEB-13
Vanadium (V)-Dissolved			92.2		%		70-130	05-FEB-13
Zinc (Zn)-Dissolved			112.8		%		70-130	05-FEB-13
Zirconium (Zr)-Dissolved			91.6		%		70-130	05-FEB-13
MET-T-MS-WT								
	Water							
Batch	R2519425							
WG1622257-1 CVS								
Aluminum (Al)-Total			105.3		%		80-120	04-FEB-13
Antimony (Sb)-Total			104.1		%		80-120	04-FEB-13
Arsenic (As)-Total			108.0		%		80-120	04-FEB-13
Barium (Ba)-Total			106.2		%		80-120	04-FEB-13
Beryllium (Be)-Total			109.5		%		80-120	04-FEB-13
Bismuth (Bi)-Total			102.2		%		80-120	04-FEB-13
Boron (B)-Total			106.0		%		80-120	04-FEB-13
Cadmium (Cd)-Total			107.1		%		80-120	04-FEB-13
Calcium (Ca)-Total			101.5		%		80-120	04-FEB-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-WT		Water						
Batch	R2519425							
WG1622257-1	CVS							
Chromium (Cr)-Total			101.7		%		80-120	04-FEB-13
Cobalt (Co)-Total			104.6		%		80-120	04-FEB-13
Copper (Cu)-Total			104.6		%		80-120	04-FEB-13
Iron (Fe)-Total			103.9		%		80-120	04-FEB-13
Lead (Pb)-Total			103.9		%		80-120	04-FEB-13
Lithium (Li)-Total			110.4		%		80-120	04-FEB-13
Magnesium (Mg)-Total			105.7		%		80-120	04-FEB-13
Manganese (Mn)-Total			102.5		%		80-120	04-FEB-13
Molybdenum (Mo)-Total			103.7		%		80-120	04-FEB-13
Nickel (Ni)-Total			100.7		%		80-120	04-FEB-13
Phosphorus (P)-Total			101.6		%		80-120	04-FEB-13
Potassium (K)-Total			99.4		%		80-120	04-FEB-13
Selenium (Se)-Total			99.8		%		80-120	04-FEB-13
Silicon (Si)-Total			103.3		%		80-120	04-FEB-13
Silver (Ag)-Total			110.7		%		80-120	04-FEB-13
Sodium (Na)-Total			105.6		%		80-120	04-FEB-13
Strontium (Sr)-Total			101.2		%		80-120	04-FEB-13
Thallium (Tl)-Total			102.9		%		80-120	04-FEB-13
Tin (Sn)-Total			102.7		%		80-120	04-FEB-13
Titanium (Ti)-Total			102.9		%		80-120	04-FEB-13
Tungsten (W)-Total			101.4		%		80-120	04-FEB-13
Uranium (U)-Total			102.8		%		80-120	04-FEB-13
Vanadium (V)-Total			103.9		%		80-120	04-FEB-13
Zinc (Zn)-Total			106.5		%		80-120	04-FEB-13
Zirconium (Zr)-Total			99.8		%		80-120	04-FEB-13
WG1622257-3	CVS							
Aluminum (Al)-Total			102.0		%		80-120	05-FEB-13
Antimony (Sb)-Total			102.6		%		80-120	05-FEB-13
Arsenic (As)-Total			107.1		%		80-120	05-FEB-13
Barium (Ba)-Total			104.8		%		80-120	05-FEB-13
Beryllium (Be)-Total			106.5		%		80-120	05-FEB-13
Bismuth (Bi)-Total			103.9		%		80-120	05-FEB-13
Boron (B)-Total			99.95		%		80-120	05-FEB-13
Cadmium (Cd)-Total			105.3		%		80-120	05-FEB-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-WT		Water						
Batch	R2519425							
WG1622257-3 CVS								
Calcium (Ca)-Total			100.8		%		80-120	05-FEB-13
Chromium (Cr)-Total			100.1		%		80-120	05-FEB-13
Cobalt (Co)-Total			102.6		%		80-120	05-FEB-13
Copper (Cu)-Total			102.5		%		80-120	05-FEB-13
Iron (Fe)-Total			100.4		%		80-120	05-FEB-13
Lead (Pb)-Total			104.3		%		80-120	05-FEB-13
Lithium (Li)-Total			104.8		%		80-120	05-FEB-13
Magnesium (Mg)-Total			98.6		%		80-120	05-FEB-13
Manganese (Mn)-Total			100.4		%		80-120	05-FEB-13
Molybdenum (Mo)-Total			101.7		%		80-120	05-FEB-13
Nickel (Ni)-Total			101.1		%		80-120	05-FEB-13
Phosphorus (P)-Total			98.4		%		80-120	05-FEB-13
Potassium (K)-Total			98.4		%		80-120	05-FEB-13
Selenium (Se)-Total			100.1		%		80-120	05-FEB-13
Silicon (Si)-Total			98.0		%		80-120	05-FEB-13
Silver (Ag)-Total			108.3		%		80-120	05-FEB-13
Sodium (Na)-Total			98.7		%		80-120	05-FEB-13
Strontium (Sr)-Total			101.9		%		80-120	05-FEB-13
Thallium (Tl)-Total			105.7		%		80-120	05-FEB-13
Tin (Sn)-Total			102.1		%		80-120	05-FEB-13
Titanium (Ti)-Total			102.8		%		80-120	05-FEB-13
Tungsten (W)-Total			101.0		%		80-120	05-FEB-13
Uranium (U)-Total			104.3		%		80-120	05-FEB-13
Vanadium (V)-Total			100.7		%		80-120	05-FEB-13
Zinc (Zn)-Total			104.5		%		80-120	05-FEB-13
Zirconium (Zr)-Total			100.9		%		80-120	05-FEB-13
WG1621582-2 LCS								
Aluminum (Al)-Total			105.4		%		80-120	04-FEB-13
Antimony (Sb)-Total			101.1		%		80-120	04-FEB-13
Arsenic (As)-Total			103.0		%		80-120	04-FEB-13
Barium (Ba)-Total			102.6		%		80-120	04-FEB-13
Beryllium (Be)-Total			107.8		%		80-120	04-FEB-13
Bismuth (Bi)-Total			101.9		%		80-120	04-FEB-13
Boron (B)-Total			99.5		%		80-120	04-FEB-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-WT		Water						
Batch	R2519425							
WG1621582-2	LCS							
Cadmium (Cd)-Total			104.5		%		80-120	04-FEB-13
Calcium (Ca)-Total			103.6		%		80-120	04-FEB-13
Chromium (Cr)-Total			103.5		%		80-120	04-FEB-13
Cobalt (Co)-Total			102.7		%		80-120	04-FEB-13
Copper (Cu)-Total			101.4		%		80-120	04-FEB-13
Iron (Fe)-Total			105.1		%		80-120	04-FEB-13
Lead (Pb)-Total			101.4		%		80-120	04-FEB-13
Lithium (Li)-Total			108.5		%		80-120	04-FEB-13
Magnesium (Mg)-Total			103.6		%		80-120	04-FEB-13
Manganese (Mn)-Total			105.0		%		80-120	04-FEB-13
Molybdenum (Mo)-Total			101.7		%		80-120	04-FEB-13
Nickel (Ni)-Total			99.1		%		80-120	04-FEB-13
Phosphorus (P)-Total			109.9		%		80-120	04-FEB-13
Potassium (K)-Total			101.4		%		80-120	04-FEB-13
Selenium (Se)-Total			101.3		%		80-120	04-FEB-13
Silicon (Si)-Total			106.8		%		80-120	04-FEB-13
Silver (Ag)-Total			104.9		%		80-120	04-FEB-13
Sodium (Na)-Total			102.7		%		80-120	04-FEB-13
Strontium (Sr)-Total			101.9		%		80-120	04-FEB-13
Thallium (Tl)-Total			101.6		%		80-120	04-FEB-13
Tin (Sn)-Total			101.4		%		80-120	04-FEB-13
Titanium (Ti)-Total			102.4		%		80-120	04-FEB-13
Tungsten (W)-Total			106.8		%		80-120	04-FEB-13
Uranium (U)-Total			101.8		%		80-120	04-FEB-13
Vanadium (V)-Total			102.4		%		80-120	04-FEB-13
Zinc (Zn)-Total			103.9		%		80-120	04-FEB-13
Zirconium (Zr)-Total			100.0		%		80-120	04-FEB-13
WG1621582-1	MB							
Aluminum (Al)-Total			<0.010		mg/L		0.01	04-FEB-13
Antimony (Sb)-Total			<0.00050		mg/L		0.0005	04-FEB-13
Arsenic (As)-Total			<0.0010		mg/L		0.001	04-FEB-13
Barium (Ba)-Total			<0.0020		mg/L		0.002	04-FEB-13
Beryllium (Be)-Total			<0.00050		mg/L		0.0005	04-FEB-13
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	04-FEB-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-WT								
	Water							
Batch	R2519425							
WG1621582-1	MB							
Boron (B)-Total			<0.010		mg/L		0.01	04-FEB-13
Cadmium (Cd)-Total			<0.000090		mg/L		0.00009	04-FEB-13
Calcium (Ca)-Total			<0.50		mg/L		0.5	04-FEB-13
Chromium (Cr)-Total			<0.00050		mg/L		0.0005	04-FEB-13
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	04-FEB-13
Copper (Cu)-Total			<0.0010		mg/L		0.001	04-FEB-13
Iron (Fe)-Total			<0.050		mg/L		0.05	04-FEB-13
Lead (Pb)-Total			<0.00050		mg/L		0.0005	04-FEB-13
Lithium (Li)-Total			<0.10		mg/L		0.1	04-FEB-13
Magnesium (Mg)-Total			<0.50		mg/L		0.5	04-FEB-13
Manganese (Mn)-Total			<0.0010		mg/L		0.001	04-FEB-13
Molybdenum (Mo)-Total			<0.00050		mg/L		0.0005	04-FEB-13
Nickel (Ni)-Total			<0.0010		mg/L		0.001	04-FEB-13
Phosphorus (P)-Total			<0.050		mg/L		0.05	04-FEB-13
Potassium (K)-Total			<1.0		mg/L		1	04-FEB-13
Selenium (Se)-Total			<0.00040		mg/L		0.0004	04-FEB-13
Silicon (Si)-Total			<1.0		mg/L		1	04-FEB-13
Silver (Ag)-Total			<0.00010		mg/L		0.0001	04-FEB-13
Sodium (Na)-Total			<0.50		mg/L		0.5	04-FEB-13
Strontium (Sr)-Total			<0.0010		mg/L		0.001	04-FEB-13
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	04-FEB-13
Tin (Sn)-Total			<0.0010		mg/L		0.001	04-FEB-13
Titanium (Ti)-Total			<0.0020		mg/L		0.002	04-FEB-13
Tungsten (W)-Total			<0.010		mg/L		0.01	04-FEB-13
Uranium (U)-Total			<0.0010		mg/L		0.001	04-FEB-13
Vanadium (V)-Total			<0.00050		mg/L		0.0005	04-FEB-13
Zinc (Zn)-Total			<0.0030		mg/L		0.003	04-FEB-13
Zirconium (Zr)-Total			<0.0040		mg/L		0.004	04-FEB-13
WG1621582-5	MS	WG1621582-3						
Aluminum (Al)-Total			103.1		%		70-130	04-FEB-13
Antimony (Sb)-Total			103.2		%		70-130	04-FEB-13
Arsenic (As)-Total			109.6		%		70-130	04-FEB-13
Barium (Ba)-Total			106.4		%		70-130	04-FEB-13
Beryllium (Be)-Total			98.4		%		70-130	04-FEB-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-WT								
	Water							
Batch	R2519425							
WG1621582-5 MS		WG1621582-3						
Bismuth (Bi)-Total			101.9		%		70-130	04-FEB-13
Boron (B)-Total			89.7		%		70-130	04-FEB-13
Cadmium (Cd)-Total			103.1		%		70-130	04-FEB-13
Calcium (Ca)-Total			N/A	MS-B	%		-	04-FEB-13
Chromium (Cr)-Total			112.0		%		70-130	04-FEB-13
Cobalt (Co)-Total			126.3		%		70-130	04-FEB-13
Copper (Cu)-Total			105.7		%		70-130	04-FEB-13
Iron (Fe)-Total			104.4		%		70-130	04-FEB-13
Lead (Pb)-Total			103.8		%		70-130	04-FEB-13
Lithium (Li)-Total			105.4		%		70-130	04-FEB-13
Magnesium (Mg)-Total			97.0		%		70-130	04-FEB-13
Manganese (Mn)-Total			117.3		%		70-130	04-FEB-13
Molybdenum (Mo)-Total			114.2		%		70-130	04-FEB-13
Nickel (Ni)-Total			105.5		%		70-130	04-FEB-13
Phosphorus (P)-Total			103.4		%		70-130	04-FEB-13
Potassium (K)-Total			98.1		%		70-130	04-FEB-13
Selenium (Se)-Total			105.2		%		70-130	04-FEB-13
Silicon (Si)-Total			96.3		%		70-130	04-FEB-13
Silver (Ag)-Total			100.6		%		70-130	04-FEB-13
Sodium (Na)-Total			N/A	MS-B	%		-	04-FEB-13
Strontium (Sr)-Total			N/A	MS-B	%		-	04-FEB-13
Thallium (Tl)-Total			105.1		%		70-130	04-FEB-13
Tin (Sn)-Total			109.0		%		70-130	04-FEB-13
Titanium (Ti)-Total			103.0		%		70-130	04-FEB-13
Tungsten (W)-Total			113.5		%		70-130	04-FEB-13
Uranium (U)-Total			106.3		%		70-130	04-FEB-13
Vanadium (V)-Total			120.4		%		70-130	04-FEB-13
Zinc (Zn)-Total			104.8		%		70-130	04-FEB-13
Zirconium (Zr)-Total			113.7		%		70-130	04-FEB-13
WG1621582-8 MS		WG1621582-6						
Aluminum (Al)-Total			N/A	MS-B	%		-	04-FEB-13
Antimony (Sb)-Total			98.6		%		70-130	04-FEB-13
Arsenic (As)-Total			102.4		%		70-130	04-FEB-13
Barium (Ba)-Total			97.3		%		70-130	04-FEB-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-WT								
	Water							
Batch	R2519425							
WG1621582-8 MS		WG1621582-6						
Beryllium (Be)-Total			102.1		%		70-130	04-FEB-13
Bismuth (Bi)-Total			100.5		%		70-130	04-FEB-13
Boron (B)-Total			96.9		%		70-130	04-FEB-13
Cadmium (Cd)-Total			100.3		%		70-130	04-FEB-13
Calcium (Ca)-Total			N/A	MS-B	%		-	04-FEB-13
Chromium (Cr)-Total			101.6		%		70-130	04-FEB-13
Cobalt (Co)-Total			102.0		%		70-130	04-FEB-13
Copper (Cu)-Total			99.5		%		70-130	04-FEB-13
Iron (Fe)-Total			96.1		%		70-130	04-FEB-13
Lead (Pb)-Total			100.3		%		70-130	04-FEB-13
Lithium (Li)-Total			103.3		%		70-130	04-FEB-13
Magnesium (Mg)-Total			92.7		%		70-130	04-FEB-13
Manganese (Mn)-Total			N/A	MS-B	%		-	04-FEB-13
Molybdenum (Mo)-Total			102.0		%		70-130	04-FEB-13
Nickel (Ni)-Total			98.6		%		70-130	04-FEB-13
Phosphorus (P)-Total			104.7		%		70-130	04-FEB-13
Potassium (K)-Total			89.5		%		70-130	04-FEB-13
Selenium (Se)-Total			96.6		%		70-130	04-FEB-13
Silicon (Si)-Total			N/A	MS-B	%		-	04-FEB-13
Silver (Ag)-Total			101.3		%		70-130	04-FEB-13
Sodium (Na)-Total			96.3		%		70-130	04-FEB-13
Strontium (Sr)-Total			93.5		%		70-130	04-FEB-13
Thallium (Tl)-Total			98.8		%		70-130	04-FEB-13
Tin (Sn)-Total			99.5		%		70-130	04-FEB-13
Titanium (Ti)-Total			99.7		%		70-130	04-FEB-13
Tungsten (W)-Total			105.2		%		70-130	04-FEB-13
Uranium (U)-Total			99.7		%		70-130	04-FEB-13
Vanadium (V)-Total			101.1		%		70-130	04-FEB-13
Zinc (Zn)-Total			102.0		%		70-130	04-FEB-13
Zirconium (Zr)-Total			99.0		%		70-130	04-FEB-13

NH3-COL-TB

Water



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NH3-COL-TB								
Water								
Batch	R2520148							
WG1621632-3	DUP	L1263671-1						
Ammonia, Total (as N)		0.070	0.071		mg/L	2.1	20	04-FEB-13
WG1621632-2	LCS							
Ammonia, Total (as N)			95.4		%		85-115	04-FEB-13
WG1621632-6	LCS							
Ammonia, Total (as N)			95.6		%		85-115	04-FEB-13
WG1621632-1	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	04-FEB-13
WG1621632-5	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	04-FEB-13
WG1621632-4	MS	L1263671-1						
Ammonia, Total (as N)			90.8		%		75-125	04-FEB-13
NO2-IC-TB								
Water								
Batch	R2521730							
WG1623351-10	LCS							
Nitrite (as N)			101.6		%		90-110	05-FEB-13
WG1623351-2	LCS							
Nitrite (as N)			98.8		%		90-110	05-FEB-13
WG1623351-6	LCS							
Nitrite (as N)			96.4		%		90-110	05-FEB-13
WG1623351-1	MB							
Nitrite (as N)			<0.020		mg/L		0.02	05-FEB-13
WG1623351-5	MB							
Nitrite (as N)			<0.020		mg/L		0.02	05-FEB-13
WG1623351-9	MB							
Nitrite (as N)			<0.020		mg/L		0.02	05-FEB-13
WG1623351-12	MS	L1263685-2						
Nitrite (as N)			91.3		%		75-115	05-FEB-13
WG1623351-4	MS	L1262741-1						
Nitrite (as N)			100.7		%		75-115	05-FEB-13
WG1623351-8	MS	L1263367-16						
Nitrite (as N)			92.1		%		75-115	05-FEB-13
NO3-IC-TB								
Water								
Batch	R2521730							
WG1623351-10	LCS							
Nitrate (as N)			101.8		%		90-110	05-FEB-13
WG1623351-2	LCS							
Nitrate (as N)			98.7		%		90-110	05-FEB-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO3-IC-TB								
Water								
Batch	R2521730							
WG1623351-6	LCS							
Nitrate (as N)			97.9		%		90-110	05-FEB-13
WG1623351-1	MB							
Nitrate (as N)			<0.030		mg/L		0.03	05-FEB-13
WG1623351-5	MB							
Nitrate (as N)			<0.030		mg/L		0.03	05-FEB-13
WG1623351-9	MB							
Nitrate (as N)			<0.030		mg/L		0.03	05-FEB-13
WG1623351-12	MS	L1263685-2						
Nitrate (as N)			N/A	MS-B	%		-	05-FEB-13
WG1623351-4	MS	L1262741-1						
Nitrate (as N)			103.4		%		75-125	05-FEB-13
WG1623351-8	MS	L1263367-16						
Nitrate (as N)			91.9		%		75-125	05-FEB-13
OGG-TOT-WT								
Water								
Batch	R2521989							
WG1622475-2	LCS							
Oil and Grease, Total			88.4		%		70-130	04-FEB-13
WG1622475-3	LCSD	WG1622475-2						
Oil and Grease, Total		88.4	92		%	3.9	40	04-FEB-13
WG1622475-1	MB							
Oil and Grease, Total			<2.0		mg/L		2	04-FEB-13
Batch	R2521991							
WG1622740-2	LCS							
Oil and Grease, Total			88.2		%		70-130	05-FEB-13
WG1622740-3	LCSD	WG1622740-2						
Oil and Grease, Total		88.2	88		%	0.0	40	05-FEB-13
WG1622740-1	MB							
Oil and Grease, Total			<2.0		mg/L		2	05-FEB-13
P-T-COL-TB								
Water								
Batch	R2518464							
WG1621378-2	LCS							
Phosphorus (P)-Total			101.2		%		80-120	01-FEB-13
WG1621378-1	MB							
Phosphorus (P)-Total			<0.0050		mg/L		0.005	01-FEB-13
WG1621378-4	MS	L1263081-2						
Phosphorus (P)-Total			101.6		%		70-130	01-FEB-13
PH-CAP-TB								
Water								



Quality Control Report

Workorder: L1263671

Report Date: 13-FEB-13

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PH-CAP-TB								
Water								
Batch	R2520149							
WG1622299-2	LCS							
pH			6.00		pH		5.9-6.1	01-FEB-13
WG1622299-5	LCS							
pH			6.03		pH		5.9-6.1	01-FEB-13
WG1622299-8	LCS							
pH			6.01		pH		5.9-6.1	01-FEB-13
SO4-IC-TB								
Water								
Batch	R2521730							
WG1623351-10	LCS							
Sulfate (SO4)			103.8		%		90-110	05-FEB-13
WG1623351-2	LCS							
Sulfate (SO4)			101.4		%		90-110	05-FEB-13
WG1623351-6	LCS							
Sulfate (SO4)			101.1		%		90-110	05-FEB-13
WG1623351-1	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	05-FEB-13
WG1623351-5	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	05-FEB-13
WG1623351-9	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	05-FEB-13
WG1623351-4	MS	L1262741-1						
Sulfate (SO4)			108.0		%		75-125	05-FEB-13
WG1623351-8	MS	L1263367-16						
Sulfate (SO4)			94.3		%		75-125	05-FEB-13
SOLIDS-TOTSUS-TB								
Water								
Batch	R2520155							
WG1622246-2	LCS							
Total Suspended Solids			100.2		%		85-115	04-FEB-13
WG1622246-1	MB							
Total Suspended Solids			<2.0		mg/L		2	04-FEB-13
Batch	R2520228							
WG1621999-2	LCS							
Total Suspended Solids			93.4		%		85-115	02-FEB-13
WG1621999-1	MB							
Total Suspended Solids			<2.0		mg/L		2	02-FEB-13



Quality Control Report

Workorder: L1263671

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SOLIDS-TOTSUS-TB								
	Water							
Batch	R2521788							
WG1622779-3	DUP	L1263671-14						
Total Suspended Solids		11.7	10.9		mg/L	7.1	20	05-FEB-13
WG1622779-2	LCS							
Total Suspended Solids			88.2		%		85-115	05-FEB-13
WG1622779-1	MB							
Total Suspended Solids			<2.0		mg/L		2	05-FEB-13

Quality Control Report

Workorder: L1263671

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Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
J	Duplicate results and limits are expressed in terms of absolute difference.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Quality Control Report

Workorder: L1263671

Report Date: 13-FEB-13

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Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Leachable Anions & Nutrients							
Anions by Ion Chromatography							
	1	29-JAN-13 13:00	05-FEB-13 16:37	5	7	days	EHT
	2	29-JAN-13 13:00	05-FEB-13 16:37	5	7	days	EHT
	3	29-JAN-13 13:00	05-FEB-13 16:37	5	7	days	EHT
	4	29-JAN-13 13:00	05-FEB-13 16:37	5	7	days	EHT
	5	29-JAN-13 13:00	05-FEB-13 16:37	5	7	days	EHT
	6	28-JAN-13 13:00	05-FEB-13 16:37	5	8	days	EHT
	7	28-JAN-13 13:00	05-FEB-13 16:37	5	8	days	EHT
	8	28-JAN-13 13:00	05-FEB-13 16:37	5	8	days	EHT
	9	29-JAN-13 13:00	05-FEB-13 16:37	5	7	days	EHT
	10	29-JAN-13 13:00	05-FEB-13 16:37	5	7	days	EHT
	12	29-JAN-13 13:00	05-FEB-13 16:37	5	7	days	EHT
	13	29-JAN-13 13:00	05-FEB-13 16:37	5	7	days	EHT
	14	29-JAN-13 13:00	05-FEB-13 16:37	5	7	days	EHT
Anions by Ion Chromatography							
	1	29-JAN-13 13:00	05-FEB-13 16:37	5	7	days	EHT
	2	29-JAN-13 13:00	05-FEB-13 16:37	5	7	days	EHT
	3	29-JAN-13 13:00	05-FEB-13 16:37	5	7	days	EHT
	4	29-JAN-13 13:00	05-FEB-13 16:37	5	7	days	EHT
	5	29-JAN-13 13:00	05-FEB-13 16:37	5	7	days	EHT
	6	28-JAN-13 13:00	05-FEB-13 16:37	5	8	days	EHT
	7	28-JAN-13 13:00	05-FEB-13 16:37	5	8	days	EHT
	8	28-JAN-13 13:00	05-FEB-13 16:37	5	8	days	EHT
	9	29-JAN-13 13:00	05-FEB-13 16:37	5	7	days	EHT
	10	29-JAN-13 13:00	05-FEB-13 16:37	5	7	days	EHT
	12	29-JAN-13 13:00	05-FEB-13 16:37	5	7	days	EHT
	13	29-JAN-13 13:00	05-FEB-13 16:37	5	7	days	EHT
	14	29-JAN-13 13:00	05-FEB-13 16:37	5	7	days	EHT
Cyanides							
Cyanide, Total							
	1	29-JAN-13 13:00	13-FEB-13 10:45	14	15	days	EHT
	2	29-JAN-13 13:00	13-FEB-13 10:48	14	15	days	EHT
	3	29-JAN-13 13:00	13-FEB-13 10:49	14	15	days	EHT
	4	29-JAN-13 13:00	13-FEB-13 10:50	14	15	days	EHT
	5	29-JAN-13 13:00	13-FEB-13 10:51	14	15	days	EHT
	6	28-JAN-13 13:00	13-FEB-13 10:52	14	16	days	EHT
	7	28-JAN-13 13:00	13-FEB-13 10:53	14	16	days	EHT
	8	28-JAN-13 13:00	13-FEB-13 10:54	14	16	days	EHT
	9	29-JAN-13 13:00	13-FEB-13 10:55	14	15	days	EHT
	10	29-JAN-13 13:00	13-FEB-13 10:56	14	15	days	EHT
	11	28-JAN-13 13:00	13-FEB-13 10:57	14	16	days	EHT
	12	29-JAN-13 13:00	13-FEB-13 10:58	14	15	days	EHT
	13	29-JAN-13 13:00	13-FEB-13 10:59	14	15	days	EHT
	14	29-JAN-13 13:00	13-FEB-13 11:00	14	15	days	EHT
Cyanide, Weak Acid Diss							
	6	28-JAN-13 13:00	12-FEB-13 07:56	14	15	days	EHT
	7	28-JAN-13 13:00	12-FEB-13 07:57	14	15	days	EHT
	8	28-JAN-13 13:00	12-FEB-13 07:58	14	15	days	EHT
	11	28-JAN-13 13:00	12-FEB-13 08:01	14	15	days	EHT

Legend & Qualifier Definitions:

- EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.
- EHTR: Exceeded ALS recommended hold time prior to sample receipt.
- EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
- EHT: Exceeded ALS recommended hold time prior to analysis.
- Rec. HT: ALS recommended hold time (see units).

Quality Control Report

Workorder: L1263671

Report Date: 13-FEB-13

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Notes*:

Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.

Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L1263671 were received on 31-JAN-13 09:00.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



L1263671-COFC

Company: Treasury Metal		Regulatory Information			Both questions below must answered for water samples																		
Contact: Mac Potter		g.153 (O. Reg. 511 Amend) Table:			Are any samples taken from a regulated DW System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																		
Address: 899 Tree Nursery Rd		Record of Site Condition: <input type="checkbox"/> Yes <input type="checkbox"/> No			If yes, an authorized DW COC must be used.																		
Wabigoon ON P0V 2W0		PWQO: <input checked="" type="checkbox"/> MISA <input type="checkbox"/> MMR <input type="checkbox"/> CCME <input type="checkbox"/>			Is the water sampled intended for human consumption? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																		
Phone: 807-938-6961 Fax:		Guideline Required:			Analysis Request																		
Email: mac@treasurymetals.com		TCLP Regulation 558: <input type="checkbox"/> Other:			Please indicate below Filtered, Preserved or both (F, P, F/P)																		
Project: Job M0906A01 PO: M0210-P0115		Service Requested																					
Quote #: Q32690 LSD Goliath Project		<input checked="" type="checkbox"/> Regular TAT (7 Days)																					
Invoice To: Same as Report: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Priority TAT 50% Surcharge (3-5 Days)																					
Company:		<input type="checkbox"/> Emergency TAT 100% Surcharge (1-2 Days)																					
Contact:		Specify Date Required:																					
Address:		All TAT quoted material is in business days which exclude statutory holidays and weekends. Samples received past 3:00pm or Saturday/Sunday begin the next day.																					
Email:																							
Account Manager: Karen R. Sampler: MP + AT + RN																							
Sample #		Sample Identification (This description will appear on the report)			Date			Time			Sample Type												
SW1					29/01/13			10 ⁰⁰			Water												
SW2					↓			↓			↓												
SW4*					↓			↓			↓												
SW5*					↓			↓			↓												
SW6*					↓			↓			↓												
SW7					28/01/13																		
SW8					28/01/13																		
SW10					28/01/13																		
TL1a					29/01/13																		
TL3					29/01/13																		
ICTa					28/01/13			↓			↓												
Special Instructions/Comments																							
* All starred sample did not get field filtered																							
SHIPMENT RELEASE (client use)					SHIPMENT RECEPTION (lab use only)					SHIPMENT VERIFICATION (lab use only)													
Released by: Mac Potter		Date & Time: 30/01/13 8:30 AM			Received by: KUM		Date & Time: Jan 31/13			Temp: 8.4		Cooling Initiated: <input type="checkbox"/> Yes <input type="checkbox"/> No		Verified by: KUM		Date & Time: Jan 31/13							
MOA																Observations: Yes/No? If Yes add SIF							



Failure to complete all portions of this form may delay analysis. TAT may vary dependant on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs. Any known or suspected hazards relating to a sample must be noted on the chain of custody in the comments section. By use of the form the user acknowledges and agrees with the Terms and Conditions as specified on the back page.

TY-FM-0204g v.2 Analytical COC
 cooler #1: 8.3, 8.4
 2: 8.0, 7.3
 3: 5.4, 4.6
 4: 7.3, 7.3
 5: 6.8, 7.2

See SIF



Company: Treasury Metals		L1263671-COFC		Regulatory information		Both questions below must answered for water samples												
Contact: Mac Potter				(O.Reg.511 Amend) Table:		Are any samples taken from a regulated DW System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No												
Address: 899 Tree Nursery Rd		Wabigoon ON P0V 2W0		Record of Site Condition: <input type="checkbox"/> Yes <input type="checkbox"/> No		If yes, an authorized DW COC must be used.												
Phone: 807-938-6961		Fax:		PWQC <input checked="" type="checkbox"/> MISA <input type="checkbox"/> MMER <input type="checkbox"/> CCME <input type="checkbox"/>		Is the water sampled intended for human consumption? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No												
Email: mac@treasurymetals.com				Guideline Required:		Analysis Request												
Project: Job M0906A01		PO: M0210-P0115		TCLP Regulation 558 <input type="checkbox"/> Other:		Please indicate below Filtered, Preserved or both (F, P, F/P)												
Quote #: Q32690		LSD Goliath Project		Service Requested														
Invoice To:		Same as Report: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input checked="" type="checkbox"/> Regular TAT (7 Days)														
Company:				<input type="checkbox"/> Priority TAT 50% Surcharge (3-5 Days)														
Contact:				<input type="checkbox"/> Emergency TAT 100% Surcharge (1-2 Days)														
Address:				Specify Date Required:														
Email:				All TAT quoted material is in business days which exclude statutory holidays and weekends. Samples received past 3:00pm or Saturday/Sunday begin the next day.														
Account Manager: Karen R.		Sampler:																
Sample #	Sample Identification (This description will appear on the report)			Date	Time	Sample Type	Alk, pH Conductivity	Fe, Cl, NO2, NO3, SO4	Acidity, TSS	Total Cyanide	WAD Cyanide	CN-FREE-COL-VA	Ammonia, Total Phosphorus	OGG	Total Metals +Hg	Dissolved Metals + Hg	Hardness	Number of Containers
	Travel			29/10/13	10 ⁰⁰	Water	X	X	X	X	X	X	X	X	X	X	X	
	Field			↓	↓	↓	X	X	X	X	X	X	X	X	X	X	X	
	Duplicate						X	X	X	X	X	X	X	X	X	X	X	
							X	X	X	X	X	X	X	X	X	X	X	
							X	X	X	X	X	X	X	X	X	X	X	
							X	X	X	X	X	X	X	X	X	X	X	
							X	X	X	X	X	X	X	X	X	X	X	
							X	X	X	X	X	X	X	X	X	X	X	
							X	X	X	X	X	X	X	X	X	X	X	
Special Instructions/Comments																		
SHIPMENT RELEASE (client use)						SHIPMENT RECEPTION (lab use only)						SHIPMENT VERIFICATION (lab use only)						
Released by: Mac Potter		Date & Time: 30/10/13 8:30 AM		Received by: KLM		Date & Time: Jan 31/13 9:10		Temp: 8.4		Cooling Initiated: <input type="checkbox"/> Yes <input type="checkbox"/> No		Verified by: KLM		Date & Time: Jan 31/13 9:30		Observations: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If Yes add SIF		

Failure to complete all portions of this form may delay analysis. TAT may vary dependant on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs. Any known or suspected hazards relating to a sample must be noted on the chain of custody in the comments section. By use of the form the user acknowledges and agrees with the Terms and Conditions as specified on the back page.

Cooler #1: 8.3, 8.4 3: 5.4, 4.6 5: 6.8, 7.2
 2: 8.0, 7.3 4: 7.3, 7.3

See SIF



TREASURY METALS INC.
ATTN: Mac Potter
P.O. Box 789
Dryden ON P8N 2Z4

Date Received: 25-JUL-13
Report Date: 08-AUG-13 07:19 (MT)
Version: FINAL

Client Phone: 807-938-6961

Certificate of Analysis

Lab Work Order #: L1337914
Project P.O. #: M0210-P0115
Job Reference: M0906A01
C of C Numbers:
Legal Site Desc: GOLIATH PROJECT

Bobbie Shortreed
Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 1081 Barton Street, Thunder Bay, ON P7B 5N3 Canada | Phone: +1 807 623 6463 | Fax: +1 807 623 7598
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1337914-1 SURFACE WATE 23-JUL-13 13:00 SW1	L1337914-2 SURFACE WATE 23-JUL-13 13:00 SW2	L1337914-3 SURFACE WATE 23-JUL-13 13:00 SW3	L1337914-4 SURFACE WATE 24-JUL-13 13:00 SW4	L1337914-5 SURFACE WATE 24-JUL-13 13:00 SW5
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (EC) (uS/cm)	112	113	120	99.4	113
Physical Tests	Hardness (as CaCO3) (mg/L)	60.5	61.4	48.8	44.4	50.4
Physical Tests	pH (pH)	7.32	7.41	6.76	7.53	7.64
Physical Tests	Total Suspended Solids (mg/L)	2.3	17.1	3.0	7.5	<2.0
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	4.0	2.0	4.0	3.0	3.0
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L CaCO3)	53.5	54.9	41.5	41.6	46.0
Anions and Nutrients	Ammonia, Total (as N) (mg/L)	<0.020	0.023	<0.020	0.023	0.020
Anions and Nutrients	Chloride (Cl) (mg/L)	0.21	0.13	9.52	3.25	4.18
Anions and Nutrients	Nitrate (as N) (mg/L)	<0.030	0.043	<0.030	<0.030	<0.030
Anions and Nutrients	Nitrite (as N) (mg/L)	<0.020	<0.020	<0.020	<0.020	<0.020
Anions and Nutrients	Phosphorus (P)-Total (mg/L)	0.0099	0.0472	0.0215	0.0194	0.0081
Anions and Nutrients	Sulfate (SO4) (mg/L)	0.75	0.46	1.40	1.62	2.72
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Cyanides	Cyanide, Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Cyanides	Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)	0.0578	0.707	0.0647	0.751	0.0159
Total Metals	Antimony (Sb)-Total (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
Total Metals	Arsenic (As)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Metals	Barium (Ba)-Total (mg/L)	<0.010	0.014	<0.010	0.013	<0.010
Total Metals	Beryllium (Be)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Metals	Bismuth (Bi)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Metals	Boron (B)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
Total Metals	Cadmium (Cd)-Total (mg/L)	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017
Total Metals	Calcium (Ca)-Total (mg/L)	19.0	17.7	14.1	13.9	14.7
Total Metals	Chromium (Cr)-Total (mg/L)	<0.0010	0.0017	<0.0010	0.0012	<0.0010
Total Metals	Cobalt (Co)-Total (mg/L)	<0.00050	0.00069	<0.00050	<0.00050	<0.00050
Total Metals	Copper (Cu)-Total (mg/L)	<0.0010	0.0016	<0.0010	0.0022 ^{DTC}	0.0012
Total Metals	Iron (Fe)-Total (mg/L)	0.472	2.34	0.638	0.692	0.022
Total Metals	Lead (Pb)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Metals	Lithium (Li)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
Total Metals	Magnesium (Mg)-Total (mg/L)	3.12	4.45	3.18	2.57	3.04
Total Metals	Manganese (Mn)-Total (mg/L)	0.0618	0.0853	0.0845	0.0159	0.0045
Total Metals	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1337914-6 SURFACE WATE 24-JUL-13 13:00 SW6	L1337914-7 SURFACE WATE 23-JUL-13 13:00 SW7	L1337914-8 SURFACE WATE 23-JUL-13 13:00 SW8	L1337914-9 SURFACE WATE 24-JUL-13 13:00 SW9	L1337914-10 SURFACE WATE 24-JUL-13 13:00 TL3	
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (EC) (uS/cm)	113	149	111	284	147
Physical Tests	Hardness (as CaCO3) (mg/L)	56.0	83.8	57.7	154	82.7
Physical Tests	pH (pH)	7.68	7.58	7.27	7.89	7.27
Physical Tests	Total Suspended Solids (mg/L)	<2.0	<2.0	2.4	2.0	7.8
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	2.0	2.0	3.0	3.0	5.0
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L CaCO3)	46.4	74.3	49.4	147	68.9
Anions and Nutrients	Ammonia, Total (as N) (mg/L)	<0.020	<0.020	0.021	0.020	0.021
Anions and Nutrients	Chloride (Cl) (mg/L)	4.37	<0.10	0.28	0.39	1.54
Anions and Nutrients	Nitrate (as N) (mg/L)	<0.030	0.051	0.099	0.088	<0.030
Anions and Nutrients	Nitrite (as N) (mg/L)	<0.020	<0.020	<0.020	<0.020	<0.020
Anions and Nutrients	Phosphorus (P)-Total (mg/L)	0.0075	0.0075	0.0155	0.0148	0.0272
Anions and Nutrients	Sulfate (SO4) (mg/L)	2.88	0.56	3.80	0.65	0.35
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Cyanides	Cyanide, Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Cyanides	Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)	0.0237	0.0221	0.0978	0.466	0.380
Total Metals	Antimony (Sb)-Total (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
Total Metals	Arsenic (As)-Total (mg/L)	<0.0010	<0.0010	0.0014	<0.0010	<0.0010
Total Metals	Barium (Ba)-Total (mg/L)	<0.010	0.021	0.012	0.033	0.013
Total Metals	Beryllium (Be)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Metals	Bismuth (Bi)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Metals	Boron (B)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
Total Metals	Cadmium (Cd)-Total (mg/L)	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017
Total Metals	Calcium (Ca)-Total (mg/L)	15.3	30.1	18.9	47.1	23.5
Total Metals	Chromium (Cr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	0.0011	0.0011
Total Metals	Cobalt (Co)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Total Metals	Copper (Cu)-Total (mg/L)	0.0012	<0.0010	0.0011 ^{DTC}	<0.0010	0.0015
Total Metals	Iron (Fe)-Total (mg/L)	0.036	0.441	1.17	0.686	0.992
Total Metals	Lead (Pb)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Metals	Lithium (Li)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
Total Metals	Magnesium (Mg)-Total (mg/L)	3.19	2.60	3.17	8.00	5.60
Total Metals	Manganese (Mn)-Total (mg/L)	0.0053	0.0844	0.0296	0.280	0.128
Total Metals	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	L1337914-11	L1337914-12	L1337914-13	L1337914-14	L1337914-15
Sampled Date	Sampled Time	24-JUL-13	23-JUL-13	23-JUL-13	23-JUL-13	23-JUL-13
Client ID	JCTA	TL1A	DUPLICATE	FIELD BLANK	TRAVEL BLANK	
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (EC) (uS/cm)	136	111	110	<3.0	<3.0
Physical Tests	Hardness (as CaCO3) (mg/L)	76.1	59.7	58.5	<0.51	<0.51
Physical Tests	pH (pH)	7.26	6.99	7.30	5.69	5.46
Physical Tests	Total Suspended Solids (mg/L)	4.9	2.9	<2.0	<2.0	<2.0
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	6.0	6.0	4.0	<2.0	<2.0
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L CaCO3)	66.3	53.3	50.1	<5.0	<5.0
Anions and Nutrients	Ammonia, Total (as N) (mg/L)	0.056	0.185	<0.020	<0.020	<0.020
Anions and Nutrients	Chloride (Cl) (mg/L)	0.68	0.41	0.17	<0.10	0.22 ^{RRV}
Anions and Nutrients	Nitrate (as N) (mg/L)	<0.030	<0.030	0.095	<0.030	<0.030
Anions and Nutrients	Nitrite (as N) (mg/L)	<0.020	<0.020	<0.020	<0.020	<0.020
Anions and Nutrients	Phosphorus (P)-Total (mg/L)	0.0205	0.0208	0.0154	<0.0050	<0.0050
Anions and Nutrients	Sulfate (SO4) (mg/L)	<0.30	<0.30	3.75	<0.30	<0.30
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Cyanides	Cyanide, Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Cyanides	Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)	0.0869	0.0806	0.101	<0.0050	<0.0050
Total Metals	Antimony (Sb)-Total (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
Total Metals	Arsenic (As)-Total (mg/L)	<0.0010	<0.0010	0.0014	<0.0010	<0.0010
Total Metals	Barium (Ba)-Total (mg/L)	0.010	0.016	0.012	<0.010	<0.010
Total Metals	Beryllium (Be)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Metals	Bismuth (Bi)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Metals	Boron (B)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
Total Metals	Cadmium (Cd)-Total (mg/L)	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017
Total Metals	Calcium (Ca)-Total (mg/L)	21.8	16.7	19.5	<0.20	<0.20
Total Metals	Chromium (Cr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Metals	Cobalt (Co)-Total (mg/L)	<0.00050	0.00532	<0.00050	<0.00050	<0.00050
Total Metals	Copper (Cu)-Total (mg/L)	<0.0010	<0.0010	0.0011	<0.0010	<0.0010
Total Metals	Iron (Fe)-Total (mg/L)	1.04	3.34	1.19	<0.020	<0.020
Total Metals	Lead (Pb)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Metals	Lithium (Li)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
Total Metals	Magnesium (Mg)-Total (mg/L)	5.18	3.69	3.19	<0.020	<0.020
Total Metals	Manganese (Mn)-Total (mg/L)	0.124	2.02	0.0305	<0.0010	<0.0010
Total Metals	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID				
	L1337914-16 SURFACE WATE 23-JUL-13 13:00 SW10				
Grouping	Analyte				
WATER					
Physical Tests	Conductivity (EC) (uS/cm)	118			
Physical Tests	Hardness (as CaCO3) (mg/L)	61.1			
Physical Tests	pH (pH)	7.38			
Physical Tests	Total Suspended Solids (mg/L)	<2.0			
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	5.0			
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L CaCO3)	56.7			
Anions and Nutrients	Ammonia, Total (as N) (mg/L)	0.039			
Anions and Nutrients	Chloride (Cl) (mg/L)	0.18			
Anions and Nutrients	Nitrate (as N) (mg/L)	0.045			
Anions and Nutrients	Nitrite (as N) (mg/L)	<0.020			
Anions and Nutrients	Phosphorus (P)-Total (mg/L)	0.0066			
Anions and Nutrients	Sulfate (SO4) (mg/L)	1.49			
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020			
Cyanides	Cyanide, Total (mg/L)	<0.0020			
Cyanides	Cyanide, Free (mg/L)	<0.0050			
Total Metals	Aluminum (Al)-Total (mg/L)	0.0718			
Total Metals	Antimony (Sb)-Total (mg/L)	<0.00060			
Total Metals	Arsenic (As)-Total (mg/L)	<0.0010			
Total Metals	Barium (Ba)-Total (mg/L)	0.013			
Total Metals	Beryllium (Be)-Total (mg/L)	<0.0010			
Total Metals	Bismuth (Bi)-Total (mg/L)	<0.0010			
Total Metals	Boron (B)-Total (mg/L)	<0.050			
Total Metals	Cadmium (Cd)-Total (mg/L)	<0.000017			
Total Metals	Calcium (Ca)-Total (mg/L)	21.3			
Total Metals	Chromium (Cr)-Total (mg/L)	<0.0010			
Total Metals	Cobalt (Co)-Total (mg/L)	<0.00050			
Total Metals	Copper (Cu)-Total (mg/L)	<0.0010			
Total Metals	Iron (Fe)-Total (mg/L)	1.52			
Total Metals	Lead (Pb)-Total (mg/L)	<0.0010			
Total Metals	Lithium (Li)-Total (mg/L)	<0.050			
Total Metals	Magnesium (Mg)-Total (mg/L)	2.73			
Total Metals	Manganese (Mn)-Total (mg/L)	0.0454			
Total Metals	Mercury (Hg)-Total (mg/L)	<0.000010			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1337914-1 SURFACE WATE 23-JUL-13 13:00 SW1	L1337914-2 SURFACE WATE 23-JUL-13 13:00 SW2	L1337914-3 SURFACE WATE 23-JUL-13 13:00 SW3	L1337914-4 SURFACE WATE 24-JUL-13 13:00 SW4	L1337914-5 SURFACE WATE 24-JUL-13 13:00 SW5
Grouping	Analyte					
WATER						
Total Metals	Molybdenum (Mo)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Metals	Nickel (Ni)-Total (mg/L)	<0.0020	0.0022	<0.0020	<0.0020	<0.0020
Total Metals	Potassium (K)-Total (mg/L)	0.53	0.79	0.89	0.95	1.02
Total Metals	Selenium (Se)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Metals	Sodium (Na)-Total (mg/L)	1.50	1.68	6.39	2.82	3.26
Total Metals	Strontium (Sr)-Total (mg/L)	0.0352	0.0334	0.0324	0.0259	0.0292
Total Metals	Tellurium (Te)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Metals	Thallium (Tl)-Total (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Total Metals	Tin (Sn)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Metals	Titanium (Ti)-Total (mg/L)	0.0026	0.0329	0.0025	0.0278	<0.0020
Total Metals	Tungsten (W)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
Total Metals	Uranium (U)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Vanadium (V)-Total (mg/L)	<0.0010	0.0023	<0.0010	0.0014	<0.0010
Total Metals	Zinc (Zn)-Total (mg/L)	<0.0030	0.0036	0.0267	<0.0030	<0.0030
Total Metals	Zirconium (Zr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	0.0135	0.0379	0.0282	0.0309	<0.0050
Dissolved Metals	Antimony (Sb)-Dissolved (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
Dissolved Metals	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Barium (Ba)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
Dissolved Metals	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Boron (B)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
Dissolved Metals	Cadmium (Cd)-Dissolved (mg/L)	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017
Dissolved Metals	Calcium (Ca)-Dissolved (mg/L)	18.9	17.2	14.0	13.6	14.9
Dissolved Metals	Chromium (Cr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Metals	Copper (Cu)-Dissolved (mg/L)	<0.0010	0.0014	<0.0010	0.0044 ^{DTC}	0.0011
Dissolved Metals	Iron (Fe)-Dissolved (mg/L)	0.232	0.741	0.195	<0.020	<0.020
Dissolved Metals	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
Dissolved Metals	Magnesium (Mg)-Dissolved (mg/L)	3.26	4.47	3.33	2.51	3.19
Dissolved Metals	Manganese (Mn)-Dissolved (mg/L)	0.0201	0.0127	0.0023	<0.0010	<0.0010
Dissolved Metals	Mercury (Hg)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Dissolved Metals	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Dissolved Metals	Potassium (K)-Dissolved (mg/L)	0.53	0.68	0.89	0.86	1.02

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

08-AUG-13 07:19 (MT)

Version: FINAL

		Sample ID Description Sampled Date Sampled Time Client ID	L1337914-6 SURFACE WATE 24-JUL-13 13:00 SW6	L1337914-7 SURFACE WATE 23-JUL-13 13:00 SW7	L1337914-8 SURFACE WATE 23-JUL-13 13:00 SW8	L1337914-9 SURFACE WATE 24-JUL-13 13:00 SW9	L1337914-10 SURFACE WATE 24-JUL-13 13:00 TL3
Grouping	Analyte						
WATER							
Total Metals	Molybdenum (Mo)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Metals	Nickel (Ni)-Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Metals	Potassium (K)-Total (mg/L)	1.06	<0.50	0.82	1.82	1.05	
Total Metals	Selenium (Se)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Metals	Sodium (Na)-Total (mg/L)	3.43	1.27	1.55	3.60	2.06	
Total Metals	Strontium (Sr)-Total (mg/L)	0.0297	0.0478	0.0375	0.0817	0.0537	
Total Metals	Tellurium (Te)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Metals	Thallium (Tl)-Total (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Total Metals	Tin (Sn)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Metals	Titanium (Ti)-Total (mg/L)	<0.0020	<0.0020	0.0047	0.0226	0.0151	
Total Metals	Tungsten (W)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Total Metals	Uranium (U)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Vanadium (V)-Total (mg/L)	<0.0010	<0.0010	0.0015	0.0012	0.0013	
Total Metals	Zinc (Zn)-Total (mg/L)	<0.0030	<0.0030	<0.0030 ^{DTC}	<0.0030	<0.0030	<0.0030
Total Metals	Zirconium (Zr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	<0.0050	<0.0050	0.0483	0.0110	0.0364	
Dissolved Metals	Antimony (Sb)-Dissolved (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
Dissolved Metals	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	0.0012	<0.0010	<0.0010	<0.0010
Dissolved Metals	Barium (Ba)-Dissolved (mg/L)	<0.010	0.019	0.011	0.024	<0.010	
Dissolved Metals	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Boron (B)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dissolved Metals	Cadmium (Cd)-Dissolved (mg/L)	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017
Dissolved Metals	Calcium (Ca)-Dissolved (mg/L)	16.5	29.2	17.8	48.3	23.5	
Dissolved Metals	Chromium (Cr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Metals	Copper (Cu)-Dissolved (mg/L)	0.0011	<0.0010	0.0165 ^{DTC}	<0.0010	0.0014	
Dissolved Metals	Iron (Fe)-Dissolved (mg/L)	<0.020	0.030	0.684	<0.020	0.389	
Dissolved Metals	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dissolved Metals	Magnesium (Mg)-Dissolved (mg/L)	3.58	2.65	3.23	8.10	5.84	
Dissolved Metals	Manganese (Mn)-Dissolved (mg/L)	<0.0010	0.0212	0.0067	0.0515	0.0454	
Dissolved Metals	Mercury (Hg)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Dissolved Metals	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Dissolved Metals	Potassium (K)-Dissolved (mg/L)	1.17	<0.50	0.79	1.71	0.99	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1337914-11 SURFACE WATE 24-JUL-13 13:00 JCTA	L1337914-12 SURFACE WATE 23-JUL-13 13:00 TL1A	L1337914-13 SURFACE WATE 23-JUL-13 13:00 DUPLICATE	L1337914-14 SURFACE WATE 23-JUL-13 13:00 FIELD BLANK	L1337914-15 SURFACE WATE 23-JUL-13 13:00 TRAVEL BLANK	
Grouping	Analyte					
WATER						
Total Metals	Molybdenum (Mo)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Metals	Nickel (Ni)-Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Metals	Potassium (K)-Total (mg/L)	0.79	<0.50	0.82	<0.50	<0.50
Total Metals	Selenium (Se)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Metals	Sodium (Na)-Total (mg/L)	1.68	1.13	1.54	<0.10	<0.10
Total Metals	Strontium (Sr)-Total (mg/L)	0.0484	0.0393	0.0382	<0.0010	<0.0010
Total Metals	Tellurium (Te)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Metals	Thallium (Tl)-Total (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Total Metals	Tin (Sn)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Metals	Titanium (Ti)-Total (mg/L)	0.0034	0.0027	0.0049	<0.0020	<0.0020
Total Metals	Tungsten (W)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
Total Metals	Uranium (U)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Vanadium (V)-Total (mg/L)	<0.0010	0.0011	0.0015	<0.0010	<0.0010
Total Metals	Zinc (Zn)-Total (mg/L)	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Total Metals	Zirconium (Zr)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	0.0318	0.0551	0.0501	<0.0050	<0.0050
Dissolved Metals	Antimony (Sb)-Dissolved (mg/L)	<0.00060	<0.00060	<0.00060	0.00088 ^{RRV}	<0.00060
Dissolved Metals	Arsenic (As)-Dissolved (mg/L)	<0.0010	<0.0010	0.0012	<0.0010	<0.0010
Dissolved Metals	Barium (Ba)-Dissolved (mg/L)	<0.010	0.014	0.011	<0.010	<0.010
Dissolved Metals	Beryllium (Be)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Bismuth (Bi)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Boron (B)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
Dissolved Metals	Cadmium (Cd)-Dissolved (mg/L)	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017
Dissolved Metals	Calcium (Ca)-Dissolved (mg/L)	21.4	17.2	18.0	<0.20	<0.20
Dissolved Metals	Chromium (Cr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Cobalt (Co)-Dissolved (mg/L)	<0.00050	0.00458	<0.00050	<0.00050	<0.00050
Dissolved Metals	Copper (Cu)-Dissolved (mg/L)	<0.0010	0.0011	0.0011	<0.0010	<0.0010
Dissolved Metals	Iron (Fe)-Dissolved (mg/L)	0.566	1.79	0.717	<0.020	<0.020
Dissolved Metals	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
Dissolved Metals	Magnesium (Mg)-Dissolved (mg/L)	5.51	4.10	3.28	<0.020	<0.020
Dissolved Metals	Manganese (Mn)-Dissolved (mg/L)	0.0317	1.83	0.0074	<0.0010	<0.0010
Dissolved Metals	Mercury (Hg)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Dissolved Metals	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Nickel (Ni)-Dissolved (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Dissolved Metals	Potassium (K)-Dissolved (mg/L)	0.84	<0.50	0.80	<0.50	<0.50

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1337914-16				
Description	SURFACE WATE				
Sampled Date	23-JUL-13				
Sampled Time	13:00				
Client ID	SW10				
Grouping	Analyte				
WATER					
Total Metals	Molybdenum (Mo)-Total (mg/L)	<0.0010			
Total Metals	Nickel (Ni)-Total (mg/L)	<0.0020			
Total Metals	Potassium (K)-Total (mg/L)	0.58			
Total Metals	Selenium (Se)-Total (mg/L)	<0.0010			
Total Metals	Silver (Ag)-Total (mg/L)	<0.00010			
Total Metals	Sodium (Na)-Total (mg/L)	1.65			
Total Metals	Strontium (Sr)-Total (mg/L)	0.0366			
Total Metals	Tellurium (Te)-Total (mg/L)	<0.0010			
Total Metals	Thallium (Tl)-Total (mg/L)	<0.00030			
Total Metals	Tin (Sn)-Total (mg/L)	<0.0010			
Total Metals	Titanium (Ti)-Total (mg/L)	0.0026			
Total Metals	Tungsten (W)-Total (mg/L)	<0.010			
Total Metals	Uranium (U)-Total (mg/L)	<0.0050			
Total Metals	Vanadium (V)-Total (mg/L)	<0.0010			
Total Metals	Zinc (Zn)-Total (mg/L)	<0.0030			
Total Metals	Zirconium (Zr)-Total (mg/L)	<0.0010			
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	0.0368			
Dissolved Metals	Antimony (Sb)-Dissolved (mg/L)	<0.00060			
Dissolved Metals	Arsenic (As)-Dissolved (mg/L)	<0.0010			
Dissolved Metals	Barium (Ba)-Dissolved (mg/L)	0.012			
Dissolved Metals	Beryllium (Be)-Dissolved (mg/L)	<0.0010			
Dissolved Metals	Bismuth (Bi)-Dissolved (mg/L)	<0.0010			
Dissolved Metals	Boron (B)-Dissolved (mg/L)	<0.050			
Dissolved Metals	Cadmium (Cd)-Dissolved (mg/L)	<0.000017			
Dissolved Metals	Calcium (Ca)-Dissolved (mg/L)	19.7			
Dissolved Metals	Chromium (Cr)-Dissolved (mg/L)	<0.0010			
Dissolved Metals	Cobalt (Co)-Dissolved (mg/L)	<0.00050			
Dissolved Metals	Copper (Cu)-Dissolved (mg/L)	<0.0010			
Dissolved Metals	Iron (Fe)-Dissolved (mg/L)	0.749			
Dissolved Metals	Lead (Pb)-Dissolved (mg/L)	<0.0010			
Dissolved Metals	Lithium (Li)-Dissolved (mg/L)	<0.050			
Dissolved Metals	Magnesium (Mg)-Dissolved (mg/L)	2.86			
Dissolved Metals	Manganese (Mn)-Dissolved (mg/L)	0.0076			
Dissolved Metals	Mercury (Hg)-Dissolved (mg/L)	<0.000010			
Dissolved Metals	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010			
Dissolved Metals	Nickel (Ni)-Dissolved (mg/L)	<0.0020			
Dissolved Metals	Potassium (K)-Dissolved (mg/L)	0.57			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1337914-1 SURFACE WATE 23-JUL-13 13:00 SW1	L1337914-2 SURFACE WATE 23-JUL-13 13:00 SW2	L1337914-3 SURFACE WATE 23-JUL-13 13:00 SW3	L1337914-4 SURFACE WATE 24-JUL-13 13:00 SW4	L1337914-5 SURFACE WATE 24-JUL-13 13:00 SW5	
Grouping	Analyte					
WATER						
Dissolved Metals	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)	1.59	1.73	6.78	2.95	3.50
Dissolved Metals	Strontium (Sr)-Dissolved (mg/L)	0.0329	0.0293	0.0312	0.0225	0.0276
Dissolved Metals	Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Dissolved Metals	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Titanium (Ti)-Dissolved (mg/L)	<0.0020	0.0029	<0.0020	<0.0020	<0.0020
Dissolved Metals	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
Dissolved Metals	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Metals	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Zinc (Zn)-Dissolved (mg/L)	<0.0030	<0.0030	<0.0030	0.0032	<0.0030
Dissolved Metals	Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1337914-6 SURFACE WATE 24-JUL-13 13:00 SW6	L1337914-7 SURFACE WATE 23-JUL-13 13:00 SW7	L1337914-8 SURFACE WATE 23-JUL-13 13:00 SW8	L1337914-9 SURFACE WATE 24-JUL-13 13:00 SW9	L1337914-10 SURFACE WATE 24-JUL-13 13:00 TL3	
Grouping	Analyte					
WATER						
Dissolved Metals	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)	3.92	1.32	1.59	3.71	2.17
Dissolved Metals	Strontium (Sr)-Dissolved (mg/L)	0.0297	0.0444	0.0343	0.0771	0.0499
Dissolved Metals	Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Dissolved Metals	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Titanium (Ti)-Dissolved (mg/L)	<0.0020	<0.0020	0.0025	<0.0020	<0.0020
Dissolved Metals	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
Dissolved Metals	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Metals	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	0.0010	<0.0010	<0.0010
Dissolved Metals	Zinc (Zn)-Dissolved (mg/L)	<0.0030	<0.0030	0.0109 ^{DTC}	<0.0030	<0.0030
Dissolved Metals	Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1337914-11 SURFACE WATE 24-JUL-13 13:00 JCTA	L1337914-12 SURFACE WATE 23-JUL-13 13:00 TL1A	L1337914-13 SURFACE WATE 23-JUL-13 13:00 DUPLICATE	L1337914-14 SURFACE WATE 23-JUL-13 13:00 FIELD BLANK	L1337914-15 SURFACE WATE 23-JUL-13 13:00 TRAVEL BLANK
Grouping	Analyte				
WATER					
Dissolved Metals	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Silver (Ag)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)	1.81	1.28	1.61	<0.10
Dissolved Metals	Strontium (Sr)-Dissolved (mg/L)	0.0466	0.0387	0.0343	<0.0010
Dissolved Metals	Tellurium (Te)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Thallium (Tl)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030
Dissolved Metals	Tin (Sn)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Titanium (Ti)-Dissolved (mg/L)	<0.0020	<0.0020	0.0025	<0.0020
Dissolved Metals	Tungsten (W)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010
Dissolved Metals	Uranium (U)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Metals	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	0.0010	<0.0010
Dissolved Metals	Zinc (Zn)-Dissolved (mg/L)	<0.0030	0.0031	<0.0030	<0.0030
Dissolved Metals	Zirconium (Zr)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1337914-16			
	Description	SURFACE WATE			
	Sampled Date	23-JUL-13			
	Sampled Time	13:00			
	Client ID	SW10			
Grouping	Analyte				
WATER					
Dissolved Metals	Selenium (Se)-Dissolved (mg/L)	<0.0010			
Dissolved Metals	Silver (Ag)-Dissolved (mg/L)	<0.00010			
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)	1.75			
Dissolved Metals	Strontium (Sr)-Dissolved (mg/L)	0.0342			
Dissolved Metals	Tellurium (Te)-Dissolved (mg/L)	<0.0010			
Dissolved Metals	Thallium (Tl)-Dissolved (mg/L)	<0.00030			
Dissolved Metals	Tin (Sn)-Dissolved (mg/L)	<0.0010			
Dissolved Metals	Titanium (Ti)-Dissolved (mg/L)	<0.0020			
Dissolved Metals	Tungsten (W)-Dissolved (mg/L)	<0.010			
Dissolved Metals	Uranium (U)-Dissolved (mg/L)	<0.0050			
Dissolved Metals	Vanadium (V)-Dissolved (mg/L)	<0.0010			
Dissolved Metals	Zinc (Zn)-Dissolved (mg/L)	<0.0030			
Dissolved Metals	Zirconium (Zr)-Dissolved (mg/L)	<0.0010			
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Ammonia, Total (as N)	MS-B	L1337914-1, -12, -13, -14, -15, -16, -2, -3, -7, -8
Matrix Spike	Ammonia, Total (as N)	MS-B	L1337914-10, -11, -4, -5, -6, -9
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1337914-1, -10, -11, -12, -13, -14, -15, -16, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1337914-1, -10, -11, -12, -13, -14, -15, -16, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1337914-1, -10, -11, -12, -13, -14, -15, -16, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1337914-1, -10, -11, -12, -13, -14, -15, -16, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1337914-1, -10, -11, -12, -13, -14, -15, -16, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1337914-1, -10, -11, -12, -13, -14, -15, -16, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1337914-1, -10, -11, -12, -13, -14, -15, -16, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Total	MS-B	L1337914-1, -10, -11, -12, -13, -14, -15, -16, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Total	MS-B	L1337914-1, -10, -11, -12, -13, -14, -15, -16, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Total	MS-B	L1337914-1, -10, -11, -12, -13, -14, -15, -16, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Total	MS-B	L1337914-1, -10, -11, -12, -13, -14, -15, -16, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Total	MS-B	L1337914-1, -10, -11, -12, -13, -14, -15, -16, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Total	MS-B	L1337914-1, -10, -11, -12, -13, -14, -15, -16, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Total	MS-B	L1337914-1, -10, -11, -12, -13, -14, -15, -16, -2, -3, -4, -5, -6, -7, -8, -9

Qualifiers for Individual Parameters Listed:

Qualifier	Description
DTC	Dissolved concentration exceeds total. Results were confirmed by re-analysis.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RRV	Reported Result Verified By Repeat Analysis

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
ACIDITY-TB	Water	Acidity (as CaCO ₃)	APHA 2310 B-POTENTIOMETRIC TITRATION
Aqueous matrices are analyzed by potentiometry. Acidity reported includes acidity caused by hydrolyzable metals present in the sample.			
ALK-TOT-CAP-TB	Water	Alkalinity, Total (as CaCO ₃)	APHA 2320 B-Auto-Pot. Titration
CL-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.			
CN-FREE-CFA-TB	Water	Free Cyanide by Continuous Flow Analyzer	ASTM D7237-10 (modified)
This analysis is carried out using procedures adapted from ASTM Method 7237 "Free Cyanide with Flow Injection Analysis (FIA) Utilizing Gas Diffusion Separation and Amperometric Detection". Free cyanide is determined by in-line gas diffusion at pH 6 with final determination by colourimetric analysis.			
CN-T-CFA-TB	Water	Total Cyanide by CFA	ISO 14403:2002 (modified)
This analysis is carried out using procedures adapted from ISO Method 14403:2002 "Determination of Total Cyanide using Flow Analysis (FIA and CFA)". Total or strong acid dissociable (SAD) cyanide is determined by in-line UV digestion along with sample distillation and final determination by colourimetric analysis.			
Method Limitation: This method is susceptible to interference from thiocyanate (SCN). If SCN is present in the sample, there could be a positive interference with this method, but it would be less than 1% and could be as low as zero.			
CN-WAD-CFA-TB	Water	Weak Acid Dissociable Cyanide by CFA	APHA 4500-CN CYANIDE (modified)
This analysis is carried out using procedures adapted from APHA Method 4500-CN I. "Weak Acid Dissociable Cyanide". Weak Acid Dissociable (WAD) cyanide is determined by in-line sample distillation with final determination by colourimetric analysis.			
EC-CAP-TB	Water	Conductivity (EC)	APHA 2510 B-ELECTRODE

Reference Information

This analysis is carried out using procedures adapted from APHA Method 2510 "Conductivity". Conductivity is determined using a conductivity electrode.

HARDNESS-CALC-TB	Water	Hardness (as CaCO ₃)	CALCULATION
HG-D-CVAF-TB	Water	Dissolved Mercury in Water by CVAFS	Modified from EPA1631 E
HG-T-CVAF-TB	Water	Total Mercury in Water by CVAFS	Modified from EPA1631 E
MET-D-MS-TB	Water	Dissolved Metals by ICPMS	APHA 3030B/EPA 6020A

This analysis involves filtration (APHA 3030B) and analysis by inductively coupled plasma - mass spectrometry (EPA Method 6020A).

MET-T-MS-TB	Water	Total Metals by ICPMS	APHA 3030E/EPA 6020A
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This analysis involves preliminary sample treatment by hotblock acid digestion (APHA 3030E). Instrumental analysis is by inductively coupled plasma - mass spectrometry (EPA Method 6020A).

NH3-COL-TB	Water	Ammonia by Discrete Analyzer	APHA 4500-NH3 G. (modified)
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Ammonia in aqueous matrices is analyzed using discrete analyzer with colourimetric detection.

NO2-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
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Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.

NO3-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
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Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.

OGG-TOT-WT	Water	Oil and Grease, Total	APHA 5520 B
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Sample is extracted with hexane, extract is then evaporated and the residue is weighed to determine total oil and grease.

P-T-COL-TB	Water	Total Phosphorus by Discrete Analyzer	APHA 4500-P B, F, G (modified)
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Phosphorus in aqueous matrices is analyzed using discrete Analyzer with colourimetric detection.

PH-CAP-TB	Water	pH	APHA 4500-H-ELECTRODE
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SO4-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
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Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.

SOLIDS-TOTSUS-TB	Water	Total Suspended Solids	APHA 2540 D (modified)
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Aqueous matrices are analyzed using gravimetry

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
TB	ALS ENVIRONMENTAL - THUNDER BAY, ONTARIO, CANADA
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

mg/kg - milligrams per kilogram based on dry weight of sample.

mg/kg wwt - milligrams per kilogram based on wet weight of sample.

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.

mg/L - milligrams per litre.

< - Less than.

D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L1337914

Report Date: 08-AUG-13

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Client: TREASURY METALS INC.
 P.O. Box 789
 Dryden ON P8N 2Z4
 Contact: Mac Potter

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
ACIDITY-TB								
	Water							
Batch	R2659461							
WG1716215-3	DUP	L1337914-9						
Acidity (as CaCO3)		3.0	3.0		mg/L	0.0	20	29-JUL-13
WG1716215-2	LCS							
Acidity (as CaCO3)			106.0		%		85-115	29-JUL-13
WG1716215-1	MB							
Acidity (as CaCO3)			<2.0		mg/L		2	29-JUL-13
Batch	R2660647							
WG1716994-2	LCS							
Acidity (as CaCO3)			100.0		%		85-115	30-JUL-13
WG1716994-1	MB							
Acidity (as CaCO3)			<2.0		mg/L		2	30-JUL-13
ALK-TOT-CAP-TB								
	Water							
Batch	R2658224							
WG1714268-6	DUP	L1337914-11						
Alkalinity, Total (as CaCO3)		66.3	65.3		mg/L CaCO3	1.5	20	26-JUL-13
WG1714268-11	LCS							
Alkalinity, Total (as CaCO3)			92.6		%		85-115	26-JUL-13
WG1714268-5	LCS							
Alkalinity, Total (as CaCO3)			94.2		%		85-115	26-JUL-13
WG1714268-8	LCS							
Alkalinity, Total (as CaCO3)			92.6		%		85-115	26-JUL-13
WG1714268-10	MB							
Alkalinity, Total (as CaCO3)			<5.0		mg/L CaCO3		5	26-JUL-13
WG1714268-4	MB							
Alkalinity, Total (as CaCO3)			<5.0		mg/L CaCO3		5	26-JUL-13
WG1714268-7	MB							
Alkalinity, Total (as CaCO3)			<5.0		mg/L CaCO3		5	26-JUL-13
Batch	R2659340							
WG1715906-2	LCS							
Alkalinity, Total (as CaCO3)			93.1		%		85-115	29-JUL-13
WG1715906-5	LCS							
Alkalinity, Total (as CaCO3)			94.3		%		85-115	29-JUL-13
WG1715906-1	MB							
Alkalinity, Total (as CaCO3)			<5.0		mg/L CaCO3		5	29-JUL-13
WG1715906-4	MB							
Alkalinity, Total (as CaCO3)			<5.0		mg/L CaCO3		5	29-JUL-13
CL-IC-TB	Water							



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CL-IC-TB								
Water								
Batch	R2658280							
WG1716076-2	LCS							
Chloride (Cl)			93.7		%		90-110	28-JUL-13
WG1716076-1	MB							
Chloride (Cl)			<0.10		mg/L		0.1	28-JUL-13
WG1716076-4	MS	L1337999-1						
Chloride (Cl)			104.9		%		75-125	28-JUL-13
Batch	R2660328							
WG1715671-6	LCS							
Chloride (Cl)			100.4		%		90-110	29-JUL-13
WG1715671-5	MB							
Chloride (Cl)			<0.10		mg/L		0.1	29-JUL-13
WG1715671-8	MS	L1338443-1						
Chloride (Cl)			104.6		%		75-125	29-JUL-13
Batch	R2662220							
WG1716962-13	LCS							
Chloride (Cl)			101.9		%		90-110	30-JUL-13
WG1716962-2	LCS							
Chloride (Cl)			100.8		%		90-110	30-JUL-13
WG1716962-5	LCS							
Chloride (Cl)			102.8		%		90-110	30-JUL-13
WG1716962-9	LCS							
Chloride (Cl)			101.6		%		90-110	30-JUL-13
WG1716962-1	MB							
Chloride (Cl)			<0.10		mg/L		0.1	30-JUL-13
WG1716962-12	MB							
Chloride (Cl)			<0.10		mg/L		0.1	30-JUL-13
WG1716962-8	MB							
Chloride (Cl)			<0.10		mg/L		0.1	30-JUL-13
WG1716962-11	MS	L1337291-13						
Chloride (Cl)			87.5		%		75-125	30-JUL-13
WG1716962-4	MS	L1338403-2						
Chloride (Cl)			78.7		%		75-125	30-JUL-13
WG1716962-7	MS	L1338638-1						
Chloride (Cl)			95.3		%		75-125	30-JUL-13
CN-FREE-CFA-TB	Water							



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CN-FREE-CFA-TB								
Water								
Batch	R2662248							
WG1717473-8	DUP	L1337914-5						
Cyanide, Free		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	30-JUL-13
WG1717473-10	LCS							
Cyanide, Free			97.4		%		80-120	30-JUL-13
WG1717473-2	LCS							
Cyanide, Free			97.8		%		80-120	30-JUL-13
WG1717473-6	LCS							
Cyanide, Free			97.6		%		80-120	30-JUL-13
WG1717473-1	MB							
Cyanide, Free			<0.0050		mg/L		0.005	30-JUL-13
WG1717473-5	MB							
Cyanide, Free			<0.0050		mg/L		0.005	30-JUL-13
WG1717473-9	MB							
Cyanide, Free			<0.0050		mg/L		0.005	30-JUL-13
WG1717473-11	MS	L1337632-3						
Cyanide, Free			96.7		%		70-130	30-JUL-13
WG1717473-4	MS	L1337291-2						
Cyanide, Free			96.9		%		70-130	30-JUL-13
WG1717473-7	MS	L1337914-5						
Cyanide, Free			98.2		%		70-130	30-JUL-13
CN-T-CFA-TB								
Water								
Batch	R2662259							
WG1717468-8	DUP	L1337914-5						
Cyanide, Total		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	30-JUL-13
WG1717468-10	LCS							
Cyanide, Total			97.6		%		80-120	30-JUL-13
WG1717468-2	LCS							
Cyanide, Total			97.1		%		80-120	30-JUL-13
WG1717468-6	LCS							
Cyanide, Total			95.5		%		80-120	30-JUL-13
WG1717468-1	MB							
Cyanide, Total			<0.0020		mg/L		0.002	30-JUL-13
WG1717468-5	MB							
Cyanide, Total			<0.0020		mg/L		0.002	30-JUL-13
WG1717468-9	MB							
Cyanide, Total			<0.0020		mg/L		0.002	30-JUL-13
WG1717468-11	MS	L1337632-3						
Cyanide, Total			96.3		%		70-130	30-JUL-13
WG1717468-4	MS	L1337291-2						



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CN-T-CFA-TB								
	Water							
Batch	R2662259							
WG1717468-4 MS		L1337291-2						
Cyanide, Total			94.0		%		70-130	30-JUL-13
WG1717468-7 MS		L1337914-5						
Cyanide, Total			96.8		%		70-130	30-JUL-13
CN-WAD-CFA-TB								
	Water							
Batch	R2662253							
WG1717469-8 DUP		L1337914-5						
Cyanide, Weak Acid Diss		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	30-JUL-13
WG1717469-10 LCS								
Cyanide, Weak Acid Diss			102.0		%		80-120	30-JUL-13
WG1717469-2 LCS								
Cyanide, Weak Acid Diss			101.6		%		80-120	30-JUL-13
WG1717469-6 LCS								
Cyanide, Weak Acid Diss			100.9		%		80-120	30-JUL-13
WG1717469-1 MB								
Cyanide, Weak Acid Diss			<0.0020		mg/L		0.002	30-JUL-13
WG1717469-5 MB								
Cyanide, Weak Acid Diss			<0.0020		mg/L		0.002	30-JUL-13
WG1717469-9 MB								
Cyanide, Weak Acid Diss			<0.0020		mg/L		0.002	30-JUL-13
WG1717469-11 MS		L1337632-3						
Cyanide, Weak Acid Diss			98.8		%		70-130	30-JUL-13
WG1717469-4 MS		L1337291-2						
Cyanide, Weak Acid Diss			98.6		%		70-130	30-JUL-13
WG1717469-7 MS		L1337914-5						
Cyanide, Weak Acid Diss			101.0		%		70-130	30-JUL-13
EC-CAP-TB								
	Water							
Batch	R2658224							
WG1714268-6 DUP		L1337914-11						
Conductivity (EC)		136	137		uS/cm	0.1	10	26-JUL-13
WG1714268-11 LCS								
Conductivity (EC)			98.9		%		90-110	26-JUL-13
WG1714268-5 LCS								
Conductivity (EC)			100.4		%		90-110	26-JUL-13
WG1714268-8 LCS								
Conductivity (EC)			98.9		%		90-110	26-JUL-13
WG1714268-10 MB								
Conductivity (EC)			<3.0		uS/cm		3	26-JUL-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
EC-CAP-TB								
Water								
Batch	R2658224							
WG1714268-4 MB								
Conductivity (EC)			<3.0		uS/cm		3	26-JUL-13
WG1714268-7 MB								
Conductivity (EC)			<3.0		uS/cm		3	26-JUL-13
HG-D-CVAF-TB								
Water								
Batch	R2656933							
WG1714603-8 DUP		L1337914-5						
Mercury (Hg)-Dissolved		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	26-JUL-13
WG1714603-2 LCS								
Mercury (Hg)-Dissolved			101.0		%		80-120	26-JUL-13
WG1714603-6 LCS								
Mercury (Hg)-Dissolved			96.0		%		80-120	26-JUL-13
WG1714603-1 MB								
Mercury (Hg)-Dissolved			<0.000010		mg/L		0.00001	26-JUL-13
WG1714603-5 MB								
Mercury (Hg)-Dissolved			<0.000010		mg/L		0.00001	26-JUL-13
WG1714603-4 MS		L1337168-3						
Mercury (Hg)-Dissolved			75.3		%		70-130	26-JUL-13
WG1714603-7 MS		L1337914-5						
Mercury (Hg)-Dissolved			74.8		%		70-130	26-JUL-13
HG-T-CVAF-TB								
Water								
Batch	R2656928							
WG1714598-2 LCS								
Mercury (Hg)-Total			105.7		%		80-120	26-JUL-13
WG1714598-6 LCS								
Mercury (Hg)-Total			105.4		%		80-120	26-JUL-13
WG1714598-1 MB								
Mercury (Hg)-Total			<0.000010		mg/L		0.00001	26-JUL-13
WG1714598-5 MB								
Mercury (Hg)-Total			<0.000010		mg/L		0.00001	26-JUL-13
WG1714598-7 MS		L1337666-5						
Mercury (Hg)-Total			97.5		%		70-130	26-JUL-13
MET-D-MS-TB								
Water								
Batch	R2664664							
WG1717992-10 LCS								
Aluminum (Al)-Dissolved			96.9		%		80-120	01-AUG-13
Antimony (Sb)-Dissolved			102.0		%		80-120	01-AUG-13
Arsenic (As)-Dissolved			99.3		%		80-120	01-AUG-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2664664							
WG1717992-10	LCS							
Barium (Ba)-Dissolved			100.4		%		80-120	01-AUG-13
Beryllium (Be)-Dissolved			99.0		%		80-120	01-AUG-13
Bismuth (Bi)-Dissolved			105.8		%		80-120	01-AUG-13
Boron (B)-Dissolved			88.1		%		80-120	01-AUG-13
Cadmium (Cd)-Dissolved			107.4		%		80-120	01-AUG-13
Calcium (Ca)-Dissolved			102.3		%		80-120	01-AUG-13
Chromium (Cr)-Dissolved			104.1		%		80-120	01-AUG-13
Cobalt (Co)-Dissolved			100.8		%		80-120	01-AUG-13
Copper (Cu)-Dissolved			101.0		%		80-120	01-AUG-13
Iron (Fe)-Dissolved			97.1		%		80-120	01-AUG-13
Lead (Pb)-Dissolved			102.8		%		80-120	01-AUG-13
Lithium (Li)-Dissolved			103.4		%		80-120	01-AUG-13
Magnesium (Mg)-Dissolved			105.8		%		80-120	01-AUG-13
Manganese (Mn)-Dissolved			102.5		%		80-120	01-AUG-13
Molybdenum (Mo)-Dissolved			99.5		%		80-120	01-AUG-13
Nickel (Ni)-Dissolved			101.9		%		80-120	01-AUG-13
Potassium (K)-Dissolved			102.4		%		80-120	01-AUG-13
Selenium (Se)-Dissolved			104.7		%		80-120	01-AUG-13
Silver (Ag)-Dissolved			104.0		%		80-120	01-AUG-13
Sodium (Na)-Dissolved			105.3		%		80-120	01-AUG-13
Strontium (Sr)-Dissolved			93.0		%		80-120	01-AUG-13
Tellurium (Te)-Dissolved			103.9		%		80-120	01-AUG-13
Thallium (Tl)-Dissolved			104.0		%		80-120	01-AUG-13
Tin (Sn)-Dissolved			100.4		%		80-120	01-AUG-13
Titanium (Ti)-Dissolved			99.2		%		80-120	01-AUG-13
Tungsten (W)-Dissolved			97.7		%		80-120	01-AUG-13
Uranium (U)-Dissolved			99.8		%		80-120	01-AUG-13
Vanadium (V)-Dissolved			101.4		%		80-120	01-AUG-13
Zinc (Zn)-Dissolved			103.3		%		80-120	01-AUG-13
Zirconium (Zr)-Dissolved			81.5		%		80-120	01-AUG-13
WG1717992-14	LCS							
Aluminum (Al)-Dissolved			85.0		%		80-120	01-AUG-13
Antimony (Sb)-Dissolved			98.9		%		80-120	01-AUG-13
Arsenic (As)-Dissolved			96.0		%		80-120	01-AUG-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2664664							
WG1717992-14	LCS							
Barium (Ba)-Dissolved			95.3		%		80-120	01-AUG-13
Beryllium (Be)-Dissolved			95.5		%		80-120	01-AUG-13
Bismuth (Bi)-Dissolved			102.8		%		80-120	01-AUG-13
Boron (B)-Dissolved			87.1		%		80-120	01-AUG-13
Cadmium (Cd)-Dissolved			105.7		%		80-120	01-AUG-13
Calcium (Ca)-Dissolved			96.8		%		80-120	01-AUG-13
Chromium (Cr)-Dissolved			100.6		%		80-120	01-AUG-13
Cobalt (Co)-Dissolved			97.0		%		80-120	01-AUG-13
Copper (Cu)-Dissolved			95.8		%		80-120	01-AUG-13
Iron (Fe)-Dissolved			92.8		%		80-120	01-AUG-13
Lead (Pb)-Dissolved			99.8		%		80-120	01-AUG-13
Lithium (Li)-Dissolved			95.5		%		80-120	01-AUG-13
Magnesium (Mg)-Dissolved			94.3		%		80-120	01-AUG-13
Manganese (Mn)-Dissolved			98.2		%		80-120	01-AUG-13
Molybdenum (Mo)-Dissolved			96.8		%		80-120	01-AUG-13
Nickel (Ni)-Dissolved			95.9		%		80-120	01-AUG-13
Potassium (K)-Dissolved			98.0		%		80-120	01-AUG-13
Selenium (Se)-Dissolved			98.3		%		80-120	01-AUG-13
Silver (Ag)-Dissolved			101.4		%		80-120	01-AUG-13
Sodium (Na)-Dissolved			97.8		%		80-120	01-AUG-13
Strontium (Sr)-Dissolved			92.7		%		80-120	01-AUG-13
Tellurium (Te)-Dissolved			97.4		%		80-120	01-AUG-13
Thallium (Tl)-Dissolved			103.5		%		80-120	01-AUG-13
Tin (Sn)-Dissolved			100.1		%		80-120	01-AUG-13
Titanium (Ti)-Dissolved			95.0		%		80-120	01-AUG-13
Tungsten (W)-Dissolved			96.6		%		80-120	01-AUG-13
Uranium (U)-Dissolved			98.7		%		80-120	01-AUG-13
Vanadium (V)-Dissolved			96.4		%		80-120	01-AUG-13
Zinc (Zn)-Dissolved			97.6		%		80-120	01-AUG-13
Zirconium (Zr)-Dissolved			80.1		%		80-120	01-AUG-13
WG1717992-2	LCS							
Aluminum (Al)-Dissolved			93.7		%		80-120	01-AUG-13
Antimony (Sb)-Dissolved			100.3		%		80-120	01-AUG-13
Arsenic (As)-Dissolved			99.3		%		80-120	01-AUG-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2664664							
WG1717992-2	LCS							
Barium (Ba)-Dissolved			99.3		%		80-120	01-AUG-13
Beryllium (Be)-Dissolved			103.0		%		80-120	01-AUG-13
Bismuth (Bi)-Dissolved			103.4		%		80-120	01-AUG-13
Boron (B)-Dissolved			85.8		%		80-120	01-AUG-13
Cadmium (Cd)-Dissolved			106.9		%		80-120	01-AUG-13
Calcium (Ca)-Dissolved			102.6		%		80-120	01-AUG-13
Chromium (Cr)-Dissolved			103.6		%		80-120	01-AUG-13
Cobalt (Co)-Dissolved			99.8		%		80-120	01-AUG-13
Copper (Cu)-Dissolved			99.9		%		80-120	01-AUG-13
Iron (Fe)-Dissolved			96.7		%		80-120	01-AUG-13
Lead (Pb)-Dissolved			101.4		%		80-120	01-AUG-13
Lithium (Li)-Dissolved			101.0		%		80-120	01-AUG-13
Magnesium (Mg)-Dissolved			100.8		%		80-120	01-AUG-13
Manganese (Mn)-Dissolved			102.6		%		80-120	01-AUG-13
Molybdenum (Mo)-Dissolved			95.8		%		80-120	01-AUG-13
Nickel (Ni)-Dissolved			99.7		%		80-120	01-AUG-13
Potassium (K)-Dissolved			101.7		%		80-120	01-AUG-13
Selenium (Se)-Dissolved			99.2		%		80-120	01-AUG-13
Silver (Ag)-Dissolved			105.3		%		80-120	01-AUG-13
Sodium (Na)-Dissolved			103.3		%		80-120	01-AUG-13
Strontium (Sr)-Dissolved			93.3		%		80-120	01-AUG-13
Tellurium (Te)-Dissolved			104.5		%		80-120	01-AUG-13
Thallium (Tl)-Dissolved			102.1		%		80-120	01-AUG-13
Tin (Sn)-Dissolved			101.8		%		80-120	01-AUG-13
Titanium (Ti)-Dissolved			98.4		%		80-120	01-AUG-13
Tungsten (W)-Dissolved			97.1		%		80-120	01-AUG-13
Uranium (U)-Dissolved			97.2		%		80-120	01-AUG-13
Vanadium (V)-Dissolved			99.6		%		80-120	01-AUG-13
Zinc (Zn)-Dissolved			101.8		%		80-120	01-AUG-13
Zirconium (Zr)-Dissolved			86.1		%		80-120	01-AUG-13
WG1717992-6	LCS							
Aluminum (Al)-Dissolved			96.2		%		80-120	01-AUG-13
Antimony (Sb)-Dissolved			101.4		%		80-120	01-AUG-13
Arsenic (As)-Dissolved			100.1		%		80-120	01-AUG-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2664664							
WG1717992-6	LCS							
Barium (Ba)-Dissolved			99.9		%		80-120	01-AUG-13
Beryllium (Be)-Dissolved			100.4		%		80-120	01-AUG-13
Bismuth (Bi)-Dissolved			103.6		%		80-120	01-AUG-13
Boron (B)-Dissolved			88.1		%		80-120	01-AUG-13
Cadmium (Cd)-Dissolved			106.9		%		80-120	01-AUG-13
Calcium (Ca)-Dissolved			101.5		%		80-120	01-AUG-13
Chromium (Cr)-Dissolved			104.9		%		80-120	01-AUG-13
Cobalt (Co)-Dissolved			99.8		%		80-120	01-AUG-13
Copper (Cu)-Dissolved			102.6		%		80-120	01-AUG-13
Iron (Fe)-Dissolved			97.7		%		80-120	01-AUG-13
Lead (Pb)-Dissolved			102.0		%		80-120	01-AUG-13
Lithium (Li)-Dissolved			103.0		%		80-120	01-AUG-13
Magnesium (Mg)-Dissolved			103.7		%		80-120	01-AUG-13
Manganese (Mn)-Dissolved			104.1		%		80-120	01-AUG-13
Molybdenum (Mo)-Dissolved			101.6		%		80-120	01-AUG-13
Nickel (Ni)-Dissolved			101.0		%		80-120	01-AUG-13
Potassium (K)-Dissolved			104.0		%		80-120	01-AUG-13
Selenium (Se)-Dissolved			96.4		%		80-120	01-AUG-13
Silver (Ag)-Dissolved			103.1		%		80-120	01-AUG-13
Sodium (Na)-Dissolved			104.8		%		80-120	01-AUG-13
Strontium (Sr)-Dissolved			99.0		%		80-120	01-AUG-13
Tellurium (Te)-Dissolved			101.3		%		80-120	01-AUG-13
Thallium (Tl)-Dissolved			101.5		%		80-120	01-AUG-13
Tin (Sn)-Dissolved			101.9		%		80-120	01-AUG-13
Titanium (Ti)-Dissolved			99.1		%		80-120	01-AUG-13
Tungsten (W)-Dissolved			98.7		%		80-120	01-AUG-13
Uranium (U)-Dissolved			101.1		%		80-120	01-AUG-13
Vanadium (V)-Dissolved			100.4		%		80-120	01-AUG-13
Zinc (Zn)-Dissolved			105.0		%		80-120	01-AUG-13
Zirconium (Zr)-Dissolved			90.4		%		80-120	01-AUG-13
WG1717992-1		MB						
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	01-AUG-13
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	01-AUG-13
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB		Water						
Batch	R2664664							
WG1717992-1	MB							
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	01-AUG-13
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Boron (B)-Dissolved			<0.050		mg/L		0.05	01-AUG-13
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	01-AUG-13
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	01-AUG-13
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	01-AUG-13
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	01-AUG-13
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	01-AUG-13
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	01-AUG-13
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	01-AUG-13
Potassium (K)-Dissolved			<0.50		mg/L		0.5	01-AUG-13
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	01-AUG-13
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	01-AUG-13
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	01-AUG-13
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	01-AUG-13
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	01-AUG-13
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	01-AUG-13
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	01-AUG-13
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
WG1717992-13	MB							
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	01-AUG-13
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	01-AUG-13
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2664664							
WG1717992-13 MB								
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	01-AUG-13
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Boron (B)-Dissolved			<0.050		mg/L		0.05	01-AUG-13
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	01-AUG-13
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	01-AUG-13
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	01-AUG-13
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	01-AUG-13
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	01-AUG-13
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	01-AUG-13
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	01-AUG-13
Potassium (K)-Dissolved			<0.50		mg/L		0.5	01-AUG-13
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	01-AUG-13
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	01-AUG-13
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	01-AUG-13
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	01-AUG-13
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	01-AUG-13
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	01-AUG-13
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	01-AUG-13
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
WG1717992-5 MB								
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	01-AUG-13
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	01-AUG-13
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2664664							
WG1717992-5	MB							
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	01-AUG-13
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Boron (B)-Dissolved			<0.050		mg/L		0.05	01-AUG-13
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	01-AUG-13
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	01-AUG-13
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	01-AUG-13
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	01-AUG-13
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	01-AUG-13
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	01-AUG-13
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	01-AUG-13
Potassium (K)-Dissolved			<0.50		mg/L		0.5	01-AUG-13
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	01-AUG-13
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	01-AUG-13
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	01-AUG-13
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	01-AUG-13
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	01-AUG-13
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	01-AUG-13
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	01-AUG-13
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
WG1717992-9	MB							
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	01-AUG-13
Antimony (Sb)-Dissolved			<0.00060		mg/L		0.0006	01-AUG-13
Arsenic (As)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2664664							
WG1717992-9 MB								
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	01-AUG-13
Beryllium (Be)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Bismuth (Bi)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Boron (B)-Dissolved			<0.050		mg/L		0.05	01-AUG-13
Cadmium (Cd)-Dissolved			<0.000017		mg/L		0.000017	01-AUG-13
Calcium (Ca)-Dissolved			<0.20		mg/L		0.2	01-AUG-13
Chromium (Cr)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Cobalt (Co)-Dissolved			<0.00050		mg/L		0.0005	01-AUG-13
Copper (Cu)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Iron (Fe)-Dissolved			<0.020		mg/L		0.02	01-AUG-13
Lead (Pb)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Lithium (Li)-Dissolved			<0.050		mg/L		0.05	01-AUG-13
Magnesium (Mg)-Dissolved			<0.020		mg/L		0.02	01-AUG-13
Manganese (Mn)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Molybdenum (Mo)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Nickel (Ni)-Dissolved			<0.0020		mg/L		0.002	01-AUG-13
Potassium (K)-Dissolved			<0.50		mg/L		0.5	01-AUG-13
Selenium (Se)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Silver (Ag)-Dissolved			<0.00010		mg/L		0.0001	01-AUG-13
Sodium (Na)-Dissolved			<0.10		mg/L		0.1	01-AUG-13
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Tellurium (Te)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Thallium (Tl)-Dissolved			<0.00030		mg/L		0.0003	01-AUG-13
Tin (Sn)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Titanium (Ti)-Dissolved			<0.0020		mg/L		0.002	01-AUG-13
Tungsten (W)-Dissolved			<0.010		mg/L		0.01	01-AUG-13
Uranium (U)-Dissolved			<0.0050		mg/L		0.005	01-AUG-13
Vanadium (V)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
Zinc (Zn)-Dissolved			<0.0030		mg/L		0.003	01-AUG-13
Zirconium (Zr)-Dissolved			<0.0010		mg/L		0.001	01-AUG-13
WG1717992-12 MS		L1337632-20						
Aluminum (Al)-Dissolved			89.1		%		70-130	01-AUG-13
Antimony (Sb)-Dissolved			106.1		%		70-130	01-AUG-13
Arsenic (As)-Dissolved			111.6		%		70-130	01-AUG-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2664664							
WG1717992-12	MS	L1337632-20						
Beryllium (Be)-Dissolved			112.2		%		70-130	01-AUG-13
Bismuth (Bi)-Dissolved			88.6		%		70-130	01-AUG-13
Boron (B)-Dissolved			101.7		%		70-130	01-AUG-13
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	01-AUG-13
Chromium (Cr)-Dissolved			105.2		%		70-130	01-AUG-13
Cobalt (Co)-Dissolved			105.5		%		70-130	01-AUG-13
Copper (Cu)-Dissolved			99.9		%		70-130	01-AUG-13
Iron (Fe)-Dissolved			101.8		%		70-130	01-AUG-13
Lead (Pb)-Dissolved			101.1		%		70-130	01-AUG-13
Lithium (Li)-Dissolved			105.1		%		70-130	01-AUG-13
Magnesium (Mg)-Dissolved			N/A	MS-B	%		-	01-AUG-13
Manganese (Mn)-Dissolved			106.8		%		70-130	01-AUG-13
Molybdenum (Mo)-Dissolved			104.5		%		70-130	01-AUG-13
Nickel (Ni)-Dissolved			100.8		%		70-130	01-AUG-13
Potassium (K)-Dissolved			106.6		%		70-130	01-AUG-13
Selenium (Se)-Dissolved			113.1		%		70-130	01-AUG-13
Silver (Ag)-Dissolved			108.7		%		70-130	01-AUG-13
Sodium (Na)-Dissolved			102.3		%		70-130	01-AUG-13
Strontium (Sr)-Dissolved			N/A	MS-B	%		-	01-AUG-13
Tellurium (Te)-Dissolved			115.1		%		70-130	01-AUG-13
Thallium (Tl)-Dissolved			97.6		%		70-130	01-AUG-13
Tin (Sn)-Dissolved			105.7		%		70-130	01-AUG-13
Titanium (Ti)-Dissolved			100.9		%		70-130	01-AUG-13
Tungsten (W)-Dissolved			102.8		%		70-130	01-AUG-13
Uranium (U)-Dissolved			102.5		%		70-130	01-AUG-13
Vanadium (V)-Dissolved			105.3		%		70-130	01-AUG-13
Zinc (Zn)-Dissolved			109.3		%		70-130	01-AUG-13
Zirconium (Zr)-Dissolved			97.8		%		70-130	01-AUG-13
WG1717992-4	MS	L1337666-4						
Aluminum (Al)-Dissolved			90.8		%		70-130	01-AUG-13
Antimony (Sb)-Dissolved			108.1		%		70-130	01-AUG-13
Arsenic (As)-Dissolved			116.2		%		70-130	01-AUG-13
Beryllium (Be)-Dissolved			112.9		%		70-130	01-AUG-13
Bismuth (Bi)-Dissolved			85.6		%		70-130	01-AUG-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2664664							
WG1717992-4 MS		L1337666-4						
Boron (B)-Dissolved			99.7		%		70-130	01-AUG-13
Calcium (Ca)-Dissolved			103.8		%		70-130	01-AUG-13
Chromium (Cr)-Dissolved			109.8		%		70-130	01-AUG-13
Cobalt (Co)-Dissolved			110.9		%		70-130	01-AUG-13
Copper (Cu)-Dissolved			102.4		%		70-130	01-AUG-13
Iron (Fe)-Dissolved			107.1		%		70-130	01-AUG-13
Lead (Pb)-Dissolved			107.0		%		70-130	01-AUG-13
Lithium (Li)-Dissolved			110.4		%		70-130	01-AUG-13
Magnesium (Mg)-Dissolved			N/A	MS-B	%		-	01-AUG-13
Manganese (Mn)-Dissolved			110.6		%		70-130	01-AUG-13
Molybdenum (Mo)-Dissolved			99.7		%		70-130	01-AUG-13
Nickel (Ni)-Dissolved			101.4		%		70-130	01-AUG-13
Potassium (K)-Dissolved			110.9		%		70-130	01-AUG-13
Selenium (Se)-Dissolved			120.1		%		70-130	01-AUG-13
Silver (Ag)-Dissolved			114.1		%		70-130	01-AUG-13
Sodium (Na)-Dissolved			96.7		%		70-130	01-AUG-13
Strontium (Sr)-Dissolved			96.3		%		70-130	01-AUG-13
Tellurium (Te)-Dissolved			118.1		%		70-130	01-AUG-13
Thallium (Tl)-Dissolved			102.2		%		70-130	01-AUG-13
Tin (Sn)-Dissolved			108.4		%		70-130	01-AUG-13
Titanium (Ti)-Dissolved			107.4		%		70-130	01-AUG-13
Tungsten (W)-Dissolved			103.0		%		70-130	01-AUG-13
Uranium (U)-Dissolved			108.0		%		70-130	01-AUG-13
Vanadium (V)-Dissolved			110.6		%		70-130	01-AUG-13
Zinc (Zn)-Dissolved			114.1		%		70-130	01-AUG-13
Zirconium (Zr)-Dissolved			98.8		%		70-130	01-AUG-13
WG1717992-8 MS		L1338344-2						
Aluminum (Al)-Dissolved			105.6		%		70-130	01-AUG-13
Antimony (Sb)-Dissolved			107.4		%		70-130	01-AUG-13
Arsenic (As)-Dissolved			119.7		%		70-130	01-AUG-13
Barium (Ba)-Dissolved			118.2		%		70-130	01-AUG-13
Beryllium (Be)-Dissolved			110.6		%		70-130	01-AUG-13
Bismuth (Bi)-Dissolved			82.3		%		70-130	01-AUG-13
Boron (B)-Dissolved			109.8		%		70-130	01-AUG-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-MS-TB								
	Water							
Batch	R2664664							
WG1717992-8 MS		L1338344-2						
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	01-AUG-13
Chromium (Cr)-Dissolved			111.0		%		70-130	01-AUG-13
Cobalt (Co)-Dissolved			110.9		%		70-130	01-AUG-13
Copper (Cu)-Dissolved			109.6		%		70-130	01-AUG-13
Iron (Fe)-Dissolved			106.6		%		70-130	01-AUG-13
Lead (Pb)-Dissolved			110.1		%		70-130	01-AUG-13
Lithium (Li)-Dissolved			111.5		%		70-130	01-AUG-13
Magnesium (Mg)-Dissolved			N/A	MS-B	%		-	01-AUG-13
Manganese (Mn)-Dissolved			112.6		%		70-130	01-AUG-13
Molybdenum (Mo)-Dissolved			106.1		%		70-130	01-AUG-13
Nickel (Ni)-Dissolved			106.8		%		70-130	01-AUG-13
Potassium (K)-Dissolved			107.4		%		70-130	01-AUG-13
Selenium (Se)-Dissolved			117.4		%		70-130	01-AUG-13
Silver (Ag)-Dissolved			114.2		%		70-130	01-AUG-13
Sodium (Na)-Dissolved			99.4		%		70-130	01-AUG-13
Strontium (Sr)-Dissolved			N/A	MS-B	%		-	01-AUG-13
Tellurium (Te)-Dissolved			116.7		%		70-130	01-AUG-13
Thallium (Tl)-Dissolved			104.4		%		70-130	01-AUG-13
Tin (Sn)-Dissolved			109.1		%		70-130	01-AUG-13
Titanium (Ti)-Dissolved			103.0		%		70-130	01-AUG-13
Tungsten (W)-Dissolved			107.2		%		70-130	01-AUG-13
Uranium (U)-Dissolved			111.6		%		70-130	01-AUG-13
Vanadium (V)-Dissolved			113.1		%		70-130	01-AUG-13
Zinc (Zn)-Dissolved			121.1		%		70-130	01-AUG-13
Zirconium (Zr)-Dissolved			104.5		%		70-130	01-AUG-13
MET-T-MS-TB								
	Water							
Batch	R2664690							
WG1714600-11 DUP		L1337914-16						
Aluminum (Al)-Total		0.0718	0.0659		mg/L	8.5	20	01-AUG-13
Antimony (Sb)-Total		<0.00060	<0.00060	RPD-NA	mg/L	N/A	20	01-AUG-13
Arsenic (As)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	01-AUG-13
Barium (Ba)-Total		0.013	0.012		mg/L	5.6	20	01-AUG-13
Beryllium (Be)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	01-AUG-13
Bismuth (Bi)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	01-AUG-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2664690							
WG1714600-11	DUP	L1337914-16						
Boron (B)-Total		<0.050	<0.050	RPD-NA	mg/L	N/A	20	01-AUG-13
Cadmium (Cd)-Total		<0.000017	<0.000017	RPD-NA	mg/L	N/A	20	01-AUG-13
Calcium (Ca)-Total		21.3	19.9		mg/L	6.7	20	01-AUG-13
Chromium (Cr)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	01-AUG-13
Cobalt (Co)-Total		<0.00050	<0.00050	RPD-NA	mg/L	N/A	20	01-AUG-13
Copper (Cu)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	01-AUG-13
Iron (Fe)-Total		1.52	1.41		mg/L	7.8	20	01-AUG-13
Lead (Pb)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	01-AUG-13
Lithium (Li)-Total		<0.050	<0.050	RPD-NA	mg/L	N/A	20	01-AUG-13
Magnesium (Mg)-Total		2.73	2.54		mg/L	7.4	20	01-AUG-13
Manganese (Mn)-Total		0.0454	0.0429		mg/L	5.6	20	01-AUG-13
Molybdenum (Mo)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	01-AUG-13
Nickel (Ni)-Total		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	01-AUG-13
Potassium (K)-Total		0.58	0.55		mg/L	6.3	20	01-AUG-13
Selenium (Se)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	01-AUG-13
Silver (Ag)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	01-AUG-13
Sodium (Na)-Total		1.65	1.54		mg/L	7.0	20	01-AUG-13
Strontium (Sr)-Total		0.0366	0.0342		mg/L	7.0	20	01-AUG-13
Tellurium (Te)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	01-AUG-13
Thallium (Tl)-Total		<0.00030	<0.00030	RPD-NA	mg/L	N/A	20	01-AUG-13
Tin (Sn)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	01-AUG-13
Titanium (Ti)-Total		0.0026	0.0023		mg/L	12	20	01-AUG-13
Tungsten (W)-Total		<0.010	<0.010	RPD-NA	mg/L	N/A	20	01-AUG-13
Uranium (U)-Total		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	01-AUG-13
Vanadium (V)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	01-AUG-13
Zinc (Zn)-Total		<0.0030	<0.0030	RPD-NA	mg/L	N/A	20	01-AUG-13
Zirconium (Zr)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	01-AUG-13
WG1714600-10	LCS							
Aluminum (Al)-Total			91.4		%		80-120	01-AUG-13
Antimony (Sb)-Total			101.4		%		80-120	01-AUG-13
Arsenic (As)-Total			98.8		%		80-120	01-AUG-13
Barium (Ba)-Total			100.6		%		80-120	01-AUG-13
Beryllium (Be)-Total			96.7		%		80-120	01-AUG-13
Bismuth (Bi)-Total			103.7		%		80-120	01-AUG-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2664690							
WG1714600-10	LCS							
Boron (B)-Total			87.7		%		80-120	01-AUG-13
Cadmium (Cd)-Total			106.9		%		80-120	01-AUG-13
Calcium (Ca)-Total			102.2		%		80-120	01-AUG-13
Chromium (Cr)-Total			101.2		%		80-120	01-AUG-13
Cobalt (Co)-Total			97.9		%		80-120	01-AUG-13
Copper (Cu)-Total			102.1		%		80-120	01-AUG-13
Iron (Fe)-Total			96.0		%		80-120	01-AUG-13
Lead (Pb)-Total			102.2		%		80-120	01-AUG-13
Lithium (Li)-Total			93.8		%		80-120	01-AUG-13
Magnesium (Mg)-Total			97.8		%		80-120	01-AUG-13
Manganese (Mn)-Total			102.3		%		80-120	01-AUG-13
Molybdenum (Mo)-Total			97.9		%		80-120	01-AUG-13
Nickel (Ni)-Total			102.8		%		80-120	01-AUG-13
Potassium (K)-Total			99.2		%		80-120	01-AUG-13
Selenium (Se)-Total			98.0		%		80-120	01-AUG-13
Silver (Ag)-Total			105.2		%		80-120	01-AUG-13
Sodium (Na)-Total			100.9		%		80-120	01-AUG-13
Strontium (Sr)-Total			94.2		%		80-120	01-AUG-13
Tellurium (Te)-Total			102.7		%		80-120	01-AUG-13
Thallium (Tl)-Total			101.2		%		80-120	01-AUG-13
Tin (Sn)-Total			103.8		%		80-120	01-AUG-13
Titanium (Ti)-Total			95.3		%		80-120	01-AUG-13
Tungsten (W)-Total			100.1		%		80-120	01-AUG-13
Uranium (U)-Total			98.4		%		80-120	01-AUG-13
Vanadium (V)-Total			100.5		%		80-120	01-AUG-13
Zinc (Zn)-Total			101.4		%		80-120	01-AUG-13
Zirconium (Zr)-Total			86.1		%		80-120	01-AUG-13
WG1714600-2	LCS							
Aluminum (Al)-Total			99.5		%		80-120	01-AUG-13
Antimony (Sb)-Total			106.7		%		80-120	01-AUG-13
Arsenic (As)-Total			103.4		%		80-120	01-AUG-13
Barium (Ba)-Total			104.4		%		80-120	01-AUG-13
Beryllium (Be)-Total			101.7		%		80-120	01-AUG-13
Bismuth (Bi)-Total			112.8		%		80-120	01-AUG-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2664690							
WG1714600-2	LCS							
Boron (B)-Total			89.0		%		80-120	01-AUG-13
Cadmium (Cd)-Total			114.0		%		80-120	01-AUG-13
Calcium (Ca)-Total			105.3		%		80-120	01-AUG-13
Chromium (Cr)-Total			107.8		%		80-120	01-AUG-13
Cobalt (Co)-Total			100.8		%		80-120	01-AUG-13
Copper (Cu)-Total			106.7		%		80-120	01-AUG-13
Iron (Fe)-Total			102.1		%		80-120	01-AUG-13
Lead (Pb)-Total			108.7		%		80-120	01-AUG-13
Lithium (Li)-Total			100.6		%		80-120	01-AUG-13
Magnesium (Mg)-Total			105.4		%		80-120	01-AUG-13
Manganese (Mn)-Total			107.7		%		80-120	01-AUG-13
Molybdenum (Mo)-Total			103.2		%		80-120	01-AUG-13
Nickel (Ni)-Total			105.7		%		80-120	01-AUG-13
Potassium (K)-Total			104.7		%		80-120	01-AUG-13
Selenium (Se)-Total			102.2		%		80-120	01-AUG-13
Silver (Ag)-Total			107.8		%		80-120	01-AUG-13
Sodium (Na)-Total			105.8		%		80-120	01-AUG-13
Strontium (Sr)-Total			101.4		%		80-120	01-AUG-13
Tellurium (Te)-Total			107.1		%		80-120	01-AUG-13
Thallium (Tl)-Total			107.6		%		80-120	01-AUG-13
Tin (Sn)-Total			105.1		%		80-120	01-AUG-13
Titanium (Ti)-Total			103.5		%		80-120	01-AUG-13
Tungsten (W)-Total			105.7		%		80-120	01-AUG-13
Uranium (U)-Total			106.8		%		80-120	01-AUG-13
Vanadium (V)-Total			105.6		%		80-120	01-AUG-13
Zinc (Zn)-Total			107.3		%		80-120	01-AUG-13
Zirconium (Zr)-Total			90.3		%		80-120	01-AUG-13
WG1714600-6	LCS							
Aluminum (Al)-Total			90.5		%		80-120	01-AUG-13
Antimony (Sb)-Total			101.9		%		80-120	01-AUG-13
Arsenic (As)-Total			96.7		%		80-120	01-AUG-13
Barium (Ba)-Total			100.2		%		80-120	01-AUG-13
Beryllium (Be)-Total			98.4		%		80-120	01-AUG-13
Bismuth (Bi)-Total			103.8		%		80-120	01-AUG-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2664690							
WG1714600-6	LCS							
Boron (B)-Total			87.2		%		80-120	01-AUG-13
Cadmium (Cd)-Total			108.2		%		80-120	01-AUG-13
Calcium (Ca)-Total			100.4		%		80-120	01-AUG-13
Chromium (Cr)-Total			103.1		%		80-120	01-AUG-13
Cobalt (Co)-Total			98.3		%		80-120	01-AUG-13
Copper (Cu)-Total			99.7		%		80-120	01-AUG-13
Iron (Fe)-Total			97.3		%		80-120	01-AUG-13
Lead (Pb)-Total			102.7		%		80-120	01-AUG-13
Lithium (Li)-Total			95.5		%		80-120	01-AUG-13
Magnesium (Mg)-Total			97.6		%		80-120	01-AUG-13
Manganese (Mn)-Total			101.1		%		80-120	01-AUG-13
Molybdenum (Mo)-Total			96.1		%		80-120	01-AUG-13
Nickel (Ni)-Total			100.3		%		80-120	01-AUG-13
Potassium (K)-Total			97.4		%		80-120	01-AUG-13
Selenium (Se)-Total			101.1		%		80-120	01-AUG-13
Silver (Ag)-Total			104.4		%		80-120	01-AUG-13
Sodium (Na)-Total			98.3		%		80-120	01-AUG-13
Strontium (Sr)-Total			94.2		%		80-120	01-AUG-13
Tellurium (Te)-Total			101.2		%		80-120	01-AUG-13
Thallium (Tl)-Total			102.0		%		80-120	01-AUG-13
Tin (Sn)-Total			102.8		%		80-120	01-AUG-13
Titanium (Ti)-Total			96.9		%		80-120	01-AUG-13
Tungsten (W)-Total			98.5		%		80-120	01-AUG-13
Uranium (U)-Total			99.2		%		80-120	01-AUG-13
Vanadium (V)-Total			98.0		%		80-120	01-AUG-13
Zinc (Zn)-Total			99.3		%		80-120	01-AUG-13
Zirconium (Zr)-Total			85.1		%		80-120	01-AUG-13
WG1714600-1	MB							
Aluminum (Al)-Total			<0.0050		mg/L		0.005	01-AUG-13
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	01-AUG-13
Arsenic (As)-Total			<0.0010		mg/L		0.001	01-AUG-13
Barium (Ba)-Total			<0.010		mg/L		0.01	01-AUG-13
Beryllium (Be)-Total			<0.0010		mg/L		0.001	01-AUG-13
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	01-AUG-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2664690							
WG1714600-1	MB							
Boron (B)-Total			<0.050		mg/L		0.05	01-AUG-13
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	01-AUG-13
Calcium (Ca)-Total			<0.20		mg/L		0.2	01-AUG-13
Chromium (Cr)-Total			<0.0010		mg/L		0.001	01-AUG-13
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	01-AUG-13
Copper (Cu)-Total			<0.0010		mg/L		0.001	01-AUG-13
Iron (Fe)-Total			<0.020		mg/L		0.02	01-AUG-13
Lead (Pb)-Total			<0.0010		mg/L		0.001	01-AUG-13
Lithium (Li)-Total			<0.050		mg/L		0.05	01-AUG-13
Magnesium (Mg)-Total			<0.020		mg/L		0.02	01-AUG-13
Manganese (Mn)-Total			<0.0010		mg/L		0.001	01-AUG-13
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	01-AUG-13
Nickel (Ni)-Total			<0.0020		mg/L		0.002	01-AUG-13
Potassium (K)-Total			<0.50		mg/L		0.5	01-AUG-13
Selenium (Se)-Total			<0.0010		mg/L		0.001	01-AUG-13
Silver (Ag)-Total			<0.00010		mg/L		0.0001	01-AUG-13
Sodium (Na)-Total			<0.10		mg/L		0.1	01-AUG-13
Strontium (Sr)-Total			<0.0010		mg/L		0.001	01-AUG-13
Tellurium (Te)-Total			<0.0010		mg/L		0.001	01-AUG-13
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	01-AUG-13
Tin (Sn)-Total			<0.0010		mg/L		0.001	01-AUG-13
Titanium (Ti)-Total			<0.0020		mg/L		0.002	01-AUG-13
Tungsten (W)-Total			<0.010		mg/L		0.01	01-AUG-13
Uranium (U)-Total			<0.0050		mg/L		0.005	01-AUG-13
Vanadium (V)-Total			<0.0010		mg/L		0.001	01-AUG-13
Zinc (Zn)-Total			<0.0030		mg/L		0.003	01-AUG-13
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	01-AUG-13
WG1714600-5	MB							
Aluminum (Al)-Total			<0.0050		mg/L		0.005	01-AUG-13
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	01-AUG-13
Arsenic (As)-Total			<0.0010		mg/L		0.001	01-AUG-13
Barium (Ba)-Total			<0.010		mg/L		0.01	01-AUG-13
Beryllium (Be)-Total			<0.0010		mg/L		0.001	01-AUG-13
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	01-AUG-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB		Water						
Batch	R2664690							
WG1714600-5 MB								
Boron (B)-Total			<0.050		mg/L		0.05	01-AUG-13
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	01-AUG-13
Calcium (Ca)-Total			<0.20		mg/L		0.2	01-AUG-13
Chromium (Cr)-Total			<0.0010		mg/L		0.001	01-AUG-13
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	01-AUG-13
Copper (Cu)-Total			<0.0010		mg/L		0.001	01-AUG-13
Iron (Fe)-Total			<0.020		mg/L		0.02	01-AUG-13
Lead (Pb)-Total			<0.0010		mg/L		0.001	01-AUG-13
Lithium (Li)-Total			<0.050		mg/L		0.05	01-AUG-13
Magnesium (Mg)-Total			<0.020		mg/L		0.02	01-AUG-13
Manganese (Mn)-Total			<0.0010		mg/L		0.001	01-AUG-13
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	01-AUG-13
Nickel (Ni)-Total			<0.0020		mg/L		0.002	01-AUG-13
Potassium (K)-Total			<0.50		mg/L		0.5	01-AUG-13
Selenium (Se)-Total			<0.0010		mg/L		0.001	01-AUG-13
Silver (Ag)-Total			<0.00010		mg/L		0.0001	01-AUG-13
Sodium (Na)-Total			<0.10		mg/L		0.1	01-AUG-13
Strontium (Sr)-Total			<0.0010		mg/L		0.001	01-AUG-13
Tellurium (Te)-Total			<0.0010		mg/L		0.001	01-AUG-13
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	01-AUG-13
Tin (Sn)-Total			<0.0010		mg/L		0.001	01-AUG-13
Titanium (Ti)-Total			<0.0020		mg/L		0.002	01-AUG-13
Tungsten (W)-Total			<0.010		mg/L		0.01	01-AUG-13
Uranium (U)-Total			<0.0050		mg/L		0.005	01-AUG-13
Vanadium (V)-Total			<0.0010		mg/L		0.001	01-AUG-13
Zinc (Zn)-Total			<0.0030		mg/L		0.003	01-AUG-13
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	01-AUG-13
WG1714600-9 MB								
Aluminum (Al)-Total			<0.0050		mg/L		0.005	01-AUG-13
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	01-AUG-13
Arsenic (As)-Total			<0.0010		mg/L		0.001	01-AUG-13
Barium (Ba)-Total			<0.010		mg/L		0.01	01-AUG-13
Beryllium (Be)-Total			<0.0010		mg/L		0.001	01-AUG-13
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	01-AUG-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-MS-TB								
	Water							
Batch	R2664690							
WG1714600-9	MB							
Boron (B)-Total			<0.050		mg/L		0.05	01-AUG-13
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	01-AUG-13
Calcium (Ca)-Total			<0.20		mg/L		0.2	01-AUG-13
Chromium (Cr)-Total			<0.0010		mg/L		0.001	01-AUG-13
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	01-AUG-13
Copper (Cu)-Total			<0.0010		mg/L		0.001	01-AUG-13
Iron (Fe)-Total			<0.020		mg/L		0.02	01-AUG-13
Lead (Pb)-Total			<0.0010		mg/L		0.001	01-AUG-13
Lithium (Li)-Total			<0.050		mg/L		0.05	01-AUG-13
Magnesium (Mg)-Total			<0.020		mg/L		0.02	01-AUG-13
Manganese (Mn)-Total			<0.0010		mg/L		0.001	01-AUG-13
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	01-AUG-13
Nickel (Ni)-Total			<0.0020		mg/L		0.002	01-AUG-13
Potassium (K)-Total			<0.50		mg/L		0.5	01-AUG-13
Selenium (Se)-Total			<0.0010		mg/L		0.001	01-AUG-13
Silver (Ag)-Total			<0.00010		mg/L		0.0001	01-AUG-13
Sodium (Na)-Total			<0.10		mg/L		0.1	01-AUG-13
Strontium (Sr)-Total			<0.0010		mg/L		0.001	01-AUG-13
Tellurium (Te)-Total			<0.0010		mg/L		0.001	01-AUG-13
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	01-AUG-13
Tin (Sn)-Total			<0.0010		mg/L		0.001	01-AUG-13
Titanium (Ti)-Total			<0.0020		mg/L		0.002	01-AUG-13
Tungsten (W)-Total			<0.010		mg/L		0.01	01-AUG-13
Uranium (U)-Total			<0.0050		mg/L		0.005	01-AUG-13
Vanadium (V)-Total			<0.0010		mg/L		0.001	01-AUG-13
Zinc (Zn)-Total			<0.0030		mg/L		0.003	01-AUG-13
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	01-AUG-13
WG1714600-12	MS	L1337914-16						
Aluminum (Al)-Total			92.8		%		70-130	01-AUG-13
Antimony (Sb)-Total			103.7		%		70-130	01-AUG-13
Arsenic (As)-Total			109.6		%		70-130	01-AUG-13
Barium (Ba)-Total			103.7		%		70-130	01-AUG-13
Beryllium (Be)-Total			103.4		%		70-130	01-AUG-13
Bismuth (Bi)-Total			107.8		%		70-130	01-AUG-13



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MET-T-MS-TB								
	Water							
Batch	R2664690							
WG1714600-12 MS		L1337914-16						
Boron (B)-Total			97.7		%		70-130	01-AUG-13
Calcium (Ca)-Total			N/A	MS-B	%		-	01-AUG-13
Chromium (Cr)-Total			108.3		%		70-130	01-AUG-13
Cobalt (Co)-Total			107.8		%		70-130	01-AUG-13
Copper (Cu)-Total			100.8		%		70-130	01-AUG-13
Iron (Fe)-Total			103.0		%		70-130	01-AUG-13
Lead (Pb)-Total			104.5		%		70-130	01-AUG-13
Lithium (Li)-Total			107.1		%		70-130	01-AUG-13
Magnesium (Mg)-Total			N/A	MS-B	%		-	01-AUG-13
Manganese (Mn)-Total			N/A	MS-B	%		-	01-AUG-13
Molybdenum (Mo)-Total			104.7		%		70-130	01-AUG-13
Nickel (Ni)-Total			98.9		%		70-130	01-AUG-13
Potassium (K)-Total			99.1		%		70-130	01-AUG-13
Selenium (Se)-Total			101.9		%		70-130	01-AUG-13
Silver (Ag)-Total			110.6		%		70-130	01-AUG-13
Sodium (Na)-Total			84.3		%		70-130	01-AUG-13
Strontium (Sr)-Total			N/A	MS-B	%		-	01-AUG-13
Tellurium (Te)-Total			99.9		%		70-130	01-AUG-13
Thallium (Tl)-Total			100.6		%		70-130	01-AUG-13
Tin (Sn)-Total			109.0		%		70-130	01-AUG-13
Titanium (Ti)-Total			105.9		%		70-130	01-AUG-13
Tungsten (W)-Total			106.1		%		70-130	01-AUG-13
Uranium (U)-Total			108.8		%		70-130	01-AUG-13
Vanadium (V)-Total			109.0		%		70-130	01-AUG-13
Zinc (Zn)-Total			96.7		%		70-130	01-AUG-13
Zirconium (Zr)-Total			101.9		%		70-130	01-AUG-13
WG1714600-4 MS		L1337632-20						
Aluminum (Al)-Total			88.6		%		70-130	01-AUG-13
Antimony (Sb)-Total			101.9		%		70-130	01-AUG-13
Arsenic (As)-Total			108.0		%		70-130	01-AUG-13
Beryllium (Be)-Total			105.3		%		70-130	01-AUG-13
Bismuth (Bi)-Total			105.1		%		70-130	01-AUG-13
Boron (B)-Total			94.5		%		70-130	01-AUG-13
Calcium (Ca)-Total			N/A	MS-B	%		-	01-AUG-13



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MET-T-MS-TB								
	Water							
Batch	R2664690							
WG1714600-4 MS		L1337632-20						
Chromium (Cr)-Total			105.2		%		70-130	01-AUG-13
Cobalt (Co)-Total			103.8		%		70-130	01-AUG-13
Copper (Cu)-Total			97.7		%		70-130	01-AUG-13
Iron (Fe)-Total			101.0		%		70-130	01-AUG-13
Lead (Pb)-Total			102.2		%		70-130	01-AUG-13
Lithium (Li)-Total			103.2		%		70-130	01-AUG-13
Magnesium (Mg)-Total			N/A	MS-B	%		-	01-AUG-13
Manganese (Mn)-Total			106.8		%		70-130	01-AUG-13
Molybdenum (Mo)-Total			108.1		%		70-130	01-AUG-13
Nickel (Ni)-Total			99.7		%		70-130	01-AUG-13
Potassium (K)-Total			107.1		%		70-130	01-AUG-13
Selenium (Se)-Total			105.7		%		70-130	01-AUG-13
Silver (Ag)-Total			109.5		%		70-130	01-AUG-13
Sodium (Na)-Total			93.9		%		70-130	01-AUG-13
Strontium (Sr)-Total			N/A	MS-B	%		-	01-AUG-13
Tellurium (Te)-Total			99.8		%		70-130	01-AUG-13
Thallium (Tl)-Total			99.0		%		70-130	01-AUG-13
Tin (Sn)-Total			105.5		%		70-130	01-AUG-13
Titanium (Ti)-Total			102.9		%		70-130	01-AUG-13
Tungsten (W)-Total			105.5		%		70-130	01-AUG-13
Uranium (U)-Total			106.4		%		70-130	01-AUG-13
Vanadium (V)-Total			108.9		%		70-130	01-AUG-13
Zinc (Zn)-Total			97.5		%		70-130	01-AUG-13
Zirconium (Zr)-Total			101.9		%		70-130	01-AUG-13
Batch	R2667228							
WG1714600-14 LCS								
Aluminum (Al)-Total			95.0		%		80-120	06-AUG-13
Antimony (Sb)-Total			99.0		%		80-120	06-AUG-13
Arsenic (As)-Total			97.8		%		80-120	06-AUG-13
Barium (Ba)-Total			98.6		%		80-120	06-AUG-13
Beryllium (Be)-Total			93.0		%		80-120	06-AUG-13
Bismuth (Bi)-Total			101.8		%		80-120	06-AUG-13
Boron (B)-Total			99.4		%		80-120	06-AUG-13
Cadmium (Cd)-Total			100.8		%		80-120	06-AUG-13



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MET-T-MS-TB		Water						
Batch	R2667228							
WG1714600-14 LCS								
Calcium (Ca)-Total			98.6		%		80-120	06-AUG-13
Chromium (Cr)-Total			100.2		%		80-120	06-AUG-13
Cobalt (Co)-Total			98.7		%		80-120	06-AUG-13
Copper (Cu)-Total			101.0		%		80-120	06-AUG-13
Iron (Fe)-Total			106.3		%		80-120	06-AUG-13
Lead (Pb)-Total			98.6		%		80-120	06-AUG-13
Lithium (Li)-Total			88.2		%		80-120	06-AUG-13
Magnesium (Mg)-Total			103.0		%		80-120	06-AUG-13
Manganese (Mn)-Total			101.4		%		80-120	06-AUG-13
Molybdenum (Mo)-Total			99.3		%		80-120	06-AUG-13
Nickel (Ni)-Total			103.7		%		80-120	06-AUG-13
Potassium (K)-Total			99.9		%		80-120	06-AUG-13
Selenium (Se)-Total			91.1		%		80-120	06-AUG-13
Silver (Ag)-Total			100.4		%		80-120	06-AUG-13
Sodium (Na)-Total			102.7		%		80-120	06-AUG-13
Strontium (Sr)-Total			94.3		%		80-120	06-AUG-13
Tellurium (Te)-Total			96.7		%		80-120	06-AUG-13
Thallium (Tl)-Total			101.0		%		80-120	06-AUG-13
Tin (Sn)-Total			97.2		%		80-120	06-AUG-13
Titanium (Ti)-Total			90.4		%		80-120	06-AUG-13
Tungsten (W)-Total			96.5		%		80-120	06-AUG-13
Uranium (U)-Total			95.8		%		80-120	06-AUG-13
Vanadium (V)-Total			98.6		%		80-120	06-AUG-13
Zinc (Zn)-Total			101.9		%		80-120	06-AUG-13
Zirconium (Zr)-Total			82.1		%		80-120	06-AUG-13
WG1714600-13 MB								
Aluminum (Al)-Total			<0.0050		mg/L		0.005	06-AUG-13
Antimony (Sb)-Total			<0.00060		mg/L		0.0006	06-AUG-13
Arsenic (As)-Total			<0.0010		mg/L		0.001	06-AUG-13
Barium (Ba)-Total			<0.010		mg/L		0.01	06-AUG-13
Beryllium (Be)-Total			<0.0010		mg/L		0.001	06-AUG-13
Bismuth (Bi)-Total			<0.0010		mg/L		0.001	06-AUG-13
Boron (B)-Total			<0.050		mg/L		0.05	06-AUG-13
Cadmium (Cd)-Total			<0.000017		mg/L		0.000017	06-AUG-13



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MET-T-MS-TB		Water						
Batch	R2667228							
WG1714600-13 MB								
Calcium (Ca)-Total			<0.20		mg/L		0.2	06-AUG-13
Chromium (Cr)-Total			<0.0010		mg/L		0.001	06-AUG-13
Cobalt (Co)-Total			<0.00050		mg/L		0.0005	06-AUG-13
Copper (Cu)-Total			<0.0010		mg/L		0.001	06-AUG-13
Iron (Fe)-Total			<0.020		mg/L		0.02	06-AUG-13
Lead (Pb)-Total			<0.0010		mg/L		0.001	06-AUG-13
Lithium (Li)-Total			<0.050		mg/L		0.05	06-AUG-13
Magnesium (Mg)-Total			<0.020		mg/L		0.02	06-AUG-13
Manganese (Mn)-Total			<0.0010		mg/L		0.001	06-AUG-13
Molybdenum (Mo)-Total			<0.0010		mg/L		0.001	06-AUG-13
Nickel (Ni)-Total			<0.0020		mg/L		0.002	06-AUG-13
Potassium (K)-Total			<0.50		mg/L		0.5	06-AUG-13
Selenium (Se)-Total			<0.0010		mg/L		0.001	06-AUG-13
Silver (Ag)-Total			<0.00010		mg/L		0.0001	06-AUG-13
Sodium (Na)-Total			<0.10		mg/L		0.1	06-AUG-13
Strontium (Sr)-Total			<0.0010		mg/L		0.001	06-AUG-13
Tellurium (Te)-Total			<0.0010		mg/L		0.001	06-AUG-13
Thallium (Tl)-Total			<0.00030		mg/L		0.0003	06-AUG-13
Tin (Sn)-Total			<0.0010		mg/L		0.001	06-AUG-13
Titanium (Ti)-Total			<0.0020		mg/L		0.002	06-AUG-13
Tungsten (W)-Total			<0.010		mg/L		0.01	06-AUG-13
Uranium (U)-Total			<0.0050		mg/L		0.005	06-AUG-13
Vanadium (V)-Total			<0.0010		mg/L		0.001	06-AUG-13
Zinc (Zn)-Total			<0.0030		mg/L		0.003	06-AUG-13
Zirconium (Zr)-Total			<0.0010		mg/L		0.001	06-AUG-13
NH3-COL-TB		Water						
Batch	R2657960							
WG1714611-10 LCS								
Ammonia, Total (as N)			97.3		%		85-115	26-JUL-13
WG1714611-14 LCS								
Ammonia, Total (as N)			97.0		%		85-115	26-JUL-13
WG1714611-18 LCS								
Ammonia, Total (as N)			94.4		%		85-115	26-JUL-13
WG1714611-2 LCS								
Ammonia, Total (as N)			96.3		%		85-115	26-JUL-13



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NH3-COL-TB								
Water								
Batch	R2657960							
WG1714611-22	LCS							
Ammonia, Total (as N)			97.4		%		85-115	26-JUL-13
WG1714611-6	LCS							
Ammonia, Total (as N)			93.5		%		85-115	26-JUL-13
WG1714611-1	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	26-JUL-13
WG1714611-13	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	26-JUL-13
WG1714611-17	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	26-JUL-13
WG1714611-21	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	26-JUL-13
WG1714611-5	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	26-JUL-13
WG1714611-9	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	26-JUL-13
WG1714611-16	MS	L1337291-9						
Ammonia, Total (as N)			87.5		%		75-125	26-JUL-13
WG1714611-20	MS	L1337663-6						
Ammonia, Total (as N)			91.1		%		75-125	26-JUL-13
WG1714611-24	MS	L1337632-13						
Ammonia, Total (as N)			91.6		%		75-125	26-JUL-13
WG1714611-4	MS	L1336878-1						
Ammonia, Total (as N)			N/A	MS-B	%		-	26-JUL-13
WG1714611-8	MS	L1337168-8						
Ammonia, Total (as N)			78.2		%		75-125	26-JUL-13
Batch	R2662392							
WG1716816-10	LCS							
Ammonia, Total (as N)			98.5		%		85-115	30-JUL-13
WG1716816-2	LCS							
Ammonia, Total (as N)			96.8		%		85-115	30-JUL-13
WG1716816-6	LCS							
Ammonia, Total (as N)			97.3		%		85-115	30-JUL-13
WG1716816-1	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	30-JUL-13
WG1716816-5	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	30-JUL-13
WG1716816-9	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	30-JUL-13



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NH3-COL-TB								
Water								
Batch	R2662392							
WG1716816-12	MS	L1338443-1						
Ammonia, Total (as N)			87.0		%		75-125	30-JUL-13
WG1716816-8	MS	L1337666-8						
Ammonia, Total (as N)			N/A	MS-B	%		-	30-JUL-13
NO2-IC-TB								
Water								
Batch	R2658280							
WG1716076-2	LCS							
Nitrite (as N)			97.2		%		90-110	28-JUL-13
WG1716076-1	MB							
Nitrite (as N)			<0.020		mg/L		0.02	28-JUL-13
WG1716076-4	MS	L1337999-1						
Nitrite (as N)			107.4		%		75-115	28-JUL-13
Batch	R2660328							
WG1715671-6	LCS							
Nitrite (as N)			100.2		%		90-110	29-JUL-13
WG1715671-5	MB							
Nitrite (as N)			<0.020		mg/L		0.02	29-JUL-13
WG1715671-8	MS	L1338443-1						
Nitrite (as N)			103.8		%		75-115	29-JUL-13
Batch	R2662220							
WG1716962-13	LCS							
Nitrite (as N)			99.3		%		90-110	30-JUL-13
WG1716962-2	LCS							
Nitrite (as N)			98.1		%		90-110	30-JUL-13
WG1716962-5	LCS							
Nitrite (as N)			101.6		%		90-110	30-JUL-13
WG1716962-9	LCS							
Nitrite (as N)			99.7		%		90-110	30-JUL-13
WG1716962-1	MB							
Nitrite (as N)			<0.020		mg/L		0.02	30-JUL-13
WG1716962-12	MB							
Nitrite (as N)			<0.020		mg/L		0.02	30-JUL-13
WG1716962-8	MB							
Nitrite (as N)			<0.020		mg/L		0.02	30-JUL-13
WG1716962-7	MS	L1338638-1						
Nitrite (as N)			91.3		%		75-115	30-JUL-13
NO3-IC-TB								
Water								



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NO3-IC-TB								
Batch R2658280								
WG1716076-2	LCS							
Nitrate (as N)			99.7		%		90-110	28-JUL-13
WG1716076-1	MB							
Nitrate (as N)			<0.030		mg/L		0.03	28-JUL-13
WG1716076-4	MS	L1337999-1						
Nitrate (as N)			110.0		%		75-125	28-JUL-13
Batch R2660328								
WG1715671-6	LCS							
Nitrate (as N)			102.2		%		90-110	29-JUL-13
WG1715671-5	MB							
Nitrate (as N)			<0.030		mg/L		0.03	29-JUL-13
WG1715671-8	MS	L1338443-1						
Nitrate (as N)			106.7		%		75-125	29-JUL-13
Batch R2662220								
WG1716962-13	LCS							
Nitrate (as N)			104.8		%		90-110	30-JUL-13
WG1716962-2	LCS							
Nitrate (as N)			102.2		%		90-110	30-JUL-13
WG1716962-5	LCS							
Nitrate (as N)			103.9		%		90-110	30-JUL-13
WG1716962-9	LCS							
Nitrate (as N)			103.9		%		90-110	30-JUL-13
WG1716962-1	MB							
Nitrate (as N)			<0.030		mg/L		0.03	30-JUL-13
WG1716962-12	MB							
Nitrate (as N)			<0.030		mg/L		0.03	30-JUL-13
WG1716962-8	MB							
Nitrate (as N)			<0.030		mg/L		0.03	30-JUL-13
WG1716962-4	MS	L1338403-2						
Nitrate (as N)			79.9		%		75-125	30-JUL-13
WG1716962-7	MS	L1338638-1						
Nitrate (as N)			95.6		%		75-125	30-JUL-13
OGG-TOT-WT								
Batch R2664144								
WG1715992-2	LCS							
Oil and Grease, Total			106.6		%		70-130	29-JUL-13
WG1715992-3	LCSD	WG1715992-2						
Oil and Grease, Total		106.6	104		%	2.8	40	29-JUL-13



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OGG-TOT-WT								
Batch R2664144								
WG1715992-1	MB							
Oil and Grease, Total			<2.0		mg/L		2	29-JUL-13
P-T-COL-TB								
Batch R2660379								
WG1715880-10	LCS							
Phosphorus (P)-Total			100.1		%		80-120	29-JUL-13
WG1715880-2	LCS							
Phosphorus (P)-Total			102.7		%		80-120	29-JUL-13
WG1715880-6	LCS							
Phosphorus (P)-Total			102.0		%		80-120	29-JUL-13
WG1715880-1	MB							
Phosphorus (P)-Total			<0.0050		mg/L		0.005	29-JUL-13
WG1715880-5	MB							
Phosphorus (P)-Total			<0.0050		mg/L		0.005	29-JUL-13
WG1715880-9	MB							
Phosphorus (P)-Total			<0.0050		mg/L		0.005	29-JUL-13
WG1715880-12	MS	L1337574-4						
Phosphorus (P)-Total			92.5		%		70-130	29-JUL-13
WG1715880-4	MS	L1337663-15						
Phosphorus (P)-Total			95.0		%		70-130	29-JUL-13
WG1715880-8	MS	L1337666-3						
Phosphorus (P)-Total			77.8		%		70-130	29-JUL-13
Batch R2662515								
WG1716304-2	LCS							
Phosphorus (P)-Total			104.6		%		80-120	31-JUL-13
WG1716304-1	MB							
Phosphorus (P)-Total			<0.0050		mg/L		0.005	31-JUL-13
WG1716304-4	MS	L1337999-2						
Phosphorus (P)-Total			93.3		%		70-130	31-JUL-13
PH-CAP-TB								
Batch R2658224								
WG1714268-6	DUP	L1337914-11						
pH		7.26	7.26	J	pH	0.00	0.2	26-JUL-13
WG1714268-11	LCS							
pH			6.01		pH		5.9-6.1	26-JUL-13
WG1714268-5	LCS							
pH			6.02		pH		5.9-6.1	26-JUL-13



Quality Control Report

Workorder: L1337914

Report Date: 08-AUG-13

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PH-CAP-TB								
Batch	R2658224							
WG1714268-8	LCS							
pH			6.01		pH		5.9-6.1	26-JUL-13
SO4-IC-TB								
Batch	R2658280							
WG1716076-2	LCS							
Sulfate (SO4)			97.4		%		90-110	28-JUL-13
WG1716076-1	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	28-JUL-13
WG1716076-4	MS	L1337999-1						
Sulfate (SO4)			108.0		%		75-125	28-JUL-13
Batch	R2660328							
WG1715671-6	LCS							
Sulfate (SO4)			103.8		%		90-110	29-JUL-13
WG1715671-5	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	29-JUL-13
WG1715671-8	MS	L1338443-1						
Sulfate (SO4)			104.8		%		75-125	29-JUL-13
Batch	R2662220							
WG1716962-13	LCS							
Sulfate (SO4)			107.0		%		90-110	30-JUL-13
WG1716962-2	LCS							
Sulfate (SO4)			105.5		%		90-110	30-JUL-13
WG1716962-5	LCS							
Sulfate (SO4)			108.5		%		90-110	30-JUL-13
WG1716962-9	LCS							
Sulfate (SO4)			106.8		%		90-110	30-JUL-13
WG1716962-1	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	30-JUL-13
WG1716962-12	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	30-JUL-13
WG1716962-8	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	30-JUL-13
WG1716962-11	MS	L1337291-13						
Sulfate (SO4)			91.5		%		75-125	30-JUL-13
WG1716962-4	MS	L1338403-2						
Sulfate (SO4)			82.4		%		75-125	30-JUL-13
WG1716962-7	MS	L1338638-1						



Quality Control Report

Workorder: L1337914

Report Date: 08-AUG-13

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SO4-IC-TB	Water							
Batch	R2662220							
WG1716962-7 MS		L1338638-1						
Sulfate (SO4)			98.6		%		75-125	30-JUL-13
SOLIDS-TOTSUS-TB	Water							
Batch	R2658040							
WG1714284-2 LCS								
Total Suspended Solids			94.8		%		85-115	26-JUL-13
WG1714284-1 MB								
Total Suspended Solids			<2.0		mg/L		2	26-JUL-13
Batch	R2660481							
WG1715489-2 LCS								
Total Suspended Solids			97.9		%		85-115	27-JUL-13
WG1715489-1 MB								
Total Suspended Solids			<2.0		mg/L		2	27-JUL-13
Batch	R2662350							
WG1716643-2 LCS								
Total Suspended Solids			99.8		%		85-115	30-JUL-13
WG1716643-1 MB								
Total Suspended Solids			<2.0		mg/L		2	30-JUL-13

Quality Control Report

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Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
J	Duplicate results and limits are expressed in terms of absolute difference.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Quality Control Report

Workorder: L1337914

Report Date: 08-AUG-13

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Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
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Legend & Qualifier Definitions:

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.
EHTR: Exceeded ALS recommended hold time prior to sample receipt.
EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
EHT: Exceeded ALS recommended hold time prior to analysis.
Rec. HT: ALS recommended hold time (see units).


Notes*:

Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.
Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L1337914 were received on 25-JUL-13 11:00.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

Company: Treasury Metals		Regulatory Information				Both questions below must answered for water samples											
Contact: Mac Potter		<input checked="" type="checkbox"/> O. Reg 153 (O. Reg 511 Amend) Table: _____				Are any samples taken from a regulated DW System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No											
Address: 899 Tree Nursery Rd Wabigoon ON P0V 2W0		Record of Site Condition <input type="checkbox"/> Yes <input type="checkbox"/> No				If yes, an authorized DW COC must be used.											
Phone: 807-938-6961 Fax: _____		PWQO <input checked="" type="checkbox"/> MISA <input type="checkbox"/> MMR <input type="checkbox"/> CCME <input type="checkbox"/>				Is the water sampled intended for human consumption? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No											
Email: mac@treasurymetals.com		Guideline Required: _____				Analysis Request											
Project: Job M0906A01 PO: M0210-P0115		Service Requested				Please indicate below Filtered, Preserved or both (F, P, F/P)											
Quote # Q32690 LSD Goliath Project		<input checked="" type="checkbox"/> Regular TAT (7 Days)															
Invoice To: _____ Same as Report: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Priority TAT 50% Surcharge (3-5 Days)															
Company: _____		<input type="checkbox"/> Emergency TAT 100% Surcharge (1-2 Days)															
Contact: _____		Specify Date Required: _____															
Address: _____		All TAT quoted material is in business days which exclude statutory holidays and weekends. Samples received past 3:00pm or Saturday/Sunday begin the next day.															
Email: _____																	
Account Manager: Karen R. Sampler: MP AT																	
Sample #	Sample Identification (This description will appear on the report)			Date	Time	Sample Type	Alk, pH Conductivity	Cl, NO2, NO3, SO4	Acidity, TSS	Total, WAD, Free Cyanide	WAD Cyanide	Ammonia, Total Phosphorus	DGC	Total Metals +Hg	Dissolved Metals + Hg	Hardness	Number of Containers
12	TL1a			28/07/13	100	Water	X	X	X	X	X	X	X	X	X	X	8
13	Duplicate						X	X	X	X	X	X	X	X	X	X	
14	Field Blank						X	X	X	X	X	X	X	X	X	X	
15	Travel Blank						X	X	X	X	X	X	X	X	X	X	
16	SW10						X	X	X	X	X	X	X	X	X	X	
							X	X	X	X	X	X	X	X	X	X	
							X	X	X	X	X	X	X	X	X	X	
							X	X	X	X	X	X	X	X	X	X	
							X	X	X	X	X	X	X	X	X	X	
							X	X	X	X	X	X	X	X	X	X	
							X	X	X	X	X	X	X	X	X	X	
							X	X	X	X	X	X	X	X	X	X	
 L1337914-COFC																	
Instructions // Comments																	
SHIPMENT RELEASE (client use)						SHIPMENT RECEPTION (lab use only)						SHIPMENT VERIFICATION (lab use only)					
Released by: <i>MP</i>		Date & Time: 2 PM CST 24/07/13		Received by: _____		Date & Time: _____		Temp: _____		Cooling initiated: <input type="checkbox"/> Yes <input type="checkbox"/> No		Verified by: <i>CPA</i>		Date & Time: 25-Jul-13		Observations: <i>See 04</i> <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes add SIF	

****Failure to complete all portions of this form may delay analysis.**** TAT may vary dependant on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs. Any known or suspected hazards relating to a sample must be noted on the chain of custody in the comments section. By use of the form the user acknowledges and agrees with the Terms and Conditions as specified on the back page.

Company: Treasury Metals		Regulatory Information				Both questions below must answered for water samples																				
Contact: Mac Potter		<input checked="" type="checkbox"/> O. Reg 153 (O. Reg 511 Amend) Table: _____				Are any samples taken from a regulated DW System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																				
Address: 899 Tree Nursery Rd		Record of Site Condition <input type="checkbox"/> Yes <input type="checkbox"/> No				If yes, an authorized DW COC must be used.																				
Wabigoon ON POV 2W0		PWQO <input checked="" type="checkbox"/> MISA <input type="checkbox"/> MMR <input type="checkbox"/> CCME <input type="checkbox"/>				Is the water sampled intended for human consumption? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																				
Phone: 807-938-6961	Fax:	Guideline Required:				Analysis Request																				
Email: mac@treasurymetals.com		TCLP Regulation 558 <input type="checkbox"/> Other:																								
Project: Job M0906A01 PO: M0210-P0115		Service Requested				Please indicate below Filtered, Preserved or both (F, P, F/P)																				
Quote # Q32690 LSD Goliath Project		<input checked="" type="checkbox"/> Regular TAT (7 Days)				Alk, pH Conductivity	Cl, NO ₂ , NO ₃ , SO ₄	Acidity, TSS	Total, WAD, Free Cyanide	WAD Cyanide	Ammonia, Total Phosphorus	OGG	Total Metals +Hg	Dissolved Metals + Hg	Hardness	Number of Containers										
Invoice To:		<input type="checkbox"/> Priority TAT 50% Surcharge (3-5 Days)															F	P	F/P	F	P	F/P	F	P	F/P	
Company:		<input type="checkbox"/> Emergency TAT 100% Surcharge (1-2 Days)																								
Contact:		Specify Date Required:																								
Address:		All TAT quoted material is in business days which exclude statutory holidays and weekends. Samples received past 3:00pm or Saturday/Sunday begin the next day.																								
Email:																										
Account Manager: Karen R.		Sampler: MP AT																								
Sample #	Sample Identification (This description will appear on the report)				Date	Time	Sample Type																			
1	SW1				23/07/13	1 ⁰⁰	WATER		X	X	X	X	X	X	X	X	X	8								
2	SW2								X	X	X	X	X	X	X	X	X									
3	SW3								X	X	X	X	X	X	X	X	X									
4	SW4				24/07/13				X	X	X	X	X	X	X	X	X									
5	SWS								X	X	X	X	X	X	X	X	X									
6	SW6								X	X	X	X	X	X	X	X	X									
7	SW7				23/07/13				X	X	X	X	X	X	X	X	X									
8	SW8								X	X	X	X	X	X	X	X	X									
9	SW9				24/07/13				X	X	X	X	X	X	X	X	X	9								
10	SW TL3								X	X	X	X	X	X	X	X	X	8								
11	ICTA								X	X	X	X	X	X	X	X	X	1								
Special Instructions / Comments																										
* ALL CONTAINER DATED 22/07/13 CORRECT TO 23/07/13, SWITCH SAMPLE 10 ON BOTTLES OF SW3 + SW1 * NO FIELD FILTER COMPLETED																										
SHIPMENT RELEASE (client use)						SHIPMENT RECEPTION (lab use only)						SHIPMENT VERIFICATION (lab use only)														
Released by: [Signature]		Date & Time: 24/07/13		Received by: [Signature]		Date & Time: 25 July 2013		Temp: 18.4		Cooling Initiated: <input type="checkbox"/> Yes <input type="checkbox"/> No		Verified by: CPA		Date & Time: 25-Jul-13		Observations: Yes/No? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes add SIF										

****Failure to complete all portions of this form may delay analysis.**** TAT may vary dependant on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs. Any known or suspected hazards relating to a sample must be noted on the chain of custody in the comments section. By use of the form the user acknowledges and agrees with the Terms and Conditions as specified on the back page.

SEB SIF M



TREASURY METALS INC.
ATTN: Mac Potter
P.O. Box 789
Dryden ON P8N 2Z4

Date Received: 01-NOV-13
Report Date: 20-NOV-13 09:38 (MT)
Version: FINAL

Client Phone: 807-938-6961

Certificate of Analysis

Lab Work Order #: L1386380
Project P.O. #: NOT SUBMITTED
Job Reference:
C of C Numbers:
Legal Site Desc:

Bobbie Shortreed
Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 1081 Barton Street, Thunder Bay, ON P7B 5N3 Canada | Phone: +1 807 623 6463 | Fax: +1 807 623 7598
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1386380-1 WATER 30-OCT-13 12:00 SW1	L1386380-2 WATER 30-OCT-13 12:00 SW2	L1386380-3 WATER 30-OCT-13 12:00 SW3	L1386380-4 WATER 30-OCT-13 12:00 TL3	L1386380-5 WATER 30-OCT-13 12:00 JCTA
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (EC) (uS/cm)	114	112	124	120	96.8
	Hardness (as CaCO3) (mg/L)	57.4	58.5	48.6	59.0	48.6
	pH (pH)	7.69	7.67	7.51	7.59	7.49
	Total Suspended Solids (mg/L)	29.2	20.6	3.4	8.0	3.1
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	5.0	5.0	4.0	8.0	7.0
	Alkalinity, Total (as CaCO3) (mg/L)	56.7	55.0	44.9	57.8	47.6
	Ammonia, Total (as N) (mg/L)	0.024	<0.020	0.091	<0.020	<0.020
	Chloride (Cl) (mg/L)	0.69	1.21	9.41	1.90	1.32
	Nitrate (as N) (mg/L)	<0.030	<0.030	0.045	<0.030	0.042
	Nitrite (as N) (mg/L)	<0.020	<0.020	<0.020	<0.020	<0.020
	Phosphorus (P)-Total (mg/L)	0.0099	0.0271	0.0112	0.0162	0.0156
	Sulfate (SO4) (mg/L)	1.66	0.56	2.08	0.87	0.72
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)	0.0484	0.147	0.0545	0.140	0.0634
	Antimony (Sb)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Arsenic (As)-Total (mg/L)	0.00030	0.00056	0.00048	0.00054	0.00054
	Barium (Ba)-Total (mg/L)	0.00888	0.0107	0.0103	0.00823	0.00626
	Beryllium (Be)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Bismuth (Bi)-Total (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Boron (B)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Total (mg/L)	<0.000010	0.000011	<0.000010	<0.000010	<0.000010
	Calcium (Ca)-Total (mg/L)	17.8	15.8	14.8	16.5	13.2
	Cesium (Cs)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Chromium (Cr)-Total (mg/L)	0.00018	0.00059	0.00030	0.00047	0.00036
	Cobalt (Co)-Total (mg/L)	<0.00010	0.00024	0.00010	0.00018	0.00025
	Copper (Cu)-Total (mg/L)	0.00035	0.00140	0.00079	0.00246	0.00131
	Iron (Fe)-Total (mg/L)	0.263	0.658	0.195	0.890	1.11
	Lead (Pb)-Total (mg/L)	<0.000050	0.000170	<0.000050	0.000401	0.000058
	Lithium (Li)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Magnesium (Mg)-Total (mg/L)	2.55	4.17	3.00	4.04	3.67
	Manganese (Mn)-Total (mg/L)	0.0215	0.0376	0.0127	0.0319	0.118
	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Total (mg/L)	0.000219	0.000098	0.000153	0.000117	0.000174
	Nickel (Ni)-Total (mg/L)	0.00036	0.00123	0.00049	0.00122	0.00063
	Potassium (K)-Total (mg/L)	1.11	1.15	1.13	0.950	0.795

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1386380-6 WATER 30-OCT-13 12:00 TL1A	L1386380-7 WATER 30-OCT-13 12:00 SW10	L1386380-8 WATER 30-OCT-13 12:00 SW7	L1386380-9 WATER 30-OCT-13 12:00 SW8	L1386380-10 WATER 30-OCT-13 12:00 SW9
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (EC) (uS/cm)	57.1	103	99.4	148	196
	Hardness (as CaCO3) (mg/L)	27.3	49.1	48.9	73.0	95.6
	pH (pH)	7.06	7.57	7.77	7.90	7.91
	Total Suspended Solids (mg/L)	8.0	17.0	4.2	3.6	3.4
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	7.0	5.0	4.0	4.0	3.0
	Alkalinity, Total (as CaCO3) (mg/L)	27.3	51.0	44.9	77.5	107
	Ammonia, Total (as N) (mg/L)	0.044	0.047	0.027	0.031	0.031
	Chloride (Cl) (mg/L)	0.71	0.29	0.29	0.33	0.48
	Nitrate (as N) (mg/L)	0.043	0.058	0.201	0.053	0.101
	Nitrite (as N) (mg/L)	<0.020	<0.020	<0.020	<0.020	<0.020
	Phosphorus (P)-Total (mg/L)	0.0194	0.0118	0.0128	<0.0050	0.0062
	Sulfate (SO4) (mg/L)	<0.30	1.44	3.86	0.76	0.60
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)	0.0580	0.105	0.0995	0.0176	0.0420
	Antimony (Sb)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Arsenic (As)-Total (mg/L)	0.00050	0.00061	0.00078	0.00035	0.00027
	Barium (Ba)-Total (mg/L)	0.00665	0.0126	0.00927	0.0178	0.0176
	Beryllium (Be)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Bismuth (Bi)-Total (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Boron (B)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Total (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Calcium (Ca)-Total (mg/L)	7.82	15.6	15.2	26.3	30.2
	Cesium (Cs)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Chromium (Cr)-Total (mg/L)	0.00030	0.00068	0.00055	0.00011	0.00030
	Cobalt (Co)-Total (mg/L)	0.00080	0.00035	0.00016	<0.00010	<0.00010
	Copper (Cu)-Total (mg/L)	0.00021	0.00028	0.00075	0.00038	0.00078
	Iron (Fe)-Total (mg/L)	1.64	1.72	1.03	0.548	0.267
	Lead (Pb)-Total (mg/L)	0.000052	0.000087	0.000085	<0.000050	0.000051
	Lithium (Li)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Magnesium (Mg)-Total (mg/L)	1.86	2.35	2.56	2.17	5.13
	Manganese (Mn)-Total (mg/L)	0.235	0.153	0.0350	0.120	0.132
	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Total (mg/L)	0.000058	0.000196	0.000208	0.000069	0.000158
	Nickel (Ni)-Total (mg/L)	0.00052	0.00036	0.00063	0.00037	0.00092
	Potassium (K)-Total (mg/L)	0.340	0.591	0.679	0.651	1.39

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1386380-11 WATER 30-OCT-13 12:00 SW11	L1386380-12 WATER 30-OCT-13 12:00 FIELD BLANK	L1386380-13 WATER 30-OCT-13 12:00 TRAVEL BLANK	L1386380-14 WATER 30-OCT-13 12:00 SW5	L1386380-15 WATER 30-OCT-13 12:00 SW6
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (EC) (uS/cm)	30.1	<3.0	<3.0	113	112
	Hardness (as CaCO3) (mg/L)	15.5	<0.50	<0.50	47.8	47.5
	pH (pH)	5.36	5.61	5.72	7.75	7.78
	Total Suspended Solids (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	16.0	2.0	2.0	4.0	3.0
	Alkalinity, Total (as CaCO3) (mg/L)	<5.0	<5.0	<5.0	48.3	48.6
	Ammonia, Total (as N) (mg/L)	<0.020	<0.020	<0.020	<0.020	0.028
	Chloride (Cl) (mg/L)	0.50	<0.10	<0.10	4.22	4.21
	Nitrate (as N) (mg/L)	0.063	<0.030	<0.030	<0.030	<0.030
	Nitrite (as N) (mg/L)	<0.020	<0.020	<0.020	<0.020	<0.020
	Phosphorus (P)-Total (mg/L)	0.0245	<0.0050	<0.0050	0.0063	0.0068
Sulfate (SO4) (mg/L)	0.30	<0.30	<0.30	2.88	2.86	
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Total (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals	Aluminum (Al)-Total (mg/L)	0.350	<0.0030	<0.0030	0.0141	0.0171
	Antimony (Sb)-Total (mg/L)	<0.00010	0.00033 ^{RRV}	<0.00010	<0.00010	<0.00010
	Arsenic (As)-Total (mg/L)	0.00097	<0.00010	<0.00010	0.00033	0.00036
	Barium (Ba)-Total (mg/L)	0.00690	<0.000050	<0.000050	0.00898	0.00909
	Beryllium (Be)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Bismuth (Bi)-Total (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Boron (B)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Total (mg/L)	0.000027	<0.000010	<0.000010	<0.000010	<0.000010
	Calcium (Ca)-Total (mg/L)	4.50	<0.020	<0.020	14.6	14.4
	Cesium (Cs)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Chromium (Cr)-Total (mg/L)	0.00101	<0.00010	<0.00010	0.00022	0.00014
	Cobalt (Co)-Total (mg/L)	0.00043	<0.00010	<0.00010	<0.00010	<0.00010
	Copper (Cu)-Total (mg/L)	0.00033	<0.00010	<0.00010	0.00096	0.00096
	Iron (Fe)-Total (mg/L)	1.49	<0.010	<0.010	0.028	0.027
	Lead (Pb)-Total (mg/L)	0.000543	<0.000050	<0.000050	<0.000050	<0.000050
	Lithium (Li)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Magnesium (Mg)-Total (mg/L)	0.971	<0.0050	<0.0050	2.89	2.68
	Manganese (Mn)-Total (mg/L)	0.0371	<0.000050	<0.000050	0.00603	0.00480
	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Total (mg/L)	<0.000050	<0.000050	<0.000050	0.000167	0.000165
Nickel (Ni)-Total (mg/L)	0.00090	<0.00010	<0.00010	0.00053	0.00053	
Potassium (K)-Total (mg/L)	0.075	<0.050	<0.050	1.06	1.01	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1386380-16 WATER 30-OCT-13 12:00 DUPLICATE				
Grouping	Analyte				
WATER					
Physical Tests	Conductivity (EC) (uS/cm)	123			
	Hardness (as CaCO3) (mg/L)	48.1			
	pH (pH)	7.48			
	Total Suspended Solids (mg/L)	<2.0			
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	4.0			
	Alkalinity, Total (as CaCO3) (mg/L)	44.8			
	Ammonia, Total (as N) (mg/L)	0.098			
	Chloride (Cl) (mg/L)	9.07			
	Nitrate (as N) (mg/L)	0.041			
	Nitrite (as N) (mg/L)	<0.020			
	Phosphorus (P)-Total (mg/L)	0.0128			
	Sulfate (SO4) (mg/L)	1.96			
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0020			
	Cyanide, Total (mg/L)	<0.0020			
	Cyanide, Free (mg/L)	<0.0050			
Total Metals	Aluminum (Al)-Total (mg/L)	0.0454			
	Antimony (Sb)-Total (mg/L)	<0.00010			
	Arsenic (As)-Total (mg/L)	0.00048			
	Barium (Ba)-Total (mg/L)	0.0102			
	Beryllium (Be)-Total (mg/L)	<0.00050			
	Bismuth (Bi)-Total (mg/L)	<0.000050			
	Boron (B)-Total (mg/L)	<0.010			
	Cadmium (Cd)-Total (mg/L)	<0.000010			
	Calcium (Ca)-Total (mg/L)	14.2			
	Cesium (Cs)-Total (mg/L)	<0.00010			
	Chromium (Cr)-Total (mg/L)	0.00030			
	Cobalt (Co)-Total (mg/L)	<0.00010			
	Copper (Cu)-Total (mg/L)	0.00078			
	Iron (Fe)-Total (mg/L)	0.179			
	Lead (Pb)-Total (mg/L)	<0.000050			
	Lithium (Li)-Total (mg/L)	<0.0050			
	Magnesium (Mg)-Total (mg/L)	3.00			
	Manganese (Mn)-Total (mg/L)	0.0123			
	Mercury (Hg)-Total (mg/L)	<0.000010			
	Molybdenum (Mo)-Total (mg/L)	0.000152			
	Nickel (Ni)-Total (mg/L)	0.00054			
	Potassium (K)-Total (mg/L)	1.10			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1386380-1	L1386380-2	L1386380-3	L1386380-4	L1386380-5
		Description	WATER	WATER	WATER	WATER	WATER
		Sampled Date	30-OCT-13	30-OCT-13	30-OCT-13	30-OCT-13	30-OCT-13
		Sampled Time	12:00	12:00	12:00	12:00	12:00
		Client ID	SW1	SW2	SW3	TL3	JCTA
Grouping	Analyte						
WATER							
Total Metals	Rubidium (Rb)-Total (mg/L)		0.0014	0.0010	0.0019	0.0015	0.0015
	Selenium (Se)-Total (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Silicon (Si)-Total (mg/L)		4.93	3.28	2.32	4.26	3.99
	Silver (Ag)-Total (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Sodium (Na)-Total (mg/L)		1.55	2.13	5.70	2.04	1.79
	Strontium (Sr)-Total (mg/L)		0.0309	0.0284	0.0337	0.0344	0.0300
	Tellurium (Te)-Total (mg/L)		<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Thallium (Tl)-Total (mg/L)		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Tin (Sn)-Total (mg/L)		<0.00010	<0.00010	<0.00010	0.00012	<0.00010
	Titanium (Ti)-Total (mg/L)		0.00242	0.00590	0.00094	0.00558	0.00233
	Uranium (U)-Total (mg/L)		0.000056	0.000094	0.000095	0.000069	0.000049
	Vanadium (V)-Total (mg/L)		0.00031	0.00080	0.00043	0.00084	0.00062
	Zinc (Zn)-Total (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Zirconium (Zr)-Total (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)		0.0108	0.0740	0.0432	0.0365	0.0407
	Antimony (Sb)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Arsenic (As)-Dissolved (mg/L)		0.00029	0.00040	0.00040	0.00049	0.00051
	Barium (Ba)-Dissolved (mg/L)		0.00785	0.00843	0.00971	0.00645	0.00601
	Beryllium (Be)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Bismuth (Bi)-Dissolved (mg/L)		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Boron (B)-Dissolved (mg/L)		<0.010	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Dissolved (mg/L)		0.000011	0.000010	<0.000010	<0.000010	<0.000010
	Calcium (Ca)-Dissolved (mg/L)		18.2	15.9	14.4	16.4	13.4
	Cesium (Cs)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Chromium (Cr)-Dissolved (mg/L)		0.00010	0.00040	0.00028	0.00030	0.00030
	Cobalt (Co)-Dissolved (mg/L)		<0.00010	0.00014	<0.00010	0.00010	0.00021
	Copper (Cu)-Dissolved (mg/L)		0.00044	0.00114	0.00051	0.00022	0.00081
	Iron (Fe)-Dissolved (mg/L)		0.137	0.387	0.153	0.535	0.729
	Lead (Pb)-Dissolved (mg/L)		<0.000050	0.000083	<0.000050	0.000059	<0.000050
	Lithium (Li)-Dissolved (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Magnesium (Mg)-Dissolved (mg/L)		2.89	4.55	3.07	4.40	3.68
	Manganese (Mn)-Dissolved (mg/L)		0.0180	0.0131	0.0105	0.0268	0.115
	Mercury (Hg)-Dissolved (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Dissolved (mg/L)		0.000215	0.000119	0.000158	0.000141	0.000133
	Nickel (Ni)-Dissolved (mg/L)		0.00032	0.00105	0.00048	0.00070	0.00061
	Potassium (K)-Dissolved (mg/L)		1.05	1.04	1.07	0.918	0.830
	Rubidium (Rb)-Dissolved (mg/L)		0.0013	<0.0010	0.0017	0.0014	0.0014

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1386380-6	L1386380-7	L1386380-8	L1386380-9	L1386380-10
		Description	WATER	WATER	WATER	WATER	WATER
		Sampled Date	30-OCT-13	30-OCT-13	30-OCT-13	30-OCT-13	30-OCT-13
		Sampled Time	12:00	12:00	12:00	12:00	12:00
		Client ID	TL1A	SW10	SW7	SW8	SW9
Grouping	Analyte						
WATER							
Total Metals	Rubidium (Rb)-Total (mg/L)		0.0011	0.0015	0.0016	0.0015	0.0018
	Selenium (Se)-Total (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Silicon (Si)-Total (mg/L)		4.25	6.59	5.91	3.86	6.22
	Silver (Ag)-Total (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010	0.000028
	Sodium (Na)-Total (mg/L)		1.19	1.48	1.39	1.25	2.80
	Strontium (Sr)-Total (mg/L)		0.0172	0.0276	0.0290	0.0376	0.0514
	Tellurium (Te)-Total (mg/L)		<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Thallium (Tl)-Total (mg/L)		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Tin (Sn)-Total (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Total (mg/L)		0.00122	0.00359	0.00292	0.00067	0.00150
	Uranium (U)-Total (mg/L)		0.000012	0.000029	0.000058	0.000072	0.000052
	Vanadium (V)-Total (mg/L)		0.00076	0.00119	0.00090	0.00024	0.00038
	Zinc (Zn)-Total (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Zirconium (Zr)-Total (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)		0.0465	0.0637	0.0851	0.0041	0.0257
	Antimony (Sb)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Arsenic (As)-Dissolved (mg/L)		0.00037	0.00054	0.00069	0.00030	0.00022
	Barium (Ba)-Dissolved (mg/L)		0.00537	0.0112	0.00895	0.0171	0.0164
	Beryllium (Be)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Bismuth (Bi)-Dissolved (mg/L)		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Boron (B)-Dissolved (mg/L)		<0.010	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Dissolved (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Calcium (Ca)-Dissolved (mg/L)		7.66	15.9	14.9	25.6	29.1
	Cesium (Cs)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Chromium (Cr)-Dissolved (mg/L)		0.00024	0.00059	0.00051	<0.00010	0.00022
	Cobalt (Co)-Dissolved (mg/L)		0.00047	0.00030	0.00015	<0.00010	<0.00010
	Copper (Cu)-Dissolved (mg/L)		<0.00010	<0.00010	0.00036	<0.00010	<0.00010
	Iron (Fe)-Dissolved (mg/L)		0.831	1.36	0.865	0.351	0.120
	Lead (Pb)-Dissolved (mg/L)		<0.000050	0.000089	0.000093	<0.000050	<0.000050
	Lithium (Li)-Dissolved (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Magnesium (Mg)-Dissolved (mg/L)		1.99	2.27	2.85	2.23	5.55
	Manganese (Mn)-Dissolved (mg/L)		0.150	0.149	0.0314	0.115	0.0980
	Mercury (Hg)-Dissolved (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Molybdenum (Mo)-Dissolved (mg/L)		0.000063	0.000234	0.000210	0.000070	0.000172
	Nickel (Ni)-Dissolved (mg/L)		0.00048	0.00033	0.00061	0.00030	0.00035
	Potassium (K)-Dissolved (mg/L)		0.324	0.571	0.660	0.627	1.30
	Rubidium (Rb)-Dissolved (mg/L)		0.0010	0.0014	0.0014	0.0014	0.0016

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1386380-11	L1386380-12	L1386380-13	L1386380-14	L1386380-15
		Description	WATER	WATER	WATER	WATER	WATER
		Sampled Date	30-OCT-13	30-OCT-13	30-OCT-13	30-OCT-13	30-OCT-13
		Sampled Time	12:00	12:00	12:00	12:00	12:00
		Client ID	SW11	FIELD BLANK	TRAVEL BLANK	SW5	SW6
Grouping	Analyte						
WATER							
Total Metals	Rubidium (Rb)-Total (mg/L)	<0.0010	<0.0010	<0.0010	0.0018	0.0017	
	Selenium (Se)-Total (mg/L)	0.00013	<0.00010	<0.00010	<0.00010	<0.00010	
	Silicon (Si)-Total (mg/L)	6.48	<0.050	<0.050	1.48	1.44	
	Silver (Ag)-Total (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	
	Sodium (Na)-Total (mg/L)	1.04	<0.050	<0.050	3.28	3.15	
	Strontium (Sr)-Total (mg/L)	0.0114	<0.00010	<0.00010	0.0285	0.0275	
	Tellurium (Te)-Total (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	
	Thallium (Tl)-Total (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	
	Tin (Sn)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
	Titanium (Ti)-Total (mg/L)	0.00844	<0.00030	<0.00030	0.00050	0.00060	
	Uranium (U)-Total (mg/L)	0.000021	<0.000010	<0.000010	0.000031	0.000029	
	Vanadium (V)-Total (mg/L)	0.00085	<0.00010	<0.00010	0.00035	0.00033	
	Zinc (Zn)-Total (mg/L)	0.0059	<0.0050	<0.0050	<0.0050	<0.0050	
	Zirconium (Zr)-Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	0.350	<0.0010	<0.0010	0.0042	0.0041	
	Antimony (Sb)-Dissolved (mg/L)	<0.00010	0.00034 ^{RRV}	<0.00010	<0.00010	<0.00010	
	Arsenic (As)-Dissolved (mg/L)	0.00092	<0.00010	<0.00010	0.00030	0.00032	
	Barium (Ba)-Dissolved (mg/L)	0.00672	<0.000050	<0.000050	0.00787	0.00790	
	Beryllium (Be)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
	Bismuth (Bi)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	
	Boron (B)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010	
	Cadmium (Cd)-Dissolved (mg/L)	0.000026	<0.000010	<0.000010	<0.000010	<0.000010	
	Calcium (Ca)-Dissolved (mg/L)	4.41	<0.020	<0.020	14.0	14.1	
	Cesium (Cs)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
	Chromium (Cr)-Dissolved (mg/L)	0.00093	<0.00010	<0.00010	<0.00010	<0.00010	
	Cobalt (Co)-Dissolved (mg/L)	0.00043	<0.00010	<0.00010	<0.00010	<0.00010	
	Copper (Cu)-Dissolved (mg/L)	0.00013	<0.00010	<0.00010	0.00048	0.00050	
	Iron (Fe)-Dissolved (mg/L)	1.47	<0.010	<0.010	0.011	<0.010	
	Lead (Pb)-Dissolved (mg/L)	0.000433	<0.000050	<0.000050	<0.000050	0.000065	
	Lithium (Li)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	
	Magnesium (Mg)-Dissolved (mg/L)	1.09	<0.0050	<0.0050	3.11	2.99	
	Manganese (Mn)-Dissolved (mg/L)	0.0389	<0.000050	<0.000050	0.000590	0.000548	
	Mercury (Hg)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	
	Molybdenum (Mo)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	0.000152	0.000156	
	Nickel (Ni)-Dissolved (mg/L)	0.00090	<0.00010	<0.00010	0.00040	0.00037	
	Potassium (K)-Dissolved (mg/L)	0.086	<0.050	<0.050	0.988	1.00	
	Rubidium (Rb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	0.0016	0.0016	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1386380-16				
Description	WATER				
Sampled Date	30-OCT-13				
Sampled Time	12:00				
Client ID	DUPLICATE				
Grouping	Analyte				
WATER					
Total Metals	Rubidium (Rb)-Total (mg/L)	0.0017			
	Selenium (Se)-Total (mg/L)	<0.00010			
	Silicon (Si)-Total (mg/L)	2.24			
	Silver (Ag)-Total (mg/L)	<0.000010			
	Sodium (Na)-Total (mg/L)	5.64			
	Strontium (Sr)-Total (mg/L)	0.0337			
	Tellurium (Te)-Total (mg/L)	<0.00060			
	Thallium (Tl)-Total (mg/L)	<0.000050			
	Tin (Sn)-Total (mg/L)	<0.00010			
	Titanium (Ti)-Total (mg/L)	0.00089			
	Uranium (U)-Total (mg/L)	0.000093			
	Vanadium (V)-Total (mg/L)	0.00044			
	Zinc (Zn)-Total (mg/L)	<0.0050			
	Zirconium (Zr)-Total (mg/L)	<0.0050			
Dissolved Metals	Aluminum (Al)-Dissolved (mg/L)	0.0415			
	Antimony (Sb)-Dissolved (mg/L)	<0.00010			
	Arsenic (As)-Dissolved (mg/L)	0.00041			
	Barium (Ba)-Dissolved (mg/L)	0.00938			
	Beryllium (Be)-Dissolved (mg/L)	<0.00050			
	Bismuth (Bi)-Dissolved (mg/L)	<0.000050			
	Boron (B)-Dissolved (mg/L)	<0.010			
	Cadmium (Cd)-Dissolved (mg/L)	<0.000010			
	Calcium (Ca)-Dissolved (mg/L)	14.1			
	Cesium (Cs)-Dissolved (mg/L)	<0.00010			
	Chromium (Cr)-Dissolved (mg/L)	0.00028			
	Cobalt (Co)-Dissolved (mg/L)	<0.00010			
	Copper (Cu)-Dissolved (mg/L)	0.00061			
	Iron (Fe)-Dissolved (mg/L)	0.160			
	Lead (Pb)-Dissolved (mg/L)	0.000055			
	Lithium (Li)-Dissolved (mg/L)	<0.0050			
	Magnesium (Mg)-Dissolved (mg/L)	3.15			
	Manganese (Mn)-Dissolved (mg/L)	0.0106			
	Mercury (Hg)-Dissolved (mg/L)	<0.000010			
	Molybdenum (Mo)-Dissolved (mg/L)	0.000143			
	Nickel (Ni)-Dissolved (mg/L)	0.00046			
	Potassium (K)-Dissolved (mg/L)	1.06			
	Rubidium (Rb)-Dissolved (mg/L)	0.0017			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1386380-1 WATER 30-OCT-13 12:00 SW1	L1386380-2 WATER 30-OCT-13 12:00 SW2	L1386380-3 WATER 30-OCT-13 12:00 SW3	L1386380-4 WATER 30-OCT-13 12:00 TL3	L1386380-5 WATER 30-OCT-13 12:00 JCTA
Grouping	Analyte					
WATER						
Dissolved Metals	Selenium (Se)-Dissolved (mg/L)	<0.00010	0.00011	<0.00010	<0.00010	<0.00010
	Silicon (Si)-Dissolved (mg/L)	5.01	3.43	2.43	4.41	4.37
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Sodium (Na)-Dissolved (mg/L)	1.61	2.06	5.84	2.18	1.78
	Strontium (Sr)-Dissolved (mg/L)	0.0325	0.0295	0.0344	0.0369	0.0300
	Tellurium (Te)-Dissolved (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Thallium (Tl)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Tin (Sn)-Dissolved (mg/L)	0.00024	<0.00010	0.00015	<0.00010	0.00012
	Titanium (Ti)-Dissolved (mg/L)	<0.00030	0.00235	0.00070	0.00106	0.00135
	Uranium (U)-Dissolved (mg/L)	0.000051	0.000083	0.000091	0.000060	0.000043
	Vanadium (V)-Dissolved (mg/L)	0.00015	0.00042	0.00030	0.00039	0.00041
	Zinc (Zn)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Zirconium (Zr)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1386380-6 WATER 30-OCT-13 12:00 TL1A	L1386380-7 WATER 30-OCT-13 12:00 SW10	L1386380-8 WATER 30-OCT-13 12:00 SW7	L1386380-9 WATER 30-OCT-13 12:00 SW8	L1386380-10 WATER 30-OCT-13 12:00 SW9
Grouping	Analyte					
WATER						
Dissolved Metals	Selenium (Se)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Silicon (Si)-Dissolved (mg/L)	4.52	7.27	6.04	4.15	6.61
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Sodium (Na)-Dissolved (mg/L)	1.17	1.55	1.39	1.12	2.84
	Strontium (Sr)-Dissolved (mg/L)	0.0182	0.0290	0.0301	0.0371	0.0523
	Tellurium (Te)-Dissolved (mg/L)	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Thallium (Tl)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Dissolved (mg/L)	0.00075	0.00129	0.00186	<0.00030	0.00048
	Uranium (U)-Dissolved (mg/L)	0.000011	0.000023	0.000056	0.000070	0.000049
	Vanadium (V)-Dissolved (mg/L)	0.00033	0.00075	0.00063	<0.00010	0.00021
	Zinc (Zn)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Zirconium (Zr)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0	<2.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1386380-11	L1386380-12	L1386380-13	L1386380-14	L1386380-15
		Description	WATER	WATER	WATER	WATER	WATER
		Sampled Date	30-OCT-13	30-OCT-13	30-OCT-13	30-OCT-13	30-OCT-13
		Sampled Time	12:00	12:00	12:00	12:00	12:00
		Client ID	SW11	FIELD BLANK	TRAVEL BLANK	SW5	SW6
Grouping	Analyte						
WATER							
Dissolved Metals	Selenium (Se)-Dissolved (mg/L)		0.00017	<0.00010	<0.00010	<0.00010	<0.00010
	Silicon (Si)-Dissolved (mg/L)		7.11	<0.050	<0.050	1.57	1.53
	Silver (Ag)-Dissolved (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Sodium (Na)-Dissolved (mg/L)		1.10	<0.050	0.090 ^{RRV}	3.16	3.21
	Strontium (Sr)-Dissolved (mg/L)		0.0117	<0.00010	<0.00010	0.0286	0.0294
	Tellurium (Te)-Dissolved (mg/L)		<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
	Thallium (Tl)-Dissolved (mg/L)		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Tin (Sn)-Dissolved (mg/L)		0.00011	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Dissolved (mg/L)		0.00769	<0.00030	<0.00030	<0.00030	<0.00030
	Uranium (U)-Dissolved (mg/L)		0.000020	<0.000010	<0.000010	0.000028	0.000029
	Vanadium (V)-Dissolved (mg/L)		0.00064	<0.00010	<0.00010	0.00016	0.00017
	Zinc (Zn)-Dissolved (mg/L)		0.0051	<0.0050	<0.0050	<0.0050	<0.0050
	Zirconium (Zr)-Dissolved (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Aggregate Organics	Oil and Grease, Total (mg/L)		<2.0	<2.0	<2.0	<2.0	<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID				
	L1386380-16 WATER 30-OCT-13 12:00 DUPLICATE				
Grouping	Analyte				
WATER					
Dissolved Metals	Selenium (Se)-Dissolved (mg/L)	0.00010			
	Silicon (Si)-Dissolved (mg/L)	2.44			
	Silver (Ag)-Dissolved (mg/L)	<0.000010			
	Sodium (Na)-Dissolved (mg/L)	5.79			
	Strontium (Sr)-Dissolved (mg/L)	0.0357			
	Tellurium (Te)-Dissolved (mg/L)	<0.00060			
	Thallium (Tl)-Dissolved (mg/L)	<0.000050			
	Tin (Sn)-Dissolved (mg/L)	0.00016			
	Titanium (Ti)-Dissolved (mg/L)	0.00075			
	Uranium (U)-Dissolved (mg/L)	0.000093			
	Vanadium (V)-Dissolved (mg/L)	0.00028			
	Zinc (Zn)-Dissolved (mg/L)	<0.0050			
	Zirconium (Zr)-Dissolved (mg/L)	<0.0050			
Aggregate Organics	Oil and Grease, Total (mg/L)	<2.0			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Duplicate	Ammonia, Total (as N)	DLM	L1386380-13
Matrix Spike	Ammonia, Total (as N)	MS-B	L1386380-1, -10, -11, -12, -14, -15, -16, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Ammonia, Total (as N)	MS-B	L1386380-1, -10, -11, -12, -14, -15, -16, -2, -3, -4, -5, -6, -7, -8, -9

Qualifiers for Individual Parameters Listed:

Qualifier	Description
DLM	Detection Limit Adjusted due to sample matrix effects.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RRV	Reported Result Verified By Repeat Analysis

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
ACIDITY-TB	Water	Acidity (as CaCO ₃) Aqueous matrices are analyzed by potentiometry. Acidity reported includes acidity caused by hydrolyzable metals present in the sample.	APHA 2310 B-POTENTIOMETRIC TITRATION
ALK-TOT-CL	Water	Alkalinity, Total	APHA 2320 B-Auto-Pot. Titration
CL-IC-TB	Water	Anions by Ion Chromatography Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.	EPA 300.1 (modified)
CN-FREE-CFA-TB	Water	Free Cyanide by Continuous Flow Analyzer This analysis is carried out using procedures adapted from ASTM Method 7237 "Free Cyanide with Flow Injection Analysis (FIA) Utilizing Gas Diffusion Separation and Amperometric Detection". Free cyanide is determined by in-line gas diffusion at pH 6 with final determination by colourimetric analysis.	ASTM D7237-10 (modified)
CN-T-CFA-TB	Water	Total Cyanide by CFA This analysis is carried out using procedures adapted from ISO Method 14403:2002 "Determination of Total Cyanide using Flow Analysis (FIA and CFA)". Total or strong acid dissociable (SAD) cyanide is determined by in-line UV digestion along with sample distillation and final determination by colourimetric analysis. Method Limitation: This method is susceptible to interference from thiocyanate (SCN). If SCN is present in the sample, there could be a positive interference with this method, but it would be less than 1% and could be as low as zero.	ISO 14403:2002 (modified)
CN-WAD-CFA-TB	Water	Weak Acid Dissociable Cyanide by CFA This analysis is carried out using procedures adapted from APHA Method 4500-CN I. "Weak Acid Dissociable Cyanide". Weak Acid Dissociable (WAD) cyanide is determined by in-line sample distillation with final determination by colourimetric analysis.	APHA 4500-CN CYANIDE (modified)
EC-CAP-TB	Water	Conductivity (EC) This analysis is carried out using procedures adapted from APHA Method 2510 "Conductivity". Conductivity is determined using a conductivity electrode.	APHA 2510 B-ELECTRODE
HARDNESS-CALC-CL	Water	Hardness	CALCULATION
HG-D-CVAF-TB	Water	Dissolved Mercury in Water by CVAFS	Modified from EPA1631 E
HG-T-CVAF-TB	Water	Total Mercury in Water by CVAFS	Modified from EPA1631 E
MET-D-CCMS-CL	Water	Dissolved Metals in Water by CRC ICPMS This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedure involves filtration (EPA Method 3005A) and analysis by inductively coupled plasma - mass spectrometry (EPA Method 6020A).	APHA 3030 B&E / EPA SW-846 6020A
MET-T-CCMS-CL	Water	Total Metals in Water by CRC ICPMS This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedure involves filtration (EPA Method 3005A) and analysis by inductively coupled plasma - mass spectrometry (EPA Method 6020A).	APHA 3030 B&E / EPA SW-846 6020A
NH3-COL-TB	Water	Ammonia by Discrete Analyzer Ammonia in aqueous matrices is analyzed using discrete analyzer with colourimetric detection.	APHA 4500-NH3 G. (modified)
NO2-IC-TB	Water	Anions by Ion Chromatography Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.	EPA 300.1 (modified)
NO3-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)

Reference Information

Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.

OGG-TOT-WT	Water	Oil and Grease, Total	APHA 5520 B
Sample is extracted with hexane, extract is then evaporated and the residue is weighed to determine total oil and grease.			
P-T-COL-TB	Water	Total Phosphorus by Discrete Analyzer	APHA 4500-P B, F, G (modified)
Phosphorus in aqueous matrices is analyzed using discrete Analyzer with colourimetric detection.			
PH-CAP-TB	Water	pH	APHA 4500-H-ELECTRODE
SO4-IC-TB	Water	Anions by Ion Chromatography	EPA 300.1 (modified)
Anions in aqueous matrices are analyzed using ion chromatography with conductivity and/or UV absorbance detectors.			
SOLIDS-TOTSUS-TB	Water	Total Suspended Solids	APHA 2540 D (modified)
Aqueous matrices are analyzed using gravimetry			

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
TB	ALS ENVIRONMENTAL - THUNDER BAY, ONTARIO, CANADA
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA
CL	ALS ENVIRONMENTAL - CALGARY, ALBERTA, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

mg/kg - milligrams per kilogram based on dry weight of sample.

mg/kg wwt - milligrams per kilogram based on wet weight of sample.

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.

mg/L - milligrams per litre.

< - Less than.

D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L1386380

Report Date: 20-NOV-13

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Client: TREASURY METALS INC.
P.O. Box 789
Dryden ON P8N 2Z4
Contact: Mac Potter

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
ACIDITY-TB		Water						
Batch R2732803								
WG1781494-3	DUP	L1386380-2						
Acidity (as CaCO3)		5.0	5.0		mg/L	0.0	20	04-NOV-13
WG1781494-6	DUP	L1386380-9						
Acidity (as CaCO3)		4.0	4.0		mg/L	0.0	20	04-NOV-13
WG1781494-2	LCS		104.0		%		85-115	04-NOV-13
Acidity (as CaCO3)								
WG1781494-5	LCS		106.0		%		85-115	04-NOV-13
Acidity (as CaCO3)								
WG1781494-1	MB		<2.0		mg/L		2	04-NOV-13
Acidity (as CaCO3)								
WG1781494-4	MB		<2.0		mg/L		2	04-NOV-13
Acidity (as CaCO3)								
Batch R2734882								
WG1783324-2	LCS		106.0		%		85-115	06-NOV-13
Acidity (as CaCO3)								
WG1783324-1	MB		<2.0		mg/L		2	06-NOV-13
Acidity (as CaCO3)								
ALK-TOT-CL		Water						
Batch R2739060								
WG1786583-6	DUP	L1386380-12						
Alkalinity, Total (as CaCO3)		<5.0	<5.0	RPD-NA	mg/L	N/A	20	11-NOV-13
WG1786583-1	LCS		96.2		%		85-115	11-NOV-13
Alkalinity, Total (as CaCO3)								
WG1786583-2	LCS		93.1		%		85-115	11-NOV-13
Alkalinity, Total (as CaCO3)								
WG1786583-3	LCS		95.0		%		85-115	11-NOV-13
Alkalinity, Total (as CaCO3)								
WG1786583-4	LCS		94.5		%		85-115	11-NOV-13
Alkalinity, Total (as CaCO3)								
WG1786583-5	LCS		97.8		%		85-115	11-NOV-13
Alkalinity, Total (as CaCO3)								
CL-IC-TB		Water						
Batch R2732911								
WG1780275-3	DUP	L1386380-3						
Chloride (Cl)		9.41	9.04		mg/L	4.0	20	01-NOV-13
WG1780275-10	LCS		102.0		%		90-110	01-NOV-13
Chloride (Cl)								
WG1780275-14	LCS							



Quality Control Report

Workorder: L1386380

Report Date: 20-NOV-13

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CL-IC-TB		Water						
Batch	R2732911							
WG1780275-14	LCS							
Chloride (Cl)			101.1		%		90-110	01-NOV-13
WG1780275-2	LCS							
Chloride (Cl)			102.6		%		90-110	01-NOV-13
WG1780275-6	LCS							
Chloride (Cl)			102.3		%		90-110	01-NOV-13
WG1780275-1	MB							
Chloride (Cl)			<0.10		mg/L		0.1	01-NOV-13
WG1780275-5	MB							
Chloride (Cl)			<0.10		mg/L		0.1	01-NOV-13
WG1780275-9	MB							
Chloride (Cl)			<0.10		mg/L		0.1	01-NOV-13
WG1780275-4	MS	L1386380-3						
Chloride (Cl)			99.1		%		75-125	01-NOV-13
WG1780275-8	MS	L1386047-1						
Chloride (Cl)			99.8		%		75-125	01-NOV-13
CN-FREE-CFA-TB		Water						
Batch	R2736121							
WG1783674-7	DUP	L1386380-1						
Cyanide, Free		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	06-NOV-13
WG1783674-2	LCS							
Cyanide, Free			100.4		%		80-120	06-NOV-13
WG1783674-6	LCS							
Cyanide, Free			101.5		%		80-120	06-NOV-13
WG1783674-1	MB							
Cyanide, Free			<0.0050		mg/L		0.005	06-NOV-13
WG1783674-5	MB							
Cyanide, Free			<0.0050		mg/L		0.005	06-NOV-13
WG1783674-4	MS	L1385023-1						
Cyanide, Free			100.3		%		70-130	06-NOV-13
WG1783674-8	MS	L1386380-1						
Cyanide, Free			100.8		%		70-130	06-NOV-13
CN-T-CFA-TB		Water						
Batch	R2736061							
WG1783632-7	DUP	L1386380-1						
Cyanide, Total		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	06-NOV-13
WG1783632-2	LCS							
Cyanide, Total			97.4		%		80-120	06-NOV-13



Quality Control Report

Workorder: L1386380

Report Date: 20-NOV-13

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CN-T-CFA-TB								
	Water							
Batch	R2736061							
WG1783632-6	LCS							
Cyanide, Total			99.9		%		80-120	06-NOV-13
WG1783632-1	MB							
Cyanide, Total			<0.0020		mg/L		0.002	06-NOV-13
WG1783632-5	MB							
Cyanide, Total			<0.0020		mg/L		0.002	06-NOV-13
WG1783632-4	MS	L1385023-1						
Cyanide, Total			98.7		%		70-130	06-NOV-13
WG1783632-8	MS	L1386380-1						
Cyanide, Total			97.2		%		70-130	06-NOV-13
CN-WAD-CFA-TB								
	Water							
Batch	R2736074							
WG1783665-7	DUP	L1386380-1						
Cyanide, Weak Acid Diss		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	06-NOV-13
WG1783665-2	LCS							
Cyanide, Weak Acid Diss			98.4		%		80-120	06-NOV-13
WG1783665-6	LCS							
Cyanide, Weak Acid Diss			97.0		%		80-120	06-NOV-13
WG1783665-1	MB							
Cyanide, Weak Acid Diss			<0.0020		mg/L		0.002	06-NOV-13
WG1783665-5	MB							
Cyanide, Weak Acid Diss			<0.0020		mg/L		0.002	06-NOV-13
WG1783665-4	MS	L1385023-1						
Cyanide, Weak Acid Diss			96.9		%		70-130	06-NOV-13
WG1783665-8	MS	L1386380-1						
Cyanide, Weak Acid Diss			95.0		%		70-130	06-NOV-13
EC-CAP-TB								
	Water							
Batch	R2731839							
WG1780562-6	DUP	L1386380-5						
Conductivity (EC)		96.8	99.8		uS/cm	3.1	10	02-NOV-13
WG1780562-11	LCS							
Conductivity (EC)			98.0		%		90-110	02-NOV-13
WG1780562-14	LCS							
Conductivity (EC)			98.0		%		90-110	02-NOV-13
WG1780562-2	LCS							
Conductivity (EC)			95.7		%		90-110	02-NOV-13
WG1780562-5	LCS							
Conductivity (EC)			97.8		%		90-110	02-NOV-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
EC-CAP-TB								
Water								
Batch	R2731839							
WG1780562-8	LCS							
Conductivity (EC)			98.0		%		90-110	02-NOV-13
WG1780562-1	MB							
Conductivity (EC)			<3.0		uS/cm		3	02-NOV-13
WG1780562-10	MB							
Conductivity (EC)			<3.0		uS/cm		3	02-NOV-13
WG1780562-13	MB							
Conductivity (EC)			<3.0		uS/cm		3	02-NOV-13
WG1780562-4	MB							
Conductivity (EC)			<3.0		uS/cm		3	02-NOV-13
WG1780562-7	MB							
Conductivity (EC)			<3.0		uS/cm		3	02-NOV-13
HG-D-CVAF-TB								
Water								
Batch	R2735688							
WG1783457-11	DUP	L1386380-9						
Mercury (Hg)-Dissolved		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	06-NOV-13
WG1783457-10	LCS							
Mercury (Hg)-Dissolved			105.3		%		80-120	06-NOV-13
WG1783457-2	LCS							
Mercury (Hg)-Dissolved			102.4		%		80-120	06-NOV-13
WG1783457-6	LCS							
Mercury (Hg)-Dissolved			102.4		%		80-120	06-NOV-13
WG1783457-1	MB							
Mercury (Hg)-Dissolved			<0.000010		mg/L		0.00001	06-NOV-13
WG1783457-5	MB							
Mercury (Hg)-Dissolved			<0.000010		mg/L		0.00001	06-NOV-13
WG1783457-9	MB							
Mercury (Hg)-Dissolved			<0.000010		mg/L		0.00001	06-NOV-13
WG1783457-12	MS	L1386380-9						
Mercury (Hg)-Dissolved			91.0		%		70-130	06-NOV-13
WG1783457-4	MS	L1385861-18						
Mercury (Hg)-Dissolved			70.4		%		70-130	06-NOV-13
WG1783457-8	MS	L1386299-16						
Mercury (Hg)-Dissolved			84.8		%		70-130	06-NOV-13
HG-T-CVAF-TB								
Water								



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-T-CVAF-TB								
Water								
Batch	R2735006							
WG1782004-15	DUP	L1386380-14						
Mercury (Hg)-Total		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	06-NOV-13
WG1782004-14	LCS							
Mercury (Hg)-Total			100.3		%		80-120	06-NOV-13
WG1782004-13	MB							
Mercury (Hg)-Total			<0.000010		mg/L		0.00001	06-NOV-13
WG1782004-12	MS	L1385063-2						
Mercury (Hg)-Total			80.9		%		70-130	06-NOV-13
WG1782004-16	MS	L1386380-14						
Mercury (Hg)-Total			95.4		%		70-130	06-NOV-13
MET-D-CCMS-CL								
Water								
Batch	R2740508							
WG1787714-2	CRM	CVS						
Aluminum (Al)-Dissolved			105.8		%		85-115	13-NOV-13
Antimony (Sb)-Dissolved			99.4		%		85-115	13-NOV-13
Arsenic (As)-Dissolved			107.2		%		85-115	13-NOV-13
Barium (Ba)-Dissolved			108.4		%		85-115	13-NOV-13
Beryllium (Be)-Dissolved			106.5		%		85-115	13-NOV-13
Bismuth (Bi)-Dissolved			95.1		%		85-115	13-NOV-13
Boron (B)-Dissolved			105.1		%		85-115	13-NOV-13
Cadmium (Cd)-Dissolved			97.3		%		85-115	13-NOV-13
Calcium (Ca)-Dissolved			105.6		%		85-115	13-NOV-13
Chromium (Cr)-Dissolved			101.4		%		85-115	13-NOV-13
Cobalt (Co)-Dissolved			104.2		%		85-115	13-NOV-13
Copper (Cu)-Dissolved			102.2		%		85-115	13-NOV-13
Lead (Pb)-Dissolved			102.4		%		85-115	13-NOV-13
Lithium (Li)-Dissolved			103.6		%		85-115	13-NOV-13
Magnesium (Mg)-Dissolved			103.0		%		85-115	13-NOV-13
Manganese (Mn)-Dissolved			103.0		%		85-115	13-NOV-13
Molybdenum (Mo)-Dissolved			106.7		%		85-115	13-NOV-13
Nickel (Ni)-Dissolved			105.8		%		85-115	13-NOV-13
Potassium (K)-Dissolved			99.5		%		85-115	13-NOV-13
Selenium (Se)-Dissolved			101.5		%		85-115	13-NOV-13
Silver (Ag)-Dissolved			101.3		%		85-115	13-NOV-13
Sodium (Na)-Dissolved			100.0		%		85-115	13-NOV-13
Strontium (Sr)-Dissolved			110.1		%		85-115	13-NOV-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-CL								
	Water							
Batch	R2740508							
WG1787714-2	CRM	CVS						
Thallium (Tl)-Dissolved			96.6		%		85-115	13-NOV-13
Titanium (Ti)-Dissolved			103.5		%		85-115	13-NOV-13
Tin (Sn)-Dissolved			97.3		%		85-115	13-NOV-13
Uranium (U)-Dissolved			92.7		%		85-115	13-NOV-13
Vanadium (V)-Dissolved			102.7		%		85-115	13-NOV-13
Zinc (Zn)-Dissolved			101.2		%		85-115	13-NOV-13
WG1787714-6	DUP	L1386380-13						
Aluminum (Al)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	25	13-NOV-13
Antimony (Sb)-Dissolved		<0.00010	<0.00010	RPD-NA	mg/L	N/A	25	13-NOV-13
Arsenic (As)-Dissolved		<0.00010	<0.00010	RPD-NA	mg/L	N/A	25	13-NOV-13
Barium (Ba)-Dissolved		<0.000050	<0.000050	RPD-NA	mg/L	N/A	25	13-NOV-13
Beryllium (Be)-Dissolved		<0.00050	<0.00050	RPD-NA	mg/L	N/A	25	13-NOV-13
Bismuth (Bi)-Dissolved		<0.000050	<0.000050	RPD-NA	mg/L	N/A	25	13-NOV-13
Boron (B)-Dissolved		<0.010	<0.010	RPD-NA	mg/L	N/A	25	13-NOV-13
Cadmium (Cd)-Dissolved		<0.000010	<0.000010	RPD-NA	mg/L	N/A	25	13-NOV-13
Calcium (Ca)-Dissolved		<0.020	<0.020	RPD-NA	mg/L	N/A	25	13-NOV-13
Cesium (Cs)-Dissolved		<0.00010	<0.00010	RPD-NA	mg/L	N/A	25	13-NOV-13
Chromium (Cr)-Dissolved		<0.00010	<0.00010	RPD-NA	mg/L	N/A	25	13-NOV-13
Cobalt (Co)-Dissolved		<0.00010	<0.00010	RPD-NA	mg/L	N/A	25	13-NOV-13
Copper (Cu)-Dissolved		<0.00010	<0.00010	RPD-NA	mg/L	N/A	25	13-NOV-13
Iron (Fe)-Dissolved		<0.010	<0.010	RPD-NA	mg/L	N/A	25	13-NOV-13
Lead (Pb)-Dissolved		<0.000050	<0.000050	RPD-NA	mg/L	N/A	25	13-NOV-13
Lithium (Li)-Dissolved		<0.0050	<0.0050	RPD-NA	mg/L	N/A	25	13-NOV-13
Magnesium (Mg)-Dissolved		<0.0050	<0.0050	RPD-NA	mg/L	N/A	25	13-NOV-13
Manganese (Mn)-Dissolved		<0.000050	<0.000050	RPD-NA	mg/L	N/A	25	13-NOV-13
Molybdenum (Mo)-Dissolved		<0.000050	<0.000050	RPD-NA	mg/L	N/A	25	13-NOV-13
Nickel (Ni)-Dissolved		<0.00010	<0.00010	RPD-NA	mg/L	N/A	25	13-NOV-13
Potassium (K)-Dissolved		<0.050	<0.050	RPD-NA	mg/L	N/A	25	13-NOV-13
Rubidium (Rb)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	25	13-NOV-13
Selenium (Se)-Dissolved		<0.00010	<0.00010	RPD-NA	mg/L	N/A	25	13-NOV-13
Silicon (Si)-Dissolved		<0.050	<0.050	RPD-NA	mg/L	N/A	25	13-NOV-13
Silver (Ag)-Dissolved		<0.000010	<0.000010	RPD-NA	mg/L	N/A	25	13-NOV-13
Sodium (Na)-Dissolved		0.090	0.083		mg/L	8.1	25	13-NOV-13
Strontium (Sr)-Dissolved		<0.00010	<0.00010	RPD-NA	mg/L	N/A	25	13-NOV-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-CL								
	Water							
Batch	R2740508							
WG1787714-6	DUP	L1386380-13						
Tellurium (Te)-Dissolved		<0.00060	<0.00060	RPD-NA	mg/L	N/A	25	13-NOV-13
Thallium (Tl)-Dissolved		<0.000050	<0.000050	RPD-NA	mg/L	N/A	25	13-NOV-13
Titanium (Ti)-Dissolved		<0.00030	<0.00030	RPD-NA	mg/L	N/A	25	13-NOV-13
Tin (Sn)-Dissolved		<0.00010	<0.00010	RPD-NA	mg/L	N/A	25	13-NOV-13
Uranium (U)-Dissolved		<0.000010	<0.000010	RPD-NA	mg/L	N/A	25	13-NOV-13
Vanadium (V)-Dissolved		<0.00010	<0.00010	RPD-NA	mg/L	N/A	25	13-NOV-13
Zinc (Zn)-Dissolved		<0.0050	<0.0050	RPD-NA	mg/L	N/A	25	13-NOV-13
Zirconium (Zr)-Dissolved		<0.0050	<0.0050	RPD-NA	mg/L	N/A	25	13-NOV-13
WG1787714-7	DUP	L1386380-16						
Aluminum (Al)-Dissolved		0.0415	0.0431		mg/L	3.6	25	13-NOV-13
Antimony (Sb)-Dissolved		<0.00010	<0.00010	RPD-NA	mg/L	N/A	25	13-NOV-13
Arsenic (As)-Dissolved		0.00041	0.00041		mg/L	0.5	25	13-NOV-13
Barium (Ba)-Dissolved		0.00938	0.00922		mg/L	1.8	25	13-NOV-13
Beryllium (Be)-Dissolved		<0.00050	<0.00050	RPD-NA	mg/L	N/A	25	13-NOV-13
Bismuth (Bi)-Dissolved		<0.000050	<0.000050	RPD-NA	mg/L	N/A	25	13-NOV-13
Boron (B)-Dissolved		<0.010	<0.010	RPD-NA	mg/L	N/A	25	13-NOV-13
Cadmium (Cd)-Dissolved		<0.000010	<0.000010	RPD-NA	mg/L	N/A	25	13-NOV-13
Calcium (Ca)-Dissolved		14.1	14.2		mg/L	0.5	25	13-NOV-13
Cesium (Cs)-Dissolved		<0.00010	<0.00010	RPD-NA	mg/L	N/A	25	13-NOV-13
Chromium (Cr)-Dissolved		0.00028	0.00027		mg/L	3.1	25	13-NOV-13
Cobalt (Co)-Dissolved		<0.00010	<0.00010	RPD-NA	mg/L	N/A	25	13-NOV-13
Copper (Cu)-Dissolved		0.00061	0.00062		mg/L	1.9	25	13-NOV-13
Iron (Fe)-Dissolved		0.160	0.159		mg/L	0.6	25	13-NOV-13
Lead (Pb)-Dissolved		0.000055	0.000054		mg/L	3.0	25	13-NOV-13
Lithium (Li)-Dissolved		<0.0050	<0.0050	RPD-NA	mg/L	N/A	25	13-NOV-13
Magnesium (Mg)-Dissolved		3.15	3.21		mg/L	1.9	25	13-NOV-13
Manganese (Mn)-Dissolved		0.0106	0.0106		mg/L	0.4	25	13-NOV-13
Molybdenum (Mo)-Dissolved		0.000143	0.000145		mg/L	1.3	25	13-NOV-13
Nickel (Ni)-Dissolved		0.00046	0.00049		mg/L	5.8	25	13-NOV-13
Potassium (K)-Dissolved		1.06	1.06		mg/L	0.4	25	13-NOV-13
Rubidium (Rb)-Dissolved		0.0017	0.0018		mg/L	3.3	25	13-NOV-13
Selenium (Se)-Dissolved		0.00010	<0.00010	RPD-NA	mg/L	N/A	25	13-NOV-13
Silicon (Si)-Dissolved		2.44	2.42		mg/L	0.8	25	13-NOV-13
Silver (Ag)-Dissolved		<0.000010	<0.000010	RPD-NA	mg/L	N/A	25	13-NOV-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-CL								
	Water							
Batch	R2740508							
WG1787714-7	DUP	L1386380-16						
Sodium (Na)-Dissolved		5.79	5.79		mg/L	0.1	25	13-NOV-13
Strontium (Sr)-Dissolved		0.0357	0.0352		mg/L	1.2	25	13-NOV-13
Tellurium (Te)-Dissolved		<0.00060	<0.00060	RPD-NA	mg/L	N/A	25	13-NOV-13
Thallium (Tl)-Dissolved		<0.000050	<0.000050	RPD-NA	mg/L	N/A	25	13-NOV-13
Titanium (Ti)-Dissolved		0.00075	0.00076		mg/L	1.3	25	13-NOV-13
Tin (Sn)-Dissolved		0.00016	0.00015		mg/L	2.3	25	13-NOV-13
Uranium (U)-Dissolved		0.000093	0.000087		mg/L	6.3	25	13-NOV-13
Vanadium (V)-Dissolved		0.00028	0.00031		mg/L	9.1	25	13-NOV-13
Zinc (Zn)-Dissolved		<0.0050	<0.0050	RPD-NA	mg/L	N/A	25	13-NOV-13
Zirconium (Zr)-Dissolved		<0.0050	<0.0050	RPD-NA	mg/L	N/A	25	13-NOV-13
WG1787714-1	MB							
Aluminum (Al)-Dissolved			<0.0010		mg/L		0.001	13-NOV-13
Antimony (Sb)-Dissolved			<0.00010		mg/L		0.0001	13-NOV-13
Arsenic (As)-Dissolved			<0.00010		mg/L		0.0001	13-NOV-13
Barium (Ba)-Dissolved			<0.000050		mg/L		0.00005	13-NOV-13
Beryllium (Be)-Dissolved			<0.00050		mg/L		0.0005	13-NOV-13
Bismuth (Bi)-Dissolved			<0.000050		mg/L		0.00005	13-NOV-13
Boron (B)-Dissolved			<0.010		mg/L		0.01	13-NOV-13
Cadmium (Cd)-Dissolved			<0.000010		mg/L		0.00001	13-NOV-13
Calcium (Ca)-Dissolved			<0.020		mg/L		0.02	13-NOV-13
Cesium (Cs)-Dissolved			<0.00010		mg/L		0.0001	13-NOV-13
Chromium (Cr)-Dissolved			<0.00010		mg/L		0.0001	13-NOV-13
Cobalt (Co)-Dissolved			<0.00010		mg/L		0.0001	13-NOV-13
Copper (Cu)-Dissolved			<0.00010		mg/L		0.0001	13-NOV-13
Iron (Fe)-Dissolved			<0.010		mg/L		0.01	13-NOV-13
Lead (Pb)-Dissolved			<0.000050		mg/L		0.00005	13-NOV-13
Lithium (Li)-Dissolved			<0.0050		mg/L		0.005	13-NOV-13
Magnesium (Mg)-Dissolved			<0.0050		mg/L		0.005	13-NOV-13
Manganese (Mn)-Dissolved			<0.000050		mg/L		0.00005	13-NOV-13
Molybdenum (Mo)-Dissolved			<0.000050		mg/L		0.00005	13-NOV-13
Nickel (Ni)-Dissolved			<0.00010		mg/L		0.0001	13-NOV-13
Potassium (K)-Dissolved			<0.050		mg/L		0.05	13-NOV-13
Rubidium (Rb)-Dissolved			<0.0010		mg/L		0.001	13-NOV-13
Selenium (Se)-Dissolved			<0.00010		mg/L		0.0001	13-NOV-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-CL								
	Water							
Batch	R2740508							
WG1787714-1	MB							
Silicon (Si)-Dissolved			<0.050		mg/L		0.05	13-NOV-13
Silver (Ag)-Dissolved			<0.000010		mg/L		0.00001	13-NOV-13
Sodium (Na)-Dissolved			<0.050		mg/L		0.05	13-NOV-13
Strontium (Sr)-Dissolved			<0.00010		mg/L		0.0001	13-NOV-13
Tellurium (Te)-Dissolved			<0.00060		mg/L		0.0006	13-NOV-13
Thallium (Tl)-Dissolved			<0.000050		mg/L		0.00005	13-NOV-13
Titanium (Ti)-Dissolved			<0.00030		mg/L		0.0003	13-NOV-13
Tin (Sn)-Dissolved			<0.00010		mg/L		0.0001	13-NOV-13
Uranium (U)-Dissolved			<0.000010		mg/L		0.00001	13-NOV-13
Vanadium (V)-Dissolved			<0.00010		mg/L		0.0001	13-NOV-13
Zinc (Zn)-Dissolved			<0.0050		mg/L		0.005	13-NOV-13
Zirconium (Zr)-Dissolved			<0.0050		mg/L		0.005	13-NOV-13
MET-T-CCMS-CL								
	Water							
Batch	R2741667							
WG1787693-2	CRM	TMRM						
Aluminum (Al)-Total			101.8		%		80-120	14-NOV-13
Antimony (Sb)-Total			113.2		%		80-120	14-NOV-13
Arsenic (As)-Total			113.8		%		80-120	14-NOV-13
Barium (Ba)-Total			116.1		%		80-120	14-NOV-13
Beryllium (Be)-Total			99.2		%		80-120	14-NOV-13
Bismuth (Bi)-Total			98.8		%		80-120	14-NOV-13
Boron (B)-Total			82.9		%		80-120	14-NOV-13
Cadmium (Cd)-Total			101.1		%		80-120	14-NOV-13
Calcium (Ca)-Total			105.5		%		80-120	14-NOV-13
Chromium (Cr)-Total			106.5		%		80-120	14-NOV-13
Cobalt (Co)-Total			103.0		%		80-120	14-NOV-13
Copper (Cu)-Total			101.5		%		80-120	14-NOV-13
Iron (Fe)-Total			102.5		%		80-120	14-NOV-13
Lead (Pb)-Total			101.7		%		80-120	14-NOV-13
Lithium (Li)-Total			92.4		%		80-120	14-NOV-13
Magnesium (Mg)-Total			89.4		%		80-120	14-NOV-13
Manganese (Mn)-Total			105.1		%		80-120	14-NOV-13
Molybdenum (Mo)-Total			106.4		%		80-120	14-NOV-13
Nickel (Ni)-Total			105.1		%		80-120	14-NOV-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-CL								
	Water							
Batch	R2741667							
WG1787693-2	CRM	TMRM						
Potassium (K)-Total			106.6		%		80-120	14-NOV-13
Selenium (Se)-Total			97.7		%		80-120	14-NOV-13
Silicon (Si)-Total			114.9		%		80-120	14-NOV-13
Silver (Ag)-Total			106.6		%		80-120	14-NOV-13
Sodium (Na)-Total			98.8		%		80-120	14-NOV-13
Strontium (Sr)-Total			98.4		%		80-120	14-NOV-13
Thallium (Tl)-Total			99.8		%		80-120	14-NOV-13
Tin (Sn)-Total			105.6		%		80-120	14-NOV-13
Titanium (Ti)-Total			103.8		%		80-120	14-NOV-13
Uranium (U)-Total			95.0		%		80-120	14-NOV-13
Vanadium (V)-Total			110.5		%		80-120	14-NOV-13
Zinc (Zn)-Total			100.7		%		80-120	14-NOV-13
WG1787693-4	DUP	L1386380-8						
Aluminum (Al)-Total		0.0995	0.0998		mg/L	0.2	20	14-NOV-13
Antimony (Sb)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	14-NOV-13
Arsenic (As)-Total		0.00078	0.00082		mg/L	4.4	20	14-NOV-13
Barium (Ba)-Total		0.00927	0.00947		mg/L	2.1	20	14-NOV-13
Beryllium (Be)-Total		<0.00050	<0.00050	RPD-NA	mg/L	N/A	20	14-NOV-13
Bismuth (Bi)-Total		<0.000050	<0.000050	RPD-NA	mg/L	N/A	20	14-NOV-13
Boron (B)-Total		<0.010	<0.010	RPD-NA	mg/L	N/A	20	14-NOV-13
Cadmium (Cd)-Total		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	14-NOV-13
Calcium (Ca)-Total		15.2	15.0		mg/L	1.4	20	14-NOV-13
Cesium (Cs)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	25	14-NOV-13
Chromium (Cr)-Total		0.00055	0.00053		mg/L	3.3	20	14-NOV-13
Cobalt (Co)-Total		0.00016	0.00017		mg/L	8.4	20	14-NOV-13
Copper (Cu)-Total		0.00075	0.00076		mg/L	1.2	20	14-NOV-13
Iron (Fe)-Total		1.03	1.03		mg/L	0.1	25	14-NOV-13
Lead (Pb)-Total		0.000085	0.000093		mg/L	9.4	20	14-NOV-13
Lithium (Li)-Total		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	14-NOV-13
Magnesium (Mg)-Total		2.56	2.55		mg/L	0.6	20	14-NOV-13
Manganese (Mn)-Total		0.0350	0.0342		mg/L	2.2	20	14-NOV-13
Molybdenum (Mo)-Total		0.000208	0.000213		mg/L	2.3	20	14-NOV-13
Nickel (Ni)-Total		0.00063	0.00059		mg/L	7.8	20	14-NOV-13
Potassium (K)-Total		0.679	0.662		mg/L	2.5	20	14-NOV-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-CL								
	Water							
Batch	R2741667							
WG1787693-4	DUP	L1386380-8						
Rubidium (Rb)-Total		0.0016	0.0015		mg/L	3.7	25	14-NOV-13
Selenium (Se)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	14-NOV-13
Silicon (Si)-Total		5.91	5.84		mg/L	1.3	25	14-NOV-13
Silver (Ag)-Total		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	14-NOV-13
Sodium (Na)-Total		1.39	1.37		mg/L	1.5	20	14-NOV-13
Strontium (Sr)-Total		0.0290	0.0295		mg/L	1.6	20	14-NOV-13
Tellurium (Te)-Total		<0.00060	<0.00060	RPD-NA	mg/L	N/A	25	14-NOV-13
Thallium (Tl)-Total		<0.000050	<0.000050	RPD-NA	mg/L	N/A	20	14-NOV-13
Tin (Sn)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	14-NOV-13
Titanium (Ti)-Total		0.00292	0.00283		mg/L	2.8	20	14-NOV-13
Uranium (U)-Total		0.000058	0.000061		mg/L	5.1	20	14-NOV-13
Vanadium (V)-Total		0.00090	0.00089		mg/L	1.3	20	14-NOV-13
Zinc (Zn)-Total		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	14-NOV-13
Zirconium (Zr)-Total		<0.0050	<0.0050	RPD-NA	mg/L	N/A	25	14-NOV-13
Batch	R2744610							
WG1790419-1	MB							
Aluminum (Al)-Total			<0.0030		mg/L		0.003	18-NOV-13
Antimony (Sb)-Total			<0.00010		mg/L		0.0001	18-NOV-13
Arsenic (As)-Total			<0.00010		mg/L		0.0001	18-NOV-13
Barium (Ba)-Total			<0.000050		mg/L		0.00005	18-NOV-13
Beryllium (Be)-Total			<0.00050		mg/L		0.0005	18-NOV-13
Bismuth (Bi)-Total			<0.000050		mg/L		0.00005	18-NOV-13
Boron (B)-Total			<0.010		mg/L		0.01	18-NOV-13
Cadmium (Cd)-Total			<0.000010		mg/L		0.00001	18-NOV-13
Calcium (Ca)-Total			<0.020		mg/L		0.02	18-NOV-13
Cesium (Cs)-Total			<0.00010		mg/L		0.0001	18-NOV-13
Chromium (Cr)-Total			<0.00010		mg/L		0.0001	18-NOV-13
Cobalt (Co)-Total			<0.00010		mg/L		0.0001	18-NOV-13
Copper (Cu)-Total			<0.00010		mg/L		0.0001	18-NOV-13
Iron (Fe)-Total			<0.010		mg/L		0.01	18-NOV-13
Lead (Pb)-Total			<0.000050		mg/L		0.00005	18-NOV-13
Lithium (Li)-Total			<0.0050		mg/L		0.005	18-NOV-13
Magnesium (Mg)-Total			<0.0050		mg/L		0.005	18-NOV-13
Manganese (Mn)-Total			<0.000050		mg/L		0.00005	18-NOV-13



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MET-T-CCMS-CL								
	Water							
Batch	R2744610							
WG1790419-1	MB							
Molybdenum (Mo)-Total			<0.000050		mg/L		0.00005	18-NOV-13
Nickel (Ni)-Total			<0.00010		mg/L		0.0001	18-NOV-13
Potassium (K)-Total			<0.050		mg/L		0.05	18-NOV-13
Rubidium (Rb)-Total			<0.0010		mg/L		0.001	18-NOV-13
Selenium (Se)-Total			<0.00010		mg/L		0.0001	18-NOV-13
Silicon (Si)-Total			<0.050		mg/L		0.05	18-NOV-13
Silver (Ag)-Total			<0.000010		mg/L		0.00001	18-NOV-13
Sodium (Na)-Total			<0.050		mg/L		0.05	18-NOV-13
Strontium (Sr)-Total			<0.00010		mg/L		0.0001	18-NOV-13
Tellurium (Te)-Total			<0.00060		mg/L		0.0006	18-NOV-13
Thallium (Tl)-Total			<0.000050		mg/L		0.00005	18-NOV-13
Tin (Sn)-Total			<0.00010		mg/L		0.0001	18-NOV-13
Titanium (Ti)-Total			<0.00030		mg/L		0.0003	18-NOV-13
Uranium (U)-Total			<0.000010		mg/L		0.00001	18-NOV-13
Vanadium (V)-Total			<0.00010		mg/L		0.0001	18-NOV-13
Zinc (Zn)-Total			<0.0050		mg/L		0.005	18-NOV-13
Zirconium (Zr)-Total			<0.0050		mg/L		0.005	18-NOV-13
NH3-COL-TB								
	Water							
Batch	R2737972							
WG1784768-16	DUP	L1386380-2						
Ammonia, Total (as N)		<0.020	<0.020	RPD-NA	mg/L	N/A	20	08-NOV-13
WG1784768-10	LCS							
Ammonia, Total (as N)			102.5		%		85-115	08-NOV-13
WG1784768-14	LCS							
Ammonia, Total (as N)			101.5		%		85-115	08-NOV-13
WG1784768-18	LCS							
Ammonia, Total (as N)			103.0		%		85-115	08-NOV-13
WG1784768-2	LCS							
Ammonia, Total (as N)			101.3		%		85-115	08-NOV-13
WG1784768-26	LCS							
Ammonia, Total (as N)			102.7		%		85-115	08-NOV-13
WG1784768-6	LCS							
Ammonia, Total (as N)			102.1		%		85-115	08-NOV-13
WG1784768-1	MB							
Ammonia, Total (as N)			<0.020		mg/L		0.02	08-NOV-13
WG1784768-13	MB							



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NH3-COL-TB								
Water								
Batch	R2737972							
WG1784768-13 MB								
Ammonia, Total (as N)			<0.020		mg/L		0.02	08-NOV-13
WG1784768-17 MB								
Ammonia, Total (as N)			<0.020		mg/L		0.02	08-NOV-13
WG1784768-25 MB								
Ammonia, Total (as N)			<0.020		mg/L		0.02	08-NOV-13
WG1784768-5 MB								
Ammonia, Total (as N)			<0.020		mg/L		0.02	08-NOV-13
WG1784768-9 MB								
Ammonia, Total (as N)			<0.020		mg/L		0.02	08-NOV-13
WG1784768-12 MS		L1386299-33						
Ammonia, Total (as N)			N/A	MS-B	%		-	08-NOV-13
WG1784768-15 MS		L1386380-2						
Ammonia, Total (as N)			86.2		%		75-125	08-NOV-13
WG1784768-19 MS		L1386428-2						
Ammonia, Total (as N)			102.0		%		75-125	08-NOV-13
WG1784768-27 MS		L1387313-1						
Ammonia, Total (as N)			N/A	MS-B	%		-	08-NOV-13
WG1784768-4 MS		L1385684-5						
Ammonia, Total (as N)			89.1		%		75-125	08-NOV-13
WG1784768-8 MS		L1386299-16						
Ammonia, Total (as N)			96.6		%		75-125	08-NOV-13
Batch	R2739997							
WG1786515-10 LCS								
Ammonia, Total (as N)			108.8		%		85-115	12-NOV-13
WG1786515-14 LCS								
Ammonia, Total (as N)			111.3		%		85-115	12-NOV-13
WG1786515-18 LCS								
Ammonia, Total (as N)			104.3		%		85-115	12-NOV-13
WG1786515-2 LCS								
Ammonia, Total (as N)			104.3		%		85-115	12-NOV-13
WG1786515-6 LCS								
Ammonia, Total (as N)			105.4		%		85-115	12-NOV-13
WG1786515-1 MB								
Ammonia, Total (as N)			<0.020		mg/L		0.02	12-NOV-13
WG1786515-13 MB								
Ammonia, Total (as N)			<0.020		mg/L		0.02	12-NOV-13
WG1786515-17 MB								
Ammonia, Total (as N)			<0.020		mg/L		0.02	12-NOV-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NH3-COL-TB								
	Water							
Batch	R2739997							
WG1786515-5 MB								
Ammonia, Total (as N)			<0.020		mg/L		0.02	12-NOV-13
WG1786515-9 MB								
Ammonia, Total (as N)			<0.020		mg/L		0.02	12-NOV-13
WG1786515-12 MS		L1387750-2						
Ammonia, Total (as N)			94.6		%		75-125	12-NOV-13
WG1786515-16 MS		L1388079-3						
Ammonia, Total (as N)			88.6		%		75-125	12-NOV-13
WG1786515-20 MS		L1389014-2						
Ammonia, Total (as N)			82.6		%		75-125	12-NOV-13
WG1786515-4 MS		L1387732-2						
Ammonia, Total (as N)			84.5		%		75-125	12-NOV-13
WG1786515-8 MS		L1387750-3						
Ammonia, Total (as N)			81.0		%		75-125	12-NOV-13
NO2-IC-TB								
	Water							
Batch	R2732911							
WG1780275-3 DUP		L1386380-3						
Nitrite (as N)			<0.020	RPD-NA	mg/L	N/A	20	01-NOV-13
WG1780275-10 LCS								
Nitrite (as N)			100.8		%		90-110	01-NOV-13
WG1780275-14 LCS								
Nitrite (as N)			99.4		%		90-110	01-NOV-13
WG1780275-2 LCS								
Nitrite (as N)			98.9		%		90-110	01-NOV-13
WG1780275-6 LCS								
Nitrite (as N)			101.0		%		90-110	01-NOV-13
WG1780275-1 MB								
Nitrite (as N)			<0.020		mg/L		0.02	01-NOV-13
WG1780275-5 MB								
Nitrite (as N)			<0.020		mg/L		0.02	01-NOV-13
WG1780275-9 MB								
Nitrite (as N)			<0.020		mg/L		0.02	01-NOV-13
WG1780275-4 MS		L1386380-3						
Nitrite (as N)			98.6		%		75-115	01-NOV-13
WG1780275-8 MS		L1386047-1						
Nitrite (as N)			97.5		%		75-115	01-NOV-13
NO3-IC-TB								
	Water							



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO3-IC-TB								
Water								
Batch	R2732911							
WG1780275-3	DUP	L1386380-3						
Nitrate (as N)		0.045	0.037		mg/L	20	20	01-NOV-13
WG1780275-10	LCS							
Nitrate (as N)			101.4		%		90-110	01-NOV-13
WG1780275-14	LCS							
Nitrate (as N)			100.8		%		90-110	01-NOV-13
WG1780275-2	LCS							
Nitrate (as N)			101.9		%		90-110	01-NOV-13
WG1780275-6	LCS							
Nitrate (as N)			101.5		%		90-110	01-NOV-13
WG1780275-1	MB							
Nitrate (as N)			<0.030		mg/L		0.03	01-NOV-13
WG1780275-5	MB							
Nitrate (as N)			<0.030		mg/L		0.03	01-NOV-13
WG1780275-9	MB							
Nitrate (as N)			<0.030		mg/L		0.03	01-NOV-13
WG1780275-4	MS	L1386380-3						
Nitrate (as N)			98.6		%		75-125	01-NOV-13
WG1780275-8	MS	L1386047-1						
Nitrate (as N)			99.6		%		75-125	01-NOV-13
OGG-TOT-WT								
Water								
Batch	R2737001							
WG1783910-2	LCS							
Oil and Grease, Total			94.7		%		70-130	07-NOV-13
WG1783910-3	LCSD	WG1783910-2						
Oil and Grease, Total		94.7	91		%	4.4	40	07-NOV-13
WG1783910-1	MB							
Oil and Grease, Total			<2.0		mg/L		2	07-NOV-13
Batch	R2740392							
WG1784318-2	LCS							
Oil and Grease, Total			87.4		%		70-130	07-NOV-13
WG1784318-3	LCSD	WG1784318-2						
Oil and Grease, Total		87.4	90		%	2.5	40	07-NOV-13
WG1784318-1	MB							
Oil and Grease, Total			<2.0		mg/L		2	07-NOV-13
P-T-COL-TB								
Water								



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
P-T-COL-TB								
Water								
Batch	R2735105							
WG1781649-15	DUP	L1386380-11						
Phosphorus (P)-Total		0.0245	0.0237		mg/L	3.5	20	06-NOV-13
WG1781649-10	LCS							
Phosphorus (P)-Total			101.0		%		80-120	06-NOV-13
WG1781649-14	LCS							
Phosphorus (P)-Total			100.5		%		80-120	06-NOV-13
WG1781649-2	LCS							
Phosphorus (P)-Total			104.4		%		80-120	06-NOV-13
WG1781649-6	LCS							
Phosphorus (P)-Total			100.5		%		80-120	06-NOV-13
WG1781649-1	MB							
Phosphorus (P)-Total			<0.0050		mg/L		0.005	06-NOV-13
WG1781649-13	MB							
Phosphorus (P)-Total			<0.0050		mg/L		0.005	06-NOV-13
WG1781649-5	MB							
Phosphorus (P)-Total			<0.0050		mg/L		0.005	06-NOV-13
WG1781649-9	MB							
Phosphorus (P)-Total			<0.0050		mg/L		0.005	06-NOV-13
WG1781649-16	MS	L1386380-11						
Phosphorus (P)-Total			104.1		%		70-130	06-NOV-13
WG1781649-4	MS	L1385856-1						
Phosphorus (P)-Total			96.8		%		70-130	06-NOV-13
WG1781649-8	MS	L1386047-1						
Phosphorus (P)-Total			99.4		%		70-130	06-NOV-13
PH-CAP-TB								
Water								
Batch	R2731839							
WG1780562-6	DUP	L1386380-5						
pH		7.49	7.47	J	pH	0.02	0.2	02-NOV-13
WG1780562-11	LCS							
pH			6.02		pH		5.9-6.1	02-NOV-13
WG1780562-14	LCS							
pH			6.02		pH		5.9-6.1	02-NOV-13
WG1780562-2	LCS							
pH			6.01		pH		5.9-6.1	02-NOV-13
WG1780562-5	LCS							
pH			6.02		pH		5.9-6.1	02-NOV-13
WG1780562-8	LCS							
pH			6.01		pH		5.9-6.1	02-NOV-13



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SO4-IC-TB								
Water								
Batch	R2732911							
WG1780275-3	DUP	L1386380-3						
Sulfate (SO4)		2.08	1.93		mg/L	7.2	20	01-NOV-13
WG1780275-10	LCS							
Sulfate (SO4)			102.9		%		90-110	01-NOV-13
WG1780275-14	LCS							
Sulfate (SO4)			102.4		%		90-110	01-NOV-13
WG1780275-2	LCS							
Sulfate (SO4)			103.5		%		90-110	01-NOV-13
WG1780275-6	LCS							
Sulfate (SO4)			103.4		%		90-110	01-NOV-13
WG1780275-1	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	01-NOV-13
WG1780275-5	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	01-NOV-13
WG1780275-9	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	01-NOV-13
WG1780275-4	MS	L1386380-3						
Sulfate (SO4)			100.2		%		75-125	01-NOV-13
WG1780275-8	MS	L1386047-1						
Sulfate (SO4)			100.7		%		75-125	01-NOV-13
SOLIDS-TOTSUS-TB								
Water								
Batch	R2733603							
WG1781450-3	DUP	L1386380-11						
Total Suspended Solids		<2.0	<2.0	RPD-NA	mg/L	N/A	20	04-NOV-13
WG1781450-2	LCS							
Total Suspended Solids			102.7		%		85-115	04-NOV-13
WG1781450-1	MB							
Total Suspended Solids			<2.0		mg/L		2	04-NOV-13
Batch	R2733968							
WG1781617-3	DUP	L1386380-16						
Total Suspended Solids		<2.0	<2.0	RPD-NA	mg/L	N/A	20	04-NOV-13
WG1781617-2	LCS							
Total Suspended Solids			95.6		%		85-115	04-NOV-13
WG1781617-1	MB							
Total Suspended Solids			<2.0		mg/L		2	04-NOV-13

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Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
J	Duplicate results and limits are expressed in terms of absolute difference.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

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Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Anions and Nutrients							
Ammonia by Discrete Analyzer	13	30-OCT-13 12:00	12-NOV-13 12:46	10	13	days	EHT

Legend & Qualifier Definitions:

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.
EHTR: Exceeded ALS recommended hold time prior to sample receipt.
EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
EHT: Exceeded ALS recommended hold time prior to analysis.
Rec. HT: ALS recommended hold time (see units).

Notes*:

Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.
Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L1386380 were received on 01-NOV-13 10:30.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

Company: Treasury Metals		Regulatory Information			Both questions below must answered for water samples												
Contact: Mac Potter		<input checked="" type="checkbox"/> O, Reg 153 (O Reg 511 Amend) Table			Are any samples taken from a regulated DW System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No												
Address: 899 Tree Nursery Rd		Record of Site Condition <input type="checkbox"/> Yes <input type="checkbox"/> No			If yes, an authorized DW COC must be used												
Wabigoon ON P0V 2W0		PW00 <input checked="" type="checkbox"/> MISA <input type="checkbox"/> MMER <input type="checkbox"/> CCME <input type="checkbox"/>			Is the water sampled intended for human consumption? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No												
Phone: 807-938-6961 Fax:		Guideline Required:			Analysis Request												
Email: mac@treasurymetals.com		ICLP Regulation 558 <input type="checkbox"/> Other			Please indicate below Filtered, Preserved or both (F, P, F/P)												
Project:		Service Requested															
Quote #		<input checked="" type="checkbox"/> Regular TAT (7 Days)															
Invoice To:		<input type="checkbox"/> Priority TAT 50% Surcharge (3-5 Days)															
Company:		<input type="checkbox"/> Emergency TAT 100% Surcharge (1-2 Days)															
Contact:		Specify Date Required:															
Address:		All TAT quoted material is in business days which															
Email:		exclude statutory holidays and weekends. Samples															
Account Manager: Bobbie		received past 3:00pm or Saturday/Sunday begin the															
Sampler: M.P.		next day.															
Sampler: P.T.																	
Sample #	Sample Identification (This description will appear on the report)	Date	Time	Sample Type	Alk, pH Conductivity	Cl, NO2, NO3, SO4	Acidity, TSS	Total, WAD, Free Cyanide	WAD Cyanide	Ammonia, Total Phosphorus	OGG	Total Metals +Hg	Dissolved Metals + Hg	Hardness	Number of Containers		
1	SW1	30/10/13	12:00	WATER	X	X	X	X	X	X	X	X	X	X	8		
2	SW2				X	X	X	X	X	X	X	X	X	X			
3	SW8				X	X	X	X	X	X	X	X	X	X			
4	TL3				X	X	X	X	X	X	X	X	X	X			
5	ICTa				X	X	X	X	X	X	X	X	X	X			
6	TL1a				X	X	X	X	X	X	X	X	X	X			
7	SW10				X	X	X	X	X	X	X	X	X	X			
8	SW7				X	X	X	X	X	X	X	X	X	X			
9	SW8				X	X	X	X	X	X	X	X	X	X			
10	SW9				X	X	X	X	X	X	X	X	X	X			
11	SW11				X	X	X	X	X	X	X	X	X	X			
Special Instructions / Comments																	
SHIPMENT RELEASE (client use)				SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)									
Released by: <i>MPA</i>		Date & Time: 12:00 AM CST 31/10/13		Received by: BS		Date & Time: NOV/13 10:30		Temp: 10.9		Cooling Initiated: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Verified by: BS		Date & Time: NOV 1/13 10:30		Observations: Yes / No <input checked="" type="checkbox"/> If Yes add SIF	



Failure to complete all portions of this form may delay analysis. TAT may vary dependant on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs. Any known or suspected hazards relating to a sample must be noted on the chain of custody in the comments section. By

Company: Treasury Metals		Regulatory Information				Both questions below must answered for water samples											
Contact: Mac Potter		<input checked="" type="checkbox"/> Reg 153 (O. Reg 511 Amend) Table				Are any samples taken from a regulated DW System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No											
Address: 899 Tree Nursery Rd Wabigoon ON P0V 2W0		Record of Site Condition: <input type="checkbox"/> Yes <input type="checkbox"/> No				If yes, an authorized DW COC must be used.											
Phone: 807-938-6961 Fax:		RWQO <input checked="" type="checkbox"/> MISA <input type="checkbox"/> MMR <input type="checkbox"/> CCME <input type="checkbox"/>				Is the water sampled intended for human consumption? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No											
Email: mac@treasurymetals.com		Guideline Required				Analysis Request											
Project:		TCIP Regulation 558 <input type="checkbox"/> Other:				Please indicate below Filtered, Preserved or both (F, P, F/P)											
Quote #		Service Requested															
Invoice To:		<input checked="" type="checkbox"/> Regular TAT (7 Days)															
Company:		<input type="checkbox"/> Priority TAT 50% Surcharge (3-5 Days)															
Contact:		<input type="checkbox"/> Emergency TAT 100% Surcharge (1-2 Days)															
Address:		Specify Date Required															
Email:		All TAT quoted material is in business days which exclude statutory holidays and weekends. Samples received past 3:00pm or Saturday/Sunday begin the next day.															
Account Manager: Bobbie		Sampler: m.p A.T															
Sample #	Sample Identification (This description will appear on the report)			Date	Time	Sample Type	Alk, pH Conductivity	Cl, NO2, NO3, SO4	Acidity, TSS	Total, WAD, Free Cyanide	WAD Cyanide	Ammonia, Total Phosphorus	OGG	Total Metals +Hg	Dissolved Metals + Hg	Hardness	Number of Containers
12	Field Blank			30/10/13	12:00	WATER	X	X	X	X	X	X	X	X	X	X	0
13	Travel Blank			1	↓	↓	X	X	X	X	X	X	X	X	X	X	1
14	SW5			31/10/13	↓	↓	X	X	X	X	X	X	X	X	X	X	1
15	SW6			1	↓	↓	X	X	X	X	X	X	X	X	X	X	1
16	Duplicate			30/10/13	↓	↓	X	X	X	X	X	X	X	X	X	X	1
							X	X	X	X	X	X	X	X	X	X	
							X	X	X	X	X	X	X	X	X	X	
							X	X	X	X	X	X	X	X	X	X	
							X	X	X	X	X	X	X	X	X	X	
							X	X	X	X	X	X	X	X	X	X	
							X	X	X	X	X	X	X	X	X	X	
Instructions / Comments																	
SHIPMENT RELEASE (client use)						SHIPMENT RECEPTION (lab use only)						SHIPMENT VERIFICATION (lab use only)					
Released by:		Date & Time		Received by:		Date & Time		Temp		Cooling Initiated		Verified by:		Date & Time		Observations:	
MJA		12:00 PM CST 31/10/13		BS		NOV 1/13 10:30		10.9		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		BS NOV 1/13		10:30		Yes / No If Yes add SIF	



L1386380-COFC

****Failure to complete all portions of this form may delay analysis.**** TAT may vary dependant on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs. Any known or suspected hazards relating to a sample must be noted on the chain of custody in the comments section. By



TREASURY METALS INC.
ATTN: Mac Potter
P.O. Box 789
Dryden ON P8N 2Z4

Date Received: 25-OCT-12
Report Date: 28-MAR-13 13:48 (MT)
Version: FINAL

Client Phone: 807-938-6961

Certificate of Analysis

Lab Work Order #: L1228910
Project P.O. #: NOT SUBMITTED
Job Reference: GOLIATH GOLD PROJECT
C of C Numbers:
Legal Site Desc:

Tricia Sampson
Account Manager Supervisor

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 1081 Barton Street, Thunder Bay, ON P7B 5N3 Canada | Phone: +1 807 623 6463 | Fax: +1 807 623 7598
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1228910-1 soil 22-OCT-12 SB12-4A	L1228910-2 soil 22-OCT-12 SB12-5A	L1228910-3 soil 22-OCT-12 SB12-2A	L1228910-4 soil 22-OCT-12 SB12-22	L1228910-5 soil 22-OCT-12 SB12-23
Grouping	Analyte					
SOIL						
Physical Tests	% Moisture (%)	22.8	22.1	17.5	57.5	67.2
Particle Size	% Gravel (>2mm) (%)	<0.10	<0.10	3.53	<0.10	<0.10
	% Sand (2.0mm - 0.063mm) (%)	84.3	91.6	72.2	9.92	5.56
	% Silt (0.063mm - 4um) (%)	12.8	6.65	22.1	62.8	63.6
	% Clay (<4um) (%)	2.91	1.78	2.20	27.2	30.8
	Texture	Sand	Sand	Loamy sand	Silt loam	Silt loam
Leachable Anions & Nutrients	Ammonia as N (mg/kg)	14.3	10.8	79.3	304	380
	Bromide (mg/kg)	<1.0	<1.0	<1.0	<1.0	<1.0
	Chloride (mg/kg)	<20	<20	<20	<20	<20
	Fluoride (mg/kg)	<1.0	<1.0	<1.0	1.3	2.8
	Nitrate-N (mg/kg)	<1.0	<1.0	<1.0	<1.0	<1.0
	Nitrite-N (mg/kg)	<1.0	<1.0	<1.0	<1.0	<1.0
	Total Kjeldahl Nitrogen (mg/kg)	210	<200	940	4010	4740
	Sulphate (mg/kg)	21	<20	<20	189	55
Anions and Nutrients	Phosphorus, Total (mg/kg)	154	114	240	388	504
Saturated Paste Extractables	Nitrate+Nitrite-N (mg/L)	<1.0	<1.0	<1.0	<1.0	1.3
Taxonomy	Benthic Invertebrates	See attached.	See attached.	See attached.	See attached.	See attached.
Metals	Mercury (Hg) (mg/kg)	<0.010	<0.010	<0.010	0.050	0.034
	Zirconium (Zr) (mg/kg)	<5.0	<5.0	<5.0	6.0	9.3

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1228910-6 soil 22-OCT-12 SB12-24	L1228910-7 soil 22-OCT-12 SB12-25	L1228910-8 soil 22-OCT-12 SB12-26	L1228910-9 soil 23-OCT-12 SB12-17	L1228910-10 soil 23-OCT-12 SB12-18
Grouping	Analyte					
SOIL						
Physical Tests	% Moisture (%)	53.0	54.9	62.0	47.7	23.4
Particle Size	% Gravel (>2mm) (%)	<0.10	<0.10	<0.10	<0.10	<0.10
	% Sand (2.0mm - 0.063mm) (%)	21.8	25.0	11.9	59.1	82.5
	% Silt (0.063mm - 4um) (%)	57.9	30.3	33.5	38.7	16.7
	% Clay (<4um) (%)	20.3	44.8	54.7	2.17	0.81
	Texture	Silt loam	Clay loam	Silty clay / Clay	Sandy loam	Sand
Leachable Anions & Nutrients	Ammonia as N (mg/kg)	96.9	81.3	106	104	28.2
	Bromide (mg/kg)	<1.0	<1.0	<1.0	<1.0	<1.0
	Chloride (mg/kg)	<20	<20	<20	<20	<20
	Fluoride (mg/kg)	<1.0	<1.0	1.1	<1.0	<1.0
	Nitrate-N (mg/kg)	<1.0	1.9	2.2	<1.0	<1.0
	Nitrite-N (mg/kg)	<1.0	<1.0	<1.0	<1.0	<1.0
	Total Kjeldahl Nitrogen (mg/kg)	2140	1420	1480	1570	270
	Sulphate (mg/kg)	29	22	37	49	<20
Anions and Nutrients	Phosphorus, Total (mg/kg)	644	853	793	403	192
Saturated Paste Extractables	Nitrate+Nitrite-N (mg/L)	<1.0	1.0	<1.0	<1.0	<1.0
Taxonomy	Benthic Invertebrates	See attached.	See attached.	See attached.	See attached.	See attached.
Metals	Mercury (Hg) (mg/kg)	0.033	0.039	0.044	0.011	<0.010
	Zirconium (Zr) (mg/kg)	6.2	8.3	11.7	<5.0	<5.0

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	L1228910-11	L1228910-12	L1228910-13	L1228910-14	L1228910-15
Sampled Date	Sampled Time	23-OCT-12	23-OCT-12	22-OCT-12	22-OCT-12	22-OCT-12
Client ID		SB12-19	SB12-20	SB12-15A	SB12-16	SB12-14
Grouping	Analyte					
SOIL						
Physical Tests	% Moisture (%)	24.0	26.0	30.0	36.0	20.2
Particle Size	% Gravel (>2mm) (%)	<0.10	<0.10	<0.10	<0.10	2.32
	% Sand (2.0mm - 0.063mm) (%)	97.0	95.7	47.9	39.8	78.7
	% Silt (0.063mm - 4um) (%)	2.20	3.63	34.6	32.6	14.5
	% Clay (<4um) (%)	0.80	0.66	17.5	27.7	4.44
	Texture	Sand	Sand	Loam	Loam	Loamy sand
Leachable Anions & Nutrients	Ammonia as N (mg/kg)	14.3	25.6	105	107	39.9
	Bromide (mg/kg)	<1.0	<1.0	1.2	<1.0	<1.0
	Chloride (mg/kg)	<20	<20	<20	<20	<20
	Fluoride (mg/kg)	<1.0	<1.0	<1.0	1.0	<1.0
	Nitrate-N (mg/kg)	<1.0	<1.0	<1.0	<1.0	<1.0
	Nitrite-N (mg/kg)	<1.0	<1.0	<1.0	<1.0	<1.0
	Total Kjeldahl Nitrogen (mg/kg)	260	440	1300	1340	650
	Sulphate (mg/kg)	<20	<20	44	<20	<20
Anions and Nutrients	Phosphorus, Total (mg/kg)	341	155	391	438	255
Saturated Paste Extractables	Nitrate+Nitrite-N (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0
Taxonomy	Benthic Invertebrates	See attached.	See attached.	See attached.	See attached.	See attached.
Metals	Mercury (Hg) (mg/kg)	<0.010	<0.010	0.020	0.025	0.011
	Zirconium (Zr) (mg/kg)	<5.0	<5.0	<5.0	8.5	<5.0

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1228910-16	L1228910-17	L1228910-18	L1228910-19
	soil	22-OCT-12		SB12-13				
	soil	22-OCT-12		SB12-11A				
	soil	22-OCT-12		SB12-12				
	soil	22-OCT-12		SB12-3				
Grouping	Analyte							
SOIL								
Physical Tests	% Moisture (%)	18.6	36.8	68.5	19.0			
Particle Size	% Gravel (>2mm) (%)	4.85	0.61	29.9	77.8			
	% Sand (2.0mm - 0.063mm) (%)	78.4	26.2	12.7	21.8			
	% Silt (0.063mm - 4um) (%)	12.4	48.5	37.9	0.23			
	% Clay (<4um) (%)	4.28	24.8	19.5	0.16			
	Texture	Loamy sand	Silt loam	Silt loam	Sand			
Leachable Anions & Nutrients	Ammonia as N (mg/kg)	47.7	70.1	384	20.7			
	Bromide (mg/kg)	<1.0	<1.0	3.6	<1.0			
	Chloride (mg/kg)	<20	<20	<20	<20			
	Fluoride (mg/kg)	<1.0	1.4	4.3	<1.0			
	Nitrate-N (mg/kg)	<1.0	<1.0	4.6	<1.0			
	Nitrite-N (mg/kg)	<1.0	<1.0	<1.0	<1.0			
	Total Kjeldahl Nitrogen (mg/kg)	410	810	4470	320			
	Sulphate (mg/kg)	<20	<20	406	<20			
Anions and Nutrients	Phosphorus, Total (mg/kg)	270	459	575	680			
Saturated Paste Extractables	Nitrate+Nitrite-N (mg/L)	<1.0	<1.0	<1.0	2.8			
Taxonomy	Benthic Invertebrates	See attached.	See attached.	See attached.	See attached.			
Metals	Mercury (Hg) (mg/kg)	<0.010	0.031	0.042	<0.010			
	Zirconium (Zr) (mg/kg)	<5.0	<5.0	7.1	<5.0			

Reference Information

Additional Comments for Sample Listed:

Samplenum	Matrix	Report Remarks	Sample Comments
L1228910-1	Soil	Note: Entire sample sorted.	
L1228910-10	Soil	Note: Entire sample sorted.	
L1228910-11	Soil	Note: Entire sample sorted.	
L1228910-12	Soil	Note: Entire sample sorted.	
L1228910-13	Soil	Note: Entire sample sorted.	
L1228910-14	Soil	Note: Entire sample sorted.	
L1228910-15	Soil	Note: Entire sample sorted.	
L1228910-16	Soil	Note: Entire sample sorted.	
L1228910-17	Soil	Note: Entire sample sorted.	
L1228910-18	Soil	Note: Entire sample sorted.	
L1228910-19	Soil	Note: 1/2 sample sorted. Results adjusted.	
L1228910-2	Soil	Note: Entire sample sorted.	
L1228910-3	Soil	Note: Entire sample sorted.	
L1228910-4	Soil	Note: 1/2 sample sorted. Results adjusted.	
L1228910-5	Soil	Note: Entire sample sorted.	
L1228910-6	Soil	Note: Entire sample sorted.	
L1228910-7	Soil	Note: Entire sample sorted.	
L1228910-8	Soil	Note: Entire sample sorted.	
L1228910-9	Soil	Note: Entire sample sorted.	

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BENTHOS-WP	Soil	Benthic Invertebrates	STANDARD METHODS 10500
<p>The benthic macroinvertebrates method is a procedure for identifying those organisms inhabiting the substrates of freshwater lakes and rivers. The organisms contained in large samples must be sorted to varying degrees in the laboratory before identification is performed. Samples are sorted and identified using compound and stereoscopic microscopes. Benthic organisms are identified to species where possible, enumerated and reported.</p>			
HG-WT	Soil	Mercury by CVAA	EPA 7471
MOISTURE-WT	Soil	% Moisture	Gravimetric: Oven Dried
N2N3-SAR-SK	Soil	Nitrate-N & Nitrite-N in saturated soil	APHA 4500 NO3H-Colorimetry
NH3-WT	Soil	Ammonia as N	EPA 350.1
<p>Sample is distilled into a solution of boric acid and measured colorimetrically.</p>			
P-TOTAL-WT	Soil	Phosphorous, Total	APHA 4500-P B E
<p>A homogenized soil sample is digested to convert the total phosphorus to orthophosphate. The orthophosphate reacts with ammonium molybdate and potassium antimonyl tartrate to form a antimonyl-phosphomolybdate complex. This complex is measured colorimetrically and reported as phosphorus.</p>			
PSA-PIPET+GRAVEL-SK	Soil	Particle size - Sieve and Pipette	SSIR-51 METHOD 3.2.1
<p>Particle size distribution is determined by a combination of techniques. Dry sieving is performed for coarse particles, wet sieving for sand particles and the pipette sedimentation method for clay particles.</p>			

Reference:

Burt, R. (2009). Soil Survey Field and Laboratory Methods Manual. Soil Survey Investigations Report No. 5. Method 3.2.1.2.2. United States Department of Agriculture Natural Resources Conservation Service.

TKN-WT	Soil	Total Kjeldahl Nitrogen	APHA 4500-N
<p>A homogenized soil sample is digested to convert the TKN to ammonium sulphate. The ammonia ions are heated to produce a colour complex. The absorbance measured by the instrument is proportional to the concentration of ammonium sulphate in the sample and is reported as TKN.</p>			
ZR-200.2-MS-ED	Soil	Zirconium in Soil by ICPMS	EPA 200.2/6020A
<p>Zirconium is not typically present in most natural soils in a strong-acid leachable form. Therefore recovery in terms of total zirconium is generally low, sometimes less than 1%.</p>			

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
ED	ALS ENVIRONMENTAL - EDMONTON, ALBERTA, CANADA
	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA

Reference Information

WT SK
ALS ENVIRONMENTAL - SASKATOON, SASKATCHEWAN, CANADA
WP ALS ENVIRONMENTAL - WINNIPEG, MANITOBA, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

mg/kg - milligrams per kilogram based on dry weight of sample.

mg/kg wwt - milligrams per kilogram based on wet weight of sample.

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.

mg/L - milligrams per litre.

< - Less than.

D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L1228910

Report Date: 28-MAR-13

Page 1 of 5

Client: TREASURY METALS INC.
 P.O. Box 789
 Dryden ON P8N 2Z4
 Contact: Mac Potter

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
ANIONS-WT		Soil						
Batch	R2465661							
WG1574987-3	DUP	L1228910-1						
Chloride		<20	<20	RPD-NA	mg/kg	N/A	30	29-OCT-12
Bromide		<1.0	<1.0	RPD-NA	mg/kg	N/A	35	29-OCT-12
Fluoride		<1.0	<1.0	RPD-NA	mg/kg	N/A	30	29-OCT-12
Nitrite-N		<1.0	<1.0	RPD-NA	mg/kg	N/A	30	29-OCT-12
Nitrate-N		<1.0	1.2	RPD-NA	mg/kg	N/A	30	29-OCT-12
Sulphate		21	<20	RPD-NA	mg/kg	N/A	30	29-OCT-12
WG1574987-2	LCS							
Chloride			100.9		%		70-130	29-OCT-12
Bromide			92.4		%		75-125	29-OCT-12
Fluoride			96.4		%		60-140	29-OCT-12
Nitrite-N			91.7		%		60-140	29-OCT-12
Nitrate-N			99.1		%		60-140	29-OCT-12
Sulphate			103.1		%		70-130	29-OCT-12
WG1574987-1	MB							
Chloride			<20		mg/kg		20	29-OCT-12
Bromide			<1.0		mg/kg		1	29-OCT-12
Fluoride			<1.0		mg/kg		1	29-OCT-12
Nitrite-N			<1.0		mg/kg		1	29-OCT-12
Nitrate-N			<1.0		mg/kg		1	29-OCT-12
Sulphate			<20		mg/kg		20	29-OCT-12
HG-WT		Soil						
Batch	R2464565							
WG1575410-2	CRM	WT-SS-1						
Mercury (Hg)			108.8		%		70-130	29-OCT-12
WG1575410-7	LCS							
Mercury (Hg)			97.5		%		70-130	29-OCT-12
WG1575410-1	MB							
Mercury (Hg)			<0.010		mg/kg		0.01	29-OCT-12
WG1575410-5	MS	WG1575410-3						
Mercury (Hg)			77.3		%		70-130	29-OCT-12
MOISTURE-WT		Soil						
Batch	R2463624							
WG1574734-3	DUP	L1228910-7						
% Moisture		54.9	53.3		%	2.9	30	26-OCT-12
WG1574734-2	LCS							
% Moisture			95.3		%		70-130	26-OCT-12



Quality Control Report

Workorder: L1228910

Report Date: 28-MAR-13

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-WT		Soil						
Batch	R2463624							
WG1574734-1	MB							
% Moisture			<0.10		%		0.1	26-OCT-12
Batch	R2464736							
WG1575571-2	LCS							
% Moisture			94.9		%		70-130	29-OCT-12
WG1575571-1	MB							
% Moisture			<0.10		%		0.1	29-OCT-12
N2N3-SAR-SK		Soil						
Batch	R2467960							
WG1579451-1	MB							
Nitrate+Nitrite-N			<1.0		mg/L		1	02-NOV-12
NH3-WT		Soil						
Batch	R2464744							
WG1575744-2	CVS							
Ammonia as N			100.1		%		80-120	29-OCT-12
WG1575412-3	DUP	L1228910-1						
Ammonia as N		14.3	12.6		mg/kg	12	20	29-OCT-12
WG1575412-2	LCS							
Ammonia as N			112.0		%		70-130	29-OCT-12
WG1575412-1	MB							
Ammonia as N			<5.0		mg/kg		5	29-OCT-12
Batch	R2465151							
WG1576340-2	CVS							
Ammonia as N			104.5		%		80-120	30-OCT-12
WG1576164-3	DUP	L1228910-10						
Ammonia as N		28.2	27.1		mg/kg	3.8	20	30-OCT-12
WG1576164-2	LCS							
Ammonia as N			111.1		%		70-130	30-OCT-12
WG1576164-1	MB							
Ammonia as N			<5.0		mg/kg		5	30-OCT-12
Batch	R2465711							
WG1577229-2	CVS							
Ammonia as N			98.4		%		80-120	31-OCT-12
WG1577090-3	DUP	L1228910-14						
Ammonia as N		107	111		mg/kg	3.0	20	31-OCT-12
WG1577090-2	LCS							



Quality Control Report

Workorder: L1228910

Report Date: 28-MAR-13

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed	
NH3-WT									
Soil									
Batch	R2465711								
WG1577090-2	LCS								
Ammonia as N			109.4		%		70-130	31-OCT-12	
WG1577090-1	MB								
Ammonia as N			<5.0		mg/kg		5	31-OCT-12	
P-TOTAL-WT									
Soil									
Batch	R2467226								
WG1578007-3	CRM	ERA542							
Phosphorus, Total			107		%		80-120	01-NOV-12	
WG1578171-1	CVS								
Phosphorus, Total			102.8		%		80-120	01-NOV-12	
WG1578007-2	DUP	L1228910-1							
Phosphorus, Total		154	177		mg/kg	14	20	01-NOV-12	
WG1578007-1	MB								
Phosphorus, Total			<50		mg/kg		50	01-NOV-12	
Batch	R2467534								
WG1578801-3	CRM	ERA542							
Phosphorus, Total			111		%		80-120	02-NOV-12	
WG1578847-1	CVS								
Phosphorus, Total			97.0		%		80-120	02-NOV-12	
WG1578801-2	DUP	L1228910-19							
Phosphorus, Total		680	565		mg/kg	18	20	02-NOV-12	
WG1578801-1	MB								
Phosphorus, Total			<50		mg/kg		50	02-NOV-12	
PSA-PIPET+GRAVEL-SK									
Soil									
Batch	R2465323								
WG1574769-1	DUP	L1228910-6							
% Gravel (>2mm)			<0.10	<0.10	RPD-NA	%	N/A	25	30-OCT-12
% Sand (2.0mm - 0.063mm)			21.8	19.9	J	%	1.93	5	30-OCT-12
% Silt (0.063mm - 4um)			57.9	59.0	J	%	1.15	5	30-OCT-12
% Clay (<4um)			20.3	21.1	J	%	0.78	5	30-OCT-12
WG1574769-2	IRM	FARM2009							
% Sand (2.0mm - 0.063mm)				43.6		%		40-50	30-OCT-12
% Silt (0.063mm - 4um)				37.1		%		30-40	30-OCT-12
% Clay (<4um)				19.2		%		13-23	30-OCT-12
TKN-WT									
Soil									



Quality Control Report

Workorder: L1228910

Report Date: 28-MAR-13

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
TKN-WT								
Soil								
Batch	R2466680							
WG1578007-3	CRM	ERA542						
Total Kjeldahl Nitrogen			98		%		80-120	01-NOV-12
WG1578170-1	CVS							
Total Kjeldahl Nitrogen			99.4		%		80-120	01-NOV-12
WG1578007-2	DUP	L1228910-1						
Total Kjeldahl Nitrogen		210	220		mg/kg	3.2	20	01-NOV-12
WG1578007-1	MB							
Total Kjeldahl Nitrogen			<200		mg/kg		200	01-NOV-12
Batch	R2467455							
WG1578801-3	CRM	ERA542						
Total Kjeldahl Nitrogen			97		%		80-120	02-NOV-12
WG1578846-1	CVS							
Total Kjeldahl Nitrogen			102.0		%		80-120	02-NOV-12
WG1578801-2	DUP	L1228910-19						
Total Kjeldahl Nitrogen		320	270		mg/kg	19	20	02-NOV-12
WG1578801-1	MB							
Total Kjeldahl Nitrogen			<200		mg/kg		200	02-NOV-12
ZR-200.2-MS-ED								
Soil								
Batch	R2465363							
WG1576038-6	DUP	L1228910-13						
Zirconium (Zr)		<5.0	<5.0	RPD-NA	mg/kg	N/A	25	30-OCT-12
WG1576038-1	MB							
Zirconium (Zr)			<5.0		mg/kg		5	30-OCT-12
WG1576038-2	MB							
Zirconium (Zr)			<5.0		mg/kg		5	30-OCT-12

Quality Control Report

Workorder: L1228910

Report Date: 28-MAR-13

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Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
J	Duplicate results and limits are expressed in terms of absolute difference.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



ALS Laboratory Group
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Benthic Sample Results

Lab Number: L1228910-1

Work Order: L1228910

Date Sampled October 22, 2012
Source: GOLIATH GOLD PROJECT

Submitter MP/JP
WQ Site #: SB12-4A

Sample Type soil
Station No
Sample ID

Class	Order	Family/Suborder	Genus	Species	Larva	Adult	Pupa	Total
ANNELIDA	HIRUDINEA	GLOSSIPHONIIDAE			0	0	0	3
ANNELIDA	OLIGOCHAETA	LUMBRICULIDAE			0	0	0	1
ANNELIDA	OLIGOCHAETA	NAIDIDAE			0	0	0	30
ANNELIDA	OLIGOCHAETA	TUBIFICIDAE			0	0	0	1
CRUSTACEA	COPEPODA	CYCLOPOIDA			0	0	0	1
INSECTA	COLEOPTERA	ELMIDAE			2	0	0	2
INSECTA	COLEOPTERA	HALIPLIDAE			0	1	0	1
INSECTA	DIPTERA	CERATOPOGONIDAE			3	0	0	3
INSECTA	DIPTERA	CHIRONOMIDAE			61	0	0	61
INSECTA	DIPTERA	SIMULIDAE			6	0	0	6
INSECTA	DIPTERA	TABANIDAE			2	0	0	2
INSECTA	DIPTERA	TIPULIDAE			6	0	0	6
INSECTA	EPHEMEROPTERA	BAETIDAE			6	0	0	6
INSECTA	EPHEMEROPTERA	HEPTAGENIIDAE			23	0	0	23
INSECTA	EPHEMEROPTERA	LEPTOPHLEBIIDAE			1	0	0	1
INSECTA	HOMOPTERA		<i>unidentified</i>	<i>terrestrial</i>	1	0	0	1
INSECTA	LEPIDOPTERA	NOCTUIDAE			1	0	0	1
INSECTA	ODONATA-ANISOP	AESHNIDAE			4	0	0	4
INSECTA	ODONATA-ANISOP	GOMPHIDAE			3	0	0	3
INSECTA	PLECOPTERA		<i>unidentified nymph</i>	<i>too young to ID</i>	8	0	0	8
INSECTA	PLECOPTERA	CAPNIIDAE			17	0	0	17



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Benthic Sample Results

Lab Number: L1228910-1

Work Order: L1228910

Date Sampled October 22, 2012
Source: GOLIATH GOLD PROJECT

Submitter MP/JP
WQ Site #: SB12-4A

Sample Type soil
Station No
Sample ID

Class	Order	Family/Suborder	Genus	Species	Larva	Adult	Pupa	Total
INSECTA	PLECOPTERA	LEUCTRIDAE			14	0	0	14
INSECTA	PLECOPTERA	PERLODIDAE			7	0	0	7
INSECTA	PLECOPTERA	TAENIOPTERYGIDAE			3	0	0	3
INSECTA	TRICHOPTERA	GLOSSOSOMATIDAE			16	0	0	16
INSECTA	TRICHOPTERA	HYDROPTILIDAE			4	0	0	4
INSECTA	TRICHOPTERA	LEPIDOSTOMATIDAE			7	0	0	7
INSECTA	TRICHOPTERA	LIMNEPHILIDAE			4	0	0	4
INSECTA	TRICHOPTERA	PHILOPOTAMIDAE			2	0	0	2
INSECTA	TRICHOPTERA	PHRYGANEIDAE			1	0	0	1
INSECTA	TRICHOPTERA	POLYCENTROPODIDA			3	0	0	3
PELECYPODA	VENEROIDA	PISIIDAE			0	0	0	8



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Benthic Sample Results

Lab Number: L1228910-10

Work Order: L1228910

Date Sampled October 23, 2012
Source: GOLIATH GOLD PROJECT

Submitter MP/JP
WQ Site #: SB12-18

Sample Type soil
Station No
Sample ID

Class	Order	Family/Suborder	Genus	Species	Larva	Adult	Pupa	Total
GASTROPODA	NEOTAENIOGLOSS	HYDROBIIDAE			0	0	0	3
ANNELIDA	OLIGOCHAETA	NAIDIDAE			0	0	0	2
ANNELIDA	OLIGOCHAETA	TUBIFICIDAE			0	0	0	28
ARACHNOIDEA	ARANEAE			<i>unidentified spider</i>	0	0	0	9
ARACHNOIDEA	TROMBIDIFORMES				0	0	0	2
ARACHNOIDEA	TROMBIDIFORMES	LEBERTIIDAE			0	0	0	6
CRUSTACEA	CLADOCERA				0	0	0	2
CRUSTACEA	COPEPODA	CALANOIDA			0	0	0	1
CRUSTACEA	COPEPODA	CYCLOPOIDA			0	0	0	15
CRUSTACEA	COPEPODA	HARPACTICOIDA			0	0	0	5
CRUSTACEA	OSTRACODA				0	0	0	10
GASTROPODA	BASOMMATOPHOR	PHYSIDAE			0	0	0	2
INSECTA	COLEOPTERA			<i>unidentified</i>	0	1	0	1
INSECTA	COLEOPTERA	HALIPLIDAE			1	0	0	1
INSECTA	COLLEMBOLA	ISOTOMIDAE			0	0	0	5
INSECTA	DIPTERA	CERATOPOGONIDAE			24	0	0	24
INSECTA	DIPTERA	CHIRONOMIDAE			228	0	0	228
INSECTA	DIPTERA	EMPIDIDAE			2	0	0	2
INSECTA	DIPTERA	SIMULIDAE			1	0	0	1
INSECTA	DIPTERA	TIPULIDAE			4	0	0	4
INSECTA	HOMOPTERA			<i>unidentified</i> <i>terrestrial</i>	5	0	0	5



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Benthic Sample Results

Lab Number: L1228910-10

Work Order: L1228910

Date Sampled October 23, 2012
Source: GOLIATH GOLD PROJECT

Submitter MP/JP
WQ Site #: SB12-18

Sample Type soil
Station No
Sample ID

Class	Order	Family/Suborder	Genus	Species	Larva	Adult	Pupa	Total
<i>INSECTA</i>	<i>TRICHOPTERA</i>	<i>LIMNEPHILIDAE</i>			1	0	0	1
<i>PELECYPODA</i>	<i>VENEROIDA</i>	<i>PISIIDAE</i>			0	0	0	90



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Benthic Sample Results

Lab Number: L1228910-11

Work Order: L1228910

Date Sampled: October 23, 2012
Source: GOLIATH GOLD PROJECT

Submitter: MP/JP
WQ Site #: SB12-19

Sample Type: soil
Station No:
Sample ID:

Class	Order	Family/Suborder	Genus	Species	Larva	Adult	Pupa	Total
GASTROPODA	NEOTAENIOGLOSS	HYDROBIIDAE			0	0	0	8
ANNELIDA	HIRUDINEA	ERPOBDELLIDAE			0	0	0	1
ANNELIDA	OLIGOCHAETA	NAIDIDAE			0	0	0	1
ANNELIDA	OLIGOCHAETA	TUBIFICIDAE			0	0	0	3
ARACHNOIDEA	TROMBIDIFORMES		<i>unidentified</i>	<i>nymph</i>	1	0	0	1
CRUSTACEA	AMPHIPODA	HYALELLIDAE			0	0	0	29
CRUSTACEA	COPEPODA	CALANOIDA			0	0	0	1
GASTROPODA	BASOMMATOPHOR	LYMNAEIDAE			0	0	0	6
GASTROPODA	BASOMMATOPHOR	PLANORBIIDAE			0	0	0	2
GASTROPODA	PROSOBRANCHIA	VALVATIDAE			0	0	0	7
INSECTA	COLEOPTERA	ELMIDAE			1	0	0	1
INSECTA	DIPTERA	CERATOPOGONIDAE			2	0	0	2
INSECTA	DIPTERA	CHIRONOMIDAE			63	0	0	63
INSECTA	EPHEMEROPTERA	CAENIDAE			4	0	0	4
INSECTA	EPHEMEROPTERA	EPHEMERIDAE			1	0	0	1
INSECTA	TRICHOPTERA	DIPSEUDOPSIDAE			1	0	0	1
INSECTA	TRICHOPTERA	LEPTOCERIDAE			7	0	0	7
PELECYPODA	VENEROIDA	PISIIDAE			0	0	0	18



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Benthic Sample Results

Lab Number: L1228910-12

Work Order: L1228910

Date Sampled October 23, 2012
Source: GOLIATH GOLD PROJECT

Submitter MP/JP
WQ Site #: SB12-20

Sample Type soil
Station No
Sample ID

Class	Order	Family/Suborder	Genus	Species	Larva	Adult	Pupa	Total
GASTROPODA	NEOTAENIOGLOSS	HYDROBIIDAE			0	0	0	5
ANNELIDA	OLIGOCHAETA	TUBIFICIDAE			0	0	0	7
ARACHNOIDEA	TROMBIDIFORMES	LEBERTIIDAE			0	0	0	1
CRUSTACEA	AMPHIPODA	HYALELLIDAE			0	0	0	9
CRUSTACEA	CLADOCERA				0	0	0	1
CRUSTACEA	COPEPODA	CALANOIDA			0	0	0	22
GASTROPODA	BASOMMATOPHOR	LYMNAEIDAE			0	0	0	15
GASTROPODA	BASOMMATOPHOR	PLANORBIIDAE			0	0	0	3
GASTROPODA	PROSOBRANCHIA	VALVATIDAE			0	0	0	5
INSECTA	DIPTERA	CERATOPOGONIDAE			1	0	0	1
INSECTA	DIPTERA	CHIRONOMIDAE			38	0	0	38
INSECTA	EPHEMEROPTERA	CAENIDAE			9	0	0	9
INSECTA	EPHEMEROPTERA	EPHEMERIDAE			1	0	0	1
INSECTA	TRICHOPTERA	LEPTOCERIDAE			4	0	0	4
INSECTA	TRICHOPTERA	MOLANNIDAE			5	0	0	5
PELECYPODA	VENEROIDA	PISIIDAE			0	0	0	47
TURBELLARIA	TRICLADIDA				0	0	0	1



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Benthic Sample Results

Lab Number: L1228910-13

Work Order: L1228910

Date Sampled October 22, 2012
Source: GOLIATH GOLD PROJECT

Submitter MP/JP
WQ Site #: SB12-15A

Sample Type soil
Station No
Sample ID

Class	Order	Family/Suborder	Genus	Species	Larva	Adult	Pupa	Total
ANNELIDA	OLIGOCHAETA	NAIDIDAE			0	0	0	4
ANNELIDA	OLIGOCHAETA	TUBIFICIDAE			0	0	0	25
ARACHNOIDEA	TROMBIDIFORMES	HYGROBATIDAE			0	0	0	5
ARACHNOIDEA	TROMBIDIFORMES	LEBERTIIDAE			0	0	0	1
COELENTERATA		HYDRIDAE			0	0	0	1
CRUSTACEA	AMPHIPODA	HYALELLIDAE			0	0	0	10
CRUSTACEA	CLADOCERA				0	0	0	1
CRUSTACEA	COPEPODA	CYCLOPOIDA			0	0	0	9
GASTROPODA	BASOMMATOPHOR	PLANORBIIDAE			0	0	0	1
INSECTA	COLEOPTERA	ELMIDAE			47	0	0	47
INSECTA	DIPTERA			<i>unidentified pupa</i>	0	0	1	1
INSECTA	DIPTERA	CERATOPOGONIDAE			72	0	0	72
INSECTA	DIPTERA	CHIRONOMIDAE			358	0	0	358
INSECTA	DIPTERA	TABANIDAE			3	0	0	3
INSECTA	DIPTERA	TIPULIDAE			3	0	0	3
INSECTA	EPHEMEROPTERA	CAENIDAE			2	0	0	2
INSECTA	EPHEMEROPTERA	LEPTOPHLEBIIDAE			24	0	0	24
INSECTA	HEMIPTERA	SALDIDAE			1	0	0	1
INSECTA	LEPIDOPTERA	PYRALIDAE			1	0	0	1
INSECTA	ODONATA - ZYGOP	CALOPTERYGIDAE			1	0	0	1
INSECTA	TRICHOPTERA	HYDROPTILIDAE			1	0	0	1



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Benthic Sample Results

Lab Number: L1228910-13

Work Order: L1228910

Date Sampled October 22, 2012
Source: GOLIATH GOLD PROJECT

Submitter MP/JP
WQ Site #: SB12-15A

Sample Type soil
Station No
Sample ID

Class	Order	Family/Suborder	Genus	Species	Larva	Adult	Pupa	Total
INSECTA	TRICHOPTERA	LIMNEPHILIDAE			1	0	0	1
INSECTA	TRICHOPTERA	PHRYGANEIDAE			2	0	0	2
PELECYPODA	VENEROIDA	PISIIDAE			0	0	0	4



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Benthic Sample Results

Lab Number: L1228910-14

Work Order: L1228910

Date Sampled: October 22, 2012
Source: GOLIATH GOLD PROJECT

Submitter: MP/JP
WQ Site #: SB12-16

Sample Type: soil
Station No:
Sample ID:

Class	Order	Family/Suborder	Genus	Species	Larva	Adult	Pupa	Total
ANNELIDA	OLIGOCHAETA	LUMBRICULIDAE			0	0	0	1
ANNELIDA	OLIGOCHAETA	NAIDIDAE			0	0	0	4
ANNELIDA	OLIGOCHAETA	TUBIFICIDAE			0	0	0	5
ARACHNOIDEA	TROMBIDIFORMES	HYGROBATIDAE			0	0	0	5
CRUSTACEA	AMPHIPODA	HYALELLIDAE			0	0	0	8
CRUSTACEA	CLADOCERA				0	0	0	2
CRUSTACEA	COPEPODA	CALANOIDA			0	0	0	2
CRUSTACEA	COPEPODA	CYCLOPOIDA			0	0	0	18
CRUSTACEA	OSTRACODA				0	0	0	5
INSECTA	COLEOPTERA	ELMIDAE			24	0	0	24
INSECTA	DIPTERA	CERATOPOGONIDAE			6	0	0	6
INSECTA	DIPTERA	CHIRONOMIDAE			43	0	0	43
INSECTA	DIPTERA	TIPULIDAE			4	0	0	4
INSECTA	EPHEMEROPTERA	CAENIDAE			21	0	0	21
INSECTA	EPHEMEROPTERA	LEPTOPHLEBIIDAE			26	0	0	26
INSECTA	HOMOPTERA		<i>unidentified</i>	<i>terrestrial</i>	1	0	0	1
INSECTA	TRICHOPTERA	HYDROPSYCHIDAE			56	0	0	56
PELECYPODA	VENEROIDA	PISIIDAE			0	0	0	2



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Benthic Sample Results

Lab Number: L1228910-15

Work Order: L1228910

Date Sampled October 22, 2012
Source: GOLIATH GOLD PROJECT

Submitter MP/JP
WQ Site #: SB12-14

Sample Type soil
Station No
Sample ID

Class	Order	Family/Suborder	Genus	Species	Larva	Adult	Pupa	Total
ANNELIDA	HIRUDINEA	ERPOBDELLIDAE			0	0	0	1
ANNELIDA	HIRUDINEA	GLOSSIPHONIIDAE			0	0	0	1
ANNELIDA	OLIGOCHAETA	NAIDIDAE			0	0	0	1
ANNELIDA	OLIGOCHAETA	TUBIFICIDAE			0	0	0	26
ARACHNOIDEA	TROMBIDIFORMES	HYGROBATIDAE			0	0	0	13
CRUSTACEA	CLADOCERA				0	0	0	3
CRUSTACEA	COPEPODA	CALANOIDA			0	0	0	4
CRUSTACEA	COPEPODA	CYCLOPOIDA			0	0	0	42
CRUSTACEA	OSTRACODA				0	0	0	3
INSECTA	COLEOPTERA	ELMIDAE			1	0	0	1
INSECTA	DIPTERA			<i>unidentified pupa</i>	0	0	1	1
INSECTA	DIPTERA	CERATOPOGONIDAE			60	0	0	60
INSECTA	DIPTERA	CHIRONOMIDAE			153	0	0	153
INSECTA	DIPTERA	EMPIDIDAE			1	0	0	1
INSECTA	DIPTERA	PSYCHODIDAE			1	0	0	1
INSECTA	DIPTERA	PTYCHOPTERIDAE			1	0	0	1
INSECTA	DIPTERA	TABANIDAE			3	0	0	3
INSECTA	DIPTERA	TIPULIDAE			8	0	0	8
INSECTA	EPHEMEROPTERA	LEPTOPHLEBIIDAE			3	0	0	3
INSECTA	ODONATA-ANISOP	CORDULIDAE			1	0	0	1
PELECYPODA	VENEROIDA	PISIIDAE			0	0	0	2



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Benthic Sample Results

Lab Number: L1228910-16

Work Order: L1228910

Date Sampled: October 22, 2012
Source: GOLIATH GOLD PROJECT

Submitter: MP/JP
WQ Site #: SB12-13

Sample Type: soil
Station No:
Sample ID:

Class	Order	Family/Suborder	Genus	Species	Larva	Adult	Pupa	Total
ANNELIDA	HIRUDINEA	ERPOBDELLIDAE			0	0	0	4
ANNELIDA	OLIGOCHAETA	NAIDIDAE			0	0	0	1
ANNELIDA	OLIGOCHAETA	TUBIFICIDAE			0	0	0	15
ARACHNOIDEA	TROMBIDIFORMES		<i>unidentified</i>	<i>nymph</i>	1	0	0	1
ARACHNOIDEA	TROMBIDIFORMES	ARRENURIDAE			0	0	0	1
ARACHNOIDEA	TROMBIDIFORMES	HYGROBATIDAE			0	0	0	12
ARACHNOIDEA	TROMBIDIFORMES	LEBERTIIDAE			0	0	0	1
CRUSTACEA	CLADOCERA				0	0	0	2
CRUSTACEA	COPEPODA	CALANOIDA			0	0	0	2
CRUSTACEA	COPEPODA	CYCLOPOIDA			0	0	0	50
CRUSTACEA	OSTRACODA				0	0	0	3
INSECTA	DIPTERA		<i>unidentified pupa</i>		0	0	1	1
INSECTA	DIPTERA	CERATOPOGONIDAE			74	0	0	74
INSECTA	DIPTERA	CHIRONOMIDAE			186	0	0	186
INSECTA	DIPTERA	PTYCHOPTERIDAE			2	0	0	2
INSECTA	DIPTERA	SIMULIDAE			1	0	0	1
INSECTA	DIPTERA	TABANIDAE			2	0	0	2
INSECTA	DIPTERA	TIPULIDAE			12	0	0	12
INSECTA	EPHEMEROPTERA	LEPTOPHLEBIIDAE			9	0	0	9
INSECTA	HOMOPTERA		<i>unidentified</i>	<i>terrestrial</i>	2	0	0	2
INSECTA	LEPIDOPTERA		<i>unidentified</i>		1	0	0	1



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Benthic Sample Results

Lab Number: L1228910-16

Work Order: L1228910

Date Sampled October 22, 2012

Submitter MP/JP

Sample Type soil

Station No

Source: GOLIATH GOLD PROJECT

WQ Site #: SB12-13

Sample ID

Class	Order	Family/Suborder	Genus	Species	Larva	Adult	Pupa	Total
<i>INSECTA</i>	<i>TRICHOPTERA</i>	<i>LEPIDOSTOMATIDAE</i>			1	0	0	1
<i>INSECTA</i>	<i>TRICHOPTERA</i>	<i>PHRYGANEIDAE</i>			1	0	0	1
<i>PELECYPODA</i>	<i>VENEROIDA</i>	<i>PISIIDAE</i>			0	0	0	2



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Benthic Sample Results

Lab Number: L1228910-17

Work Order: L1228910

Date Sampled October 22, 2012
Source: GOLIATH GOLD PROJECT

Submitter MP/JP
WQ Site #: SB12-11A

Sample Type soil
Station No
Sample ID

Class	Order	Family/Suborder	Genus	Species	Larva	Adult	Pupa	Total
ANNELIDA	OLIGOCHAETA	TUBIFICIDAE			0	0	0	41
ARACHNOIDEA	ORBATIDA		<i>unidentified</i>		0	0	0	1
ARACHNOIDEA	TROMBIDIFORMES	HYGROBATIDAE			0	0	0	1
ARACHNOIDEA	TROMBIDIFORMES	SPERCHONIDAE			0	0	0	2
ARACHNOIDEA	TROMBIDIFORMES	UNIONICOLIDAE			0	0	0	1
CRUSTACEA	COPEPODA	CYCLOPOIDA			0	0	0	5
CRUSTACEA	COPEPODA	HARPACTICOIDA			0	0	0	5
CRUSTACEA	OSTRACODA				0	0	0	44
INSECTA	COLEOPTERA	HALIPLIDAE			1	0	0	1
INSECTA	COLLEMBOLA	HYPOGASTRURIDAE			0	0	0	1
INSECTA	DIPTERA	CERATOPOGONIDAE			3	0	0	3
INSECTA	DIPTERA	CHIRONOMIDAE			125	0	0	125
INSECTA	DIPTERA	TIPULIDAE			1	0	0	1
INSECTA	EPHEMEROPTERA	LEPTOPHLEBIIDAE			2	0	0	2
INSECTA	HEMIPTERA	CORIXIDAE			0	1	0	1
INSECTA	ODONATA-ANISOP	AESHNIDAE			1	0	0	1
INSECTA	ODONATA-ANISOP	CORDULIIDAE			1	0	0	1
PELECYPODA	VENEROIDA	PISIIDAE			0	0	0	14



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Benthic Sample Results

Lab Number: L1228910-18

Work Order: L1228910

Date Sampled October 22, 2012
Source: GOLIATH GOLD PROJECT

Submitter MP/JP
WQ Site #: SB12-12

Sample Type soil
Sample ID

Station No

Class	Order	Family/Suborder	Genus	Species	Larva	Adult	Pupa	Total
ANNELIDA	OLIGOCHAETA	NAIDIDAE			0	0	0	1
ANNELIDA	OLIGOCHAETA	TUBIFICIDAE			0	0	0	4
CRUSTACEA	AMPHIPODA	HYALELLIDAE			0	0	0	2
CRUSTACEA	COPEPODA	CYCLOPOIDA			0	0	0	4
CRUSTACEA	OSTRACODA				0	0	0	2
INSECTA	DIPTERA	CERATOPOGONIDAE			3	0	0	3
INSECTA	DIPTERA	CHIRONOMIDAE			10	0	0	10
INSECTA	DIPTERA	TIPULIDAE			4	0	0	4
INSECTA	EPHEMEROPTERA	CAENIDAE			1	0	0	1
INSECTA	TRICHOPTERA	LEPTOCERIDAE			1	0	0	1
PELECYPODA	VENEROIDA	PISIIDAE			0	0	0	121



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Benthic Sample Results

Lab Number: L1228910-19

Work Order: L1228910

Date Sampled October 22, 2012
Source: GOLIATH GOLD PROJECT

Submitter MP/JP
WQ Site #: SB12-3

Sample Type soil
Station No
Sample ID

Class	Order	Family/Suborder	Genus	Species	Larva	Adult	Pupa	Total
ANNELIDA	HIRUDINEA	ERPOBDELLIDAE			0	0	0	10
ANNELIDA	OLIGOCHAETA	NAIDIDAE			0	0	0	2
ANNELIDA	OLIGOCHAETA	TUBIFICIDAE			0	0	0	4
INSECTA	COLEOPTERA	ELMIDAE			84	0	0	84
INSECTA	COLLEMBOLA	ISOTOMIDAE			0	0	0	2
INSECTA	DIPTERA	CERATOPOGONIDAE			40	0	0	40
INSECTA	DIPTERA	CHIRONOMIDAE			1288	0	0	1288
INSECTA	DIPTERA	EMPIDIDAE			48	0	0	48
INSECTA	DIPTERA	SIMULIDAE			8	0	0	8
INSECTA	EPHEMEROPTERA	BAETIDAE			44	0	0	44
INSECTA	EPHEMEROPTERA	HEPTAGENIIDAE			10	0	0	10
INSECTA	EPHEMEROPTERA	LEPTOPHLEBIIDAE			4	0	0	4
INSECTA	HEMIPTERA	SALDIDAE			0	2	0	2
INSECTA	ODONATA-ANISOP	GOMPHIDAE			2	0	0	2
INSECTA	PLECOPTERA	CAPNIIDAE			44	0	0	44
INSECTA	PLECOPTERA	LEUCTRIDAE			8	0	0	8
INSECTA	PLECOPTERA	PERLODIDAE			14	0	0	14
INSECTA	TRICHOPTERA	HYDROPSYCHIDAE			602	0	0	602
INSECTA	TRICHOPTERA	LEPIDOSTOMATIDAE			16	0	0	16
INSECTA	TRICHOPTERA	LIMNAPHILIDAE			4	0	0	4
INSECTA	TRICHOPTERA	PHILOPOTAMIDAE			144	0	0	144



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Benthic Sample Results

Lab Number: L1228910-19 **Work Order:** L1228910

Date Sampled: October 22, 2012 **Submitter:** MP/JP **Sample Type:** soil **Station No:**
Source: GOLIATH GOLD PROJECT **WQ Site #:** SB12-3 **Sample ID:**

Class	Order	Family/Suborder	Genus	Species	Larva	Adult	Pupa	Total
<i>PELECYPODA</i>	<i>VENEROIDA</i>	<i>PISIIDAE</i>			0	0	0	364



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Benthic Sample Results

Lab Number: L1228910-2

Work Order: L1228910

Date Sampled: October 22, 2012
Source: GOLIATH GOLD PROJECT

Submitter: MP/JP
WQ Site #: SB12-5A

Sample Type: soil
Station No:
Sample ID:

Class	Order	Family/Suborder	Genus	Species	Larva	Adult	Pupa	Total
GASTROPODA	NEOTAENIOGLOSS	HYDROBIIDAE			0	0	0	1
ANNELIDA	OLIGOCHAETA	NAIDIDAE			0	0	0	1
ARACHNOIDEA	ARANEAE			<i>unidentified spider</i>	0	0	0	1
ARACHNOIDEA	TROMBIDIFORMES	SPERCHONIDAE			0	0	0	3
INSECTA	COLEOPTERA	ELMIDAE			1	0	0	1
INSECTA	COLLEMBOLA	ISOTOMIDAE			0	0	0	1
INSECTA	DIPTERA	CERATOPOGONIDAE			10	0	0	10
INSECTA	DIPTERA	CHIRONOMIDAE			246	0	0	246
INSECTA	DIPTERA	EMPIDIDAE			1	0	0	1
INSECTA	DIPTERA	SIMULIDAE			6	0	0	6
INSECTA	DIPTERA	TABANIDAE			2	0	0	2
INSECTA	DIPTERA	TIPULIDAE			5	0	0	5
INSECTA	EPHEMEROPTERA	BAETIDAE			11	0	0	11
INSECTA	EPHEMEROPTERA	HEPTAGENIIDAE			1	0	0	1
INSECTA	HYMENOPTERA			<i>terrestrial</i>	0	1	0	1
INSECTA	ODONATA-ANISOP	CORDULEGASTRIDAE			2	0	0	2
INSECTA	PLECOPTERA		<i>unidentified nymph</i>	<i>too young to ID</i>	4	0	0	4
INSECTA	PLECOPTERA	CAPNIIDAE			12	0	0	12
INSECTA	PLECOPTERA	PERLODIDAE			4	0	0	4
INSECTA	PLECOPTERA	TAENIOPTERYGIDAE			7	0	0	7
INSECTA	TRICHOPTERA	DIPSEUDOPSIDAE			1	0	0	1



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Benthic Sample Results

Lab Number: L1228910-2

Work Order: L1228910

Date Sampled October 22, 2012
Source: GOLIATH GOLD PROJECT

Submitter MP/JP
WQ Site #: SB12-5A

Sample Type soil
Station No
Sample ID

Class	Order	Family/Suborder	Genus	Species	Larva	Adult	Pupa	Total
INSECTA	TRICHOPTERA	HYDROPSYCHIDAE			4	0	0	4
INSECTA	TRICHOPTERA	LEPIDOSTOMATIDAE			16	0	0	16
INSECTA	TRICHOPTERA	LIMNEPHILIDAE			1	0	0	1
INSECTA	TRICHOPTERA	PHILOPOTAMIDAE			3	0	0	3
INSECTA	TRICHOPTERA	POLYCENTROPODIDA			4	0	0	4
PELECYPODA	VENEROIDA	PISIIDAE			0	0	0	8



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Benthic Sample Results

Lab Number: L1228910-3

Work Order: L1228910

Date Sampled October 22, 2012
Source: GOLIATH GOLD PROJECT

Submitter MP/JP
WQ Site #: SB12-2A

Sample Type soil
Station No
Sample ID

Class	Order	Family/Suborder	Genus	Species	Larva	Adult	Pupa	Total
ANNELIDA	OLIGOCHAETA	NAIDIDAE			0	0	0	1
ANNELIDA	OLIGOCHAETA	TUBIFICIDAE			0	0	0	5
ARACHNOIDEA	TROMBIDIFORMES		<i>unidentified</i>	<i>nymph</i>	1	0	0	1
ARACHNOIDEA	TROMBIDIFORMES	SPERCHONIDAE			0	0	0	1
CRUSTACEA	COPEPODA	CYCLOPOIDA			0	0	0	4
CRUSTACEA	OSTRACODA				0	0	0	1
GASTROPODA	BASOMMATOPHOR	LYMNAEIDAE			0	0	0	1
INSECTA	COLEOPTERA	DYTISCIDAE			1	1	0	2
INSECTA	COLEOPTERA	ELMIDAE			0	1	0	1
INSECTA	DIPTERA	CERATOPOGONIDAE			2	0	0	2
INSECTA	DIPTERA	CHIRONOMIDAE			44	0	0	44
INSECTA	DIPTERA	PSYCHODIDAE			1	0	0	1
INSECTA	DIPTERA	TABANIDAE			3	0	0	3
INSECTA	DIPTERA	TIPULIDAE			8	0	0	8
INSECTA	EPHEMEROPTERA	BAETIDAE			7	0	0	7
INSECTA	HOMOPTERA		<i>unidentified</i>	<i>terrestrial</i>	0	0	0	1
INSECTA	HYMENOPTERA			<i>terrestrial</i>	0	0	0	3
INSECTA	PLECOPTERA		<i>unidentified nymph</i>	<i>too young to ID</i>	3	0	0	3
INSECTA	PLECOPTERA	CAPNIIDAE			25	0	0	25
INSECTA	PLECOPTERA	LEUCTRIDAE			3	0	0	3
INSECTA	PLECOPTERA	PERLODIDAE			4	0	0	4



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Benthic Sample Results

Lab Number: L1228910-3

Work Order: L1228910

Date Sampled October 22, 2012
Source: GOLIATH GOLD PROJECT

Submitter MP/JP
WQ Site #: SB12-2A

Sample Type soil
Station No
Sample ID

Class	Order	Family/Suborder	Genus	Species	Larva	Adult	Pupa	Total
INSECTA	PLECOPTERA	TAENIOPTERYGIDAE			10	0	0	10
INSECTA	TRICHOPTERA	LEPIDOSTOMATIDAE			25	0	0	25
INSECTA	TRICHOPTERA	LIMNEPHILIDAE			2	0	0	2
INSECTA	TRICHOPTERA	POLYCENTROPODIDA			3	0	0	3



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Benthic Sample Results

Lab Number: L1228910-4

Work Order: L1228910

Date Sampled October 22, 2012
Source: GOLIATH GOLD PROJECT

Submitter MP/JP
WQ Site #: SB12-22

Sample Type soil
Station No
Sample ID

Class	Order	Family/Suborder	Genus	Species	Larva	Adult	Pupa	Total
GASTROPODA	NEOTAENIOGLOSS	HYDROBIIDAE			0	0	0	4
ANNELIDA	OLIGOCHAETA	LUMBRICULIDAE			0	0	0	2
ANNELIDA	OLIGOCHAETA	NAIDIDAE			0	0	0	62
ANNELIDA	OLIGOCHAETA	TUBIFICIDAE			0	0	0	36
ARACHNOIDEA	TROMBIDIFORMES				0	0	0	2
ARACHNOIDEA	TROMBIDIFORMES	UNIONICOLIDAE			0	0	0	4
CRUSTACEA	AMPHIPODA	HYALELLIDAE			0	0	0	44
CRUSTACEA	CLADOCERA				0	0	0	4
CRUSTACEA	COPEPODA	CYCLOPOIDA			0	0	0	12
GASTROPODA	BASOMMATOPHOR	ANCYLIDAE			56	0	0	56
INSECTA	DIPTERA	CERATOPOGONIDAE			2	0	0	2
INSECTA	DIPTERA	CHIRONOMIDAE			884	0	0	884
INSECTA	EPHEMEROPTERA	CAENIDAE			2	0	0	2
INSECTA	EPHEMEROPTERA	EPHEMERIDAE			28	0	0	28
PELECYPODA	VENEROIDA	PISIIDAE			0	0	0	6



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Benthic Sample Results

Lab Number: L1228910-5

Work Order: L1228910

Date Sampled October 22, 2012
Source: GOLIATH GOLD PROJECT

Submitter MP/JP
WQ Site #: SB12-23

Sample Type soil
Station No
Sample ID

Class	Order	Family/Suborder	Genus	Species	Larva	Adult	Pupa	Total
GASTROPODA	NEOTAENIOGLOSS	HYDROBIIDAE			0	0	0	2
ANNELIDA	OLIGOCHAETA	NAIDIDAE			0	0	0	5
ANNELIDA	OLIGOCHAETA	TUBIFICIDAE			0	0	0	2
ARACHNOIDEA	TROMBIDIFORMES	ARRENURIDAE			0	0	0	1
CRUSTACEA	CLADOCERA				0	0	0	5
CRUSTACEA	COPEPODA	CALANOIDA			0	0	0	3
CRUSTACEA	COPEPODA	CYCLOPOIDA			0	0	0	2
GASTROPODA	PROSOBRANCHIA	VALVATIDAE			0	0	0	3
INSECTA	DIPTERA	CERATOPOGONIDAE			3	0	0	3
INSECTA	DIPTERA	CHIRONOMIDAE			58	0	0	58
INSECTA	EPHEMEROPTERA	EPHEMERIDAE			19	0	0	19
INSECTA	HEMIPTERA	CORIXIDAE			1	0	0	1
PELECYPODA	VENEROIDA	PISIIDAE			0	0	0	5



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Benthic Sample Results

Lab Number: L1228910-6

Work Order: L1228910

Date Sampled October 22, 2012
Source: GOLIATH GOLD PROJECT

Submitter MP/JP
WQ Site #: SB12-24

Sample Type soil
Station No
Sample ID

Class	Order	Family/Suborder	Genus	Species	Larva	Adult	Pupa	Total
ANNELIDA	OLIGOCHAETA	NAIDIDAE			0	0	0	1
ANNELIDA	OLIGOCHAETA	TUBIFICIDAE			0	0	0	2
CRUSTACEA	CLADOCERA				0	0	0	1
CRUSTACEA	COPEPODA	CYCLOPOIDA			0	0	0	2
GASTROPODA	PROSOBRANCHIA	VALVATIDAE			0	0	0	1
INSECTA	COLEOPTERA	ELMIDAE			2	0	0	2
INSECTA	DIPTERA	CHAOBORIDAE			1	0	0	1
INSECTA	DIPTERA	CHIRONOMIDAE			53	0	0	53
INSECTA	EPHEMEROPTERA	CAENIDAE			3	0	0	3
INSECTA	EPHEMEROPTERA	EPHEMERIDAE			21	0	0	21
INSECTA	MEGALOPTERA	SIALIDAE			1	0	0	1
INSECTA	TRICHOPTERA	HYDROPSYCHIDAE			1	0	0	1
PELECYPODA	VENEROIDA	PISIIDAE			0	0	0	5



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Benthic Sample Results

Lab Number: L1228910-7

Work Order: L1228910

Date Sampled October 22, 2012
Source: GOLIATH GOLD PROJECT

Submitter MP/JP
WQ Site #: SB12-25

Sample Type soil
Station No
Sample ID

Class	Order	Family/Suborder	Genus	Species	Larva	Adult	Pupa	Total
ANNELIDA	OLIGOCHAETA	TUBIFICIDAE			0	0	0	1
ARACHNOIDEA	TROMBIDIFORMES	UNIONICOLIDAE			0	0	0	2
CRUSTACEA	CLADOCERA				0	0	0	7
CRUSTACEA	COPEPODA	CYCLOPOIDA			0	0	0	14
INSECTA	DIPTERA	CHAOBORIDAE			70	0	0	70
INSECTA	DIPTERA	CHIRONOMIDAE			28	0	0	28
INSECTA	EPHEMEROPTERA	EPHEMERIDAE			210	0	0	210
INSECTA	MEGALOPTERA	SIALIDAE			6	0	0	6
INSECTA	TRICHOPTERA	LEPTOCERIDAE			4	0	0	4
PELECYPODA	VENEROIDA	PISIIDAE			0	0	0	2



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Benthic Sample Results

Lab Number: L1228910-8

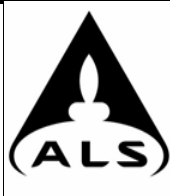
Work Order: L1228910

Date Sampled October 22, 2012
Source: GOLIATH GOLD PROJECT

Submitter MP/JP
WQ Site #: SB12-26

Sample Type soil
Station No
Sample ID

Class	Order	Family/Suborder	Genus	Species	Larva	Adult	Pupa	Total
ANNELIDA	OLIGOCHAETA	TUBIFICIDAE			0	0	0	1
CRUSTACEA	COPEPODA	CYCLOPOIDA			0	0	0	3
INSECTA	DIPTERA	CHAOBORIDAE			26	0	0	26
INSECTA	DIPTERA	CHIRONOMIDAE			31	0	0	31
INSECTA	EPHEMEROPTERA	EPHEMERIDAE			102	0	0	102
INSECTA	MEGALOPTERA	SIALIDAE			3	0	0	3
INSECTA	TRICHOPTERA	LEPTOCERIDAE			3	0	0	3
PELECYPODA	VENEROIDA	PISIIDAE			0	0	0	3



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Benthic Sample Results

Lab Number: L1228910-9

Work Order: L1228910

Date Sampled October 23, 2012
Source: GOLIATH GOLD PROJECT

Submitter MP/JP
WQ Site #: SB12-17

Sample Type soil
Station No
Sample ID

Class	Order	Family/Suborder	Genus	Species	Larva	Adult	Pupa	Total
GASTROPODA	NEOTAENIOGLOSS	HYDROBIIDAE			0	0	0	9
ANNELIDA	OLIGOCHAETA	NAIDIDAE			0	0	0	1
ANNELIDA	OLIGOCHAETA	TUBIFICIDAE			0	0	0	3
ARACHNOIDEA	TROMBIDIFORMES	ARRENURIDAE			0	0	0	2
ARACHNOIDEA	TROMBIDIFORMES	LIMNESIIDAE			0	0	0	4
ARACHNOIDEA	TROMBIDIFORMES	UNIONICOLIDAE			0	0	0	2
CRUSTACEA	AMPHIPODA	HYALELLIDAE			0	0	0	1
CRUSTACEA	OSTRACODA				0	0	0	6
GASTROPODA	BASOMMATOPHOR	PLANORBIIDAE			0	0	0	4
GASTROPODA	PROSOBRANCHIA	VALVATIDAE			0	0	0	3
INSECTA	COLEOPTERA	ELMIDAE			4	0	0	4
INSECTA	DIPTERA	CERATOPOGONIDAE			10	0	0	10
INSECTA	DIPTERA	CHAOBORIDAE			1	0	0	1
INSECTA	DIPTERA	CHIRONOMIDAE			115	0	0	115
INSECTA	DIPTERA	TIPULIDAE			1	0	0	1
INSECTA	EPHEMEROPTERA	CAENIDAE			8	0	0	8
INSECTA	EPHEMEROPTERA	EPHEMERIDAE			25	0	0	25
INSECTA	EPHEMEROPTERA	LEPTOPHLEBIIDAE			6	0	0	6
INSECTA	MEGALOPTERA	SIALIDAE			2	0	0	2
INSECTA	ODONATA-ANISOP	GOMPHIDAE			1	0	0	1
INSECTA	TRICHOPTERA	LEPTOCERIDAE			3	0	0	3



ALS Laboratory Group
Manitoba Technology Centre
12-1329 Niakwa Road E
Winnipeg, Manitoba R2J 3T4
(204) 255-9720

Benthic Sample Results

Lab Number: L1228910-9

Work Order: L1228910

Date Sampled October 23, 2012
Source: GOLIATH GOLD PROJECT

Submitter MP/JP
WQ Site #: SB12-17

Sample Type soil
Station No
Sample ID

Class	Order	Family/Suborder	Genus	Species	Larva	Adult	Pupa	Total
<i>PELECYPODA</i>	<i>VENEROIDA</i>	<i>PISIIDAE</i>			0	0	0	46



Company: Treasury Metals Inc Contact: Mac Potter Address: PO Box 783 Dryden, DN P8N2Z4 Phone: 807-938-6961 Fax: 807-938-6499 Email: mac@treasurymetals.com Project: Goliath Gold Project PO: Quote # Q34478 Invoice To: Same as Report: <input type="checkbox"/> Yes <input type="checkbox"/> No Company: Contact: Address: Email: Account Manager: KAREN R. Sampler: M.P. + J.B.		regulatory Information <input type="checkbox"/> O. Reg 153 (O. Reg 511 Amend) Table: Record of Site Condition: <input type="checkbox"/> Yes <input type="checkbox"/> No PWQC: <input type="checkbox"/> MISA <input type="checkbox"/> MMR <input checked="" type="checkbox"/> CGME <input type="checkbox"/> Guideline Required: TCLP Regulation 558 <input type="checkbox"/> Other:				Both questions below must answered for water samples Are any samples taken from a regulated DW System? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, an authorized DW COC must be used. Is the water sampled intended for human consumption? <input type="checkbox"/> Yes <input type="checkbox"/> No						
		Service Requested <input checked="" type="checkbox"/> Regular TAT (7 Days) <input type="checkbox"/> Priority TAT 50% Surcharge (3-5 Days) <input type="checkbox"/> Emergency TAT 100% Surcharge (1-2 Days) Specify Date Required: All TAT quoted material is in business days which exclude statutory holidays and weekends. Samples received past 3:00pm or Saturday/Sunday begin the next day.				Analysis Request Please indicate below Filtered, Preserved or both (F, P, F/P)						
Sample #	Sample Identification (This description will appear on the report)	Date	Time	Sample Type	ANIONS-WT	HG-WT	NH3-WT	TKN, TP-P-WT	N2N3-SAR-SK	PSA-PIPET+Gravel-SK	ZR-200.2-MS-ED	Number of Containers
9	SB12-17	23/10/12	N/A		X	X	X	X	X	X	X	7
10	SB12-18											
11	SB12-19											
12	SB12-20											
13	SB12-15a	22/10/12										
14	SB12-16											
15	SB12-14											
16	SB12-13											
17	SB12-11a											
18	SB12-12											
19	SB12-3											
Special Instructions/Comments FORMULIN ADDED TO ALL BENTHOS SAMPLES												
SHIPMENT RELEASE (client use) Released by: <i>Mackenzie Potter</i> Date & Time: 24/10/12 8:30 AM			SHIPMENT RECEPTION (lab use only) Received by: <i>[Signature]</i> Date & Time: 25/12 9:00 Temp: 4.6 Cooling Initiated: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				SHIPMENT VERIFICATION (lab use only) Verified by: _____ Date & Time: _____ Observations: Yes / No? If Yes add SIF					

****Failure to complete all portions of this form may delay analysis.**** TAT may vary dependant on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs. Any known or suspected hazards relating to a sample must be noted on the chain of custody in the comments section. By use of the form the user acknowledges and agrees with the Terms and Conditions as specified on the back page.





L1228910-COFC

Company: Treasury Metals Inc		Laboratory Information				Both questions below must answered for water samples											
Contact: Mac Potter		<input type="checkbox"/> O. Reg 153 (D. Reg 511 Amend) Table: _____				Are any samples taken from a regulated DW System? <input type="checkbox"/> Yes <input type="checkbox"/> No											
Address: PO Box 783 Dryden, ON P8N2Z4		Record of Site Condition <input type="checkbox"/> Yes <input type="checkbox"/> No				If yes, an authorized DW COC must be used.											
Phone: 807-938-6961 Fax: 807-938-6499		PWQO <input type="checkbox"/> MISA <input type="checkbox"/> MMR <input type="checkbox"/> CCME <input type="checkbox"/>				Is the water sampled intended for human consumption? <input type="checkbox"/> Yes <input type="checkbox"/> No											
Email: mac@treasurymetals.com		Guideline Required:				Analysis Request											
Project: Goliath Gold Project PO: _____		TCLP Regulation: 558 <input type="checkbox"/> Other: _____				Please indicate below Filtered, Preserved or both (F, P, F/P)											
Quote #: Q34478		Service Requested				Number of Containers											
Invoice To: _____ Same as Report: <input type="checkbox"/> Yes <input type="checkbox"/> No		<input checked="" type="checkbox"/> Regular TAT (7 Days)															
Company: _____		<input type="checkbox"/> Priority TAT 50% Surcharge (3-5 Days)															
Contact: _____		<input type="checkbox"/> Emergency TAT 100% Surcharge (1-2 Days)															
Address: _____		Specify Date Required: _____															
Email: _____		All TAT quoted material is in business days which exclude statutory holidays and weekends. Samples received past 3:00pm or Saturday/Sunday begin the next day.															
Account Manager: KAREN R. Sampler: M.P. J.B.																	
Sample #	Sample Identification (This description will appear on the report)	Date	Time	Sample Type	ANIONS-WT	HC-WT	NH3-WT	TKN, TP-P-WT	N2N3-SAR-SK	PSA-PIPET+Gravel-SK	ZR-200.2-MS-ED						
1	SB12-4a	22/10/12	N/A		X	X	X	X	X	X	X	7					
2	SB12-5a	↓	↓		↓	↓	↓	↓	↓	↓	↓	↓					
3	SB12-2a	↓	↓		↓	↓	↓	↓	↓	↓	↓	↓					
4	SB12-22	23/10/12			↓	↓	↓	↓	↓	↓	↓	↓					
5	SB12-23	↓	↓		↓	↓	↓	↓	↓	↓	↓	↓					
6	SB12-24	↓	↓		↓	↓	↓	↓	↓	↓	↓	↓					
7	SB12-25	↓	↓		↓	↓	↓	↓	↓	↓	↓	↓					
8	SB12-26	↓	↓		↓	↓	↓	↓	↓	↓	↓	↓					
Special Instructions / Comments																	
FORMALIN ADDED TO ALL BENTHOS SAMPLES 3, 2, 4, 6, 4, 6																	
SHIPMENT RELEASE (Client Use)				SHIPMENT RECEPTION (Lab Use Only)				SHIPMENT VERIFICATION (Lab Use Only)									
Released by: MACKENZIE POTTER <i>M.P.</i>		Date & Time: 24/10/12 8 ³⁰ AM		Received by: <i>OS</i>		Date & Time: 25/12 9:00 AM		Temp: 4.6		Cooling Initiated: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Verified by: _____		Date & Time: _____		Observations: Yes / No ? If Yes add SIF	

**Failure to complete all portions of this form may delay analysis. TAT may vary dependant on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs. Any known or suspected hazards relating to a sample must be noted on the chain of custody in the comments section. By use of the form the user acknowledges and agrees with the Terms and Conditions as specified on the back page.

APPENDIX B

Relative Percent Differences

Parameter	SW1		RPD	SW3		RPD	SW4		RPD	SW6		RPD	SW7		RPD	TL1A		RPD	TL2A		RPD
	March	(Apr 4)		15	15		26	26		21	21		23	23		29	29		31	31	
	Duplicate		Duplicate		Duplicate		Duplicate		Duplicate		Duplicate		Duplicate								
	(Apr 4)	(Apr 4)	15	15	26	26	21	21	23	23	29	29	31	31							
Alkalinity (Total as CaCO3)	20.6	21.2	-2.87081	53.4	53.2	0.3752	54.8	54.9	-0.1823	44.3	44.3	0	49.4	50.1	-1.40704	56.4	57.2	-1.4085	63.5	62.9	0.94937
Conductivity	59	58.5	0.851064	182	182	0	120	118	1.68067	115	115	0	111	110	0.90498	135	136	-0.738	142	141	0.70671
Dissolved Chloride (Cl)	0.36	0.38	-5.40541	16.9	17	-0.59	3.68	3.71	-0.8119	4.20	4.22	-0.48	0.28	0.17	48.8889	3.1	2.68	14.5329	0.93	0.94	-1.0695
Dissolved Sulphate (SO4)	1.96	1.97	-0.50891	3.56	3.55	0.2813	2.19	2.20	-0.4556	2.85	2.80	1.77	3.8	3.75	1.3245	5.58	4.57	19.9015	2.08	2.08	0
Hardness (CaCO3)	24.9	25	-0.4008	67.6	67.6	0	54.9	57	-3.7534	48	47	2.105	57.7	58.5	-1.37694	75	71	5.47945	66.4	67.5	-1.643
Nitrate (N)	0.169	0.132	24.58472	<0.030	<0.030		<0.030	<0.030		<0.030	<0.030		0.099	0.095	4.12371	0.056	<0.030		<0.030	<0.030	
Nitrite (N)	<0.020	<0.020		<0.020	<0.020		<0.020	<0.020		<0.020	<0.020		<0.020	<0.020		<0.020	<0.020		<0.020	<0.020	
pH	7.08	7.11	-0.42283	7.71	7.62	1.1742	7.49	7.5	-0.1334	7.76	7.75	0.129	7.27	7.3	-0.41181	6.77	6.83	-0.8824	7.12	7.13	-0.1404
Total Ammonia-N	<0.020	<0.020		<0.020	<0.020		0.027	0.026	3.77358	<0.020	<0.020		0.021	<0.020		0.552	0.545	1.27621	0.04	0.033	19.1781
Total Phosphorus	0.0176	0.0172	2.298851	0.0191	0.0071	91.603	0.0278	0.0284	-2.1352	0.0068	0.0071	-4.32	0.0155	0.0154	0.64725	0.0636	0.0574	10.2479	0.0423	0.0483	-13.245
Total Suspended Solids	2.6	<2.0		5.9	4.5	26.923	3.7	2.6	34.9206	2.6	<2.0		2.4	<2.0		12	11.7	2.53165	6.9	14.4	-70.423
Acidity (as CaCO3)	4	3.6	10.52632	2.8	2.4	15.385	2	2.6	-26.087	4	3.4	16.22	3	4	-28.5714	22.4	21	6.45161	7	8	-13.333
Oil and Grease	<2.0	<2.0		<2.0	<2.0		<2.0	<2.0		<2.0	<2.0		<2.0	<2.0		<2.0	<2.0		<2.0	<2.0	
Cyanide, Weak Acid Diss	<0.0020	<0.0020		<0.0020	<0.0020		<0.0020	<0.0020		<0.0020	<0.0020		<0.0020	<0.0020		<0.0020	<0.0020		<0.0020	<0.0020	
Cyanide, Total	<0.0020	<0.0020		<0.0020	<0.0020		<0.0020	0.0030		0.0059	0.0049	18.52	<0.0020	<0.0020		<0.0020	<0.0020		<0.0020	<0.0020	
Cyanide, Free	<0.0050	<0.0050		<0.0050	<0.0050		<0.0050	<0.0050		<0.0050	<0.0050		<0.0050	<0.0050		<0.0050	<0.0050		<0.0050	<0.0050	

Dissolved Metals																					
Parameter	SW1		RPD	SW3		RPD	SW4		RPD	SW6		RPD	SW7		RPD	TL1A		RPD	TL2A		RPD
	March	April		May	June		21	21		July	29		29	Oct.		31					
	(Apr 4)	(Apr 4)		15	15		26	26		23	23		29	29		31	31				
	Duplicate		Duplicate		Duplicate		Duplicate		Duplicate		Duplicate		Duplicate		Duplicate		Duplicate		Duplicate		
Dissolved Aluminum (Al)	0.0583	0.0577	1.034483	0.0130	0.0130	0	0.0147	0.0217	-38.462	<0.010	<0.010		0.0483	0.0501	-3.65854	0.176	0.183	-3.8997	0.0678	0.0705	-3.9046
Dissolved Antimony (Sb)	<0.00060	<0.00060		<0.00060	<0.00060		<0.00060	<0.00060		<0.0050	<0.0050		<0.00060	<0.00060		<0.00050	<0.00050		<0.00060	<0.00060	
Dissolved Arsenic (As)	<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		0.0012	0.0012	0	0.0011	0.0011	0	<0.0010	<0.0010	
Dissolved Barium (Ba)	<0.010	<0.010		<0.010	<0.010		<0.010	<0.010		<0.010	<0.010		0.011	0.011	0	0.02	0.0199	0.50125	0.012	0.012	0
Dissolved Beryllium (Be)	<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.00050	<0.00050		<0.0010	<0.0010	
Dissolved Bismuth (Bi)	<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010	
Dissolved Boron (B)	<0.050	<0.050		<0.050	<0.050		<0.050	<0.050		<0.050	<0.050		<0.050	<0.050		<0.010	<0.010		<0.050	<0.050	
Dissolved Cadmium (Cd)	<0.000017	<0.000017		<0.000017	<0.000017		<0.000017	<0.000017		<0.000090	<0.000090		<0.000017	<0.000017		<0.000090	<0.000090		<0.000017	<0.000017	
Dissolved Calcium (Ca)	7.35	7.41	-0.81301	19.5	19.4	0.5141	16.8	17.4	-3.5088	13.9	13.6	2.182	17.8	18.0	-1.11732	19.50	19.20	1.55039	17.5	17.8	-1.6997
Dissolved Cesium (Ce)	-																				
Dissolved Chromium (Cr)	<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.00050	<0.00050		<0.0010	<0.0010		<0.00050	<0.00050		<0.0010	<0.0010	
Dissolved Cobalt (Co)	<0.00050	<0.00050		<0.00050	<0.00050		<0.00050	<0.00050		<0.00050	<0.00050		<0.00050	<0.00050		0.00593	0.00601	-1.34	<0.00050	<0.00050	
Dissolved Copper (Cu)	<0.0010	<0.0010		0.0011	0.0010	9.5238	0.0017	0.0019	-11.111	<0.0010	<0.0010		0.0165	0.0011	175	<0.0010	0.0011		<0.0010	<0.0010	
Dissolved Iron (Fe)	0.134	0.130	3.030303	<0.020	0.048		<0.020	<0.020		<0.050	<0.050		0.684	0.717	-4.71092	6.670	6.640	0.45079	0.421	0.413	1.91847
Dissolved Lead (Pb)	<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.00050	<0.00050		<0.0010	<0.0010	
Dissolved Lithium (Li)	<0.050	<0.050		<0.050	<0.050		<0.050	<0.050					<0.050	<0.050		<0.10	<0.10		<0.050	<0.050	
Dissolved Magnesium (Mg)	1.59	1.58	0.630915	4.60	4.66	-1.296	3.12	3.31	-5.9098	3.18	3.05	4.173	3.23	3.28	-1.5361	4.60	4.65	-1.0811	5.48	5.63	-2.7003
Dissolved Manganese (Mn)	0.0096	0.0100	-4.08163	0.0093	0.0104	-11.17	0.0022	0.0023	-4.4444	0.0025	0.0021	17.39	0.007	0.007	-9.92908	1.76	1.76	0	0.0431	0.0406	5.97372
Dissolved Mercury (Hg)	<0.00010	<0.00010		<0.000010	<0.000010		<0.00010	<0.00010		<0.000010	<0.000010		<0.000010	<0.000010		<0.000010	<0.000010		<0.000010	<0.000010	
Dissolved Molybdenum (Mo)	<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.00050	<0.00050		<0.0010	<0.0010	
Dissolved Nickel (Ni)	<0.0020	<0.0020		<0.0020	<0.0020		<0.0020	<0.0020		<0.0020	<0.0020		<0.0020	<0.0020		0.0012	0.0012	0	<0.0020	<0.0020	
Dissolved Phosphorus (P)										<0.050	<0.050					<0.050	<0.050				
Dissolved Potassium (K)	0.94	0.93	1.069519	1.33	1.33	0	0.86	0.94	-8.8889	<1.0	<1.0		0.79	0.80	-1.25786	<1.0	<1.0		2.92	2.98	-2.0339
Dissolved Rubidium (Rb)																					
Dissolved Selenium (Se)	<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.00040	<0.00040		<0.0010	<0.0010		<0.00040	<0.00040		<0.0010	<0.0010	
Dissolved Silicon (Si)	-									<1.0	<1.0					7.4	7.5	-1.3423			
Dissolved Silver (Ag)	<0.00010	<0.00010		<0.00010	<0.00010		<0.00010	<0.00010		<0.00010	<0.00010		<0.00010	<0.00010		<0.00010	<0.00010		<0.00010	<0.00010	
Dissolved Sodium (Na)	1.07	1.14	-6.33484	10.5	10.6	-0.948	3.35	3.45	-2.9412	3.27	3.23	1.231	1.59	1.61	-1.25	2.34	2.35	-0.4264	2.69	2.77	-2.9304
Dissolved Strontium (Sr)	0.0132	0.0133	-0.75472	0.0466	0.0464	0.4301	0.0291	0.0315	-7.9208	0.0274	0.0264	3.717	0.0343	0.0343	0	0.0407	0.0410	-0.7344	0.0402	0.0401	0.24907
Dissolved Tellurium (Te)	<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010	
Dissolved Thallium (Tl)	<0.00030	<0.00030		<0.00030	<0.00030		<0.00030	<0.00030		<0.00030	<0.00030		<0.00030	<0.00030		<0.00030	<0.00030		<0.00030	<0.00030	
Dissolved Tin (Sn)	<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010	
Dissolved Titanium (Ti)	<0.0020	<0.0020		<0.0020	<0.0020		<0.0020	<0.0020		<0.0020	<0.0020		0.0025	0.0025	0	0.0059	0.0059	0	<0.0020	<0.0020	
Dissolved Tungsten (W)	<0.010	<0.010		<0.010	<0.010		<0.010	<0.010		<0.010	<0.010		<0.010	<0.010		<0.010	<0.010		<0.010	<0.010	
Dissolved Uranium (U)	<0.0050	<0.0050		<0.0050	<0.0050		<0.0050	<0.0050		<0.0050	<0.0050		<0.0050	<0.0050		<0.0010	<0.0010		<0.0050	<0.0050	
Dissolved Vanadium (V)	<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		0.001	0.001	0	0.00197	0.00199	-1.0101	<0.0010	<0.0010	
Dissolved Zinc (Zn)	<0.0030	0.0062		0.0031	<0.0030		<0.0030	<0.0030		<0.0030	<0.0030		0.0109	<0.0030		0.0084	0.0070	18.1818	<0.0030	<0.0030	
Dissolved Zirconium (Zr)	<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.0040	<0.0040		<0.0010	<0.0010		<0.0040	<0.0040		<0.0010	<0.0010	

Parameter	SW1		RPD	SW3		RPD	SW4		RPD	SW6		RPD	SW7		RPD	TL1A		RPD	TL2A		RPD
	March			May			Jan.			June			July			Jan			Oct.		
	(Apr 4)	(Apr 4)		15	15		26	26		21	21		23	23		29	29		31	31	
Duplicate		Duplicate		Duplicate		Duplicate		Duplicate		Duplicate		Duplicate		Duplicate							
Total Aluminum (Al)	0.107	0.113	-5.45455	0.0915	0.0901	1.5419	0.415	0.403	2.93399	0.024	0.021	13.33	0.0978	0.1010	-3.21932	0.428	0.453	-5.6754	0.243	0.588	-83.032
Total Antimony (Sb)	<0.00060	<0.00060		<0.00060	<0.00060		<0.00060	<0.00060		<0.0050	<0.0050		<0.00060	<0.00060		<0.00050	<0.00050		<0.0060	<0.0060	
Total Arsenic (As)	<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		0.0014	0.0014	0	0.0014	0.0013	7.40741	<0.010	<0.010	
Total Barium (Ba)	<0.010	<0.010		<0.010	<0.010		0.012	0.011	8.69565	<0.010	<0.010		0.012	0.012	0	0.0258	0.0247	4.35644	<0.10	<0.10	
Total Beryllium (Be)	<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.00050	<0.00050		<0.010	<0.010	
Total Bismuth (Bi)	<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	0.0012		<0.0010	<0.0010		<0.0010	<0.0010		<0.010	<0.010	
Total Boron (B)	<0.050	<0.050		<0.050	<0.050		<0.050	<0.050		<0.050	<0.050		<0.050	<0.050		<0.010	<0.010		<0.50	<0.50	
Total Cadmium (Cd)	<0.000017	<0.000017		<0.000017	<0.000017		<0.000017	<0.000017		<0.000090	<0.000090		<0.000017	<0.000017		<0.000090	<0.000090		<0.00017	<0.00017	
Total Calcium (Ca)	6.21	7.76	-22.1904	18.8	17.5	7.1625	18.1	17.4	3.94366	13.5	12.9	4.545	18.9	19.5	-3.125	21.50	20.30	5.74163	19.0	20.7	-8.5642
Total Cesium (Ce)																					
Total Chromium (Cr)	<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.00050	<0.00050		<0.0010	<0.0010		0.00123	0.00129	-4.7619	<0.010	<0.010	
Total Cobalt (Co)	<0.00050	<0.00050		<0.00050	<0.00050		<0.00050	<0.00050		<0.00050	<0.00050		<0.00050	<0.00050		0.00723	0.00691	4.52617	<0.0050	<0.0050	
Total Copper (Cu)	<0.0010	<0.0010		0.0013	0.0013	0	0.0026	0.0025	3.92157	0.0011	0.0010	9.524	0.0011	0.0011	0	0.0013	0.0016	-20.69	<0.010	<0.010	
Total Iron (Fe)	0.234	0.205	13.21185	0.212	0.193	9.3827	0.460	0.447	2.86659	<0.050	<0.050		1.170	1.190	-1.69492	10.40	9.81	5.83869	0.76	1.11	-37.433
Total Lead (Pb)	<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.00050	<0.00050		<0.010	<0.010	
Total Lithium (Li)	<0.050	<0.050		<0.050	<0.050		<0.050	<0.050					<0.050	<0.050		<0.10	<0.10		<0.50	<0.50	
Total Magnesium (Mg)	1.43	1.74	-19.5584	3.79	4.28	-12.14	3.40	3.30	2.98507	2.70	2.55	5.714	3.17	3.19	-0.62893	5.13	4.95	3.57143	6.05	6.64	-9.2987
Total Manganese (Mn)	0.0105	0.0083	23.40426	0.0167	0.0163	2.4242	0.0092	0.0122	-28.037	0.0038	0.0037	2.667	0.0296	0.0305	-2.99501	2.140	2.020	5.76923	0.056	0.068	-19.355
Total Mercury (Hg)	<0.00010	<0.00010		0.000017	<0.000010		<0.00010	<0.00010		<0.000010	<0.000010		<0.000010	<0.000010		<0.000010	<0.000010		<0.000010	<0.000010	
Total Molybdenum (Mo)	<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.00050	<0.00050		<0.010	<0.010	
Total Nickel (Ni)	<0.0020	<0.0020		<0.0020	<0.0020		<0.0020	<0.0020		<0.0020	<0.0020		<0.0020	<0.0020		0.0015	0.0015	0	<0.020	<0.020	
Total Phosphorus (P)	-															0.09	0.091	-1.105			
Total Potassium (K)	0.83	0.69	18.42105	1.13	1.19	-5.172	1.08	1.05	2.8169	<1.0	<1.0		0.82	0.82	0	<1.0	<1.0		<5.0	<5.0	
Total Rubidium (Rb)	-																				
Total Selenium (Se)	<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.00040	<0.00040		<0.0010	<0.0010		<0.00040	<0.00040		<0.010	<0.010	
Total Silicon (Si)	-									<1.0	<1.0					8.70	8.30	4.70588			
Total Silver (Ag)	<0.00010	<0.00010		<0.00010	<0.00010		<0.00010	<0.00010		<0.00010	<0.00010		<0.00010	<0.00010		<0.00010	<0.00010		<0.0010	<0.0010	
Total Sodium (Na)	0.89	1.11	-22	9.03	9.79	-8.077	3.51	3.49	0.57143	2.85	2.70	5.405	1.55	1.54	0.64725	2.61	2.49	4.70588	2.9	3.1	-6.6667
Total Strontium (Sr)	0.0117	0.0144	-20.6897	0.0384	0.0445	-14.72	0.0320	0.0301	6.11916	0.0276	0.0271	1.828	0.0375	0.0382	-1.84941	0.051	0.048	5.62249	0.041	0.047	-13.636
Total Tellurium (Te)	<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010					<0.0010	<0.0010					<0.010	<0.010	
Total Thallium (Tl)	<0.00030	<0.00030		<0.00030	<0.00030		<0.00030	<0.00030		<0.00030	<0.00030		<0.00030	<0.00030		<0.00030	<0.00030		<0.0030	<0.0030	
Total Tin (Sn)	<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.010	<0.010	
Total Titanium (Ti)	0.0033	0.0039	-16.6667	0.0041	0.0037	10.256	0.0141	0.0131	7.35294	<0.0020	<0.0020		0.0047	0.0049	-4.16667	0.0147	0.0164	-10.932	<0.020	0.021	
Total Tungsten (W)	<0.010	<0.010		<0.010	<0.010		<0.010	<0.010		<0.010	<0.010		<0.010	<0.010		<0.010	<0.010		<0.10	<0.10	
Total Uranium (U)	<0.0050	<0.0050		<0.0050	<0.0050		<0.0050	<0.0050		<0.0050	<0.0050		<0.0050	<0.0050		<0.0010	<0.0010		<0.050	<0.050	
Total Vanadium (V)	<0.0010	<0.0010		<0.0010	<0.0010		0.0011	0.0011	0	<0.0010	<0.0010		0.0015	0.0015	0	0.00362	0.0034	6.26781	<0.010	<0.010	
Total Zinc (Zn)	<0.0030	<0.0030		<0.0030	<0.0030		0.0031	<0.0030		<0.0030	<0.0030		<0.0030	<0.0030		0.0045	0.0051	-12.5	<0.030	<0.030	
Total Zirconium (Zr)	<0.0010	<0.0010		<0.0010	<0.0010		<0.0010	<0.0010		<0.0040	<0.0040		<0.0010	<0.0010		<0.0040	<0.0040		<0.010	<0.010	

APPENDIX C

Limitations of the Report