REPORT

2014/2015 DATA SUMMARY

Jay Project - Baseline Hydrogeology Update

Submitted to:
Dominion Diamond Ekati Corp.

Report Number: 1419751-3400-62

Golder Associates

Table of Contents

1.0 INTRODUCTION

Dominion Diamond Ekati Corporation (Dominion Diamond) submitted a Developer's Assessment Report (DAR; Dominion Diamond 2014) to the Mackenzie Valley Environmental Impact Review Board (MVEIRB) in November 2014. The hydrogeological data available at the time of the completion of the DAR consisted of hydraulic testing and groundwater sampling collected at the site in 2014. These data were supplemented with a comprehensive review of data from nearby mining facilities, together with information collected elsewhere in the Canadian Shield, to develop the conceptual understanding of groundwater conditions at the Jay Project (the Project) site, which was presented in the DAR. During the Project technical sessions in April 2015, Dominion Diamond agreed to provide as an undertaking, a report summarizing the hydrogeology results of the 2014 and 2015 field programs and to make a qualitative assessment of these data by August 1, 2015.

The following document summarizes the hydrogeology results of the 2014 and 2015 field programs at the Jay Project and assesses whether these data would alter the assessment of the degree of conservatism in the Environmental Assessment (EA) Conservative Scenario presented in the DAR.

2.0 SUMMARY OF GEOLOGIC AND HYDROGEOLOGIC DATA

2.1 Structural Geology Update

Structural geological information for the Project available at the time of the preparation of the DAR was previously summarized in the DAR Geology Baseline Report (Annex III). This report included existing geological maps, ALS-HRDEM (Airborne Laser Scanner – High Resolution Digital Elevation Model) data, bathymetric data, digital orthophotos, geophysical data, and results of exploration and geotechnical boreholes drilled between 1996 and 2007. Data collected in the 2014 and 2015 field seasons have since been used to refine the interpretation of the structural geology of the proposed Jay Pit area. These data include structural information obtained from boreholes as follows:

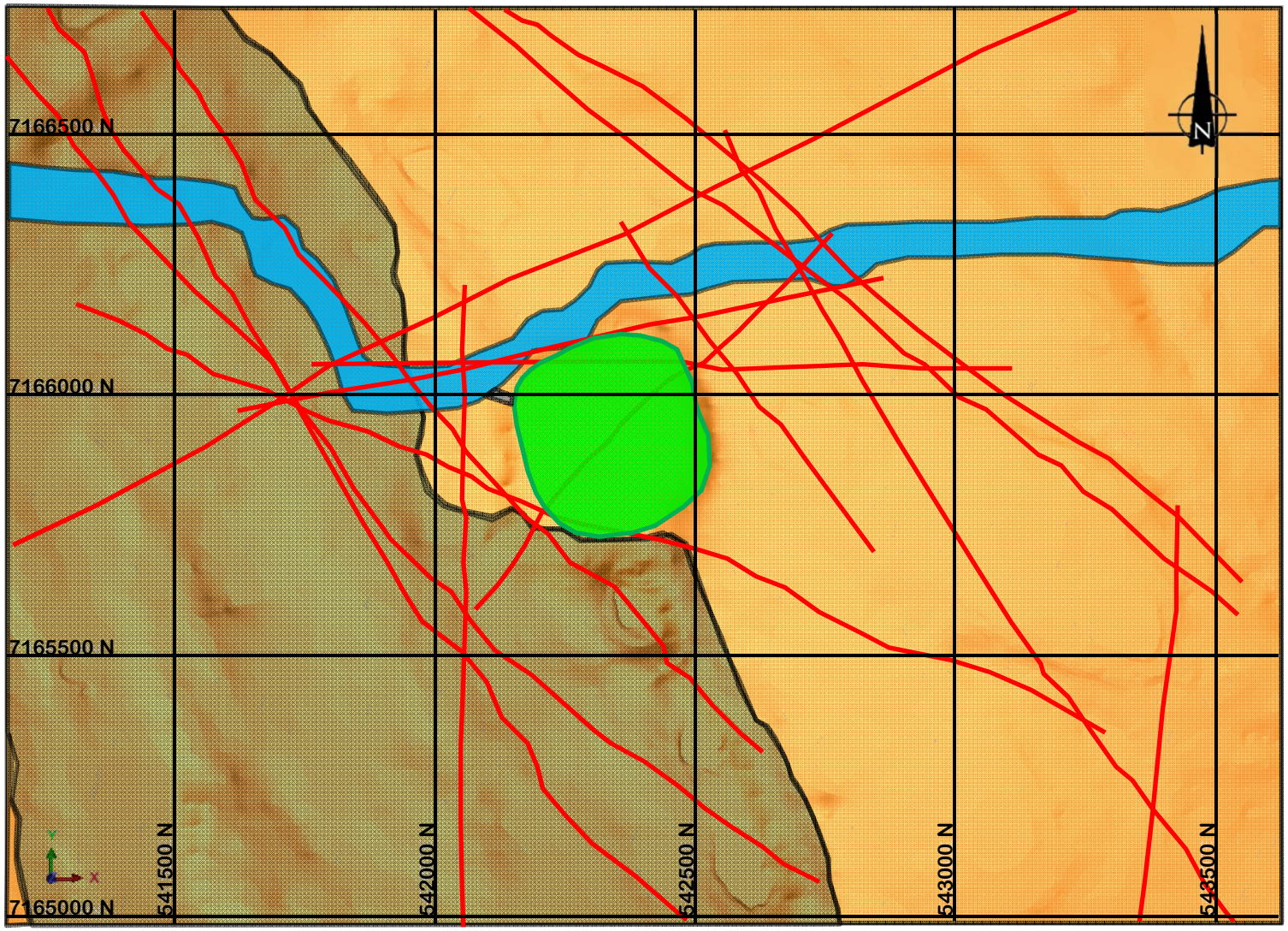
- thirteen additional geotechnical boreholes drilled in the Jay Pit area in 2014 and 2015; and,
- thirteen diamond drill "duralite" boreholes drilled in the Jay Pit area in 2015.

Data collected in the 2014 and 2015 field seasons have been used to develop a more detailed definition of the geometry of the metasediment-granitoid contact area, and to further delineate the local fault network in the area of the proposed open pit. In addition to the Jay kimberlite pipe, the current geologic interpretation for the area of the proposed open pit comprises three main lithological units:

1) Metasedimentary rocks;
2) Two-mica granite or "granitoid" (includes pegmatite and migmate intervals); and,
3) Diabase dykes.

The three main lithologic units have been further interpreted to represent principal structural domains for the purposes of pit slope design. The current three-dimensional geological model incorporates a number of faults that have been interpreted based on borehole data, surface mapping, and fault traces mapped using LiDAR imagery (Figure 1).

Path: \\golder.gds\gal\burnaby\Active_2013\1328\13-1328-0041 2000 DD Eng\09 SURPAC\PRESENTATIONS\Lithology and Fault Traces on Topo_File Name: Lithology_Fault_Traces_Figure.pptx



Legend

- Granitoid
- Metasediments
- Diabase Dyke
- Kimberlite
- Interpreted Faults

PROJECT

DOMINION DIAMOND

JAY PROJECT
NORTHWEST TERRITORIES, CANADA

TITLE

JAY PROJECT STRUCTURAL GEOLOGY

Golder Associates

PROJECT No.		1419751	PHASE No.		3400
DESIGN	JJR	24JUL2015	SCALE	AS SHOWN	REV. B
CADD	SG	24JUL2015			
CHECK	JJR	28JUL2015	**FIGURE**		**1**
REVIEW	JJR	28JUL2015			

2.2 2014 Field Season

The 2014 hydrogeologic field programs, which were conducted in February and June of 2014, were described in the Hydrogeology Baseline report (DAR Annex IX, Section 2.1, Appendix A and Appendix B). The locations of 2014 hydraulic testing and groundwater sampling are provided on Map 1. The 2014 hydrogeologic programs consisted of:

- groundwater sampling in three intervals of a Westbay multi-level monitoring well installation located on an island to the southwest of the Jay pipe that is along the proposed dike alignment;
- single-well response testing in 42 shallow boreholes along the proposed dike alignments and six deep boreholes in the area of the open pit; and,
- two short-term pumping tests carried out in intervals of the Westbay multi-level monitoring well.

A second round of groundwater sampling was conducted in the three intervals of the Westbay multi-level monitoring well in September 2014. The three intervals that have been sampled (Intervals 5, 7, and 9) represent groundwater at depths between approximately 300 m and 450 m, with the deepest interval approximately 100 m below the bottom of the Jay pit. Data from this sampling round are summarized in Golder (2015) which is included in Appendix A of this report.

Documentation of field procedures and quality assurance/quality control (QA/QC) are provided in the DAR Annex IX.

2.3 2015 Field Season

The 2015 hydrogeologic field program was undertaken between February and April 2015. The locations of 2015 hydraulic testing and groundwater sampling are provided on Map 1. These programs consisted of:

- a third round of groundwater sampling in the three intervals of the Westbay multi-level sampling well;
- single-well response testing in 31 shallow boreholes along the proposed dike alignments; and,
- single-well response testing in five deep boreholes in the area of the proposed Jay pit.

Documentation of field procedures and quality assurance/quality control (QA/QC) are provided in Appendix B.

3.0 HYDROSTRATIGRAPHY

The conceptual model of the hydrostratigraphy of the Jay Pit area previously described in the DAR Annex IX was based on results of data collected during the 2014 season only. This model has since been refined based on the 2015 interpretation of structural geology, and the results of 2015 hydrogeological testing. The updated conceptual model described in the DAR consisted of overburden, weathered rock, competent rock, kimberlite, and a hypothetical vertical enhanced permeability zone (EPZ). The current interpretation is generally consistent with this conceptualization; however, the diabase dyke which was formerly lumped in with the competent rock has been characterized as a separate hydrostratigraphic unit.

530000 535000 540000 545000 550000

7175000 7170000 7165000 7160000

N

Coppermine River

Lake Af1

Paul Lake

Duchess Lake

Lake D3 (Counts Lake)

Lac du Sauvage

Jay Kimberlite Pipe

Inset Map Extent

Existing Misery Road

Misery Operation

Misery Pit Outline

Hammer Lake

Lynx Lake

Lac de Gras

417.9 417 417 418.3 420.2 422.2 417.1 423.9 424 428.3 434.6 440.7 441.2 424.6 448 444.6 442.5 439.8 435.4 425.5 428.2 429.7 434 426.8 430 436.3 438.2 434.8 435.2 427.9 439.9 440.9 437.6 443.4 441 432.9 456.3 451.5 445.5 416.1 415.9

Inset Map

JGT-01 JGT-02 JGT-03 JGT-04 JGT-05 JGT-06 JGT-08 JGT-09 JGT-10 JGT-11 JGT-12

Jay Kimberlite Pipe

Lac du Sauvage

LEGEND

- EKATI MINE FOOTPRINT
- KIMBERLITE PIPE
- WINTER ROAD
- NORTHERN PORTION OF TIBBITT TO CONTWOYTO WINTER ROAD
- ELEVATION CONTOUR (10 m INTERVAL)
- WATERCOURSE OUTSIDE THE BSA
- WATERBODY OUTSIDE THE BSA
- BASELINE STUDY AREA (BSA)
- WATERCOURSE INSIDE THE BSA
- LAKE INSIDE THE BSA WITH INFERRED OPEN TALIK
- LAKE INSIDE THE BSA WITHOUT INFERRED OPEN TALIK
- DEEP BEDROCK HYDRAULIC TESTING BOREHOLE (2014)
- OVERBURDEN OR SHALLOW HYDRAULIC TESTING BOREHOLE (2014)
- WESTBAY MULTI-LEVEL MONITORING WELL (2014 and 2015)
- DEEP BEDROCK HYDRAULIC TESTING BOREHOLE (2015)
- SHALLOW HYDRAULIC TESTING BOREHOLE (2015)
- *416.1* LAKE ELEVATION (masl)

REFERENCE

CANVEC © NATURAL RESOURCES CANADA, 2012
NATURAL RESOURCES CANADA, CENTRE FOR TOPOGRAPHIC INFORMATION, 2012
DATUM: NAD83 PROJECTION: UTM ZONE 12N

2 0 2
SCALE 1:90,000 KILOMETRES

PROJECT
DOMINION DIAMOND
JAY PROJECT
NORTHWEST TERRITORIES, CANADA

TITLE
HYDROGEOLOGIC TESTING LOCATIONS 2014 AND 2015 FIELD PROGRAMS

Golder Associates

PROJECT		1419751	FILE No.	
DESIGN	CB	28/07/15	SCALE AS SHOWN	REV 0
GIS	LMS	30/07/15		
CHECK	CB	30/07/15	MAP 1	
REVIEW	DC	30/07/15		

G:\CLIENTS\DOMINION\DDEC Jay and Lynx Projects\Figures\1419751 Jay Project Stage 3\3400_Technical_Session_IRs\62_Hydrogeo_2014_2015_Results\Borehole_Locations_2014_2015.mxd

3.1 Overburden

The thickness of the overburden (lakebed sediments and till) unit that underlies Lac du Sauvage was previously characterized in areas pertinent to the engineering design during the 2014 field season, as described in the DAR Annex IX. Results of this program indicated that the average hydraulic conductivity of the overburden unit is approximately 2 x 10^{-6} metres per second (m/s), and the average thickness of this unit is 6.5 metres (m). Due to the limited impact of this shallow unit on hydrogeological predictions, further hydrogeologic testing of the overburden unit was not conducted in 2015. However, the results of geotechnical investigations conducted in support of the dike design in 2015 indicate that the average thickness of the overburden unit is approximately 6.1 m, which is consistent with the 2014 data.

3.2 Shallow Bedrock

In the Canadian Shield, the uppermost 10 to 30 m of bedrock is generally more highly fractured due to isostatic rebound and correspondingly has greater hydraulic conductivity than the deeper underlying more competent rock. Eighty additional single-well response tests were conducted in the 2015 field season in the shallow rock. On average, this testing indicates higher hydraulic conductivity in the uppermost weathered rock than previous results. The geometric mean of all 2014 and 2015 testing in the weathered rock is 5 x 10^{-7} m/s for the entire thickness of the weathered rock. The additional testing in 2015 has allowed differentiation of the hydraulic conductivity values with depth in the weathered rock. The geometric mean of testing in the uppermost 10 m is 1 x 10^{-6} m/s while from 10 to 25 m depth the geometric mean is one order of magnitude lower at 3 x 10^{-7} m/s. Consistent with the averages in the DAR, this average excludes 2014 tests conducted in permafrost and in temporary monitoring wells that may have had incompletely hydrated seals. In the hydrogeological models presented in the DAR, the hydraulic conductivity of the shallow weathered bedrock was conservatively estimated to be 4 x 10^{-6} m/s for the entire 25 m thickness (i.e., 4 times greater than the geometrical mean of the upper 10 m of the weathered rock and over an order of magnitude greater than the geometric mean of the hydraulic conductivity over the 10 m to 25 m).

3.3 Competent Rock

At depths greater than 30 m, bedrock is generally less permeable and hydraulic conductivity is expected to decrease further with depth (Stober and Bucher 2007; DAR Annex IX). Hydraulic testing in the competent rock below 30 m depth indicates that the metasediments and two-mica granitoid generally have similar hydraulic conductivities, and that the contact between these two geologic units does not correspond to enhanced hydraulic conductivity; therefore, these two geologic units have been combined in one hydrostratigraphic unit. A total of 58 hydrogeologic tests have been completed in the competent rock unit to a maximum depth of 450 m below ground surface (bgs). The geometric mean of these tests is 2 x 10^{-8} m/s, which is slightly lower than the value assumed in the DAR of 3 x10^{-8} m/s. Due to the larger number of tests, the 2014 and 2015 test results were used to further refine the decrease in hydraulic conductivity with depth within the competent rock unit. From 30 to 60 m depth, the geometric mean of testing is 3 x 10^{-7} m/s, while from 60 to 200 m the geometric mean is less at 8 x 10^{-8} m/s. Below 200 m depth, the geometric mean of testing decreases to 4 x 10^{-9} m/s.

3.4 Diabase Dyke

The structural geological model includes the diabase dyke located to the north of Jay pipe as a separate unit. The mean of four hydraulic tests in the diabase dyke unit is 2 x 10^{-8} m/s. Although the limited hydrogeologic

testing in this unit indicates that the hydraulic conductivity of this unit is similar to the competent rock, the interpretation of structural geology suggests that the diabase dyke likely has somewhat lower hydraulic conductivity than the surrounding bedrock and is less likely to have enhanced permeability in the weathered zone; therefore, the diabase dyke is represented as a separate hydrostratigraphic unit.

3.5 Enhanced Permeability Zones

The conceptual model of hydrostratigraphy presented in the DAR included a hypothetical vertically oriented EPZ with a thickness of 60 to 100 m, and substantially higher hydraulic conductivity than the surrounding rock mass. This zone was based on the assumption that all hydraulic tests that were completed in the deep bedrock and resulted in an estimated hydraulic conductivity above a threshold value of 1×10^{-6} m/s, were representative of a thick hydraulically connected zone that intersected the pit at all depths. As discussed in the DAR, because the scale of hydraulic testing is much smaller than the scale of the open pit, it is possible that these tests could indicate several isolated zones (not well connected) of enhanced permeability; however, in the Environmental Assessment (EA) Conservative Scenario in the DAR, it was assumed that these higher permeable measurements represented a hydraulically well connected large EPZ. This assumption produced conservatively high predictions of groundwater inflow quantity and quality, which were carried through in the EA Conservative Scenario presented in the DAR.

Preliminary interpretation of geotechnical logging and hydraulic testing conducted in 2015 have identified a more detailed fault network than had been apparent at the time of completion of the DAR. The faults that have been identified in the 2015 program are much thinner than the EPZ assumed in the DAR, and range in thickness from 0.2 m to 1.6 m thick with an average thickness of 0.7 m. The damage zones associated with the most substantial faults range in thickness up to 9 m. The majority of these structures are not vertically oriented. Hydraulic testing results in faults, which have been interpreted to potentially correspond to zones of enhanced permeability, range from 3×10^{-7} m/s to 5×10^{-5} m/s with an arithmetic mean of 6×10^{-6} m/s, and a geometric mean of 8×10^{-7} m/s. The EPZ zone assumed in the DAR was assigned a hydraulic conductivity of 1×10^{-5} m/s.

3.6 Kimberlite Pipes and Kimberlite Contact Zone

The Jay kimberlite pipe is expected to have moderate hydraulic conductivity with the vertical hydraulic conductivity of the pipe likely to be less than the horizontal hydraulic conductivity. The hydraulic conductivity is expected to decrease with depth. No hydraulic testing was conducted in the kimberlite in either the 2014 or 2015 field programs; however, a conservatively high value of hydraulic conductivity for this unit was assumed in the DAR (Appendix 8A), and sensitivity analysis (DAR Appendix 8A, Table 8A3-6) indicates that the predictions presented in the DAR are relatively insensitive to the assumed hydraulic conductivity of this unit.

4.0 GROUNDWATER QUALITY

In the deep groundwater beneath Lac du Sauvage, and beneath permafrost, total dissolved solids (TDS) concentrations are expected to increase logarithmically with depth similar to other sites in the Canadian Shield as described in detail in DAR Annex IX. At the time of the completion of the DAR, the Westbay multi-level well at the Jay Project had been sampled on only one occasion; therefore, data from the Jay Project were supplemented with groundwater data collected from Diavik and Ekati mines (DAR Annex IX). Groundwater

quality data from all three sites were used to develop inputs to the site water quality model presented in the DAR Appendix 8E.

The intervals of the Westbay multi-level sampling well have been sampled between approximately 300 m bgs and 450 m bgs depth on three occasions (April 2014, September 2014, and June 2015). Results of the initial sampling in April 2014 were included and discussed in the DAR Annex IX. An overview of the results between 2014 and 2015 for key constituents are provided below (the complete groundwater quality data results are provided in Appendix A):

- In the initial sampling in 2014, TDS concentrations increased with depth from 1,674 milligrams per litre (mg/L) (approximately 320 m depth) to 2,390 mg/L (approximately 430 m depth). TDS concentrations in subsequent (September 2014) and 2015 samplings rounds have been similar with TDS slightly lower (1,576 mg/L at approximately 320 m depth, and 1,946 mg/L at approximately 430 m depth in 2015).
- Similarly, chloride concentrations have decreased by a similar extent between April 2014 and 2015 with concentrations at approximately 430 m depth decreasing from 1,318 mg/L to 1,071 mg/L. This trend and magnitude of change is consistent with the other major ions (i.e., sodium, calcium, magnesium, bicarbonate and sulphate), with the exception of potassium. Potassium concentrations between years increased on average by 82%.
- Nitrate concentrations have been below the detection limit of 0.006 mg/L in all samples, except one sample at approximately 430 m depth in April 2014 where nitrate was 0.0085 mg/L.
- Ammonia concentrations were also consistent between the April 2014 data (0.12 to 0.3 mg/L), and September 2014 and April 2015 events (0.051 to 0.24 mg/L).
- Phosphorus concentrations in both the April and September 2014 samples were consistently low, ranging from 0.0045 to 0.056 mg/L. Phosphorus concentrations in the 2015 data were subject to contamination, possibly as a result of the samples coming into contact with glycol (a glycol mixture is used in the wells over the course of monitoring to prevent freezing of the well), and have not been presented. Glycol can be a source of high phosphorus concentrations, so any sample exposure to the glycol used in the well would potentially enhance the phosphorus and potassium concentration. The source of the contamination is being investigated, and Dominion is committed to resample the Westbay well to acquire the supplemental phosphorus data.
- Metals concentrations are generally low in all sampling events with many metals below detection. Dissolved arsenic concentrations are similar between the sampling events with concentrations ranging from 0.0012 to 0.014 mg/L in the April 2014 event, and from 0.0003 to 0.015 mg/L in subsequent events. Dissolved strontium concentrations ranged from 3.6 to 6.2 mg/L in both the April 2014 event and the September 2014 event, and from 3.7 to 5.3 mg/L in the April 2015 event.

5.0 GROUNDWATER FLOW

Open taliks beneath large lakes play a pivotal role in controlling deep groundwater flow because the lake elevations provide a driving head for the flow system beneath them. Lac du Sauvage is conceptually expected to be a discharge zone with water discharging to the lake from several higher elevation lakes with open taliks

located to the west and southwest; therefore, hydraulic heads in the groundwater flow system beneath the lake are conceptually expected to be somewhat greater than the lake elevation.

Freshwater hydraulic heads were measured in the nine depth intervals of the Westbay multi-level sampling well on April 9, 2015. These results indicate that the freshwater hydraulic heads in the Westbay multi-level sampling well intervals generally increase with depth between 250 metres above sea level (masl) and 0 masl (170 m bgs to 420 m bgs). The general direction of vertical groundwater flow in groundwater of varying density can be estimated by interpreting the freshwater heads with a correction for buoyancy effects, as outlined by Post et al. (2007). Based on the moderate TDS observed in groundwater sampling results (Section 4.0), buoyancy effects are estimated to be minor in comparison to the observed differences in freshwater head. Therefore, the freshwater heads observed are consistent with the interpretation of a groundwater discharge zone described in DAR Annex IX.

6.0 CONSISTENCY WITH DAR

The hydrogeological data available at the time of the completion of the DAR consisted of hydraulic testing and groundwater sampling collected at the site in 2014. These data were supplemented with a comprehensive review of data from nearby mining facilities, together with information collected elsewhere in the Canadian Shield, to develop the conceptual understanding of groundwater conditions at the Project site, which was presented in the DAR. The results of the 2015 geotechnical and hydrogeological testing programs are generally consistent with the conceptual model presented in the DAR. The hydraulic conductivities of hydrostratigraphic units are generally consistent with those presented in the DAR.

The greater number of hydraulic tests conducted in 2015 provide a more refined definition of the decrease in hydraulic conductivity with depth in the weathered bedrock and competent bedrock units. These decreases in hydraulic conductivity with depth are consistent with observations at other sites in the Canadian Shield as described in the DAR Annex IX and others (e.g., Agnico Eagle Mines 2013; Areva 2011; De Beers 2010; Holden et al. 2009; Cumberland [now Agnico Eagle Mines] 2005; Klohn Crippen 2001, 2004, 2005; Kuchling et al. 2000; Stevenson et al. 1996a,b; Raven et al. 1987).

Preliminary interpretation of geotechnical logging and hydraulic testing conducted in 2015 has identified a fault network than had been apparent at the time of completion of the DAR. The faults and associated broken zones that could be EPZs identified in the 2015 program are thinner than the EPZ assumed in the DAR, and range in thickness from 0.2 m to 1.6 m thick, with an average thickness of 0.7 m. The damage zones associated with these faults range in thickness up to 9 m. Compared to the EPZ that was assumed in the EA Conservative Case in the DAR, collectively the structures are thinner, less permeable, nearly all not vertically oriented (i.e. intersect the pit over a smaller depth interval) and many appear to be not well connected over long lateral or depth intervals. Therefore, these structures would result in less groundwater inflow than assumed in the EA conservative Case presented in the DAR.

Although the hydraulic conductivity of the weathered rock from the 2015 program is generally higher than the 2014 program, the geometric mean values of the tests in weathered rock are 4 to 10 times less than used in the models presented in the DAR.

The hydraulic conductivity values for the competent rock were generally consistent with the values used in the models presented in the DAR

Groundwater sampling results in the most recent sampling events in September 2014 and April 2015 are generally consistent with previous data with slightly lower TDS and chloride concentrations in the 2015 results. Nitrogen concentrations are similar between years and on the basis of the 2015 results nitrogen, there remains high confidence that effects to the environment in terms of water quality changes associated with groundwater pathways have not been underestimated.

The source of the phosphorus contamination in the 2015 Westbay samples is being investigated, and Dominion will resample the Westbay well to acquire the supplemental phosphorus data.

Structural geology data, groundwater quality data and hydraulic testing results from 2014 and 2015 field programs, indicate that the assumption carried through for water quantity and quality predictions in the DAR EA Conservative Scenario of a 100 m wide EPZ with hydraulic conductivity of 1×10^{-5} m/s (that is vertically oriented and intersects the bottom of the pit) results in conservative predictions of groundwater inflow quantity and quality. Therefore, there is high confidence that effects to the environment have not been underestimated.

7.0 REFERENCES

Agnico Eagle Mines. 2013. Volume 7.0 Freshwater Environment and Impact Assessment – Environmental Impact Statement (DEIS) – Meliadine Gold Project, Nunavut. Prepared by Golder Associates Ltd.

Areva. 2011. Kiggavik Project Environmental Impact Statement Tier 3 Technical Appendix 5B Geology and Hydrogeology Baseline. December 2011.

Cumberland (Cumberland Resources Ltd.). 2005. Meadowbank Gold Project Mine Waste and Water Management. October 2005.

De Beers. 2010. Environmental Impact Statement for the Gahcho Kué Project. Volumes 1, 2, 3a, 3b, 4, 5, 6a, 6b, 7, and Annexes A through N. Submitted to Mackenzie Valley Review Board. December 2010.

Dominion Diamond (Dominion Diamond Ekati Corporation). 2014. Developer's Assessment Report for the Jay Project. Prepared by Golder Associates Ltd., October 2014. Yellowknife, NWT, Canada.

Golder (Golder Associates Ltd.). 2015. Dominion Diamond Jay Project September 2014 Westbay System Sampling Program. Reference No. 1313280041-E14073-TM-Rev0-2010. February 3, 2015

Holden B, Stotler RL, Frape SK, Ruskeeniemi T, Talikka M, Freifeld BM. 2009. High Lake Permafrost Comparison Site: Permafrost Phase IV, NWMO TR-2009-11. June 2009.

Klohn Crippen. 2001. Phase II Hydrogeological Evaluation of Panda Pit. File: 878802

Klohn Crippen. 2004. Ekati Mine Hydrogeological Evaluation of Misery Pit and Underground. File: M08788 07.500.

Klohn Crippen. 2005. Ekati Mine 2004 Hydrogeological Investigation of Fox Pit. File: A0304A01.500.

Kuchling K, Chorley D, Zawadzki W. 2000. Hydrogeological modelling of mining operations at the Diavik Diamonds Project. In Proceedings of the Sixth International Symposium on Environmental Issues and Waste Management in Energy and Mineral Production, University of Calgary, Calgary, AB, Canada.

Post V, Kooi H, Simmons C. 2007. Using hydraulic head measurements in variable-density ground water flow analyses. Ground Water—November-December 2007. Vol. 45, No. 6: 664–671.

Raven KG, Bottomley DG, Sweezey RA, Smedley JA, Ruttan TJ. 1987. Hydrogeological Characterization of the East Bull Lake Research Area. Environment Canada, IWD Sci. Series, No. 160; NHRI Paper No. 31, 77 pp.

Stevenson DR, Brown A, Davison CC, Gascoyne M, McGregor RG, Ophori DU, Scheier NW, Stanchell FW, Thorne GA, Tomsons DK. 1996a. A revised conceptual hydrogeologic model of a crystalline rock environment, Whiteshell research area, southeastern Manitoba, Canada. AECL-11331, Whiteshell Laboratories, Pinawa, MB, Canada.

Stevenson DR, Kozak ET, Gascoyne M, Broadfoot RA. 1996b. Hydrogeologic characteristics of domains of sparsely fractured rock in the Granitic Lac du Bonnet Batholith, southeastern Manitoba, Canada. AECL-11558, Whiteshell Laboratories, Pinawa, MB, Canada.

Stober I, Bucher K. 2007. Hydraulic properties of the crystalline basement. Hydrogeol J. 15:213-224.

Report Signature Page

GOLDER ASSOCIATES LTD.

Christine Bieber
Senior Hydrogeologist, M.Sc., P.Geo.

Don Chorley
Principal, Senior Hydrogeologist, M.Sc., P.Geo.

REGISTERED PROFESSIONAL GEOLOGIST
July 31, 2015
D.W. CHORLEY
LICENSEE
NWT/NU

https://capws.golder.com/sites/1419751Stage3JayProject/JAY_ENV/01_EA_Review/03_Round_2_IRs/60_Hydrology_Hydrogeology/62_Hydrogeology_2014_2015_Results/Jay_2015_Baseline_Hydrogeology_Update.docx

APPENDIX A

September 2014 Westbay System Sampling Program

TECHNICAL MEMORANDUM

DATE February 3, 2015 **REFERENCE No.** 1313280041-E14073-TM-Rev0-2010

TO Mats Heimersson
Dominion Diamond Ekati Corporation

FROM John Cunning and Ermanno Rambelli **EMAIL** John_Cunning@golder.com; Ermanno_Rambelli@golder.com

DOMINION DIAMOND JAY PROJECT
SEPTEMBER 2014 WESTBAY SYSTEM SAMPLING PROGRAM

A multi-level Westbay system was installed during the 2014 winter program to collect groundwater samples to characterize the groundwater quality as part of the pre-feasibility level study undertaken for Dominion Diamond Ekati Corporation (Dominion Diamond) for their Jay Project. The Westbay was initially developed and sampled by Golder Associates Ltd. (Golder) in late April to early June 2014.

This document presents the results of re-sampling of the Westbay system sampling program in September 2014 by Golder.

1.0 BACKGROUND

A Westbay multi-level groundwater monitoring well was installed in borehole JGT-06 on April 2014, drilled on an island at Lac du Savage. The system allows monitoring of hydraulic heads, testing of hydraulic conductivity, and collection of groundwater samples from multiple zones within a single borehole. The instrumentation consists of a 38 millimetre (mm) diameter Schedule 80 PVC pipe, inflatable packers, monitoring ports, and pumping ports. The inflatable packers are installed at selected depths in the PVC pipe string to isolate different intervals along the borehole. Monitoring ports and pumping ports are installed immediately below each packer to provide access to each isolated interval.

The JGT-06 Westbay multi-level monitoring well was designed to isolate nine intervals within the borehole, below the base of the permafrost, to obtain groundwater samples representative of different depths. The Westbay multi-level monitoring well sampling interval depths are provided in the following Table 1.

Table 1: Westbay Multi-Level Monitoring Interval Depths

Interval Number	Depth Along Hole			Vertical Depth		
	From (mah)	To (mah)	Magnetic Collar Depth (mah)	From (mbgs)	To (mbgs)	Magnetic Collar Depth (mbgs)
1	174.0	209.2	174.6	169.5	203.8	170.1
2	210.7	238.2	211.3	205.3	232.0	205.9
3	239.7	268.7	240.3	233.5	261.7	234.1
4	270.2	308.4	270.8	263.2	300.4	263.8
5	309.9	338.9	310.5	301.9	330.0	302.5
6	340.4	367.9	341.0	331.5	358.3	332.1
7	369.4	398.4	370.0	359.8	387.9	360.4
8	399.9	429.0	400.5	389.4	417.7	390.0
9	430.5	460.5	431.1	419.2	449.0	419.8

Notes: mah = metres along hole; mbgs = metres below ground surface.

Following placement of the Westbay system in the borehole, a 2:1 mixture of lake water and propylene glycol was poured inside the Westbay system to prevent freezing of fluids within the PVC pipe.

Borehole JGT-06 was drilled using heated lake water with a fluorescent tracer dye added to the drilling fluid, at a concentration of approximately 690 parts per billion (ppb), to act as a marker for well development. The dye tracer concentration was monitored in the water extracted from each interval during the development to determine when about 95% of the water introduced into the formation during drilling had been removed. A representative groundwater sample was collected after removal of about 95% of the drill fluid or a when the dye tracer concentration reached about 35 ppb.

Specific installation details, development, sampling and groundwater quality data and other relevant information pertinent to the Westbay system were presented in the Golder report: “Jay Project Geotechnical and Hydrogeological Field Investigations Factual Report Vol. 3: Assessment of Groundwater Quality in Jay Pipe Area, July 18, 2014”.

2.0 SEPTEMBER 2014 GROUNDWATER SAMPLING PROGRAM

In September 2014 groundwater samples were collected from intervals 5, 7 and 9, that were developed during the first sampling round. A sample from each interval was collected to measure the fluorescent tracer dye concentration to assess the necessity for additional development prior to sample collection. The September 2014 dye concentration for each interval is presented in Table 2.

Table 2: Fluorescent Tracer Dye Concentration (September 2014)

Interval ID	Dye Concentration
5	27 ppb
7	125 ppb
9	40 ppb

Notes: ID = identification; ppb = parts per billion

Interval 7 showed a high fluorescent tracer dye concentration, while intervals 5 and 9 had a low concentration and were considered suitable for sampling. Interval 7 was developed for two days which resulted in the concentration being lowered to about 54 ppb, which was considered suitable for sampling.

2.1 Sample Collection

The groundwater sampling was performed using the Westbay Mosdax sampler in a similar fashion as the first round of sampling. The Mosdax probe collects 1 Liter (L) of groundwater per sampler run; multiple runs were carried out to collect a full set of groundwater sample from each interval.

Groundwater samples were collected from Intervals 9, 7, and 5, including groundwater samples for gas present in groundwater. A duplicate sample was collected from Interval 9 and a field blank and travel blank gathered for quality assurance/quality control (QA/QC) purposes. A propylene glycol sample was also collected.

All samples were filtered and preserved in the field, as required, and shipped to ALS Environmental in Edmonton, AB; and AGAT Laboratories in Calgary, AB, for analysis.

Table 3 shows the sample identification for the each interval as they were recorded in the chain of custody documents.

Table 3: Sample Identification

Interval ID	Sample ID
5	JGT-06-I5-SEP2014
7	JGT-06-I7-SEP2014
9	JGT-06-I9-SEP2014

Notes: ID = identification.

2.1.1 Gas Sample Collection

The Westbay Mosdax sampler was used to collect samples for gas present in solution (i.e., groundwater). Air present in the sample containers for the H_2S gas was removed by a vacuum pump prior to deploying the sample containers into the Westbay system. Upon the retrieval of the sample containers from the Westbay well, the sample containers were sealed by closing the valves to maintain the collection pressure in the container. Table 4 provides a comparison of pressure during sample collection to the pressure recorded once the samples were received and tested at the laboratory.

Table 4: Sample Collection Pressure and Analysis Pressure (September 2014)

Interval ID	Sample ID	Sample Collection Pressure (psi)	Sample Laboratory Pressure (psi)
5	JGT-06-I5-SEP2014	442	473
7	JGT-06-I7-SEP2014	525	385
9	JGT-06-I9-SEP2014	609	325

Notes: ID = identification; psi = pounds per square inches

The pressures recorded at the lab were lower than the collection pressures recorded in the field for samples from interval 7 and interval 9. It is possible that the valves sealing the sample containers may have release some pressure during the transport from the mine site to the laboratory. Still the sample containers remained under pressure.

2.2 Sample Analysis

Groundwater quality samples were shipped to ALS Environmental for analysis, including the following:

- Physical tests, including colour, hardness, pH, conductivity, total suspended solids, total dissolved solids, and turbidity;
- Anions and nutrients, including alkalinity, ammonia, bicarbonate, carbonate, chloride, fluoride, hydroxide, nitrate and nitrite, nitrate, nitrite, total kjedahl nitrogen, orthophosphate, phosphorus (total and dissolved), sulfate, and sulphide; organic carbon (dissolved and total);
- Radium (Ra-226); and,
- Metals (dissolved and total), including aluminum, antimony, arsenic, barium, beryllium, bismuth, boron, cadmium, calcium, chromium, cobalt, copper, iron, lead, lithium, magnesium, manganese, mercury, molybdenum, nickel, phosphorus, potassium, selenium, silicon, silver, sodium, strontium, sulfur, thallium, thorium, tin, titanium, uranium, vanadium, zinc, zirconium.

The gas samples were shipped to AGAT Laboratories in Calgary, AB, for analysis. The gas analysis included:

- Extended Gas Analysis to C15, which includes compositional analysis to C7+, hydrocarbons by boiling point to C15, and individually quantified cyclopentane, n-Hexane, methylcyclopentane, benzene, cyclohexane, 2,2,4-trimethylpentane, toluene, ethylbenzene, m & p-xylene, o-xylene, and 1,2,4-trimethylbenzene;
- Trace H_2S in gas;
- Alkalinity, acidity, bicarbonate and carbonate; and,
- Hydrogen Sulphide in Water.

The certificates of analysis for the groundwater quality samples from ALS Environmental are presented in Attachment A.

2.3 Fluorescein Correction Calculation

Following receipt of the analysis, Golder corrected the data to account for the dilution of the sampled groundwater by the lake water drilling fluid. The concentration of fluorescein was measured in both the drilling fluid (lake water tagged with fluorescein) and the sampled groundwater in order to facilitate the correction. Corrected concentrations were calculated using the following formula:

$$C_C = \frac{C_G - rC_{DF}}{1-r},$$

where C_C is the corrected concentration of the chosen parameter, C_G is the concentration of the parameter in the groundwater sample, and C_{DF} is the concentration of the parameter in the drilling fluid. r is the ratio of the concentration of fluorescein in the groundwater sample to the concentration of fluorescein in the drilling fluid. Corrections were applied to all analytes except colour and turbidity.

The results of groundwater quality analysis as received by ALS Environmental and after the fluorescein correction calculation are presented in Table B-1 in Attachment B.

2.4 Groundwater Quality Results

The corrected groundwater quality results for all sampled intervals are presented in Table B-1. The method detection limits (MDL) for each parameter, which varied by sample, are summarized in Table B-2. The differences in the detection limits between previous sampling programs and current results are a result of sample composition. The Brine sample has extreme levels of dissolved solids; therefore, the lab needed to run the sample at a high dilution factor, which causes corresponding detection limit increases. For the interval 5, 7 and 9 samples, similar effects are present, although at lower levels – these samples required detection limit increases due to elevated dissolved solids and other adverse matrix issues such as high organic carbon content.

The following observations were made based on the corrected groundwater results:

- The lab pH of groundwater samples ranged from 7.5 to 7.9.
- A major ion plot for samples collected from Intervals 5, 7, and 9 is presented in Figure 1. All groundwater samples were Na-Ca-Cl-(Mg) water type.
- Total dissolved solids concentrations were 1560 milligrams per litre (mg/L) (Interval 5), 1972 mg/L (Interval 7) and 2334 mg/L (Interval 9). Total dissolved solids concentrations increased with depth.
- The majority of total and dissolved metals concentrations (with concentrations above the detection limit) showed an increasing trend with depth. Exceptions included calcium, lithium, potassium, silicon, sodium, strontium, and uranium which showed a decreasing concentration with depth, and magnesium which showed no obvious trend.

2.5 Quality Assurance/Quality Control

A field blank, trip blank, and a duplicate sample were taken during the sampling program to assess various aspects of data quality. The following definitions are used for the purposes of this report:

Field blank: used to assess potential sample contamination during collection, shipping, and analysis. Sample containers were filled with laboratory-provided deionized water in the field and shipped to the laboratory with the field samples.

Travel blank: used to assess potential sample contamination during shipping and field handling procedures. The travel blank consisted of a sample of deionized water, which was prepared and preserved at the analytical laboratory prior to the sampling trip. The travel blank was unopened during the sampling trip and was transported to the sampling site and back to the laboratory.

Field duplicate: used to assess variability in water quality at the sampling site. Two samples were collected from Interval 9 using identical sampling procedures. Samples were labelled and preserved individually prior to being shipped to the laboratory.

2.6 Field and Travel Blanks

The composition of the field and travel blanks is presented in Table B-3. Parameters should not be measured at detectable concentrations in the field or travel blanks. Concentrations were considered notable if greater than five times the corresponding MDL. As defined by the United States Environmental Protection Agency (U.S. EPA 1985), this threshold criterion is based on the Practical Quantitation Limit, which accounts for reduced data accuracy when concentrations approach or are below the MDLs.

No parameters occurred at concentrations five times greater than the respective MDLs.

2.7 Field Duplicate

Relative percent difference (RPD) was used to compare the duplicate samples from Interval 9 and was calculated using the following formula:

$$RPD = \frac{\text{maximum } concentration - \text{minimum } concentration}{average\ concentration} x100$$

The RPDs of the duplicate analyses for Interval 9 are summarized in Table B-4, which also notes when the RPD is greater than 20%. The RPDs were only calculated for parameters that had concentrations above the MDL. Groundwater parameters exceeding an RPD of 20% included total organic carbon; hydrogen ions dissolved boron and total and dissolved molybdenum. All other parameters had RPDs less than 20%. The composition of duplicate groundwater samples had low variability.

2.8 Gas Analysis Results

The certificates of analysis for the gas present in solution from AGAT Laboratories are presented in Attachment A. Table 5 presents the results of H_2S gas present in solution for each sample interval.

Table 5: H2S Present in Groundwater (September 2014)

Interval ID	Interval ID	H2S in solution at 25°C [mg/L)
5	JGT-06-I5	25.5
7	JGT-06-I7	8.5
9	JGT-06-I9	17.0

Notes: ID = identification; mg/L = miligrams per liter; ° = degrees; C = Celsius.

2.9 Groundwater Quality Comparison

A quantitative comparison was conducted between the September groundwater quality results and the previous groundwater quality results presented in Golder report: "Jay Project Geotechnical and Hydrogeological Field Investigations Factual Report Vol. 3: Assessment of Groundwater Quality in Jay Pipe Area, July 18, 2014". The corrected values were selected from each period. The comparison of results is presented in Table B-5. In general, the concentrations of the parameters decreased or remained the same in the September 2014 sampling period compared to the June 2014 sampling period.

3.0 HYDRAULIC HEADS

Hydraulic heads were derived from formation pressure for each monitoring port installed at the Westbay system. The formation pressure was measured using the Mosdax probe sampler for each monitoring port on April 15, 2014. Table 6 presents the hydraulic head measurements.

Table 6: Westbay Hydraulic Heads (April 15, 2014)

Port ID	Port Depth Vertical (m)	Port Elevation (masl)	Formation Pressure (m)	Hydraulic Head by Depth (m)	Hydraulic Head by Elevation (masl)
3	169.5	250.1	167.9	1.6	418.0
4	205.3	214.3	203.3	2.0	417.6
5	233.5	186.1	232.6	0.9	418.7
6	263.2	156.4	263.2	0.1	419.5
7	301.9	117.7	300.6	1.3	418.3
8	331.5	88.0	330.3	1.2	418.3
9	359.8	59.8	358.7	1.1	418.5
10	389.4	30.2	388.3	1.1	418.5
11	419.2	0.4	418.1	1.1	418.5

m = metres; masl = metres above sea level

Port 1 was installed in permafrost. Port 2 was installed inside the steel casing; therefore, these measurements are not meaningful. The hydraulic heads vary between 417.6 masl and 419.5 masl for ports 3 through 11. It appears to be no significant hydraulic vertical gradient in the project area.

During the September sampling program the heads were measured for monitoring ports 7, 9 and 11. Table 7 shows the hydraulic head values.

Table 7: September 2014 Hydraulic Head Measurements

Port ID	Formation Pressure (m)	Hydraulic Head by Depth (m)	Hydraulic Head by Elevation (masl)
7	300.9	1.0	418.6
9	359.1	0.7	418.9
11	418.6	0.6	419.0

m = metres; masl = metres above sea level

The changes in hydraulic heads between the two sampling periods are considered to be negligible.

4.0 CLOSURE

We trust this report satisfies your current requirements. If you have any questions or require further assistance, please do not hesitate to contact the undersigned.

GOLDER ASSOCIATES LTD.

Denis Vachon, P.Eng. (BC)
Geological Engineer

Don Chorley, M.Sc., P.Geo.
Principal, Senior Hydrogeologist

John Cunning, P.Eng.
Principal, Senior Geotechnical Engineer

Ermanno Rambelli, P.Geo. (BC)
Associate, Senior Engineering Geologist
Project Manager

THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF THE NORTHWEST TERRITORIES
PERMIT NUMBER P 049
GOLDER ASSOCIATES LTD.

DV/DC/jc/ls/rs/it

Attachments: Study Limitations
Figure 1: Piper Plot of Groundwater at Westbay Multi-level Monitoring Well JGT-06
Attachment A: Laboratory Analysis Certificates
Attachment B: Tables

\\golder.gds\gal\burnaby\final\2013\1328\13-1328-0041\1313280041-e14073-tm-rev0-2010\1313280041-e14073-tm-rev0-2010-sep2014 westbay sampling 03feb_15.docx

REFERENCE

Golder Associates Ltd., Jay Project Geotechnical and Hydrogeological Field Investigations Factual Report Vol. 3: Assessment of Groundwater Quality in Jay Pipe Area, July 18, 2014.

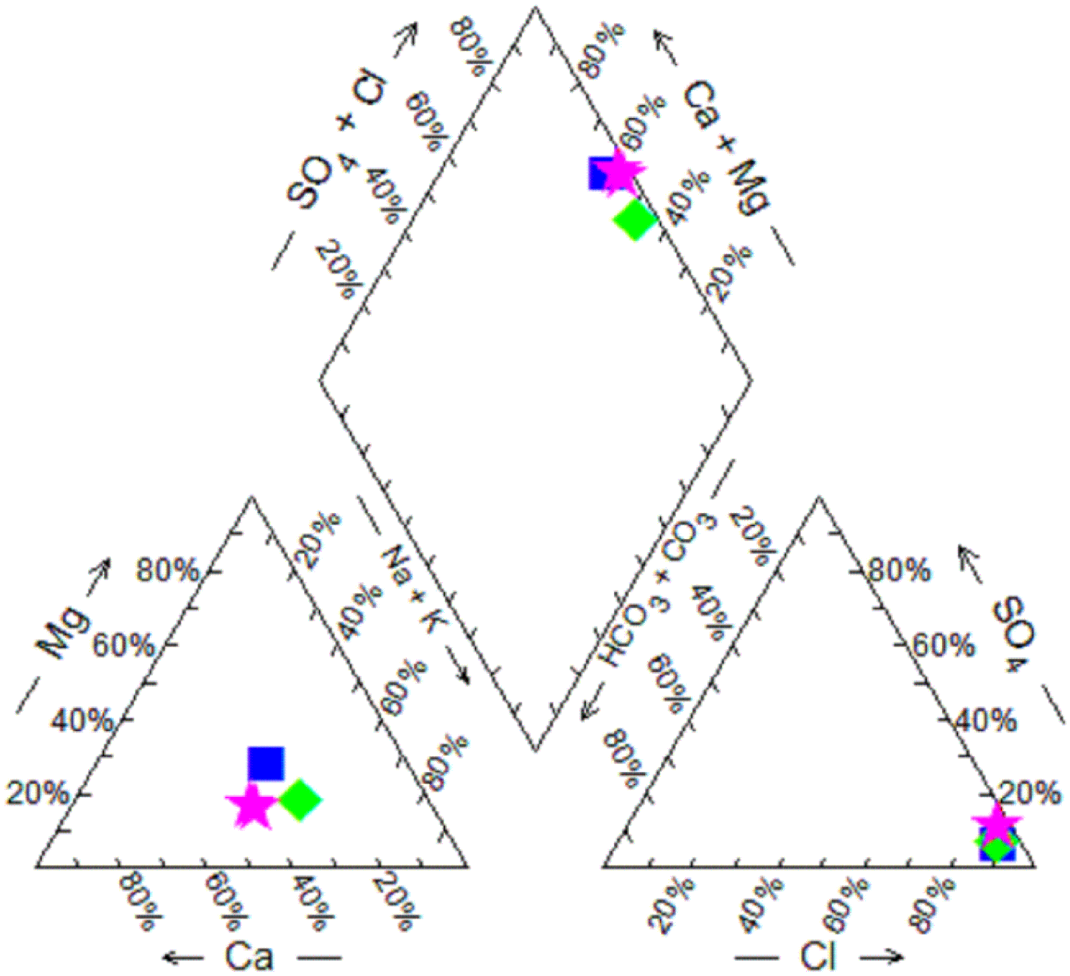
STUDY LIMITATIONS

Golder Associates Ltd. (Golder) has prepared this document in a manner consistent with that level of care and skill ordinarily exercised by members of the engineering and science professions currently practising under similar conditions in the jurisdiction in which the services are provided, subject to the time limits and physical constraints applicable to this document. No warranty, express or implied, is made.

This document, including all text, data, tables, plans, figures, drawings and other documents contained herein, has been prepared by Golder for the sole benefit of Dominion Diamond Ekati Corporation. It represents Golder's professional judgement based on the knowledge and information available at the time of completion. Golder is not responsible for any unauthorized use or modification of this document. All third parties relying on this document do so at their own risk.

The factual data, interpretations, suggestions, recommendations and opinions expressed in this document pertain to the specific project, site conditions, design objective, development and purpose described to Golder by Dominion Diamond Ekati Corporation, and are not applicable to any other project or site location. In order to properly understand the factual data, interpretations, suggestions, recommendations and opinions expressed in this document, reference must be made to the entire document.

This document, including all text, data, tables, plans, figures, drawings and other documents contained herein, as well as all electronic media prepared by Golder are considered its professional work product and shall remain the copyright property of Golder. Dominion Diamond Ekati Corporation may make copies of the document in such quantities as are reasonably necessary for those parties conducting business specifically related to the subject of this document or in support of or in response to regulatory inquiries and proceedings. Electronic media is susceptible to unauthorized modification, deterioration and incompatibility and therefore no party can rely solely on the electronic media versions of this document.



LEGEND

- JGT-06-L5-S1
- JGT-06-L7-S1-SEP2014
- JGT-06-L9-S1-SEP2014A
- JGT-06-L9-S1-SEP2014B

REV	DATE	REVISION DESCRIPTION	DES	CADD	CHK	RVW
1	2015-01-22	ISSUED FOR FINAL	DV	JD	DV	DC

PROJECT

DOMINION DIAMOND

JAY PROJECT
NORTHWEST TERRITORIES, CANADA

TITLE

PIPER PLOT OF GROUNDWATER AT WESTBAY MULTI-LEVEL MONITORING WELL JGT-06

Golder Associates

PROJECT No. 13-1328-0041.2000.92			FILE No.	1313280041-2010-Fig15
DESIGN	DV	2015-01-22	SCALE	NTS
CADD	JD	2015-01-22	FIGURE	
CHECK	DV	2015-01-22		1
REVIEW	DC	2015-01-22		

ATTACHMENT A
Laboratory Analysis Certificates

ALS Environmental Analysis Certificates

GOLDER ASSOCIATES LTD.
ATTN: DON CHORLEY/ERMANNO RAMBELLI
500 - 4260 Still Creek Drive
Burnaby BC V5C 6C6

Date Received: 17-SEP-14
Report Date: 07-OCT-14 15:10 (MT)
Version: FINAL

Client Phone: 604-296-4200

Certificate of Analysis

Lab Work Order #: L1518918

Project P.O. #: NOT SUBMITTED
Job Reference: 1407256/2010/92
C of C Numbers:
Legal Site Desc:

Jessica Spira
Senior Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1518918-1	L1518918-2			
		Description	GROUND WATE	PRODUCT			
		Sampled Date	15-SEP-14	15-SEP-14			
		Sampled Time	08:30	15:00			
		Client ID	JGT-06-I5-S1	GLYCOL			
Grouping	**Analyte**						
WATER							
Physical Tests	Color, True (C.U.)		11.1				
	Hardness (as CaCO3) (mg/L)		832				
	Total Suspended Solids (mg/L)		10.7				
	Total Dissolved Solids (mg/L)		1980				
	Turbidity (NTU)		28.9				
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)		69.3				
	Ammonia, Total (as N) (mg/L)		0.157				
	Bicarbonate (HCO3) (mg/L)		84.5				
	Carbonate (CO3) (mg/L)		<5.0				
	Chloride (Cl) (mg/L)		854				
	Conductivity (EC) (uS/cm)		3030				
	Fluoride (F) (mg/L)		<0.020				
	Hydroxide (OH) (mg/L)		<5.0				
	Nitrate and Nitrite (as N) (mg/L)		<0.0060				
	Nitrate (as N) (mg/L)		<0.0060				
	Nitrite (as N) (mg/L)		<0.0020				
	Total Kjeldahl Nitrogen (mg/L)		0.181				
	pH (pH)		7.76				
	Orthophosphate-Dissolved (as P) (mg/L)		<0.0010				
	Phosphorus (P)-Total Dissolved (mg/L)		0.0048				
	Phosphorus (P)-Total (mg/L)		0.0332				
	TDS (Calculated) (mg/L)		1500				
	Sulfate (SO4) (mg/L)		79.1				
	Sulphide (as S) (mg/L)		0.0091				
Organic / Inorganic Carbon	Dissolved Organic Carbon (mg/L)		34.8				
	Total Organic Carbon (mg/L)		36.2				
Total Metals	Aluminum (Al)-Total (mg/L)		<0.20	<0.15 DLM			
	Antimony (Sb)-Total (mg/L)		<0.020 DLM				
	Arsenic (As)-Total (mg/L)		<0.20	0.0198 DLM			
	Barium (Ba)-Total (mg/L)		<0.00050 DLM				
	Beryllium (Be)-Total (mg/L)		0.00076 DLM	0.110 DLM			
			<0.20				
			0.0180 DLM	<0.0025 DLM			
			0.016				
			<0.0010 DLM	<0.0050 DLM			
			<0.0050				

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1518918-1	L1518918-2			
	Description	GROUND WATE	PRODUCT			
	Sampled Date	15-SEP-14	15-SEP-14			
	Sampled Time	08:30	15:00			
	Client ID	JGT-06-I5-S1	GLYCOL			
Grouping	**Analyte**					
WATER						
Total Metals	Bismuth (Bi)-Total (mg/L)	<0.00025 DLM	<0.0025 DLM			
	Boron (B)-Total (mg/L)	<0.20 <0.10	<0.50 DLM			
	Cadmium (Cd)-Total (mg/L)	0.093 DLM <0.00020 DLM	<0.00050 DLM			
	Calcium (Ca)-Total (mg/L)	<0.010 155	2.6 DLM			
	Chromium (Cr)-Total (mg/L)	<0.0050	0.0078 DLM			
	Cobalt (Co)-Total (mg/L)	<0.00080 DLM <0.00050 DLM	<0.0050 DLM			
	Copper (Cu)-Total (mg/L)	<0.010 <0.010	<0.0050 DLM			
	Iron (Fe)-Total (mg/L)	<0.0010 DLM 3.31	0.84 DLM			
	Lead (Pb)-Total (mg/L)	<0.00025 DLM	0.0029 DLM			
	Lithium (Li)-Total (mg/L)	<0.050 0.052	<0.25 DLM			
	Magnesium (Mg)-Total (mg/L)	78.5	0.32 DLM			
	Manganese (Mn)-Total (mg/L)	0.138	0.0079 DLM			
	Mercury (Hg)-Total (mg/L)		<0.0050 DLM			
	Mercury (Hg)-Total (ug/L)	<0.00050				
	Molybdenum (Mo)-Total (mg/L)	<0.030	<0.0025 DLM			
	Nickel (Ni)-Total (mg/L)	0.0171 DLM <0.00050 DLM	<0.0050 DLM			
	Phosphorus (P)-Total (mg/L)	<0.050 <0.10	<15 DLM			
	Potassium (K)-Total (mg/L)	3.44	<2.5 DLM			
	Selenium (Se)-Total (mg/L)	<0.20	0.0741 DLM			
	Silicon (Si)-Total (mg/L)	<0.00050 DLM 3.01	<2.5 DLM			
	Silver (Ag)-Total (mg/L)	<0.010	<0.00050 DLM			
	Sodium (Na)-Total (mg/L)	<0.00040 DLM 206	<2.5 DLM			
	Strontium (Sr)-Total (mg/L)	3.19 DLM	0.0110 DLM			
	Sulfur (S)-Total (mg/L)	2.98 24.7				

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1518918-1	L1518918-2			
	Description	GROUND WATE	PRODUCT			
	Sampled Date	15-SEP-14	15-SEP-14			
	Sampled Time	08:30	15:00			
	Client ID	JGT-06-I5-S1	GLYCOL			
Grouping	**Analyte**					
WATER						
Total Metals	Thallium (Tl)-Total (mg/L)	<0.20 DLM	<0.00050 DLM			
	Thorium (Th)-Total (mg/L)	<0.00010				
	Tin (Sn)-Total (mg/L)	<0.000050				
	Titanium (Ti)-Total (mg/L)	<0.030 DLM	0.245 DLM			
	Uranium (U)-Total (mg/L)	<0.00050				
	Vanadium (V)-Total (mg/L)	<0.010 DLM	<0.015 DLM			
	Zinc (Zn)-Total (mg/L)	<0.0050 DLM				
	Zirconium (Zr)-Total (mg/L)	0.00052 DLM	<0.00050 DLM			
		<0.00050 DLM	<0.0050 DLM			
		<0.0050				
		0.226 DLM	<0.15 DLM			
		0.239 DLM				
		<0.0030				
Dissolved Metals	Dissolved Mercury Filtration Location	FIELD				
	Dissolved Metals Filtration Location	FIELD				
	Aluminum (Al)-Dissolved (mg/L)	<0.010 DLM				
	Antimony (Sb)-Dissolved (mg/L)	<0.20				
	Arsenic (As)-Dissolved (mg/L)	<0.20 DLM				
	Barium (Ba)-Dissolved (mg/L)	<0.00050 DLM				
	Beryllium (Be)-Dissolved (mg/L)	0.00058 DLM				
	Bismuth (Bi)-Dissolved (mg/L)	0.0183				
	Boron (B)-Dissolved (mg/L)	0.017				
	Cadmium (Cd)-Dissolved (mg/L)	<0.0050 DLM				
	Calcium (Ca)-Dissolved (mg/L)	<0.00050 DLM				
	Chromium (Cr)-Dissolved (mg/L)	<0.20 DLM				
	Cobalt (Co)-Dissolved (mg/L)	<0.00025				
	Copper (Cu)-Dissolved (mg/L)	0.11				
		<0.010 DLM				
		<0.00010				
		180				
		<0.00050 DLM				
		<0.0050				
		<0.00050 DLM				
		<0.010				
		<0.010 DLM				
		<0.00060				

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1518918-1	L1518918-2			
	Description	GROUND WATE	PRODUCT			
	Sampled Date	15-SEP-14	15-SEP-14			
	Sampled Time	08:30	15:00			
	Client ID	JGT-06-I5-S1	GLYCOL			
Grouping	**Analyte**					
WATER						
Dissolved Metals	Iron (Fe)-Dissolved (mg/L)	2.84				
	Lead (Pb)-Dissolved (mg/L)	<0.050 DLM				
		<0.00025				
	Lithium (Li)-Dissolved (mg/L)	0.056				
	Magnesium (Mg)-Dissolved (mg/L)	93.3				
	Manganese (Mn)-Dissolved (mg/L)	0.153				
	Mercury (Hg)-Dissolved (ug/L)	<0.00050 DLM				
	Molybdenum (Mo)-Dissolved (mg/L)	0.0180				
		<0.030 DLM				
	Nickel (Ni)-Dissolved (mg/L)	<0.00050				
		<0.050				
	Phosphorus (P)-Dissolved (mg/L)	<0.10				
	Potassium (K)-Dissolved (mg/L)	3.99				
	Selenium (Se)-Dissolved (mg/L)	<0.00050 DLM				
		<0.20				
	Silicon (Si)-Dissolved (mg/L)	3.32				
	Silver (Ag)-Dissolved (mg/L)	<0.00020 DLM				
		<0.010				
	Sodium (Na)-Dissolved (mg/L)	247				
	Strontium (Sr)-Dissolved (mg/L)	3.42 DLM				
		3.44				
	Sulfur (S)-Dissolved (mg/L)	25.8				
	Thallium (Tl)-Dissolved (mg/L)	<0.20 DLM				
		<0.000050				
	Thorium (Th)-Dissolved (mg/L)	<0.000050 DLM				
	Tin (Sn)-Dissolved (mg/L)	<0.00050				
		<0.030				
	Titanium (Ti)-Dissolved (mg/L)	0.011 DLM				
		<0.0015 DLM				
	Uranium (U)-Dissolved (mg/L)	0.00058 DLM				
	Vanadium (V)-Dissolved (mg/L)	<0.00050				
		<0.0050				
	Zinc (Zn)-Dissolved (mg/L)	0.0376 DLM				
		0.0402 DLM				
	Zirconium (Zr)-Dissolved (mg/L)	<0.0015				

* 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	Dissolved Organic Carbon	MS-B	L1518918-1

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.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
C-DIS-ORG-ED	Water	Dissolved Organic Carbon	APHA 5310 B-Instrumental
C-TOT-ORG-ED	Water	Total Organic Carbon	APHA 5310 B-Instrumental
CL-IC-ED	Water	Chloride by IC	APHA 4110 B-ION CHROMATOGRAPHY
COL-TRU-ED	Water	Color, True	APHA 2120

The reported color applies to the pH of the sample as submitted unless otherwise noted on the report.

ETL-HARDNESS-DIS-ED	Water	Hardness (from Dissolved Ca and Mg)	APHA 2340 B-Calculation
F-IC-ED	Water	Fluoride by IC	APHA 4110 B-ION CHROMATOGRAPHY
HG-D-U-CVAF-VA	Water	Diss. Mercury in Water by CVAFS (Ultra)	APHA 3030 B / EPA 1631 REV. E

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 Method 1631 Rev. E. by the United States Environmental Protection Agency (EPA). The procedure may involve preliminary sample treatment by filtration (APHA 3030B) and involves a cold-oxidation of the acidified sample using bromine monochloride prior to a purge and trap concentration step and final reduction of the sample with stannous chloride. Instrumental analysis is by cold vapour atomic fluorescence spectrophotometry.

HG-T-U-CVAF-VA	Water	Total Mercury in Water by CVAFS (Ultra)	EPA 1631 REV. E

This analysis is carried out using procedures adapted from Method 1631 Rev. E. by the United States Environmental Protection Agency (EPA). The procedure involves a cold-oxidation of the acidified sample using bromine monochloride prior to a purge and trap concentration step and final reduction of the sample with stannous chloride. Instrumental analysis is by cold vapour atomic fluorescence spectrophotometry.

HG-TOT-CVAFS-VA	Water	Total Mercury in Water by CVAFS	EPA 245.7

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 a cold-oxidation of the acidified sample using bromine monochloride prior to reduction of the sample with stannous chloride. Instrumental analysis is by cold vapour atomic fluorescence spectrophotometry or atomic absorption spectrophotometry (EPA Method 245.7).

IONBALANCE-ED	Water	Ion Balance Calculation	APHA 1030E
MET-D-CCMS-ED	Water	Dissolved Metals in Water by CRC ICPMS	APHA 3030 B&E / EPA SW-846 6020A
MET-D-ICP-ED	Water	Dissolved Metals in Water by ICPOES	APHA 3120 B-ICP-OES
MET-T-CCMS-ED	Water	Total Metals in Water by CRC ICPMS	APHA 3030 B&E / EPA SW-846 6020A
MET-T-ICP-ED	Water	Total Metals in Water by ICPOES	APHA 3120 B-ICP-OES
NH3-L-CFA-ED	Water	Ammonia in Water by Colour	APHA 4500 NH3-NITROGEN (AMMONIA)

This analysis is carried out using procedures adapted from APHA Method 4500 NH3 "NITROGEN (AMMONIA)". Ammonia is determined using the automated phenate colourimetric method.

NO2+NO3-L-CFA-ED	Water	Nitrite & Nitrate in Water by Colour	APHA 4500 NO3-F

This analysis is carried out using procedures adapted from APHA Method 4500 NO3-F "Automated Cadmium Reduction Method".

NO2-L-CFA-ED	Water	Nitrite in Water by Colour	APHA 4500 NO2-A and NO3-F

This analysis is carried out using procedures adapted from APHA Method 4500 NO3-F "Automated Cadmium Reduction Method", omitting the Cu-Cd reduction step to be selective for nitrite.

NO3-L-CALC-ED	Water	Nitrate in Water (Calculation)	APHA 4500 NO3-F

Nitrate (as N) is a calculated parameter. Nitrate (as N) = [Nitrate and Nitrite (as N)] - Nitrite (as N).

P-T-L-COL-ED	Water	Total P in Water by Colour	APHA 4500-P PHOSPHORUS

This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Phosphorus is determined colourimetrically after persulphate digestion of the sample.

P-TD-L-COL-ED	Water	Total Dissolved P in Water by Colour	APHA 4500-P PHOSPHORUS

This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Dissolved Phosphorous is determined colourimetrically after persulphate digestion of a sample that has been lab or field filtered through a 0.45 micron membrane filter.

Reference Information

PH/EC/ALK-ED	Water	pH, Conductivity and Total Alkalinity	APHA 4500-H, 2510, 2320

All samples analyzed by this method for pH will have exceeded the 15 minute recommended hold time from time of sampling (field analysis is recommended for pH where highly accurate results are needed)

PO4-DO-L-COL-ED	Water	Diss. Orthophosphate in Water by Colour	APHA 4500-P PHOSPHORUS

This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter.

SO4-L-IC-ED	Water	Sulfate by IC (Low Level)	APHA 4110 B-ION CHROMATOGRAPHY
SOLIDS-TDS-ED	Water	Total Dissolved Solids	APHA 2540 C
SOLIDS-TOTSUS-ED	Water	Total Suspended Solids	APHA 2540 D-Gravimetric
SULPHIDE-ED	Water	Sulphide	APHA 4500 -S E-Auto-Colorimetry
TH-D-CCMS-VA	Water	Dissolved Thorium in Water by CRC ICPMS	APHA 3030 B&E / EPA SW-846 6020A

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 procedures may involve preliminary sample treatment by acid digestion, using hotblock, or filtration (APHA 3030B&E). Instrumental analysis is by collision cell inductively coupled plasma - mass spectrometry (modifed from EPA Method 6020A).

TH-T-CCMS-VA	Water	Total Thorium in Water by CRC ICPMS	APHA 3030 B&E / EPA SW-846 6020A

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 procedures may involve preliminary sample treatment by acid digestion, using hotblock, or filtration (APHA 3030B&E). Instrumental analysis is by collision cell inductively coupled plasma - mass spectrometry (modifed from EPA Method 6020A).

TKN-L-CFA-ED	Water	TKN in Water by Colour	APHA 4500-NORG (TKN)

This analysis is carried out using procedures adapted from APHA Method 4500-Norg "Nitrogen (Organic)". Total Kjeldahl Nitrogen is determined by sample digestion at 380 celcius with analysis using an automated colourimetric finish.

TURBIDITY-ED	Water	Turbidity	APHA 2130 B-Nephelometer
ZR-D-CCMS-ED	Water	Dissolved Zirconium in water, CRC ICPMS	APHA 3030 B&E / EPA SW-846 6020A
ZR-T-CCMS-ED	Water	Total Zirconium in Water by CRC ICPMS	APHA 3030 B&E / EPA SW-846 6020A

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 procedures may involve preliminary sample treatment by acid digestion, using hotblock, or filtration (APHA 3030B&E). Instrumental analysis is by collision cell inductively coupled plasma - mass spectrometry (modifed from EPA Method 6020A).

** 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
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

Client: GOLDER ASSOCIATES LTD.
500 - 4260 Still Creek Drive
Burnaby BC V5C 6C6
Contact: DON CHORLEY/ERMANNO RAMBELLI

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
C-DIS-ORG-ED	**Water**							
Batch R2958874								
WG1958634-3 CVS								
Dissolved Organic Carbon			126.8		%		80-160	24-SEP-14
WG1958634-2 LCS								
Dissolved Organic Carbon			94.7		%		80-120	24-SEP-14
WG1958634-1 MB								
Dissolved Organic Carbon			<1.0		mg/L		1	24-SEP-14
WG1958634-7 MS		**L1520350-4**						
Dissolved Organic Carbon			94.6		%		70-130	24-SEP-14
WG1958634-9 MS		**L1517420-2**						
Dissolved Organic Carbon			N/A	MS-B	%		-	24-SEP-14
C-TOT-ORG-ED	**Water**							
Batch R2958874								
WG1958634-3 CVS								
Total Organic Carbon			126.8		%		80-160	24-SEP-14
WG1958634-2 LCS								
Total Organic Carbon			94.7		%		80-120	24-SEP-14
WG1958634-1 MB								
Total Organic Carbon			<1.0		mg/L		1	24-SEP-14
WG1958634-5 MS		**L1520282-5**						
Total Organic Carbon			97.3		%		70-130	24-SEP-14
CL-IC-ED	**Water**							
Batch R2956574								
WG1957723-11 LCS								
Chloride (Cl)			102.2		%		90-110	23-SEP-14
WG1957723-13 LCS								
Chloride (Cl)			102.8		%		90-110	23-SEP-14
WG1957723-2 LCS								
Chloride (Cl)			101.9		%		90-110	23-SEP-14
WG1957723-3 LCS								
Chloride (Cl)			101.5		%		90-110	23-SEP-14
WG1957723-7 LCS								
Chloride (Cl)			102.4		%		90-110	23-SEP-14
WG1957723-9 LCS								
Chloride (Cl)			102.3		%		90-110	23-SEP-14
WG1957723-1 MB								
Chloride (Cl)			<0.50		mg/L		0.5	23-SEP-14
WG1957723-10 MB								
Chloride (Cl)			<0.50		mg/L		0.5	23-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CL-IC-ED	**Water**							
Batch R2956574								
WG1957723-12 MB								
Chloride (Cl)			<0.50		mg/L		0.5	23-SEP-14
WG1957723-14 MB								
Chloride (Cl)			<0.50		mg/L		0.5	23-SEP-14
WG1957723-4 MB								
Chloride (Cl)			<0.50		mg/L		0.5	23-SEP-14
WG1957723-8 MB								
Chloride (Cl)			<0.50		mg/L		0.5	23-SEP-14
WG1957723-6 MS		**L1521161-13**						
Chloride (Cl)			90.4		%		75-125	23-SEP-14
COL-TRU-ED	**Water**							
Batch R2952310								
WG1953806-2 LCS								
Color, True			93.1		%		85-115	18-SEP-14
WG1953806-1 MB								
Color, True			<2.0		C.U.		2	18-SEP-14
F-IC-ED	**Water**							
Batch R2956574								
WG1957723-11 LCS								
Fluoride (F)			99.5		%		90-110	23-SEP-14
WG1957723-13 LCS								
Fluoride (F)			99.7		%		90-110	23-SEP-14
WG1957723-2 LCS								
Fluoride (F)			100.8		%		90-110	23-SEP-14
WG1957723-3 LCS								
Fluoride (F)			98.5		%		90-110	23-SEP-14
WG1957723-7 LCS								
Fluoride (F)			99.0		%		90-110	23-SEP-14
WG1957723-9 LCS								
Fluoride (F)			99.6		%		90-110	23-SEP-14
WG1957723-1 MB								
Fluoride (F)			<0.020		mg/L		0.02	23-SEP-14
WG1957723-10 MB								
Fluoride (F)			<0.020		mg/L		0.02	23-SEP-14
WG1957723-12 MB								
Fluoride (F)			<0.020		mg/L		0.02	23-SEP-14
WG1957723-14 MB								
Fluoride (F)			<0.020		mg/L		0.02	23-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F-IC-ED	**Water**							
Batch R2956574								
WG1957723-4 MB								
Fluoride (F)			<0.020		mg/L		0.02	23-SEP-14
WG1957723-8 MB								
Fluoride (F)			<0.020		mg/L		0.02	23-SEP-14
HG-D-U-CVAF-VA	**Water**							
Batch R2955223								
WG1956786-2 LCS								
Mercury (Hg)-Dissolved			97.1		%		80-120	20-SEP-14
WG1956786-1 MB								
Mercury (Hg)-Dissolved			<0.00050		ug/L		0.0005	20-SEP-14
WG1956786-3 MS		**L1518701-1**						
Mercury (Hg)-Dissolved			99.7		%		70-130	20-SEP-14
WG1956786-4 MS		**L1517899-2**						
Mercury (Hg)-Dissolved			99.7		%		70-130	20-SEP-14
HG-T-U-CVAF-VA	**Water**							
Batch R2955223								
WG1956796-3 DUP		**L1518918-1**						
Mercury (Hg)-Total		<0.00050	<0.00050	RPD-NA	ug/L	N/A	20	20-SEP-14
WG1956796-2 LCS								
Mercury (Hg)-Total			98.9		%		80-120	20-SEP-14
WG1956796-1 MB								
Mercury (Hg)-Total			<0.00050		ug/L		0.0005	20-SEP-14
HG-TOT-CVAFS-VA	**Water**							
Batch R2962064								
WG1961495-2 LCS								
Mercury (Hg)-Total			100.2		%		80-120	27-SEP-14
WG1961495-1 MB								
Mercury (Hg)-Total			<0.000050		mg/L		0.00005	27-SEP-14
MET-D-CCMS-ED	**Water**							
Batch R2957148								
WG1957409-12 CRM		**ED-HIGH-WATRM**						
Aluminum (Al)-Dissolved			99.3		%		80-120	23-SEP-14
Antimony (Sb)-Dissolved			98.1		%		80-120	23-SEP-14
Arsenic (As)-Dissolved			99.3		%		80-120	23-SEP-14
Barium (Ba)-Dissolved			101.1		%		80-120	23-SEP-14
Beryllium (Be)-Dissolved			100.3		%		80-120	24-SEP-14
Bismuth (Bi)-Dissolved			100.9		%		80-120	23-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-ED	**Water**							
Batch	**R2957148**							
WG1957409-12	**CRM**	**ED-HIGH-WATRM**						
Cadmium (Cd)-Dissolved			97.1		%		80-120	23-SEP-14
Chromium (Cr)-Dissolved			100.0		%		80-120	23-SEP-14
Cobalt (Co)-Dissolved			97.8		%		80-120	23-SEP-14
Copper (Cu)-Dissolved			95.8		%		80-120	23-SEP-14
Lead (Pb)-Dissolved			100.6		%		80-120	23-SEP-14
Molybdenum (Mo)-Dissolved			91.1		%		80-120	23-SEP-14
Nickel (Ni)-Dissolved			99.9		%		80-120	23-SEP-14
Selenium (Se)-Dissolved			98.9		%		80-120	23-SEP-14
Silver (Ag)-Dissolved			96.1		%		80-120	23-SEP-14
Strontium (Sr)-Dissolved			104.3		%		80-120	23-SEP-14
Thallium (Tl)-Dissolved			102.0		%		80-120	23-SEP-14
Titanium (Ti)-Dissolved			106.4		%		80-120	23-SEP-14
Tin (Sn)-Dissolved			94.2		%		80-120	23-SEP-14
Uranium (U)-Dissolved			94.7		%		80-120	23-SEP-14
Vanadium (V)-Dissolved			100.6		%		80-120	23-SEP-14
Zinc (Zn)-Dissolved			93.9		%		80-120	23-SEP-14
WG1957409-3	**CRM**	**ED-HIGH-WATRM**						
Aluminum (Al)-Dissolved			99.4		%		80-120	23-SEP-14
Antimony (Sb)-Dissolved			98.4		%		80-120	23-SEP-14
Arsenic (As)-Dissolved			99.6		%		80-120	23-SEP-14
Barium (Ba)-Dissolved			97.4		%		80-120	23-SEP-14
Beryllium (Be)-Dissolved			92.7		%		80-120	23-SEP-14
Bismuth (Bi)-Dissolved			103.5		%		80-120	23-SEP-14
Cadmium (Cd)-Dissolved			99.3		%		80-120	23-SEP-14
Chromium (Cr)-Dissolved			99.0		%		80-120	23-SEP-14
Cobalt (Co)-Dissolved			98.6		%		80-120	23-SEP-14
Copper (Cu)-Dissolved			96.0		%		80-120	23-SEP-14
Lead (Pb)-Dissolved			101.4		%		80-120	23-SEP-14
Molybdenum (Mo)-Dissolved			93.3		%		80-120	23-SEP-14
Nickel (Ni)-Dissolved			99.5		%		80-120	23-SEP-14
Selenium (Se)-Dissolved			101.0		%		80-120	23-SEP-14
Silver (Ag)-Dissolved			98.6		%		80-120	23-SEP-14
Strontium (Sr)-Dissolved			99.6		%		80-120	23-SEP-14
Thallium (Tl)-Dissolved			103.0		%		80-120	23-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-ED	**Water**							
Batch R2957148								
WG1957409-3 CRM		**ED-HIGH-WATRM**						
Titanium (Ti)-Dissolved			110.4		%		80-120	23-SEP-14
Tin (Sn)-Dissolved			96.3		%		80-120	23-SEP-14
Uranium (U)-Dissolved			96.3		%		80-120	23-SEP-14
Vanadium (V)-Dissolved			100.9		%		80-120	23-SEP-14
Zinc (Zn)-Dissolved			95.6		%		80-120	23-SEP-14
WG1957409-6 CRM		**ED-HIGH-WATRM**						
Aluminum (Al)-Dissolved			101.3		%		80-120	23-SEP-14
Antimony (Sb)-Dissolved			96.6		%		80-120	23-SEP-14
Arsenic (As)-Dissolved			100.6		%		80-120	23-SEP-14
Barium (Ba)-Dissolved			95.0		%		80-120	23-SEP-14
Beryllium (Be)-Dissolved			94.1		%		80-120	23-SEP-14
Bismuth (Bi)-Dissolved			100.4		%		80-120	23-SEP-14
Cadmium (Cd)-Dissolved			97.2		%		80-120	23-SEP-14
Chromium (Cr)-Dissolved			98.9		%		80-120	23-SEP-14
Cobalt (Co)-Dissolved			98.2		%		80-120	23-SEP-14
Copper (Cu)-Dissolved			96.3		%		80-120	23-SEP-14
Lead (Pb)-Dissolved			101.6		%		80-120	23-SEP-14
Molybdenum (Mo)-Dissolved			90.3		%		80-120	23-SEP-14
Nickel (Ni)-Dissolved			99.6		%		80-120	23-SEP-14
Selenium (Se)-Dissolved			100.3		%		80-120	23-SEP-14
Silver (Ag)-Dissolved			96.4		%		80-120	23-SEP-14
Strontium (Sr)-Dissolved			100.2		%		80-120	23-SEP-14
Thallium (Tl)-Dissolved			102.5		%		80-120	23-SEP-14
Titanium (Ti)-Dissolved			110.0		%		80-120	23-SEP-14
Tin (Sn)-Dissolved			95.0		%		80-120	23-SEP-14
Uranium (U)-Dissolved			95.7		%		80-120	23-SEP-14
Vanadium (V)-Dissolved			101.9		%		80-120	23-SEP-14
Zinc (Zn)-Dissolved			94.4		%		80-120	23-SEP-14
WG1957409-9 CRM		**ED-HIGH-WATRM**						
Aluminum (Al)-Dissolved			99.0		%		80-120	23-SEP-14
Antimony (Sb)-Dissolved			93.3		%		80-120	23-SEP-14
Arsenic (As)-Dissolved			99.2		%		80-120	23-SEP-14
Barium (Ba)-Dissolved			101.0		%		80-120	23-SEP-14
Beryllium (Be)-Dissolved			98.3		%		80-120	24-SEP-14
Bismuth (Bi)-Dissolved			102.9		%		80-120	23-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-ED	**Water**							
Batch	**R2957148**							
WG1957409-9	**CRM**	**ED-HIGH-WATRM**						
Cadmium (Cd)-Dissolved			98.6		%		80-120	23-SEP-14
Chromium (Cr)-Dissolved			99.0		%		80-120	23-SEP-14
Cobalt (Co)-Dissolved			98.2		%		80-120	23-SEP-14
Copper (Cu)-Dissolved			95.4		%		80-120	23-SEP-14
Lead (Pb)-Dissolved			100.9		%		80-120	23-SEP-14
Molybdenum (Mo)-Dissolved			86.7		%		80-120	23-SEP-14
Nickel (Ni)-Dissolved			98.2		%		80-120	23-SEP-14
Selenium (Se)-Dissolved			98.3		%		80-120	23-SEP-14
Silver (Ag)-Dissolved			95.6		%		80-120	23-SEP-14
Strontium (Sr)-Dissolved			97.6		%		80-120	23-SEP-14
Thallium (Tl)-Dissolved			100.5		%		80-120	23-SEP-14
Titanium (Ti)-Dissolved			106.9		%		80-120	23-SEP-14
Tin (Sn)-Dissolved			93.1		%		80-120	23-SEP-14
Uranium (U)-Dissolved			96.9		%		80-120	23-SEP-14
Vanadium (V)-Dissolved			100.3		%		80-120	23-SEP-14
Zinc (Zn)-Dissolved			95.4		%		80-120	23-SEP-14
WG1957409-1	**MB**							
Aluminum (Al)-Dissolved			<0.0010		mg/L		0.001	23-SEP-14
Antimony (Sb)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Arsenic (As)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Barium (Ba)-Dissolved			<0.000050		mg/L		0.00005	23-SEP-14
Beryllium (Be)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Bismuth (Bi)-Dissolved			<0.000050		mg/L		0.00005	23-SEP-14
Cadmium (Cd)-Dissolved			<0.000010		mg/L		0.00001	23-SEP-14
Chromium (Cr)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Cobalt (Co)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Copper (Cu)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Lead (Pb)-Dissolved			<0.000050		mg/L		0.00005	23-SEP-14
Molybdenum (Mo)-Dissolved			<0.000050		mg/L		0.00005	23-SEP-14
Nickel (Ni)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Selenium (Se)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Silver (Ag)-Dissolved			<0.000010		mg/L		0.00001	23-SEP-14
Strontium (Sr)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Thallium (Tl)-Dissolved			<0.000010		mg/L		0.00001	23-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-ED	**Water**							
Batch R2957148								
WG1957409-1 MB								
Titanium (Ti)-Dissolved			<0.00030		mg/L		0.0003	23-SEP-14
Tin (Sn)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Uranium (U)-Dissolved			<0.000010		mg/L		0.00001	23-SEP-14
Vanadium (V)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Zinc (Zn)-Dissolved			<0.0010		mg/L		0.001	23-SEP-14
WG1957409-10 MB								
Aluminum (Al)-Dissolved			<0.0010		mg/L		0.001	23-SEP-14
Antimony (Sb)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Arsenic (As)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Barium (Ba)-Dissolved			<0.000050		mg/L		0.00005	23-SEP-14
Beryllium (Be)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Bismuth (Bi)-Dissolved			<0.000050		mg/L		0.00005	23-SEP-14
Cadmium (Cd)-Dissolved			<0.000010		mg/L		0.00001	23-SEP-14
Chromium (Cr)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Cobalt (Co)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Copper (Cu)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Lead (Pb)-Dissolved			<0.000050		mg/L		0.00005	23-SEP-14
Molybdenum (Mo)-Dissolved			<0.000050		mg/L		0.00005	23-SEP-14
Nickel (Ni)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Selenium (Se)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Silver (Ag)-Dissolved			<0.000010		mg/L		0.00001	23-SEP-14
Strontium (Sr)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Thallium (Tl)-Dissolved			<0.000010		mg/L		0.00001	23-SEP-14
Titanium (Ti)-Dissolved			<0.00030		mg/L		0.0003	23-SEP-14
Tin (Sn)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Uranium (U)-Dissolved			<0.000010		mg/L		0.00001	23-SEP-14
Vanadium (V)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Zinc (Zn)-Dissolved			<0.0010		mg/L		0.001	23-SEP-14
WG1957409-4 MB								
Aluminum (Al)-Dissolved			<0.0010		mg/L		0.001	23-SEP-14
Antimony (Sb)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Arsenic (As)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Barium (Ba)-Dissolved			<0.000050		mg/L		0.00005	23-SEP-14
Beryllium (Be)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Bismuth (Bi)-Dissolved			<0.000050		mg/L		0.00005	23-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-ED	**Water**							
Batch R2957148								
WG1957409-4 MB								
Cadmium (Cd)-Dissolved			<0.000010		mg/L		0.00001	23-SEP-14
Chromium (Cr)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Cobalt (Co)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Copper (Cu)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Lead (Pb)-Dissolved			<0.000050		mg/L		0.00005	23-SEP-14
Molybdenum (Mo)-Dissolved			<0.000050		mg/L		0.00005	23-SEP-14
Nickel (Ni)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Selenium (Se)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Silver (Ag)-Dissolved			<0.000010		mg/L		0.00001	23-SEP-14
Strontium (Sr)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Thallium (Tl)-Dissolved			<0.000010		mg/L		0.00001	23-SEP-14
Titanium (Ti)-Dissolved			<0.00030		mg/L		0.0003	23-SEP-14
Tin (Sn)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Uranium (U)-Dissolved			<0.000010		mg/L		0.00001	23-SEP-14
Vanadium (V)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Zinc (Zn)-Dissolved			<0.0010		mg/L		0.001	23-SEP-14
WG1957409-7 MB								
Aluminum (Al)-Dissolved			<0.0010		mg/L		0.001	23-SEP-14
Antimony (Sb)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Arsenic (As)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Barium (Ba)-Dissolved			<0.000050		mg/L		0.00005	23-SEP-14
Beryllium (Be)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Bismuth (Bi)-Dissolved			<0.000050		mg/L		0.00005	23-SEP-14
Cadmium (Cd)-Dissolved			<0.000010		mg/L		0.00001	23-SEP-14
Chromium (Cr)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Cobalt (Co)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Copper (Cu)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Lead (Pb)-Dissolved			<0.000050		mg/L		0.00005	23-SEP-14
Molybdenum (Mo)-Dissolved			<0.000050		mg/L		0.00005	23-SEP-14
Nickel (Ni)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Selenium (Se)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Silver (Ag)-Dissolved			<0.000010		mg/L		0.00001	23-SEP-14
Strontium (Sr)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Thallium (Tl)-Dissolved			<0.000010		mg/L		0.00001	23-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-ED	**Water**							
Batch R2957148								
WG1957409-7 MB								
Titanium (Ti)-Dissolved			<0.00030		mg/L		0.0003	23-SEP-14
Tin (Sn)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Uranium (U)-Dissolved			<0.000010		mg/L		0.00001	23-SEP-14
Vanadium (V)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Zinc (Zn)-Dissolved			<0.0010		mg/L		0.001	23-SEP-14
MET-D-ICP-ED	**Water**							
Batch R2955092								
WG1956333-2 CRM		**ED-HIGH-WATRM**						
Aluminum (Al)-Dissolved			94.9		%		80-120	22-SEP-14
Antimony (Sb)-Dissolved			96.9		%		80-120	22-SEP-14
Arsenic (As)-Dissolved			95.1		%		80-120	22-SEP-14
Barium (Ba)-Dissolved			90.3		%		80-120	22-SEP-14
Beryllium (Be)-Dissolved			90.6		%		80-120	22-SEP-14
Bismuth (Bi)-Dissolved			93.8		%		80-120	22-SEP-14
Boron (B)-Dissolved			95.4		%		80-120	22-SEP-14
Cadmium (Cd)-Dissolved			91.5		%		80-120	22-SEP-14
Calcium (Ca)-Dissolved			91.0		%		80-120	22-SEP-14
Chromium (Cr)-Dissolved			90.6		%		80-120	22-SEP-14
Cobalt (Co)-Dissolved			91.0		%		80-120	22-SEP-14
Copper (Cu)-Dissolved			93.4		%		80-120	22-SEP-14
Iron (Fe)-Dissolved			91.4		%		80-120	22-SEP-14
Lead (Pb)-Dissolved			90.6		%		80-120	22-SEP-14
Lithium (Li)-Dissolved			94.3		%		80-120	22-SEP-14
Magnesium (Mg)-Dissolved			93.4		%		80-120	22-SEP-14
Manganese (Mn)-Dissolved			89.5		%		80-120	22-SEP-14
Molybdenum (Mo)-Dissolved			93.0		%		80-120	22-SEP-14
Nickel (Ni)-Dissolved			90.9		%		80-120	22-SEP-14
Phosphorus (P)-Dissolved			94.0		%		80-120	22-SEP-14
Potassium (K)-Dissolved			95.2		%		80-120	22-SEP-14
Selenium (Se)-Dissolved			92.3		%		80-120	22-SEP-14
Silicon (Si)-Dissolved			97.2		%		80-120	22-SEP-14
Silver (Ag)-Dissolved			90.3		%		80-120	22-SEP-14
Sodium (Na)-Dissolved			97.9		%		80-120	22-SEP-14
Strontium (Sr)-Dissolved			91.1		%		80-120	22-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-ICP-ED	**Water**							
Batch R2955092								
WG1956333-2 CRM		**ED-HIGH-WATRM**						
Thallium (Tl)-Dissolved			87.2		%		80-120	22-SEP-14
Tin (Sn)-Dissolved			93.3		%		80-120	22-SEP-14
Titanium (Ti)-Dissolved			97.6		%		80-120	22-SEP-14
Vanadium (V)-Dissolved			94.6		%		80-120	22-SEP-14
Zinc (Zn)-Dissolved			93.9		%		80-120	22-SEP-14
WG1956333-5 CRM		**ED-HIGH-WATRM**						
Aluminum (Al)-Dissolved			93.3		%		80-120	22-SEP-14
Antimony (Sb)-Dissolved			96.5		%		80-120	22-SEP-14
Arsenic (As)-Dissolved			94.8		%		80-120	22-SEP-14
Barium (Ba)-Dissolved			88.5		%		80-120	22-SEP-14
Beryllium (Be)-Dissolved			89.4		%		80-120	22-SEP-14
Bismuth (Bi)-Dissolved			90.2		%		80-120	22-SEP-14
Boron (B)-Dissolved			94.7		%		80-120	22-SEP-14
Cadmium (Cd)-Dissolved			91.6		%		80-120	22-SEP-14
Calcium (Ca)-Dissolved			90.1		%		80-120	22-SEP-14
Chromium (Cr)-Dissolved			90.0		%		80-120	22-SEP-14
Cobalt (Co)-Dissolved			91.0		%		80-120	22-SEP-14
Copper (Cu)-Dissolved			91.1		%		80-120	22-SEP-14
Iron (Fe)-Dissolved			88.8		%		80-120	22-SEP-14
Lead (Pb)-Dissolved			91.1		%		80-120	22-SEP-14
Lithium (Li)-Dissolved			91.7		%		80-120	22-SEP-14
Magnesium (Mg)-Dissolved			93.4		%		80-120	22-SEP-14
Manganese (Mn)-Dissolved			87.0		%		80-120	22-SEP-14
Molybdenum (Mo)-Dissolved			92.1		%		80-120	22-SEP-14
Nickel (Ni)-Dissolved			90.1		%		80-120	22-SEP-14
Phosphorus (P)-Dissolved			92.7		%		80-120	22-SEP-14
Potassium (K)-Dissolved			93.2		%		80-120	22-SEP-14
Selenium (Se)-Dissolved			92.5		%		80-120	22-SEP-14
Silicon (Si)-Dissolved			93.1		%		80-120	22-SEP-14
Silver (Ag)-Dissolved			85.1		%		80-120	22-SEP-14
Sodium (Na)-Dissolved			96.9		%		80-120	22-SEP-14
Strontium (Sr)-Dissolved			90.0		%		80-120	22-SEP-14
Thallium (Tl)-Dissolved			86.1		%		80-120	22-SEP-14
Tin (Sn)-Dissolved			93.5		%		80-120	22-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-ICP-ED	**Water**							
Batch R2955092								
WG1956333-5 CRM		**ED-HIGH-WATRM**						
Titanium (Ti)-Dissolved			95.8		%		80-120	22-SEP-14
Vanadium (V)-Dissolved			91.7		%		80-120	22-SEP-14
Zinc (Zn)-Dissolved			93.6		%		80-120	22-SEP-14
WG1956333-1 MB								
Aluminum (Al)-Dissolved			<0.20		mg/L		0.2	22-SEP-14
Antimony (Sb)-Dissolved			<0.20		mg/L		0.2	22-SEP-14
Arsenic (As)-Dissolved			<0.20		mg/L		0.2	22-SEP-14
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	22-SEP-14
Beryllium (Be)-Dissolved			<0.0050		mg/L		0.005	22-SEP-14
Bismuth (Bi)-Dissolved			<0.20		mg/L		0.2	22-SEP-14
Boron (B)-Dissolved			<0.10		mg/L		0.1	22-SEP-14
Cadmium (Cd)-Dissolved			<0.010		mg/L		0.01	22-SEP-14
Calcium (Ca)-Dissolved			<0.50		mg/L		0.5	22-SEP-14
Chromium (Cr)-Dissolved			<0.0050		mg/L		0.005	22-SEP-14
Cobalt (Co)-Dissolved			<0.010		mg/L		0.01	22-SEP-14
Copper (Cu)-Dissolved			<0.010		mg/L		0.01	22-SEP-14
Iron (Fe)-Dissolved			<0.030		mg/L		0.03	22-SEP-14
Lead (Pb)-Dissolved			<0.050		mg/L		0.05	22-SEP-14
Lithium (Li)-Dissolved			<0.010		mg/L		0.01	22-SEP-14
Magnesium (Mg)-Dissolved			<0.10		mg/L		0.1	22-SEP-14
Manganese (Mn)-Dissolved			<0.0050		mg/L		0.005	22-SEP-14
Molybdenum (Mo)-Dissolved			<0.030		mg/L		0.03	22-SEP-14
Nickel (Ni)-Dissolved			<0.050		mg/L		0.05	22-SEP-14
Phosphorus (P)-Dissolved			<0.10		mg/L		0.1	22-SEP-14
Potassium (K)-Dissolved			<0.50		mg/L		0.5	22-SEP-14
Selenium (Se)-Dissolved			<0.20		mg/L		0.2	22-SEP-14
Silicon (Si)-Dissolved			<0.10		mg/L		0.1	22-SEP-14
Silver (Ag)-Dissolved			<0.010		mg/L		0.01	22-SEP-14
Sodium (Na)-Dissolved			<1.0		mg/L		1	22-SEP-14
Strontium (Sr)-Dissolved			<0.0050		mg/L		0.005	22-SEP-14
Sulfur (S)-Dissolved			<0.50		mg/L		0.5	22-SEP-14
Thallium (Tl)-Dissolved			<0.20		mg/L		0.2	22-SEP-14
Tin (Sn)-Dissolved			<0.030		mg/L		0.03	22-SEP-14
Titanium (Ti)-Dissolved			<0.010		mg/L		0.01	22-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-ICP-ED	**Water**							
Batch R2955092								
WG1956333-1 MB								
Vanadium (V)-Dissolved			<0.0050		mg/L		0.005	22-SEP-14
Zinc (Zn)-Dissolved			<0.0050		mg/L		0.005	22-SEP-14
WG1956333-4 MB								
Aluminum (Al)-Dissolved			<0.20		mg/L		0.2	22-SEP-14
Antimony (Sb)-Dissolved			<0.20		mg/L		0.2	22-SEP-14
Arsenic (As)-Dissolved			<0.20		mg/L		0.2	22-SEP-14
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	22-SEP-14
Beryllium (Be)-Dissolved			<0.0050		mg/L		0.005	22-SEP-14
Bismuth (Bi)-Dissolved			<0.20		mg/L		0.2	22-SEP-14
Boron (B)-Dissolved			<0.10		mg/L		0.1	22-SEP-14
Cadmium (Cd)-Dissolved			<0.010		mg/L		0.01	22-SEP-14
Calcium (Ca)-Dissolved			<0.50		mg/L		0.5	22-SEP-14
Chromium (Cr)-Dissolved			<0.0050		mg/L		0.005	22-SEP-14
Cobalt (Co)-Dissolved			<0.010		mg/L		0.01	22-SEP-14
Copper (Cu)-Dissolved			<0.010		mg/L		0.01	22-SEP-14
Iron (Fe)-Dissolved			<0.030		mg/L		0.03	22-SEP-14
Lead (Pb)-Dissolved			<0.050		mg/L		0.05	22-SEP-14
Lithium (Li)-Dissolved			<0.010		mg/L		0.01	22-SEP-14
Magnesium (Mg)-Dissolved			<0.10		mg/L		0.1	22-SEP-14
Manganese (Mn)-Dissolved			<0.0050		mg/L		0.005	22-SEP-14
Molybdenum (Mo)-Dissolved			<0.030		mg/L		0.03	22-SEP-14
Nickel (Ni)-Dissolved			<0.050		mg/L		0.05	22-SEP-14
Phosphorus (P)-Dissolved			<0.10		mg/L		0.1	22-SEP-14
Potassium (K)-Dissolved			<0.50		mg/L		0.5	22-SEP-14
Selenium (Se)-Dissolved			<0.20		mg/L		0.2	22-SEP-14
Silicon (Si)-Dissolved			<0.10		mg/L		0.1	22-SEP-14
Silver (Ag)-Dissolved			<0.010		mg/L		0.01	22-SEP-14
Sodium (Na)-Dissolved			<1.0		mg/L		1	22-SEP-14
Strontium (Sr)-Dissolved			<0.0050		mg/L		0.005	22-SEP-14
Sulfur (S)-Dissolved			<0.50		mg/L		0.5	22-SEP-14
Thallium (Tl)-Dissolved			<0.20		mg/L		0.2	22-SEP-14
Tin (Sn)-Dissolved			<0.030		mg/L		0.03	22-SEP-14
Titanium (Ti)-Dissolved			<0.010		mg/L		0.01	22-SEP-14
Vanadium (V)-Dissolved			<0.0050		mg/L		0.005	22-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-ICP-ED	**Water**							
Batch R2955092								
WG1956333-4 MB								
Zinc (Zn)-Dissolved			<0.0050		mg/L		0.005	22-SEP-14
MET-T-CCMS-ED	**Water**							
Batch R2957627								
WG1957548-2 LCS								
Aluminum (Al)-Total			95.2		%		80-120	24-SEP-14
Antimony (Sb)-Total			97.8		%		80-120	24-SEP-14
Arsenic (As)-Total			98.1		%		80-120	24-SEP-14
Barium (Ba)-Total			95.6		%		80-120	24-SEP-14
Beryllium (Be)-Total			92.3		%		80-120	24-SEP-14
Bismuth (Bi)-Total			99.3		%		80-120	24-SEP-14
Boron (B)-Total			89.4		%		80-120	24-SEP-14
Cadmium (Cd)-Total			100.0		%		80-120	24-SEP-14
Chromium (Cr)-Total			98.0		%		80-120	24-SEP-14
Cobalt (Co)-Total			94.3		%		80-120	24-SEP-14
Copper (Cu)-Total			93.1		%		80-120	24-SEP-14
Lead (Pb)-Total			98.3		%		80-120	24-SEP-14
Molybdenum (Mo)-Total			91.0		%		80-120	24-SEP-14
Nickel (Ni)-Total			93.3		%		80-120	24-SEP-14
Selenium (Se)-Total			97.3		%		80-120	24-SEP-14
Silver (Ag)-Total			100.8		%		80-120	24-SEP-14
Strontium (Sr)-Total			92.5		%		80-120	24-SEP-14
Thallium (Tl)-Total			96.7		%		80-120	24-SEP-14
Tin (Sn)-Total			98.6		%		80-120	24-SEP-14
Titanium (Ti)-Total			91.6		%		80-120	24-SEP-14
Uranium (U)-Total			100.8		%		80-120	24-SEP-14
Vanadium (V)-Total			96.2		%		80-120	24-SEP-14
Zinc (Zn)-Total			94.1		%		80-120	24-SEP-14
WG1957548-5 LCS								
Aluminum (Al)-Total			101.6		%		70-130	25-SEP-14
Antimony (Sb)-Total			98.1		%		70-130	25-SEP-14
Arsenic (As)-Total			97.8		%		70-130	25-SEP-14
Barium (Ba)-Total			94.9		%		70-130	25-SEP-14
Beryllium (Be)-Total			92.5		%		70-130	25-SEP-14
Bismuth (Bi)-Total			94.1		%		70-130	25-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-ED	**Water**							
Batch R2957627								
WG1957548-5 LCS								
Boron (B)-Total			91.4		%		70-130	25-SEP-14
Cadmium (Cd)-Total			98.2		%		70-130	25-SEP-14
Chromium (Cr)-Total			93.0		%		70-130	25-SEP-14
Cobalt (Co)-Total			94.8		%		70-130	25-SEP-14
Copper (Cu)-Total			91.9		%		70-130	25-SEP-14
Lead (Pb)-Total			93.9		%		70-130	25-SEP-14
Molybdenum (Mo)-Total			94.2		%		70-130	25-SEP-14
Nickel (Ni)-Total			94.1		%		70-130	25-SEP-14
Selenium (Se)-Total			95.8		%		70-130	25-SEP-14
Silver (Ag)-Total			100.2		%		70-130	25-SEP-14
Strontium (Sr)-Total			95.0		%		70-130	25-SEP-14
Thallium (Tl)-Total			95.1		%		70-130	25-SEP-14
Tin (Sn)-Total			99.2		%		70-130	25-SEP-14
Titanium (Ti)-Total			94.3		%		70-130	25-SEP-14
Uranium (U)-Total			95.7		%		70-130	25-SEP-14
Vanadium (V)-Total			95.8		%		70-130	25-SEP-14
Zinc (Zn)-Total			94.7		%		70-130	25-SEP-14
WG1956775-9 MB								
Aluminum (Al)-Total			<0.0030		mg/L		0.003	24-SEP-14
Antimony (Sb)-Total			<0.00010		mg/L		0.0001	24-SEP-14
Arsenic (As)-Total			<0.00010		mg/L		0.0001	24-SEP-14
Barium (Ba)-Total			<0.000050		mg/L		0.00005	24-SEP-14
Beryllium (Be)-Total			<0.00010		mg/L		0.0001	24-SEP-14
Bismuth (Bi)-Total			<0.000050		mg/L		0.00005	24-SEP-14
Boron (B)-Total			<0.010		mg/L		0.01	24-SEP-14
Cadmium (Cd)-Total			<0.000010		mg/L		0.00001	24-SEP-14
Chromium (Cr)-Total			<0.00010		mg/L		0.0001	24-SEP-14
Cobalt (Co)-Total			<0.00010		mg/L		0.0001	24-SEP-14
Copper (Cu)-Total			<0.00010		mg/L		0.0001	24-SEP-14
Lead (Pb)-Total			<0.000050		mg/L		0.00005	24-SEP-14
Molybdenum (Mo)-Total			<0.000050		mg/L		0.00005	24-SEP-14
Nickel (Ni)-Total			<0.00010		mg/L		0.0001	24-SEP-14
Selenium (Se)-Total			<0.00010		mg/L		0.0001	24-SEP-14
Silver (Ag)-Total			<0.000010		mg/L		0.00001	24-SEP-14

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-ED	**Water**							
Batch R2957627								
WG1956775-9 MB								
Strontium (Sr)-Total			<0.00010		mg/L		0.0001	24-SEP-14
Thallium (Tl)-Total			<0.000010		mg/L		0.00001	24-SEP-14
Tin (Sn)-Total			<0.00010		mg/L		0.0001	24-SEP-14
Titanium (Ti)-Total			<0.00030		mg/L		0.0003	24-SEP-14
Uranium (U)-Total			<0.000010		mg/L		0.00001	24-SEP-14
Vanadium (V)-Total			<0.00010		mg/L		0.0001	24-SEP-14
Zinc (Zn)-Total			<0.0030		mg/L		0.003	24-SEP-14
WG1957548-1 MB								
Aluminum (Al)-Total			<0.0030		mg/L		0.003	24-SEP-14
Antimony (Sb)-Total			<0.00010		mg/L		0.0001	24-SEP-14
Arsenic (As)-Total			<0.00010		mg/L		0.0001	24-SEP-14
Barium (Ba)-Total			<0.000050		mg/L		0.00005	24-SEP-14
Beryllium (Be)-Total			<0.00010		mg/L		0.0001	24-SEP-14
Bismuth (Bi)-Total			<0.000050		mg/L		0.00005	24-SEP-14
Boron (B)-Total			<0.010		mg/L		0.01	24-SEP-14
Cadmium (Cd)-Total			<0.000010		mg/L		0.00001	24-SEP-14
Chromium (Cr)-Total			<0.00010		mg/L		0.0001	24-SEP-14
Cobalt (Co)-Total			<0.00010		mg/L		0.0001	24-SEP-14
Lead (Pb)-Total			<0.000050		mg/L		0.00005	24-SEP-14
Molybdenum (Mo)-Total			<0.000050		mg/L		0.00005	24-SEP-14
Nickel (Ni)-Total			<0.00010		mg/L		0.0001	24-SEP-14
Selenium (Se)-Total			<0.00010		mg/L		0.0001	24-SEP-14
Silver (Ag)-Total			<0.000010		mg/L		0.00001	24-SEP-14
Strontium (Sr)-Total			<0.00010		mg/L		0.0001	24-SEP-14
Thallium (Tl)-Total			<0.000010		mg/L		0.00001	24-SEP-14
Tin (Sn)-Total			<0.00010		mg/L		0.0001	24-SEP-14
Titanium (Ti)-Total			<0.00030		mg/L		0.0003	24-SEP-14
Uranium (U)-Total			<0.000010		mg/L		0.00001	24-SEP-14
Vanadium (V)-Total			<0.00050		mg/L		0.0005	24-SEP-14
Zinc (Zn)-Total			<0.0030		mg/L		0.003	24-SEP-14
WG1957548-4 MB								
Aluminum (Al)-Total			<0.0030		mg/L		0.003	25-SEP-14
Antimony (Sb)-Total			<0.00010		mg/L		0.0001	25-SEP-14
Arsenic (As)-Total			<0.00010		mg/L		0.0001	25-SEP-14
Barium (Ba)-Total			<0.000050		mg/L		0.00005	25-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-ED	**Water**							
Batch R2957627								
WG1957548-4 MB								
Beryllium (Be)-Total			<0.00010		mg/L		0.0001	25-SEP-14
Bismuth (Bi)-Total			<0.000050		mg/L		0.00005	25-SEP-14
Boron (B)-Total			<0.010		mg/L		0.01	25-SEP-14
Cadmium (Cd)-Total			<0.000010		mg/L		0.00001	25-SEP-14
Chromium (Cr)-Total			<0.00010		mg/L		0.0001	25-SEP-14
Cobalt (Co)-Total			<0.00010		mg/L		0.0001	25-SEP-14
Copper (Cu)-Total			<0.00010		mg/L		0.0001	25-SEP-14
Lead (Pb)-Total			<0.000050		mg/L		0.00005	25-SEP-14
Molybdenum (Mo)-Total			<0.000050		mg/L		0.00005	25-SEP-14
Nickel (Ni)-Total			<0.00010		mg/L		0.0001	25-SEP-14
Selenium (Se)-Total			<0.00010		mg/L		0.0001	25-SEP-14
Silver (Ag)-Total			<0.000010		mg/L		0.00001	25-SEP-14
Strontium (Sr)-Total			<0.00010		mg/L		0.0001	25-SEP-14
Thallium (Tl)-Total			<0.000010		mg/L		0.00001	25-SEP-14
Tin (Sn)-Total			<0.00010		mg/L		0.0001	25-SEP-14
Titanium (Ti)-Total			<0.00030		mg/L		0.0003	25-SEP-14
Uranium (U)-Total			<0.000010		mg/L		0.00001	25-SEP-14
Vanadium (V)-Total			<0.00050		mg/L		0.0005	25-SEP-14
Zinc (Zn)-Total			<0.0030		mg/L		0.003	25-SEP-14
WG1958664-1 MB								
Aluminum (Al)-Total			<0.0030		mg/L		0.003	25-SEP-14
Antimony (Sb)-Total			<0.00010		mg/L		0.0001	25-SEP-14
Arsenic (As)-Total			<0.00010		mg/L		0.0001	25-SEP-14
Barium (Ba)-Total			<0.000050		mg/L		0.00005	25-SEP-14
Beryllium (Be)-Total			<0.00010		mg/L		0.0001	25-SEP-14
Bismuth (Bi)-Total			<0.000050		mg/L		0.00005	25-SEP-14
Boron (B)-Total			<0.010		mg/L		0.01	25-SEP-14
Cadmium (Cd)-Total			<0.000010		mg/L		0.00001	25-SEP-14
Chromium (Cr)-Total			<0.00010		mg/L		0.0001	25-SEP-14
Cobalt (Co)-Total			<0.00010		mg/L		0.0001	25-SEP-14
Copper (Cu)-Total			<0.00010		mg/L		0.0001	25-SEP-14
Lead (Pb)-Total			<0.000050		mg/L		0.00005	25-SEP-14
Molybdenum (Mo)-Total			<0.000050		mg/L		0.00005	25-SEP-14
Nickel (Ni)-Total			<0.00010		mg/L		0.0001	25-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-ED	**Water**							
Batch R2957627								
WG1958664-1 MB								
Selenium (Se)-Total			<0.00010		mg/L		0.0001	25-SEP-14
Silver (Ag)-Total			<0.000010		mg/L		0.00001	25-SEP-14
Strontium (Sr)-Total			<0.00010		mg/L		0.0001	25-SEP-14
Thallium (Tl)-Total			<0.000010		mg/L		0.00001	25-SEP-14
Tin (Sn)-Total			<0.00010		mg/L		0.0001	25-SEP-14
Titanium (Ti)-Total			<0.00030		mg/L		0.0003	25-SEP-14
Uranium (U)-Total			<0.000010		mg/L		0.00001	25-SEP-14
Vanadium (V)-Total			<0.00010		mg/L		0.0001	25-SEP-14
Zinc (Zn)-Total			<0.0030		mg/L		0.003	25-SEP-14
Batch R2959136								
WG1957548-1 MB								
Copper (Cu)-Total			<0.00010		mg/L		0.0001	25-SEP-14
WG1958664-1 MB								
Manganese (Mn)-Total			<0.000050		mg/L		0.00005	25-SEP-14
MET-T-ICP-ED	**Water**							
Batch R2959054								
WG1958664-1 MB								
Aluminum (Al)-Total			<0.20		mg/L		0.2	25-SEP-14
Antimony (Sb)-Total			<0.20		mg/L		0.2	25-SEP-14
Arsenic (As)-Total			<0.20		mg/L		0.2	25-SEP-14
Barium (Ba)-Total			<0.010		mg/L		0.01	25-SEP-14
Beryllium (Be)-Total			<0.0050		mg/L		0.005	25-SEP-14
Bismuth (Bi)-Total			<0.20		mg/L		0.2	25-SEP-14
Boron (B)-Total			<0.10		mg/L		0.1	25-SEP-14
Cadmium (Cd)-Total			<0.010		mg/L		0.01	25-SEP-14
Calcium (Ca)-Total			<0.50		mg/L		0.5	25-SEP-14
Chromium (Cr)-Total			<0.0050		mg/L		0.005	25-SEP-14
Cobalt (Co)-Total			<0.010		mg/L		0.01	25-SEP-14
Copper (Cu)-Total			<0.010		mg/L		0.01	25-SEP-14
Iron (Fe)-Total			<0.030		mg/L		0.03	25-SEP-14
Lead (Pb)-Total			<0.050		mg/L		0.05	25-SEP-14
Lithium (Li)-Total			<0.010		mg/L		0.01	25-SEP-14
Magnesium (Mg)-Total			<0.10		mg/L		0.1	25-SEP-14
Manganese (Mn)-Total			<0.0050		mg/L		0.005	25-SEP-14
Molybdenum (Mo)-Total			<0.030		mg/L		0.03	25-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-ICP-ED	**Water**							
Batch R2959054								
WG1958664-1 MB								
Nickel (Ni)-Total			<0.050		mg/L		0.05	25-SEP-14
Phosphorus (P)-Total			<0.10		mg/L		0.1	25-SEP-14
Potassium (K)-Total			<0.50		mg/L		0.5	25-SEP-14
Selenium (Se)-Total			<0.20		mg/L		0.2	25-SEP-14
Silicon (Si)-Total			<0.10		mg/L		0.1	25-SEP-14
Silver (Ag)-Total			<0.010		mg/L		0.01	25-SEP-14
Sodium (Na)-Total			<1.0		mg/L		1	25-SEP-14
Strontium (Sr)-Total			<0.0050		mg/L		0.005	25-SEP-14
Sulfur (S)-Total			<0.50		mg/L		0.5	25-SEP-14
Thallium (Tl)-Total			<0.20		mg/L		0.2	25-SEP-14
Tin (Sn)-Total			<0.030		mg/L		0.03	25-SEP-14
Titanium (Ti)-Total			<0.010		mg/L		0.01	25-SEP-14
Vanadium (V)-Total			<0.0050		mg/L		0.005	25-SEP-14
Zinc (Zn)-Total			<0.0050		mg/L		0.005	25-SEP-14
NH3-L-CFA-ED	**Water**							
Batch R2957292								
WG1957971-2 LCS								
Ammonia, Total (as N)			95.6		%		85-115	24-SEP-14
WG1957971-3 LCS								
Ammonia, Total (as N)			99.6		%		85-115	24-SEP-14
WG1957971-1 MB								
Ammonia, Total (as N)			<0.0050		mg/L		0.005	24-SEP-14
WG1957971-4 MS		**L1518427-4**						
Ammonia, Total (as N)			101.8		%		75-125	24-SEP-14
WG1957971-6 MS		**L1518150-2**						
Ammonia, Total (as N)			102.4		%		75-125	24-SEP-14
WG1957971-8 MS		**L1514126-19**						
Ammonia, Total (as N)			111.8		%		75-125	24-SEP-14
NO2+NO3-L-CFA-ED	**Water**							
Batch R2953244								
WG1955321-2 LCS								
Nitrate and Nitrite (as N)			96.9		%		90-110	19-SEP-14
WG1955321-1 MB								
Nitrate and Nitrite (as N)			<0.0060		mg/L		0.006	19-SEP-14
WG1955321-4 MS		**L1514126-27**						
Nitrate and Nitrite (as N)			97.3		%		75-125	19-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO2-L-CFA-ED	**Water**							
Batch R2953244								
WG1955321-2 LCS								
Nitrite (as N)			101.6		%		90-110	19-SEP-14
WG1955321-1 MB								
Nitrite (as N)			<0.0020		mg/L		0.002	19-SEP-14
WG1955321-4 MS		**L1514126-27**						
Nitrite (as N)			103.0		%		75-125	19-SEP-14
P-T-L-COL-ED	**Water**							
Batch R2956458								
WG1956665-5 DUP		**L1518918-1**						
Phosphorus (P)-Total		0.0332	0.0335		mg/L	0.9	20	23-SEP-14
WG1956665-2 LCS								
Phosphorus (P)-Total			99.8		%		80-120	23-SEP-14
WG1956665-1 MB								
Phosphorus (P)-Total			<0.0010		mg/L		0.001	23-SEP-14
WG1956665-4 MS		**L1518427-4**						
Phosphorus (P)-Total			95.8		%		70-130	23-SEP-14
WG1956665-6 MS		**L1518918-1**						
Phosphorus (P)-Total			93.3		%		70-130	23-SEP-14
P-TD-L-COL-ED	**Water**							
Batch R2956458								
WG1956665-5 DUP		**L1518918-1**						
Phosphorus (P)-Total	Dissolved	0.0048	0.0051		mg/L	6.1	20	23-SEP-14
WG1956665-2 LCS								
Phosphorus (P)-Total	Dissolved		98.0		%		80-120	23-SEP-14
WG1956665-1 MB								
Phosphorus (P)-Total	Dissolved		<0.0010		mg/L		0.001	23-SEP-14
WG1956665-4 MS		**L1518427-4**						
Phosphorus (P)-Total	Dissolved		98.1		%		70-130	23-SEP-14
WG1956665-6 MS		**L1518918-1**						
Phosphorus (P)-Total	Dissolved		92.1		%		70-130	23-SEP-14
PH/EC/ALK-ED	**Water**							
Batch R2951358								
WG1953784-15 LCS								
Conductivity (EC)			107.7		%		90-110	18-SEP-14
WG1953784-16 LCS								
pH			6.03		pH		5.9-6.1	18-SEP-14
WG1953784-17 LCS								
Alkalinity, Total (as CaCO3)			98.8		%		85-115	18-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PH/EC/ALK-ED	**Water**							
Batch R2951358								
WG1953784-18 LCS								
Conductivity (EC)			98.4		%		90-110	18-SEP-14
WG1953784-2 LCS								
Conductivity (EC)			97.5		%		90-110	18-SEP-14
WG1953784-20 LCS								
Conductivity (EC)			100.6		%		90-110	18-SEP-14
WG1953784-21 LCS								
pH			6.03		pH		5.9-6.1	18-SEP-14
WG1953784-22 LCS								
Alkalinity, Total (as CaCO3)			99.0		%		85-115	18-SEP-14
WG1953784-23 LCS								
Conductivity (EC)			92.9		%		90-110	18-SEP-14
WG1953784-25 LCS								
Conductivity (EC)			99.9		%		90-110	18-SEP-14
WG1953784-26 LCS								
pH			6.03		pH		5.9-6.1	18-SEP-14
WG1953784-27 LCS								
Alkalinity, Total (as CaCO3)			98.6		%		85-115	18-SEP-14
WG1953784-28 LCS								
Conductivity (EC)			92.0		%		90-110	18-SEP-14
WG1953784-3 LCS								
pH			6.03		pH		5.9-6.1	18-SEP-14
WG1953784-30 LCS								
Conductivity (EC)			99.7		%		90-110	19-SEP-14
WG1953784-31 LCS								
pH			6.03		pH		5.9-6.1	19-SEP-14
WG1953784-32 LCS								
Alkalinity, Total (as CaCO3)			99.1		%		85-115	19-SEP-14
WG1953784-33 LCS								
Conductivity (EC)			91.4		%		90-110	19-SEP-14
WG1953784-35 LCS								
Conductivity (EC)			99.2		%		90-110	19-SEP-14
WG1953784-36 LCS								
pH			6.03		pH		5.9-6.1	19-SEP-14
WG1953784-37 LCS								
Alkalinity, Total (as CaCO3)			99.8		%		85-115	19-SEP-14
WG1953784-4 LCS								
Alkalinity, Total (as CaCO3)			98.8		%		85-115	18-SEP-14
WG1953784-5 LCS								

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PH/EC/ALK-ED	**Water**							
Batch	**R2951358**							
WG1953784-5	**LCS**							
Conductivity (EC)			94.7		%		90-110	18-SEP-14
WG1953784-1	**MB**							
Bicarbonate (HCO3)			<5.0		mg/L		5	18-SEP-14
Carbonate (CO3)			<5.0		mg/L		5	18-SEP-14
Hydroxide (OH)			<5.0		mg/L		5	18-SEP-14
Alkalinity, Total (as CaCO3)			<2.0		mg/L		2	18-SEP-14
WG1953784-14	**MB**							
Bicarbonate (HCO3)			<5.0		mg/L		5	18-SEP-14
Carbonate (CO3)			<5.0		mg/L		5	18-SEP-14
Hydroxide (OH)			<5.0		mg/L		5	18-SEP-14
Alkalinity, Total (as CaCO3)			<2.0		mg/L		2	18-SEP-14
WG1953784-19	**MB**							
Bicarbonate (HCO3)			<5.0		mg/L		5	18-SEP-14
Carbonate (CO3)			<5.0		mg/L		5	18-SEP-14
Hydroxide (OH)			<5.0		mg/L		5	18-SEP-14
Alkalinity, Total (as CaCO3)			<2.0		mg/L		2	18-SEP-14
WG1953784-24	**MB**							
Bicarbonate (HCO3)			<5.0		mg/L		5	18-SEP-14
Carbonate (CO3)			<5.0		mg/L		5	18-SEP-14
Hydroxide (OH)			<5.0		mg/L		5	18-SEP-14
Alkalinity, Total (as CaCO3)			<2.0		mg/L		2	18-SEP-14
WG1953784-29	**MB**							
Bicarbonate (HCO3)			<5.0		mg/L		5	19-SEP-14
Carbonate (CO3)			<5.0		mg/L		5	19-SEP-14
Hydroxide (OH)			<5.0		mg/L		5	19-SEP-14
Alkalinity, Total (as CaCO3)			<2.0		mg/L		2	19-SEP-14
WG1953784-34	**MB**							
Bicarbonate (HCO3)			<5.0		mg/L		5	19-SEP-14
Carbonate (CO3)			<5.0		mg/L		5	19-SEP-14
Hydroxide (OH)			<5.0		mg/L		5	19-SEP-14
Alkalinity, Total (as CaCO3)			<2.0		mg/L		2	19-SEP-14
PO4-DO-L-COL-ED	**Water**							
Batch	**R2953244**							
WG1955321-2	**LCS**							
Orthophosphate-Dissolved (as P)			97.8		%		80-120	19-SEP-14
WG1955321-1	**MB**							

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PO4-DO-L-COL-ED	**Water**							
Batch R2953244								
WG1955321-1 MB								
Orthophosphate-Dissolved (as P)			<0.0010		mg/L		0.001	19-SEP-14
WG1955321-4 MS		**L1514126-27**						
Orthophosphate-Dissolved (as P)			96.4		%		70-130	19-SEP-14
SO4-L-IC-ED	**Water**							
Batch R2956574								
WG1957723-11 LCS								
Sulfate (SO4)			102.1		%		90-110	23-SEP-14
WG1957723-13 LCS								
Sulfate (SO4)			102.7		%		90-110	23-SEP-14
WG1957723-2 LCS								
Sulfate (SO4)			102.6		%		90-110	23-SEP-14
WG1957723-3 LCS								
Sulfate (SO4)			101.9		%		90-110	23-SEP-14
WG1957723-7 LCS								
Sulfate (SO4)			102.5		%		90-110	23-SEP-14
WG1957723-9 LCS								
Sulfate (SO4)			102.4		%		90-110	23-SEP-14
WG1957723-1 MB								
Sulfate (SO4)			<0.050		mg/L		0.05	23-SEP-14
WG1957723-10 MB								
Sulfate (SO4)			<0.050		mg/L		0.05	23-SEP-14
WG1957723-12 MB								
Sulfate (SO4)			<0.050		mg/L		0.05	23-SEP-14
WG1957723-14 MB								
Sulfate (SO4)			<0.050		mg/L		0.05	23-SEP-14
WG1957723-4 MB								
Sulfate (SO4)			<0.050		mg/L		0.05	23-SEP-14
WG1957723-8 MB								
Sulfate (SO4)			<0.050		mg/L		0.05	23-SEP-14
SOLIDS-TDS-ED	**Water**							
Batch R2957408								
WG1956462-2 LCS								
Total Dissolved Solids			104.6		%		85-115	23-SEP-14
WG1956462-1 MB								
Total Dissolved Solids			<10		mg/L		10	23-SEP-14
SOLIDS-TOTSUS-ED	**Water**							

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SOLIDS-TOTSUS-ED	**Water**							
Batch R2954210								
WG1955578-2 LCS								
Total Suspended Solids			88.4		%		85-115	20-SEP-14
WG1955578-1 MB								
Total Suspended Solids			<3.0		mg/L		3	20-SEP-14
SULPHIDE-ED	**Water**							
Batch R2955276								
WG1956474-2 LCS								
Sulphide (as S)			96.9		%		75-125	22-SEP-14
WG1956474-3 LCS								
Sulphide (as S)			93.6		%		75-125	22-SEP-14
WG1956474-1 MB								
Sulphide (as S)			<0.0015		mg/L		0.0015	22-SEP-14
WG1956474-5 MS		**L1514571-8**						
Sulphide (as S)			81.0		%		65-135	22-SEP-14
WG1956474-7 MS		**L1518427-4**						
Sulphide (as S)			78.4		%		65-135	22-SEP-14
TH-D-CCMS-VA	**Water**							
Batch R2970591								
WG1964427-1 MB								
Thorium (Th)-Dissolved			<0.000050		mg/L		0.00005	03-OCT-14
TKN-L-CFA-ED	**Water**							
Batch R2960529								
WG1959983-2 LCS								
Total Kjeldahl Nitrogen			103		%		75-125	26-SEP-14
WG1959983-3 LCS								
Total Kjeldahl Nitrogen			102		%		75-125	26-SEP-14
WG1959983-4 LCS								
Total Kjeldahl Nitrogen			104		%		75-125	26-SEP-14
WG1959983-1 MB								
Total Kjeldahl Nitrogen			<0.050		mg/L		0.05	26-SEP-14
WG1959983-5 MS		**L1516516-1**						
Total Kjeldahl Nitrogen			107		%		61.4-139.7	26-SEP-14
TURBIDITY-ED	**Water**							
Batch R2952730								
WG1953802-2 LCS								
Turbidity			97.9		%		70-130	18-SEP-14
WG1953802-1 MB								

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
TURBIDITY-ED	**Water**							
Batch R2952730								
WG1953802-1 MB								
Turbidity			<0.10		NTU		0.1	18-SEP-14
ZR-D-CCMS-ED	**Water**							
Batch R2957148								
WG1957409-12 CRM		**ED-HIGH-WATRM**						
Zirconium (Zr)-Dissolved			89.9		%		80-120	23-SEP-14
WG1957409-6 CRM		**ED-HIGH-WATRM**						
Zirconium (Zr)-Dissolved			88.7		%		80-120	23-SEP-14
WG1957409-4 MB								
Zirconium (Zr)-Dissolved			<0.00030		mg/L		0.0003	23-SEP-14
ZR-T-CCMS-ED	**Water**							
Batch R2957627								
WG1958664-1 MB								
Zirconium (Zr)-Total			<0.00060		mg/L		0.0006	25-SEP-14

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:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Physical Tests							
Color, True							
	1	15-SEP-14 08:30	18-SEP-14 08:00	48	72	hours	EHTR
Total Dissolved Solids							
	1	15-SEP-14 08:30	23-SEP-14 00:00	7	8	days	EHT
Turbidity							
	1	15-SEP-14 08:30	18-SEP-14 00:00	48	64	hours	EHTR
Leachable Anions & Nutrients							
Diss. Orthophosphate in Water by Colour							
	1	15-SEP-14 08:30	19-SEP-14 00:00	48	88	hours	EHTR
Anions and Nutrients							
Nitrite & Nitrate in Water by Colour							
	1	15-SEP-14 08:30	19-SEP-14 00:00	48	88	hours	EHTR
Nitrite in Water by Colour							
	1	15-SEP-14 08:30	19-SEP-14 00:00	48	88	hours	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 L1518918 were received on 17-SEP-14 11:02.

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.

Radium-226

Case Narrative

ALS Environmental

L1518918

Work Order Number: 1409448

1. This report consists of the analytical results for one water sample received by ALS on 09/24/14.

2. This sample was prepared and analyzed according to the current revision of SOP 783. The analysis was completed on 10/06/14.

3. The analysis result for this sample is reported in units of BQ/L. The sample was not filtered prior to analysis.

4. Sample volume was insufficient to allow preparation of a duplicate. A laboratory control sample duplicate (LCSD) was prepared in lieu of a client sample duplicate.

5. ICP-AES measurement of barium concentrations prior to chemical separation for the method blank, laboratory control sample, and laboratory control sample duplicate showed concentrations less than zero. To avoid a low bias in the final analytical results, the initial barium concentration was taken to be zero.

6. ALS uses the following convention for reporting significant digits in the TPU and MDC results. The TPU value is rounded to two significant digits. The MDC value is rounded to the same decimal place as the TPU value. In practice, this could result in an MDC reported value of zero for samples with significant activity, including the batch laboratory control sample.

7. No further anomalous situations were encountered during the preparation or analysis of this sample. All quality control criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Emily Knodel — 10/6/14

Emily Knodel
Radiochemistry Primary Data Reviewer
Date

Dubbie Fazio — 10/6/14

Radiochemistry Final Data Reviewer
Date

ALS Environmental -- FC

Sample Number(s) Cross-Reference Table

OrderNum: 1409448
Client Name: ALS Environmental
Client Project Name:
Client Project Number: L1518918
Client PO Number: L1518918

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
L1518918-1	1409448-1		WATER	15-Sep-14	
L1518918-2	1409448-2		WATER	15-Sep-14	

1409448

Subcontract Request Form

Subcontract To:

ALS ENVIRONMENTAL - FORT COLLINS, COLORADO, USA
225 COMMERCE DRIVE
FORT COLLINS,CO 80524

NOTES: Please reference on final report and invoice: PO# *L1518918*
ALS requires QC data to be provided with your final results.

Please see enclosed 2 sample(s) in 2 Container(s)

SAMPLE NUMBER	CLIENT ID / ANALYTICAL REQUIRED	DATE SAMPLED / DUE DATE	Priority Flag
L1518918-1 (1)	**JGT-06-I5-S1**	**9/15/2014**	
	Ra226 by Alpha Scint, MDC=0.01 Bq/L (RA226-MMER-FC 1)	9/26/2014	
L1518918-2 (2)	**GLYCOL**	**9/15/2014**	
	Ra226 by Alpha Scint, MDC=0.01 Bq/L (RA226-MMER-FC 1)	9/26/2014	

Subcontract Info Contact: Christine Potts (780) 413-5242
Analysis and reporting info contact: Jessica Spira
9936 67 AVE
EDMONTON,AB T6E 0P5
Phone: (780) 413-5242 Email: JESSICA.SPIRA@alsglobal.com

Please email confirmation of receipt to: **JESSICA.SPIRA@alsglobal.com**

Shipped By: _____ Date Shipped: _____
Received By: _____ Date Received: 9/24/14 0955
Verified By: _____ Date Verified: _____
Temperature: _____

Sample Integrity Issues: _____

Debbie Fazio 1409448

From: Jessica Spira
Sent: Thursday, September 25, 2014 8:15 AM
To: Debbie Fazio; ALSCG Client Services
Subject: RE: 1409448 quesion regarding sample L1518918-2

Hi Debbie,

Please cancel analysis, this is a product. Thanks!

Regards,

Jessica Spira

Senior Account Manager, Regional Accounts – Edmonton & Calgary
ALS Life Sciences Division | Environmental

Direct +1 306 261 9418

From: Debbie Fazio
Sent: Wednesday, September 24, 2014 5:05 PM
To: ALSCG Client Services
Cc: Jessica Spira
Subject: 1409448 quesion regarding sample L1518918-2
Importance: High

This samples appears to be glycol or antifreeze. Is there any information about this sample? We will do a test tomorrow to determine if the sample is suitable for running Ra-226.

Kind Regards,

Debbie Fazio

Client Services Manager
ALS Life Sciences Division | Environmental

225 Commerce Drive
Fort Collins, CO 80524 USA

D +1 970 224 2559 X220
T +1 970 490 1511
F +1 970 490 1522

http://www.alsglobal.com/

ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: ALS Edmonton Workorder No: 1409448

Project Manager: DJF Initials: ECP Date: 9/24/14

1. Does this project require any special handling in addition to standard ALS procedures?		YES	(NO)
2. Are custody seals on shipping containers intact?	(NONE)	YES	NO
3. Are Custody seals on sample containers intact?	(NONE)	YES	NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?		(YES)	NO
5. Are the COC and bottle labels complete and legible?		(YES)	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		(YES)	NO
7. Were airbills / shipping documents present and/or removable?	DROP OFF	(YES)	NO
* 8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	N/A	YES	(NO)
9. Are all aqueous non-preserved samples pH 4-9?	(N/A)	YES	NO
10. Is there sufficient sample for the requested analyses?		(YES)	NO
11. Were all samples placed in the proper containers for the requested analyses?		(YES)	NO
12. Are all samples within holding times for the requested analyses?		(YES)	NO
13. Were all sample containers received intact? (not broken or leaking, etc.)		(YES)	NO
14. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) headspace free? Size of bubble: ___ < green pea ___ > green pea	(N/A)	YES	NO
15. Do any water samples contain sediment? Amount Amount of sediment: ___ dusting ___ moderate ___ heavy	N/A	YES	(NO)
16. Were the samples shipped on ice?		YES	(NO)
17. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #2 #4	(RAD ONLY)	YES	(NO)

Cooler #:	1
Temperature (°C):	AMB
No. of custody seals on cooler:	0
DOT Survey/ Acceptance Information — External µR/hr reading:	15
Background µR/hr reading:	13

Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? **(YES) NO / NA** (If no, see Form 008.)

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16.

8) see pg. 2

If applicable, was the client contacted? **YES / NO / (NA)** Contact: _____ Date/Time: _____

Project Manager Signature / Date: DJF 9.24.14

*IR Gun #2: Oakton, SN 29922500201-0066
*IR Gun #4: Oakton, SN 2372220101-0002

ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: ALS Edmonton Workorder No: 1409448

Project Manager: DJF Initials: ECP Date: 9/24/14

Additional Information:

* Max amount of HNO_3 added to sample 2-1. final pH ≈ 5

NOTE:

No pH adjustments shall be made without prior consent of Project Manager. After pH adjustments, hold metals and radchem samples ≥ 24 hrs. before analysis.

Was the pH of any sample adjusted by the laboratory? **YES** (See Table below) / **NO**

pH Excursion:

ALS Sample ID	Client Sample ID	Initial pH	Final pH ≈5	Reagent Used	Volume Added (mL)	Lot No. of Reagent	Requested Analysis	Initials / Date / Time
* 1409448-2-1	L1518918-2	>2	~~≤2~~ ECP 9/24	HNO_3	3	80823	RAD	ECP 9/24/14 1445

If applicable, was the client contacted? YES / NO / NA Contact: Jessica Spira Date/Time: 9.24.14

Project Manager Signature / Date: DJF 9.24.14 Receipt email

1409448

15

-0

From: (780) 413-5275
Jimmy Oleson
ALS Labortory Group
9936-67 AVE

Edmonton, AB T6E0P5
CANADA

Origin ID: YEGA

FedEx Express

J14221409050126

Ship Date: 23SEP14
ActWgt: 10.0 KG
CAD: 100133236/INCA3550

REF:
DESC-1: water sample for research purposes only
DESC-2:
DESC-3:
DESC-4:

COUNTRY MFG: CA
CARRIAGE VALUE: 1.00 CAD
CUSTOMS VALUE: 1.00 CAD
T/C: S 140079146 D/T: S 140079146
SIGN: Jimmy Oleson
EIN/VAT:
PKG TYPE: CUSTOMER

SHIP TO: (970) 490-1511 BILL SENDER

ALS Ft. Collins
ALS Laboratory Group
225 COMMERCE DR

FORT COLLINS, CO 80524
US

10:30A
INTL PRIORITY
ISR
80524
CO-US
DEN

TRK# 7712 5284 1809
0430

XH FTCA

These commodities, technology, or software were exported from Canada in accordance with the export administration regulations. Diversion contrary to Canadian law prohibited

The Warsaw Convention may apply and will govern and in most cases limit the liability of Federal Express for loss or delay of or damage to your shipment. Subject to the conditions of the contract

FEDEX AWB COPY- PLEASE PLACE BEHIND CONSIGNEE COPY

522G1/CDB4/8AC9

After printing this label:
FEDEX AWB COPY - PLEASE PLACE BEHIND CONSIGNEE COPY
1. Fold the printed page along the horizontal line.
2. Place label in shipping pouch and affix it to your shipment.

Ra-226 by Radon Emanation - Method 903.1

PAI 783 Rev 10

Method Blank Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1409448
Client Name: ALS Environmental
ClientProject ID: L1518918

Lab ID: RE140924-1MB

Sample Matrix: WATER
Prep SOP: PAI 783 Rev 10
Date Collected: 24-Sep-14
Date Prepared: 24-Sep-14
Date Analyzed: 06-Oct-14

Prep Batch: RE140924-1
QCBatchID: RE140924-1-2
Run ID: RE140924-1A
Count Time: 30 minutes

Final Aliquot: 1190 ml
Result Units: BQ/l
File Name: Manual Entry

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
13982-63-3	Ra-226	0.0008 +/- 0.0022	0.0041	0.00999	U

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
BARIUM	15450	14980	ug	97.0	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

M - Requested MDC not met.

B - Analyte concentration greater than MDC.

B3 - Analyte concentration greater than MDC but less than Requested MDC.

Data Package ID: *RE1409448-1*

Ra-226 by Radon Emanation - Method 903.1

PAI 783 Rev 10

Laboratory Control Sample(s)

Lab Name: ALS Environmental -- FC
Work Order Number: 1409448
Client Name: ALS Environmental
ClientProject ID: L1518918

Lab ID: RE140924-1LCS

Sample Matrix: WATER
Prep SOP: PAI 783 Rev 10
Date Collected: 24-Sep-14
Date Prepared: 24-Sep-14
Date Analyzed: 06-Oct-14

Prep Batch: RE140924-1
QCBatchID: RE140924-1-2
Run ID: RE140924-1A
Count Time: 15 minutes

Final Aliquot: 1190 ml
Result Units: BQ/l
File Name: Manual Entry

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
13982-63-3	Ra-226	1.46 +/- 0.36	0	1.396	104	67 - 120	P

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
BARIUM	15450	15070	ug	97.6	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

L - LCS Recovery below lower control limit.

H - LCS Recovery above upper control limit.

P - LCS Recovery within control limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

Data Package ID: *RE1409448-1*

Ra-226 by Radon Emanation - Method 903.1

PAI 783 Rev 10

Laboratory Control Sample(s)

Lab Name: ALS Environmental -- FC
Work Order Number: 1409448
Client Name: ALS Environmental
ClientProject ID: L1518918

Lab ID: RE140924-1LCSD

Sample Matrix: WATER
Prep SOP: PAI 783 Rev 10
Date Collected: 24-Sep-14
Date Prepared: 24-Sep-14
Date Analyzed: 06-Oct-14

Prep Batch: RE140924-1
QCBatchID: RE140924-1-2
Run ID: RE140924-1A
Count Time: 15 minutes

Final Aliquot: 1190 ml
Result Units: BQ/l
File Name: Manual Entry

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
13982-63-3	Ra-226	1.44 +/- 0.36	0.01	1.396	103	67 - 120	P

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
BARIUM	15450	14890	ug	96.4	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

L - LCS Recovery below lower control limit.

H - LCS Recovery above upper control limit.

P - LCS Recovery within control limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

Data Package ID: *RE1409448-1*

Ra-226 by Radon Emanation - Method 903.1

PAI 783 Rev 10

Duplicate Sample Results (DER)

Lab Name: ALS Environmental -- FC
Work Order Number: 1409448
Client Name: ALS Environmental
ClientProject ID: L1518918

Field ID:
Lab ID: RE140924-1LCSD

Sample Matrix: WATER
Prep SOP: PAI 783 Rev 10
Date Collected: 24-Sep-14
Date Prepared: 24-Sep-14
Date Analyzed: 06-Oct-14

Prep Batch: RE140924-1
QCBatchID: RE140924-1-2
Run ID: RE140924-1A
Count Time: 15 minutes

Final Aliquot: 1190 ml
Prep Basis: Unfiltered
Moisture(%): NA
Result Units: BQ/l
File Name: Manual Entry

CASNO	Analyte	Sample			Duplicate			DER	DER Lim
		Result +/- 2 s TPU	MDC	Flags	Result +/- 2 s TPU	MDC	Flags		
13982-63-3	Ra-226	1.46 +/- 0.36	0	P	1.44 +/- 0.36	0.01	P	0.042	2.13

Comments:

Duplicate Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
LT - Result is less than Request MDC, greater than sample specific MDC
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits

Abbreviations:

TPU - Total Propagated Uncertainty
DER - Duplicate Error Ratio
BDL - Below Detection Limit
NR - Not Reported

Data Package ID: *RE1409448-1*

Ra-226 by Radon Emanation - Method 903.1

PAI 783 Rev 10

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1409448
Client Name: ALS Environmental
ClientProject ID: L1518918

Field ID: L1518918-1
Lab ID: 1409448-1

Sample Matrix: WATER
Prep SOP: PAI 783 Rev 10
Date Collected: 15-Sep-14
Date Prepared: 24-Sep-14
Date Analyzed: 06-Oct-14

Prep Batch: RE140924-1
QCBatchID: RE140924-1-2
Run ID: RE140924-1A
Count Time: 30 minutes
Report Basis: Unfiltered

Final Aliquot: 1190 ml
Prep Basis: Unfiltered
Moisture(%): NA
Result Units: BQ/l
File Name: Manual Entry

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
13982-63-3	Ra-226	0.294 +/- 0.076	0.006	0.00999	

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
BARIUM	15460	13110	ug	84.8	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

Data Package ID: *RE1409448-1*

ALS Environmental

Chain of Custody / Analytical Request Form

Canada Toll Free: 1 800 668 9878

www.alsglobal.com

COC # 1

Report To				Report Format / Distribution				Service Requested (Rush for routine analysis subject to availability)
Company:	GOLDER ASSOCIATES LTD			☑ Standard ☐ Other				◉ Regular (Standard Turnaround Times - Business Days)
Contact:	Don Chorley/Ermanno Rambelli			☑ PDF ☑ Excel ☐ Digital ☐ Fax				○ Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT
Address:	500-4260 Still Creek Drive, Burnaby, British Columbia			Email 1: don_chorley@golder.com				○ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT
	V5C 6C6			Email 2: ermanno_rambello@golder.com				○ Same Day or Weekend Emergency - Contact ALS to Confirm TAT
Phone:	1-604-296-4200	Fax: 1-604298-2543		Email 3: laura_hampson@golder.com				Analysis Request
Invoice To	Same as Report ? ☑ Yes	☐ No		Client / Project Information				Please indicate below Filtered, Preserved or both (F, P, F/P)
Hardcopy of Invoice with Report?	☐ Yes	☐ No		Job #: 1407256/2010/92				
Company:				PO / AFE:				
Contact:				LSD:				
Address:								
Phone:		Fax:		Quote #: Q44824				
Lab Work Order # (lab use only)	L1518918			ALS Contact: Jessica Spira	Sampler: Nani Stefano/Ric			

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	F/P GLD-CAL-WQ-MET-DU-ED	P GLD-CAL-WQ-MET-TU-ED	P GLD-CAL-WQ-NUT-ED	GL-CAL-WQ-ROU-ED	F HG-D-U-CVAF-VA	HG-T-U-CVAF-VA	F/P PO4-DO-I-COL-ED	P RA226-MMER-FC	F/P TH-D-CCMS-ED	P TH-T-CCMS-ED	P MET-T-CCMS-1 (ED-P-T-MS)	F/P MET-D-CCMS-1 (ED-P-D-MS)	Number of Containers
	JGT-06-I5-S1-sep2014	15-Sep-14	8:30	Groundwater	X	X	X	X	X	X	X	X	X	X	X	X	9
	Glycol	15 Sep-14	15:00	Product	X	X	X	X	X	X	X	X	X	X	X	X	10

L1518918-COFC

Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details

We did not include the dissolved metals ultra low level, dissolved nutrients and dissolved ultra trace mercury for the glycol sample because the product could not be filtered. We included 4 l of pure glycol (4 x 1 liter bottles) so you should have sufficient row product to conduct the analysis.

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 provided on a separate Excel tab.

Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
Stefano Nani/Ricardo Quevedo	15-Sep-14	17:30		17 Sep 14	1101	5.6 °C				

GOLDER ASSOCIATES LTD.
ATTN: Don Chorley/Ermanno Rambelli
500 - 4260 Still Creek Drive
Burnaby BC V5C 6C6

Date Received: 18-SEP-14
Report Date: 27-OCT-14 16:18 (MT)
Version: FINAL REV. 3

Client Phone: 604-296-4200

Certificate of Analysis

Lab Work Order #: L1519648

Project P.O. #: NOT SUBMITTED
Job Reference: 1407256/2010/92
C of C Numbers:
Legal Site Desc:

Comments:
ADDITIONAL 23-OCT-14 13:50
ADDITIONAL 22-OCT-14 08:34
22-OCT-2014 REVISED REPORT: FULL METAL SCANS REPORTED
27-OCT-2014 ADDITIONAL REPORT: BORON

Jessica Spira
Senior Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1519648-1				
	Description	GROUNDWATER				
	Sampled Date	16-SEP-14				
	Sampled Time	11:00				
	Client ID	JGT-06-I7-S1-SEP2014				
Grouping	**Analyte**					
WATER						
Physical Tests	Color, True (C.U.)	20.7				
	Hardness (as CaCO3) (mg/L)	584				
	Total Suspended Solids (mg/L)	3.3				
	Total Dissolved Solids (mg/L)	1940				
	Turbidity (NTU)	2.74				
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	74.9				
	Ammonia, Total (as N) (mg/L)	0.157				
	Bicarbonate (HCO3) (mg/L)	91.4				
	Carbonate (CO3) (mg/L)	<5.0				
	Chloride (Cl) (mg/L)	879				
	Conductivity (EC) (uS/cm)	3160				
	Fluoride (F) (mg/L)	<0.020				
	Hydroxide (OH) (mg/L)	<5.0				
	Nitrate and Nitrite (as N) (mg/L)	<0.0060				
	Nitrate (as N) (mg/L)	<0.0060				
	Nitrite (as N) (mg/L)	<0.0020				
	Total Kjeldahl Nitrogen (mg/L)	0.193				
	pH (pH)	7.82				
	Orthophosphate-Dissolved (as P) (mg/L)	0.0418				
	Phosphorus (P)-Total Dissolved (mg/L)	0.0483				
	Phosphorus (P)-Total (mg/L)	0.0512				
	TDS (Calculated) (mg/L)	1620				
	Sulfate (SO4) (mg/L)	93.5				
	Sulphide (as S) (mg/L)	0.166				
Organic / Inorganic Carbon	Dissolved Organic Carbon (mg/L)	DLA 154				
	Total Organic Carbon (mg/L)	DLA 148				
Total Metals	Aluminum (Al)-Total (mg/L)	DLM <0.015				
	Antimony (Sb)-Total (mg/L)	DLM <0.00050				
	Arsenic (As)-Total (mg/L)	DLM 0.00153				
	Barium (Ba)-Total (mg/L)	DLM 0.0133				
	Beryllium (Be)-Total (mg/L)	DLM <0.00050				
	Bismuth (Bi)-Total (mg/L)	DLM <0.00025				
	Boron (B)-Total (mg/L)	DLM 0.104				
	Cadmium (Cd)-Total (mg/L)	DLM <0.000050				
	Calcium (Ca)-Total (mg/L)	DLM 173				
	Chromium (Cr)-Total (mg/L)	DLM 0.00132				

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1519648-1				
		Description	GROUNDWATER				
		Sampled Date	16-SEP-14				
		Sampled Time	11:00				
		Client ID	JGT-06-I7-S1-SEP2014				
Grouping	**Analyte**						
WATER							
Total Metals	Cobalt (Co)-Total (mg/L)		DLM <0.00050				
	Copper (Cu)-Total (mg/L)		DLM <0.00050				
	Iron (Fe)-Total (mg/L)		DLM 0.075				
	Lead (Pb)-Total (mg/L)		DLM <0.00025				
	Lithium (Li)-Total (mg/L)		DLM 0.064				
	Magnesium (Mg)-Total (mg/L)		DLM 61.9				
	Manganese (Mn)-Total (mg/L)		DLM 0.159				
	Mercury (Hg)-Total (ug/L)		<0.00050				
	Molybdenum (Mo)-Total (mg/L)		DLM 0.0280				
	Nickel (Ni)-Total (mg/L)		DLM 0.00075				
	Phosphorus (P)-Total (mg/L)		DLM <1.5				
	Potassium (K)-Total (mg/L)		DLM 9.17				
	Selenium (Se)-Total (mg/L)		DLM <0.00050				
	Silicon (Si)-Total (mg/L)		DLM 3.74				
	Silver (Ag)-Total (mg/L)		DLM <0.000050				
	Sodium (Na)-Total (mg/L)		DLM 345				
	Strontium (Sr)-Total (mg/L)		DLM 3.48				
	Sulfur (S)-Total (mg/L)		32.0				
	Thallium (Tl)-Total (mg/L)		DLM <0.000050				
	Thorium (Th)-Total (mg/L)		DLA <0.00010				
	Tin (Sn)-Total (mg/L)		DLM <0.00050				
	Titanium (Ti)-Total (mg/L)		DLM <0.0015				
	Uranium (U)-Total (mg/L)		DLM 0.00166				
	Vanadium (V)-Total (mg/L)		DLM <0.00050				
	Zinc (Zn)-Total (mg/L)		DLM 0.183				
	Zirconium (Zr)-Total (mg/L)		DLM <0.0030				
Dissolved Metals	Dissolved Mercury Filtration Location		FIELD				
	Dissolved Metals Filtration Location		FIELD				
	Aluminum (Al)-Dissolved (mg/L)		DLM 0.0115				
	Antimony (Sb)-Dissolved (mg/L)		DLM <0.00050				
	Arsenic (As)-Dissolved (mg/L)		DLM 0.00146				
	Barium (Ba)-Dissolved (mg/L)		DLM 0.0132				
	Beryllium (Be)-Dissolved (mg/L)		DLM <0.00050				
	Bismuth (Bi)-Dissolved (mg/L)		DLM <0.00025				
	Boron (B)-Dissolved (mg/L)		DLM 0.093				
	Cadmium (Cd)-Dissolved (mg/L)		DLM <0.000050				
	Calcium (Ca)-Dissolved (mg/L)		DLM 174				

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1519648-1				
		Description	GROUNDWATER				
		Sampled Date	16-SEP-14				
		Sampled Time	11:00				
		Client ID	JGT-06-I7-S1-SEP2014				
Grouping	**Analyte**						
WATER							
Dissolved Metals	Chromium (Cr)-Dissolved (mg/L)		<0.00050 DLM				
	Cobalt (Co)-Dissolved (mg/L)		<0.00050 DLM				
	Copper (Cu)-Dissolved (mg/L)		<0.00050 DLM				
	Iron (Fe)-Dissolved (mg/L)		<0.050 DLM				
	Lead (Pb)-Dissolved (mg/L)		<0.00025 DLM				
	Lithium (Li)-Dissolved (mg/L)		0.062 DLM				
	Magnesium (Mg)-Dissolved (mg/L)		65.2 DLM				
	Manganese (Mn)-Dissolved (mg/L)		0.160				
	Mercury (Hg)-Dissolved (ug/L)		<0.00050				
	Molybdenum (Mo)-Dissolved (mg/L)		0.0265 DLM				
	Nickel (Ni)-Dissolved (mg/L)		<0.00050 DLM				
	Phosphorus (P)-Dissolved (mg/L)		<1.5 DLM				
	Potassium (K)-Dissolved (mg/L)		8.79 DLM				
	Selenium (Se)-Dissolved (mg/L)		<0.00050 DLM				
	Silicon (Si)-Dissolved (mg/L)		3.63 DLM				
	Silver (Ag)-Dissolved (mg/L)		<0.000050 DLM				
	Sodium (Na)-Dissolved (mg/L)		353 DLM				
	Strontium (Sr)-Dissolved (mg/L)		3.16				
	Sulfur (S)-Dissolved (mg/L)		30.8				
	Thallium (Tl)-Dissolved (mg/L)		<0.000050 DLM				
	Thorium (Th)-Dissolved (mg/L)		<0.00010 DLA				
	Tin (Sn)-Dissolved (mg/L)		<0.00050 DLM				
	Titanium (Ti)-Dissolved (mg/L)		<0.0015 DLM				
	Uranium (U)-Dissolved (mg/L)		0.00137 DLM				
	Vanadium (V)-Dissolved (mg/L)		<0.00050 DLM				
	Zinc (Zn)-Dissolved (mg/L)		<0.0050 DLM				
	Zirconium (Zr)-Dissolved (mg/L)		<0.0015 DLM				

* 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	Chloride (Cl)	MS-B	L1519648-1
Matrix Spike	Total Organic Carbon	MS-B	L1519648-1
Duplicate	Sulphide (as S)	SP	L1519648-1
Duplicate	Sulphide (as S)	SP	L1519648-1

Qualifiers for Individual Parameters Listed:

Qualifier	Description
DLA	Detection Limit adjusted for required dilution
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.
SP	Sample was Preserved at the laboratory

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
B-D-L-CCMS-ED	Water	Dissolved Boron in Water by CRC ICPMS	APHA 3030 B / EPA SW-846 6020A
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 procedures may involve preliminary sample treatment by acid digestion, using hotblock, or filtration (APHA 3030B&E). Instrumental analysis is by collision cell inductively coupled plasma - mass spectrometry (modifed from EPA Method 6020A).			
B-T-L-CCMS-ED	Water	Total Boron in Water by CRC ICPMS	APHA 3030 E / EPA SW-846 6020A
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 procedures may involve preliminary sample treatment by acid digestion, using hotblock, or filtration (APHA 3030B&E). Instrumental analysis is by collision cell inductively coupled plasma - mass spectrometry (modifed from EPA Method 6020A).			
C-DIS-ORG-ED	Water	Dissolved Organic Carbon	APHA 5310 B-Instrumental
C-TOT-ORG-ED	Water	Total Organic Carbon	APHA 5310 B-Instrumental
CL-IC-ED	Water	Chloride by IC	APHA 4110 B-ION CHROMATOGRAPHY
COL-TRU-ED	Water	Color, True	APHA 2120
The reported color applies to the pH of the sample as submitted unless otherwise noted on the report.			
ETL-HARDNESS-DIS-ED	Water	Hardness (from Dissolved Ca and Mg)	APHA 2340 B-Calculation
F-IC-ED	Water	Fluoride by IC	APHA 4110 B-ION CHROMATOGRAPHY
HG-D-U-CVAF-VA	Water	Diss. Mercury in Water by CVAFS (Ultra)	APHA 3030 B / EPA 1631 REV. E
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 Method 1631 Rev. E. by the United States Environmental Protection Agency (EPA). The procedure may involve preliminary sample treatment by filtration (APHA 3030B) and involves a cold-oxidation of the acidified sample using bromine monochloride prior to a purge and trap concentration step and final reduction of the sample with stannous chloride. Instrumental analysis is by cold vapour atomic fluorescence spectrophotometry.			
HG-T-U-CVAF-VA	Water	Total Mercury in Water by CVAFS (Ultra)	EPA 1631 REV. E
This analysis is carried out using procedures adapted from Method 1631 Rev. E. by the United States Environmental Protection Agency (EPA). The procedure involves a cold-oxidation of the acidified sample using bromine monochloride prior to a purge and trap concentration step and final reduction of the sample with stannous chloride. Instrumental analysis is by cold vapour atomic fluorescence spectrophotometry.			
IONBALANCE-ED	Water	Ion Balance Calculation	APHA 1030E
MET-D-CCMS-ED	Water	Dissolved Metals in Water by CRC ICPMS	APHA 3030 B&E / EPA SW-846 6020A
MET-D-ICP-ED	Water	Dissolved Metals in Water by ICPOES	APHA 3120 B-ICP-OES
MET-T-CCMS-ED	Water	Total Metals in Water by CRC ICPMS	APHA 3030 B&E / EPA SW-846 6020A
MET-T-ICP-ED	Water	Total Metals in Water by ICPOES	APHA 3120 B-ICP-OES
NH3-L-CFA-ED	Water	Ammonia in Water by Colour	APHA 4500 NH3-NITROGEN (AMMONIA)
This analysis is carried out using procedures adapted from APHA Method 4500 NH3 "NITROGEN (AMMONIA)". Ammonia is determined using the automated phenate colourimetric method.			
NO2+NO3-L-CFA-ED	Water	Nitrite & Nitrate in Water by Colour	APHA 4500 NO3-F
This analysis is carried out using procedures adapted from APHA Method 4500 NO3-F "Automated Cadmium Reduction Method".			
NO2-L-CFA-ED	Water	Nitrite in Water by Colour	APHA 4500 NO2-A and NO3-F

Reference Information

This analysis is carried out using procedures adapted from APHA Method 4500 NO3-F "Automated Cadmium Reduction Method", omitting the Cu-Cd reduction step to be selective for nitrite.

NO3-L-CALC-ED	Water	Nitrate in Water (Calculation)	APHA 4500 NO3-F

Nitrate (as N) is a calculated parameter. Nitrate (as N) = [Nitrate and Nitrite (as N)] - Nitrite (as N).

P-T-L-COL-ED	Water	Total P in Water by Colour	APHA 4500-P PHOSPHORUS

This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Phosphorus is determined colourimetrically after persulphate digestion of the sample.

P-TD-L-COL-ED	Water	Total Dissolved P in Water by Colour	APHA 4500-P PHOSPHORUS

This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Dissolved Phosphorous is determined colourimetrically after persulphate digestion of a sample that has been lab or field filtered through a 0.45 micron membrane filter.

PH/EC/ALK-ED	Water	pH, Conductivity and Total Alkalinity	APHA 4500-H, 2510, 2320

All samples analyzed by this method for pH will have exceeded the 15 minute recommended hold time from time of sampling (field analysis is recommended for pH where highly accurate results are needed)

PO4-DO-L-COL-ED	Water	Diss. Orthophosphate in Water by Colour	APHA 4500-P PHOSPHORUS

This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter.

SO4-L-IC-ED	Water	Sulfate by IC (Low Level)	APHA 4110 B-ION CHROMATOGRAPHY
SOLIDS-TDS-ED	Water	Total Dissolved Solids	APHA 2540 C
SOLIDS-TOTSUS-ED	Water	Total Suspended Solids	APHA 2540 D-Gravimetric
SULPHIDE-ED	Water	Sulphide	APHA 4500 -S E-Auto-Colorimetry
TH-D-CCMS-VA	Water	Dissolved Thorium in Water by CRC ICPMS	APHA 3030 B&E / EPA SW-846 6020A

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 procedures may involve preliminary sample treatment by acid digestion, using hotblock, or filtration (APHA 3030B&E). Instrumental analysis is by collision cell inductively coupled plasma - mass spectrometry (modifed from EPA Method 6020A).

TH-T-CCMS-VA	Water	Total Thorium in Water by CRC ICPMS	APHA 3030 B&E / EPA SW-846 6020A

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 procedures may involve preliminary sample treatment by acid digestion, using hotblock, or filtration (APHA 3030B&E). Instrumental analysis is by collision cell inductively coupled plasma - mass spectrometry (modifed from EPA Method 6020A).

TKN-L-CFA-ED	Water	TKN in Water by Colour	APHA 4500-NORG (TKN)

This analysis is carried out using procedures adapted from APHA Method 4500-Norg "Nitrogen (Organic)". Total Kjeldahl Nitrogen is determined by sample digestion at 380 celcius with analysis using an automated colourimetric finish.

TURBIDITY-ED	Water	Turbidity	APHA 2130 B-Nephelometer
ZR-D-CCMS-ED	Water	Dissolved Zirconium in water, CRC ICPMS	APHA 3030 B&E / EPA SW-846 6020A
ZR-T-CCMS-ED	Water	Total Zirconium in Water by CRC ICPMS	APHA 3030 B&E / EPA SW-846 6020A

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 procedures may involve preliminary sample treatment by acid digestion, using hotblock, or filtration (APHA 3030B&E). Instrumental analysis is by collision cell inductively coupled plasma - mass spectrometry (modifed from EPA Method 6020A).

** 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
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

Client: GOLDER ASSOCIATES LTD.
500 - 4260 Still Creek Drive
Burnaby BC V5C 6C6
Contact: Don Chorley/Ermanno Rambelli

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
B-D-L-CCMS-ED	**Water**							
Batch R2959094								
WG1959159-14 CRM		**ED-HIGH-WATRM**						
Boron (B)-Dissolved			97.9		%		80-120	25-SEP-14
WG1959159-17 CRM		**ED-HIGH-WATRM**						
Boron (B)-Dissolved			95.9		%		80-120	25-SEP-14
WG1959159-2 CRM		**ED-HIGH-WATRM**						
Boron (B)-Dissolved			89.3		%		80-120	25-SEP-14
WG1959159-1 MB								
Boron (B)-Dissolved			<0.0020		mg/L		0.002	25-SEP-14
WG1959159-13 MB								
Boron (B)-Dissolved			<0.0020		mg/L		0.002	25-SEP-14
WG1959159-16 MB								
Boron (B)-Dissolved			<0.0020		mg/L		0.002	25-SEP-14
B-T-L-CCMS-ED	**Water**							
Batch R2961848								
WG1961124-2 LCS								
Boron (B)-Total			93.7		%		80-120	27-SEP-14
WG1961124-1 MB								
Boron (B)-Total			<0.0020		mg/L		0.002	27-SEP-14
C-DIS-ORG-ED	**Water**							
Batch R2960413								
WG1960312-3 CVS								
Dissolved Organic Carbon			120.1		%		80-160	25-SEP-14
WG1960312-2 LCS								
Dissolved Organic Carbon			96.7		%		80-120	25-SEP-14
WG1960312-1 MB								
Dissolved Organic Carbon			<1.0		mg/L		1	25-SEP-14
WG1960312-5 MS		**L1520905-1**						
Dissolved Organic Carbon			99.2		%		70-130	25-SEP-14
C-TOT-ORG-ED	**Water**							
Batch R2960413								
WG1960312-3 CVS								
Total Organic Carbon			120.1		%		80-160	25-SEP-14
WG1960312-2 LCS								
Total Organic Carbon			96.7		%		80-120	25-SEP-14
WG1960312-1 MB								
Total Organic Carbon			<1.0		mg/L		1	25-SEP-14
WG1960312-7 MS		**L1520989-10**						
Total Organic Carbon			N/A	MS-B	%		-	25-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CL-IC-ED	**Water**							
Batch R2953027								
WG1954560-15 LCS								
Chloride (Cl)			101.7		%		90-110	18-SEP-14
WG1954560-16 LCS								
Chloride (Cl)			101.8		%		90-110	18-SEP-14
WG1954560-20 LCS								
Chloride (Cl)			101.9		%		90-110	18-SEP-14
WG1954560-24 LCS								
Chloride (Cl)			101.9		%		90-110	18-SEP-14
WG1954560-26 LCS								
Chloride (Cl)			102.0		%		90-110	18-SEP-14
WG1954560-1 MB								
Chloride (Cl)			<0.50		mg/L		0.5	18-SEP-14
WG1954560-17 MB								
Chloride (Cl)			<0.50		mg/L		0.5	18-SEP-14
WG1954560-21 MB								
Chloride (Cl)			<0.50		mg/L		0.5	18-SEP-14
WG1954560-25 MB								
Chloride (Cl)			<0.50		mg/L		0.5	18-SEP-14
WG1954560-27 MB								
Chloride (Cl)			<0.50		mg/L		0.5	18-SEP-14
WG1954560-19 MS		**L1519815-5**						
Chloride (Cl)			N/A	MS-B	%		-	18-SEP-14
WG1954560-23 MS		**L1519399-2**						
Chloride (Cl)			96.2		%		75-125	18-SEP-14
COL-TRU-ED	**Water**							
Batch R2952310								
WG1953806-2 LCS								
Color, True			93.1		%		85-115	18-SEP-14
WG1953806-1 MB								
Color, True			<2.0		C.U.		2	18-SEP-14
F-IC-ED	**Water**							
Batch R2953027								
WG1954560-15 LCS								
Fluoride (F)			96.7		%		90-110	18-SEP-14
WG1954560-16 LCS								
Fluoride (F)			96.2		%		90-110	18-SEP-14
WG1954560-20 LCS								
Fluoride (F)			97.1		%		90-110	18-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F-IC-ED	**Water**							
Batch R2953027								
WG1954560-24 LCS								
Fluoride (F)			97.5		%		90-110	18-SEP-14
WG1954560-26 LCS								
Fluoride (F)			99.5		%		90-110	18-SEP-14
WG1954560-1 MB								
Fluoride (F)			<0.020		mg/L		0.02	18-SEP-14
WG1954560-17 MB								
Fluoride (F)			<0.020		mg/L		0.02	18-SEP-14
WG1954560-21 MB								
Fluoride (F)			<0.020		mg/L		0.02	18-SEP-14
WG1954560-25 MB								
Fluoride (F)			<0.020		mg/L		0.02	18-SEP-14
WG1954560-27 MB								
Fluoride (F)			<0.020		mg/L		0.02	18-SEP-14
HG-D-U-CVAF-VA	**Water**							
Batch R2955223								
WG1956786-2 LCS								
Mercury (Hg)-Dissolved			97.1		%		80-120	20-SEP-14
WG1956786-1 MB								
Mercury (Hg)-Dissolved			<0.00050		ug/L		0.0005	20-SEP-14
WG1956786-3 MS		**L1518701-1**						
Mercury (Hg)-Dissolved			99.7		%		70-130	20-SEP-14
WG1956786-4 MS		**L1517899-2**						
Mercury (Hg)-Dissolved			99.7		%		70-130	20-SEP-14
HG-T-U-CVAF-VA	**Water**							
Batch R2955223								
WG1956796-2 LCS								
Mercury (Hg)-Total			98.9		%		80-120	20-SEP-14
WG1956796-1 MB								
Mercury (Hg)-Total			<0.00050		ug/L		0.0005	20-SEP-14
MET-D-CCMS-ED	**Water**							
Batch R2959094								
WG1959159-14 CRM		**ED-HIGH-WATRM**						
Aluminum (Al)-Dissolved			102.4		%		80-120	25-SEP-14
Antimony (Sb)-Dissolved			98.4		%		80-120	25-SEP-14
Arsenic (As)-Dissolved			100.5		%		80-120	25-SEP-14
Barium (Ba)-Dissolved			104.7		%		80-120	25-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-ED	**Water**							
Batch R2959094								
WG1959159-14 CRM		**ED-HIGH-WATRM**						
Beryllium (Be)-Dissolved			97.5		%		80-120	25-SEP-14
Bismuth (Bi)-Dissolved			95.6		%		80-120	25-SEP-14
Cadmium (Cd)-Dissolved			97.4		%		80-120	25-SEP-14
Calcium (Ca)-Dissolved			103.1		%		80-120	25-SEP-14
Chromium (Cr)-Dissolved			97.1		%		80-120	25-SEP-14
Cobalt (Co)-Dissolved			99.5		%		80-120	25-SEP-14
Copper (Cu)-Dissolved			99.9		%		80-120	25-SEP-14
Lead (Pb)-Dissolved			98.4		%		80-120	25-SEP-14
Lithium (Li)-Dissolved			101.3		%		80-120	25-SEP-14
Magnesium (Mg)-Dissolved			108.1		%		80-120	25-SEP-14
Manganese (Mn)-Dissolved			101.5		%		80-120	25-SEP-14
Molybdenum (Mo)-Dissolved			98.3		%		80-120	25-SEP-14
Nickel (Ni)-Dissolved			104.2		%		80-120	25-SEP-14
Phosphorus (P)-Dissolved			102.0		%		80-120	25-SEP-14
Potassium (K)-Dissolved			102.8		%		80-120	25-SEP-14
Selenium (Se)-Dissolved			101.6		%		80-120	25-SEP-14
Silicon (Si)-Dissolved			96.6		%		80-120	25-SEP-14
Silver (Ag)-Dissolved			99.1		%		80-120	25-SEP-14
Sodium (Na)-Dissolved			106.1		%		80-120	25-SEP-14
Strontium (Sr)-Dissolved			98.4		%		80-120	25-SEP-14
Thallium (Tl)-Dissolved			97.7		%		80-120	25-SEP-14
Titanium (Ti)-Dissolved			100.1		%		80-120	25-SEP-14
Tin (Sn)-Dissolved			98.8		%		80-120	25-SEP-14
Uranium (U)-Dissolved			99.0		%		80-120	25-SEP-14
Vanadium (V)-Dissolved			105.3		%		80-120	25-SEP-14
Zinc (Zn)-Dissolved			101.2		%		80-120	25-SEP-14
WG1959159-17 CRM		**ED-HIGH-WATRM**						
Aluminum (Al)-Dissolved			107.9		%		80-120	25-SEP-14
Antimony (Sb)-Dissolved			99.5		%		80-120	25-SEP-14
Arsenic (As)-Dissolved			102.8		%		80-120	25-SEP-14
Barium (Ba)-Dissolved			104.1		%		80-120	25-SEP-14
Beryllium (Be)-Dissolved			95.9		%		80-120	25-SEP-14
Bismuth (Bi)-Dissolved			96.1		%		80-120	25-SEP-14
Cadmium (Cd)-Dissolved			99.1		%		80-120	25-SEP-14

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-ED	**Water**							
Batch R2959094								
WG1959159-17 CRM		**ED-HIGH-WATRM**						
Calcium (Ca)-Dissolved			103.2		%		80-120	25-SEP-14
Chromium (Cr)-Dissolved			97.6		%		80-120	25-SEP-14
Cobalt (Co)-Dissolved			103.2		%		80-120	25-SEP-14
Copper (Cu)-Dissolved			101.5		%		80-120	25-SEP-14
Lead (Pb)-Dissolved			101.1		%		80-120	25-SEP-14
Lithium (Li)-Dissolved			100.2		%		80-120	25-SEP-14
Magnesium (Mg)-Dissolved			109.7		%		80-120	25-SEP-14
Manganese (Mn)-Dissolved			104.5		%		80-120	25-SEP-14
Molybdenum (Mo)-Dissolved			98.3		%		80-120	25-SEP-14
Nickel (Ni)-Dissolved			105.5		%		80-120	25-SEP-14
Phosphorus (P)-Dissolved			117.2		%		80-120	25-SEP-14
Potassium (K)-Dissolved			103.4		%		80-120	25-SEP-14
Selenium (Se)-Dissolved			101.7		%		80-120	25-SEP-14
Silicon (Si)-Dissolved			99.1		%		80-120	25-SEP-14
Silver (Ag)-Dissolved			99.5		%		80-120	25-SEP-14
Sodium (Na)-Dissolved			108.0		%		80-120	25-SEP-14
Strontium (Sr)-Dissolved			97.1		%		80-120	25-SEP-14
Thallium (Tl)-Dissolved			101.1		%		80-120	25-SEP-14
Titanium (Ti)-Dissolved			103.8		%		80-120	25-SEP-14
Tin (Sn)-Dissolved			100.0		%		80-120	25-SEP-14
Uranium (U)-Dissolved			99.7		%		80-120	25-SEP-14
Vanadium (V)-Dissolved			108.3		%		80-120	25-SEP-14
Zinc (Zn)-Dissolved			102.9		%		80-120	25-SEP-14
WG1959159-2 CRM		**ED-HIGH-WATRM**						
Aluminum (Al)-Dissolved			99.6		%		80-120	25-SEP-14
Antimony (Sb)-Dissolved			97.3		%		80-120	25-SEP-14
Arsenic (As)-Dissolved			100.3		%		80-120	25-SEP-14
Barium (Ba)-Dissolved			101.0		%		80-120	25-SEP-14
Beryllium (Be)-Dissolved			92.4		%		80-120	25-SEP-14
Bismuth (Bi)-Dissolved			99.7		%		80-120	25-SEP-14
Cadmium (Cd)-Dissolved			96.7		%		80-120	25-SEP-14
Calcium (Ca)-Dissolved			98.2		%		80-120	25-SEP-14
Chromium (Cr)-Dissolved			95.4		%		80-120	25-SEP-14
Cobalt (Co)-Dissolved			97.6		%		80-120	25-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-ED	**Water**							
Batch R2959094								
WG1959159-2 CRM		**ED-HIGH-WATRM**						
Copper (Cu)-Dissolved			98.4		%		80-120	25-SEP-14
Lead (Pb)-Dissolved			98.7		%		80-120	25-SEP-14
Lithium (Li)-Dissolved			93.5		%		80-120	25-SEP-14
Magnesium (Mg)-Dissolved			103.3		%		80-120	25-SEP-14
Manganese (Mn)-Dissolved			101.2		%		80-120	25-SEP-14
Molybdenum (Mo)-Dissolved			94.4		%		80-120	25-SEP-14
Nickel (Ni)-Dissolved			98.8		%		80-120	25-SEP-14
Phosphorus (P)-Dissolved			99.1		%		80-120	25-SEP-14
Potassium (K)-Dissolved			98.4		%		80-120	25-SEP-14
Selenium (Se)-Dissolved			96.5		%		80-120	25-SEP-14
Silicon (Si)-Dissolved			100.0		%		80-120	25-SEP-14
Silver (Ag)-Dissolved			98.0		%		80-120	25-SEP-14
Sodium (Na)-Dissolved			105.3		%		80-120	25-SEP-14
Strontium (Sr)-Dissolved			93.7		%		80-120	25-SEP-14
Thallium (Tl)-Dissolved			100.7		%		80-120	25-SEP-14
Titanium (Ti)-Dissolved			97.5		%		80-120	25-SEP-14
Tin (Sn)-Dissolved			96.9		%		80-120	25-SEP-14
Uranium (U)-Dissolved			96.0		%		80-120	25-SEP-14
Vanadium (V)-Dissolved			101.5		%		80-120	25-SEP-14
Zinc (Zn)-Dissolved			99.9		%		80-120	25-SEP-14
WG1959159-4 CRM		**ED-HIGH-WATRM**						
Aluminum (Al)-Dissolved			103.2		%		80-120	25-SEP-14
Antimony (Sb)-Dissolved			97.7		%		80-120	25-SEP-14
Arsenic (As)-Dissolved			98.1		%		80-120	25-SEP-14
Barium (Ba)-Dissolved			105.2		%		80-120	25-SEP-14
Beryllium (Be)-Dissolved			94.0		%		80-120	25-SEP-14
Bismuth (Bi)-Dissolved			92.7		%		80-120	25-SEP-14
Cadmium (Cd)-Dissolved			96.1		%		80-120	25-SEP-14
Calcium (Ca)-Dissolved			101.3		%		80-120	25-SEP-14
Chromium (Cr)-Dissolved			96.3		%		80-120	25-SEP-14
Cobalt (Co)-Dissolved			98.4		%		80-120	25-SEP-14
Copper (Cu)-Dissolved			98.3		%		80-120	25-SEP-14
Lead (Pb)-Dissolved			95.7		%		80-120	25-SEP-14
Lithium (Li)-Dissolved			98.6		%		80-120	25-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-ED	**Water**							
Batch R2959094								
WG1959159-4 CRM		**ED-HIGH-WATRM**						
Magnesium (Mg)-Dissolved			105.3		%		80-120	25-SEP-14
Manganese (Mn)-Dissolved			99.8		%		80-120	25-SEP-14
Molybdenum (Mo)-Dissolved			94.8		%		80-120	25-SEP-14
Nickel (Ni)-Dissolved			101.2		%		80-120	25-SEP-14
Phosphorus (P)-Dissolved			102.5		%		80-120	25-SEP-14
Potassium (K)-Dissolved			101.2		%		80-120	25-SEP-14
Selenium (Se)-Dissolved			99.0		%		80-120	25-SEP-14
Silicon (Si)-Dissolved			96.7		%		80-120	25-SEP-14
Silver (Ag)-Dissolved			99.1		%		80-120	25-SEP-14
Sodium (Na)-Dissolved			103.0		%		80-120	25-SEP-14
Strontium (Sr)-Dissolved			95.8		%		80-120	25-SEP-14
Thallium (Tl)-Dissolved			94.1		%		80-120	25-SEP-14
Titanium (Ti)-Dissolved			99.1		%		80-120	25-SEP-14
Tin (Sn)-Dissolved			96.6		%		80-120	25-SEP-14
Uranium (U)-Dissolved			95.7		%		80-120	25-SEP-14
Vanadium (V)-Dissolved			103.0		%		80-120	25-SEP-14
Zinc (Zn)-Dissolved			107.1		%		80-120	25-SEP-14
WG1959159-6 CRM		**ED-HIGH-WATRM**						
Aluminum (Al)-Dissolved			103.6		%		80-120	25-SEP-14
Antimony (Sb)-Dissolved			95.4		%		80-120	25-SEP-14
Arsenic (As)-Dissolved			98.6		%		80-120	25-SEP-14
Barium (Ba)-Dissolved			102.3		%		80-120	25-SEP-14
Beryllium (Be)-Dissolved			93.7		%		80-120	25-SEP-14
Bismuth (Bi)-Dissolved			96.3		%		80-120	25-SEP-14
Cadmium (Cd)-Dissolved			95.0		%		80-120	25-SEP-14
Calcium (Ca)-Dissolved			97.7		%		80-120	25-SEP-14
Chromium (Cr)-Dissolved			91.4		%		80-120	25-SEP-14
Cobalt (Co)-Dissolved			97.8		%		80-120	25-SEP-14
Copper (Cu)-Dissolved			96.6		%		80-120	25-SEP-14
Lead (Pb)-Dissolved			98.5		%		80-120	25-SEP-14
Lithium (Li)-Dissolved			92.8		%		80-120	25-SEP-14
Magnesium (Mg)-Dissolved			103.6		%		80-120	25-SEP-14
Manganese (Mn)-Dissolved			98.3		%		80-120	25-SEP-14
Molybdenum (Mo)-Dissolved			92.5		%		80-120	25-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-ED	**Water**							
Batch R2959094								
WG1959159-6 CRM		**ED-HIGH-WATRM**						
Nickel (Ni)-Dissolved			100.8		%		80-120	25-SEP-14
Phosphorus (P)-Dissolved			102.7		%		80-120	25-SEP-14
Potassium (K)-Dissolved			102.0		%		80-120	25-SEP-14
Selenium (Se)-Dissolved			97.6		%		80-120	25-SEP-14
Silicon (Si)-Dissolved			96.9		%		80-120	25-SEP-14
Silver (Ag)-Dissolved			96.1		%		80-120	25-SEP-14
Sodium (Na)-Dissolved			107.8		%		80-120	25-SEP-14
Strontium (Sr)-Dissolved			93.0		%		80-120	25-SEP-14
Thallium (Tl)-Dissolved			98.1		%		80-120	25-SEP-14
Titanium (Ti)-Dissolved			92.7		%		80-120	25-SEP-14
Tin (Sn)-Dissolved			96.6		%		80-120	25-SEP-14
Uranium (U)-Dissolved			98.3		%		80-120	25-SEP-14
Vanadium (V)-Dissolved			102.4		%		80-120	25-SEP-14
Zinc (Zn)-Dissolved			100.4		%		80-120	25-SEP-14
WG1959159-8 CRM		**ED-HIGH-WATRM**						
Aluminum (Al)-Dissolved			102.1		%		80-120	25-SEP-14
Antimony (Sb)-Dissolved			97.4		%		80-120	25-SEP-14
Arsenic (As)-Dissolved			97.9		%		80-120	25-SEP-14
Barium (Ba)-Dissolved			101.9		%		80-120	25-SEP-14
Beryllium (Be)-Dissolved			93.6		%		80-120	25-SEP-14
Bismuth (Bi)-Dissolved			94.4		%		80-120	25-SEP-14
Cadmium (Cd)-Dissolved			95.4		%		80-120	25-SEP-14
Calcium (Ca)-Dissolved			99.4		%		80-120	25-SEP-14
Chromium (Cr)-Dissolved			91.8		%		80-120	25-SEP-14
Cobalt (Co)-Dissolved			96.8		%		80-120	25-SEP-14
Copper (Cu)-Dissolved			95.7		%		80-120	25-SEP-14
Lead (Pb)-Dissolved			96.8		%		80-120	25-SEP-14
Lithium (Li)-Dissolved			96.2		%		80-120	25-SEP-14
Magnesium (Mg)-Dissolved			102.9		%		80-120	25-SEP-14
Manganese (Mn)-Dissolved			97.8		%		80-120	25-SEP-14
Molybdenum (Mo)-Dissolved			94.2		%		80-120	25-SEP-14
Nickel (Ni)-Dissolved			100.4		%		80-120	25-SEP-14
Phosphorus (P)-Dissolved			108.5		%		80-120	25-SEP-14
Potassium (K)-Dissolved			102.6		%		80-120	25-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-ED	**Water**							
Batch R2959094								
WG1959159-8 CRM		**ED-HIGH-WATRM**						
Selenium (Se)-Dissolved			97.0		%		80-120	25-SEP-14
Silicon (Si)-Dissolved			97.0		%		80-120	25-SEP-14
Silver (Ag)-Dissolved			95.1		%		80-120	25-SEP-14
Sodium (Na)-Dissolved			102.2		%		80-120	25-SEP-14
Strontium (Sr)-Dissolved			94.0		%		80-120	25-SEP-14
Thallium (Tl)-Dissolved			95.6		%		80-120	25-SEP-14
Titanium (Ti)-Dissolved			92.2		%		80-120	25-SEP-14
Tin (Sn)-Dissolved			94.8		%		80-120	25-SEP-14
Uranium (U)-Dissolved			97.8		%		80-120	25-SEP-14
Vanadium (V)-Dissolved			102.2		%		80-120	25-SEP-14
Zinc (Zn)-Dissolved			98.8		%		80-120	25-SEP-14
WG1959159-1 MB								
Aluminum (Al)-Dissolved			<0.0010		mg/L		0.001	25-SEP-14
Antimony (Sb)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Arsenic (As)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Barium (Ba)-Dissolved			<0.000050		mg/L		0.00005	25-SEP-14
Beryllium (Be)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Bismuth (Bi)-Dissolved			<0.000050		mg/L		0.00005	25-SEP-14
Cadmium (Cd)-Dissolved			<0.000010		mg/L		0.00001	25-SEP-14
Calcium (Ca)-Dissolved			<0.020		mg/L		0.02	25-SEP-14
Chromium (Cr)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Cobalt (Co)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Copper (Cu)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Iron (Fe)-Dissolved			<0.010		mg/L		0.01	25-SEP-14
Lead (Pb)-Dissolved			<0.000050		mg/L		0.00005	25-SEP-14
Lithium (Li)-Dissolved			<0.0030		mg/L		0.003	25-SEP-14
Magnesium (Mg)-Dissolved			<0.0050		mg/L		0.005	25-SEP-14
Manganese (Mn)-Dissolved			<0.000050		mg/L		0.00005	25-SEP-14
Molybdenum (Mo)-Dissolved			<0.000050		mg/L		0.00005	25-SEP-14
Nickel (Ni)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Phosphorus (P)-Dissolved			<0.30		mg/L		0.3	25-SEP-14
Potassium (K)-Dissolved			<0.050		mg/L		0.05	25-SEP-14
Selenium (Se)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Silicon (Si)-Dissolved			<0.050		mg/L		0.05	25-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-ED	**Water**							
Batch R2959094								
WG1959159-1 MB								
Silver (Ag)-Dissolved			<0.000010		mg/L		0.00001	25-SEP-14
Sodium (Na)-Dissolved			<0.050		mg/L		0.05	25-SEP-14
Strontium (Sr)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Thallium (Tl)-Dissolved			<0.000010		mg/L		0.00001	25-SEP-14
Titanium (Ti)-Dissolved			<0.00030		mg/L		0.0003	25-SEP-14
Tin (Sn)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Uranium (U)-Dissolved			<0.000010		mg/L		0.00001	25-SEP-14
Vanadium (V)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Zinc (Zn)-Dissolved			<0.0010		mg/L		0.001	25-SEP-14
WG1959159-13 MB								
Aluminum (Al)-Dissolved			<0.0010		mg/L		0.001	25-SEP-14
Antimony (Sb)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Arsenic (As)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Barium (Ba)-Dissolved			<0.000050		mg/L		0.00005	25-SEP-14
Beryllium (Be)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Bismuth (Bi)-Dissolved			<0.000050		mg/L		0.00005	25-SEP-14
Cadmium (Cd)-Dissolved			<0.000010		mg/L		0.00001	25-SEP-14
Calcium (Ca)-Dissolved			<0.020		mg/L		0.02	25-SEP-14
Chromium (Cr)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Cobalt (Co)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Copper (Cu)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Iron (Fe)-Dissolved			<0.010		mg/L		0.01	25-SEP-14
Lead (Pb)-Dissolved			<0.000050		mg/L		0.00005	25-SEP-14
Lithium (Li)-Dissolved			<0.0030		mg/L		0.003	25-SEP-14
Magnesium (Mg)-Dissolved			<0.0050		mg/L		0.005	25-SEP-14
Manganese (Mn)-Dissolved			<0.000050		mg/L		0.00005	25-SEP-14
Molybdenum (Mo)-Dissolved			<0.000050		mg/L		0.00005	25-SEP-14
Nickel (Ni)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Phosphorus (P)-Dissolved			<0.30		mg/L		0.3	25-SEP-14
Potassium (K)-Dissolved			<0.050		mg/L		0.05	25-SEP-14
Selenium (Se)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Silicon (Si)-Dissolved			<0.050		mg/L		0.05	25-SEP-14
Silver (Ag)-Dissolved			<0.000010		mg/L		0.00001	25-SEP-14
Sodium (Na)-Dissolved			<0.050		mg/L		0.05	25-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-ED	**Water**							
Batch R2959094								
WG1959159-13 MB								
Strontium (Sr)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Thallium (Tl)-Dissolved			<0.000010		mg/L		0.00001	25-SEP-14
Titanium (Ti)-Dissolved			<0.00030		mg/L		0.0003	25-SEP-14
Tin (Sn)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Uranium (U)-Dissolved			<0.000010		mg/L		0.00001	25-SEP-14
Vanadium (V)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Zinc (Zn)-Dissolved			<0.0010		mg/L		0.001	25-SEP-14
WG1959159-16 MB								
Aluminum (Al)-Dissolved			<0.0010		mg/L		0.001	25-SEP-14
Antimony (Sb)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Arsenic (As)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Barium (Ba)-Dissolved			<0.000050		mg/L		0.00005	25-SEP-14
Beryllium (Be)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Bismuth (Bi)-Dissolved			<0.000050		mg/L		0.00005	25-SEP-14
Cadmium (Cd)-Dissolved			<0.000010		mg/L		0.00001	25-SEP-14
Calcium (Ca)-Dissolved			<0.020		mg/L		0.02	25-SEP-14
Chromium (Cr)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Cobalt (Co)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Copper (Cu)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Iron (Fe)-Dissolved			<0.010		mg/L		0.01	25-SEP-14
Lead (Pb)-Dissolved			<0.000050		mg/L		0.00005	25-SEP-14
Lithium (Li)-Dissolved			<0.0030		mg/L		0.003	25-SEP-14
Magnesium (Mg)-Dissolved			<0.0050		mg/L		0.005	25-SEP-14
Manganese (Mn)-Dissolved			<0.000050		mg/L		0.00005	25-SEP-14
Molybdenum (Mo)-Dissolved			<0.000050		mg/L		0.00005	25-SEP-14
Nickel (Ni)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Phosphorus (P)-Dissolved			<0.30		mg/L		0.3	25-SEP-14
Potassium (K)-Dissolved			<0.050		mg/L		0.05	25-SEP-14
Selenium (Se)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Silicon (Si)-Dissolved			<0.050		mg/L		0.05	25-SEP-14
Silver (Ag)-Dissolved			<0.000010		mg/L		0.00001	25-SEP-14
Sodium (Na)-Dissolved			<0.050		mg/L		0.05	25-SEP-14
Strontium (Sr)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Thallium (Tl)-Dissolved			<0.000010		mg/L		0.00001	25-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-ED	**Water**							
Batch R2959094								
WG1959159-16 MB								
Titanium (Ti)-Dissolved			<0.00030		mg/L		0.0003	25-SEP-14
Tin (Sn)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Uranium (U)-Dissolved			<0.000010		mg/L		0.00001	25-SEP-14
Vanadium (V)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Zinc (Zn)-Dissolved			<0.0010		mg/L		0.001	25-SEP-14
WG1959159-3 MB								
Aluminum (Al)-Dissolved			<0.0010		mg/L		0.001	25-SEP-14
Antimony (Sb)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Arsenic (As)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Barium (Ba)-Dissolved			<0.000050		mg/L		0.00005	25-SEP-14
Beryllium (Be)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Bismuth (Bi)-Dissolved			<0.000050		mg/L		0.00005	25-SEP-14
Cadmium (Cd)-Dissolved			<0.000010		mg/L		0.00001	25-SEP-14
Calcium (Ca)-Dissolved			<0.020		mg/L		0.02	25-SEP-14
Chromium (Cr)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Cobalt (Co)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Copper (Cu)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Iron (Fe)-Dissolved			<0.010		mg/L		0.01	25-SEP-14
Lead (Pb)-Dissolved			<0.000050		mg/L		0.00005	25-SEP-14
Lithium (Li)-Dissolved			<0.0030		mg/L		0.003	25-SEP-14
Magnesium (Mg)-Dissolved			<0.0050		mg/L		0.005	25-SEP-14
Manganese (Mn)-Dissolved			<0.000050		mg/L		0.00005	25-SEP-14
Molybdenum (Mo)-Dissolved			<0.000050		mg/L		0.00005	25-SEP-14
Nickel (Ni)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Phosphorus (P)-Dissolved			<0.30		mg/L		0.3	25-SEP-14
Potassium (K)-Dissolved			<0.050		mg/L		0.05	25-SEP-14
Selenium (Se)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Silicon (Si)-Dissolved			<0.050		mg/L		0.05	25-SEP-14
Silver (Ag)-Dissolved			<0.000010		mg/L		0.00001	25-SEP-14
Sodium (Na)-Dissolved			<0.050		mg/L		0.05	25-SEP-14
Strontium (Sr)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Thallium (Tl)-Dissolved			<0.000010		mg/L		0.00001	25-SEP-14
Titanium (Ti)-Dissolved			<0.00030		mg/L		0.0003	25-SEP-14
Tin (Sn)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-ED	**Water**							
Batch R2959094								
WG1959159-3 MB								
Uranium (U)-Dissolved			<0.000010		mg/L		0.00001	25-SEP-14
Vanadium (V)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Zinc (Zn)-Dissolved			<0.0010		mg/L		0.001	25-SEP-14
WG1959159-5 MB								
Aluminum (Al)-Dissolved			<0.0010		mg/L		0.001	25-SEP-14
Antimony (Sb)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Arsenic (As)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Barium (Ba)-Dissolved			<0.000050		mg/L		0.00005	25-SEP-14
Beryllium (Be)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Bismuth (Bi)-Dissolved			<0.000050		mg/L		0.00005	25-SEP-14
Cadmium (Cd)-Dissolved			<0.000010		mg/L		0.00001	25-SEP-14
Calcium (Ca)-Dissolved			<0.020		mg/L		0.02	25-SEP-14
Chromium (Cr)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Cobalt (Co)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Copper (Cu)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Iron (Fe)-Dissolved			<0.010		mg/L		0.01	25-SEP-14
Lead (Pb)-Dissolved			<0.000050		mg/L		0.00005	25-SEP-14
Lithium (Li)-Dissolved			<0.0030		mg/L		0.003	25-SEP-14
Magnesium (Mg)-Dissolved			<0.0050		mg/L		0.005	25-SEP-14
Manganese (Mn)-Dissolved			<0.000050		mg/L		0.00005	25-SEP-14
Molybdenum (Mo)-Dissolved			<0.000050		mg/L		0.00005	25-SEP-14
Nickel (Ni)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Phosphorus (P)-Dissolved			<0.30		mg/L		0.3	25-SEP-14
Potassium (K)-Dissolved			<0.050		mg/L		0.05	25-SEP-14
Selenium (Se)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Silicon (Si)-Dissolved			<0.050		mg/L		0.05	25-SEP-14
Silver (Ag)-Dissolved			<0.000010		mg/L		0.00001	25-SEP-14
Sodium (Na)-Dissolved			<0.050		mg/L		0.05	25-SEP-14
Strontium (Sr)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Thallium (Tl)-Dissolved			<0.000010		mg/L		0.00001	25-SEP-14
Titanium (Ti)-Dissolved			<0.00030		mg/L		0.0003	25-SEP-14
Tin (Sn)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Uranium (U)-Dissolved			<0.000010		mg/L		0.00001	25-SEP-14
Vanadium (V)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-ED	**Water**							
Batch R2959094								
WG1959159-5 MB								
Zinc (Zn)-Dissolved			<0.0010		mg/L		0.001	25-SEP-14
WG1959159-7 MB								
Aluminum (Al)-Dissolved			<0.0010		mg/L		0.001	25-SEP-14
Antimony (Sb)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Arsenic (As)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Barium (Ba)-Dissolved			<0.000050		mg/L		0.00005	25-SEP-14
Beryllium (Be)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Bismuth (Bi)-Dissolved			<0.000050		mg/L		0.00005	25-SEP-14
Cadmium (Cd)-Dissolved			<0.000010		mg/L		0.00001	25-SEP-14
Calcium (Ca)-Dissolved			<0.020		mg/L		0.02	25-SEP-14
Chromium (Cr)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Cobalt (Co)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Copper (Cu)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Iron (Fe)-Dissolved			<0.010		mg/L		0.01	25-SEP-14
Lead (Pb)-Dissolved			<0.000050		mg/L		0.00005	25-SEP-14
Lithium (Li)-Dissolved			<0.0030		mg/L		0.003	25-SEP-14
Magnesium (Mg)-Dissolved			<0.0050		mg/L		0.005	25-SEP-14
Manganese (Mn)-Dissolved			<0.000050		mg/L		0.00005	25-SEP-14
Molybdenum (Mo)-Dissolved			<0.000050		mg/L		0.00005	25-SEP-14
Nickel (Ni)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Phosphorus (P)-Dissolved			<0.30		mg/L		0.3	25-SEP-14
Potassium (K)-Dissolved			<0.050		mg/L		0.05	25-SEP-14
Selenium (Se)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Silicon (Si)-Dissolved			<0.050		mg/L		0.05	25-SEP-14
Silver (Ag)-Dissolved			<0.000010		mg/L		0.00001	25-SEP-14
Sodium (Na)-Dissolved			<0.050		mg/L		0.05	25-SEP-14
Strontium (Sr)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Thallium (Tl)-Dissolved			<0.000010		mg/L		0.00001	25-SEP-14
Titanium (Ti)-Dissolved			<0.00030		mg/L		0.0003	25-SEP-14
Tin (Sn)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Uranium (U)-Dissolved			<0.000010		mg/L		0.00001	25-SEP-14
Vanadium (V)-Dissolved			<0.00010		mg/L		0.0001	25-SEP-14
Zinc (Zn)-Dissolved			<0.0010		mg/L		0.001	25-SEP-14
MET-D-ICP-ED	**Water**							

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-ICP-ED	**Water**							
Batch R2958308								
WG1958713-2 CRM		**ED-HIGH-WATRM**						
WG1958713-1 MB								
Sulfur (S)-Dissolved			<0.50		mg/L		0.5	24-SEP-14
MET-T-CCMS-ED	**Water**							
Batch R2961848								
WG1961124-2 LCS								
Aluminum (Al)-Total			92.5		%		80-120	27-SEP-14
Antimony (Sb)-Total			92.4		%		80-120	27-SEP-14
Arsenic (As)-Total			94.7		%		80-120	27-SEP-14
Barium (Ba)-Total			97.4		%		80-120	27-SEP-14
Beryllium (Be)-Total			89.1		%		80-120	27-SEP-14
Bismuth (Bi)-Total			90.2		%		80-120	27-SEP-14
Cadmium (Cd)-Total			87.9		%		80-120	27-SEP-14
Calcium (Ca)-Total			91.6		%		80-120	27-SEP-14
Chromium (Cr)-Total			90.0		%		80-120	27-SEP-14
Cobalt (Co)-Total			90.1		%		80-120	27-SEP-14
Copper (Cu)-Total			87.2		%		80-120	27-SEP-14
Iron (Fe)-Total			88.1		%		80-120	27-SEP-14
Lead (Pb)-Total			89.6		%		80-120	27-SEP-14
Lithium (Li)-Total			87.3		%		80-120	27-SEP-14
Magnesium (Mg)-Total			90.7		%		80-120	27-SEP-14
Manganese (Mn)-Total			92.3		%		80-120	27-SEP-14
Molybdenum (Mo)-Total			94.5		%		80-120	27-SEP-14
Nickel (Ni)-Total			91.1		%		80-120	27-SEP-14
Potassium (K)-Total			90.6		%		80-120	27-SEP-14
Selenium (Se)-Total			95.0		%		80-120	27-SEP-14
Silicon (Si)-Total			92.2		%		80-120	27-SEP-14
Silver (Ag)-Total			89.1		%		80-120	27-SEP-14
Sodium (Na)-Total			89.1		%		80-120	27-SEP-14
Strontium (Sr)-Total			99.9		%		80-120	27-SEP-14
Thallium (Tl)-Total			94.6		%		80-120	27-SEP-14
Tin (Sn)-Total			89.6		%		80-120	27-SEP-14
Titanium (Ti)-Total			88.6		%		80-120	27-SEP-14
Uranium (U)-Total			91.9		%		80-120	27-SEP-14
Vanadium (V)-Total			92.5		%		80-120	27-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-ED	**Water**							
Batch R2961848								
WG1961124-2 LCS								
Zinc (Zn)-Total			93.0		%		80-120	27-SEP-14
WG1961124-1 MB								
Aluminum (Al)-Total			<0.0030		mg/L		0.003	27-SEP-14
Antimony (Sb)-Total			<0.00010		mg/L		0.0001	27-SEP-14
Arsenic (As)-Total			<0.00010		mg/L		0.0001	27-SEP-14
Barium (Ba)-Total			<0.000050		mg/L		0.00005	27-SEP-14
Beryllium (Be)-Total			<0.00010		mg/L		0.0001	27-SEP-14
Bismuth (Bi)-Total			<0.000050		mg/L		0.00005	27-SEP-14
Cadmium (Cd)-Total			<0.000010		mg/L		0.00001	27-SEP-14
Calcium (Ca)-Total			<0.020		mg/L		0.02	27-SEP-14
Chromium (Cr)-Total			<0.00010		mg/L		0.0001	27-SEP-14
Cobalt (Co)-Total			<0.00010		mg/L		0.0001	27-SEP-14
Copper (Cu)-Total			<0.00010		mg/L		0.0001	27-SEP-14
Iron (Fe)-Total			<0.010		mg/L		0.01	27-SEP-14
Lead (Pb)-Total			<0.000050		mg/L		0.00005	27-SEP-14
Lithium (Li)-Total			<0.0050		mg/L		0.005	27-SEP-14
Magnesium (Mg)-Total			<0.0050		mg/L		0.005	27-SEP-14
Manganese (Mn)-Total			<0.000050		mg/L		0.00005	27-SEP-14
Molybdenum (Mo)-Total			<0.000050		mg/L		0.00005	27-SEP-14
Nickel (Ni)-Total			<0.00010		mg/L		0.0001	27-SEP-14
Phosphorus (P)-Total			<0.30		mg/L		0.3	27-SEP-14
Potassium (K)-Total			<0.050		mg/L		0.05	27-SEP-14
Selenium (Se)-Total			<0.00010		mg/L		0.0001	27-SEP-14
Silicon (Si)-Total			<0.050		mg/L		0.05	27-SEP-14
Silver (Ag)-Total			<0.000010		mg/L		0.00001	27-SEP-14
Sodium (Na)-Total			<0.050		mg/L		0.05	27-SEP-14
Strontium (Sr)-Total			<0.00010		mg/L		0.0001	27-SEP-14
Thallium (Tl)-Total			<0.000010		mg/L		0.00001	27-SEP-14
Tin (Sn)-Total			<0.00010		mg/L		0.0001	27-SEP-14
Titanium (Ti)-Total			<0.00030		mg/L		0.0003	27-SEP-14
Uranium (U)-Total			<0.000010		mg/L		0.00001	27-SEP-14
Vanadium (V)-Total			<0.00010		mg/L		0.0001	27-SEP-14
Zinc (Zn)-Total			<0.0030		mg/L		0.003	27-SEP-14
MET-T-ICP-ED	**Water**							

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-ICP-ED	**Water**							
Batch R2961803								
WG1961124-1 MB								
Sulfur (S)-Total			<0.50		mg/L		0.5	27-SEP-14
NH3-L-CFA-ED	**Water**							
Batch R2957292								
WG1957971-2 LCS								
Ammonia, Total (as N)			95.6		%		85-115	24-SEP-14
WG1957971-3 LCS								
Ammonia, Total (as N)			99.6		%		85-115	24-SEP-14
WG1957971-1 MB								
Ammonia, Total (as N)			<0.0050		mg/L		0.005	24-SEP-14
WG1957971-4 MS		**L1518427-4**						
Ammonia, Total (as N)			101.8		%		75-125	24-SEP-14
WG1957971-6 MS		**L1518150-2**						
Ammonia, Total (as N)			102.4		%		75-125	24-SEP-14
WG1957971-8 MS		**L1514126-19**						
Ammonia, Total (as N)			111.8		%		75-125	24-SEP-14
NO2+NO3-L-CFA-ED	**Water**							
Batch R2953244								
WG1955321-2 LCS								
Nitrate and Nitrite (as N)			96.9		%		90-110	19-SEP-14
WG1955321-1 MB								
Nitrate and Nitrite (as N)			<0.0060		mg/L		0.006	19-SEP-14
WG1955321-4 MS		**L1514126-27**						
Nitrate and Nitrite (as N)			97.3		%		75-125	19-SEP-14
NO2-L-CFA-ED	**Water**							
Batch R2953244								
WG1955321-2 LCS								
Nitrite (as N)			101.6		%		90-110	19-SEP-14
WG1955321-1 MB								
Nitrite (as N)			<0.0020		mg/L		0.002	19-SEP-14
WG1955321-4 MS		**L1514126-27**						
Nitrite (as N)			103.0		%		75-125	19-SEP-14
P-T-L-COL-ED	**Water**							
Batch R2963562								
WG1961921-1 LCS								
Phosphorus (P)-Total			106.0		%		80-120	29-SEP-14

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
P-TD-L-COL-ED	**Water**							
Batch R2963562								
WG1961921-1 LCS								
Phosphorus (P)-Total	Dissolved		106.0		%		80-120	29-SEP-14
PH/EC/ALK-ED	**Water**							
Batch R2953601								
WG1955580-16 LCS								
Conductivity (EC)			97.3		%		90-110	20-SEP-14
WG1955580-17 LCS								
pH			6.03		pH		5.9-6.1	20-SEP-14
WG1955580-18 LCS								
Alkalinity, Total (as CaCO3)			99.1		%		85-115	20-SEP-14
WG1955580-19 LCS								
Conductivity (EC)			98.1		%		90-110	20-SEP-14
WG1955580-2 LCS								
Conductivity (EC)			98.2		%		90-110	20-SEP-14
WG1955580-21 LCS								
Conductivity (EC)			96.3		%		90-110	20-SEP-14
WG1955580-22 LCS								
pH			6.04		pH		5.9-6.1	20-SEP-14
WG1955580-23 LCS								
Alkalinity, Total (as CaCO3)			99.6		%		85-115	20-SEP-14
WG1955580-24 LCS								
Conductivity (EC)			97.0		%		90-110	20-SEP-14
WG1955580-26 LCS								
Conductivity (EC)			95.4		%		90-110	20-SEP-14
WG1955580-27 LCS								
pH			6.04		pH		5.9-6.1	20-SEP-14
WG1955580-28 LCS								
Alkalinity, Total (as CaCO3)			99.6		%		85-115	20-SEP-14
WG1955580-29 LCS								
Conductivity (EC)			94.9		%		90-110	20-SEP-14
WG1955580-31 LCS								
Conductivity (EC)			96.4		%		90-110	20-SEP-14
WG1955580-32 LCS								
pH			6.04		pH		5.9-6.1	20-SEP-14
WG1955580-33 LCS								
Alkalinity, Total (as CaCO3)			100.6		%		85-115	20-SEP-14
WG1955580-34 LCS								
Conductivity (EC)			94.9		%		90-110	20-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PH/EC/ALK-ED	**Water**							
Batch R2953601								
WG1955580-36 LCS								
Conductivity (EC)			101.1		%		90-110	20-SEP-14
WG1955580-37 LCS								
pH			6.04		pH		5.9-6.1	20-SEP-14
WG1955580-38 LCS								
Alkalinity, Total (as CaCO3)			99.3		%		85-115	20-SEP-14
WG1955580-39 LCS								
Conductivity (EC)			99.8		%		90-110	20-SEP-14
WG1955580-41 LCS								
Conductivity (EC)			100.7		%		90-110	21-SEP-14
WG1955580-42 LCS								
pH			6.05		pH		5.9-6.1	21-SEP-14
WG1955580-43 LCS								
Alkalinity, Total (as CaCO3)			99.7		%		85-115	21-SEP-14
WG1955580-44 LCS								
Conductivity (EC)			99.4		%		90-110	21-SEP-14
WG1955580-46 LCS								
Conductivity (EC)			100.6		%		90-110	21-SEP-14
WG1955580-47 LCS								
pH			6.05		pH		5.9-6.1	21-SEP-14
WG1955580-48 LCS								
Alkalinity, Total (as CaCO3)			99.3		%		85-115	21-SEP-14
WG1955580-49 LCS								
Conductivity (EC)			98.8		%		90-110	21-SEP-14
WG1955580-15 MB								
Bicarbonate (HCO3)			<5.0		mg/L		5	20-SEP-14
Carbonate (CO3)			<5.0		mg/L		5	20-SEP-14
Hydroxide (OH)			<5.0		mg/L		5	20-SEP-14
Alkalinity, Total (as CaCO3)			<2.0		mg/L		2	20-SEP-14
WG1955580-20 MB								
Bicarbonate (HCO3)			<5.0		mg/L		5	20-SEP-14
Carbonate (CO3)			<5.0		mg/L		5	20-SEP-14
Hydroxide (OH)			<5.0		mg/L		5	20-SEP-14
Alkalinity, Total (as CaCO3)			<2.0		mg/L		2	20-SEP-14
WG1955580-25 MB								
Bicarbonate (HCO3)			<5.0		mg/L		5	20-SEP-14
Carbonate (CO3)			<5.0		mg/L		5	20-SEP-14
Hydroxide (OH)			<5.0		mg/L		5	20-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PH/EC/ALK-ED	**Water**							
Batch R2953601								
WG1955580-25 MB								
Alkalinity, Total (as CaCO3)			<2.0		mg/L		2	20-SEP-14
WG1955580-30 MB								
Bicarbonate (HCO3)			<5.0		mg/L		5	20-SEP-14
Carbonate (CO3)			<5.0		mg/L		5	20-SEP-14
Hydroxide (OH)			<5.0		mg/L		5	20-SEP-14
Alkalinity, Total (as CaCO3)			<2.0		mg/L		2	20-SEP-14
WG1955580-35 MB								
Bicarbonate (HCO3)			<5.0		mg/L		5	20-SEP-14
Carbonate (CO3)			<5.0		mg/L		5	20-SEP-14
Hydroxide (OH)			<5.0		mg/L		5	20-SEP-14
Alkalinity, Total (as CaCO3)			<2.0		mg/L		2	20-SEP-14
WG1955580-40 MB								
Bicarbonate (HCO3)			<5.0		mg/L		5	21-SEP-14
Carbonate (CO3)			<5.0		mg/L		5	21-SEP-14
Hydroxide (OH)			<5.0		mg/L		5	21-SEP-14
Alkalinity, Total (as CaCO3)			<2.0		mg/L		2	21-SEP-14
WG1955580-45 MB								
Bicarbonate (HCO3)			<5.0		mg/L		5	21-SEP-14
Carbonate (CO3)			<5.0		mg/L		5	21-SEP-14
Hydroxide (OH)			<5.0		mg/L		5	21-SEP-14
Alkalinity, Total (as CaCO3)			<2.0		mg/L		2	21-SEP-14
PO4-DO-L-COL-ED	**Water**							
Batch R2953244								
WG1955321-2 LCS								
Orthophosphate-Dissolved (as P)			97.8		%		80-120	19-SEP-14
WG1955321-1 MB								
Orthophosphate-Dissolved (as P)			<0.0010		mg/L		0.001	19-SEP-14
WG1955321-4 MS		**L1514126-27**						
Orthophosphate-Dissolved (as P)			96.4		%		70-130	19-SEP-14
SO4-L-IC-ED	**Water**							
Batch R2953027								
WG1954560-15 LCS								
Sulfate (SO4)			101.7		%		90-110	18-SEP-14
WG1954560-16 LCS								
Sulfate (SO4)			101.6		%		90-110	18-SEP-14
WG1954560-20 LCS								

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SO4-L-IC-ED	**Water**							
Batch R2953027								
WG1954560-20 LCS								
Sulfate (SO4)			101.7		%		90-110	18-SEP-14
WG1954560-24 LCS								
Sulfate (SO4)			101.6		%		90-110	18-SEP-14
WG1954560-26 LCS								
Sulfate (SO4)			101.7		%		90-110	18-SEP-14
WG1954560-1 MB								
Sulfate (SO4)			<0.050		mg/L		0.05	18-SEP-14
WG1954560-17 MB								
Sulfate (SO4)			<0.050		mg/L		0.05	18-SEP-14
WG1954560-21 MB								
Sulfate (SO4)			<0.050		mg/L		0.05	18-SEP-14
WG1954560-25 MB								
Sulfate (SO4)			<0.050		mg/L		0.05	18-SEP-14
WG1954560-27 MB								
Sulfate (SO4)			<0.050		mg/L		0.05	18-SEP-14
SOLIDS-TDS-ED	**Water**							
Batch R2956181								
WG1956343-2 LCS								
Total Dissolved Solids			97.0		%		85-115	22-SEP-14
WG1956343-1 MB								
Total Dissolved Solids			<10		mg/L		10	22-SEP-14
SOLIDS-TOTSUS-ED	**Water**							
Batch R2955535								
WG1956357-2 LCS								
Total Suspended Solids			96.2		%		85-115	22-SEP-14
WG1956357-1 MB								
Total Suspended Solids			<3.0		mg/L		3	22-SEP-14
SULPHIDE-ED	**Water**							
Batch R2961525								
WG1960873-2 LCS								
Sulphide (as S)			97.9		%		75-125	26-SEP-14
WG1960873-3 LCS								
Sulphide (as S)			79.6		%		75-125	26-SEP-14
WG1960873-1 MB								
Sulphide (as S)			<0.0015		mg/L		0.0015	26-SEP-14
WG1960873-10 MS		**L1524416-22**						
Sulphide (as S)			77.0		%		65-135	27-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SULPHIDE-ED	**Water**							
Batch R2961525								
WG1960873-5 MS		**L1520344-22**						
Sulphide (as S)			91.2		%		65-135	26-SEP-14
WG1960873-6 MS		**L1517228-1**						
Sulphide (as S)			81.2		%		65-135	26-SEP-14
TH-D-CCMS-VA	**Water**							
Batch R2963124								
WG1956029-1 MB								
Thorium (Th)-Dissolved			<0.000050		mg/L		0.00005	27-SEP-14
TH-T-CCMS-VA	**Water**							
Batch R2963124								
WG1960675-1 MB								
Thorium (Th)-Total			<0.000050		mg/L		0.00005	27-SEP-14
TKN-L-CFA-ED	**Water**							
Batch R2962321								
WG1959704-2 LCS								
Total Kjeldahl Nitrogen			100		%		75-125	28-SEP-14
WG1959704-3 LCS								
Total Kjeldahl Nitrogen			105		%		75-125	28-SEP-14
WG1959704-4 LCS								
Total Kjeldahl Nitrogen			104		%		75-125	28-SEP-14
WG1959704-1 MB								
Total Kjeldahl Nitrogen			<0.050		mg/L		0.05	28-SEP-14
WG1959704-6 MS		**L1517398-9**						
Total Kjeldahl Nitrogen			101		%		61.4-139.7	28-SEP-14
TURBIDITY-ED	**Water**							
Batch R2952730								
WG1953802-2 LCS								
Turbidity			97.9		%		70-130	18-SEP-14
WG1953802-1 MB								
Turbidity			<0.10		NTU		0.1	18-SEP-14
ZR-D-CCMS-ED	**Water**							
Batch R2959094								
WG1959159-14 CRM		**ED-HIGH-WATRM**						
Zirconium (Zr)-Dissolved			98.7		%		80-120	25-SEP-14
WG1959159-13 MB								

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
ZR-D-CCMS-ED	**Water**							
Batch R2959094								
WG1959159-13 MB								
Zirconium (Zr)-Dissolved			<0.00030		mg/L		0.0003	25-SEP-14
ZR-T-CCMS-ED	**Water**							
Batch R2961848								
WG1961124-2 LCS								
Zirconium (Zr)-Total			93.1		%		80-120	27-SEP-14
WG1961124-1 MB								
Zirconium (Zr)-Total			<0.00060		mg/L		0.0006	27-SEP-14

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.
SP	Sample was Preserved at the laboratory

Quality Control Report

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Leachable Anions & Nutrients							
Diss. Orthophosphate in Water by Colour							
	1	16-SEP-14 11:00	19-SEP-14 00:00	48	61	hours	EHTL
Anions and Nutrients							
Nitrite & Nitrate in Water by Colour							
	1	16-SEP-14 11:00	19-SEP-14 00:00	48	61	hours	EHTL
Nitrite in Water by Colour							
	1	16-SEP-14 11:00	19-SEP-14 00:00	48	61	hours	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 L1519648 were received on 18-SEP-14 10:23.

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.

Radium-226

Case Narrative

ALS Environmental

L1519648

Work Order Number: 1409451

1. This report consists of the analytical results for one water sample received by ALS on 09/24/14.

2. This sample was prepared and analyzed according to the current revision of SOP 783. The analysis was completed on 10/06/14.

3. The analysis result for this sample is reported in units of BQ/L. The sample was not filtered prior to analysis.

4. Sample volume was insufficient to allow preparation of a duplicate. A laboratory control sample duplicate (LCSD) was prepared in lieu of a client sample duplicate.

5. ICP-AES measurement of barium concentrations prior to chemical separation for the method blank, laboratory control sample, and laboratory control sample duplicate showed concentrations less than zero. To avoid a low bias in the final analytical results, the initial barium concentration was taken to be zero.

6. ALS uses the following convention for reporting significant digits in the TPU and MDC results. The TPU value is rounded to two significant digits. The MDC value is rounded to the same decimal place as the TPU value. In practice, this could result in an MDC reported value of zero for samples with significant activity, including the batch laboratory control sample.

7. No further anomalous situations were encountered during the preparation or analysis of this sample. All quality control criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Emily Knodel — 10/6/14

Emily Knodel
Radiochemistry Primary Data Reviewer

Date

Dubbie Fazio — 10/7/14

Radiochemistry Final Data Reviewer

Date

ALS Environmental -- FC

Sample Number(s) Cross-Reference Table

OrderNum: 1409451
Client Name: ALS Environmental
Client Project Name:
Client Project Number: L1519648
Client PO Number: L1519648

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
L1519648-1	1409451-1		WATER	16-Sep-14	

L1519648

EDMONTON

1409451

Subcontract Request Form

Subcontract To:

ALS ENVIRONMENTAL - FORT COLLINS, COLORADO, USA

225 COMMERCE DRIVE
FORT COLLINS,CO 80524

NOTES: Please reference on final report and invoice: PO# *L1519648*
ALS requires QC data to be provided with your final results.

Please see enclosed 1 sample(s) in 1 Container(s)

SAMPLE NUMBER	CLIENT ID / ANALYTICAL REQUIRED	DATE SAMPLED / DUE DATE	Priority Flag
L1519648-1	**JGT-06-I7-S1-SEP2014**	**9/16/2014**	
	Ra226 by Alpha Scint, MDC=0.01 Bq/L (RA226-MMER-FC 1)	9/29/2014	

Subcontract Info Contact: Christine Potts (780) 413-5242

Analysis and reporting info contact: Jessica Spira
9936 67 AVE
EDMONTON,AB T6E 0P5
Phone: (780) 413-5242 Email: JESSICA.SPIRA@alsglobal.com

Please email confirmation of receipt to: JESSICA.SPIRA@alsglobal.com

Shipped By: _____ Date Shipped: _____

Received By: _____ Date Received: 9/24/14 0955

Verified By: _____ Date Verified: _____

Temperature: _____

Sample Integrity Issues: _____

ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: ALS Edmonton Workorder No: 1409451

Project Manager: DJF Initials: ECP Date: 9/24/14

1. Does this project require any special handling in addition to standard ALS procedures?		YES	(NO)
2. Are custody seals on shipping containers intact?	(NONE)	YES	NO
3. Are Custody seals on sample containers intact?	(NONE)	YES	NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?		(YES)	NO
5. Are the COC and bottle labels complete and legible?		(YES)	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		(YES)	NO
7. Were airbills / shipping documents present and/or removable?	DROP OFF	(YES)	NO
8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	N/A	(YES)	NO
9. Are all aqueous non-preserved samples pH 4-9?	(N/A)	YES	NO
10. Is there sufficient sample for the requested analyses?		(YES)	NO
11. Were all samples placed in the proper containers for the requested analyses?		(YES)	NO
12. Are all samples within holding times for the requested analyses?		(YES)	NO
13. Were all sample containers received intact? (not broken or leaking, etc.)		(YES)	NO
14. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) headspace free? Size of bubble: ____ < green pea ____ > green pea	(N/A)	YES	NO
15. Do any water samples contain sediment? Amount Amount of sediment: ____ dusting ____ moderate ____ heavy	N/A	YES	(NO)
16. Were the samples shipped on ice?		YES	(NO)
17. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #2 #4	(RAD ONLY)	YES	(NO)

Cooler #:	1							
Temperature (°C):	AMB							
No. of custody seals on cooler:	0							
DOT Survey/ Acceptance Information — External µR/hr reading:	15							
Background µR/hr reading:	13							

Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? (YES) NO / NA (If no, see Form 008.)

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16.

If applicable, was the client contacted? YES / NO / (NA) Contact: _____ Date/Time: _____

Project Manager Signature / Date: DJF 9.24.14

*IR Gun #2: Oakton, SN 29922500201-0066
*IR Gun #4: Oakton, SN 2372220101-0002

From: (780) 413-5275
Jimmy Oleson
ALS Labortory Group
9936-67 AVE

Edmonton, AB T6E0P5
CANADA

Origin ID: YEGA

FedEx Express

J14221489898426

Ship Date: 23SEP14
ActWgt: 10.0 KG
CAD: 100133236/INCA3550

15
-0

REF:
DESC-1: water sample for research purposes only
DESC-2:
DESC-3:
DESC-4:

COUNTRY MFG: CA
CARRIAGE VALUE: 1.00 CAD
CUSTOMS VALUE: 1.00 CAD

SIGN: Jimmy Oleson
EIN/VAT:
PKG TYPE: CUSTOMER

1409451

SHIP TO: (970) 490-1511 BILL SENDER

ALS Ft. Collins
ALS Laboratory Group
225 COMMERCE DR

FORT COLLINS, CO 80524
US

10:30A
INTL PRIORITY
ISR
80524
CO-US
DEN

TRK# 7712 5284 1809
0430

XH FTCA

These commodities, technology, or software were exported from Canada in accordance with the export administration regulations. Diversion contrary to Canadian law prohibited.

The Warsaw Convention may apply and will govern and in most cases limit the liability of Federal Express for loss or delay of or damage to your shipment. Subject to the conditions of the contract.

CONSIGNEE COPY- PLEASE PLACE IN FRONT OF POUCH

522G1/CDB4/8AC9

After printing this label:

CONSIGNEE COPY - PLEASE PLACE IN FRONT OF POUCH

1. Fold the printed page along the horizontal line.
2. Place label in shipping pouch and affix it to your shipment.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

LEGAL TERMS AND CONDITIONS OF FEDEX SHIPPING DEFINITIONS. On this Air Waybill, "we", "our", "us", and "FedEx" refer to Federal Express Corporation, its subsidiaries and branches and their respective employees, agents, and independent contractors. The terms "you" and "your" refer to the shipper, its employees, principals and agents. If your shipment originates outside the United States, your contract of carriage is with the FedEx subsidiary, branch or independent contractor who originally accepts the shipment from you. The term "package" means any container or envelope that is accepted by us for delivery, including any such items tendered by you utilizing our automated systems, meters, manifests or waybills. The term "shipment" means all packages which are tendered to and accepted by us on a single Air Waybill. AIR CARRIAGE NOTICE. For any international shipments by air, the Warsaw Convention, as amended, may be applicable. The Warsaw Convention, as amended, will then govern and in most cases limit FedEx's liability for loss, delay of, or damage to your shipment. The Warsaw Convention, as amended, limits FedEx's liability. For example in the U.S. liability is limited to $9.07 per pound (20$ per kilogram), unless a higher value for carriage is declared as described below and you pay any applicable supplementary charges. The interpretation and operation of the Warsaw Convention's liability limits may vary in each country. There are no specific stopping places which are agreed to and FedEx reserves the right to route the shipment in any way FedEx deems appropriate. ROAD TRANSPORT NOTICE. Shipments transported solely by road to or from a country which is a party to the Warsaw Convention or the Contract for the International Carriage of Goods by Road (the "CMR") are subject to the terms and conditions of the CMR, notwithstanding any other provision of this Air Waybill to the contrary. For those shipments transported solely by road, if a conflict arises between the provisions of the CMR and this Air Waybill, the terms of the CMR shall prevail. LIMITATION OF LIABILITY. If not governed by the Warsaw Convention, the CMR, or other international treaties, laws, other government regulations, orders, or requirements, FedEx's maximum liability for damage, loss, delay, shortage, mis-delivery, nondelivery, misinformation or failure to provide information in connection with your shipment is limited by this Agreement and as set out in the terms and conditions of the contract of carriage. Please refer to the contract of carriage set forth in the applicable FedEx Service Guide or its equivalent to determine the contractual limitation. FedEx does not provide cargo liability or all-risk insurance, but you may pay an additional charge for each additional U.S. $100 (or equivalent local currency for the country of origin) of declared value for carriage. If a higher value for carriage is declared and the additional charge is paid, FedEx's maximum liability will be the lesser of the declared value for carriage or your actual damages. LIABILITIES NOT ASSUMED. IN ANY EVENT, FEDEX WON'T BE LIABLE FOR ANY DAMAGES, WHETHER DIRECT, INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL IN EXCESS OF THE DECLARED VALUE FOR CARRIAGE (INCLUDING BUT NOT LIMITED TO LOSS OF INCOME OR PROFITS) OR THE ACTUAL VALUE OF THE SHIPMENT, IF LOWER, WHETHER OR NOT FEDEX HAD ANY KNOWLEDGE THAT SUCH DAMAGES MIGHT BE INCURRED. FedEx won't be liable for your acts or omissions, including but not limited to incorrect declaration of cargo, improper or insufficient packaging, securing, marking or addressing of the shipment, or for the acts or omissions of the recipient or anyone else with an interest in the shipment or violations by any party of the terms of this agreement. FedEx won't be liable for damage, loss, delay, shortage, mis-delivery, non-delivery, misinformation or failure to provide information in connection with shipments of cash, currency or other prohibited items or in instances beyond our control, such as acts of God, perils of the air, weather conditions, mechanical delays, acts of public enemies, war, strike, civil commotion, or acts or omissions of public authorities(including customs and health officials) with actual or apparent authority. NO WARRANTY. We make no warranties, express or implied. CLAIMS FOR LOSS, DAMAGE OR DELAY. ALL CLAIMS MUST BE MADE IN WRITING AND WITHIN STRICT TIME LIMITS. SEE OUR TARIFF, APPLICABLE FEDEX SERVICE GUIDE, OR STANDARD CONDITIONS OF CARRIAGE FOR DETAILS. The Warsaw Convention provides specific written claims procedures for damage, delay or non-delivery of your shipment. Moreover, the interpretation and operation of the Warsaw Convention's claims provisions may vary in each country. Refer to the Convention to determine the claims period for your shipment. The right to damages against us shall be extinguished unless an action is brought within two years, as set forth in the Convention. FedEx is not obligated to act on any claim until all transportation charges have been paid. The claim amount may not be deducted from the transportation charges. If the recipient accepts the shipment without noting any damage on the delivery record, FedEx will assume the shipment was delivered in good condition. In order for us to consider a claim for damage, the contents, original shipping carton and packing must be made available to us for inspection. MANDATORY LAW. Insofar as any provision contained or referred to in this Air Waybill may be contrary to any applicable international treaties, laws, government regulations, orders or requirements such provisions shall remain in effect as a part of our agreement to the extent that it is not overridden. The invalidity or unenforceability of any provisions shall not affect any other part of this Air Waybill. Unless otherwise indicated, FEDERAL EXPRESS CORPORATION, 2005 Corporate Avenue, Memphis, TN 38132, USA, is the first carrier of this shipment. Email address located at www.fedex.com.

Ra-226 by Radon Emanation - Method 903.1

PAI 783 Rev 10

Method Blank Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1409451
Client Name: ALS Environmental
ClientProject ID: L1519648

Lab ID: RE140924-1MB

Sample Matrix: WATER
Prep SOP: PAI 783 Rev 10
Date Collected: 24-Sep-14
Date Prepared: 24-Sep-14
Date Analyzed: 06-Oct-14

Prep Batch: RE140924-1
QCBatchID: RE140924-1-2
Run ID: RE140924-1A
Count Time: 30 minutes

Final Aliquot: 1190 ml
Result Units: BQ/l
File Name: Manual Entry

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
13982-63-3	Ra-226	0.0008 +/- 0.0022	0.0041	0.00999	U

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
BARIUM	15450	14980	ug	97.0	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

M - Requested MDC not met.

B - Analyte concentration greater than MDC.

B3 - Analyte concentration greater than MDC but less than Requested MDC.

Data Package ID: *RE1409451-1*

Ra-226 by Radon Emanation - Method 903.1

PAI 783 Rev 10

Laboratory Control Sample(s)

Lab Name: ALS Environmental -- FC
Work Order Number: 1409451
Client Name: ALS Environmental
ClientProject ID: L1519648

Lab ID: RE140924-1LCS

Sample Matrix: WATER
Prep SOP: PAI 783 Rev 10
Date Collected: 24-Sep-14
Date Prepared: 24-Sep-14
Date Analyzed: 06-Oct-14

Prep Batch: RE140924-1
QCBatchID: RE140924-1-2
Run ID: RE140924-1A
Count Time: 15 minutes

Final Aliquot: 1190 ml
Result Units: BQ/l
File Name: Manual Entry

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
13982-63-3	Ra-226	1.46 +/- 0.36	0	1.396	104	67 - 120	P

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
BARIUM	15450	15070	ug	97.6	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

L - LCS Recovery below lower control limit.

H - LCS Recovery above upper control limit.

P - LCS Recovery within control limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

Data Package ID: *RE1409451-1*

Ra-226 by Radon Emanation - Method 903.1

PAI 783 Rev 10

Laboratory Control Sample(s)

Lab Name: ALS Environmental -- FC
Work Order Number: 1409451
Client Name: ALS Environmental
ClientProject ID: L1519648

Lab ID: RE140924-1LCSD

Sample Matrix: WATER
Prep SOP: PAI 783 Rev 10
Date Collected: 24-Sep-14
Date Prepared: 24-Sep-14
Date Analyzed: 06-Oct-14

Prep Batch: RE140924-1
QCBatchID: RE140924-1-2
Run ID: RE140924-1A
Count Time: 15 minutes

Final Aliquot: 1190 ml
Result Units: BQ/l
File Name: Manual Entry

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
13982-63-3	Ra-226	1.44 +/- 0.36	0.01	1.396	103	67 - 120	P

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
BARIUM	15450	14890	ug	96.4	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

L - LCS Recovery below lower control limit.

H - LCS Recovery above upper control limit.

P - LCS Recovery within control limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

Data Package ID: *RE1409451-1*

Ra-226 by Radon Emanation - Method 903.1

PAI 783 Rev 10

Duplicate Sample Results (DER)

Lab Name: ALS Environmental -- FC
Work Order Number: 1409451
Client Name: ALS Environmental
ClientProject ID: L1519648

Field ID:
Lab ID: RE140924-1LCSD

Sample Matrix: WATER
Prep SOP: PAI 783 Rev 10
Date Collected: 24-Sep-14
Date Prepared: 24-Sep-14
Date Analyzed: 06-Oct-14

Prep Batch: RE140924-1
QCBatchID: RE140924-1-2
Run ID: RE140924-1A
Count Time: 15 minutes

Final Aliquot: 1190 ml
Prep Basis: Unfiltered
Moisture(%): NA
Result Units: BQ/l
File Name: Manual Entry

CASNO	Analyte	Sample			Duplicate			DER	DER Lim
		Result +/- 2 s TPU	MDC	Flags	Result +/- 2 s TPU	MDC	Flags		
13982-63-3	Ra-226	1.46 +/- 0.36	0	P	1.44 +/- 0.36	0.01	P	0.042	2.13

Comments:

Duplicate Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.

Y2 - Chemical Yield outside default limits.

W - DER is greater than Warning Limit of 1.42

D - DER is greater than Control Limit of 2.13

LT - Result is less than Request MDC, greater than sample specific MDC

M - Requested MDC not met.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

L - LCS Recovery below lower control limit.

H - LCS Recovery above upper control limit.

P - LCS, Matrix Spike Recovery within control limits.

N - Matrix Spike Recovery outside control limits

Abbreviations:

TPU - Total Propagated Uncertainty

DER - Duplicate Error Ratio

BDL - Below Detection Limit

NR - Not Reported

Data Package ID: *RE1409451-1*

Ra-226 by Radon Emanation - Method 903.1

PAI 783 Rev 10

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1409451
Client Name: ALS Environmental
ClientProject ID: L1519648

Field ID: L1519648-1
Lab ID: 1409451-1

Sample Matrix: WATER
Prep SOP: PAI 783 Rev 10
Date Collected: 16-Sep-14
Date Prepared: 24-Sep-14
Date Analyzed: 06-Oct-14

Prep Batch: RE140924-1
QCBatchID: RE140924-1-2
Run ID: RE140924-1A
Count Time: 30 minutes
Report Basis: Unfiltered

Final Aliquot: 1190 ml
Prep Basis: Unfiltered
Moisture(%): NA
Result Units: BQ/l
File Name: Manual Entry

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
13982-63-3	Ra-226	0.317 +/- 0.081	0.006	0.00999	

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
BARIUM	15450	14320	ug	92.7	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

Data Package ID: *RE1409451-1*

ALS Environmental

Chain of Custody / Analytical Request Form

Canada Toll Free: 1 800 668 9878

www.alsglobal.com

COC # 1

Page 1 of 1

Report To		Report Format / Distribution	Service Requested (Rush for routine analysis subject to availability)
Company:	GOLDER ASSOCIATES LTD	☑ Standard ☐ Other	◉ Regular (Standard Turnaround Times - Business Days)
Contact:	Don Chorley/Ermanno Rambelli	☑ PDF ☑ Excel ☐ Digital ☐ Fax	○ Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT
Address:	500-4260 Still Creek Drive, Burnaby, British Columbia	Email 1: don_chorley@golder.com	○ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT
	V5C 6C6	Email 2: ermanno_rambelli@golder.com	○ Same Day or Weekend Emergency - Contact ALS to Confirm TAT
Phone:	1-604-296-4200 Fax: 1-604298-2543	Email 3: laura_hampson@golder.com	
Invoice To	Same as Report ? ☑ Yes ☐ No	Client / Project Information	
Hardcopy of Invoice with Report?	☐ Yes ☐ No	Job #: 1407256/2010/92	
Company:		PO / AFE:	
Contact:		LSD:	
Address:			
Phone:	Fax:	Quote #: Q44824	

Lab Work Order # (lab use only): L1519648

ALS Contact: Jessica Spira | Sampler: Nani Stefano/Ric

Analysis Request

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

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	F/P GLD-CAL-WQ-MET-DU-ED	P GLD-CAL-WQ-MET-TU-ED	P GLD-CAL-WQ-NUT-ED	GL-CAL-WQ-ROU-ED	F HG-D-U-CVAF-VA	HG-T-U-CVAF-VA	F/P PO4-DO-L-COL-ED	P RA226-MMER-FC	F/P TH-D-CCMS-ED	P TH-T-CCMS-ED	P MET-T-CCMS-1 (ED-P-T-MS)	F/P MET-D-CCMS-1 (ED-P-D-MS)	Number of Containers
	JGT-06-I7-S1-sep2014	16-Sep-14	11:00	Groundwater	X	X	X	X	X	X	X	X	X	X	X	X	9

L1519648-COFC

Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details

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 provided on a separate Excel tab.

Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
Stefano Nani/Ricardo Quevedo	16-Sep-14	17:30	RT	9/18/2014	10:23am	5.7°C				

ALS Environmental

Chain of Custody / Analytical Request Form

Canada Toll Free: 1 800 668 9878

www.alsglobal.com

COC # 1

Page 1 of 1

Report To		Report Format / Distribution	Service Requested (Rush for routine analysis subject to availability)
Company:	GOLDER ASSOCIATES LTD	☑ Standard ☐ Other	◉ Regular (Standard Turnaround Times - Business Days)
Contact:	Don Chorley/Ermanno Rambelli	☑ PDF ☑ Excel ☐ Digital ☐ Fax	○ Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT
Address:	500-4260 Still Creek Drive, Burnaby, British Columbia	Email 1: don_chorley@golder.com	○ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT
	V5C 6C6	Email 2: ermanno_rambelli@golder.com	○ Same Day or Weekend Emergency - Contact ALS to Confirm TAT
Phone:	1-604-296-4200 Fax: 1-604298-2543	Email 3: laura_hampson@golder.com	
Invoice To	Same as Report ? ☑ Yes ☐ No	Client / Project Information	
Hardcopy of Invoice with Report?	☐ Yes ☐ No	Job #: 1407256/2010/92	
Company:		PO / AFE:	
Contact:		LSD:	
Address:			
Phone:	Fax:	Quote #: Q44824	

Lab Work Order # (lab use only): L1519648

ALS Contact: Jessica Spira | Sampler: Nani Stefano/Ric

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

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	GLD-CAL-WQ-MET-DU-ED (F/P)	GLD-CAL-WQ-MET-TU-ED (P)	GLD-CAL-WQ-NUT-ED (P)	GL-CAL-WQ-ROU-ED	HG-D-U-CVAF-VA (F)	HG-T-U-CVAF-VA	PO4-DO-L-COL-ED (F/P)	RA226-MMER-FC (P)	TH-D-CCMS-ED (F/P)	TH-T-CCMS-ED (P)	MET-T-CCMS-1 (ED-P-T-MS) (P)	MET-D-CCMS-1 (ED-P-D-MS) (F/P)	Number of Containers
	JGT-06-I7-S1-sep2014	16-Sep-14	11:00	Groundwater	X	X	X	X	X	X	X	X	X	X	X	X	9

L1519648-COFC

Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details

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 provided on a separate Excel tab.

Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
Stefano Nani/Ricardo Quevedo	16-Sep-14	17:30	RT	9/18/2014	10:23am	5.7°C				

GOLDER ASSOCIATES LTD.
ATTN: DON CHORLEY/ERMANNO RAMBELLI
500 - 4260 Still Creek Drive
Burnaby BC V5C 6C6

Date Received: 16-SEP-14
Report Date: 23-OCT-14 15:33 (MT)
Version: FINAL REV. 6

Client Phone: 604-296-4200

Certificate of Analysis

Lab Work Order #: L1518427

Project P.O. #: NOT SUBMITTED
Job Reference: 1407256/2010/92
C of C Numbers:
Legal Site Desc:

Comments: 22-OCT-2014 REVISED REPORT: L1518427 SAMPLE ID CORRECTION
23-OCT-2014 ADDITIONAL METALS

Jessica Spira
Senior Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1518427-1 GROUND WATE 14-SEP-14 08:30 JGT-06-I9-S1-SEP2014	L1518427-2 GROUND WATE 14-SEP-14 08:30 JGT-06-DUPLICATE	L1518427-3 GROUND WATE 14-SEP-14 08:30 JGT-06FIELD BLANK- SEP2014	L1518427-4 GROUND WATE 14-SEP-14 08:30 JGT-06-TRIP BLANK-SEP2014
WATER					
Physical Tests	Color, True (C.U.)	13.4	14.0	<2.0	<2.0
	Hardness (as CaCO3) (mg/L)	1160	1180	<0.50	<0.50
	Total Suspended Solids (mg/L)	<3.0	<3.0	<3.0	<3.0
	Total Dissolved Solids (mg/L)	2640	2630	<10	<10
	Turbidity (NTU)	3.91	3.23	<0.10	<0.10
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	48.1	48.9	<2.0	<2.0
	Ammonia, Total (as N) (mg/L)	0.0482	0.0445	<0.0050	<0.0050
	Bicarbonate (HCO3) (mg/L)	58.7	59.7	<5.0	<5.0
	Carbonate (CO3) (mg/L)	<5.0	<5.0	<5.0	<5.0
	Chloride (Cl) (mg/L)	1140 DLM	1140 DLM	<0.50	<0.50
	Conductivity (EC) (uS/cm)	4060	4090	0.87	0.77
	Fluoride (F) (mg/L)	<0.10 DLM	<0.10 DLM	<0.020	<0.020
	Hydroxide (OH) (mg/L)	<5.0	<5.0	<5.0	<5.0
	Nitrate and Nitrite (as N) (mg/L)	<0.0060	<0.0060	<0.0060	<0.0060
	Nitrate (as N) (mg/L)	<0.0060	<0.0060	<0.0060	<0.0060
	Nitrite (as N) (mg/L)	<0.0020	<0.0020	<0.0020	<0.0020
	Total Kjeldahl Nitrogen (mg/L)	0.054	<0.050	<0.050	<0.050
	pH (pH)	7.45	7.59	5.01	5.00
	Orthophosphate-Dissolved (as P) (mg/L)	0.0220	0.0202	<0.0010	<0.0010
	Phosphorus (P)-Total Dissolved (mg/L)	0.0208	0.0217	<0.0010	<0.0010
	Phosphorus (P)-Total (mg/L)	0.0281	0.0233	0.0020 RRV	<0.0010
	TDS (Calculated) (mg/L)	2190	2200	<1.0	<1.0
	Sulfate (SO4) (mg/L)	205 DLM	206 DLM	<0.050	<0.050
	Sulphide (as S) (mg/L)	4.49	3.83	<0.0015	<0.0015
Organic / Inorganic Carbon	Dissolved Organic Carbon (mg/L)	191 DLA	176	<0.50	<0.50
	Total Organic Carbon (mg/L)	220	179 DLA	<0.50	<0.50
Total Metals	Aluminum (Al)-Total (mg/L)	<0.015 DLM	<0.020 DLM		
	Antimony (Sb)-Total (mg/L)	<0.00050 DLM	<0.00050 DLM		
	Arsenic (As)-Total (mg/L)	0.00223 DLM	0.00216 DLM		
	Barium (Ba)-Total (mg/L)	0.0104 DLM	0.0103 DLM		
	Beryllium (Be)-Total (mg/L)	<0.00050 DLM	<0.0010 DLM		
	Bismuth (Bi)-Total (mg/L)	<0.00025 DLM	<0.00025 DLM		
	Boron (B)-Total (mg/L)	0.155 DLM			
	Cadmium (Cd)-Total (mg/L)	<0.000050 DLM	<0.00020 DLM		
	Calcium (Ca)-Total (mg/L)	314 DLM			
	Chromium (Cr)-Total (mg/L)	<0.00050 DLM	<0.00080 DLM		

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1518427-1	L1518427-2	L1518427-3	L1518427-4	
	Description	GROUND WATE	GROUND WATE	GROUND WATE	GROUND WATE	
	Sampled Date	14-SEP-14	14-SEP-14	14-SEP-14	14-SEP-14	
	Sampled Time	08:30	08:30	08:30	08:30	
	Client ID	JGT-06-I9-S1-SEP2014	JGT-06-DUPLICATE	JGT-06FIELD BLANK- SEP2014	JGT-06-TRIP BLANK-SEP2014	
Grouping	**Analyte**					
WATER						
Total Metals	Cobalt (Co)-Total (mg/L)	DLM <0.00050	DLM <0.00050			
	Copper (Cu)-Total (mg/L)	DLM <0.00050	DLM <0.0010			
	Iron (Fe)-Total (mg/L)	DLM <0.050				
	Lead (Pb)-Total (mg/L)	DLM <0.00025	DLM <0.00025			
	Lithium (Li)-Total (mg/L)	0.062				
	Magnesium (Mg)-Total (mg/L)	DLM 76.9				
	Manganese (Mn)-Total (mg/L)	DLM 0.0974				
	Mercury (Hg)-Total (ug/L)	<0.00050	<0.00050	<0.00050	<0.00050	
	Molybdenum (Mo)-Total (mg/L)	DLM 0.00100	DLM 0.00146			
	Nickel (Ni)-Total (mg/L)	DLM <0.00050	DLM <0.00050			
	Phosphorus (P)-Total (mg/L)	DLM <1.5		<0.30	<0.30	
	Potassium (K)-Total (mg/L)	DLM 6.13				
	Selenium (Se)-Total (mg/L)	DLM 0.00171	DLM 0.00198			
	Silicon (Si)-Total (mg/L)	DLM 4.87		<0.050	<0.050	
	Silver (Ag)-Total (mg/L)	DLM <0.000050	DLM <0.00040			
	Sodium (Na)-Total (mg/L)	DLM 377				
	Strontium (Sr)-Total (mg/L)	DLM 5.83	DLM 5.77			
	Sulfur (S)-Total (mg/L)	102	107	<0.50	<0.50	
	Thallium (Tl)-Total (mg/L)	DLM 0.000053	DLM <0.00010			
	Thorium (Th)-Total (mg/L)	DLA <0.00010	DLA <0.00010	<0.000050	<0.000050	
	Tin (Sn)-Total (mg/L)	DLM <0.00050	DLM <0.00050			
	Titanium (Ti)-Total (mg/L)	DLM <0.0015	DLM <0.0050			
	Uranium (U)-Total (mg/L)	DLM 0.00307	DLM 0.00294			
	Vanadium (V)-Total (mg/L)	DLM <0.00050	DLM <0.00050			
	Zinc (Zn)-Total (mg/L)	DLM <0.015	DLM 0.312			
	Zirconium (Zr)-Total (mg/L)	DLM <0.0030	DLM <0.0030	<0.00060	<0.00060	
Total Metals (Undigested)	Aluminum (Al)-Total (mg/L)			<0.00030	<0.00030	
	Antimony (Sb)-Total (mg/L)			<0.000020	<0.000020	
	Arsenic (As)-Total (mg/L)			<0.000020	<0.000020	
	Barium (Ba)-Total (mg/L)			<0.000050	<0.000050	
	Beryllium (Be)-Total (mg/L)			<0.000010	<0.000010	
	Bismuth (Bi)-Total (mg/L)			<0.000010	<0.000010	
	Boron (B)-Total (mg/L)			<0.0010	<0.0010	
	Cadmium (Cd)-Total (mg/L)			<0.0000050	<0.0000050	
	Chromium (Cr)-Total (mg/L)			<0.000060	<0.000060	
	Cobalt (Co)-Total (mg/L)			<0.000010	<0.000010	
	Copper (Cu)-Total (mg/L)			<0.00010	<0.00010	

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1518427-1	L1518427-2	L1518427-3	L1518427-4	
	Description	GROUND WATE	GROUND WATE	GROUND WATE	GROUND WATE	
	Sampled Date	14-SEP-14	14-SEP-14	14-SEP-14	14-SEP-14	
	Sampled Time	08:30	08:30	08:30	08:30	
	Client ID	JGT-06-I9-S1-SEP2014	JGT-06-DUPLICATE	JGT-06FIELD BLANK- SEP2014	JGT-06-TRIP BLANK-SEP2014	
Grouping	**Analyte**					
WATER						
Total Metals (Undigested)	Iron (Fe)-Total (mg/L)			<0.0010	<0.0010	
	Lead (Pb)-Total (mg/L)			<0.000010	<0.000010	
	Lithium (Li)-Total (mg/L)			<0.00050	<0.00050	
	Manganese (Mn)-Total (mg/L)			<0.000050	<0.000050	
	Molybdenum (Mo)-Total (mg/L)			<0.000050	<0.000050	
	Nickel (Ni)-Total (mg/L)			<0.000060	<0.000060	
	Selenium (Se)-Total (mg/L)			<0.000040	<0.000040	
	Silver (Ag)-Total (mg/L)			<0.0000050	<0.0000050	
	Strontium (Sr)-Total (mg/L)			<0.000050	<0.000050	
	Thallium (Tl)-Total (mg/L)			<0.000010	<0.000010	
	Tin (Sn)-Total (mg/L)			<0.000050	<0.000050	
	Titanium (Ti)-Total (mg/L)			<0.00010	<0.00010	
	Uranium (U)-Total (mg/L)			<0.000010	<0.000010	
	Vanadium (V)-Total (mg/L)			<0.000050	<0.000050	
	Zinc (Zn)-Total (mg/L)			<0.00080	<0.00080	
Dissolved Metals	Dissolved Mercury Filtration Location	FIELD	FIELD	FIELD	FIELD	
	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	
	Aluminum (Al)-Dissolved (mg/L)	0.0102	0.0119	<0.00030	<0.00030	
	Antimony (Sb)-Dissolved (mg/L)	<0.00050	<0.00050	<0.000020	<0.000020	
	Arsenic (As)-Dissolved (mg/L)	0.00140	0.00133	<0.000020	<0.000020	
	Barium (Ba)-Dissolved (mg/L)	0.0123	0.0114	<0.000050	<0.000050	
	Beryllium (Be)-Dissolved (mg/L)	<0.00050	<0.00050	<0.000010	<0.000010	
	Bismuth (Bi)-Dissolved (mg/L)	<0.00025	<0.00025	<0.000010	<0.000010	
	Boron (B)-Dissolved (mg/L)	0.0317	0.169 DLM	<0.0010	<0.0010	
	Cadmium (Cd)-Dissolved (mg/L)	<0.000050	<0.000050	<0.0000050	<0.0000050	
	Calcium (Ca)-Dissolved (mg/L)	332	336	<0.020	<0.020	
	Chromium (Cr)-Dissolved (mg/L)	0.00055	<0.00050	<0.000060	<0.000060	
	Cobalt (Co)-Dissolved (mg/L)	<0.00050	<0.00050	<0.000010	<0.000010	
	Copper (Cu)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00010	<0.00010	
	Iron (Fe)-Dissolved (mg/L)	<0.050	<0.050	<0.0010	<0.0010	
	Lead (Pb)-Dissolved (mg/L)	<0.00025	<0.00025	<0.000010	<0.000010	
	Lithium (Li)-Dissolved (mg/L)	0.071	0.069	<0.00050	<0.00050	
	Magnesium (Mg)-Dissolved (mg/L)	81.2	82.1	<0.0040	<0.0040	
	Manganese (Mn)-Dissolved (mg/L)	0.103	0.0993	<0.000050	<0.000050	
	Mercury (Hg)-Dissolved (ug/L)	<0.00050	<0.00050	<0.00050	<0.00050	
	Molybdenum (Mo)-Dissolved (mg/L)	0.000431	0.00086	<0.000050	<0.000050	
	Nickel (Ni)-Dissolved (mg/L)	<0.00050	<0.00050	<0.000060	<0.000060	

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1518427-1	L1518427-2	L1518427-3	L1518427-4	
	Description	GROUND WATE	GROUND WATE	GROUND WATE	GROUND WATE	
	Sampled Date	14-SEP-14	14-SEP-14	14-SEP-14	14-SEP-14	
	Sampled Time	08:30	08:30	08:30	08:30	
	Client ID	JGT-06-I9-S1-SEP2014	JGT-06-DUPLICATE	JGT-06FIELD BLANK- SEP2014	JGT-06-TRIP BLANK-SEP2014	
Grouping	**Analyte**					
WATER						
Dissolved Metals	Phosphorus (P)-Dissolved (mg/L)	<1.5	<1.5	<0.30	<0.30	
	Potassium (K)-Dissolved (mg/L)	6.81	7.03	<0.020	<0.020	
	Selenium (Se)-Dissolved (mg/L)	<0.00050	<0.00050	<0.000040	<0.000040	
	Silicon (Si)-Dissolved (mg/L)	5.13	5.22	<0.050	<0.050	
	Silver (Ag)-Dissolved (mg/L)	<0.000050	<0.000050	<0.0000050	<0.0000050	
	Sodium (Na)-Dissolved (mg/L)	400	402	<0.0050	<0.0050	
	Strontium (Sr)-Dissolved (mg/L)	5.82	5.62	<0.000050	<0.000050	
	Sulfur (S)-Dissolved (mg/L)	100	94.8	<0.50	<0.50	
	Thallium (Tl)-Dissolved (mg/L)	<0.000050	<0.000050	<0.0000050	<0.0000050	
	Thorium (Th)-Dissolved (mg/L)	<0.00010 DLA	<0.00010 DLA	<0.000050	<0.000050	
	Tin (Sn)-Dissolved (mg/L)	<0.00050	<0.00050	<0.000050	<0.000050	
	Titanium (Ti)-Dissolved (mg/L)	<0.0015	<0.0015	<0.00010	<0.00010	
	Uranium (U)-Dissolved (mg/L)	0.00278	0.00273	<0.000010	<0.000010	
	Vanadium (V)-Dissolved (mg/L)	<0.00050	<0.00050	<0.000050	<0.000050	
	Zinc (Zn)-Dissolved (mg/L)	0.0441	<0.0050	<0.00080	<0.00080	
	Zirconium (Zr)-Dissolved (mg/L)	<0.0015	<0.0015	<0.00030	<0.00030	

* 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	Dissolved Organic Carbon	MS-B	L1518427-1, -2
Matrix Spike	Dissolved Organic Carbon	MS-B	L1518427-3, -4

Qualifiers for Individual Parameters Listed:

Qualifier	Description
DLA	Detection Limit adjusted for required dilution
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**
B-D-L-CCMS-ED	Water	Dissolved Boron in Water by CRC ICPMS	APHA 3030 B / EPA SW-846 6020A
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 procedures may involve preliminary sample treatment by acid digestion, using hotblock, or filtration (APHA 3030B&E). Instrumental analysis is by collision cell inductively coupled plasma - mass spectrometry (modifed from EPA Method 6020A).			
B-T-L-CCMS-ED	Water	Total Boron in Water by CRC ICPMS	APHA 3030 E / EPA SW-846 6020A
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 procedures may involve preliminary sample treatment by acid digestion, using hotblock, or filtration (APHA 3030B&E). Instrumental analysis is by collision cell inductively coupled plasma - mass spectrometry (modifed from EPA Method 6020A).			
C-DIS-ORG-ED	Water	Dissolved Organic Carbon	APHA 5310 B-Instrumental
C-DIS-ORG-LOW-ED	Water	Dissolved Organic Carbon	APHA 5310 B-Instrumental
C-TOT-ORG-ED	Water	Total Organic Carbon	APHA 5310 B-Instrumental
C-TOT-ORG-LOW-ED	Water	Total Organic Carbon	APHA 5310 B-Instrumental
CL-IC-ED	Water	Chloride by IC	APHA 4110 B-ION CHROMATOGRAPHY
COL-TRU-ED	Water	Color, True	APHA 2120
The reported color applies to the pH of the sample as submitted unless otherwise noted on the report.			
ETL-HARDNESS-DIS-ED	Water	Hardness (from Dissolved Ca and Mg)	APHA 2340 B-Calculation
F-IC-ED	Water	Fluoride by IC	APHA 4110 B-ION CHROMATOGRAPHY
HG-D-U-CVAF-VA	Water	Diss. Mercury in Water by CVAFS (Ultra)	APHA 3030 B / EPA 1631 REV. E
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 Method 1631 Rev. E. by the United States Environmental Protection Agency (EPA). The procedure may involve preliminary sample treatment by filtration (APHA 3030B) and involves a cold-oxidation of the acidified sample using bromine monochloride prior to a purge and trap concentration step and final reduction of the sample with stannous chloride. Instrumental analysis is by cold vapour atomic fluorescence spectrophotometry.			
HG-T-U-CVAF-VA	Water	Total Mercury in Water by CVAFS (Ultra)	EPA 1631 REV. E
This analysis is carried out using procedures adapted from Method 1631 Rev. E. by the United States Environmental Protection Agency (EPA). The procedure involves a cold-oxidation of the acidified sample using bromine monochloride prior to a purge and trap concentration step and final reduction of the sample with stannous chloride. Instrumental analysis is by cold vapour atomic fluorescence spectrophotometry.			
IONBALANCE-ED	Water	Ion Balance Calculation	APHA 1030E
MET-D-CCMS-ED	Water	Dissolved Metals in Water by CRC ICPMS	APHA 3030 B&E / EPA SW-846 6020A
MET-D-ICP-ED	Water	Dissolved Metals in Water by ICPOES	APHA 3120 B-ICP-OES
MET-D-NP-U-CCMS-ED	Water	Diss. Metals in Water by CRC ICPMS (Ult)	APHA 3125-ICP-MS
Ultra trace metals in water are analyzed by ICPMS, based on US EPA Method 6020A (Jan 1998). This procedure is intended for pristine field-filtered acid-preserved water samples. ALS recommends that filtration blanks be submitted for this test to aid with interpretation of results.			
MET-T-CCMS-ED	Water	Total Metals in Water by CRC ICPMS	APHA 3030 B&E / EPA SW-846 6020A
MET-T-ICP-ED	Water	Total Metals in Water by ICPOES	APHA 3120 B-ICP-OES
MET-T-NP-U-CCMS-ED	Water	Metals in Water by CRC ICPMS (No Digest)	APHA 3125-ICP-MS
Ultra trace metals in water are analyzed by ICPMS, based on US EPA Method 6020A (Jan 1998). The detection limits provided can only be met for undigested samples. This procedure is intended for pristine, non-turbid, acid-preserved water samples, where sample turbidity is < 1 NTU. Where turbidity exceeds 1 NTU, results may be biased low compared to true Total Metals concentrations. ALS recommends that turbidity analysis be			

Reference Information

requested on samples submitted for this test to aid with interpretation of results.

NH3-L-CFA-ED	Water	Ammonia in Water by Colour	APHA 4500 NH3-NITROGEN (AMMONIA)

This analysis is carried out using procedures adapted from APHA Method 4500 NH3 "NITROGEN (AMMONIA)". Ammonia is determined using the automated phenate colourimetric method.

NO2+NO3-L-CFA-ED	Water	Nitrite & Nitrate in Water by Colour	APHA 4500 NO3-F

This analysis is carried out using procedures adapted from APHA Method 4500 NO3-F "Automated Cadmium Reduction Method".

NO2-L-CFA-ED	Water	Nitrite in Water by Colour	APHA 4500 NO2-A and NO3-F

This analysis is carried out using procedures adapted from APHA Method 4500 NO3-F "Automated Cadmium Reduction Method", omitting the Cu-Cd reduction step to be selective for nitrite.

NO3-L-CALC-ED	Water	Nitrate in Water (Calculation)	APHA 4500 NO3-F

Nitrate (as N) is a calculated parameter. Nitrate (as N) = [Nitrate and Nitrite (as N)] - Nitrite (as N).

P-T-L-COL-ED	Water	Total P in Water by Colour	APHA 4500-P PHOSPHORUS

This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Phosphorus is determined colourimetrically after persulphate digestion of the sample.

P-TD-L-COL-ED	Water	Total Dissolved P in Water by Colour	APHA 4500-P PHOSPHORUS

This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Dissolved Phosphorous is determined colourimetrically after persulphate digestion of a sample that has been lab or field filtered through a 0.45 micron membrane filter.

PH/EC/ALK-ED	Water	pH, Conductivity and Total Alkalinity	APHA 4500-H, 2510, 2320

All samples analyzed by this method for pH will have exceeded the 15 minute recommended hold time from time of sampling (field analysis is recommended for pH where highly accurate results are needed)

PO4-DO-L-COL-ED	Water	Diss. Orthophosphate in Water by Colour	APHA 4500-P PHOSPHORUS

This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter.

SO4-L-IC-ED	Water	Sulfate by IC (Low Level)	APHA 4110 B-ION CHROMATOGRAPHY
SOLIDS-TDS-ED	Water	Total Dissolved Solids	APHA 2540 C
SOLIDS-TOTSUS-ED	Water	Total Suspended Solids	APHA 2540 D-Gravimetric
SULPHIDE-ED	Water	Sulphide	APHA 4500 -S E-Auto-Colorimetry
TH-D-CCMS-VA	Water	Dissolved Thorium in Water by CRC ICPMS	APHA 3030 B&E / EPA SW-846 6020A

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 procedures may involve preliminary sample treatment by acid digestion, using hotblock, or filtration (APHA 3030B&E). Instrumental analysis is by collision cell inductively coupled plasma - mass spectrometry (modifed from EPA Method 6020A).

TH-T-CCMS-VA	Water	Total Thorium in Water by CRC ICPMS	APHA 3030 B&E / EPA SW-846 6020A

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 procedures may involve preliminary sample treatment by acid digestion, using hotblock, or filtration (APHA 3030B&E). Instrumental analysis is by collision cell inductively coupled plasma - mass spectrometry (modifed from EPA Method 6020A).

TKN-L-CFA-ED	Water	TKN in Water by Colour	APHA 4500-NORG (TKN)

This analysis is carried out using procedures adapted from APHA Method 4500-Norg "Nitrogen (Organic)". Total Kjeldahl Nitrogen is determined by sample digestion at 380 celcius with analysis using an automated colourimetric finish.

TURBIDITY-ED	Water	Turbidity	APHA 2130 B-Nephelometer
ZR-D-CCMS-ED	Water	Dissolved Zirconium in water, CRC ICPMS	APHA 3030 B&E / EPA SW-846 6020A
ZR-T-CCMS-ED	Water	Total Zirconium in Water by CRC ICPMS	APHA 3030 B&E / EPA SW-846 6020A

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 procedures may involve preliminary sample treatment by acid digestion, using hotblock, or filtration (APHA 3030B&E). Instrumental analysis is by collision cell inductively coupled plasma - mass spectrometry (modifed from EPA Method 6020A).

** 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

Reference Information

ED	ALS ENVIRONMENTAL - EDMONTON, ALBERTA, 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

Client: GOLDER ASSOCIATES LTD.
500 - 4260 Still Creek Drive
Burnaby BC V5C 6C6
Contact: DON CHORLEY/ERMANNO RAMBELLI

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
B-D-L-CCMS-ED	**Water**							
Batch R2952981								
WG1954911-2 CRM		**ED-HIGH-WATRM**						
Boron (B)-Dissolved			104.1		%		80-120	19-SEP-14
WG1954911-4 CRM		**ED-HIGH-WATRM**						
Boron (B)-Dissolved			106.0		%		80-120	19-SEP-14
WG1954911-6 CRM		**ED-HIGH-WATRM**						
Boron (B)-Dissolved			96.1		%		80-120	20-SEP-14
WG1954911-8 CRM		**ED-HIGH-WATRM**						
Boron (B)-Dissolved			99.4		%		80-120	20-SEP-14
WG1954911-1 MB								
Boron (B)-Dissolved			<0.0020		mg/L		0.002	19-SEP-14
WG1954911-3 MB								
Boron (B)-Dissolved			<0.0020		mg/L		0.002	19-SEP-14
WG1954911-5 MB								
Boron (B)-Dissolved			<0.0020		mg/L		0.002	19-SEP-14
WG1954911-7 MB								
Boron (B)-Dissolved			<0.0020		mg/L		0.002	19-SEP-14
Batch R3008311								
WG1977999-14 CRM		**ED-HIGH-WATRM**						
Boron (B)-Dissolved			93.8		%		80-120	22-OCT-14
WG1977999-2 CRM		**ED-HIGH-WATRM**						
Boron (B)-Dissolved			94.8		%		80-120	21-OCT-14
WG1977999-5 CRM		**ED-HIGH-WATRM**						
Boron (B)-Dissolved			106.0		%		80-120	22-OCT-14
WG1977999-8 CRM		**ED-HIGH-WATRM**						
Boron (B)-Dissolved			94.3		%		80-120	22-OCT-14
WG1977999-1 MB								
Boron (B)-Dissolved			<0.0020		mg/L		0.002	21-OCT-14
WG1977999-13 MB								
Boron (B)-Dissolved			<0.0020		mg/L		0.002	22-OCT-14
WG1977999-4 MB								
Boron (B)-Dissolved			<0.0020		mg/L		0.002	21-OCT-14
WG1977999-7 MB								
Boron (B)-Dissolved			<0.0020		mg/L		0.002	21-OCT-14
B-T-L-CCMS-ED	**Water**							
Batch R2954509								
WG1955780-1 MB								
Boron (B)-Total			<0.0020		mg/L		0.002	21-SEP-14
WG1955780-3 MB								

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
B-T-L-CCMS-ED	**Water**							
Batch R2954509								
WG1955780-3 MB								
Boron (B)-Total			<0.0020		mg/L		0.002	21-SEP-14
C-DIS-ORG-ED	**Water**							
Batch R2956397								
WG1956769-3 CVS								
Dissolved Organic Carbon			138.1		%		80-160	23-SEP-14
WG1956769-2 LCS								
Dissolved Organic Carbon			103.1		%		80-120	23-SEP-14
WG1956769-1 MB								
Dissolved Organic Carbon			<1.0		mg/L		1	23-SEP-14
WG1956769-5 MS		**L1516297-2**						
Dissolved Organic Carbon			112.1		%		70-130	23-SEP-14
WG1956769-9 MS		**L1519401-22**						
Dissolved Organic Carbon			N/A	MS-B	%		-	23-SEP-14
C-DIS-ORG-LOW-ED	**Water**							
Batch R2957388								
WG1958276-3 CVS								
Dissolved Organic Carbon			113.3		%		80-160	23-SEP-14
WG1958276-2 LCS								
Dissolved Organic Carbon			116.5		%		70-130	23-SEP-14
WG1958276-1 MB								
Dissolved Organic Carbon			<0.50		mg/L		0.5	23-SEP-14
WG1958276-5 MS		**L1516516-1**						
Dissolved Organic Carbon			N/A	MS-B	%		-	23-SEP-14
C-TOT-ORG-ED	**Water**							
Batch R2956397								
WG1956769-3 CVS								
Total Organic Carbon			134.9		%		80-160	23-SEP-14
WG1956769-2 LCS								
Total Organic Carbon			103.5		%		80-120	23-SEP-14
WG1956769-1 MB								
Total Organic Carbon			<1.0		mg/L		1	23-SEP-14
C-TOT-ORG-LOW-ED	**Water**							
Batch R2957388								
WG1958276-3 CVS								
Total Organic Carbon			113.3		%		80-160	23-SEP-14
WG1958276-2 LCS								

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
C-TOT-ORG-LOW-ED	**Water**							
Batch R2957388								
WG1958276-2 LCS								
Total Organic Carbon			116.5		%		80-120	23-SEP-14
WG1958276-1 MB								
Total Organic Carbon			<0.50		mg/L		0.5	23-SEP-14
CL-IC-ED	**Water**							
Batch R2950135								
WG1952672-11 LCS								
Chloride (Cl)			101.3		%		90-110	16-SEP-14
WG1952672-2 LCS								
Chloride (Cl)			101.7		%		90-110	16-SEP-14
WG1952672-3 LCS								
Chloride (Cl)			99.1		%		90-110	16-SEP-14
WG1952672-9 LCS								
Chloride (Cl)			102.2		%		90-110	16-SEP-14
WG1952672-1 MB								
Chloride (Cl)			<0.50		mg/L		0.5	16-SEP-14
WG1952672-10 MB								
Chloride (Cl)			<0.50		mg/L		0.5	16-SEP-14
WG1952672-12 MB								
Chloride (Cl)			<0.50		mg/L		0.5	16-SEP-14
WG1952672-4 MB								
Chloride (Cl)			<0.50		mg/L		0.5	16-SEP-14
WG1952672-14 MS		**L1517899-2**						
Chloride (Cl)			92.1		%		75-125	16-SEP-14
WG1952672-6 MS		**L1517685-20**						
Chloride (Cl)			96.0		%		75-125	16-SEP-14
COL-TRU-ED	**Water**							
Batch R2949630								
WG1952333-2 LCS								
Color, True			92.7		%		85-115	16-SEP-14
WG1952333-1 MB								
Color, True			<2.0		C.U.		2	16-SEP-14
F-IC-ED	**Water**							
Batch R2950135								
WG1952672-11 LCS								
Fluoride (F)			97.7		%		90-110	16-SEP-14
WG1952672-2 LCS								
Fluoride (F)			100.2		%		90-110	16-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F-IC-ED	**Water**							
Batch R2950135								
WG1952672-3 LCS								
Fluoride (F)			95.3		%		90-110	16-SEP-14
WG1952672-9 LCS								
Fluoride (F)			97.5		%		90-110	16-SEP-14
WG1952672-1 MB								
Fluoride (F)			<0.020		mg/L		0.02	16-SEP-14
WG1952672-10 MB								
Fluoride (F)			<0.020		mg/L		0.02	16-SEP-14
WG1952672-12 MB								
Fluoride (F)			<0.020		mg/L		0.02	16-SEP-14
WG1952672-4 MB								
Fluoride (F)			<0.020		mg/L		0.02	16-SEP-14
WG1952672-8 MS		**L1517647-2**						
Fluoride (F)			76.7		%		75-125	16-SEP-14
HG-D-U-CVAF-VA	**Water**							
Batch R2955223								
WG1956786-2 LCS								
Mercury (Hg)-Dissolved			97.1		%		80-120	20-SEP-14
WG1956786-1 MB								
Mercury (Hg)-Dissolved			<0.00050		ug/L		0.0005	20-SEP-14
WG1956786-3 MS		**L1518701-1**						
Mercury (Hg)-Dissolved			99.7		%		70-130	20-SEP-14
WG1956786-4 MS		**L1517899-2**						
Mercury (Hg)-Dissolved			99.7		%		70-130	20-SEP-14
HG-T-U-CVAF-VA	**Water**							
Batch R2955223								
WG1956796-4 DUP		**L1518427-1**						
Mercury (Hg)-Total		<0.00050	<0.00050	RPD-NA	ug/L	N/A	20	20-SEP-14
WG1956796-2 LCS								
Mercury (Hg)-Total			98.9		%		80-120	20-SEP-14
WG1956796-1 MB								
Mercury (Hg)-Total			<0.00050		ug/L		0.0005	20-SEP-14
MET-D-CCMS-ED	**Water**							
Batch R2952981								
WG1954911-17 CRM		**ED-HIGH-WATRM**						
Aluminum (Al)-Dissolved			103.3		%		80-120	20-SEP-14
Antimony (Sb)-Dissolved			92.9		%		80-120	20-SEP-14
Arsenic (As)-Dissolved			99.2		%		80-120	20-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-ED	**Water**							
Batch R2952981								
WG1954911-17 CRM		**ED-HIGH-WATRM**						
Barium (Ba)-Dissolved			105.7		%		80-120	20-SEP-14
Beryllium (Be)-Dissolved			100.1		%		80-120	20-SEP-14
Bismuth (Bi)-Dissolved			96.3		%		80-120	20-SEP-14
Cadmium (Cd)-Dissolved			89.5		%		80-120	20-SEP-14
Calcium (Ca)-Dissolved			100.3		%		80-120	20-SEP-14
Chromium (Cr)-Dissolved			100.7		%		80-120	20-SEP-14
Cobalt (Co)-Dissolved			96.2		%		80-120	20-SEP-14
Copper (Cu)-Dissolved			94.7		%		80-120	20-SEP-14
Lead (Pb)-Dissolved			93.3		%		80-120	20-SEP-14
Lithium (Li)-Dissolved			100.2		%		80-120	20-SEP-14
Magnesium (Mg)-Dissolved			103.0		%		80-120	20-SEP-14
Manganese (Mn)-Dissolved			102.7		%		80-120	20-SEP-14
Molybdenum (Mo)-Dissolved			95.0		%		80-120	20-SEP-14
Nickel (Ni)-Dissolved			96.6		%		80-120	20-SEP-14
Phosphorus (P)-Dissolved			103.1		%		80-120	20-SEP-14
Potassium (K)-Dissolved			97.9		%		80-120	20-SEP-14
Selenium (Se)-Dissolved			88.0		%		80-120	20-SEP-14
Silicon (Si)-Dissolved			102.6		%		80-120	20-SEP-14
Silver (Ag)-Dissolved			95.6		%		80-120	20-SEP-14
Sodium (Na)-Dissolved			98.3		%		80-120	20-SEP-14
Strontium (Sr)-Dissolved			95.6		%		80-120	20-SEP-14
Thallium (Tl)-Dissolved			93.7		%		80-120	20-SEP-14
Titanium (Ti)-Dissolved			109.6		%		80-120	20-SEP-14
Tin (Sn)-Dissolved			92.7		%		80-120	20-SEP-14
Uranium (U)-Dissolved			87.2		%		80-120	20-SEP-14
Vanadium (V)-Dissolved			98.8		%		80-120	20-SEP-14
Zinc (Zn)-Dissolved			88.0		%		80-120	20-SEP-14
WG1954911-2 CRM		**ED-HIGH-WATRM**						
Aluminum (Al)-Dissolved			105.3		%		80-120	19-SEP-14
Antimony (Sb)-Dissolved			93.9		%		80-120	19-SEP-14
Arsenic (As)-Dissolved			98.9		%		80-120	19-SEP-14
Barium (Ba)-Dissolved			105.4		%		80-120	19-SEP-14
Beryllium (Be)-Dissolved			101.4		%		80-120	19-SEP-14
Bismuth (Bi)-Dissolved			92.7		%		80-120	19-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-ED	**Water**							
Batch R2952981								
WG1954911-2 CRM		**ED-HIGH-WATRM**						
Cadmium (Cd)-Dissolved			93.4		%		80-120	19-SEP-14
Calcium (Ca)-Dissolved			103.6		%		80-120	19-SEP-14
Chromium (Cr)-Dissolved			98.0		%		80-120	19-SEP-14
Cobalt (Co)-Dissolved			97.3		%		80-120	19-SEP-14
Copper (Cu)-Dissolved			95.3		%		80-120	19-SEP-14
Lead (Pb)-Dissolved			93.1		%		80-120	19-SEP-14
Lithium (Li)-Dissolved			102.9		%		80-120	19-SEP-14
Magnesium (Mg)-Dissolved			105.5		%		80-120	19-SEP-14
Manganese (Mn)-Dissolved			100.8		%		80-120	19-SEP-14
Molybdenum (Mo)-Dissolved			93.2		%		80-120	19-SEP-14
Nickel (Ni)-Dissolved			96.1		%		80-120	19-SEP-14
Phosphorus (P)-Dissolved			105.8		%		80-120	19-SEP-14
Potassium (K)-Dissolved			104.8		%		80-120	19-SEP-14
Selenium (Se)-Dissolved			89.0		%		80-120	19-SEP-14
Silicon (Si)-Dissolved			102.0		%		80-120	19-SEP-14
Silver (Ag)-Dissolved			96.4		%		80-120	19-SEP-14
Sodium (Na)-Dissolved			95.5		%		80-120	19-SEP-14
Strontium (Sr)-Dissolved			96.3		%		80-120	19-SEP-14
Thallium (Tl)-Dissolved			92.9		%		80-120	19-SEP-14
Titanium (Ti)-Dissolved			100.3		%		80-120	19-SEP-14
Tin (Sn)-Dissolved			94.5		%		80-120	19-SEP-14
Uranium (U)-Dissolved			81.4		%		80-120	19-SEP-14
Vanadium (V)-Dissolved			101.1		%		80-120	19-SEP-14
Zinc (Zn)-Dissolved			89.7		%		80-120	19-SEP-14
WG1954911-4 CRM		**ED-HIGH-WATRM**						
Aluminum (Al)-Dissolved			101.6		%		80-120	19-SEP-14
Antimony (Sb)-Dissolved			94.5		%		80-120	19-SEP-14
Arsenic (As)-Dissolved			98.4		%		80-120	19-SEP-14
Barium (Ba)-Dissolved			104.7		%		80-120	19-SEP-14
Beryllium (Be)-Dissolved			104.4		%		80-120	19-SEP-14
Bismuth (Bi)-Dissolved			89.7		%		80-120	19-SEP-14
Cadmium (Cd)-Dissolved			95.3		%		80-120	19-SEP-14
Calcium (Ca)-Dissolved			102.8		%		80-120	19-SEP-14
Chromium (Cr)-Dissolved			98.6		%		80-120	19-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-ED	**Water**							
Batch R2952981								
WG1954911-4 CRM		**ED-HIGH-WATRM**						
Cobalt (Co)-Dissolved			96.9		%		80-120	19-SEP-14
Copper (Cu)-Dissolved			93.9		%		80-120	19-SEP-14
Lead (Pb)-Dissolved			92.3		%		80-120	19-SEP-14
Lithium (Li)-Dissolved			107.5		%		80-120	19-SEP-14
Magnesium (Mg)-Dissolved			105.7		%		80-120	19-SEP-14
Manganese (Mn)-Dissolved			99.9		%		80-120	19-SEP-14
Molybdenum (Mo)-Dissolved			95.4		%		80-120	19-SEP-14
Nickel (Ni)-Dissolved			95.1		%		80-120	19-SEP-14
Phosphorus (P)-Dissolved			101.1		%		80-120	19-SEP-14
Potassium (K)-Dissolved			99.0		%		80-120	19-SEP-14
Selenium (Se)-Dissolved			87.8		%		80-120	19-SEP-14
Silicon (Si)-Dissolved			105.1		%		80-120	19-SEP-14
Silver (Ag)-Dissolved			94.0		%		80-120	19-SEP-14
Sodium (Na)-Dissolved			93.9		%		80-120	19-SEP-14
Strontium (Sr)-Dissolved			96.0		%		80-120	19-SEP-14
Thallium (Tl)-Dissolved			91.5		%		80-120	19-SEP-14
Titanium (Ti)-Dissolved			106.6		%		80-120	19-SEP-14
Tin (Sn)-Dissolved			91.7		%		80-120	19-SEP-14
Uranium (U)-Dissolved			80.3		%		80-120	19-SEP-14
Vanadium (V)-Dissolved			100.7		%		80-120	19-SEP-14
Zinc (Zn)-Dissolved			88.4		%		80-120	19-SEP-14
WG1954911-6 CRM		**ED-HIGH-WATRM**						
Aluminum (Al)-Dissolved			103.4		%		80-120	20-SEP-14
Antimony (Sb)-Dissolved			94.4		%		80-120	20-SEP-14
Arsenic (As)-Dissolved			96.8		%		80-120	20-SEP-14
Barium (Ba)-Dissolved			102.6		%		80-120	20-SEP-14
Beryllium (Be)-Dissolved			102.7		%		80-120	20-SEP-14
Bismuth (Bi)-Dissolved			96.0		%		80-120	20-SEP-14
Cadmium (Cd)-Dissolved			94.5		%		80-120	20-SEP-14
Calcium (Ca)-Dissolved			104.0		%		80-120	20-SEP-14
Chromium (Cr)-Dissolved			98.6		%		80-120	20-SEP-14
Cobalt (Co)-Dissolved			95.9		%		80-120	20-SEP-14
Copper (Cu)-Dissolved			92.1		%		80-120	20-SEP-14
Lead (Pb)-Dissolved			96.4		%		80-120	20-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-ED	**Water**							
Batch R2952981								
WG1954911-6 CRM		**ED-HIGH-WATRM**						
Lithium (Li)-Dissolved			103.6		%		80-120	20-SEP-14
Magnesium (Mg)-Dissolved			102.5		%		80-120	20-SEP-14
Manganese (Mn)-Dissolved			99.3		%		80-120	20-SEP-14
Molybdenum (Mo)-Dissolved			96.0		%		80-120	20-SEP-14
Nickel (Ni)-Dissolved			94.3		%		80-120	20-SEP-14
Phosphorus (P)-Dissolved			102.8		%		80-120	20-SEP-14
Potassium (K)-Dissolved			101.2		%		80-120	20-SEP-14
Selenium (Se)-Dissolved			90.3		%		80-120	20-SEP-14
Silicon (Si)-Dissolved			102.7		%		80-120	20-SEP-14
Silver (Ag)-Dissolved			99.0		%		80-120	20-SEP-14
Sodium (Na)-Dissolved			95.5		%		80-120	20-SEP-14
Strontium (Sr)-Dissolved			97.6		%		80-120	20-SEP-14
Thallium (Tl)-Dissolved			95.5		%		80-120	20-SEP-14
Titanium (Ti)-Dissolved			93.0		%		80-120	20-SEP-14
Tin (Sn)-Dissolved			96.5		%		80-120	20-SEP-14
Uranium (U)-Dissolved			89.9		%		80-120	20-SEP-14
Vanadium (V)-Dissolved			99.0		%		80-120	20-SEP-14
Zinc (Zn)-Dissolved			85.0		%		80-120	20-SEP-14
WG1954911-8 CRM		**ED-HIGH-WATRM**						
Aluminum (Al)-Dissolved			100.8		%		80-120	20-SEP-14
Antimony (Sb)-Dissolved			94.9		%		80-120	20-SEP-14
Arsenic (As)-Dissolved			97.5		%		80-120	20-SEP-14
Barium (Ba)-Dissolved			106.9		%		80-120	20-SEP-14
Beryllium (Be)-Dissolved			102.6		%		80-120	20-SEP-14
Bismuth (Bi)-Dissolved			95.2		%		80-120	20-SEP-14
Cadmium (Cd)-Dissolved			91.1		%		80-120	20-SEP-14
Calcium (Ca)-Dissolved			102.9		%		80-120	20-SEP-14
Chromium (Cr)-Dissolved			99.2		%		80-120	20-SEP-14
Cobalt (Co)-Dissolved			95.9		%		80-120	20-SEP-14
Copper (Cu)-Dissolved			94.1		%		80-120	20-SEP-14
Lead (Pb)-Dissolved			94.8		%		80-120	20-SEP-14
Lithium (Li)-Dissolved			103.9		%		80-120	20-SEP-14
Magnesium (Mg)-Dissolved			103.2		%		80-120	20-SEP-14
Manganese (Mn)-Dissolved			99.6		%		80-120	20-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-ED	**Water**							
Batch	**R2952981**							
WG1954911-8	**CRM**	**ED-HIGH-WATRM**						
Molybdenum (Mo)-Dissolved			95.6		%		80-120	20-SEP-14
Nickel (Ni)-Dissolved			94.3		%		80-120	20-SEP-14
Phosphorus (P)-Dissolved			109.7		%		80-120	20-SEP-14
Potassium (K)-Dissolved			103.1		%		80-120	20-SEP-14
Selenium (Se)-Dissolved			89.8		%		80-120	20-SEP-14
Silicon (Si)-Dissolved			103.5		%		80-120	20-SEP-14
Silver (Ag)-Dissolved			97.9		%		80-120	20-SEP-14
Sodium (Na)-Dissolved			94.0		%		80-120	20-SEP-14
Strontium (Sr)-Dissolved			97.4		%		80-120	20-SEP-14
Thallium (Tl)-Dissolved			96.4		%		80-120	20-SEP-14
Titanium (Ti)-Dissolved			96.1		%		80-120	20-SEP-14
Tin (Sn)-Dissolved			93.1		%		80-120	20-SEP-14
Uranium (U)-Dissolved			89.7		%		80-120	20-SEP-14
Vanadium (V)-Dissolved			98.6		%		80-120	20-SEP-14
Zinc (Zn)-Dissolved			86.4		%		80-120	20-SEP-14
WG1954911-1	**MB**							
Aluminum (Al)-Dissolved			<0.0010		mg/L		0.001	19-SEP-14
Antimony (Sb)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Arsenic (As)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Barium (Ba)-Dissolved			<0.000050		mg/L		0.00005	19-SEP-14
Beryllium (Be)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Bismuth (Bi)-Dissolved			<0.000050		mg/L		0.00005	19-SEP-14
Cadmium (Cd)-Dissolved			<0.000010		mg/L		0.00001	19-SEP-14
Calcium (Ca)-Dissolved			<0.020		mg/L		0.02	19-SEP-14
Chromium (Cr)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Cobalt (Co)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Copper (Cu)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Iron (Fe)-Dissolved			<0.010		mg/L		0.01	19-SEP-14
Lead (Pb)-Dissolved			<0.000050		mg/L		0.00005	19-SEP-14
Lithium (Li)-Dissolved			<0.0030		mg/L		0.003	19-SEP-14
Magnesium (Mg)-Dissolved			<0.0050		mg/L		0.005	19-SEP-14
Manganese (Mn)-Dissolved			<0.000050		mg/L		0.00005	19-SEP-14
Molybdenum (Mo)-Dissolved			<0.000050		mg/L		0.00005	19-SEP-14
Nickel (Ni)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-ED	**Water**							
Batch R2952981								
WG1954911-1 MB								
Phosphorus (P)-Dissolved			<0.30		mg/L		0.3	19-SEP-14
Potassium (K)-Dissolved			<0.050		mg/L		0.05	19-SEP-14
Selenium (Se)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Silicon (Si)-Dissolved			<0.050		mg/L		0.05	19-SEP-14
Silver (Ag)-Dissolved			<0.000010		mg/L		0.00001	19-SEP-14
Sodium (Na)-Dissolved			<0.050		mg/L		0.05	19-SEP-14
Strontium (Sr)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Thallium (Tl)-Dissolved			<0.000010		mg/L		0.00001	19-SEP-14
Titanium (Ti)-Dissolved			<0.00030		mg/L		0.0003	19-SEP-14
Tin (Sn)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Uranium (U)-Dissolved			<0.000010		mg/L		0.00001	19-SEP-14
Vanadium (V)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Zinc (Zn)-Dissolved			<0.0010		mg/L		0.001	19-SEP-14
WG1954911-13 MB								
Aluminum (Al)-Dissolved			<0.0010		mg/L		0.001	19-SEP-14
Antimony (Sb)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Arsenic (As)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Barium (Ba)-Dissolved			<0.000050		mg/L		0.00005	19-SEP-14
Beryllium (Be)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Bismuth (Bi)-Dissolved			<0.000050		mg/L		0.00005	19-SEP-14
Cadmium (Cd)-Dissolved			<0.000010		mg/L		0.00001	19-SEP-14
Calcium (Ca)-Dissolved			<0.020		mg/L		0.02	19-SEP-14
Chromium (Cr)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Cobalt (Co)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Copper (Cu)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Iron (Fe)-Dissolved			<0.010		mg/L		0.01	19-SEP-14
Lead (Pb)-Dissolved			<0.000050		mg/L		0.00005	19-SEP-14
Lithium (Li)-Dissolved			<0.0030		mg/L		0.003	19-SEP-14
Magnesium (Mg)-Dissolved			<0.0050		mg/L		0.005	19-SEP-14
Manganese (Mn)-Dissolved			<0.000050		mg/L		0.00005	19-SEP-14
Molybdenum (Mo)-Dissolved			<0.000050		mg/L		0.00005	19-SEP-14
Nickel (Ni)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Phosphorus (P)-Dissolved			<0.30		mg/L		0.3	19-SEP-14
Potassium (K)-Dissolved			<0.050		mg/L		0.05	19-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-ED	**Water**							
Batch R2952981								
WG1954911-13 MB								
Selenium (Se)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Silicon (Si)-Dissolved			<0.050		mg/L		0.05	19-SEP-14
Silver (Ag)-Dissolved			<0.000010		mg/L		0.00001	19-SEP-14
Sodium (Na)-Dissolved			<0.050		mg/L		0.05	19-SEP-14
Strontium (Sr)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Thallium (Tl)-Dissolved			<0.000010		mg/L		0.00001	19-SEP-14
Titanium (Ti)-Dissolved			<0.00030		mg/L		0.0003	19-SEP-14
Tin (Sn)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Uranium (U)-Dissolved			<0.000010		mg/L		0.00001	19-SEP-14
Vanadium (V)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Zinc (Zn)-Dissolved			<0.0010		mg/L		0.001	19-SEP-14
WG1954911-16 MB								
Aluminum (Al)-Dissolved			<0.0010		mg/L		0.001	19-SEP-14
Antimony (Sb)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Arsenic (As)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Barium (Ba)-Dissolved			<0.000050		mg/L		0.00005	19-SEP-14
Beryllium (Be)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Bismuth (Bi)-Dissolved			<0.000050		mg/L		0.00005	19-SEP-14
Cadmium (Cd)-Dissolved			<0.000010		mg/L		0.00001	19-SEP-14
Calcium (Ca)-Dissolved			<0.020		mg/L		0.02	19-SEP-14
Chromium (Cr)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Cobalt (Co)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Copper (Cu)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Iron (Fe)-Dissolved			<0.010		mg/L		0.01	19-SEP-14
Lead (Pb)-Dissolved			<0.000050		mg/L		0.00005	19-SEP-14
Lithium (Li)-Dissolved			<0.0030		mg/L		0.003	19-SEP-14
Magnesium (Mg)-Dissolved			<0.0050		mg/L		0.005	19-SEP-14
Manganese (Mn)-Dissolved			<0.000050		mg/L		0.00005	19-SEP-14
Molybdenum (Mo)-Dissolved			<0.000050		mg/L		0.00005	19-SEP-14
Nickel (Ni)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Phosphorus (P)-Dissolved			<0.30		mg/L		0.3	19-SEP-14
Potassium (K)-Dissolved			<0.050		mg/L		0.05	19-SEP-14
Selenium (Se)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Silicon (Si)-Dissolved			<0.050		mg/L		0.05	19-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-ED	**Water**							
Batch R2952981								
WG1954911-16 MB								
Silver (Ag)-Dissolved			<0.000010		mg/L		0.00001	19-SEP-14
Sodium (Na)-Dissolved			<0.050		mg/L		0.05	19-SEP-14
Strontium (Sr)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Thallium (Tl)-Dissolved			<0.000010		mg/L		0.00001	19-SEP-14
Titanium (Ti)-Dissolved			<0.00030		mg/L		0.0003	19-SEP-14
Tin (Sn)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Uranium (U)-Dissolved			<0.000010		mg/L		0.00001	19-SEP-14
Vanadium (V)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Zinc (Zn)-Dissolved			<0.0010		mg/L		0.001	19-SEP-14
WG1954911-3 MB								
Aluminum (Al)-Dissolved			<0.0010		mg/L		0.001	19-SEP-14
Antimony (Sb)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Arsenic (As)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Barium (Ba)-Dissolved			<0.000050		mg/L		0.00005	19-SEP-14
Beryllium (Be)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Bismuth (Bi)-Dissolved			<0.000050		mg/L		0.00005	19-SEP-14
Cadmium (Cd)-Dissolved			<0.000010		mg/L		0.00001	19-SEP-14
Calcium (Ca)-Dissolved			<0.020		mg/L		0.02	19-SEP-14
Chromium (Cr)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Cobalt (Co)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Copper (Cu)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Iron (Fe)-Dissolved			<0.010		mg/L		0.01	19-SEP-14
Lead (Pb)-Dissolved			<0.000050		mg/L		0.00005	19-SEP-14
Lithium (Li)-Dissolved			<0.0030		mg/L		0.003	19-SEP-14
Magnesium (Mg)-Dissolved			<0.0050		mg/L		0.005	19-SEP-14
Manganese (Mn)-Dissolved			<0.000050		mg/L		0.00005	19-SEP-14
Molybdenum (Mo)-Dissolved			<0.000050		mg/L		0.00005	19-SEP-14
Nickel (Ni)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Phosphorus (P)-Dissolved			<0.30		mg/L		0.3	19-SEP-14
Potassium (K)-Dissolved			<0.050		mg/L		0.05	19-SEP-14
Selenium (Se)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Silicon (Si)-Dissolved			<0.050		mg/L		0.05	19-SEP-14
Silver (Ag)-Dissolved			<0.000010		mg/L		0.00001	19-SEP-14
Sodium (Na)-Dissolved			<0.050		mg/L		0.05	19-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-ED	**Water**							
Batch R2952981								
WG1954911-3 MB								
Strontium (Sr)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Thallium (Tl)-Dissolved			<0.000010		mg/L		0.00001	19-SEP-14
Titanium (Ti)-Dissolved			<0.00030		mg/L		0.0003	19-SEP-14
Tin (Sn)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Uranium (U)-Dissolved			<0.000010		mg/L		0.00001	19-SEP-14
Vanadium (V)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Zinc (Zn)-Dissolved			<0.0010		mg/L		0.001	19-SEP-14
WG1954911-5 MB								
Aluminum (Al)-Dissolved			<0.0010		mg/L		0.001	19-SEP-14
Antimony (Sb)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Arsenic (As)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Barium (Ba)-Dissolved			<0.000050		mg/L		0.00005	19-SEP-14
Beryllium (Be)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Bismuth (Bi)-Dissolved			<0.000050		mg/L		0.00005	19-SEP-14
Cadmium (Cd)-Dissolved			<0.000010		mg/L		0.00001	19-SEP-14
Calcium (Ca)-Dissolved			<0.020		mg/L		0.02	19-SEP-14
Chromium (Cr)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Cobalt (Co)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Copper (Cu)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Iron (Fe)-Dissolved			<0.010		mg/L		0.01	19-SEP-14
Lead (Pb)-Dissolved			<0.000050		mg/L		0.00005	19-SEP-14
Lithium (Li)-Dissolved			<0.0030		mg/L		0.003	19-SEP-14
Magnesium (Mg)-Dissolved			<0.0050		mg/L		0.005	19-SEP-14
Manganese (Mn)-Dissolved			<0.000050		mg/L		0.00005	19-SEP-14
Molybdenum (Mo)-Dissolved			<0.000050		mg/L		0.00005	19-SEP-14
Nickel (Ni)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Phosphorus (P)-Dissolved			<0.30		mg/L		0.3	19-SEP-14
Potassium (K)-Dissolved			<0.050		mg/L		0.05	19-SEP-14
Selenium (Se)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Silicon (Si)-Dissolved			<0.050		mg/L		0.05	19-SEP-14
Silver (Ag)-Dissolved			<0.000010		mg/L		0.00001	19-SEP-14
Sodium (Na)-Dissolved			<0.050		mg/L		0.05	19-SEP-14
Strontium (Sr)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Thallium (Tl)-Dissolved			<0.000010		mg/L		0.00001	19-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-ED	**Water**							
Batch R2952981								
WG1954911-5 MB								
Titanium (Ti)-Dissolved			<0.00030		mg/L		0.0003	19-SEP-14
Tin (Sn)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Uranium (U)-Dissolved			<0.000010		mg/L		0.00001	19-SEP-14
Vanadium (V)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Zinc (Zn)-Dissolved			<0.0010		mg/L		0.001	19-SEP-14
WG1954911-7 MB								
Aluminum (Al)-Dissolved			<0.0010		mg/L		0.001	19-SEP-14
Antimony (Sb)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Arsenic (As)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Barium (Ba)-Dissolved			<0.000050		mg/L		0.00005	19-SEP-14
Beryllium (Be)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Bismuth (Bi)-Dissolved			<0.000050		mg/L		0.00005	19-SEP-14
Cadmium (Cd)-Dissolved			<0.000010		mg/L		0.00001	19-SEP-14
Calcium (Ca)-Dissolved			<0.020		mg/L		0.02	19-SEP-14
Chromium (Cr)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Cobalt (Co)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Copper (Cu)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Iron (Fe)-Dissolved			<0.010		mg/L		0.01	19-SEP-14
Lead (Pb)-Dissolved			<0.000050		mg/L		0.00005	19-SEP-14
Lithium (Li)-Dissolved			<0.0030		mg/L		0.003	19-SEP-14
Magnesium (Mg)-Dissolved			<0.0050		mg/L		0.005	19-SEP-14
Manganese (Mn)-Dissolved			<0.000050		mg/L		0.00005	19-SEP-14
Molybdenum (Mo)-Dissolved			<0.000050		mg/L		0.00005	19-SEP-14
Nickel (Ni)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Phosphorus (P)-Dissolved			<0.30		mg/L		0.3	19-SEP-14
Potassium (K)-Dissolved			<0.050		mg/L		0.05	19-SEP-14
Selenium (Se)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Silicon (Si)-Dissolved			<0.050		mg/L		0.05	19-SEP-14
Silver (Ag)-Dissolved			<0.000010		mg/L		0.00001	19-SEP-14
Sodium (Na)-Dissolved			<0.050		mg/L		0.05	19-SEP-14
Strontium (Sr)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Thallium (Tl)-Dissolved			<0.000010		mg/L		0.00001	19-SEP-14
Titanium (Ti)-Dissolved			<0.00030		mg/L		0.0003	19-SEP-14
Tin (Sn)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-ED	**Water**							
Batch R2952981								
WG1954911-7 MB								
Uranium (U)-Dissolved			<0.000010		mg/L		0.00001	19-SEP-14
Vanadium (V)-Dissolved			<0.00010		mg/L		0.0001	19-SEP-14
Zinc (Zn)-Dissolved			<0.0010		mg/L		0.001	19-SEP-14
Batch R3008311								
WG1977999-11 CRM		**ED-HIGH-WATRM**						
Molybdenum (Mo)-Dissolved			94.9		%		80-120	22-OCT-14
Zinc (Zn)-Dissolved			90.5		%		80-120	22-OCT-14
WG1977999-14 CRM		**ED-HIGH-WATRM**						
Molybdenum (Mo)-Dissolved			95.3		%		80-120	22-OCT-14
Zinc (Zn)-Dissolved			90.7		%		80-120	22-OCT-14
WG1977999-2 CRM		**ED-HIGH-WATRM**						
Molybdenum (Mo)-Dissolved			97.5		%		80-120	21-OCT-14
Zinc (Zn)-Dissolved			94.9		%		80-120	21-OCT-14
WG1977999-5 CRM		**ED-HIGH-WATRM**						
Molybdenum (Mo)-Dissolved			99.3		%		80-120	22-OCT-14
Zinc (Zn)-Dissolved			93.4		%		80-120	22-OCT-14
WG1977999-8 CRM		**ED-HIGH-WATRM**						
Molybdenum (Mo)-Dissolved			99.5		%		80-120	22-OCT-14
Zinc (Zn)-Dissolved			92.5		%		80-120	22-OCT-14
WG1977999-1 MB								
Molybdenum (Mo)-Dissolved			<0.000050		mg/L		0.00005	21-OCT-14
Zinc (Zn)-Dissolved			<0.0010		mg/L		0.001	21-OCT-14
WG1977999-10 MB								
Molybdenum (Mo)-Dissolved			<0.000050		mg/L		0.00005	21-OCT-14
Zinc (Zn)-Dissolved			<0.0010		mg/L		0.001	21-OCT-14
WG1977999-4 MB								
Molybdenum (Mo)-Dissolved			<0.000050		mg/L		0.00005	21-OCT-14
Zinc (Zn)-Dissolved			<0.0010		mg/L		0.001	21-OCT-14
WG1977999-7 MB								
Molybdenum (Mo)-Dissolved			<0.000050		mg/L		0.00005	21-OCT-14
Zinc (Zn)-Dissolved			<0.0010		mg/L		0.001	21-OCT-14
MET-D-ICP-ED	**Water**							
Batch R2953083								
WG1954970-2 CRM		**ED-HIGH-WATRM**						
WG1954970-5 CRM		**ED-HIGH-WATRM**						
WG1954970-1 MB								

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-ICP-ED	**Water**							
Batch R2953083								
WG1954970-1 MB								
Sulfur (S)-Dissolved			<0.50		mg/L		0.5	19-SEP-14
WG1954970-4 MB								
Sulfur (S)-Dissolved			<0.50		mg/L		0.5	19-SEP-14
MET-D-NP-U-CCMS-ED	**Water**							
Batch R2957093								
WG1957547-2 CRM		**ED-HIGH-WATRM**						
Antimony (Sb)-Dissolved			95.5		%		80-120	23-SEP-14
Arsenic (As)-Dissolved			101.9		%		80-120	23-SEP-14
Barium (Ba)-Dissolved			97.2		%		80-120	23-SEP-14
Beryllium (Be)-Dissolved			92.7		%		80-120	23-SEP-14
Bismuth (Bi)-Dissolved			103.3		%		80-120	23-SEP-14
Boron (B)-Dissolved			95.7		%		80-120	23-SEP-14
Cadmium (Cd)-Dissolved			99.4		%		80-120	23-SEP-14
Calcium (Ca)-Dissolved			97.4		%		80-120	23-SEP-14
Chromium (Cr)-Dissolved			101.6		%		80-120	23-SEP-14
Cobalt (Co)-Dissolved			100.1		%		80-120	23-SEP-14
Copper (Cu)-Dissolved			98.6		%		80-120	23-SEP-14
Lead (Pb)-Dissolved			101.1		%		80-120	23-SEP-14
Lithium (Li)-Dissolved			101.0		%		80-120	23-SEP-14
Magnesium (Mg)-Dissolved			104.8		%		80-120	23-SEP-14
Manganese (Mn)-Dissolved			99.4		%		80-120	23-SEP-14
Molybdenum (Mo)-Dissolved			92.5		%		80-120	23-SEP-14
Nickel (Ni)-Dissolved			109.6		%		80-120	23-SEP-14
Potassium (K)-Dissolved			99.9		%		80-120	23-SEP-14
Selenium (Se)-Dissolved			102.5		%		80-120	23-SEP-14
Silver (Ag)-Dissolved			98.3		%		80-120	23-SEP-14
Sodium (Na)-Dissolved			106.3		%		80-120	23-SEP-14
Strontium (Sr)-Dissolved			100.0		%		80-120	23-SEP-14
Thallium (Tl)-Dissolved			105.3		%		80-120	23-SEP-14
Tin (Sn)-Dissolved			96.1		%		80-120	23-SEP-14
Titanium (Ti)-Dissolved			95.6		%		80-120	23-SEP-14
Uranium (U)-Dissolved			95.5		%		80-120	23-SEP-14
Vanadium (V)-Dissolved			102.5		%		80-120	23-SEP-14
Zinc (Zn)-Dissolved			104.1		%		80-120	23-SEP-14
WG1957547-5 CRM		**ED-HIGH-WATRM**						

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-NP-U-CCMS-ED	**Water**							
Batch	**R2957093**							
WG1957547-5	**CRM**	**ED-HIGH-WATRM**						
Antimony (Sb)-Dissolved			93.9		%		80-120	23-SEP-14
Arsenic (As)-Dissolved			100.1		%		80-120	23-SEP-14
Barium (Ba)-Dissolved			97.3		%		80-120	23-SEP-14
Beryllium (Be)-Dissolved			94.1		%		80-120	23-SEP-14
Bismuth (Bi)-Dissolved			103.6		%		80-120	23-SEP-14
Boron (B)-Dissolved			99.9		%		80-120	23-SEP-14
Cadmium (Cd)-Dissolved			99.1		%		80-120	23-SEP-14
Calcium (Ca)-Dissolved			99.3		%		80-120	23-SEP-14
Chromium (Cr)-Dissolved			98.8		%		80-120	23-SEP-14
Cobalt (Co)-Dissolved			97.6		%		80-120	23-SEP-14
Copper (Cu)-Dissolved			95.6		%		80-120	23-SEP-14
Lead (Pb)-Dissolved			103.7		%		80-120	23-SEP-14
Lithium (Li)-Dissolved			105.7		%		80-120	23-SEP-14
Magnesium (Mg)-Dissolved			98.6		%		80-120	23-SEP-14
Manganese (Mn)-Dissolved			97.7		%		80-120	23-SEP-14
Molybdenum (Mo)-Dissolved			94.1		%		80-120	23-SEP-14
Nickel (Ni)-Dissolved			99.1		%		80-120	23-SEP-14
Potassium (K)-Dissolved			98.5		%		80-120	23-SEP-14
Selenium (Se)-Dissolved			101.2		%		80-120	23-SEP-14
Silver (Ag)-Dissolved			97.5		%		80-120	23-SEP-14
Sodium (Na)-Dissolved			100.9		%		80-120	23-SEP-14
Strontium (Sr)-Dissolved			98.5		%		80-120	23-SEP-14
Thallium (Tl)-Dissolved			104.2		%		80-120	23-SEP-14
Tin (Sn)-Dissolved			94.8		%		80-120	23-SEP-14
Titanium (Ti)-Dissolved			99.2		%		80-120	23-SEP-14
Uranium (U)-Dissolved			95.5		%		80-120	23-SEP-14
Vanadium (V)-Dissolved			100.8		%		80-120	23-SEP-14
Zinc (Zn)-Dissolved			98.2		%		80-120	23-SEP-14
WG1957547-1	**MB**							
Antimony (Sb)-Dissolved			<0.000020		mg/L		0.00002	23-SEP-14
Arsenic (As)-Dissolved			<0.000020		mg/L		0.00002	23-SEP-14
Barium (Ba)-Dissolved			<0.000050		mg/L		0.00005	23-SEP-14
Beryllium (Be)-Dissolved			<0.000010		mg/L		0.00001	23-SEP-14
Bismuth (Bi)-Dissolved			<0.000010		mg/L		0.00001	23-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-NP-U-CCMS-ED	**Water**							
Batch	**R2957093**							
WG1957547-1	**MB**							
Boron (B)-Dissolved			<0.0010		mg/L		0.001	23-SEP-14
Cadmium (Cd)-Dissolved			<0.000005C		mg/L		0.000005	23-SEP-14
Calcium (Ca)-Dissolved			<0.020		mg/L		0.02	23-SEP-14
Chromium (Cr)-Dissolved			<0.000060		mg/L		0.00006	23-SEP-14
Cobalt (Co)-Dissolved			<0.000010		mg/L		0.00001	23-SEP-14
Copper (Cu)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Iron (Fe)-Dissolved			<0.0010		mg/L		0.001	23-SEP-14
Lead (Pb)-Dissolved			<0.000010		mg/L		0.00001	23-SEP-14
Lithium (Li)-Dissolved			<0.00050		mg/L		0.0005	23-SEP-14
Magnesium (Mg)-Dissolved			<0.0040		mg/L		0.004	23-SEP-14
Manganese (Mn)-Dissolved			<0.000050		mg/L		0.00005	23-SEP-14
Molybdenum (Mo)-Dissolved			<0.000050		mg/L		0.00005	23-SEP-14
Nickel (Ni)-Dissolved			<0.000060		mg/L		0.00006	23-SEP-14
Potassium (K)-Dissolved			<0.020		mg/L		0.02	23-SEP-14
Selenium (Se)-Dissolved			<0.000040		mg/L		0.00004	23-SEP-14
Silver (Ag)-Dissolved			<0.000005C		mg/L		0.000005	23-SEP-14
Sodium (Na)-Dissolved			<0.0050		mg/L		0.005	23-SEP-14
Strontium (Sr)-Dissolved			<0.000050		mg/L		0.00005	23-SEP-14
Thallium (Tl)-Dissolved			<0.000005C		mg/L		0.000005	23-SEP-14
Tin (Sn)-Dissolved			<0.000050		mg/L		0.00005	23-SEP-14
Titanium (Ti)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Uranium (U)-Dissolved			<0.000010		mg/L		0.00001	23-SEP-14
Vanadium (V)-Dissolved			<0.000050		mg/L		0.00005	23-SEP-14
Zinc (Zn)-Dissolved			<0.00080		mg/L		0.0008	23-SEP-14
WG1957547-4	**MB**							
Antimony (Sb)-Dissolved			<0.000020		mg/L		0.00002	23-SEP-14
Arsenic (As)-Dissolved			<0.000020		mg/L		0.00002	23-SEP-14
Barium (Ba)-Dissolved			<0.000050		mg/L		0.00005	23-SEP-14
Beryllium (Be)-Dissolved			<0.000010		mg/L		0.00001	23-SEP-14
Bismuth (Bi)-Dissolved			<0.000010		mg/L		0.00001	23-SEP-14
Boron (B)-Dissolved			<0.0010		mg/L		0.001	23-SEP-14
Cadmium (Cd)-Dissolved			<0.000005C		mg/L		0.000005	23-SEP-14
Calcium (Ca)-Dissolved			<0.020		mg/L		0.02	23-SEP-14
Chromium (Cr)-Dissolved			<0.000060		mg/L		0.00006	23-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-NP-U-CCMS-ED	**Water**							
Batch	**R2957093**							
WG1957547-4	**MB**							
Cobalt (Co)-Dissolved			<0.000010		mg/L		0.00001	23-SEP-14
Copper (Cu)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Iron (Fe)-Dissolved			<0.0010		mg/L		0.001	23-SEP-14
Lead (Pb)-Dissolved			<0.000010		mg/L		0.00001	23-SEP-14
Lithium (Li)-Dissolved			<0.00050		mg/L		0.0005	23-SEP-14
Magnesium (Mg)-Dissolved			<0.0040		mg/L		0.004	23-SEP-14
Manganese (Mn)-Dissolved			<0.000050		mg/L		0.00005	23-SEP-14
Molybdenum (Mo)-Dissolved			<0.000050		mg/L		0.00005	23-SEP-14
Nickel (Ni)-Dissolved			<0.000060		mg/L		0.00006	23-SEP-14
Potassium (K)-Dissolved			<0.020		mg/L		0.02	23-SEP-14
Selenium (Se)-Dissolved			<0.000040		mg/L		0.00004	23-SEP-14
Silver (Ag)-Dissolved			<0.000005C		mg/L		0.000005	23-SEP-14
Sodium (Na)-Dissolved			<0.0050		mg/L		0.005	23-SEP-14
Strontium (Sr)-Dissolved			<0.000050		mg/L		0.00005	23-SEP-14
Thallium (Tl)-Dissolved			<0.000005C		mg/L		0.000005	23-SEP-14
Tin (Sn)-Dissolved			<0.000050		mg/L		0.00005	23-SEP-14
Titanium (Ti)-Dissolved			<0.00010		mg/L		0.0001	23-SEP-14
Uranium (U)-Dissolved			<0.000010		mg/L		0.00001	23-SEP-14
Vanadium (V)-Dissolved			<0.000050		mg/L		0.00005	23-SEP-14
Zinc (Zn)-Dissolved			<0.00080		mg/L		0.0008	23-SEP-14
Batch	**R2958234**							
WG1958261-2	**CRM**	**ED-HIGH-WATRM**						
Aluminum (Al)-Dissolved			99.3		%		80-120	24-SEP-14
Antimony (Sb)-Dissolved			95.3		%		80-120	24-SEP-14
Arsenic (As)-Dissolved			97.2		%		80-120	24-SEP-14
Barium (Ba)-Dissolved			98.1		%		80-120	24-SEP-14
Beryllium (Be)-Dissolved			95.0		%		80-120	24-SEP-14
Bismuth (Bi)-Dissolved			97.3		%		80-120	24-SEP-14
Boron (B)-Dissolved			100.5		%		80-120	24-SEP-14
Cadmium (Cd)-Dissolved			95.6		%		80-120	24-SEP-14
Calcium (Ca)-Dissolved			95.8		%		80-120	24-SEP-14
Chromium (Cr)-Dissolved			96.2		%		80-120	24-SEP-14
Cobalt (Co)-Dissolved			95.3		%		80-120	24-SEP-14
Copper (Cu)-Dissolved			95.6		%		80-120	24-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-NP-U-CCMS-ED	**Water**							
Batch	**R2958234**							
WG1958261-2	**CRM**	**ED-HIGH-WATRM**						
Lead (Pb)-Dissolved			98.1		%		80-120	24-SEP-14
Lithium (Li)-Dissolved			95.3		%		80-120	24-SEP-14
Magnesium (Mg)-Dissolved			101.0		%		80-120	24-SEP-14
Manganese (Mn)-Dissolved			94.9		%		80-120	24-SEP-14
Molybdenum (Mo)-Dissolved			94.3		%		80-120	24-SEP-14
Nickel (Ni)-Dissolved			97.6		%		80-120	24-SEP-14
Potassium (K)-Dissolved			95.7		%		80-120	24-SEP-14
Selenium (Se)-Dissolved			98.8		%		80-120	24-SEP-14
Silver (Ag)-Dissolved			97.4		%		80-120	24-SEP-14
Sodium (Na)-Dissolved			98.9		%		80-120	24-SEP-14
Strontium (Sr)-Dissolved			93.3		%		80-120	24-SEP-14
Thallium (Tl)-Dissolved			95.1		%		80-120	24-SEP-14
Tin (Sn)-Dissolved			94.9		%		80-120	24-SEP-14
Titanium (Ti)-Dissolved			97.1		%		80-120	24-SEP-14
Uranium (U)-Dissolved			102.6		%		80-120	24-SEP-14
Vanadium (V)-Dissolved			98.8		%		80-120	24-SEP-14
Zinc (Zn)-Dissolved			94.4		%		80-120	24-SEP-14
WG1958261-1	**MB**							
Aluminum (Al)-Dissolved			<0.00030		mg/L		0.0003	24-SEP-14
Antimony (Sb)-Dissolved			<0.000020		mg/L		0.00002	24-SEP-14
Arsenic (As)-Dissolved			<0.000020		mg/L		0.00002	24-SEP-14
Barium (Ba)-Dissolved			<0.000050		mg/L		0.00005	24-SEP-14
Beryllium (Be)-Dissolved			<0.000010		mg/L		0.00001	24-SEP-14
Bismuth (Bi)-Dissolved			<0.000010		mg/L		0.00001	24-SEP-14
Boron (B)-Dissolved			<0.0010		mg/L		0.001	24-SEP-14
Cadmium (Cd)-Dissolved			<0.0000050		mg/L		0.000005	24-SEP-14
Calcium (Ca)-Dissolved			<0.020		mg/L		0.02	24-SEP-14
Chromium (Cr)-Dissolved			<0.000060		mg/L		0.00006	24-SEP-14
Cobalt (Co)-Dissolved			<0.000010		mg/L		0.00001	24-SEP-14
Copper (Cu)-Dissolved			<0.00010		mg/L		0.0001	24-SEP-14
Iron (Fe)-Dissolved			<0.0010		mg/L		0.001	24-SEP-14
Lead (Pb)-Dissolved			<0.000010		mg/L		0.00001	24-SEP-14
Lithium (Li)-Dissolved			<0.00050		mg/L		0.0005	24-SEP-14
Magnesium (Mg)-Dissolved			<0.0040		mg/L		0.004	24-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-NP-U-CCMS-ED	**Water**							
Batch	**R2958234**							
WG1958261-1	**MB**							
Manganese (Mn)-Dissolved			<0.000050		mg/L		0.00005	24-SEP-14
Molybdenum (Mo)-Dissolved			<0.000050		mg/L		0.00005	24-SEP-14
Nickel (Ni)-Dissolved			<0.000060		mg/L		0.00006	24-SEP-14
Potassium (K)-Dissolved			<0.020		mg/L		0.02	24-SEP-14
Selenium (Se)-Dissolved			<0.000040		mg/L		0.00004	24-SEP-14
Silver (Ag)-Dissolved			<0.000005C		mg/L		0.000005	24-SEP-14
Sodium (Na)-Dissolved			<0.0050		mg/L		0.005	24-SEP-14
Strontium (Sr)-Dissolved			<0.000050		mg/L		0.00005	24-SEP-14
Thallium (Tl)-Dissolved			<0.000005C		mg/L		0.000005	24-SEP-14
Tin (Sn)-Dissolved			<0.000050		mg/L		0.00005	24-SEP-14
Titanium (Ti)-Dissolved			<0.00010		mg/L		0.0001	24-SEP-14
Uranium (U)-Dissolved			<0.000010		mg/L		0.00001	24-SEP-14
Vanadium (V)-Dissolved			<0.000050		mg/L		0.00005	24-SEP-14
Zinc (Zn)-Dissolved			<0.00080		mg/L		0.0008	24-SEP-14
MET-T-CCMS-ED	**Water**							
Batch	**R2954509**							
WG1955780-1	**MB**							
Aluminum (Al)-Total			<0.0030		mg/L		0.003	21-SEP-14
Antimony (Sb)-Total			<0.00010		mg/L		0.0001	21-SEP-14
Arsenic (As)-Total			<0.00010		mg/L		0.0001	21-SEP-14
Barium (Ba)-Total			<0.000050		mg/L		0.00005	21-SEP-14
Beryllium (Be)-Total			<0.00010		mg/L		0.0001	21-SEP-14
Bismuth (Bi)-Total			<0.000050		mg/L		0.00005	21-SEP-14
Cadmium (Cd)-Total			<0.000010		mg/L		0.00001	21-SEP-14
Calcium (Ca)-Total			<0.020		mg/L		0.02	21-SEP-14
Chromium (Cr)-Total			<0.00010		mg/L		0.0001	21-SEP-14
Cobalt (Co)-Total			<0.00010		mg/L		0.0001	21-SEP-14
Copper (Cu)-Total			<0.00010		mg/L		0.0001	21-SEP-14
Iron (Fe)-Total			<0.010		mg/L		0.01	21-SEP-14
Lead (Pb)-Total			<0.000050		mg/L		0.00005	21-SEP-14
Lithium (Li)-Total			<0.0050		mg/L		0.005	21-SEP-14
Magnesium (Mg)-Total			<0.0050		mg/L		0.005	21-SEP-14
Manganese (Mn)-Total			<0.000050		mg/L		0.00005	21-SEP-14
Molybdenum (Mo)-Total			<0.000050		mg/L		0.00005	21-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-ED	**Water**							
Batch R2954509								
WG1955780-1 MB								
Nickel (Ni)-Total			<0.00010		mg/L		0.0001	21-SEP-14
Phosphorus (P)-Total			<0.30		mg/L		0.3	21-SEP-14
Potassium (K)-Total			<0.050		mg/L		0.05	21-SEP-14
Selenium (Se)-Total			<0.00010		mg/L		0.0001	21-SEP-14
Silicon (Si)-Total			<0.050		mg/L		0.05	21-SEP-14
Silver (Ag)-Total			<0.000010		mg/L		0.00001	21-SEP-14
Sodium (Na)-Total			<0.050		mg/L		0.05	21-SEP-14
Strontium (Sr)-Total			<0.00010		mg/L		0.0001	21-SEP-14
Thallium (Tl)-Total			<0.000010		mg/L		0.00001	21-SEP-14
Tin (Sn)-Total			<0.00010		mg/L		0.0001	21-SEP-14
Titanium (Ti)-Total			<0.00030		mg/L		0.0003	21-SEP-14
Uranium (U)-Total			<0.000010		mg/L		0.00001	21-SEP-14
Vanadium (V)-Total			<0.00010		mg/L		0.0001	21-SEP-14
Zinc (Zn)-Total			<0.0030		mg/L		0.003	21-SEP-14
WG1955780-3 MB								
Aluminum (Al)-Total			<0.0030		mg/L		0.003	21-SEP-14
Antimony (Sb)-Total			<0.00010		mg/L		0.0001	21-SEP-14
Arsenic (As)-Total			<0.00010		mg/L		0.0001	21-SEP-14
Barium (Ba)-Total			<0.000050		mg/L		0.00005	21-SEP-14
Beryllium (Be)-Total			<0.00010		mg/L		0.0001	21-SEP-14
Bismuth (Bi)-Total			<0.000050		mg/L		0.00005	21-SEP-14
Cadmium (Cd)-Total			<0.000010		mg/L		0.00001	21-SEP-14
Calcium (Ca)-Total			<0.020		mg/L		0.02	21-SEP-14
Chromium (Cr)-Total			<0.00010		mg/L		0.0001	21-SEP-14
Cobalt (Co)-Total			<0.00010		mg/L		0.0001	21-SEP-14
Copper (Cu)-Total			<0.00010		mg/L		0.0001	21-SEP-14
Iron (Fe)-Total			<0.010		mg/L		0.01	21-SEP-14
Lead (Pb)-Total			<0.000050		mg/L		0.00005	21-SEP-14
Lithium (Li)-Total			<0.0050		mg/L		0.005	21-SEP-14
Magnesium (Mg)-Total			<0.0050		mg/L		0.005	21-SEP-14
Manganese (Mn)-Total			<0.000050		mg/L		0.00005	21-SEP-14
Molybdenum (Mo)-Total			<0.000050		mg/L		0.00005	21-SEP-14
Nickel (Ni)-Total			<0.00010		mg/L		0.0001	21-SEP-14
Phosphorus (P)-Total			<0.30		mg/L		0.3	21-SEP-14

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-ED	**Water**							
Batch R2954509								
WG1955780-3 MB								
Potassium (K)-Total			<0.050		mg/L		0.05	21-SEP-14
Selenium (Se)-Total			<0.00010		mg/L		0.0001	21-SEP-14
Silicon (Si)-Total			<0.050		mg/L		0.05	21-SEP-14
Silver (Ag)-Total			<0.000010		mg/L		0.00001	21-SEP-14
Sodium (Na)-Total			<0.050		mg/L		0.05	21-SEP-14
Strontium (Sr)-Total			<0.00010		mg/L		0.0001	21-SEP-14
Thallium (Tl)-Total			<0.000010		mg/L		0.00001	21-SEP-14
Tin (Sn)-Total			<0.00010		mg/L		0.0001	21-SEP-14
Titanium (Ti)-Total			<0.00030		mg/L		0.0003	21-SEP-14
Uranium (U)-Total			<0.000010		mg/L		0.00001	21-SEP-14
Vanadium (V)-Total			<0.00010		mg/L		0.0001	21-SEP-14
Zinc (Zn)-Total			<0.0030		mg/L		0.003	21-SEP-14
MET-T-ICP-ED	**Water**							
Batch R2953918								
WG1955780-1 MB								
Sulfur (S)-Total			<0.50		mg/L		0.5	21-SEP-14
WG1955780-3 MB								
Sulfur (S)-Total			<0.50		mg/L		0.5	21-SEP-14
MET-T-NP-U-CCMS-ED	**Water**							
Batch R2957093								
WG1957547-2 CRM		**ED-HIGH-WATRM**						
Aluminum (Al)-Total			108.2		%		80-120	23-SEP-14
Antimony (Sb)-Total			95.5		%		80-120	23-SEP-14
Arsenic (As)-Total			101.9		%		80-120	23-SEP-14
Barium (Ba)-Total			97.2		%		80-120	23-SEP-14
Beryllium (Be)-Total			92.7		%		80-120	23-SEP-14
Bismuth (Bi)-Total			103.3		%		80-120	23-SEP-14
Boron (B)-Total			95.7		%		80-120	23-SEP-14
Cadmium (Cd)-Total			99.4		%		80-120	23-SEP-14
Chromium (Cr)-Total			101.6		%		80-120	23-SEP-14
Cobalt (Co)-Total			100.1		%		80-120	23-SEP-14
Copper (Cu)-Total			98.6		%		80-120	23-SEP-14
Lead (Pb)-Total			101.1		%		80-120	23-SEP-14
Lithium (Li)-Total			101.0		%		80-120	23-SEP-14
Manganese (Mn)-Total			99.4		%		80-120	23-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-NP-U-CCMS-ED	**Water**							
Batch R2957093								
WG1957547-2 CRM		**ED-HIGH-WATRM**						
Molybdenum (Mo)-Total			92.5		%		80-120	23-SEP-14
Nickel (Ni)-Total			109.6		%		80-120	23-SEP-14
Selenium (Se)-Total			102.5		%		80-120	23-SEP-14
Silver (Ag)-Total			98.3		%		80-120	23-SEP-14
Strontium (Sr)-Total			100.0		%		80-120	23-SEP-14
Thallium (Tl)-Total			105.3		%		80-120	23-SEP-14
Tin (Sn)-Total			96.1		%		80-120	23-SEP-14
Titanium (Ti)-Total			95.6		%		80-120	23-SEP-14
Uranium (U)-Total			95.5		%		80-120	23-SEP-14
Vanadium (V)-Total			102.5		%		80-120	23-SEP-14
Zinc (Zn)-Total			104.1		%		80-120	23-SEP-14
WG1957547-5 CRM		**ED-HIGH-WATRM**						
Aluminum (Al)-Total			108.2		%		80-120	23-SEP-14
Antimony (Sb)-Total			93.9		%		80-120	23-SEP-14
Arsenic (As)-Total			100.1		%		80-120	23-SEP-14
Barium (Ba)-Total			97.3		%		80-120	23-SEP-14
Beryllium (Be)-Total			94.1		%		80-120	23-SEP-14
Bismuth (Bi)-Total			103.6		%		80-120	23-SEP-14
Boron (B)-Total			99.9		%		80-120	23-SEP-14
Cadmium (Cd)-Total			99.1		%		80-120	23-SEP-14
Chromium (Cr)-Total			98.8		%		80-120	23-SEP-14
Cobalt (Co)-Total			97.6		%		80-120	23-SEP-14
Copper (Cu)-Total			95.6		%		80-120	23-SEP-14
Lead (Pb)-Total			103.7		%		80-120	23-SEP-14
Lithium (Li)-Total			105.7		%		80-120	23-SEP-14
Manganese (Mn)-Total			97.7		%		80-120	23-SEP-14
Molybdenum (Mo)-Total			94.1		%		80-120	23-SEP-14
Nickel (Ni)-Total			99.1		%		80-120	23-SEP-14
Selenium (Se)-Total			101.2		%		80-120	23-SEP-14
Silver (Ag)-Total			97.5		%		80-120	23-SEP-14
Strontium (Sr)-Total			98.5		%		80-120	23-SEP-14
Thallium (Tl)-Total			104.2		%		80-120	23-SEP-14
Tin (Sn)-Total			94.8		%		80-120	23-SEP-14
Titanium (Ti)-Total			99.2		%		80-120	23-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-NP-U-CCMS-ED	**Water**							
Batch R2957093								
WG1957547-5 CRM		**ED-HIGH-WATRM**						
Uranium (U)-Total			95.5		%		80-120	23-SEP-14
Vanadium (V)-Total			100.8		%		80-120	23-SEP-14
Zinc (Zn)-Total			98.2		%		80-120	23-SEP-14
WG1957547-1 MB								
Aluminum (Al)-Total			<0.00030		mg/L		0.0003	23-SEP-14
Antimony (Sb)-Total			<0.000020		mg/L		0.00002	23-SEP-14
Arsenic (As)-Total			<0.000020		mg/L		0.00002	23-SEP-14
Barium (Ba)-Total			<0.000050		mg/L		0.00005	23-SEP-14
Beryllium (Be)-Total			<0.000010		mg/L		0.00001	23-SEP-14
Bismuth (Bi)-Total			<0.000010		mg/L		0.00001	23-SEP-14
Boron (B)-Total			<0.0010		mg/L		0.001	23-SEP-14
Cadmium (Cd)-Total			<0.0000050		mg/L		0.000005	23-SEP-14
Chromium (Cr)-Total			<0.000060		mg/L		0.00006	23-SEP-14
Cobalt (Co)-Total			<0.000010		mg/L		0.00001	23-SEP-14
Copper (Cu)-Total			<0.00010		mg/L		0.0001	23-SEP-14
Iron (Fe)-Total			<0.0010		mg/L		0.001	23-SEP-14
Lead (Pb)-Total			<0.000010		mg/L		0.00001	23-SEP-14
Lithium (Li)-Total			<0.00050		mg/L		0.0005	23-SEP-14
Manganese (Mn)-Total			<0.000050		mg/L		0.00005	23-SEP-14
Molybdenum (Mo)-Total			<0.000050		mg/L		0.00005	23-SEP-14
Nickel (Ni)-Total			<0.000060		mg/L		0.00006	23-SEP-14
Selenium (Se)-Total			<0.000040		mg/L		0.00004	23-SEP-14
Silver (Ag)-Total			<0.0000050		mg/L		0.000005	23-SEP-14
Strontium (Sr)-Total			<0.000050		mg/L		0.00005	23-SEP-14
Thallium (Tl)-Total			<0.0000050		mg/L		0.000005	23-SEP-14
Tin (Sn)-Total			<0.000050		mg/L		0.00005	23-SEP-14
Titanium (Ti)-Total			<0.00010		mg/L		0.0001	23-SEP-14
Uranium (U)-Total			<0.000010		mg/L		0.00001	23-SEP-14
Vanadium (V)-Total			<0.000050		mg/L		0.00005	23-SEP-14
Zinc (Zn)-Total			<0.00080		mg/L		0.0008	23-SEP-14
WG1957547-4 MB								
Aluminum (Al)-Total			<0.00030		mg/L		0.0003	23-SEP-14
Antimony (Sb)-Total			<0.000020		mg/L		0.00002	23-SEP-14
Arsenic (As)-Total			<0.000020		mg/L		0.00002	23-SEP-14
Barium (Ba)-Total			<0.000050		mg/L		0.00005	23-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-NP-U-CCMS-ED	**Water**							
Batch R2957093								
WG1957547-4 MB								
Beryllium (Be)-Total			<0.000010		mg/L		0.00001	23-SEP-14
Bismuth (Bi)-Total			<0.000010		mg/L		0.00001	23-SEP-14
Boron (B)-Total			<0.0010		mg/L		0.001	23-SEP-14
Cadmium (Cd)-Total			<0.000005(		mg/L		0.000005	23-SEP-14
Chromium (Cr)-Total			<0.000060		mg/L		0.00006	23-SEP-14
Cobalt (Co)-Total			<0.000010		mg/L		0.00001	23-SEP-14
Copper (Cu)-Total			<0.00010		mg/L		0.0001	23-SEP-14
Iron (Fe)-Total			<0.0010		mg/L		0.001	23-SEP-14
Lead (Pb)-Total			<0.000010		mg/L		0.00001	23-SEP-14
Lithium (Li)-Total			<0.00050		mg/L		0.0005	23-SEP-14
Manganese (Mn)-Total			<0.000050		mg/L		0.00005	23-SEP-14
Molybdenum (Mo)-Total			<0.000050		mg/L		0.00005	23-SEP-14
Nickel (Ni)-Total			<0.000060		mg/L		0.00006	23-SEP-14
Selenium (Se)-Total			<0.000040		mg/L		0.00004	23-SEP-14
Silver (Ag)-Total			<0.000005(		mg/L		0.000005	23-SEP-14
Strontium (Sr)-Total			<0.000050		mg/L		0.00005	23-SEP-14
Thallium (Tl)-Total			<0.000005(		mg/L		0.000005	23-SEP-14
Tin (Sn)-Total			<0.000050		mg/L		0.00005	23-SEP-14
Titanium (Ti)-Total			<0.00010		mg/L		0.0001	23-SEP-14
Uranium (U)-Total			<0.000010		mg/L		0.00001	23-SEP-14
Vanadium (V)-Total			<0.000050		mg/L		0.00005	23-SEP-14
Zinc (Zn)-Total			<0.00080		mg/L		0.0008	23-SEP-14
Batch R2958234								
WG1958261-2 CRM		**ED-HIGH-WATRM**						
Aluminum (Al)-Total			99.3		%		80-120	24-SEP-14
Antimony (Sb)-Total			95.3		%		80-120	24-SEP-14
Arsenic (As)-Total			97.2		%		80-120	24-SEP-14
Barium (Ba)-Total			98.1		%		80-120	24-SEP-14
Beryllium (Be)-Total			95.0		%		80-120	24-SEP-14
Bismuth (Bi)-Total			97.3		%		80-120	24-SEP-14
Boron (B)-Total			100.5		%		80-120	24-SEP-14
Cadmium (Cd)-Total			95.6		%		80-120	24-SEP-14
Chromium (Cr)-Total			96.2		%		80-120	24-SEP-14
Cobalt (Co)-Total			95.3		%		80-120	24-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-NP-U-CCMS-ED	**Water**							
Batch R2958234								
WG1958261-2 CRM		**ED-HIGH-WATRM**						
Copper (Cu)-Total			95.6		%		80-120	24-SEP-14
Lead (Pb)-Total			98.1		%		80-120	24-SEP-14
Lithium (Li)-Total			95.3		%		80-120	24-SEP-14
Manganese (Mn)-Total			94.9		%		80-120	24-SEP-14
Molybdenum (Mo)-Total			94.3		%		80-120	24-SEP-14
Nickel (Ni)-Total			97.6		%		80-120	24-SEP-14
Selenium (Se)-Total			98.8		%		80-120	24-SEP-14
Silver (Ag)-Total			97.4		%		80-120	24-SEP-14
Strontium (Sr)-Total			93.3		%		80-120	24-SEP-14
Thallium (Tl)-Total			95.1		%		80-120	24-SEP-14
Tin (Sn)-Total			94.9		%		80-120	24-SEP-14
Titanium (Ti)-Total			97.1		%		80-120	24-SEP-14
Uranium (U)-Total			102.6		%		80-120	24-SEP-14
Vanadium (V)-Total			98.8		%		80-120	24-SEP-14
Zinc (Zn)-Total			94.4		%		80-120	24-SEP-14
WG1958261-1 MB								
Aluminum (Al)-Total			<0.00030		mg/L		0.0003	24-SEP-14
Antimony (Sb)-Total			<0.000020		mg/L		0.00002	24-SEP-14
Arsenic (As)-Total			<0.000020		mg/L		0.00002	24-SEP-14
Barium (Ba)-Total			<0.000050		mg/L		0.00005	24-SEP-14
Beryllium (Be)-Total			<0.000010		mg/L		0.00001	24-SEP-14
Bismuth (Bi)-Total			<0.000010		mg/L		0.00001	24-SEP-14
Boron (B)-Total			<0.0010		mg/L		0.001	24-SEP-14
Cadmium (Cd)-Total			<0.000005C		mg/L		0.000005	24-SEP-14
Chromium (Cr)-Total			<0.000060		mg/L		0.00006	24-SEP-14
Cobalt (Co)-Total			<0.000010		mg/L		0.00001	24-SEP-14
Copper (Cu)-Total			<0.00010		mg/L		0.0001	24-SEP-14
Iron (Fe)-Total			<0.0010		mg/L		0.001	24-SEP-14
Lead (Pb)-Total			<0.000010		mg/L		0.00001	24-SEP-14
Lithium (Li)-Total			<0.00050		mg/L		0.0005	24-SEP-14
Manganese (Mn)-Total			<0.000050		mg/L		0.00005	24-SEP-14
Molybdenum (Mo)-Total			<0.000050		mg/L		0.00005	24-SEP-14
Nickel (Ni)-Total			<0.000060		mg/L		0.00006	24-SEP-14
Selenium (Se)-Total			<0.000040		mg/L		0.00004	24-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-NP-U-CCMS-ED	**Water**							
Batch R2958234								
WG1958261-1 MB								
Silver (Ag)-Total			<0.000005C		mg/L		0.000005	24-SEP-14
Strontium (Sr)-Total			<0.000050		mg/L		0.00005	24-SEP-14
Thallium (Tl)-Total			<0.000005C		mg/L		0.000005	24-SEP-14
Tin (Sn)-Total			<0.000050		mg/L		0.00005	24-SEP-14
Titanium (Ti)-Total			<0.00010		mg/L		0.0001	24-SEP-14
Uranium (U)-Total			<0.000010		mg/L		0.00001	24-SEP-14
Vanadium (V)-Total			<0.000050		mg/L		0.00005	24-SEP-14
Zinc (Zn)-Total			<0.00080		mg/L		0.0008	24-SEP-14
NH3-L-CFA-ED	**Water**							
Batch R2957292								
WG1957971-2 LCS								
Ammonia, Total (as N)			95.6		%		85-115	24-SEP-14
WG1957971-3 LCS								
Ammonia, Total (as N)			99.6		%		85-115	24-SEP-14
WG1957971-1 MB								
Ammonia, Total (as N)			<0.0050		mg/L		0.005	24-SEP-14
WG1957971-4 MS		**L1518427-4**						
Ammonia, Total (as N)			101.8		%		75-125	24-SEP-14
WG1957971-6 MS		**L1518150-2**						
Ammonia, Total (as N)			102.4		%		75-125	24-SEP-14
WG1957971-8 MS		**L1514126-19**						
Ammonia, Total (as N)			111.8		%		75-125	24-SEP-14
NO2+NO3-L-CFA-ED	**Water**							
Batch R2951289								
WG1953413-2 LCS								
Nitrate and Nitrite (as N)			99.9		%		90-110	17-SEP-14
WG1953413-1 MB								
Nitrate and Nitrite (as N)			<0.0060		mg/L		0.006	17-SEP-14
WG1953413-4 MS		**L1518455-1**						
Nitrate and Nitrite (as N)			98.2		%		75-125	17-SEP-14
NO2-L-CFA-ED	**Water**							
Batch R2951289								
WG1953413-2 LCS								
Nitrite (as N)			97.6		%		90-110	17-SEP-14
WG1953413-1 MB								
Nitrite (as N)			<0.0020		mg/L		0.002	17-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO2-L-CFA-ED	**Water**							
Batch R2951289								
WG1953413-4 MS		**L1518455-1**						
Nitrite (as N)			98.5		%		75-125	17-SEP-14
P-T-L-COL-ED	**Water**							
Batch R2956458								
WG1956665-3 DUP		**L1518427-4**						
Phosphorus (P)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	23-SEP-14
WG1956665-2 LCS								
Phosphorus (P)-Total			99.8		%		80-120	23-SEP-14
WG1956665-1 MB								
Phosphorus (P)-Total			<0.0010		mg/L		0.001	23-SEP-14
WG1956665-4 MS		**L1518427-4**						
Phosphorus (P)-Total			95.8		%		70-130	23-SEP-14
WG1956665-6 MS		**L1518918-1**						
Phosphorus (P)-Total			93.3		%		70-130	23-SEP-14
Batch R2961147								
WG1958618-2 LCS								
Phosphorus (P)-Total			92.4		%		80-120	26-SEP-14
WG1958618-1 MB								
Phosphorus (P)-Total			<0.0010		mg/L		0.001	26-SEP-14
WG1958618-4 MS		**L1518362-1**						
Phosphorus (P)-Total			100.9		%		70-130	26-SEP-14
WG1958618-8 MS		**L1518455-1**						
Phosphorus (P)-Total			96.0		%		70-130	26-SEP-14
P-TD-L-COL-ED	**Water**							
Batch R2956458								
WG1956665-3 DUP		**L1518427-4**						
Phosphorus (P)-Total	Dissolved	<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	23-SEP-14
WG1956665-2 LCS								
Phosphorus (P)-Total	Dissolved		98.0		%		80-120	23-SEP-14
WG1956665-1 MB								
Phosphorus (P)-Total	Dissolved		<0.0010		mg/L		0.001	23-SEP-14
WG1956665-4 MS		**L1518427-4**						
Phosphorus (P)-Total	Dissolved		98.1		%		70-130	23-SEP-14
WG1956665-6 MS		**L1518918-1**						
Phosphorus (P)-Total	Dissolved		92.1		%		70-130	23-SEP-14
PH/EC/ALK-ED	**Water**							

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PH/EC/ALK-ED	**Water**							
Batch R2949765								
WG1952881-13 LCS								
Conductivity (EC)			96.2		%		90-110	17-SEP-14
WG1952881-14 LCS								
pH			6.01		pH		5.9-6.1	17-SEP-14
WG1952881-15 LCS								
Alkalinity, Total (as CaCO3)			99.0		%		85-115	17-SEP-14
WG1952881-16 LCS								
Conductivity (EC)			95.2		%		90-110	17-SEP-14
WG1952881-18 LCS								
Conductivity (EC)			95.2		%		90-110	17-SEP-14
WG1952881-19 LCS								
pH			6.01		pH		5.9-6.1	17-SEP-14
WG1952881-2 LCS								
Conductivity (EC)			96.7		%		90-110	17-SEP-14
WG1952881-20 LCS								
Alkalinity, Total (as CaCO3)			99.8		%		85-115	17-SEP-14
WG1952881-21 LCS								
Conductivity (EC)			94.2		%		90-110	17-SEP-14
WG1952881-23 LCS								
Conductivity (EC)			100.2		%		90-110	17-SEP-14
WG1952881-24 LCS								
pH			6.00		pH		5.9-6.1	17-SEP-14
WG1952881-25 LCS								
Alkalinity, Total (as CaCO3)			99.9		%		85-115	17-SEP-14
WG1952881-26 LCS								
Conductivity (EC)			97.9		%		90-110	17-SEP-14
WG1952881-28 LCS								
Conductivity (EC)			99.9		%		90-110	18-SEP-14
WG1952881-29 LCS								
pH			6.01		pH		5.9-6.1	18-SEP-14
WG1952881-3 LCS								
pH			6.02		pH		5.9-6.1	17-SEP-14
WG1952881-30 LCS								
Alkalinity, Total (as CaCO3)			100.4		%		85-115	18-SEP-14
WG1952881-31 LCS								
Conductivity (EC)			97.0		%		90-110	18-SEP-14
WG1952881-33 LCS								
Conductivity (EC)			99.3		%		90-110	18-SEP-14
WG1952881-34 LCS								

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PH/EC/ALK-ED	**Water**							
Batch R2949765								
WG1952881-34 LCS								
pH			6.01		pH		5.9-6.1	18-SEP-14
WG1952881-35 LCS								
Alkalinity, Total (as CaCO3)			100.1		%		85-115	18-SEP-14
WG1952881-36 LCS								
Conductivity (EC)			96.3		%		90-110	18-SEP-14
WG1952881-4 LCS								
Alkalinity, Total (as CaCO3)			98.8		%		85-115	17-SEP-14
WG1952881-5 LCS								
Conductivity (EC)			97.1		%		90-110	17-SEP-14
WG1952881-1 MB								
Bicarbonate (HCO3)			<5.0		mg/L		5	17-SEP-14
Carbonate (CO3)			<5.0		mg/L		5	17-SEP-14
Hydroxide (OH)			<5.0		mg/L		5	17-SEP-14
Alkalinity, Total (as CaCO3)			<2.0		mg/L		2	17-SEP-14
WG1952881-12 MB								
Bicarbonate (HCO3)			<5.0		mg/L		5	17-SEP-14
Carbonate (CO3)			<5.0		mg/L		5	17-SEP-14
Hydroxide (OH)			<5.0		mg/L		5	17-SEP-14
Alkalinity, Total (as CaCO3)			<2.0		mg/L		2	17-SEP-14
WG1952881-17 MB								
Bicarbonate (HCO3)			<5.0		mg/L		5	17-SEP-14
Carbonate (CO3)			<5.0		mg/L		5	17-SEP-14
Hydroxide (OH)			<5.0		mg/L		5	17-SEP-14
Alkalinity, Total (as CaCO3)			<2.0		mg/L		2	17-SEP-14
WG1952881-22 MB								
Bicarbonate (HCO3)			<5.0		mg/L		5	17-SEP-14
Carbonate (CO3)			<5.0		mg/L		5	17-SEP-14
Hydroxide (OH)			<5.0		mg/L		5	17-SEP-14
Alkalinity, Total (as CaCO3)			<2.0		mg/L		2	17-SEP-14
WG1952881-27 MB								
Bicarbonate (HCO3)			<5.0		mg/L		5	18-SEP-14
Carbonate (CO3)			<5.0		mg/L		5	18-SEP-14
Hydroxide (OH)			<5.0		mg/L		5	18-SEP-14
Alkalinity, Total (as CaCO3)			<2.0		mg/L		2	18-SEP-14
WG1952881-32 MB								
Bicarbonate (HCO3)			<5.0		mg/L		5	18-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PH/EC/ALK-ED	**Water**							
Batch R2949765								
WG1952881-32 MB								
Carbonate (CO3)			<5.0		mg/L		5	18-SEP-14
Hydroxide (OH)			<5.0		mg/L		5	18-SEP-14
Alkalinity, Total (as CaCO3)			<2.0		mg/L		2	18-SEP-14
PO4-DO-L-COL-ED	**Water**							
Batch R2951289								
WG1953413-2 LCS								
Orthophosphate-Dissolved (as P)			99.6		%		80-120	17-SEP-14
WG1953413-1 MB								
Orthophosphate-Dissolved (as P)			<0.0010		mg/L		0.001	17-SEP-14
WG1953413-4 MS		**L1518455-1**						
Orthophosphate-Dissolved (as P)			94.2		%		70-130	17-SEP-14
SO4-L-IC-ED	**Water**							
Batch R2950135								
WG1952672-11 LCS								
Sulfate (SO4)			101.4		%		90-110	16-SEP-14
WG1952672-2 LCS								
Sulfate (SO4)			102.0		%		90-110	16-SEP-14
WG1952672-3 LCS								
Sulfate (SO4)			99.5		%		90-110	16-SEP-14
WG1952672-9 LCS								
Sulfate (SO4)			102.4		%		90-110	16-SEP-14
WG1952672-1 MB								
Sulfate (SO4)			<0.050		mg/L		0.05	16-SEP-14
WG1952672-10 MB								
Sulfate (SO4)			<0.050		mg/L		0.05	16-SEP-14
WG1952672-12 MB								
Sulfate (SO4)			<0.050		mg/L		0.05	16-SEP-14
WG1952672-4 MB								
Sulfate (SO4)			<0.050		mg/L		0.05	16-SEP-14
WG1952672-8 MS		**L1517647-2**						
Sulfate (SO4)			96.5		%		75-125	16-SEP-14
SOLIDS-TDS-ED	**Water**							
Batch R2953710								
WG1954718-2 LCS								
Total Dissolved Solids			93.5		%		85-115	19-SEP-14
WG1954718-1 MB								
Total Dissolved Solids			<10		mg/L		10	19-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SOLIDS-TOTSUS-ED	**Water**							
Batch R2953692								
WG1954746-2 LCS								
Total Suspended Solids			91.4		%		85-115	19-SEP-14
WG1954746-1 MB								
Total Suspended Solids			<3.0		mg/L		3	19-SEP-14
SULPHIDE-ED	**Water**							
Batch R2955276								
WG1956474-2 LCS								
Sulphide (as S)			96.9		%		75-125	22-SEP-14
WG1956474-3 LCS								
Sulphide (as S)			93.6		%		75-125	22-SEP-14
WG1956474-1 MB								
Sulphide (as S)			<0.0015		mg/L		0.0015	22-SEP-14
WG1956474-5 MS		**L1514571-8**						
Sulphide (as S)			81.0		%		65-135	22-SEP-14
WG1956474-7 MS		**L1518427-4**						
Sulphide (as S)			78.4		%		65-135	22-SEP-14
TH-D-CCMS-VA	**Water**							
Batch R2970591								
WG1964427-1 MB								
Thorium (Th)-Dissolved			<0.000050		mg/L		0.00005	03-OCT-14
TH-T-CCMS-VA	**Water**							
Batch R2975218								
WG1966232-1 MB								
Thorium (Th)-Total			<0.000050		mg/L		0.00005	07-OCT-14
TKN-L-CFA-ED	**Water**							
Batch R2957288								
WG1957964-5 DUP		**L1518427-3**						
Total Kjeldahl Nitrogen		<0.050	<0.050	RPD-NA	mg/L	N/A	20	24-SEP-14
WG1957964-2 LCS								
Total Kjeldahl Nitrogen			111		%		75-125	24-SEP-14
WG1957964-3 LCS								
Total Kjeldahl Nitrogen			119		%		75-125	24-SEP-14
WG1957964-4 LCS								
Total Kjeldahl Nitrogen			105		%		75-125	24-SEP-14
WG1957964-1 MB								
Total Kjeldahl Nitrogen			<0.050		mg/L		0.05	24-SEP-14

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
TKN-L-CFA-ED	**Water**							
Batch R2957288								
WG1957964-6 MS		**L1518427-4**						
Total Kjeldahl Nitrogen			108		%		61.4-139.7	24-SEP-14
TURBIDITY-ED	**Water**							
Batch R2949562								
WG1952329-5 LCS								
Turbidity			98.6		%		70-130	16-SEP-14
WG1952329-4 MB								
Turbidity			<0.10		NTU		0.1	16-SEP-14
ZR-D-CCMS-ED	**Water**							
Batch R2952981								
WG1954911-2 CRM		**ED-HIGH-WATRM**						
Zirconium (Zr)-Dissolved			89.7		%		80-120	19-SEP-14
WG1954911-1 MB								
Zirconium (Zr)-Dissolved			<0.00030		mg/L		0.0003	19-SEP-14
ZR-T-CCMS-ED	**Water**							
Batch R2954509								
WG1955780-1 MB								
Zirconium (Zr)-Total			<0.00060		mg/L		0.0006	21-SEP-14
WG1955780-3 MB								
Zirconium (Zr)-Total			<0.00060		mg/L		0.0006	21-SEP-14

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:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Leachable Anions & Nutrients							
Diss. Orthophosphate in Water by Colour							
	1	14-SEP-14 08:30	17-SEP-14 00:00	48	64	hours	EHTR
	2	14-SEP-14 08:30	17-SEP-14 00:00	48	64	hours	EHTR
	3	14-SEP-14 08:30	17-SEP-14 00:00	48	64	hours	EHTR
	4	14-SEP-14 08:30	17-SEP-14 00:00	48	64	hours	EHTR
Anions and Nutrients							
Nitrite & Nitrate in Water by Colour							
	1	14-SEP-14 08:30	17-SEP-14 00:00	48	64	hours	EHTR
	2	14-SEP-14 08:30	17-SEP-14 00:00	48	64	hours	EHTR
	3	14-SEP-14 08:30	17-SEP-14 00:00	48	64	hours	EHTR
	4	14-SEP-14 08:30	17-SEP-14 00:00	48	64	hours	EHTR
Nitrite in Water by Colour							
	1	14-SEP-14 08:30	17-SEP-14 00:00	48	64	hours	EHTR
	2	14-SEP-14 08:30	17-SEP-14 00:00	48	64	hours	EHTR
	3	14-SEP-14 08:30	17-SEP-14 00:00	48	64	hours	EHTR
	4	14-SEP-14 08:30	17-SEP-14 00:00	48	64	hours	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 L1518427 were received on 16-SEP-14 14:07.

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.

Radium-226

Case Narrative

ALS Environmental

L1518427

Work Order Number: 1409452

1. This report consists of the analytical results for four water samples received by ALS on 09/24/14.

2. These samples were prepared and analyzed according to the current revisions of SOP 783 and SOP 736. The analysis was completed on 10/08/14.

3. The analysis results for these samples are reported in units of BQ/L. The samples were not filtered prior to analysis.

4. Sample volume was insufficient to allow preparation of a duplicate. A laboratory control sample duplicate (LCSD) was prepared in lieu of a client sample duplicate.

5. No anomalous situations were encountered during the preparation or analysis of these samples. All quality control criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Jill Latelle — 10/9/14
Jill Latelle — Date
Radiochemistry Primary Data Reviewer

Dubbie Fazio — 10/9/14
Radiochemistry Final Data Reviewer — Date

ALS Environmental -- FC

Sample Number(s) Cross-Reference Table

OrderNum: 1409452
Client Name: ALS Environmental
Client Project Name:
Client Project Number: L1518427
Client PO Number: L1518427

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
L1518427-1	1409452-1		WATER	14-Sep-14	
L1518427-2	1409452-2		WATER	14-Sep-14	
L1518427-3	1409452-3		WATER	14-Sep-14	
L1518427-4	1409452-4		WATER	14-Sep-14	

L1518427

EDMONTON

1409452

Subcontract Request Form

Subcontract To:

ALS ENVIRONMENTAL - FORT COLLINS, COLORADO, USA
225 COMMERCE DRIVE
FORT COLLINS,CO 80524

NOTES: Please reference on final report and invoice: PO# *L1518427*
ALS requires QC data to be provided with your final results.

Please see enclosed 4 sample(s) in 4 Container(s)

SAMPLE NUMBER	CLIENT ID / ANALYTICAL REQUIRED	DATE SAMPLED / DUE DATE	Priority Flag
L1518427-1 (1)	**JGT-06-L9-S1-SEP2014**	**9/14/2014**	
	Ra226 by Alpha Scint, MDC=0.01 Bq/L (RA226-MMER-FC 1)	9/25/2014	
L1518427-2 (2)	**JGT-06-DUPLICATE**	**9/14/2014**	
	Ra226 by Alpha Scint, MDC=0.01 Bq/L (RA226-MMER-FC 1)	9/25/2014	
L1518427-3 (3)	**JGT-06FIELD BLANK- SEP2014**	**9/14/2014**	
	Ra226 by Alpha Scint, MDC=0.01 Bq/L (RA226-MMER-FC 1)	9/25/2014	
L1518427-4 (4)	**JGT-06-TRIP BLANK-SEP2014**	**9/14/2014**	
	Ra226 by Alpha Scint, MDC=0.01 Bq/L (RA226-MMER-FC 1)	9/25/2014	

Subcontract Info Contact: Christine Potts (780) 413-5242

Analysis and reporting info contact: Jessica Spira
9936 67 AVE
EDMONTON,AB T6E 0P5
Phone: (780) 413-5242 Email: JESSICA.SPIRA@alsglobal.com

Please email confirmation of receipt to: JESSICA.SPIRA@alsglobal.com

Shipped By: _____ Date Shipped: _____

Received By: _____ Date Received: 9/24/14 0955

Verified By: _____ Date Verified: _____

Temperature: _____

Sample Integrity Issues: _____

ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: ALS Edmonton Workorder No: 1409452

Project Manager: DJF Initials: ECP Date: 9/24/14

1.	Does this project require any special handling in addition to standard ALS procedures?		YES	(NO)
2.	Are custody seals on shipping containers intact?	(NONE)	YES	NO
3.	Are Custody seals on sample containers intact?	(NONE)	YES	NO
4.	Is there a COC (Chain-of-Custody) present or other representative documents?		(YES)	NO
* 5.	Are the COC and bottle labels complete and legible?		YES	(NO)
6.	Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		(YES)	NO
7.	Were airbills / shipping documents present and/or removable?	DROP OFF	(YES)	NO
8.	Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	N/A	(YES)	NO
9.	Are all aqueous non-preserved samples pH 4-9?	(N/A)	YES	NO
10.	Is there sufficient sample for the requested analyses?		(YES)	NO
11.	Were all samples placed in the proper containers for the requested analyses?		(YES)	NO
12.	Are all samples within holding times for the requested analyses?		(YES)	NO
13.	Were all sample containers received intact? (not broken or leaking, etc.)		(YES)	NO
14.	Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) headspace free? Size of bubble: ____ < green pea ____ > green pea	(N/A)	YES	NO
15.	Do any water samples contain sediment? Amount Amount of sediment: ____ dusting ____ moderate ____ heavy	N/A	YES	(NO)
16.	Were the samples shipped on ice?		YES	(NO)
17.	Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #2 #4	(RAD ONLY)	YES	(NO)

Cooler #:	1
Temperature (°C):	AMB
No. of custody seals on cooler:	0
DOT Survey/ Acceptance Information — External µR/hr reading:	15
Background µR/hr reading:	13

Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? (YES) NO / NA (If no, see Form 008.)

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16.

5) sample 3-1: The second half of the sample number was rubbed off. The bottle was placed after all other bottles were identified. Date & client ID match.

If applicable, was the client contacted? (YES) NO / NA Contact: Jessica Spira Date/Time: 9/24/14 Receipt email

Project Manager Signature / Date: DJF 9.24.14

*IR Gun #2: Oakton, SN 29922500201-0066
*IR Gun #4: Oakton, SN 2372220101-0002

From: (780) 413-5275
Jimmy Oleson
ALS Labortory Group
9936-67 AVE

Edmonton, AB T6E0P5
CANADA

Origin ID: YEGA

FedEx Express

J14221409099426

Ship Date: 23SEP14
ActWgt: 10.0 KG
CAD: 100133236/INCA3550

15 1409452
-0

REF:
DESC-1: water sample for research purposes only
DESC-2:
DESC-3:
DESC-4:

COUNTRY MFG: CA
CARRIAGE VALUE: 1.00 CAD
CUSTOMS VALUE: 1.00 CAD

SIGN: Jimmy Oleson
EIN/VAT:
PKG TYPE: CUSTOMER

SHIP TO: (970) 490-1511 **BILL SENDER**

ALS Ft. Collins
ALS Laboratory Group
225 COMMERCE DR

FORT COLLINS, CO 80524
US

10:30A
INTL PRIORITY
ISR
80524
CO-US
DEN

TRK# 7712 5284 1809
0430

XH FTCA

These commodities, technology, or software were exported from Canada in accordance with the export administration regulations. Diversion contrary to Canadian law prohibited.

The Warsaw Convention may apply and will govern and in most cases limit the liability of Federal Express for loss or delay of or damage to your shipment. Subject to the conditions of the contract

CONSIGNEE COPY- PLEASE PLACE IN FRONT OF POUCH

522G1/CDB4/8AC9

After printing this label:

CONSIGNEE COPY - PLEASE PLACE IN FRONT OF POUCH

1. Fold the printed page along the horizontal line.
2. Place label in shipping pouch and affix it to your shipment.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

LEGAL TERMS AND CONDITIONS OF FEDEX SHIPPING DEFINITIONS. On this Air Waybill, "we", "our", "us", and "FedEx" refer to Federal Express Corporation, its subsidiaries and branches and their respective employees, agents, and independent contractors. The terms "you" and "your" refer to the shipper, its employees, principals and agents. If your shipment originates outside the United States, your contract of carriage is with the FedEx subsidiary, branch or independent contractor who originally accepts the shipment from you. The term "package" means any container or envelope that is accepted by us for delivery, including any such items tendered by you utilizing our automated systems, meters, manifests or waybills. The term "shipment" means all packages which are tendered to and accepted by us on a single Air Waybill. AIR CARRIAGE NOTICE. For any international shipments by air, the Warsaw Convention, as amended, may be applicable. The Warsaw Convention, as amended, will then govern and in most cases limit FedEx's liability for loss, delay of, or damage to your shipment. The Warsaw Convention, as amended, limits FedEx's liability. For example in the U.S. liability is limited to $9.07 per pound (20$ per kilogram), unless a higher value for carriage is declared as described below and you pay any applicable supplementary charges. The interpretation and operation of the Warsaw Convention's liability limits may vary in each country. There are no specific stopping places which are agreed to and FedEx reserves the right to route the shipment in any way FedEx deems appropriate. ROAD TRANSPORT NOTICE. Shipments transported solely by road to or from a country which is a party to the Warsaw Convention or the Contract for the International Carriage of Goods by Road (the "CMR") are subject to the terms and conditions of the CMR, notwithstanding any other provision of this Air Waybill to the contrary. For those shipments transported solely by road, if a conflict arises between the provisions of the CMR and this Air Waybill, the terms of the CMR shall prevail. LIMITATION OF LIABILITY. If not governed by the Warsaw Convention, the CMR, or other international treaties, laws, other government regulations, orders, or requirements, FedEx's maximum liability for damage, loss, delay, shortage, mis-delivery, nondelivery, misinformation or failure to provide information in connection with your shipment is limited by this Agreement and as set out in the terms and conditions of the contract of carriage. Please refer to the contract of carriage set forth in the applicable FedEx Service Guide or its equivalent to determine the contractual limitation. FedEx does not provide cargo liability or all-risk insurance, but you may pay an additional charge for each additional U.S. $100 (or equivalent local currency for the country of origin) of declared value for carriage. If a higher value for carriage is declared and the additional charge is paid, FedEx's maximum liability will be the lesser of the declared value for carriage or your actual damages. LIABILITIES NOT ASSUMED. IN ANY EVENT, FEDEX WON'T BE LIABLE FOR ANY DAMAGES, WHETHER DIRECT, INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL IN EXCESS OF THE DECLARED VALUE FOR CARRIAGE (INCLUDING BUT NOT LIMITED TO LOSS OF INCOME OR PROFITS) OR THE ACTUAL VALUE OF THE SHIPMENT, IF LOWER, WHETHER OR NOT FEDEX HAD ANY KNOWLEDGE THAT SUCH DAMAGES MIGHT BE INCURRED. FedEx won't be liable for your acts or omissions, including but not limited to incorrect declaration of cargo, improper or insufficient packaging, securing, marking or addressing of the shipment, or for the acts or omissions of the recipient or anyone else with an interest in the shipment or violations by any party of the terms of this agreement. FedEx won't be liable for damage, loss, delay, shortage, mis-delivery, non-delivery, misinformation or failure to provide information in connection with shipments of cash, currency or other prohibited items or in instances beyond our control, such as acts of God, perils of the air, weather conditions, mechanical delays, acts of public enemies, war, strike, civil commotion, or acts or omissions of public authorities(including customs and health officials) with actual or apparent authority. NO WARRANTY. We make no warranties, express or implied. CLAIMS FOR LOSS, DAMAGE OR DELAY. ALL CLAIMS MUST BE MADE IN WRITING AND WITHIN STRICT TIME LIMITS. SEE OUR TARIFF, APPLICABLE FEDEX SERVICE GUIDE, OR STANDARD CONDITIONS OF CARRIAGE FOR DETAILS. The Warsaw Convention provides specific written claims procedures for damage, delay or non-delivery of your shipment. Moreover, the interpretation and operation of the Warsaw Convention's claims provisions may vary in each country. Refer to the Convention to determine the claims period for your shipment. The right to damages against us shall be extinguished unless an action is brought within two years, as set forth in the Convention. FedEx is not obligated to act on any claim until all transportation charges have been paid. The claim amount may not be deducted from the transportation charges. If the recipient accepts the shipment without noting any damage on the delivery record, FedEx will assume the shipment was delivered in good condition. In order for us to consider a claim for damage, the contents, original shipping carton and packing must be made available to us for inspection. MANDATORY LAW. Insofar as any provision contained or referred to in this Air Waybill may be contrary to any applicable international treaties, laws, government regulations, orders or requirements such provisions shall remain in effect as a part of our agreement to the extent that it is not overridden. The invalidity or unenforceability of any provisions shall not affect any other part of this Air Waybill. Unless otherwise indicated, FEDERAL EXPRESS CORPORATION, 2005 Corporate Avenue, Memphis, TN 38132, USA, is the first carrier of this shipment. Email address located at www.fedex.com.

Ra-226 by Radon Emanation - Method 903.1

PAI 783 Rev 10

Method Blank Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1409452
Client Name: ALS Environmental
ClientProject ID: L1518427

Lab ID: RE140929-1MB

Sample Matrix: WATER
Prep SOP: PAI 783 Rev 10
Date Collected: 29-Sep-14
Date Prepared: 29-Sep-14
Date Analyzed: 08-Oct-14

Prep Batch: RE140929-1
QCBatchID: RE140929-1-2
Run ID: RE140929-1A
Count Time: 30 minutes

Final Aliquot: 1490 ml
Result Units: BQ/l
File Name: Manual Entry

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
13982-63-3	Ra-226	0.0010 +/- 0.0020	0.0036	0.00999	U

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
BARIUM	15350	14770	ug	96.2	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

M - Requested MDC not met.

B - Analyte concentration greater than MDC.

B3 - Analyte concentration greater than MDC but less than Requested MDC.

Data Package ID: *RE1409452-1*

Ra-226 by Radon Emanation - Method 903.1

PAI 783 Rev 10

Laboratory Control Sample(s)

Lab Name: ALS Environmental -- FC
Work Order Number: 1409452
Client Name: ALS Environmental
ClientProject ID: L1518427

Lab ID: RE140929-1LCS

Sample Matrix: WATER
Prep SOP: PAI 783 Rev 10
Date Collected: 29-Sep-14
Date Prepared: 29-Sep-14
Date Analyzed: 08-Oct-14

Prep Batch: RE140929-1
QCBatchID: RE140929-1-2
Run ID: RE140929-1A
Count Time: 15 minutes

Final Aliquot: 1490 ml
Result Units: BQ/l
File Name: Manual Entry

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
13982-63-3	Ra-226	1.14 +/- 0.28	0.01	1.117	102	67 - 120	P

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
BARIUM	15350	14440	ug	94.0	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

L - LCS Recovery below lower control limit.

H - LCS Recovery above upper control limit.

P - LCS Recovery within control limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

Data Package ID: *RE1409452-1*

Ra-226 by Radon Emanation - Method 903.1

PAI 783 Rev 10

Laboratory Control Sample(s)

Lab Name: ALS Environmental -- FC
Work Order Number: 1409452
Client Name: ALS Environmental
ClientProject ID: L1518427

Lab ID: RE140929-1LCSD

Sample Matrix: WATER
Prep SOP: PAI 783 Rev 10
Date Collected: 29-Sep-14
Date Prepared: 29-Sep-14
Date Analyzed: 08-Oct-14

Prep Batch: RE140929-1
QCBatchID: RE140929-1-2
Run ID: RE140929-1A
Count Time: 15 minutes

Final Aliquot: 1490 ml
Result Units: BQ/l
File Name: Manual Entry

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
13982-63-3	Ra-226	1.19 +/- 0.30	0.01	1.117	106	67 - 120	P

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
BARIUM	15350	14650	ug	95.4	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

L - LCS Recovery below lower control limit.

H - LCS Recovery above upper control limit.

P - LCS Recovery within control limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

Data Package ID: *RE1409452-1*

Ra-226 by Radon Emanation - Method 903.1

PAI 783 Rev 10

Duplicate Sample Results (DER)

Lab Name: ALS Environmental -- FC
Work Order Number: 1409452
Client Name: ALS Environmental
ClientProject ID: L1518427

Field ID:
Lab ID: RE140929-1LCSD

Sample Matrix: WATER
Prep SOP: PAI 783 Rev 10
Date Collected: 29-Sep-14
Date Prepared: 29-Sep-14
Date Analyzed: 08-Oct-14

Prep Batch: RE140929-1
QCBatchID: RE140929-1-2
Run ID: RE140929-1A
Count Time: 15 minutes

Final Aliquot: 1490 ml
Prep Basis: Unfiltered
Moisture(%): NA
Result Units: BQ/l
File Name: Manual Entry

CASNO	Analyte	Sample			Duplicate			DER	DER Lim
		Result +/- 2 s TPU	MDC	Flags	Result +/- 2 s TPU	MDC	Flags		
13982-63-3	Ra-226	1.14 +/- 0.28	0.01	P	1.19 +/- 0.30	0.01	P	0.116	2.13

Comments:

Duplicate Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.

Y2 - Chemical Yield outside default limits.

W - DER is greater than Warning Limit of 1.42

D - DER is greater than Control Limit of 2.13

LT - Result is less than Request MDC, greater than sample specific MDC

M - Requested MDC not met.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

L - LCS Recovery below lower control limit.

H - LCS Recovery above upper control limit.

P - LCS, Matrix Spike Recovery within control limits.

N - Matrix Spike Recovery outside control limits

Abbreviations:

TPU - Total Propagated Uncertainty

DER - Duplicate Error Ratio

BDL - Below Detection Limit

NR - Not Reported

Data Package ID: *RE1409452-1*

Ra-226 by Radon Emanation - Method 903.1

PAI 783 Rev 10

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1409452
Client Name: ALS Environmental
ClientProject ID: L1518427

Field ID: L1518427-1
Lab ID: 1409452-1

Sample Matrix: WATER
Prep SOP: PAI 783 Rev 10
Date Collected: 14-Sep-14
Date Prepared: 29-Sep-14
Date Analyzed: 08-Oct-14

Prep Batch: RE140929-1
QCBatchID: RE140929-1-2
Run ID: RE140929-1A
Count Time: 30 minutes
Report Basis: Unfiltered

Final Aliquot: 1190 ml
Prep Basis: Unfiltered
Moisture(%): NA
Result Units: BQ/l
File Name: Manual Entry

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
13982-63-3	Ra-226	0.194 +/- 0.051	0.001	0.00999	

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
BARIUM	15370	14550	ug	94.6	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

Data Package ID: *RE1409452-1*

Ra-226 by Radon Emanation - Method 903.1

PAI 783 Rev 10

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1409452
Client Name: ALS Environmental
ClientProject ID: L1518427

Field ID: L1518427-2
Lab ID: 1409452-2

Sample Matrix: WATER
Prep SOP: PAI 783 Rev 10
Date Collected: 14-Sep-14
Date Prepared: 29-Sep-14
Date Analyzed: 08-Oct-14

Prep Batch: RE140929-1
QCBatchID: RE140929-1-2
Run ID: RE140929-1A
Count Time: 30 minutes
Report Basis: Unfiltered

Final Aliquot: 1190 ml
Prep Basis: Unfiltered
Moisture(%): NA
Result Units: BQ/l
File Name: Manual Entry

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
13982-63-3	Ra-226	0.111 +/- 0.031	0.004	0.00999	

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
BARIUM	15360	14320	ug	93.2	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

Data Package ID: *RE1409452-1*

Ra-226 by Radon Emanation - Method 903.1

PAI 783 Rev 10

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1409452
Client Name: ALS Environmental
ClientProject ID: L1518427

Field ID: L1518427-3
Lab ID: 1409452-3

Sample Matrix: WATER
Prep SOP: PAI 783 Rev 10
Date Collected: 14-Sep-14
Date Prepared: 29-Sep-14
Date Analyzed: 08-Oct-14

Prep Batch: RE140929-1
QCBatchID: RE140929-1-2
Run ID: RE140929-1A
Count Time: 30 minutes
Report Basis: Unfiltered

Final Aliquot: 1190 ml
Prep Basis: Unfiltered
Moisture(%): NA
Result Units: BQ/l
File Name: Manual Entry

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
13982-63-3	Ra-226	0.0026 +/- 0.0022	0.0012	0.00999	LT

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
BARIUM	15350	14790	ug	96.3	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

Data Package ID: *RE1409452-1*

Ra-226 by Radon Emanation - Method 903.1

PAI 783 Rev 10

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1409452
Client Name: ALS Environmental
ClientProject ID: L1518427

Field ID: L1518427-4
Lab ID: 1409452-4

Sample Matrix: WATER
Prep SOP: PAI 783 Rev 10
Date Collected: 14-Sep-14
Date Prepared: 29-Sep-14
Date Analyzed: 08-Oct-14

Prep Batch: RE140929-1
QCBatchID: RE140929-1-2
Run ID: RE140929-1A
Count Time: 30 minutes
Report Basis: Unfiltered

Final Aliquot: 1190 ml
Prep Basis: Unfiltered
Moisture(%): NA
Result Units: BQ/l
File Name: Manual Entry

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
13982-63-3	Ra-226	0.0021 +/- 0.0021	0.0011	0.00999	LT

Chemical Yield Summary

Carrier/Tracer	Amount Added	Result	Units	Yield	Control Limits	Flag
BARIUM	15360	14660	ug	95.5	40 - 110 %	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Minimum Detectable Concentration

BDL - Below Detection Limit

Data Package ID: *RE1409452-1*

ALS Environmental

Chain of Custody / Analytical Request Form

Canada Toll Free: 1 800 668 9878

www.alsglobal.com

COC # 1

Page 1 of 1

Report To		Report Format / Distribution	Service Requested (Rush for routine analysis subject to availability)
Company:	GOLDER ASSOCIATES LTD	☑ Standard ☐ Other	◉ Regular (Standard Turnaround Times - Business Days)
Contact:	Don Chorley/Ermanno Rambelli	☑ PDF ☑ Excel ☐ Digital ☐ Fax	○ Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT
Address:	500-4260 Still Creek Drive, Burnaby, British Columbia V5C 6C6	Email 1: don_chorley@golder.com	○ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT
Phone:	1-604-296-4200 Fax: 1-604298-2543	Email 2: ermanno_rambello@golder.com	○ Same Day or Weekend Emergency - Contact ALS to Confirm TAT
Invoice To	Same as Report ? ☑ Yes ☐ No	Email 3: laura_hampson@golder.com	Analysis Request
Hardcopy of Invoice with Report?	☐ Yes ☐ No	Client / Project Information	Please indicate below Filtered, Preserved or both (F, P, F/P)
Company:		Job #: 1407256/2010/92	
Contact:		PO / AFE:	
Address:		LSD:	
Phone:	Fax:	Quote #: Q44824	
Lab Work Order # (lab use only)		ALS Contact: Jessica Spira	Sampler: Nani Stefano/Ric

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	GLD-CAL-WQ-MET-DU-ED (F/P)	GLD-CAL-WQ-MET-TU-ED (P)	GLD-CAL-WQ-NUT-ED (P)	GL-CAL-WQ-ROU-ED	HG-D-U-CVAF-VA (F)	HG-T-U-CVAF-VA	PO4-DO-L-COL-ED (F/P)	RA226-MMER-FC (P)	TH-D-CCMS-ED (F/P)	TH-T-CCMS-ED (P)	MET-T-CCMS-1 (ED-P-T-MS) (P)	MET-D-CCMS-1 (ED-P-D-MS) (F/P)	Number of Containers
	JGT-06-I9-S1-sep2014	14-Sep-14	8:30	Groundwater	X	X	X	X	X	X	X	X	X	X	X	X	9
	JGT-06-duplicate	14-Sep-14	13:00	Groundwater	X	X	X	X	X	X	X	X	X	X	X	X	9
	JGT-06-Field Blank-sep2014	14-Sep-14	16:00	Water	X	X	X	X	X	X	X	X	X	X	X	X	11
	JGT-06-Trip Blank-sep2014	14-Sep-14	16:00	Water	X	X	X	X	X	X	X	X	X	X	X	X	9

L1518427-COFC

End use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details

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 provided on a separate Excel tab.

Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
Stefano Nani/Ricardo Quevedo	14-Sep-14	17:30		09/16/14	1355	6.5 °C				

NA-FM-0325d v07 Front / 19 August 2013

AGAT Laboratories Analysis Reports

AGAT Laboratories
3700 21st Street NE
Calgary, AB T2E 6V6
403.299.2000

Reservoir Engineering

Single Stage Flash

Reporting Date: 23-Sep-14
Sampling Date: 16-Sep-14
Well Name: JGT-06
Well Location: EKATI MINE
Surface Location: -
Sampling Point: JGT-06-I5
Sample Type: Water
Cylinder ID: A
Res. Eng. WO#: 14P5687
Analytical WO#: 14C890615

GOLDER ASSOCIATES LTD
102 2535 3 Avenue SE
Calgary , AB T2A 7W5
Phone: 403.299.5600
Fax: 403.299.5606

Sample Conditions

Sampling Pressure (kPa gauge)	N/A	Sampling Temperature (°C)	22
Opening Pressure (kPa gauge)	3261		
Saturation Pressure (kPa gauge)	1503		

Flash Conditions

Initial Pressure (kPa gauge)	3261	Initial Temperature (°C)	22
Final Pressure (kPa gauge)	0	Final Temperature (°C)	15

Flash Results

Gas In Solution (m^3/m^3) (A)(B)	0.3501	Dead Liquid Density (23 °C) (g/mL)	0.9986
Solution Gas Factor ($m^3/m^3/kPa$)(C)	N/A		
Volume Factor	1.006		
Shrinkage Factor	0.9936		

(A) Cubic meters of gas per cubic meter of water at standard conditions (atmospheric pressure, 15.0 °C)
(B) The detailed description of Gas In Solution (GIS) can be found in AER Directive 17
(C) Solution Gas Factor is calculated by dividing the GIS by the sampling pressure
Results reviewed and approved by John Xiao - Project Engineer (Analyst)

AGAT Laboratories
3700 21st Street NE
Calgary, AB T2E 6V6
403.299.2000

Reservoir Engineering

Single Stage Flash

Reporting Date: 23-Sep-14
Sampling Date: 16-Sep-04
Well Name: JGT-06
Well Location: EKATI MINE
Surface Location: -
Sampling Point: JGT-06-I7
Sample Type: Water
Cylinder ID: B
Res. Eng. WO#: 14P5687
Analytical WO#: 14C890615

GOLDER ASSOCIATES LTD
102 2535 3 Avenue SE
Calgary , AB T2A 7W5
Phone: 403.299.5600
Fax: 403.299.5606

Sample Conditions

Sampling Pressure (kPa gauge)	N/A	Sampling Temperature (°C)	24
Opening Pressure (kPa gauge)	2654		
Saturation Pressure (kPa gauge)	1200		

Flash Conditions

Initial Pressure (kPa gauge)	2654	Initial Temperature (°C)	24
Final Pressure (kPa gauge)	0	Final Temperature (°C)	15

Flash Results

Gas In Solution (m^3/m^3) [A][B]	0.226	Dead Liquid Density (24 °C) (g/mL)	0.9978
Solution Gas Factor ($m^3/m^3/kPa$)[C]	N/A		
Volume Factor	1.0085		
Shrinkage Factor	0.99157164		

(A) Cubic meters of gas per cubic meter of water at standard conditions (atmospheric pressure, 15.0 °C)
(B) The detailed description of Gas In Solution (GIS) can be found in AER Directive 17
(C) Solution Gas Factor is calculated by dividing the GIS by the sampling pressure
Results reviewed and approved by John Xiao - Project Engineer (Analyst)

AGAT Laboratories
3700 21st Street NE
Calgary, AB T2E 6V6
403.299.2000

Reservoir Engineering

Single Stage Flash

Reporting Date: 23-Sep-14
Sampling Date: 16-Sep-14 15:00
Well Name: JGT-06
Well Location: EKATI MINE
Surface Location: -
Sampling Point: JGT-06-I9
Sample Type: Water
Cylinder ID: C
Res. Eng. WO#: 14P5687
Analytical WO#: 14C890615

GOLDER ASSOCIATES LTD
102 2535 3 Avenue SE
Calgary , AB T2A 7W5
Phone: 403.299.5600
Fax: 403.299.5606

Sample Conditions

Sampling Pressure (kPa gauge)	N/A	Sampling Temperature (°C)	24
Opening Pressure (kPa gauge)	2241		
Saturation Pressure (kPa gauge)	1158		

Flash Conditions

Initial Pressure (kPa gauge)	2241	Initial Temperature (°C)	24
Final Pressure (kPa gauge)	0	Final Temperature (°C)	15

Flash Results

Gas In Solution (m^3/m^3) (A)(B)	0.2568	Dead Liquid Density (24 °C) (g/mL)	0.9988
Solution Gas Factor ($m^3/m^3/kPa$)(C)	N/A		
Volume Factor	1.0082		
Shrinkage Factor	0.99186669		

(A) Cubic meters of gas per cubic meter of water at standard conditions (atmospheric pressure, 15.0 °C)
(B) The detailed description of Gas In Solution (GIS) can be found in AER Directive 17
(C) Solution Gas Factor is calculated by dividing the GIS by the sampling pressure
Results reviewed and approved by John Xiao - Project Engineer (Analyst)

AGAT Laboratories

EXTENDED GAS ANALYSIS

Container Identification	Sample Point Code	Meter Code	AGAT WDMS Number	Previous Number	Laboratory Number
SYR 2A					14E890615A

Operator Name	Sampling Point	Unique Well Identifier
GOLDER ASSOCIATES LTD.	JGT-06-I5	JGT-06

Well Name	Well License	Well Status	Well Fluid Status	LSD
EKATI MINE				

Field or Area	Pool or Zone	Sampler's Company	Name of Sampler
	NOT APPLICABLE	GOLDER ASSOCIATES LTD.	NOT AVAILABLE

Test Interval (mKB)				Elevation (m)		Pressure (kPa)		Temperature (°C)	
From	To	Test Type	Test No.	KB	GRD	Source	Received	Source	Received

Date Sampled	Date Received	Date Analyzed	Date Reported	Location - Approved By - Title
Sep 21, 2014	Sep 18, 2014	Sep 23, 2014	Sep 23, 2014	Calgary - Vera Scherban - Reporter

GROUNDWATER, FLASHED GAS

Other Information

COMPOSITION

Component	Mole Fraction: Air Free As Received	Mole Fraction: Air & Acid Gas Free As Received	Liquid Volume mL / m³	Mole Fraction of Previous Analysis
H_2	0.00077	0.00079		
He	0.00056	0.00058		
N_2	0.11518	0.11926		
CO_2	0.03421	0.00000		
H_2S	TRACE	0.00000		
C_1	0.29363	0.30404		
C_2	0.17929	0.18564	636.9	
C_3	0.15966	0.16531	586.5	
iC_4	0.02575	0.02666	112.4	
nC_4	0.08253	0.08545	347.3	
iC_5	0.03135	0.03246	153.2	
nC_5	0.02883	0.02985	139.4	
C_6	0.02508	0.02597	135.0	
C_{7+}	0.02317	0.02399	130.5	
TOTAL	1.00000	1.00000	2241.2	

PROPERTIES

Calculated Heating Value @15 °C & 101.325 kPa *(MJ/m³)*

Gross		Net	
69.57	72.05	**63.61**	65.87
Air Free as Received	*Moisture & Acid Gas Free*	*Air Free as Received*	*Moisture & Acid Gas Free*

Calculated Density

Relative		Absolute	
1.275	1.266	728.7	1.561
Moisture Free As Received	*Moisture & Acid Gas Free*	*C_{7+} Density (kg/m³)*	*Total Sample Density (kg/m³)*

Calculated Pseudo Critical Properties

As Sampled		Acid Gas Free	
4299.54	293.63	4190.53	293.26
pPc (kPa)	*pTc (K)*	*pPc (kPa)*	*pTc (K)*

Hydrogen Sulfide (H_2S) (ppm)

Field Value		Laboratory Value		g/m³
		0.2		0.00
Stain Tube	*Tutweiler*	*Other*	*GC-SCD*	

Calculated Molecular Weight
(Moisture Free asReceived) (g/mol)

36.91	97.41
Total Sample	*C_{7+} Fraction*

Calculated Vapour Pressure

88.32

C_{5+}(kPa)

Gas Compressibility

0.9818

@15 °C & 101.325 kPa

Results relate only to items tested. Analysis and associated calculations are based on GPA 2261, GPA 2286, GPA 2145, AGA #5, and TP-17.

View or download your data online at webfluids.agatlabs.com

AGAT Laboratories

PROPERTIES OF C6+ FRACTION

Container Identification	Sample Point Code	Meter Code	AGAT WDMS Number	Previous Number	Laboratory Number
SYR 2A					14E890615A

Operator Name	Sampling Point	Unique Well Identifier
GOLDER ASSOCIATES LTD.	JGT-06-I5	JGT-06

Well Name	Well License	Well Status	Well Fluid Status	LSD
EKATI MINE				

BOILING POINT RANGE (°C)	Carbon Number	Hydrocarbon Summary	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
36.2+	C_6+	Hexanes+	0.04824	0.04995	265.4965
68.9+	C_7+	Heptanes+	0.02317	0.02399	130.4562
98.6+	C_8+	Octanes+	0.00732	0.00758	41.6058
125.8+	C_9+	Nonanes+	0.00020	0.00021	1.0468
150.9+	C_{10}+	Decanes+	0.00000	0.00000	0.0000
174.3+	C_{11}+	Undecanes+	0.00000	0.00000	0.0000
196.0+	C_{12}+	Dodecanes+	0.00000	0.00000	0.0000
216.4+	C_{13}+	Tridecanes+	0.00000	0.00000	0.0000
235.6 - 270.7	C_{14}+	Tetradecanes+	0.00000	0.00000	0.0000

BOILING POINT RANGE (°C)	Carbon Number	Hydrocarbon Grouping	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
68.9 - 98.6	C_7	Heptanes	0.01585	0.01641	88.8504
98.6 - 125.8	C_8	Octanes	0.00712	0.00737	40.5590
125.8 - 150.9	C_9	Nonanes	0.00020	0.00021	1.0468
150.9 - 174.3	C_{10}	Decanes	0.00000	0.00000	0.0000
174.3 - 196.0	C_{11}	Undecanes	0.00000	0.00000	0.0000
196.0 - 216.4	C_{12}	Dodecanes	0.00000	0.00000	0.0000
216.4 - 235.6	C_{13}	Tridecanes	0.00000	0.00000	0.0000
235.6 - 253.6	C_{14}	Tetradecanes	0.00000	0.00000	0.0000
253.6 - 270.69	C_{15}	Pentadecanes	0.00000	0.00000	0.0000

BOILING POINT RANGE (°C)	Carbon Number	Relevent Compounds	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
49.28	C_5	Cyclopentane	0.00407	0.00421	19.8157
68.73	C_6	n-Hexane	0.00778	0.00806	42.7251
71.83	C_6	Methylcyclopentane	0.00437	0.00453	23.5528
80.06	C_6	Benzene	0.00106	0.00109	3.9415
80.78	C_6	Cyclohexane	0.00285	0.00295	14.9303
99.24	C_8	2,2,4-Trimethylpentane	0.00125	0.00130	8.6836
100.94	C_7	Methylcyclohexane	0.00329	0.00341	17.6853
110.61	C_7	Toluene	0.00136	0.00141	6.1018
136.16	C_8	Ethylbenzene	0.00000	0.00000	0.0000
138.33 ; 139.09	C_8	m&p-Xylene	0.00020	0.00021	1.0468
144.42	C_8	o-Xylene	0.00000	0.00000	0.0000
169.34	C_9	1,2,4-Trimethylbenzene	0.00000	0.00000	0.0000

AGAT Laboratories

EXTENDED GAS ANALYSIS

Container Identification	Sample Point Code	Meter Code	AGAT WDMS Number	Previous Number	Laboratory Number
SYR 4B					14E890615B

Operator Name	Sampling Point	Unique Well Identifier
GOLDER ASSOCIATES LTD.	JGT-06-I7	JGT-06

Well Name	Well License	Well Status	Well Fluid Status	LSD
EKATI MINE				

Field or Area	Pool or Zone	Sampler's Company	Name of Sampler
	NOT APPLICABLE	GOLDER ASSOCIATES LTD.	NOT AVAILABLE

Test Interval (mKB)				Elevation (m)		Pressure (kPa)		Temperature (°C)	
From	To	Test Type	Test No.	KB	GRD	Source	Received	Source	Received

Date Sampled	Date Received	Date Analyzed	Date Reported	Location - Approved By - Title
Sep 16, 2014	Sep 18, 2014	Sep 23, 2014	Sep 23, 2014	Calgary - Vera Scherban - Reporter

GROUNDWATER, FLASHED GAS

Other Information

COMPOSITION

Component	Mole Fraction: Air Free As Received	Mole Fraction: Air & Acid Gas Free As Received	Liquid Volume mL / m³	Mole Fraction of Previous Analysis
H_2	0.01560	0.01608		
He	0.00871	0.00898		
N_2	0.60202	0.62050		
CO_2	0.02979	0.00000		
H_2S	TRACE	0.00000		
C_1	0.16231	0.16730		
C_2	0.02186	0.02254	77.7	
C_3	0.03094	0.03189	113.7	
iC_4	0.01658	0.01709	72.4	
nC_4	0.03168	0.03266	133.3	
iC_5	0.02256	0.02325	110.2	
nC_5	0.01807	0.01862	87.4	
C_6	0.02181	0.02248	117.2	
C_{7+}	0.01806	0.01862	99.5	
TOTAL	1.00000	1.00000	811.4	

PROPERTIES

Calculated Heating Value @15 °C & 101.325 kPa *(MJ/m³)*

Gross		Net	
29.97	30.89	**27.72**	28.57
Air Free as Received	*Moisture & Acid Gas Free*	*Air Free as Received*	*Moisture & Acid Gas Free*

Calculated Density

Relative		Absolute	
1.112	1.099	733.3	1.362
Moisture Free As Received	*Moisture & Acid Gas Free*	*C_{7+} Density (kg/m³)*	*Total Sample Density (kg/m³)*

Calculated Pseudo Critical Properties

As Sampled		Acid Gas Free	
3708.99	194.67	3596.38	191.30
pPc (kPa)	*pTc (K)*	*pPc (kPa)*	*pTc (K)*

Hydrogen Sulfide (H_2S) (ppm)

Field Value		Laboratory Value		g/m³
			0.6	0.00
Stain Tube	*Tutweiler*	*Other*	*GC-SCD*	

Calculated Molecular Weight
(Moisture Free asReceived) (g/mol)

32.19	95.91
Total Sample	*C_{7+} Fraction*

Calculated Vapour Pressure

84.26

C_{5+}(kPa)

Gas Compressibility

0.9900

@15 °C & 101.325 kPa

Results relate only to items tested. Analysis and associated calculations are based on GPA 2261, GPA 2286, GPA 2145, AGA #5, and TP-17.

View or download your data online at webfluids.agatlabs.com

AGAT Laboratories

PROPERTIES OF C6+ FRACTION

Container Identification	Sample Point Code	Meter Code	AGAT WDMS Number	Previous Number	Laboratory Number
SYR 4B					14E890615B

Operator Name	Sampling Point	Unique Well Identifier
GOLDER ASSOCIATES LTD.	JGT-06-I7	JGT-06

Well Name	Well License	Well Status	Well Fluid Status	LSD
EKATI MINE				

BOILING POINT RANGE (°C)	Carbon Number	Hydrocarbon Summary	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
36.2+	C_6+	Hexanes+	0.03987	0.04109	216.7680
68.9+	C_7+	Heptanes+	0.01806	0.01862	99.5451
98.6+	C_8+	Octanes+	0.00483	0.00497	25.6535
125.8+	C_9+	Nonanes+	0.00000	0.00000	0.0000
150.9+	C_{10}+	Decanes+	0.00000	0.00000	0.0000
174.3+	C_{11}+	Undecanes+	0.00000	0.00000	0.0000
196.0+	C_{12}+	Dodecanes+	0.00000	0.00000	0.0000
216.4+	C_{13}+	Tridecanes+	0.00000	0.00000	0.0000
235.6 - 270.7	C_{14}+	Tetradecanes+	0.00000	0.00000	0.0000

BOILING POINT RANGE (°C)	Carbon Number	Hydrocarbon Grouping	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
68.9 - 98.6	C_7	Heptanes	0.01324	0.01364	73.8916
98.6 - 125.8	C_8	Octanes	0.00483	0.00497	25.6535
125.8 - 150.9	C_9	Nonanes	0.00000	0.00000	0.0000
150.9 - 174.3	C_{10}	Decanes	0.00000	0.00000	0.0000
174.3 - 196.0	C_{11}	Undecanes	0.00000	0.00000	0.0000
196.0 - 216.4	C_{12}	Dodecanes	0.00000	0.00000	0.0000
216.4 - 235.6	C_{13}	Tridecanes	0.00000	0.00000	0.0000
235.6 - 253.6	C_{14}	Tetradecanes	0.00000	0.00000	0.0000
253.6 - 270.69	C_{15}	Pentadecanes	0.00000	0.00000	0.0000

BOILING POINT RANGE (°C)	Carbon Number	Relevent Compounds	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
49.28	C_5	Cyclopentane	0.00386	0.00398	18.8006
68.73	C_6	n-Hexane	0.00721	0.00744	39.6036
71.83	C_6	Methylcyclopentane	0.00307	0.00317	16.5580
80.06	C_6	Benzene	0.00128	0.00132	4.7755
80.78	C_6	Cyclohexane	0.00218	0.00225	11.4530
99.24	C_8	2,2,4-Trimethylpentane	0.00077	0.00080	5.3561
100.94	C_7	Methylcyclohexane	0.00242	0.00250	12.9969
110.61	C_7	Toluene	0.00163	0.00168	7.3005
136.16	C_8	Ethylbenzene	0.00000	0.00000	0.0000
138.33 ; 139.09	C_8	m&p-Xylene	0.00000	0.00000	0.0000
144.42	C_8	o-Xylene	0.00000	0.00000	0.0000
169.34	C_9	1,2,4-Trimethylbenzene	0.00000	0.00000	0.0000

Results relate only to items tested. The above values are reported air free and assume a total hydrocarbon recovery from the chromatographic system.

View or download your data online at webfluids.agatlabs.com

AGAT Laboratories

EXTENDED GAS ANALYSIS

Container Identification	Sample Point Code	Meter Code	AGAT WDMS Number	Previous Number	Laboratory Number
SYR 6C					14E890615C

Operator Name	Sampling Point	Unique Well Identifier
GOLDER ASSOCIATES LTD.	JGT-06-I9	JGT-06

Well Name	Well License	Well Status	Well Fluid Status	LSD
EKATI MINE				

Field or Area	Pool or Zone	Sampler's Company	Name of Sampler
	NOT APPLICABLE	GOLDER ASSOCIATES LTD.	NOT AVAILABLE

Test Interval (mKB)				Elevation (m)		Pressure (kPa)		Temperature (°C)	
From	To	Test Type	Test No.	KB	GRD	Source	Received	Source	Received

Date Sampled	Date Received	Date Analyzed	Date Reported	Location - Approved By - Title
Sep 16, 2014	Sep 18, 2014	Sep 23, 2014	Sep 23, 2014	Calgary - Vera Scherban - Reporter

GROUNDWATER, FLASHED GAS

Other Information

COMPOSITION

Component	Mole Fraction: Air Free As Received	Mole Fraction: Air & Acid Gas Free As Received	Liquid Volume mL / m³	Mole Fraction of Previous Analysis
H_2	0.00039	0.00040		
He	0.00552	0.00563		
N_2	0.07372	0.07514		
CO_2	0.01898	0.00000		
H_2S	TRACE	0.00000		
C_1	0.03862	0.03937		
C_2	0.03026	0.03085	107.5	
C_3	0.19386	0.19761	712.1	
iC_4	0.08061	0.08217	351.9	
nC_4	0.26369	0.26879	1109.6	
iC_5	0.11196	0.11412	547.0	
nC_5	0.09102	0.09279	440.1	
C_6	0.05816	0.05929	310.0	
C_{7+}	0.03320	0.03385	198.9	
TOTAL	1.00000	1.00000	3777.2	

PROPERTIES

Calculated Heating Value @15 °C & 101.325 kPa *(MJ/m³)*

Gross: Air Free as Received	Gross: Moisture & Acid Gas Free	Net: Air Free as Received	Net: Moisture & Acid Gas Free
112.51	114.71	**102.50**	104.49

Calculated Density

Relative: Moisture Free As Received	Relative: Moisture & Acid Gas Free	Absolute: C_{7+} Density (kg/m³)	Absolute: Total Sample Density (kg/m³)
1.931	1.939	707.6	2.366

Calculated Pseudo Critical Properties

As Sampled: pPc (kPa)	As Sampled: pTc (K)	Acid Gas Free: pPc (kPa)	Acid Gas Free: pTc (K)
3791.81	390.21	3722.43	391.87

Hydrogen Sulfide (H_2S) (ppm)

Field Value: Stain Tube	Field Value: Tutweiler	Laboratory Value: Other	Laboratory Value: GC-SCD	g/m³
		0.4		0.00

Calculated Molecular Weight
(Moisture Free asReceived) (g/mol)

Total Sample	C_{7+} Fraction
55.93	100.38

Calculated Vapour Pressure

C_{5+}(kPa)
103.85

Gas Compressibility

@15 °C & 101.325 kPa
0.9624

Results relate only to items tested. Analysis and associated calculations are based on GPA 2261, GPA 2286, GPA 2145, AGA #5, and TP-17.

View or download your data online at webfluids.agatlabs.com

AGAT Laboratories

PROPERTIES OF C6+ FRACTION

Container Identification	Sample Point Code	Meter Code	AGAT WDMS Number	Previous Number	Laboratory Number
SYR 6C					14E890615C

Operator Name	Sampling Point	Unique Well Identifier
GOLDER ASSOCIATES LTD.	JGT-06-I9	JGT-06

Well Name	Well License	Well Status	Well Fluid Status	LSD
EKATI MINE				

BOILING POINT RANGE (°C)	Carbon Number	Hydrocarbon Summary	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
36.2+	C_6+	Hexanes+	0.09136	0.09313	508.8445
68.9+	C_7+	Heptanes+	0.03320	0.03385	198.8879
98.6+	C_8+	Octanes+	0.00761	0.00776	45.8768
125.8+	C_9+	Nonanes+	0.00000	0.00000	0.0000
150.9+	C_{10}+	Decanes+	0.00000	0.00000	0.0000
174.3+	C_{11}+	Undecanes+	0.00000	0.00000	0.0000
196.0+	C_{12}+	Dodecanes+	0.00000	0.00000	0.0000
216.4+	C_{13}+	Tridecanes+	0.00000	0.00000	0.0000
235.6 - 270.7	C_{14}+	Tetradecanes+	0.00000	0.00000	0.0000

BOILING POINT RANGE (°C)	Carbon Number	Hydrocarbon Grouping	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
68.9 - 98.6	C_7	Heptanes	0.02559	0.02608	153.0112
98.6 - 125.8	C_8	Octanes	0.00761	0.00776	45.8768
125.8 - 150.9	C_9	Nonanes	0.00000	0.00000	0.0000
150.9 - 174.3	C_{10}	Decanes	0.00000	0.00000	0.0000
174.3 - 196.0	C_{11}	Undecanes	0.00000	0.00000	0.0000
196.0 - 216.4	C_{12}	Dodecanes	0.00000	0.00000	0.0000
216.4 - 235.6	C_{13}	Tridecanes	0.00000	0.00000	0.0000
235.6 - 253.6	C_{14}	Tetradecanes	0.00000	0.00000	0.0000
253.6 - 270.69	C_{15}	Pentadecanes	0.00000	0.00000	0.0000

BOILING POINT RANGE (°C)	Carbon Number	Relevent Compounds	As Received Mole Fraction	Acid Gas Free Mole Fraction	As Received Liquid Volume (mL/m³)
49.28	C_5	Cyclopentane	0.01451	0.01479	70.6853
68.73	C_6	n-Hexane	0.01694	0.01727	92.9807
71.83	C_6	Methylcyclopentane	0.00035	0.00035	1.8603
80.06	C_6	Benzene	0.00000	0.00000	0.0011
80.78	C_6	Cyclohexane	0.00399	0.00407	20.9396
99.24	C_8	2,2,4-Trimethylpentane	0.00116	0.00119	8.0730
100.94	C_7	Methylcyclohexane	0.00310	0.00316	16.6600
110.61	C_7	Toluene	0.00071	0.00073	3.1896
136.16	C_8	Ethylbenzene	0.00000	0.00000	0.0000
138.33 ; 139.09	C_8	m&p-Xylene	0.00000	0.00000	0.0000
144.42	C_8	o-Xylene	0.00000	0.00000	0.0000
169.34	C_9	1,2,4-Trimethylbenzene	0.00000	0.00000	0.0000

Results relate only to items tested. The above values are reported air free and assume a total hydrocarbon recovery from the chromatographic system.

View or download your data online at webfluids.agatlabs.com

AGAT Laboratories

WATER ANALYSIS

Container Identification	Sample Point Code	Meter Code	AGAT WDMS Number	Previous Number	Laboratory Number
PB1A					14W890615A

Operator Name	Sampling Point	Unique Well Identifier
GOLDER ASSOCIATES LTD.	JGT-06-I5	JGT-06

Well Name	Well License	Well Status	Well Fluid Status	LSD
EKATI MINE				

Field or Area	Pool or Zone	Sampler's Company	Name of Sampler
	NOT APPLICABLE	GOLDER ASSOCIATES LTD.	NOT AVAILABLE

Test Interval (mKB)				Elevation (m)		Pressure (kPa)		Temperature (°C)	
From	To	Test Type	Test No.	KB	GRD	Source	Received	Source	Received

Date Sampled	Date Received	Date Analyzed	Date Reported	Location - Approved By - Title
Sep 16, 2014	Sep 18, 2014	Sep 23, 2014	Sep 23, 2014	Calgary - Tin Tin Ma - Reporter

Other Information: GROUNDWATER, FLASHED WATER

CATIONS

Ion	mg/L	mmol/L	meq/L
Total			0.0

ANIONS

Ion	mg/L	mmol/L	meq/L
HCO_3^-	79.3	1.3	1.3
Total			1.3

0
Cation/Anion Ratio

OTHER MEASUREMENTS

TDS (Calculated) mg/L

25.50
H_2S (25°C) mg/L

7.47
Observed pH

0.00
Salinity %

65.00
Total Alkalinity as $CaCO_3$ mg/L

Results relate only to the items tested. Cations were determined according to: ASTM D 4691, EPA 200.7, EPA SW-846 6010C, ASTM D1067, SM 2320B. Anions were determined according to: SM 4-66 to 4-71, SM 4110B, ASTM D1067, SM 2320B.

View or download your data online at webfluids.agatlabs.com

AGAT Laboratories

WATER ANALYSIS

Container Identification	Sample Point Code	Meter Code	AGAT WDMS Number	Previous Number	Laboratory Number
PB2B					14W890615B

Operator Name	Sampling Point	Unique Well Identifier
GOLDER ASSOCIATES LTD.	JGT-06-I7	JGT-06

Well Name	Well License	Well Status	Well Fluid Status	LSD
EKATI MINE				

Field or Area	Pool or Zone	Sampler's Company	Name of Sampler
	NOT APPLICABLE	GOLDER ASSOCIATES LTD.	NOT AVAILABLE

Test Interval (mKB)				Elevation (m)		Pressure (kPa)		Temperature (°C)	
From	To	Test Type	Test No.	KB	GRD	Source	Received	Source	Received

Date Sampled	Date Received	Date Analyzed	Date Reported	Location - Approved By - Title
Sep 16, 2014	Sep 18, 2014	Sep 23, 2014	Sep 23, 2014	Calgary - Tin Tin Ma - Reporter

Other Information: GROUNDWATER, FLASHED WATER

CATIONS

Ion	mg/L	mmol/L	meq/L
Total			0.0

ANIONS

Ion	mg/L	mmol/L	meq/L
HCO_3^-	83.4	1.4	1.4
Total			1.4

0
Cation/Anion Ratio

OTHER MEASUREMENTS

TDS (Calculated) mg/L

7.71
Observed pH

8.50
H_2S (25°C) mg/L

0.00
Salinity %

68.33
Total Alkalinity as $CaCO_3$ mg/L

Results relate only to the items tested. Cations were determined according to: ASTM D 4691, EPA 200.7, EPA SW-846 6010C, ASTM D1067, SM 2320B. Anions were determined according to: SM 4-66 to 4-71, SM 4110B, ASTM D1067, SM 2320B.

View or download your data online at webfluids.agatlabs.com

AGAT Laboratories

WATER ANALYSIS

Container Identification	Sample Point Code	Meter Code	AGAT WDMS Number	Previous Number	Laboratory Number
PB3C					14W890615C

Operator Name	Sampling Point	Unique Well Identifier
GOLDER ASSOCIATES LTD.	JGT-06-I9	JGT-06

Well Name	Well License	Well Status	Well Fluid Status	LSD
EKATI MINE				

Field or Area	Pool or Zone	Sampler's Company	Name of Sampler
	NOT APPLICABLE	GOLDER ASSOCIATES LTD.	NOT AVAILABLE

Test Interval (mKB)				Elevation (m)		Pressure (kPa)		Temperature (°C)	
From	To	Test Type	Test No.	KB	GRD	Source	Received	Source	Received

Date Sampled	Date Received	Date Analyzed	Date Reported	Location - Approved By - Title
Sep 16, 2014	Sep 18, 2014	Sep 23, 2014	Sep 23, 2014	Calgary - Tin Tin Ma - Reporter

Other Information: GROUNDWATER, FLASHED WATER

CATIONS

Ion	mg/L	mmol/L	meq/L
Total			0.0

ANIONS

Ion	mg/L	mmol/L	meq/L
HCO_3^-	56.9	0.9	0.9
Total			0.9

0
Cation/Anion Ratio

OTHER MEASUREMENTS

TDS (Calculated) mg/L

17.00
H_2S (25°C) mg/L

7.38
Observed pH

0.00
Salinity %

46.67
Total Alkalinity as $CaCO_3$ mg/L

Results relate only to the items tested. Cations were determined according to: ASTM D 4691, EPA 200.7, EPA SW-846 6010C, ASTM D1067, SM 2320B. Anions were determined according to: SM 4-66 to 4-71, SM 4110B, ASTM D1067, SM 2320B.

View or download your data online at webfluids.agatlabs.com

ATTACHMENT B
Tables

CHECK	AL	29OCT14
REVIEW	DC	30OCT14

Parameter	Units	Original Data					Corrected Data[a]			
Sample ID	Units	JGT-06-LAKE WATER	JGT-06-I5-S1	JGT-06-I7-S1-SEP2014	JGT-06-I9-S1-SEP2014	JGT-06-I9-S1-SEP2014	JGT-06-I5-S1	JGT-06-I7-S1-SEP2014	JGT-06-I9-S1-SEP2014A	JGT-06-I9-S1-SEP2014B
Date Sampled		30-Apr-14	15-SEP-14	16-SEP-14	14-SEP-14	14-SEP-14	15-SEP-14	16-SEP-14	14-SEP-14	14-SEP-14
Time Sampled		12:00	08:30	11:00	08:30	08:30	08:30	11:00	08:30	08:30
ALS Sample ID		L1450733-1	L1518918-1	L1519648-1	L1518427-1	L1518427-1	L1518918-1	L1519648-1	L1518427-1	L1518427-1
Matrix		Water	Water	Water	Water	Water	Water	Water	Water	Water
Physical Tests										
Color, True	C.U.	95	11	21	13	14	11	4.4	8.4	9.0
Hardness (as	mg/L	10	832	584	1160	1180	865	711	1231	1252
pH	pH	7.3	7.8	7.8	7.5	7.6	7.8	7.9	7.5	7.6
Conductivity (EC)	uS/cm	54	3030	3160	4060	4090	3151	3847	4306	4338
Total Suspended	mg/L	<3.0	11	3.3	<3	<3	11	3.7	<3	<3
TDS	mg/L	-	1980	1940	2640	2630	2059	2359	2800	2789
TDS (Calculated)	mg/L	27	1500	1620	2190	2200	1560	1972	2323	2334
Turbidity	NTU	7.1	29	2.7	3.9	3.2	29	2.7	3.9	3.2
Anions and										
Alkalinity, Total (as	mg/L	23	69	75	48	49	71	86	50	51
Ammonia, Total	mg/L	0.0081	0.16	0.16	0.048	0.045	0.16	0.19	0.051	0.047
Bicarbonate	mg/L	28	85	91	59	60	87	106	61	62
Carbonate (CO3)	mg/L	<5.0	<5	<5	<5	<5	<5	<5	<5	<5
Chloride (Cl)	mg/L	1.1	854	879	1140	1140	889	1073	1210	1210
Fluoride (F)	mg/L	<0.02	<0.02	<0.02	<0.1	<0.1	<0.02	<0.02	<0.1	<0.1
Hydroxide (OH)	mg/L	<5.0	<5	<5	<5	<5	<5	<5	<5	<5
Nitrate and Nitrite	mg/L	0.013	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Nitrate (as N)	mg/L	0.0083	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Nitrite (as N)	mg/L	0.0051	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Total Kjeldahl	mg/L	0.33	0.18	0.19	0.054	<0.05	0.17	0.16	0.037	<0.05
[H+]	mg/L	5.0E-08	1.7E-08	1.5E-08	3.5E-08	2.6E-08	1.7E-08	1.2E-08	3.5E-08	2.5E-08
Orthophosphate-	mg/L	0.0045	<0.001	0.042	0.022	0.02	<0.001	0.05	0.023	0.021
Phosphorus (P)-	mg/L	0.012	0.0048	0.048	0.021	0.022	0.0045	0.056	0.021	0.022
Phosphorus (P)-	mg/L	0.017	0.033	0.051	0.028	0.023	0.034	0.059	0.029	0.024
Sulfate (SO4)	mg/L	2.3	79	94	205	206	82	114	217	219
Sulphide (as S)	mg/L	<0.0015	0.0091	0.17	4.5	3.8	0.0094	0.2	4.8	4.1
Organic /										
Dissolved Organic	mg/L	5.9	35	154	191	176	36	187	202	186
Total Organic	mg/L	6.3	36	148	220	179	37	179	233	190
Total Metals										
Aluminum (Al)-Tota	mg/L	0.076	<0.02	<0.015	<0.015	<0.02	<0.02	<0.015	<0.015	<0.02
Antimony (Sb)-Tota	mg/L	0.00085	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic (As)-Total	mg/L	0.0006	0	0.0015	0.0022	0.0022	0	0.0017	0.0023	0.0023
Barium (Ba)-Total	mg/L	0.0093	0.018	0.013	0.01	0.01	0.018	0.014	0.01	0.01
Beryllium (Be)-Tota	mg/L	<0.000010	<0.001	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.0005	<0.001
Bismuth (Bi)-Total	mg/L	0.000098	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025
Boron (B)-Total	mg/L	<0.01	0	0.104	0.16	-	0	0.126	0.16	-
Cadmium (Cd)-Tota	mg/L	0.00034	<0.0002	<0.00005	<0.00005	<0.0002	<0.0002	<0.00005	<0.00005	<0.0002
Calcium (Ca)-Total	mg/L	2.3	186	173	314	-	193	211	333	-
Chromium (Cr)-Tota	mg/L	0.00055	<0.0008	0.0013	<0.0005	<0.0008	<0.0008	0.0015	<0.0005	<0.0008
Cobalt (Co)-Total	mg/L	<0.000010	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Copper (Cu)-Total	mg/L	0.0022	<0.001	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.0005	<0.001
Iron (Fe)-Total	mg/L	0.081	3.7	0.075	<0.05	-	3.8	0.074	<0.05	-
Lead (Pb)-Total	mg/L	0.00032	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025
Lithium (Li)-Total	mg/L	<0.0050	0.052	0.064	0.062	-	0.054	0.078	0.066	-
Magnesium (Mg)-Tc	mg/L	1.3	89	62	77	-	93	75	82	-
Manganese (Mn)-Tc	mg/L	0.0032	0.16	0.16	0.097	-	0.16	0.19	0.1	-
Mercury (Hg)-Total	mg/L	<0.0000005	<0.0000005	<0.0000005	<0.0000005	<0.0000005	<0.0000005	<0.0000005	<0.0000005	<0.0000005
Molybdenum (Mo)-	mg/L	0.00013	0	0.028	0.001	0.0015	0	0.034	0.0011	0.0015
Nickel (Ni)-Total	mg/L	0.0011	<0.0005	0.00075	<0.0005	<0.0005	<0.0005	0.00067	<0.0005	<0.0005
Phosphorus (P)-Tot	mg/L	0.017	<1.5	<1.5	-	-	<1.5	<1.5	-	-
Potassium (K)-Total	mg/L	1.3	3.7	9.2	6.1	-	3.7	11	6.4	-
Selenium (Se)-Total	mg/L	<0.00010	<0.0005	<0.0005	0.0017	0.002	<0.0005	<0.0005	0.0018	0.0021
Silicon (Si)-Total	mg/L	0.22	3.0	3.7	-	-	3.1	4.5	-	-
Silver (Ag)-Total	mg/L	0.000013	<0.0004	<0.00005	<0.00005	<0.0004	<0.0004	<0.00005	<0.00005	<0.0004
Sodium (Na)-Total	mg/L	7.1	226	345	377	-	235	420	400	-
Strontium (Sr)-Tota	mg/L	0.012	3.2	3.5	5.8	5.8	3.3	4.2	6.2	6.1
Sulfur (S)-Total	mg/L	-	25	32	102	107	-	-	-	-
Thallium (Tl)-Total	mg/L	0.000031	<0.0001	<0.00005	0.000053	<0.0001	<0.0001	<0.00005	0.000054	<0.0001
Thorium (Th)-Total	mg/L	<0.000050	<0.00005	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.0001	<0.0001
Tin (Sn)-Total	mg/L	0.00011	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Titanium (Ti)-Total	mg/L	0.0039	<0.005	<0.0015	<0.0015	<0.005	<0.005	<0.0015	<0.0015	<0.005
Uranium (U)-Total	mg/L	0.000044	0.00052	0.0017	0.0031	0.0029	0.00054	0.002	0.0033	0.0031
Vanadium (V)-Total	mg/L	0.00033	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Zinc (Zn)-Total	mg/L	0.023	0.24	0.18	<0.015	0.31	0.25	0.22	<0.015	0.33
Zirconium (Z)-Total	mg/L	-	-	<0.003	<0.003	<0.003	-	<0.003	<0.003	<0.003
Dissolved Metals										
Dissolved Mercury Filtration Lo		FIELD	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD
Dissolved Metals Filtration Loca		FIELD	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD
Aluminum (Al)-Diss	mg/L	0.012	<0.01	0.012	0.01	0.012	<0.01	0.011	0.01	0.012
Antimony (Sb)-Diss	mg/L	<0.00010	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic (As)-Dissolv	mg/L	0.00052	0	0.0015	0.0014	0.0013	0	0.0017	0.0015	0.0014
Barium (Ba)-Dissolv	mg/L	0.0024	0.018	0.013	0.012	0.011	0.019	0.016	0.013	0.012
Beryllium (Be)-Disso	mg/L	<0.00010	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Bismuth (Bi)-Dissolv	mg/L	<0.000050	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025
Boron (B)-Dissolved	mg/L	<0.010	0.11	0.093	0.032	0.17	0.11	0.112	0.033	0.18
Cadmium (Cd)-Diss	mg/L	0.00002	<0.0001	<0.00005	<0.00005	<0.00005	<0.0001	<0.00005	<0.00005	<0.00005
Calcium (Ca)-Dissol	mg/L	2.2	198	174	332	336	206	212	352	357
Chromium (Cr)-Diss	mg/L	<0.00010	<0.0005	<0.0005	0.00055	<0.0005	<0.0005	<0.0005	0.00058	<0.0005
Cobalt (Co)-Dissolve	mg/L	<0.00010	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Copper (Cu)-Dissolv	mg/L	0.0014	<0.0006	<0.0005	<0.0005	<0.0005	<0.0006	<0.0005	<0.0005	<0.0005
Iron (Fe)-Dissolved	mg/L	<0.010	2.9	<0.05	<0.05	<0.05	3.0	<0.05	<0.05	<0.05
Lead (Pb)-Dissolved	mg/L	<0.000050	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025
Lithium (Li)-Dissolve	mg/L	<0.0030	0.055	0.062	0.071	0.069	0.057	0.075	0.075	0.073
Magnesium (Mg)-Di	mg/L	1.2	93	65	81	82	97	79	86	87
Manganese (Mn)-Di	mg/L	0.0019	0.17	0.16	0.1	0.099	0.17	0.19	0.11	0.11
Mercury (Hg)-Dissol	mg/L	<0.0000005	<0.0000005	<0.0000005	<0.0000005	<0.0000005	<0.0000005	<0.0000005	<0.0000005	<0.0000005
Molybdenum (Mo)-	mg/L	0.0001	0	0.027	0.00043	0.00086	0	0.032	0.00045	0.00091
Nickel (Ni)-Dissolve	mg/L	0.00059	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Phosphorus (P)-Diss	mg/L	<0.30	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
Potassium (K)-Disso	mg/L	1.3	4.0	8.8	6.8	7.0	4.1	10	7.1	7.0
Selenium (Se)-Disso	mg/L	<0.00010	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Silicon (Si)-Dissolve	mg/L	0.053	3.4	3.6	5.1	5.2	3.5	4.4	5.4	5.2
Silver (Ag)-Dissolve	mg/L	<0.000010	<0.0002	<0.00005	<0.00005	<0.00005	<0.0002	<0.00005	<0.00005	<0.00005
Sodium (Na)-Dissolv	mg/L	5.7	245	353	400	402	255	430	424	402
Strontium (Sr)-Diss	mg/L	0.012	3.4	3.2	5.8	5.6	3.6	3.9	6.2	6.0
Sulphur (S)-Dissolve	mg/L	-	-	31	100	95	-	31	100	95
Thallium (Tl)-Dissolv	mg/L	<0.000010	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Thorium (Th)-Dissol	mg/L	<0.000050	<0.00005	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.0001	<0.0001
Tin (Sn)-Dissolved	mg/L	<0.00010	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Titanium (Ti)-Dissolv	mg/L	<0.00030	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015
Uranium (U)-Dissolv	mg/L	0.000034	0.00058	0.0014	0.0028	0.0027	0.0006	0.0017	0.0029	0.0029
Vanadium (V)-Disso	mg/L	<0.00010	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Zinc (Zn)-Dissolved	mg/L	0.018	0.04	<0.005	0.044	<0.005	0.041	<0.005	0.046	<0.005
Zirconium (Z)-Dissol	mg/L	-	-	<0.0015	<0.0015	<0.0015	-	<0.0015	<0.0015	<0.0015

Notes

(a) No correction was applied to results below the detection limit.

" - " indicates no result is available.

Sample ID		JGT-06-LAKE WATER	JGT-06-I5-S1	JGT-06-I7-S1-SEP2014	JGT-06-I9-S1-SEP2014	JGT-06-DUPLICATE	JGT-06FIELD BLANK- SEP2014	JGT-06-TRIP BLANK-SEP2014
Date Sampled		30-Apr-14	15-SEP-14	16-SEP-14	14-SEP-14	14-SEP-14	14-SEP-14	14-SEP-14
Time Sampled		12:00	08:30	11:00	08:30	08:30	08:30	08:30
ALS Sample ID		L1450733-1	L1518918-1	L1519648-1	L1518427-1	L1518427-2	L1518427-3	L1518427-4
Matrix		Water	Water	Water	Water	Water	Water	Water
Physical Tests								
Color, True	C.U.	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Hardness (as CaCO3)	mg/L	0.50	1.30	1.30	0.50	1.30	0.50	0.50
pH	pH	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Conductivity (EC)	uS/cm	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Total Suspended Solids	mg/L	3.0	3.0	3.0	3.0	3.0	3.0	3.0
TDS (Calculated)	mg/L	-	10	10	10	10	10	10
Turbidity	NTU	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Anions and Nutrients								
Alkalinity, Total (as CaCO3)	mg/L	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Ammonia, Total (as N)	mg/L	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050
Bicarbonate (HCO3)	mg/L	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Carbonate (CO3)	mg/L	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Chloride (Cl)	mg/L	0.50	0.50	0.50	2.50	2.5	0.5	0.5
Fluoride (F)	mg/L	0.020	0.020	0.020	0.100	0.10	0.020	0.020
Hydroxide (OH)	mg/L	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Nitrate and Nitrite (as N)	mg/L	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060
Nitrate (as N)	mg/L	0.0063	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060
Nitrite (as N)	mg/L	0.0020	0.0020	0.0020	0.0020	0.0020	0.0020	0.0020
Total Kjeldahl Nitrogen	mg/L	0.050	0.050	0.050	0.050	0.050	0.050	0.050
Orthophosphate-Dissolved (as P)	mg/L	0.0010	0.0010	0.0010	0.0010	0.001	0.0010	0.0010
Phosphorus (P)-Total Dissolved	mg/L	0.0010	0.0010	0.0010	0.0010	0.001	0.0010	0.0010
Phosphorus (P)-Total	mg/L	0.0010	0.0010	0.0010	0.0010	0.001	0.0010	0.0010
Sulfate (SO4)	mg/L	0.050	0.050	0.050	0.250	0.25	0.050	0.050
Sulphide (as S)	mg/L	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Organic / Inorganic Carbon								
Dissolved Organic Carbon	mg/L	1.0	1.0	5.0	5.0	5.0	0.50	0.50
Total Organic Carbon	mg/L	1.0	1.0	5.0	5.0	5.0	0.50	0.50
Total Metals								
Aluminum (Al)-Total	mg/L	0.0030	0.0200	0.0150	0.0150	0.0200	-	-
Antimony (Sb)-Total	mg/L	0.00010	0.00050	0.00050	0.00050	0.00050	-	-
Arsenic (As)-Total	mg/L	0.00010	0.00050	0.00050	0.00050	0.00050	-	-
Barium (Ba)-Total	mg/L	0.000050	0.00025	0.00025	0.00025	0.00025	-	-
Beryllium (Be)-Total	mg/L	0.00010	0.001000	0.000500	0.000500	0.001000	-	-
Bismuth (Bi)-Total	mg/L	0.000050	0.000250	0.000250	0.000250	0.000250	-	-
Boron (B)-Total	mg/L	0.010	0.0500	0.0100	0.0100	-	-	-
Cadmium (Cd)-Total	mg/L	0.000010	0.0002	0.00005	0.00005	0.0002	-	-
Calcium (Ca)-Total	mg/L	0.020	0.10	0.10	0.10	-	-	-
Chromium (Cr)-Total	mg/L	0.00010	0.00080	0.00050	0.00050	0.00080	-	-
Cobalt (Co)-Total	mg/L	0.00010	0.000500	0.000500	0.000500	0.000500	-	-
Copper (Cu)-Total	mg/L	0.00010	0.00100	0.00050	0.00050	0.00100	-	-
Iron (Fe)-Total	mg/L	0.010	0.0500	0.0500	0.0500	-	-	-
Lead (Pb)-Total	mg/L	0.000050	0.000250	0.000250	0.000250	0.000250	-	-
Lithium (Li)-Total	mg/L	0.0050	0.0100	0.0250	0.0250	-	-	-
Magnesium (Mg)-Total	mg/L	0.0050	0.025	0.025	0.025	-	-	-
Manganese (Mn)-Total	mg/L	0.000050	0.00025	0.00025	0.00025	-	-	-
Mercury (Hg)-Total	mg/L	0.00000050	0.00000050	0.00000050	0.00000050	0.00000050	0.00000050	0.00000050
Molybdenum (Mo)-Total	mg/L	0.000050	0.00025	0.00025	0.00025	0.00025	-	-
Nickel (Ni)-Total	mg/L	0.00010	0.00050	0.00050	0.00050	0.00050	-	-
Phosphorus (P)-Total	mg/L	0.0010	1.5000	1.5000	1.5000	-	0.3000	0.3000
Potassium (K)-Total	mg/L	0.050	0.25	0.25	0.25	-	-	-
Selenium (Se)-Total	mg/L	0.00010	0.00050	0.00050	0.00050	0.00050	-	-
Silicon (Si)-Total	mg/L	0.050	0.25	0.25	0.25	-	0.050	0.050
Silver (Ag)-Total	mg/L	0.000010	0.0004	0.00005	0.00005	0.0004	-	-
Sodium (Na)-Total	mg/L	0.05	0.250	0.250	0.250	-	-	-
Strontium (Sr)-Total	mg/L	0.00010	0.00050	0.00050	0.00050	0.00050	-	-
Sulfur (S)-Total	mg/L	-	0.50	0.50	5.00	5.00	0.50	0.50
Thallium (Tl)-Total	mg/L	0.000010	0.0001	0.00005	0.00005	0.0001	-	-
Thorium (Th)-Total	mg/L	0.000050	0.000050	0.000100	0.000100	0.000100	0.000050	0.000050
Tin (Sn)-Total	mg/L	0.00010	0.0005	0.0005	0.0005	0.0005	-	-
Titanium (Ti)-Total	mg/L	0.00030	0.00500	0.00150	0.00150	0.00500	-	-
Uranium (U)-Total	mg/L	0.000010	0.000100	0.000050	0.000050	0.000100	-	-
Vanadium (V)-Total	mg/L	0.00010	0.0005	0.0005	0.0005	0.0005	-	-
Zinc (Zn)-Total	mg/L	0.0030	0.0150	0.0150	0.0150	0.0150	-	-
Zirconium (Zr)-Total	mg/L	-	0.0030	0.0030	0.0030	0.0030	0.00060	0.00060
Dissolved Metals								
Dissolved Mercury Filtration Location	-							
Dissolved Metals Filtration Location	-							
Aluminum (Al)-Dissolved	mg/L	0.0010	0.0100	0.005	0.005	0.005	0.00030	0.00030
Antimony (Sb)-Dissolved	mg/L	0.00010	0.0005	0.0005	0.0005	0.0005	0.000020	0.000020
Arsenic (As)-Dissolved	mg/L	0.00010	0.0005	0.0005	0.0005	0.0005	0.000020	0.000020
Barium (Ba)-Dissolved	mg/L	0.000050	0.00025	0.00025	0.00025	0.00025	0.000050	0.000050
Beryllium (Be)-Dissolved	mg/L	0.00010	0.0005	0.0005	0.0005	0.0005	0.000010	0.000010
Bismuth (Bi)-Dissolved	mg/L	0.000050	0.00025	0.00025	0.00025	0.00025	0.000010	0.000010
Boron (B)-Dissolved	mg/L	0.010	0.0100	0.0100	0.002	0.01	0.0010	0.0010
Cadmium (Cd)-Dissolved	mg/L	0.000010	0.0001	0.00005	0.00005	0.00005	0.0000050	0.0000050
Calcium (Ca)-Dissolved	mg/L	0.020	0.1	0.1	0.1	0.1	0.020	0.020
Chromium (Cr)-Dissolved	mg/L	0.00010	0.0005	0.0005	0.0005	0.0005	0.000060	0.000060
Cobalt (Co)-Dissolved	mg/L	0.00010	0.0005	0.0005	0.0005	0.0005	0.000010	0.000010
Copper (Cu)-Dissolved	mg/L	0.00010	0.0006	0.0005	0.0005	0.0005	0.00010	0.00010
Iron (Fe)-Dissolved	mg/L	0.010	0.0500	0.05	0.05	0.05	0.0010	0.0010
Lead (Pb)-Dissolved	mg/L	0.000050	0.00	0.00025	0.00025	0.00025	0.000010	0.000010
Lithium (Li)-Dissolved	mg/L	0.0030	0.015	0.015	0.015	0.015	0.00050	0.00050
Magnesium (Mg)-Dissolved	mg/L	0.0050	0.025	0.025	0.025	0.025	0.004	0.004
Manganese (Mn)-Dissolved	mg/L	0.000050	0.00025	0.00025	0.00025	0.00025	0.000050	0.000050
Mercury (Hg)-Dissolved	mg/L	0.00000050	0.0000005	0.0000005	0.0000005	0.0000005	0.00000050	0.00000050
Molybdenum (Mo)-Dissolved	mg/L	0.000050	0.00025	0.00025	0.00005	0.00025	0.000050	0.000050
Nickel (Ni)-Dissolved	mg/L	0.00010	0.0	0.0005	0.0005	0.0005	0.000060	0.000060
Phosphorus (P)-Dissolved	mg/L	0.30	1.5	1.5	1.5	1.5	0.30	0.30
Potassium (K)-Dissolved	mg/L	0.050	0.2500	0.25	0.25	0.25	0.020	0.020
Selenium (Se)-Dissolved	mg/L	0.00010	0.0	0.0005	0.0005	0.0005	0.000040	0.000040
Silicon (Si)-Dissolved	mg/L	0.050	0.2500	0.25	0.25	0.25	0.050	0.050
Silver (Ag)-Dissolved	mg/L	0.000010	0.0002	0.00005	0.00005	0.00005	0.0000050	0.0000050
Sodium (Na)-Dissolved	mg/L	0.050	0.2500	0.25	0.25	0.25	0.0050	0.0050
Strontium (Sr)-Dissolved	mg/L	0.00010	0.0	0.0005	0.0005	0.0005	0.000050	0.000050
Sulphur (S)-Dissolved	mg/L	-	0.50000	0.5	0.5	0.5	0.50	0.50
Thallium (Tl)-Dissolved	mg/L	0.000010	0.00005	0.00005	0.00005	0.00005	0.0000050	0.0000050
Thorium (Th)-Dissolved	mg/L	0.000050	0.00005	0.0001	0.0001	0.0001	0.000050	0.000050
Tin (Sn)-Dissolved	mg/L	0.00010	0.0005	0.0005	0.0005	0.0005	0.000050	0.000050
Titanium (Ti)-Dissolved	mg/L	0.00030	0.0015	0.0015	0.0015	0.0015	0.00010	0.00010
Uranium (U)-Dissolved	mg/L	0.000010	0.0001	0.00005	0.00005	0.00005	0.000010	0.000010
Vanadium (V)-Dissolved	mg/L	0.00010	0.0005	0.0005	0.0005	0.0005	0.000050	0.000050
Zinc (Zn)-Dissolved	mg/L	0.0010	0.005	0.005	0.001	0.005	0.00080	0.00080
Zirconium (Zr)-Dissolved	mg/L	-	0	0.0015	0.0015	0.0015	0.00030	0.00030
Radiological Parameters								
Ra-226		0.010	-	-	-	-	-	-

Notes

(a) Mean detection limits varied between samples.

" - " indicates no result is available.

		QAQC			
Sample ID		JGT-06FIELD BLANK-SEP2014	JGT-06FIELD BLANK- MDL	TRIP BLANK	TRIP BLANK MDL
Date Sampled		14-SEP-14	14-SEP-14	14-SEP-14	14-SEP-14
Time Sampled		08:30	08:30	08:30	08:30
ALS Sample ID		L1518427-3	L1518427-3	L1518427-4	L1518427-4
Matrix		Water	Water	Water	Water
Physical Tests					
Color, True	C.U.	<2.0	2.0	<2.0	2.0
Hardness (as CaCO3)	mg/L	<0.50	0.50	<0.50	0.50
Total Suspended Solids	mg/L	<3.0	3.0	<3.0	3.0
TDS (Calculated)	mg/L	<10	10	<10	10
Turbidity	NTU	<0.10	0.10	<0.10	0.10
Anions and Nutrients			-		
Alkalinity, Total (as CaCO3)	mg/L	<2.0	2.0	<2.0	2.0
Ammonia, Total (as N)	mg/L	<0.0050	0.0050	<0.0050	0.0050
Bicarbonate (HCO3)	mg/L	<5.0	5.0	<5.0	5.0
Carbonate (CO3)	mg/L	<5.0	5.0	<5.0	5.0
Chloride (Cl)	mg/L	<0.50	0.50	<0.50	0.50
Conductivity (EC)	uS/cm	0.9	0.20	0.8	0.20
Fluoride (F)	mg/L	<0.020	0.020	<0.020	0.020
Hydroxide (OH)	mg/L	<5.0	5.0	<5.0	5.0
Nitrate and Nitrite (as N)	mg/L	<0.0060	0.0060	<0.0060	0.0060
Nitrate (as N)	mg/L	<0.0060	0.0060	<0.0060	0.0060
Nitrite (as N)	mg/L	<0.0020	0.0020	<0.0020	0.0020
Total Kjeldahl Nitrogen	mg/L	<0.050	0.050	<0.050	0.050
pH	pH	5.0	0.10	5.0	0.10
Orthophosphate-Dissolved (as P)	mg/L	<0.0010	0.0010	<0.0010	0.0010
Phosphorus (P)-Total Dissolved	mg/L	0.002	0.0010	<0.0010	0.0010
Phosphorus (P)-Total	mg/L	<1.0	-	<1.0	-
Sulfate (SO4)	mg/L	<0.050	0.050	<0.050	0.050
Sulphide (as S)	mg/L	<0.0015	0.0015	<0.0015	0.0015
Organic / Inorganic Carbon					
Dissolved Organic Carbon	mg/L	<0.50	0.50	<0.50	0.50
Total Organic Carbon	mg/L	<0.50	0.50	<0.50	0.50
Total Metals					
Aluminum (Al)-Total	mg/L	-	-	-	-
Antimony (Sb)-Total	mg/L	-	-	-	-
Arsenic (As)-Total	mg/L	-	-	-	-
Barium (Ba)-Total	mg/L	-	-	-	-
Beryllium (Be)-Total	mg/L	-	-	-	-
Bismuth (Bi)-Total	mg/L	-	-	-	-
Boron (B)-Total	mg/L	-	-	-	-
Cadmium (Cd)-Total	mg/L	-	-	-	-
Calcium (Ca)-Total	mg/L	-	-	-	-
Chromium (Cr)-Total	mg/L	-	-	-	-
Cobalt (Co)-Total	mg/L	-	-	-	-
Copper (Cu)-Total	mg/L	-	-	-	-
Iron (Fe)-Total	mg/L	-	-	-	-
Lead (Pb)-Total	mg/L	-	-	-	-
Lithium (Li)-Total	mg/L	-	-	-	-
Magnesium (Mg)-Total	mg/L	-	-	-	-
Manganese (Mn)-Total	mg/L	-	-	-	-
Mercury (Hg)-Total	mg/L	<0.00000050	0.0000005	<0.00000050	0.0000005
Molybdenum (Mo)-Total	mg/L	-	-	-	-
Nickel (Ni)-Total	mg/L	-	-	-	-
Phosphorus (P)-Total	mg/L	<0.30	0.30	<0.30	0.30
Potassium (K)-Total	mg/L	-	-	-	-
Selenium (Se)-Total	mg/L	-	-	-	-
Silicon (Si)-Total	mg/L	<0.050	0.050	<0.050	0.050
Silver (Ag)-Total	mg/L	-	-	-	-
Sodium (Na)-Total	mg/L	-	-	-	-
Strontium (Sr)-Total	mg/L	-	-	-	-
Sulfur (S)-Total	mg/L	<0.50	0.50	<0.50	0.50
Thallium (Tl)-Total	mg/L	-	-	-	-
Thorium (Th)-Total	mg/L	<0.000050	0.000050	<0.000050	0.000050
Tin (Sn)-Total	mg/L	-	-	-	-
Titanium (Ti)-Total	mg/L	-	-	-	-
Uranium (U)-Total	mg/L	-	-	-	-
Vanadium (V)-Total	mg/L	-	-	-	-
Zinc (Zn)-Total	mg/L	-	-	-	-
Zirconium (Zr)-Total	mg/L	<0.00060	0.00060	<0.00060	0.00060
Dissolved Metals					
Aluminum (Al)-Dissolved	mg/L	<0.00030	0.00030	<0.00030	0.00030
Antimony (Sb)-Dissolved	mg/L	<0.000020	0.000020	<0.000020	0.000020
Arsenic (As)-Dissolved	mg/L	<0.000020	0.000020	<0.000020	0.000020
Barium (Ba)-Dissolved	mg/L	<0.000050	0.000050	<0.000050	0.000050
Beryllium (Be)-Dissolved	mg/L	<0.000010	0.000010	<0.000010	0.000010
Bismuth (Bi)-Dissolved	mg/L	<0.000010	0.000010	<0.000010	0.000010
Boron (B)-Dissolved	mg/L	<0.0010	0.0010	<0.0010	0.0010
Cadmium (Cd)-Dissolved	mg/L	<0.0000050	0.0000050	<0.0000050	0.0000050
Calcium (Ca)-Dissolved	mg/L	<0.020	0.020	<0.020	0.020
Chromium (Cr)-Dissolved	mg/L	<0.000060	0.000060	<0.000060	0.000060
Cobalt (Co)-Dissolved	mg/L	<0.000010	0.000010	<0.000010	0.000010
Copper (Cu)-Dissolved	mg/L	<0.00010	0.00010	<0.00010	0.00010
Iron (Fe)-Dissolved	mg/L	<0.0010	0.0010	<0.0010	0.0010
Lead (Pb)-Dissolved	mg/L	<0.000010	0.000010	<0.000010	0.000010
Lithium (Li)-Dissolved	mg/L	<0.00050	0.00050	<0.00050	0.00050
Magnesium (Mg)-Dissolved	mg/L	<0.0040	0.0040	<0.0040	0.0040
Manganese (Mn)-Dissolved	mg/L	<0.000050	0.000050	<0.000050	0.000050
Mercury (Hg)-Dissolved	mg/L	<0.00000050	0.00000050	<0.00000050	0.00000050
Molybdenum (Mo)-Dissolved	mg/L	<0.000050	0.000050	<0.000050	0.000050
Nickel (Ni)-Dissolved	mg/L	<0.000060	0.000060	<0.000060	0.000060
Phosphorus (P)-Dissolved	mg/L	<0.30	0.30	<0.30	0.30
Potassium (K)-Dissolved	mg/L	<0.020	0.020	<0.020	0.020
Selenium (Se)-Dissolved	mg/L	<0.000040	0.000040	<0.000040	0.000040
Silicon (Si)-Dissolved	mg/L	<0.050	0.050	<0.050	0.050
Silver (Ag)-Dissolved	mg/L	<0.0000050	0.0000050	<0.0000050	0.0000050
Sodium (Na)-Dissolved	mg/L	<0.0050	0.0050	<0.0050	0.0050
Strontium (Sr)-Dissolved	mg/L	<0.000050	0.000050	<0.000050	0.000050
Sulphur (S)-Dissolved	mg/L	<0.50	0.50	<0.50	0.50
Thallium (Tl)-Dissolved	mg/L	<0.0000050	0.0000050	<0.0000050	0.0000050
Thorium (Th)-Dissolved	mg/L	<0.000050	0.000050	<0.000050	0.000050
Tin (Sn)-Dissolved	mg/L	<0.000050	0.000050	<0.000050	0.000050
Titanium (Ti)-Dissolved	mg/L	<0.00010	0.00010	<0.00010	0.00010
Uranium (U)-Dissolved	mg/L	<0.000010	0.000010	<0.000010	0.000010
Vanadium (V)-Dissolved	mg/L	<0.000050	0.000050	<0.000050	0.000050
Zinc (Zn)-Dissolved	mg/L	<0.00080	0.00080	<0.00080	0.00080
Zirconium (Zr)-Dissolved	mg/L	<0.00030	0.00030	<0.00030	0.00030
Radiological Parameters					
Ra-226		-	-	-	-

Notes

NC = Not Calculated

"-" indicates no result is available

		Original Data			Corrected Data[a]		Relative Percentage Difference (RPD as %) for JGT-06-I9 Duplicates[b]	
Sample ID		JGT-06-LAKE WATER	JGT-06-I9-S1-SEP2014	JGT-06-I9-S1-SEP2014	JGT-06-I9-S1-SEP2014A	JGT-06-I9-S1-SEP2014B	RPD for Original Data	RPD for Corrected Data
Date Sampled		30-Apr-14	14-SEP-14	14-SEP-14	14-SEP-14	14-SEP-14	1-Jun-14	1-Jun-14
Time Sampled		12:00	08:30	08:30	08:30	08:30	22:00	22:00
ALS Sample ID		L1450733-1	L1518427-1	L1518427-1	L1518427-1	L1518427-1	L1464913	L1464913
Matrix		Water	Water	Water	Water	Water	Water	Water
Physical Tests								
Color, True	C.U.	95	13	14	8.4	9.0	4%	7%
Hardness (as CaCO3)	mg/L	10	1160	1180	1231	1252	1.7%	1.7%
pH	pH	7.3	7.5	7.6	7.5	7.6	1.86%	2.0%
Conductivity (EC)	uS/cm	54	4060	4090	4306	4338	1%	1%
Total Suspended Solids	mg/L	<3.0	<3	<3	<3	<3	NC	NC
TDS	mg/L	-	2640	2630	2800	2789	0%	0%
TDS (Calculated)	mg/L	27	2190	2200	2323	2334	0.46%	0%
Turbidity	NTU	7.1	3.9	3.2	3.9	3.2	19.0%	19.0%
Anions and Nutrients								
Alkalinity, Total (as CaCO3)	mg/L	23	48	49	50	51	1.6%	1.7%
Ammonia, Total (as N)	mg/L	0.0081	0.048	0.045	0.051	0.047	8.0%	8.1%
Bicarbonate (HCO3)	mg/L	28	59	60	61	62	1.7%	1.7%
Carbonate (CO3)	mg/L	<5.0	<5	<5	<5	<5	NC	NC
Chloride (Cl)	mg/L	1.1	1140	1140	1210	1210	0%	0%
Fluoride (F)	mg/L	<0.02	<0.1	<0.1	<0.1	<0.1	NC	NC
Hydroxide (OH)	mg/L	<5.0	<5	<5	<5	<5	NC	NC
Nitrate and Nitrite (as N)	mg/L	0.013	<0.006	<0.006	<0.006	<0.006	NC	NC
Nitrate (as N)	mg/L	0.0083	<0.006	<0.006	<0.006	<0.006	NC	NC
Nitrite (as N)	mg/L	0.0051	<0.002	<0.002	<0.002	<0.002	NC	NC
Total Kjeldahl Nitrogen	mg/L	0.33	0.054	<0.05	0.037	<0.05	NC	NC
[H+]		5.0E-08	3.5E-08	2.6E-08	3.5E-08	2.5E-08	**32%**	**34%**
Orthophosphate-Dissolved (as P)	mg/L	0.0045	0.022	0.02	0.023	0.021	9%	9%
Phosphorus (P)-Total Dissolved	mg/L	0.012	0.021	0.022	0.021	0.022	4%	4%
Phosphorus (P)-Total	mg/L	0.017	0.028	0.023	0.029	0.024	19%	19%
Sulfate (SO4)	mg/L	2.3	205	206	217	219	0.49%	0.49%
Sulphide (as S)	mg/L	<0.0015	4.5	3.8	4.8	4.1	15.87%	15.9%
Organic / Inorganic Carbon								
Dissolved Organic Carbon	mg/L	5.9	191	176	202	186	8.2%	8%
Total Organic Carbon	mg/L	6.3	220	179	233	190	**21%**	**21%**
Total Metals								
Aluminum (Al)-Total	mg/L	0.076	<0.015	<0.02	<0.015	<0.02	NC	NC
Antimony (Sb)-Total	mg/L	0.00085	<0.0005	<0.0005	<0.0005	<0.0005	NC	NC
Arsenic (As)-Total	mg/L	0.0006	0.0022	0.0022	0.0023	0.0023	3.2%	3.2%
Barium (Ba)-Total	mg/L	0.0093	0.01	0.01	0.01	0.01	1.0%	1.0%
Beryllium (Be)-Total	mg/L	<0.000010	<0.0005	<0.001	<0.0005	<0.001	NC	NC
Bismuth (Bi)-Total	mg/L	0.000098	<0.00025	<0.00025	<0.00025	<0.00025	NC	NC
Boron (B)-Total	mg/L	<0.01	0.16	-	0.16	-	NC	NC
Cadmium (Cd)-Total	mg/L	0.00034	<0.00005	<0.0002	<0.00005	<0.0002	NC	NC
Calcium (Ca)-Total	mg/L	2.3	314	-	333	-	NC	NC
Chromium (Cr)-Total	mg/L	0.00055	<0.0005	<0.0008	<0.0005	<0.0008	NC	NC
Cobalt (Co)-Total	mg/L	<0.000010	<0.0005	<0.0005	<0.0005	<0.0005	NC	NC
Copper (Cu)-Total	mg/L	0.0022	<0.0005	<0.001	<0.0005	<0.001	NC	NC
Iron (Fe)-Total	mg/L	0.081	<0.05	-	<0.05	-	NC	NC
Lead (Pb)-Total	mg/L	0.00032	<0.00025	<0.00025	<0.00025	<0.00025	NC	NC
Lithium (Li)-Total	mg/L	<0.0050	0.062	-	0.066	-	NC	NC
Magnesium (Mg)-Total	mg/L	1.3	77	-	82	-	NC	NC
Manganese (Mn)-Total	mg/L	0.0032	0.097	-	0.1	-	NC	NC
Mercury (Hg)-Total	mg/L	<0.0000005	<0.0000005	<0.0000005	<0.0000005	<0.0000005	NC	NC
Molybdenum (Mo)-Total	mg/L	0.00013	0.001	0.0015	0.0011	0.0015	**37.4%**	**37.6%**
Nickel (Ni)-Total	mg/L	0.0011	<0.0005	<0.0005	<0.0005	<0.0005	NC	NC
Phosphorus (P)-Total	mg/L	0.017	-	-	-	-	NC	NC
Potassium (K)-Total	mg/L	1.3	6.1	-	6.4	-	NC	NC
Selenium (Se)-Total	mg/L	<0.00010	0.0017	0.002	0.0018	0.0021	15%	15%
Silicon (Si)-Total	mg/L	0.22	-	-	-	-	NC	NC
Silver (Ag)-Total	mg/L	0.000013	<0.00005	<0.0004	<0.00005	<0.0004	NC	NC
Sodium (Na)-Total	mg/L	7.1	377	-	400	-	NC	NC
Strontium (Sr)-Total	mg/L	0.012	5.8	5.8	6.2	6.1	1.0%	1.0%
Sulfur (S)-Total	mg/L	-	102	107	-	-	4.8%	NC
Thallium (Tl)-Total	mg/L	0.000031	0.000053	<0.0001	0.000054	<0.0001	NC	NC
Thorium (Th)-Total	mg/L	<0.000050	<0.0001	<0.0001	<0.0001	<0.0001	NC	NC
Tin (Sn)-Total	mg/L	0.00011	<0.0005	<0.0005	<0.0005	<0.0005	NC	NC
Titanium (Ti)-Total	mg/L	0.0039	<0.0015	<0.005	<0.0015	<0.005	**NC**	**NC**
Uranium (U)-Total	mg/L	0.000044	0.0031	0.0029	0.0033	0.0031	4.3%	4.3%
Vanadium (V)-Total	mg/L	0.00033	<0.0005	<0.0005	<0.0005	<0.0005	NC	NC
Zinc (Zn)-Total	mg/L	0.023	<0.015	0.31	<0.015	0.33	NC	NC
Zirconium (Z)-Total	mg/L	-	<0.003	<0.003	<0.003	<0.003	NC	NC
Dissolved Metals								
Dissolved Mercury Filtration Location	-	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD
Dissolved Metals Filtration Location	-	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD
Aluminum (Al)-Dissolved	mg/L	0.012	0.01	0.012	0.01	0.012	15%	16%
Antimony (Sb)-Dissolved	mg/L	<0.00010	<0.0005	<0.0005	<0.0005	<0.0005	NC	NC
Arsenic (As)-Dissolved	mg/L	0.00052	0.0014	0.0013	0.0015	0.0014	5%	5%
Barium (Ba)-Dissolved	mg/L	0.0024	0.012	0.011	0.013	0.012	7.6%	7.7%
Beryllium (Be)-Dissolved	mg/L	<0.00010	<0.0005	<0.0005	<0.0005	<0.0005	NC	NC
Bismuth (Bi)-Dissolved	mg/L	<0.000050	<0.00025	<0.00025	<0.00025	<0.00025	NC	NC
Boron (B)-Dissolved	mg/L	<0.010	0.032	0.17	0.033	0.18	**136.8%**	**137.2%**
Cadmium (Cd)-Dissolved	mg/L	0.00002	<0.00005	<0.00005	<0.00005	<0.00005	NC	NC
Calcium (Ca)-Dissolved	mg/L	2.2	332	336	352	357	1.2%	1.2%
Chromium (Cr)-Dissolved	mg/L	<0.00010	0.00055	<0.0005	0.00058	<0.0005	NC	NC
Cobalt (Co)-Dissolved	mg/L	<0.00010	<0.0005	<0.0005	<0.0005	<0.0005	NC	NC
Copper (Cu)-Dissolved	mg/L	0.0014	<0.0005	<0.0005	<0.0005	<0.0005	NC	NC
Iron (Fe)-Dissolved	mg/L	<0.010	<0.05	<0.05	<0.05	<0.05	NC	NC
Lead (Pb)-Dissolved	mg/L	<0.000050	<0.00025	<0.00025	<0.00025	<0.00025	NC	NC
Lithium (Li)-Dissolved	mg/L	<0.0030	0.071	0.069	0.075	0.073	2.9%	2.9%
Magnesium (Mg)-Dissolved	mg/L	1.2	81	82	86	87	1.1%	1.1%
Manganese (Mn)-Dissolved	mg/L	0.0019	0.1	0.099	0.11	0.11	3.7%	3.7%
Mercury (Hg)-Dissolved	mg/L	<0.0000005	<0.0000005	<0.0000005	<0.0000005	<0.0000005	NC	NC
Molybdenum (Mo)-Dissolved	mg/L	0.0001	0.00043	0.00086	0.00045	0.00091	**66.5%**	**67.1%**
Nickel (Ni)-Dissolved	mg/L	0.00059	<0.0005	<0.0005	<0.0005	<0.0005	NC	NC
Phosphorus (P)-Dissolved	mg/L	<0.30	<1.5	<1.5	<1.5	<1.5	NC	NC
Potassium (K)-Dissolved	mg/L	1.3	6.8	7.0	7.1	7.0	3.2%	1.7%
Selenium (Se)-Dissolved	mg/L	<0.00010	<0.0005	<0.0005	<0.0005	<0.0005	NC	NC
Silicon (Si)-Dissolved	mg/L	0.053	5.1	5.2	5.4	5.2	1.7%	4.2%
Silver (Ag)-Dissolved	mg/L	<0.000010	<0.00005	<0.00005	<0.00005	<0.00005	NC	NC
Sodium (Na)-Dissolved	mg/L	5.7	400	402	424	402	0.5%	5.4%
Strontium (Sr)-Dissolved	mg/L	0.012	5.8	5.6	6.2	6.0	3.5%	3.5%
Sulphur (S)-Dissolved	mg/L	-	100	95	100	95	5.34%	5%
Thallium (Tl)-Dissolved	mg/L	<0.000010	<0.00005	<0.00005	<0.00005	<0.00005	NC	NC
Thorium (Th)-Dissolved	mg/L	<0.000050	<0.0001	<0.0001	<0.0001	<0.0001	NC	NC
Tin (Sn)-Dissolved	mg/L	<0.00010	<0.0005	<0.0005	<0.0005	<0.0005	NC	NC
Titanium (Ti)-Dissolved	mg/L	<0.00030	<0.0015	<0.0015	<0.0015	<0.0015	NC	NC
Uranium (U)-Dissolved	mg/L	0.000034	0.0028	0.0027	0.0029	0.0029	1.8%	1.8%
Vanadium (V)-Dissolved	mg/L	<0.00010	<0.0005	<0.0005	<0.0005	<0.0005	NC	NC
Zinc (Zn)-Dissolved	mg/L	0.018	0.044	<0.005	0.046	<0.005	NC	NC
Zirconium (Z)-Dissolved	mg/L	-	<0.0015	<0.0015	<0.0015	<0.0015	NC	NC
Radiological Parameters								
Ra-226		-	-	-	-	-	-	-

Notes

(a) No correction was applied to results below the detection limit.

(b) RPD values were calculated for concentrations above the detection limit.

" - " indicates no result is available.

NC = Not Calculated

20% indicates the RPD value is flagged as a potential variability issue (RPD threshold is 20%).

Parameter	Units	Corrected Data[a]														
Sample ID	Units	JGT-06-I5-S1	JGT-06-I5S1	Oct-Jun Variance	JGT-06-I5-S1	JGT-06-I5S2	Oct-Jun Variance	JGT-06-I7-S1-SEP2014	JGT-06-I7S1	Oct-Jun Variance	JGT-06-I9-S1-SEP2014A	JGT-06-I9S1	Oct-Jun Variance	JGT-06-I9-S1-SEP2014B	JGT-06-I9S1	Oct-Jun Variance
Date Sampled		15-SEP-14	1-Jun-14		15-SEP-14	1-Jun-14		16-SEP-14	29-May-14		14-SEP-14	30-Apr-14		14-SEP-14	30-Apr-14	
Time Sampled		08:30	12:00		08:30	22:00		11:00	01:50		08:30	13:00		08:30	13:00	
ALS Sample ID		L1518918-1	L1464913-1		L1518918-1	L1464913-2		L1519648-1	L1462851-3		L1518427-1	L1450733-3		L1518427-1	L1450733-3	
Matrix		Water	Water		Water	Water		Water	Water		Water	Water		Water	Water	
Physical Tests																
Color, True	C.U.	11	<2	-	11	<2	-	4.4	7.1	- 2.76	8.4	5.3	3	9.0	5.3	4
Hardness (as CaCO3)	mg/L	865	888	- 23	865	835	30	711	755	- 43.7	1231	1243	-13	1252	1243	9
pH	pH	7.8	7.5	0.24	7.8	7.6	0.16	7.9	7.7	0.26	7.5	7.6	-0.1	7.6	7.6	0.0
Conductivity (EC)	uS/cm	3151	3184	- 33.3	3151	3185	- 34.2	3847	3571	276	4306	4504	-198	4338	4504	-166
Total Suspended Solids	mg/L	11	3.6	7.4	11	5.3	5.8	3.7	4.8	- 1.11	<3	<3.0	-	<3	<3.0	-
TDS	mg/L	2059	-	-	2059	-	-	2359	-	-	2800	-	-	2789	-	-
TDS (Calculated)	mg/L	1560	1673	- 113	1560	-	-	1972	1855	118	2323	2390	-67	2334	2390	-57
Turbidity	NTU	29	2.5	26	29	2.4	27	1.8	1.6	0.2	3.7	0.88	2.8	3.0	0.88	2.1
Anions and Nutrients																
Alkalinity, Total (as CaCO3)	mg/L	71	56	15	71	57	14	86	58	29	50	48	2	51	48	3
Ammonia, Total (as N)	mg/L	0.16	0.29	- 0.13	0.16	0.3	- 0.14	0.19	0.2	- 0.0069	0.051	0.12	-0.07	0.047	0.12	-0.07
Bicarbonate (HCO3)	mg/L	87	69	18	87	70	17	106	70	35	61	58	2	62	58	3
Carbonate (CO3)	mg/L	<5	<5.0	-	<5	<5.0	-	<5	<5.0	-	<5	<5.0	-	<5	<5.0	-
Chloride (Cl)	mg/L	889	975	- 86.1	889	982	- 92.9	1073	987	86	1210	1318	-108	1210	1318	-108
Fluoride (F)	mg/L	<0.02	0.28	-	<0.02	0.24	-	<0.02	0.17	-	<0.1	0.24	-	<0.1	0.24	-
Hydroxide (OH)	mg/L	<5	<5.0	-	<5	<5.0	-	<5	<5.0	-	<5	<5.0	-	<5	<5.0	-
Nitrate and Nitrite (as N)	mg/L	<0.006	<0.0060	-	<0.006	<0.0060	-	<0.006	<0.0060	-	<0.006	0.014	-	<0.006	0.014	-
Nitrate (as N)	mg/L	<0.006	<0.0060	-	<0.006	<0.0060	-	<0.006	<0.0060	-	<0.006	0.0085	-	<0.006	0.0085	-
Nitrite (as N)	mg/L	<0.002	<0.002	-	<0.002	<0.002	-	<0.002	<0.002	-	<0.002	0.0053	-	<0.002	0.0053	-
Total Kjeldahl Nitrogen	mg/L	0.17	-	-	0.17	-	-	0.16	0.21	- 0.052	0.037	0.11	-0.07	<0.05	0.11	-
[H+]	mg/L	1.7E-08	1.5E<08	-	1.7E-08	1.86E<08	-	1.2E-08	2.11E<08	-	3.5E-08	2.68E<08	-	2.5E-08	2.68E<08	-
Orthophosphate-Dissolved (as P)	mg/L	<0.001	0.0067	-	<0.001	0.0081	-	0.05	0.031	0.019	0.023	<0.0010	-	0.021	<0.0010	-
Phosphorus (P)-Total Dissolved	mg/L	0.0045	0.013	- 0.008	0.0045	0.011	- 0.0065	0.056	0.036	0.02	0.021	0.018	0.003	0.022	0.018	0.004
Phosphorus (P)-Total	mg/L	0.034	0.029	0.005	0.034	0.026	0.0078	0.059	0.038	0.021	0.029	0.022	0.006	0.024	0.022	0.001
Sulfate (SO4)	mg/L	82	132	- 49.6	82	133	- 50.9	114	165	- 51.5	217	239	-22	219	239	-21
Sulphide (as S)	mg/L	0.0094	0.11	- 0.1	0.0094	0.11	- 0.1	0.2	1.7	- 1.52	4.8	3.6	1.18	4.1	3.6	0.48
Organic / Inorganic Carbon																
Dissolved Organic Carbon	mg/L	36	-	-	36	-	-	187	846	- 659	202	843	-640	186	843	-656
Total Organic Carbon	mg/L	37	-	-	37	-	-	179	839	- 660	233	836	-603	190	836	-647
Total Metals																
Aluminum (Al)-Total	mg/L	<0.02	0.011	-	<0.02	0.0092	-	<0.015	0.012	-	<0.02	0.025	-	<0.02	0.025	-
Antimony (Sb)-Total	mg/L	<0.0005	<0.00010	-	<0.0005	<0.00010	-	<0.0005	<0.000020	-	<0.0005	<0.00050	-	<0.0005	<0.00050	-
Arsenic (As)-Total	mg/L	0	0.002	-	0.0008	0.0019	-	0.0017	0.012	- 0.01	0.0023	0.016	-0.014	0.0023	0.016	-0.0139
Barium (Ba)-Total	mg/L	0.018	0.0088	0.0075	0.018	0.009	0.0073	0.014	0.0047	0.0095	0.01	0.0081	0.0023	0.01	0.0081	0.0022
Beryllium (Be)-Total	mg/L	<0.001	<0.000050	-	<0.001	<0.000050	-	<0.0005	<0.000010	-	<0.001	<0.00050	-	<0.001	<0.00050	-
Bismuth (Bi)-Total	mg/L	<0.00025	<0.000050	-	<0.00025	<0.000050	-	<0.00025	<0.000010	-	<0.00025	<0.00025	-	<0.00025	<0.00025	-
Boron (B)-Total	mg/L	0	0.14	-	0.1	0.14	-	0.126	0.12	-	0.164	0.2	-0.0321	-	0.2	-
Cadmium (Cd)-Total	mg/L	<0.0002	<0.0000250	-	<0.0002	<0.0000250	-	<0.00005	<0.0000050	-	<0.0002	<0.000050	-	<0.0002	<0.000050	-
Calcium (Ca)-Total	mg/L	193	202	- 40.6	193	197	- 35.9	211	185	25	333.18	393	-60	-	393	-
Chromium (Cr)-Total	mg/L	<0.0008	0.0019	-	<0.0008	0.0019	-	0.0015	0.00088	0.00061	<0.0008	0.0038	-	<0.0008	0.0038	-
Cobalt (Co)-Total	mg/L	<0.0005	0.000076	-	<0.0005	0.000076	-	<0.0005	0.000022	-	<0.0005	<0.00050	-	<0.0005	<0.00050	-
Copper (Cu)-Total	mg/L	<0.001	0.0008	-	<0.001	<0.00050	-	<0.0005	<0.00010	-	<0.001	<0.00050	-	<0.001	<0.00050	-
Iron (Fe)-Total	mg/L	3.8	0.51	2.9	3.8	0.5	2.9	0.074	0.024	0.05	<0.05	<0.050	-	-	<0.050	-
Lead (Pb)-Total	mg/L	<0.00025	0.00017	-	<0.00025	0.00021	-	<0.00025	0.0000073	-	<0.00025	<0.00025	-	<0.00025	<0.00025	-
Lithium (Li)-Total	mg/L	0.054	0.06	- 0.0058	0.054	0.053	0.0014	0.078	0.064	0.013	0.066	0.058	0.0073	-	0.058	-
Magnesium (Mg)-Total	mg/L	93	91	- 9.8	93	88	- 6.5	75	70	5.2	82	90	-8.8	-	90	-
Manganese (Mn)-Total	mg/L	0.16	0.073	0.07	0.16	0.071	0.072	0.19	0.28	- 0.091	0.103	0.1	-0.0007	-	0.1	-
Mercury (Hg)-Total	mg/L	<0.0000005	<0.0000005	-	<0.0000005	<0.0000005	-	<0.0000005	<0.0000005	-	<0.0000005	<0.0000005	-	<0.0000005	<0.0000005	-
Molybdenum (Mo)-Total	mg/L	0	0.0038	-	0.0178	0.0037	-	0.034	0.0064	0.028	0.0011	0.017	-0.016	0.0015	0.017	-0.015
Nickel (Ni)-Total	mg/L	<0.0005	0.002	-	<0.0005	0.0018	-	0.00067	0.00081	- 0.00014	<0.0005	0.0019	-	<0.0005	0.0019	-
Phosphorus (P)-Total	mg/L	<1.5	-	-	<1.5	-	-	<1.5	0.038	-	-	0.022	-	-	0.022	-
Potassium (K)-Total	mg/L	3.7	2.8	0.69	3.7	2.7	0.78	11	6.8	4.1	6.4	4.9	1.5	-	4.9	-
Selenium (Se)-Total	mg/L	<0.0005	<0.00020	-	<0.0005	<0.00020	-	<0.0005	0.0026	-	0.0018	0.0027	-0.0009	0.0021	0.0027	-0.0006
Silicon (Si)-Total	mg/L	3.1	5.0	- 1.9	3.1	5.0	- 1.9	4.5	5.6	- 1.08	-	5.6	-	-	5.6	-
Silver (Ag)-Total	mg/L	<0.0004	<0.0000250	-	<0.0004	<0.0000250	-	<0.00005	0.0000068	-	<0.0004	<0.000050	-	<0.0004	<0.000050	-
Sodium (Na)-Total	mg/L	235	244	- 30.3	235	233	- 18.5	420	404	16	400	466	-66	-	466	-
Strontium (Sr)-Total	mg/L	3.3	3.5	- 0.43	3.3	3.5	- 0.37	4.2	3.8	0.41	6.2	6.6	-0.4	6.1	6.6	-0.5
Sulfur (S)-Total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium (Tl)-Total	mg/L	<0.0001	<0.0000250	-	<0.0001	<0.0000250	-	<0.00005	<0.0000050	-	<0.0001	<0.000050	-	<0.0001	<0.000050	-
Thorium (Th)-Total	mg/L	<0.00005	<0.000050	-	<0.00005	<0.000050	-	<0.0001	<0.00010	-	<0.0001	<0.00010	-	<0.0001	<0.00010	-
Tin (Sn)-Total	mg/L	<0.0005	<0.000250	-	<0.0005	<0.000250	-	<0.0005	<0.000050	-	<0.0005	<0.00050	-	<0.0005	<0.00050	-
Titanium (Ti)-Total	mg/L	<0.005	0.0007	-	<0.005	0.00053	-	<0.0015	0.00025	-	<0.005	<0.0015	-	<0.005	<0.0015	-
Uranium (U)-Total	mg/L	0.00054	0.0026	- 0.002	0.00054	0.0024	- 0.0019	0.002	0.03	- 0.028	0.0033	0.011	-0.0076	0.0031	0.011	-0.0077
Vanadium (V)-Total	mg/L	<0.0005	<0.000250	-	<0.0005	<0.000250	-	<0.0005	0.000034	-	<0.0005	<0.00050	-	<0.0005	<0.00050	-
Zinc (Zn)-Total	mg/L	0.25	0.12	0.11	0.25	0.12	0.11	0.22	0.092	0.13	<0.015	0.091	-	0.33	0.091	0.24
Zirconium (Z)-Total	mg/L	-	<0.0030	-	-	<0.0030	-	<0.003	-	-	<0.003	-	-	<0.003	-	-
Dissolved Metals																
Dissolved Mercury Filtration Location		FIELD	FIELD	-	FIELD	FIELD	-	FIELD	FIELD	-	FIELD	FIELD	-	FIELD	FIELD	-
Dissolved Metals Filtration Location		FIELD	FIELD	-	FIELD	FIELD	-	FIELD	FIELD	-	FIELD	FIELD	-	FIELD	FIELD	-
Aluminum (Al)-Dissolved	mg/L	<0.01	0.0023	-	<0.01	0.0018	-	0.011	0.0087	0.0028	0.01	0.0072	0.0029	0.012	0.0072	0.0047
Antimony (Sb)-Dissolved	mg/L	<0.0005	<0.00010	-	<0.0005	<0.00010	-	<0.0005	0.000038	-	<0.0005	<0.00050	-	<0.0005	<0.00050	-
Arsenic (As)-Dissolved	mg/L	0	0.0012	-	0.0006	0.0011	-	0.0017	0.014	- 0.013	0.0015	0.013	-0.011	0.0014	0.013	-0.011
Barium (Ba)-Dissolved	mg/L	0.019	0.007	0.011	0.019	0.0066	0.011	0.016	0.0042	0.011	0.013	0.0082	0.0047	0.012	0.0082	0.0037
Beryllium (Be)-Dissolved	mg/L	<0.0005	<0.000050	-	<0.0005	<0.000050	-	<0.0005	<0.000010	-	<0.0005	<0.00050	-	<0.0005	<0.00050	-
Bismuth (Bi)-Dissolved	mg/L	<0.00025	<0.000050	-	<0.00025	<0.000050	-	<0.00025	<0.000010	-	<0.00025	<0.00025	-	<0.00025	<0.00025	-
Boron (B)-Dissolved	mg/L	0.11	0.14	- 0.025	0.11	0.13	- 0.018	0.112	0.11	-	0.033	0.18	-0.15	0.18	0.18	0.0
Cadmium (Cd)-Dissolved	mg/L	<0.0001	<0.0000250	-	<0.0001	<0.0000250	-	<0.00005	<0.0000050	-	<0.00005	<0.000050	-	<0.00005	<0.000050	-
Calcium (Ca)-Dissolved	mg/L	206	202	- 14.6	206	192	- 4.78	212	187	25	352	360	-8	357	360	-4
Chromium (Cr)-Dissolved	mg/L	<0.0005	<0.00030	-	<0.0005	<0.00030	-	<0.0005	0.00016	-	0.00058	<0.00050	-	<0.0005	<0.00050	-
Cobalt (Co)-Dissolved	mg/L	<0.0005	0.00006	-	<0.0005	0.000054	-	<0.0005	<0.00010	-	<0.0005	<0.00050	-	<0.0005	<0.00050	-
Copper (Cu)-Dissolved	mg/L	<0.0006	<0.00050	-	<0.0006	<0.00050	-	<0.0005	0.000035	-	<0.0005	<0.00050	-	<0.0005	<0.00050	-
Iron (Fe)-Dissolved	mg/L	3.0	0.21	2.7	3.0	0.19	2.8	<0.05	0.0077	-	<0.05	<0.050	-	<0.05	<0.050	-
Lead (Pb)-Dissolved	mg/L	<0.00025	<0.000050	-	<0.00025	<0.000050	-	<0.00025	<0.000010	-	<0.00025	<0.00025	-	<0.00025	<0.00025	-
Lithium (Li)-Dissolved	mg/L	0.057	0.059	- 0.0007	0.057	0.054	0.0045	0.075	0.064	0.011	0.075	0.061	0.015	0.073	0.061	0.013
Magnesium (Mg)-Dissolved	mg/L	97	93	3.8	97	86	11	79	70	9.4	86	83	3	87	83	4
Manganese (Mn)-Dissolved	mg/L	0.17	0.074	0.085	0.17	0.071	0.088	0.19	0.29	- 0.093	0.11	0.097	0.012	0.11	0.097	0.008
Mercury (Hg)-Dissolved	mg/L	<0.0000005	<0.0000005	-	<0.0000005	<0.0000005	-	<0.0000005	<0.0000005	-	<0.0000005	<0.0000005	-	<0.0000005	<0.0000005	-
Molybdenum (Mo)-Dissolved	mg/L	0	0.0037	-	0.0187	0.0034	-	0.032	0.0086	0.024	0.00045	0.014	-0.013	0.00091	0.014	-0.013
Nickel (Ni)-Dissolved	mg/L	<0.0005	0.00036	-	<0.0005	<0.00030	-	<0.0005	0.00031	-	<0.0005	0.00055	-	<0.0005	0.00055	-
Phosphorus (P)-Dissolved	mg/L	<1.5	-	-	<1.5	-	-	<1.5	-	-	<1.5	<1.5	-	<1.5	<1.5	-
Potassium (K)-Dissolved	mg/L	4.1	2.9	1.2	4.1	2.8	1.3	10	6.8	3.7	7.1	4.6	2.5	7.4	4.6	2.8
Selenium (Se)-Dissolved	mg/L	<0.0005	<0.00020	-	<0.0005	<0.00020	-	<0.0005	0.0017	-	<0.0005	0.00072	-	<0.0005	0.00072	-
Silicon (Si)-Dissolved	mg/L	3.5	4.7	- 1.23	3.5	4.8	- 1.31	4.4	6.4	- 2	5.4	5.2	0.2	5.5	5.2	0.3
Silver (Ag)-Dissolved	mg/L	<0.0002	<0.0000250	-	<0.0002	<0.0000250	-	<0.00005	<0.0000050	-	<0.00005	<0.000050	-	<0.00005	<0.000050	-
Sodium (Na)-Dissolved	mg/L	255	237	20	255	229	28	430	404	26	424	357	67	426	357	70
Strontium (Sr)-Dissolved	mg/L	3.6	3.6	- 0.011	3.6	3.4	0.15	3.9	4.0	- 0.1	6.2	6.2	0.0	6.0	6.2	-0.2
Sulphur (S)-Dissolved	mg/L	-	-	-	-	-	-	31	-	-	100	-	-	95	-	-
Thallium (Tl)-Dissolved	mg/L	<0.00005	<0.000250	-	<0.00005	<0.000250	-	<0.00005	<0.0000050	-	<0.00005	<0.000050	-	<0.00005	<0.000050	-
Thorium (Th)-Dissolved	mg/L	<0.00005	<0.000050	-	<0.00005	<0.000050	-	<0.0001	<0.00010	-	<0.0001	<0.00010	-	<0.0001	<0.00010	-
Tin (Sn)-Dissolved	mg/L	<0.0005	<0.000250	-	<0.0005	<0.000250	-	<0.0005	<0.000050	-	<0.0005	<0.00050	-	<0.0005	<0.00050	-
Titanium (Ti)-Dissolved	mg/L	<0.0015	<0.00050	-	<0.0015	<0.00050	-	<0.0015	0.000097	-	<0.0015	<0.0015	-	<0.0015	<0.0015	-
Uranium (U)-Dissolved	mg/L	0.0006	0.0025	- 0.001	0.0006	0.0024	- 0.0018	0.0017	0.03	- 0.028	0.0029	0.01	-0.0072	0.0029	0.01	-0.0073
Vanadium (V)-Dissolved	mg/L	<0.0005	<0.000250	-	<0.0005	<0.000250	-	<0.0005	<0.000050	-	<0.0005	<0.00050	-	<0.0005	<0.00050	-
Zinc (Zn)-Dissolved	mg/L	0.041	<0.0040	-	0.041	<0.0040	-	<0.005	0.00089	-	0.046	<0.0050	-	<0.005	<0.0050	-
Zirconium (Z)-Dissolved	mg/L	-	<0.00150	-	-	<0.00150	-	<0.0015	-	-	<0.0015	-	-	<0.0015	-	-

Notes

(a) No correction was applied to results below the detection limit.

" - " indicates no result is available.

APPENDIX B

Hydrogeological Sampling and Testing Procedures

1.0 INTRODUCTION

This section provides a summary and interpretation of the hydrogeological data collected in 2015 from boreholes drilled into the shallow bedrock along the alignment of the proposed Jay Dike, and the boreholes completed in the bedrock in the area of the proposed Jay Pit.

Hydrogeological testing was undertaken from February 19 to April 14, 2015, in a total of 36 boreholes drilled by Major Drilling Ltd (Major). All the boreholes were cored with a nominal diameter of 96 millimetres (mm) (HQ3). Boreholes drilled along the alignment of the proposed Jay Dike by the duralite drill rig have borehole identification numbers that begin with “JDGT” and those drilled by the sonic drill rig have borehole identification numbers that begin with “JSD”. The boreholes drilled in the area of the proposed Jay Pit by the Major 50 drill rigs have borehole identification numbers that begin with “JGT”.

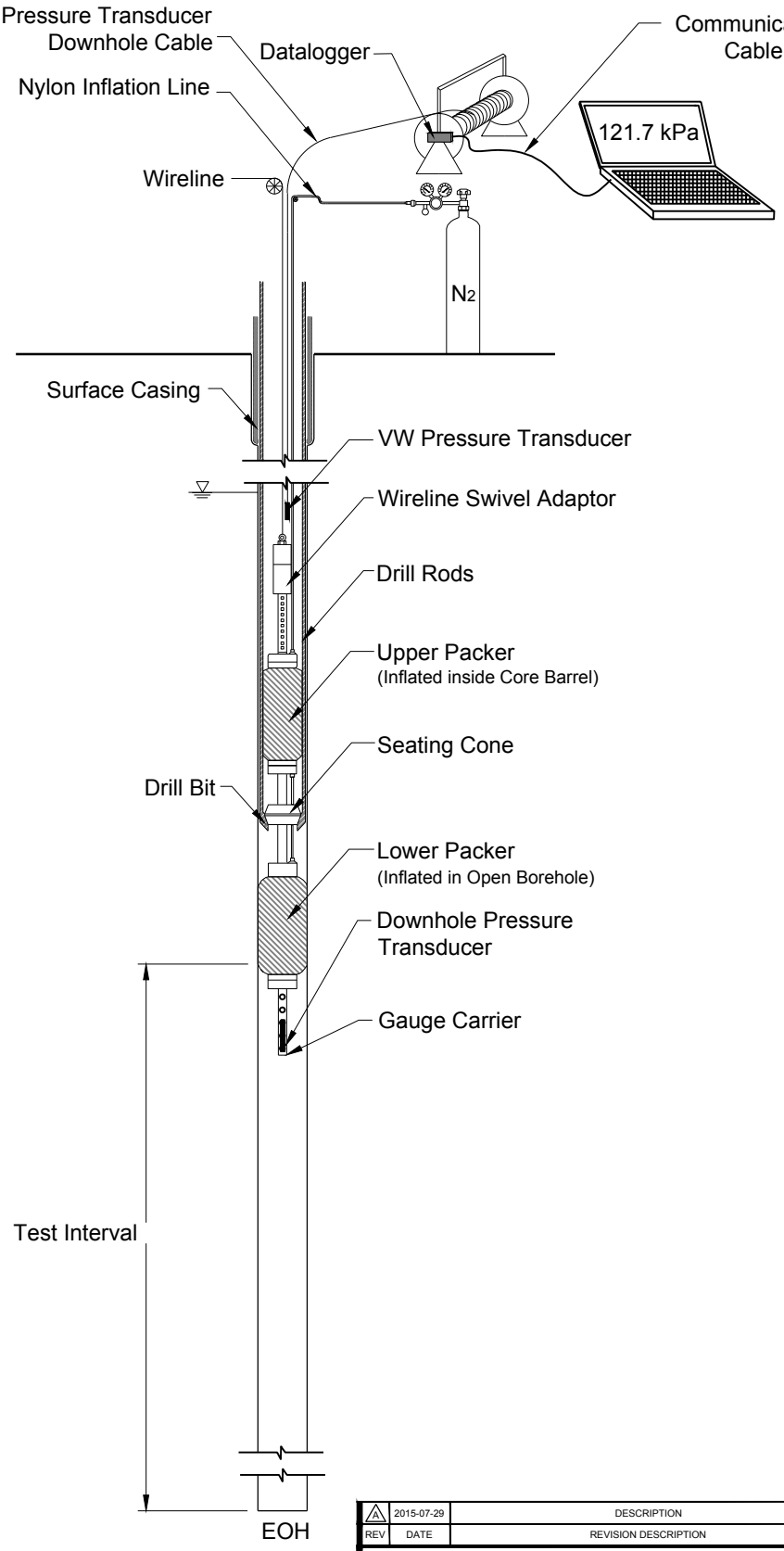
1.1 Testing Approach

Single-well pressure response tests were conducted with a pneumatic packer tool in a wireline single-packer configuration. This tool consists of two packers connected by a seating cone that keeps one packer inside the core barrel, with the second packer extending into the open hole below the core bit. A schematic diagram of the tool assembly is shown in Figure B-1. To perform a test, the drill string was pulled up to expose a figure of the borehole selected for testing, and the tool was lowered on a wireline through the drill string into the borehole. When the packers were seated in position, they were inflated with nitrogen gas isolating the section of the borehole between the lower packer and the bottom of the borehole at that time. After the test was completed, the packers were deflated and removed from the borehole.

To monitor the progress of the individual test sequences in real time, an RST Instruments vibrating wire piezometer connected to a datalogger at the surface was lowered in the drill rods below the water table, and was programmed to collect data every one to five seconds. An In-Situ LevelTROLL 700 memory gauge was placed directly in the test interval to obtain more accurate pressure response data. The transducer was programmed to collect data at between one- and five-second intervals. The data from the LevelTROLL 700 were used for the analysis.

Prior to testing, the core recovered from the boreholes was reviewed in detail to assess the borehole stability, and to identify suitable locations for placement of the packer. The individual test intervals were selected to provide a continuous hydraulic conductivity profile along the saturated portion of each borehole, and varied in length from 5.0 to 70.8 metres (m).

During several tests, the packer could not be sealed properly against the borehole wall likely due to fractures within the borehole wall causing a bypass. When bypass occurs, the packers are generally deflated, moved, and re-inflated a number of times to attempt to achieve a seal. In some cases, however, this was not possible. The results from the tests where bypass occurred are not presented in this summary, as they are not considered representative.



REV	DATE	DESCRIPTION	DES	CADD	CHK	RVW
A	2015-07-29	DESCRIPTION	CB	AW	CB	DC
REV	DATE	REVISION DESCRIPTION	DES	CADD	CHK	RVW

PROJECT

DOMINION DIAMOND

JAY PROJECT
NORTHWEST TERRITORIES, CANADA

TITLE

SINGLE PACKER WIRELINE DOWNHOLE ASSEMBLY - SCHEMATIC

Golder Associates

PROJECT No.		1419751.3400.62	FILE No.	14195751_3400-62-01
DESIGN	CB	2015-07-29	SCALE	AS SHOWN
CADD	AW	2015-07-29	FIGURE	
CHECK	CB	2015-07-30		B-1
REVIEW	DC	2015-07-30		

2.0 TESTING METHODOLOGY

The following testing methodology was used for the hydrogeological program at the Jay Project:

- pressure static recovery (PSR) sequence;
- slug withdrawal (SW) or slug injection (SI) sequence; and,
- constant rate injection (RI) sequence.

The procedures and the order of the individual test sequences were adjusted for each hydrogeological test. Based on the actual conditions encountered in the individual test intervals, some of the sequences listed above were not carried out. The sections below provide a detailed description of the individual test sequences.

2.1 Pressure Static Recovery

Following inflation of the packer at the desired depth, a pressure transducer was lowered inside the test rods below the water table to monitor the pressure response of the aquifer during the test in real time. The pressure static recovery (PSR) sequence was carried out to allow the aquifer within the isolated interval to reach static conditions after packer inflation. This sequence lasted between 30 minutes and approximately 1 hour. After this time, the next test sequence was initiated, even if full hydrostatic conditions were not achieved in the test interval.

2.2 Slug Withdrawal Test

After the PSR sequence, a slug withdrawal (SW) test was carried out. This test sequence consists of removing an instantaneous volume, or “slug,” of water out of the test rods, and monitoring the recovery of the water level inside the test rods after the slug displacement. If the water level fully recovered to the pre-test level within a 30-minute period, the slug test was followed by a constant rate injection (RI) test sequence. If full recovery was not reached within 30 minutes, the slug recovery monitoring continued for another 15 to 30 minutes. After this time, the slug test was terminated even if full recovery was not reached.

2.3 Slug Injection Test

In some instances, after the PSR sequence, a slug injection (SI) test was carried out in place of an SW test. This test sequence consists of adding a slug of water into the test rods from the surface. After the slug displacement, the water level inside the test rods was monitored until it recovered to the pre-test level. If the water level fully recovered within a 30-minute period, the slug test was followed by an RI test sequence. If full recovery was not reached within 30 minutes, the slug recovery monitoring continued for up to approximately another 30 minutes. After this time, the test was terminated even if full recovery was not reached.

2.4 Constant Rate Injection

A constant rate injection (RI) test consists of injecting water into the test interval at a constant rate for a minimum of 30 minutes. A surface water injection assembly including a pump, flow control valves, flowmeter, pressure transducer, and a header that connects the water injection assembly to the top of the test rods is required to perform an RI test. The flow rate and injection pressure are recorded during the test with the surface monitoring

equipment. Additional data are collected by a downhole memory gauge that is attached to the lower packer and records the pressure changes directly within the test interval during the test.

3.0 TEST ANALYSIS

3.1 Software

The test analyses were carried out with HydroBench® (Version 3.7.1), a Golder Associates Ltd. (Golder) internally developed software package designed to analyze different types of hydrogeological tests. HydroBench is a pressure transient interpretation package using the Bourdet derivative method (Gringarten 2008) coupled with a library of analytical reservoir models.

3.2 Results

3.2.1.1 Dike Boreholes

A summary of the transmissivity and hydraulic conductivity values calculated for the tests carried out in boreholes drilled along the proposed Jay Dike alignment is presented in Figure B-2. The hydraulic conductivity values were calculated by dividing the transmissivity value by the length of the corresponding test interval. The hydraulic conductivity values derived from the single-well pressure response tests conducted in the boreholes drilled along the proposed Jay Dike alignment varied between 1×10^{-9} metres per second (m/s) and 3×10^{-4} m/s.

3.2.1.2 Pit Boreholes

A summary of the transmissivity and hydraulic conductivity values calculated for the tests carried out in boreholes drilled in the area of the proposed Jay Pit is presented in Figure B-3. The hydraulic conductivity values were calculated by dividing the transmissivity value by the length of the corresponding test interval. The hydraulic conductivity values derived from the single-well pressure response tests conducted in the boreholes drilled in the area of the proposed Jay Pit varied between 6×10^{-11} m/s and 7×10^{-6} m/s.

FILE: O:\Active_2014\1328\1419751 DDEC - JAY PROJECT\6500 Winter Drilling\83 Hydrogeo Factual Report\2. Figures\FIGURE 4-5.pptx

PROJECT

DOMINION DIAMOND

JAY PROJECT
NORTHWEST TERRITORIES, CANADA

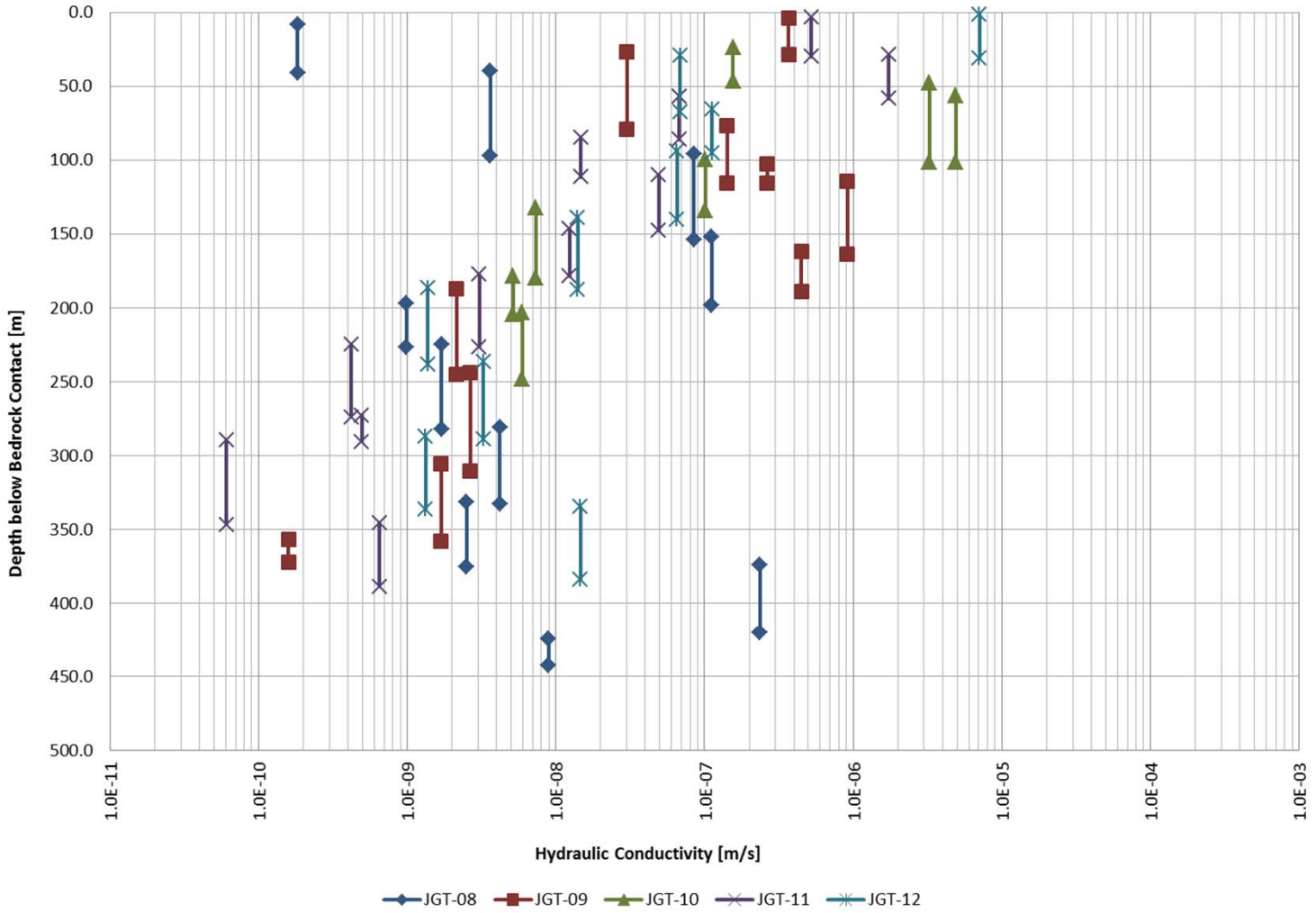
TITLE **SUMMARY OF HYDRAULIC CONDUCTIVITY VERSUS DEPTH: PROPOSED DIKE ALIGNMENT BOREHOLES**

Golder Associates

PROJECT No.		1419751	PHASE No.		6500
DESIGN	TC	30JUN15	SCALE	NTS	REV.
CADD	TC	30JUN15			
CHECK	DV	10JUL15			
REVIEW	MD	15JUL15			

FIGURE B-2

FILE: O:\Active_2014\1328\1419751 DDEC - JAY PROJECT\6500 Winter Drilling\83 Hydrogeo Factual Report\2. Figures\FIGURE 4-5.pptx



PROJECT

DOMINION DIAMOND

JAY PROJECT
NORTHWEST TERRITORIES, CANADA

TITLE

SUMMARY OF HYDRAULIC CONDUCTIVITY VERSUS DEPTH: PIT BOREHOLES

Golder Associates

PROJECT No.		1419751	PHASE No.		6500
DESIGN	TC	30JUN15	SCALE	NTS	REV.
CADD	TC	30JUN15			
CHECK	DV	10JUL15			
REVIEW	MD	15JUL15			

FIGURE B-3

4.0 GROUNDWATER SAMPLING PROGRAM

This section describes the sampling procedures used during the April 2015 groundwater sampling from the Westbay multi-level monitoring well installed in borehole JGT-06.

4.1 Background

In April 2014, a Westbay multi-level groundwater monitoring well was installed in borehole JGT-06, drilled on an island in Lac du Savage during the 2014 Jay Project geotechnical and hydrogeological field investigation (Developer's Assessment Report [DAR] Hydrogeology Baseline [Annex IX]; Dominion Diamond 2015). The Westbay system allows monitoring of hydraulic heads, testing of hydraulic conductivity, and collection of groundwater samples from multiple zones within a single borehole. The instrumentation consists of a 38 mm diameter Schedule 80 polyvinyl chloride (PVC) pipe, inflatable packers, monitoring ports, and pumping ports. The inflatable packers are included at selected depths within the PVC pipe string to isolate different intervals along the borehole. Monitoring ports and pumping ports are installed immediately below each packer to provide access to each isolated interval.

The JGT-06 Westbay multi-level monitoring well was designed to isolate nine intervals below the base of the permafrost. The depths of the individual isolated intervals within the Westbay multi-level monitoring well are provided in Table B-1.

Table B-1 Westbay Multi-level Monitoring Interval Depths

Interval Number	Depth Along Hole			Vertical Depth		
	From (mah)	To (mah)	Magnetic Collar Depth (mah)	From (mbgs)	To (mbgs)	Magnetic Collar Depth (mbgs)
1	174.0	209.2	174.6	169.5	203.8	170.1
2	210.7	238.2	211.3	205.3	232.0	205.9
3	239.7	268.7	240.3	233.5	261.7	234.1
4	270.2	308.4	270.8	263.2	300.4	263.8
5	309.9	338.9	310.5	301.9	330.0	302.5
6	340.4	367.9	341.0	331.5	358.3	332.1
7	369.4	398.4	370.0	359.8	387.9	360.4
8	399.9	429.0	400.5	389.4	417.7	390.0
9	430.5	460.5	431.1	419.2	449.0	419.8

mah = metres along hole; mbgs = metres below ground surface.

Specific installation details, development, sampling, previous groundwater quality data, and other relevant information pertinent to the JGT-06 Westbay system are presented in DAR Annex IX.

4.2 Sample Collection

The 2015 groundwater sampling was performed using the Westbay Mosdax sampler in accordance with the sampling protocols consistent with previous sampling events (DAR Annex IX; Golder 2015).

The Mosdax sampler collects 1 litre (L) of groundwater per run; multiple runs were required to purge the sampling interval in preparation for sample collection. Multiple runs were also required to fill a full set of groundwater sample containers from each interval.

Groundwater samples were collected from Intervals 9, 7, and 5. Additional samples were collected from Interval 5, including a duplicate sample, a field blank, and travel blank samples for quality assurance/quality control (QA/QC) purposes.

All samples were filtered and preserved in the field, if required, and shipped to ALS Environmental Laboratories (ALS) in Edmonton, Alberta, for analysis.

4.3 Sample Analysis

The groundwater samples were submitted to the laboratory for the following analyses:

- **physical tests**—including colour, hardness, pH, conductivity, total suspended solids, total dissolved solids, and turbidity;
- **anions and nutrients**—including alkalinity, ammonia, bicarbonate, carbonate, chloride, fluoride, hydroxide, nitrate and nitrite, total Kjeldahl nitrogen, orthophosphate, phosphorus (total and dissolved), sulphate, and sulphide;
- **radium (Ra-226)**;
- **metals (dissolved and total)**—including aluminum, antimony, arsenic, barium, beryllium, bismuth, boron, cadmium, calcium, cesium, chromium, cobalt, copper, gallium, iron, lead, lithium, magnesium, manganese, mercury, molybdenum, nickel, phosphorus, potassium, rhenium, rubidium, selenium, silicon, silver, sodium, strontium, tellurium, thallium, thorium, tin, titanium, tungsten, uranium, vanadium, yttrium, zinc, zirconium; and,
- **sulphur compounds**—including sulphide (as H_2S).

4.4 Fluorescein Correction

Drilling fluids composed of lake water containing approximately 690 micrograms per litre (µg/L) of the tracer dye fluorescein were used during the completion of the well in 2014 as described in the DAR Annex IX. During the 2015 sampling event, field measurements were monitored during purging and during sampling to determine the concentration of drilling fluids in the sample. The concentrations of the dye have generally decreased over the course of the three sampling events (Table B-2); however, a small portion (3 percent [%] to 6%) remains in each sampling interval. A small component of the drilling fluid is present in the sample, and therefore, a correction is has been applied to the samples to remove mass associated with the drilling fluid.

Table B-2 Fluorescein Dye in Samples

Interval ID	Dye Concentration (µg/L)				Lake Water Proportion Based on Dye Concentration		
Sampling Event	Drilling Fluid: Lake Water with Dye	Winter-Spring 2014	Summer 2014	Winter 2015	Winter-Spring 2014	Summer 2014	Winter 2015
5		15	27	21	2%	4%	3%
7		42	54	40	6%	8%	6%
9	690	41	39	20	6%	6%	3%

µg/L = micrograms per litre.

The concentration of fluorescein was measured in both the drilling fluid (lake water spiked with fluorescein) and the sampled groundwater. Corrected concentrations were calculated using the following formula:

$$C_C = \frac{C_G - rC_{DF}}{1-r},$$

where C_C is the corrected concentration of the chosen parameter, C_G is the concentration of the parameter in the groundwater sample, and C_{DF} is the concentration of the parameter in the drilling fluid. r is the ratio of the concentration of fluorescein in the groundwater sample to the concentration of fluorescein in the drilling fluid. Corrections were applied to all analytes except colour and turbidity, and those parameters with concentrations below detection.

The results of groundwater quality analysis as received by ALS Environmental and after the fluorescein correction calculation are presented in Attachment I, Table I-1.

The certificates of analysis from ALS, including the results of the analyses are presented in Attachment I.

4.5 Quality Assurance/Quality Control

A field blank, trip blank, and a duplicate sample were taken during the 2015 sampling program from Interval 5 to assess the quality of the sampling procedures used, potential cross-contamination during the transport of the samples to the laboratory, and quality of the laboratory analyses. Certificates of analysis from ALS, including QA/QC analysis and groundwater quality results, are included in Attachment I.

A field blank, trip blank, and a duplicate sample were taken during the sampling program to assess various aspects of data quality. The following definitions are used for the purposes of this report:

Field blank: used to assess potential sample contamination during collection, shipping, and analysis. Sample containers were filled with laboratory-provided deionized water in the field and shipped to the laboratory with the field samples.

Travel blank: used to assess potential sample contamination during shipping and field handling procedures. The travel blank consisted of a sample of deionized water, which was prepared and preserved at the analytical laboratory prior to the sampling trip. The travel blank was unopened during the sampling trip and was transported to the sampling site and back to the laboratory.

Field duplicate: used to assess variability in water quality at the sampling site. Two samples were collected from one interval using identical sampling procedures. Samples were labelled and preserved individually prior to being shipped to the laboratory.

The composition of the field and travel blanks is presented in Attachment I, Table I-2. Parameters should not be measured at detectable concentrations in the field or travel blanks. Concentrations were considered notable if greater than five times the corresponding detection limit (DL). As defined by the United States Environmental Protection Agency (US EPA 2004), this threshold criterion is based on the Practical Quantitation Limit, which accounts for reduced data accuracy when concentrations approach or are below the DLs.

No parameters occurred at concentrations five times greater than the respective DLs. The only detection reported was sulphide in both the field blank and the trip blank, however, measured concentrations in these QC samples were less than five times the detection limit.

The relative percent difference (RPD) was used to compare the duplicate samples from Interval 5 and was calculated using the following formula:

$$RPD = \frac{\text{maximum } concentration - \text{minimum } concentration}{average\ concentration} x100$$

The RPDs of the duplicate analyses for Interval 5 are summarized in Attachment I, Table I-3, which highlights parameters with RPDs greater than 20%. The RPDs were only calculated for parameters that had concentrations greater than five times the corresponding DL. Groundwater parameters exceeding an RPD of 20% included sulphide (0.368 milligrams per litre [mg/]L and 0.223 mg/L) and total arsenic (0.590 µg/L and 0.455 µg/L). All other parameters had RPDs less than 20%. Overall, the composition of duplicate groundwater samples shows a high degree of reproducibility.

4.6 Hydraulic Heads

Hydraulic head elevations were derived from formation pressure data collected from each monitoring interval in the JGT-06 Westbay multi-level sampling system on April 9, 2015, prior to opening the ports for purging and groundwater sample collection. The formation pressure survey was completed using a Mosdax probe sampler. The hydraulic head measurements calculated from the formation pressure survey are presented in Table B-3.

Table B-3 Westbay Multi-level Monitoring Interval Hydraulic Heads (April 9, 2015)

	Sampling Port			Hydraulic Head	
Interval Number	Vertical Depth (m)	Elevation (masl)	Formation Pressure (m)	Depth (m)	Elevation (masl)
1	169.5	250.1	168.1	1.4	418.2
2	205.3	214.3	204.3	1.0	418.6
3	233.5	186.1	232.7	0.8	418.8
4	263.2	156.4	262.6	0.6	419.0
5	301.9	117.7	300.7	1.2	418.4
6	331.5	88.0	330.4	1.1	418.5
7	359.8	59.8	358.7	1.0	418.5
8	389.4	30.2	388.5	0.9	418.7

Table B-3 Westbay Multi-level Monitoring Interval Hydraulic Heads (April 9, 2015)

Interval Number	Sampling Port		Formation Pressure (m)	Hydraulic Head	
	Vertical Depth (m)	Elevation (masl)		Depth (m)	Elevation (masl)
9	419.2	0.4	418.3	0.9	418.7

m = metres; masl = metres above sea level

5.0 REFERENCES

Dominion Diamond (Dominion Diamond Ekati Corporation). 2014. Developer's Assessment Report for the Jay Project. Prepared by Golder Associates Ltd., October 2014. Yellowknife, NWT, Canada.

Golder (Golder Associates Ltd.). 2015. Dominion Diamond Jay Project September 2014 Westbay System Sampling Program. Reference No. 1313280041-E14073-TM-Rev0-2010. February 3, 2015

Gringarten AC. 2008. From Straight Lines to Deconvolution: The Evolution of the State of the Art in Well Test Analysis. SPE Reservoir Evaluation & Engineering 11: 41-62. 2008.

USEPA (Unites States Environmental Protection Agency). 2004. USEPA contract laboratory program national functional guidelines for inorganic data review. EPA-540-R-04-004. Washington, DC, USA.

ATTACHMENT I

GROUNDWATER SAMPLING RESULTS

Table I-1 Groundwater Sampling Results

	Type	Corrected Data[a]											
	Season	Winter-Spring 2014				Summer 2014				Winter 2015			
	Sample ID	JGT-06-I5S1	JGT-06-I5S2	JGT-06-17S1	JGT-06-I9S1	JGT-06-I5-S1	JGT-06-I7-S1-SEP2014	JGT-06-I9-S1-SEP2014A	JGT-06-I9-S1-SEP2014B	JGT-06-I5S1	JGT-06-I5S1-DUPLICATE	JGT-06-I7S1	JGT-06-I9S1
	Interval	5 (301.9 to 330 m depth)	5 (301.9 to 330 m depth)	7 (359.8 to 387.9m depth)	9 (419.2 to 449.0 m depth)	5 (301.9 to 330 m depth)	7 (359.8 to 387.9m depth)	9 (419.2 to 449.0 m depth)	Duplicate	5 (301.9 to 330 m depth)	Duplicate	7 (359.8 to 387.9m depth)	9 (419.2 to 449.0 m depth)
	Date Sampled	1-Jun-14	1-Jun-14	29-May-14	30-Apr-14	15-SEP-14	16-SEP-14	14-SEP-14	14-SEP-14	20-APR-15	20-APR-15	27-APR-15	26-APR-15
	Time Sampled	12:00	22:00	01:50	13:00	08:30	11:00	08:30	08:30	22:26	22:26	00:00	00:00
	ALS Sample ID	L1464913-1	L1464913-2	L1462851-3	L1450733-3	L1518918-1	L1519648-1	L1518427-1	L1518427-1	L1602560-1	L1602560-2	L1605664-1	L1604978-1
	Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Field Parameters													
Specific Conductance	µS/cm									2648	2648	3973	4189
Physical Tests													
pH	pH	7.5	7.6	7.7	7.6	7.8	7.9	7.5	7.6	7.8	7.8	7.7	7.9
[H+]	mg/L	1.5E-08	1.8E-08	2.1E-08	2.7E-08	1.7E-08	1.2E-08	3.5E-08	2.5E-08	-	-	-	-
Conductivity (EC)	µS/cm	3,184	3,185	3,571	4,504	3,151	3,847	4,306	4,338	3,039	3,039	3,714	3,975
Total Dissolved Solids	mg/L	-	-	-	-	2,059	2,359	2,800	2,789	1,967	2,143	2,217	2,245
TDS (Calculated)	mg/L	1673	-	1,855	2,390	1,560	1,972	2,323	2,334	1,576	1,545	1,878	1,946
Hardness (as $CaCO_3$)	mg/L	888	835	755	1,243	865	711	1,231	1,252	931	929	787	932
Color, True	TCU	<2	<2	7.1	5.3	11	4.4	8.4	9.0	2.1	3.6	12	9.4
Total Suspended Solids	mg/L	3.6	5.3	4.8	<3.0	11	3.7	<3	<3	8.4	4.5	<3.0	<3.0
Turbidity	NTU	2.5	2.4	1.6	0.88	29	2.7	3.9	3.2	4.5	3.1	1.9	2.2
Aquachem 2014.2													
Sum of Anions	meq/L	32	32	33	43	28	35	40	-	29	-	33	35
Sum of Cations	meq/L	28	27	33	41	30	36	43	-	30	-	34	35
Charge Imbalance	%	-5.6	-8.6	0.52	-3.2	2.0	2.3	4.3	-	2.0	-	1.1	-0.27
Anions and Nutrients													
Alkalinity, Total (as $CaCO_3$)	mg/L	56	57	58	48	71	86	50	51	59	58	56	51
Bicarbonate (HCO_3)	mg/L	69	70	70	58	87	106	61	62	72	71	68	63
Carbonate (CO_3)	mg/L	<5.0	<5.0	<5.0	<5.0	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0
Hydroxide (OH)	mg/L	<5.0	<5.0	<5.0	<5.0	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0
Chloride (Cl)	mg/L	975	982	987	1,318	889	1,073	1,210	1,210	890	889	1,005	1,071
Fluoride (F)	mg/L	0.28	0.24	0.17	0.24	<0.02	<0.02	<0.1	<0.1	0.1	0.11	0.15	0.21
Nitrate and Nitrite (as N)	mg/L	<0.0060	<0.0060	<0.0060	0.014	<0.006	<0.006	<0.006	<0.006	<0.0060	<0.0060	<0.0060	<0.0060
Nitrate (as N)	mg/L	<0.0060	<0.0060	<0.0060	0.0085	<0.006	<0.006	<0.006	<0.006	<0.0060	<0.0060	<0.0060	<0.0060
Nitrite (as N)	mg/L	<0.002	<0.002	<0.002	0.0053	<0.002	<0.002	<0.002	<0.002	<0.0020	<0.0020	<0.0020	<0.0020
Total Kjeldahl Nitrogen	mg/L	-	-	0.21	0.11	0.17	0.16	0.037	<0.05	0.25	0.25	0.11	<0.050
Ammonia, Total (as N)	mg/L	0.29	0.3	0.2	0.12	0.16	0.19	0.051	0.047	0.24	0.23	0.21	0.11
Orthophosphate-Dissolved (as P)	mg/L	0.0067	0.0081	0.031	<0.0010	<0.001	0.05	0.023	0.021	-	-	-	-
Phosphorus (P)-Total Dissolved	mg/L	0.013	0.011	0.036	0.018	0.0045	0.056	0.021	0.022	-	-	-	-
Phosphorus (P)-Total	mg/L	0.029	0.026	0.038	0.022	0.034	0.059	0.029	0.024	-	-	-	-
Sulfate (SO_4)	mg/L	132	133	165	239	82	114	217	219	117	117	158	193
Sulphide (as S)	mg/L	0.11	0.11	1.7	3.6	0.0094	0.2	4.8	4.1	0.38	0.23	7.3	8.4
Sulphide (as H_2S)	mg/L	-	-	-	-	-	-	-	-	0.39	0.24	7.3	8.6
Organic Carbon													
Dissolved Organic Carbon	mg/L	-	-	846	843	36	187	202	186	36	37	174	310

Table I-1 Groundwater Sampling Results

	Type	Corrected Data[a]											
	Season	Winter-Spring 2014				Summer 2014				Winter 2015			
	Sample ID	JGT-06-I5S1	JGT-06-I5S2	JGT-06-17S1	JGT-06-I9S1	JGT-06-I5-S1	JGT-06-I7-S1-SEP2014	JGT-06-I9-S1-SEP2014A	JGT-06-I9-S1-SEP2014B	JGT-06-I5S1	JGT-06-I5S1-DUPLICATE	JGT-06-I7S1	JGT-06-I9S1
	Interval	5 (301.9 to 330 m depth)	5 (301.9 to 330 m depth)	7 (359.8 to 387.9m depth)	9 (419.2 to 449.0 m depth)	5 (301.9 to 330 m depth)	7 (359.8 to 387.9m depth)	9 (419.2 to 449.0 m depth)	Duplicate	5 (301.9 to 330 m depth)	Duplicate	7 (359.8 to 387.9m depth)	9 (419.2 to 449.0 m depth)
	Date Sampled	1-Jun-14	1-Jun-14	29-May-14	30-Apr-14	15-SEP-14	16-SEP-14	14-SEP-14	14-SEP-14	20-APR-15	20-APR-15	27-APR-15	26-APR-15
	Time Sampled	12:00	22:00	01:50	13:00	08:30	11:00	08:30	08:30	22:26	22:26	00:00	00:00
	ALS Sample ID	L1464913-1	L1464913-2	L1462851-3	L1450733-3	L1518918-1	L1519648-1	L1518427-1	L1518427-1	L1602560-1	L1602560-2	L1605664-1	L1604978-1
	Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Total Organic Carbon	mg/L	-	-	839	836	37	179	233	190	38	38	212	258
Total Metals													
Aluminum (Al)-Total	mg/L	0.011	0.0092	0.012	0.025	<0.02	<0.015	<0.015	<0.02	0.0019	0.0023	0.0077	0.0026
Antimony (Sb)-Total	mg/L	<0.00010	<0.00010	<0.000020	<0.00050	<0.0005	<0.0005	<0.0005	<0.0005	0.000083	0.00011	0.000091	<0.000080
Arsenic (As)-Total	mg/L	0.002	0.0019	0.012	0.016	0.00077	0.0017	0.0023	0.0023	0.00059	0.00045	0.0073	0.022
Barium (Ba)-Total	mg/L	0.0088	0.009	0.0047	0.0081	0.018	0.014	0.01	0.01	0.011	0.011	0.011	0.0037
Beryllium (Be)-Total	mg/L	<0.000050	<0.000050	<0.000010	<0.00050	<0.001	<0.0005	<0.0005	<0.001	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Bismuth (Bi)-Total	mg/L	<0.000050	<0.000050	<0.000010	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.000050	<0.000050	<0.000050	<0.000050
Boron (B)-Total	mg/L	0.14	0.14	0.12	0.2	0.097	0.13	0.16	-	0.14	0.16	0.15	0.16
Cadmium (Cd)-Total	mg/L	<0.0000250	<0.0000250	<0.0000050	<0.000050	<0.0002	<0.00005	<0.00005	<0.0002	<0.0000050	<0.0000050	<0.0000050	<0.000010
Calcium (Ca)-Total	mg/L	202	197	185	393	193	211	333	-	204	208	187	220
Cesium (Cs)-Total	mg/L	-	-	-	-	-	-	-	-	0.00014	0.00014	0.000095	0.000086
Chromium (Cr)-Total	mg/L	0.0019	0.0019	0.00088	0.0038	<0.0008	0.0015	<0.0005	<0.0008	0.0031	0.003	0.0011	0.0046
Cobalt (Co)-Total	mg/L	0.000076	0.000076	0.000022	<0.00050	<0.0005	<0.0005	<0.0005	<0.0005	<0.000050	<0.000050	<0.000050	0.000059
Copper (Cu)-Total	mg/L	0.0008	<0.00050	<0.00010	<0.00050	<0.001	<0.0005	<0.0005	<0.001	0.00054	<0.00050	<0.00050	<0.00050
Gallium (Ga)-Total	mg/L	-	-	-	-	-	-	-	-	<0.000050	<0.000050	<0.000050	<0.000050
Iron (Fe)-Total	mg/L	0.51	0.5	0.024	<0.050	3.8	0.074	<0.05	-	0.61	0.65	0.039	0.045
Lead (Pb)-Total	mg/L	0.00017	0.00021	0.0000073	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	0.000072	0.000053	0.00005	<0.000050
Lithium (Li)-Total	mg/L	0.06	0.053	0.064	0.058	0.054	0.078	0.066	-	0.062	0.064	0.076	0.067
Magnesium (Mg)-Total	mg/L	91	88	70	90	93	75	82	-	103	103	70	71
Manganese (Mn)-Total	mg/L	0.073	0.071	0.28	0.1	0.16	0.19	0.1	-	0.076	0.076	0.23	0.089
Mercury (Hg)-Total	µg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Molybdenum (Mo)-Total	mg/L	0.0038	0.0037	0.0064	0.017	0.018	0.034	0.0011	0.0015	0.0016	0.0017	0.0042	0.013
Nickel (Ni)-Total	mg/L	0.002	0.0018	0.00081	0.0019	<0.0005	0.00067	<0.0005	<0.0005	0.0014	0.0016	0.0005	0.0025
Phosphorus (P)-Total	mg/L	-	-	0.038	0.022	<1.5	<1.5	-	-	-	-	-	-
Potassium (K)-Total	mg/L	2.8	2.7	6.8	4.9	3.7	11	6.4	-	9.2	9.8	10	7.9
Rhenium (Re)-Total	mg/L	-	-	-	-	-	-	-	-	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Rubidium (Rb)-Total	mg/L	-	-	-	-	-	-	-	-	0.0076	0.0076	0.011	0.0072
Selenium (Se)-Total	mg/L	<0.00020	<0.00020	0.0026	0.0027	<0.0005	<0.0005	0.0018	0.0021	0.00023	0.00043	0.00046	0.00036
Silicon (Si)-Total	mg/L	5.0	5.0	5.6	5.6	3.1	4.5	-	-	4.8	4.8	6.6	4.8
Silver (Ag)-Total	mg/L	<0.0000250	<0.0000250	0.0000068	<0.000050	<0.0004	<0.00005	<0.00005	<0.0004	<0.0000050	<0.0000050	<0.000015	0.0000075
Sodium (Na)-Total	mg/L	244	233	404	466	235	420	400	-	243	247	410	348
Strontium (Sr)-Total	mg/L	3.5	3.5	3.8	6.6	3.3	4.2	6.2	6.1	4.1	4.1	4.1	5.0
Sulfur (S)-Total	mg/L	-	-	-	-	-	-	-	-	42	40	-	-
Tellurium (Te)-Total	mg/L	-	-	-	-	-	-	-	-	<0.000010	<0.000010	<0.000010	0.00062
Thallium (Tl)-Total	mg/L	<0.0000250	<0.0000250	<0.0000050	<0.000050	<0.0001	<0.00005	0.000054	<0.0001	<0.0000050	<0.0000050	<0.0000050	<0.0000050

Table I-1 Groundwater Sampling Results

Type		**Corrected Data[(a)]**											
Season		**Winter-Spring 2014**				**Summer 2014**				**Winter 2015**			
Sample ID		**JGT-06-I5S1**	**JGT-06-I5S2**	**JGT-06-17S1**	**JGT-06-I9S1**	**JGT-06-I5-S1**	**JGT-06-I7-S1-SEP2014**	**JGT-06-I9-S1-SEP2014A**	**JGT-06-I9-S1-SEP2014B**	**JGT-06-I5S1**	**JGT-06-I5S1-DUPLICATE**	**JGT-06-I7S1**	**JGT-06-I9S1**
Interval		**5 (301.9 to 330 m depth)**	**5 (301.9 to 330 m depth)**	**7 (359.8 to 387.9m depth)**	**9 (419.2 to 449.0 m depth)**	**5 (301.9 to 330 m depth)**	**7 (359.8 to 387.9m depth)**	**9 (419.2 to 449.0 m depth)**	**Duplicate**	**5 (301.9 to 330 m depth)**	**Duplicate**	**7 (359.8 to 387.9m depth)**	**9 (419.2 to 449.0 m depth)**
Date Sampled		**1-Jun-14**	**1-Jun-14**	**29-May-14**	**30-Apr-14**	**15-SEP-14**	**16-SEP-14**	**14-SEP-14**	**14-SEP-14**	**20-APR-15**	**20-APR-15**	**27-APR-15**	**26-APR-15**
Time Sampled		**12:00**	**22:00**	**01:50**	**13:00**	**08:30**	**11:00**	**08:30**	**08:30**	**22:26**	**22:26**	**00:00**	**00:00**
ALS Sample ID		**L1464913-1**	**L1464913-2**	**L1462851-3**	**L1450733-3**	**L1518918-1**	**L1519648-1**	**L1518427-1**	**L1518427-1**	**L1602560-1**	**L1602560-2**	**L1605664-1**	**L1604978-1**
Matrix		**Water**	**Water**	**Water**	**Water**	**Water**	**Water**	**Water**	**Water**	**Water**	**Water**	**Water**	**Water**
Thorium (Th)-Total	mg/L	<0.000050	<0.000050	<0.00010	<0.00010	<0.00005	<0.0001	<0.0001	<0.0001	<0.0000050	<0.0000050	<0.0000050	0.0000088
Tin (Sn)-Total	mg/L	<0.000250	<0.000250	<0.000050	<0.00050	<0.0005	<0.0005	<0.0005	<0.0005	<0.00020	<0.00020	<0.00020	<0.00020
Titanium (Ti)-Total	mg/L	0.0007	0.00053	0.00025	<0.0015	<0.005	<0.0015	<0.0015	<0.005	<0.00020	<0.00020	0.00037	0.000098
Tungsten (W)-Total	mg/L	-	-	-	-	-	-	-	-	0.0082	0.0084	0.042	0.0096
Uranium (U)-Total	mg/L	0.0026	0.0024	0.03	0.011	0.00054	0.002	0.0033	0.0031	0.00022	0.00022	0.013	0.0073
Vanadium (V)-Total	mg/L	<0.000250	<0.000250	0.000034	<0.00050	<0.0005	<0.0005	<0.0005	<0.0005	<0.000050	<0.000050	<0.000050	<0.000050
Yttrium (Y)-Total	mg/L	-	-	-	-	-	-	-	-	0.0000071	0.0000069	0.0000068	0.0000067
Zinc (Zn)-Total	mg/L	0.12	0.12	0.092	0.091	0.25	0.22	<0.015	0.33	0.19	0.19	0.082	0.11
Zirconium (Zr)-Total	mg/L	<0.0030	<0.0030	-	-	-	<0.003	<0.003	<0.003	<0.000050	0.00017	<0.000050	<0.000050
Dissolved Metals													
Dissolved Mercury Filtration Location	-	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD
Dissolved Metals Filtration Location	-	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD
Aluminum (Al)-Dissolved	mg/L	0.0023	0.0018	0.0087	0.0072	<0.01	0.011	0.01	0.012	<0.0010	0.0033	0.0028	0.0012
Antimony (Sb)-Dissolved	mg/L	<0.00010	<0.00010	0.000038	<0.00050	<0.0005	<0.0005	<0.0005	<0.0005	0.000055	0.000062	0.000053	0.000039
Arsenic (As)-Dissolved	mg/L	0.0012	0.0011	0.014	0.013	0.00058	0.0017	0.0015	0.0014	0.00033	0.0003	0.0082	0.015
Barium (Ba)-Dissolved	mg/L	0.007	0.0066	0.0042	0.0082	0.019	0.016	0.013	0.012	0.0088	0.0088	0.0051	0.0031
Beryllium (Be)-Dissolved	mg/L	<0.000050	<0.000050	<0.000010	<0.00050	<0.0005	<0.0005	<0.0005	<0.0005	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Bismuth (Bi)-Dissolved	mg/L	<0.000050	<0.000050	<0.000010	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.000050	<0.000050	<0.000050	<0.000050
Boron (B)-Dissolved	mg/L	0.14	0.13	0.11	0.18	0.11	0.11	0.033	0.18	0.14	0.15	0.14	0.16
Cadmium (Cd)-Dissolved	mg/L	<0.0000250	<0.0000250	<0.0000050	<0.000050	<0.0001	<0.00005	<0.00005	<0.00005	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Calcium (Ca)-Dissolved	mg/L	202	192	187	360	206	212	352	357	210	207	195	243
Cesium (Cs)-Dissolved	mg/L	-	-	-	-	-	-	-	-	0.00014	0.00014	0.000089	0.000092
Chromium (Cr)-Dissolved	mg/L	<0.00030	<0.00030	0.00016	<0.00050	<0.0005	<0.0005	0.00058	<0.0005	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt (Co)-Dissolved	mg/L	0.00006	0.000054	<0.00010	<0.00050	<0.0005	<0.0005	<0.0005	<0.0005	<0.000050	<0.000050	<0.000050	<0.000050
Copper (Cu)-Dissolved	mg/L	<0.00050	<0.00050	0.000035	<0.00050	<0.0006	<0.0005	<0.0005	<0.0005	<0.00020	<0.00020	<0.00020	<0.00020
Gallium (Ga)-Dissolved	mg/L	-	-	-	-	-	-	-	-	<0.000050	<0.000050	<0.000050	<0.000050
Iron (Fe)-Dissolved	mg/L	0.21	0.19	0.0077	<0.050	3.0	<0.05	<0.05	<0.05	0.39	0.39	<0.030	<0.030
Lead (Pb)-Dissolved	mg/L	<0.000050	<0.000050	<0.000010	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.000050	<0.000050	<0.000050	<0.000050
Lithium (Li)-Dissolved	mg/L	0.059	0.054	0.064	0.061	0.057	0.075	0.075	0.073	0.061	0.061	0.074	0.071
Magnesium (Mg)-Dissolved	mg/L	93	86	70	83	97	79	86	87	103	104	73	76
Manganese (Mn)-Dissolved	mg/L	0.074	0.071	0.29	0.097	0.17	0.19	0.11	0.11	0.075	0.074	0.25	0.094
Mercury (Hg)-Dissolved	µg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Molybdenum (Mo)-Dissolved	mg/L	0.0037	0.0034	0.0086	0.014	0.019	0.032	0.00045	0.00091	0.0012	0.0013	0.0036	0.0061
Nickel (Ni)-Dissolved	mg/L	0.00036	<0.00030	0.00031	0.00055	<0.0005	<0.0005	<0.0005	<0.0005	<0.00020	<0.00020	<0.00020	<0.00020
Phosphorus (P)-Dissolved	mg/L	-	-	-	<1.5	<1.5	<1.5	<1.5	<1.5	-	-	-	-

Table I-1 Groundwater Sampling Results

Type		**Corrected Data[a]**										
Season		**Winter-Spring 2014**				**Summer 2014**				**Winter 2015**		
Sample ID		**JGT-06-I5S1**	**JGT-06-I5S2**	**JGT-06-17S1**	**JGT-06-I9S1**	**JGT-06-I5-S1**	**JGT-06-I7-S1-SEP2014**	**JGT-06-I9-S1-SEP2014A**	**JGT-06-I9-S1-SEP2014B**	**JGT-06-I5S1**	**JGT-06-I5S1-DUPLICATE**	**JGT-06-I7S1**	**JGT-06-I9S1**
Interval		**5 (301.9 to 330 m depth)**	**5 (301.9 to 330 m depth)**	**7 (359.8 to 387.9m depth)**	**9 (419.2 to 449.0 m depth)**	**5 (301.9 to 330 m depth)**	**7 (359.8 to 387.9m depth)**	**9 (419.2 to 449.0 m depth)**	**Duplicate**	**5 (301.9 to 330 m depth)**	**Duplicate**	**7 (359.8 to 387.9m depth)**	**9 (419.2 to 449.0 m depth)**
Date Sampled		**1-Jun-14**	**1-Jun-14**	**29-May-14**	**30-Apr-14**	**15-SEP-14**	**16-SEP-14**	**14-SEP-14**	**14-SEP-14**	**20-APR-15**	**20-APR-15**	**27-APR-15**	**26-APR-15**
Time Sampled		**12:00**	**22:00**	**01:50**	**13:00**	**08:30**	**11:00**	**08:30**	**08:30**	**22:26**	**22:26**	**00:00**	**00:00**
ALS Sample ID		**L1464913-1**	**L1464913-2**	**L1462851-3**	**L1450733-3**	**L1518918-1**	**L1519648-1**	**L1518427-1**	**L1518427-1**	**L1602560-1**	**L1602560-2**	**L1605664-1**	**L1604978-1**
Matrix		**Water**	**Water**	**Water**	**Water**	**Water**	**Water**	**Water**	**Water**	**Water**	**Water**	**Water**	**Water**
Potassium (K)-Dissolved	mg/L	2.9	2.8	6.8	4.6	4.1	10	7.1	7.0	12	12	8.6	8.5
Rhenium (Re)-Dissolved	mg/L	-	-	-	-	-	-	-	-	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Rubidium (Rb)-Dissolved	mg/L	-	-	-	-	-	-	-	-	0.0073	0.0073	0.0099	0.0075
Selenium (Se)-Dissolved	mg/L	<0.00020	<0.00020	0.0017	0.00072	<0.0005	<0.0005	<0.0005	<0.0005	<0.00020	0.00071	0.00092	0.00069
Silicon (Si)-Dissolved	mg/L	4.7	4.8	6.4	5.2	3.5	4.4	5.4	5.2	4.8	4.7	6.6	5.3
Silver (Ag)-Dissolved	mg/L	<0.0000250	<0.0000250	<0.0000050	<0.000050	<0.0002	<0.00005	<0.00005	<0.00005	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Sodium (Na)-Dissolved	mg/L	237	229	404	357	255	430	424	402	247	244	405	380
Strontium (Sr)-Dissolved	mg/L	3.6	3.4	4.0	6.2	3.6	3.9	6.2	6.0	3.9	3.7	3.9	5.3
Sulfur (S)-Dissolved	mg/L	-	-	-	-	-	31	100	95	37	37	-	-
Tellurium (Te)-Dissolved	mg/L	-	-	-	-	-	-	-	-	<0.000010	<0.000010	0.000012	0.000013
Thallium (Tl)-Dissolved	mg/L	<0.000250	<0.000250	<0.0000050	<0.000050	<0.00005	<0.00005	<0.00005	<0.00005	<0.0000020	<0.0000020	<0.0000020	<0.0000020
Thorium (Th)-Dissolved	mg/L	<0.000050	<0.000050	<0.00010	<0.00010	<0.00005	<0.0001	<0.0001	<0.0001	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Tin (Sn)-Dissolved	mg/L	<0.000250	<0.000250	<0.000050	<0.00050	<0.0005	<0.0005	<0.0005	<0.0005	<0.00020	<0.00020	<0.00020	<0.00020
Titanium (Ti)-Dissolved	mg/L	<0.00050	<0.00050	0.000097	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.00020	<0.00020	<0.00020	<0.00020
Tungsten (W)-Dissolved	mg/L	-	-	-	-	-	-	-	-	0.0083	0.0093	0.035	0.011
Uranium (U)-Dissolved	mg/L	0.0025	0.0024	0.03	0.01	0.0006	0.0017	0.0029	0.0029	0.00021	0.00022	0.015	0.0078
Vanadium (V)-Dissolved	mg/L	<0.000250	<0.000250	<0.000050	<0.00050	<0.0005	<0.0005	<0.0005	<0.0005	<0.000050	<0.000050	<0.000050	<0.000050
Yttrium (Y)-Dissolved	mg/L	-	-	-	-	-	-	-	-	0.0000062	0.000017	<0.0000050	0.0000061
Zinc (Zn)-Dissolved	mg/L	<0.0040	<0.0040	0.00089	<0.0050	0.041	<0.005	0.046	<0.005	0.0007	0.00059	0.0057	<0.0010
Zirconium (Zr)-Dissolved	mg/L	<0.00150	<0.00150	-	-	-	<0.0015	<0.0015	<0.0015	<0.000050	<0.000050	<0.000050	<0.000050
Radiological Parameters													
Radium (Ra-226)	Bq/L	-	-	-	-	-	-	-	-	0.3	0.27	0.34	0.22

a) No correction was applied to results below the detection limit.
b) Phosphorus concentrations in the 2015 data were subject to contamination; results not presented.

" - " indicates no result is available.
ALS = ALS Environmental; ID = identification; µS/cm = microSiemens per centimetre; mg/L = milligrams per litre; TCU = true colour units; NTU = nephelometric turbidity units; meq/L = milliequivalents per litre; % = percent; Bq/L = Becquerels per litre; < = less than.

Table I-2 Quality Assurance and Quality Control of Field and Travel Blank Results

RESULTS OF ANALYSIS		Trip Blank		Field Blank	
Sample ID		TRIP BLANK	Detection Limits	JGT-06-I9S1-FB	Detection Limits
Date Sampled		-		26-APR-15	
Time Sampled		-		00:00	
ALS Sample ID		L1604978-2		L1604978-3	
Matrix		Water		Water	
Physical Tests					
Color, True	TCU	<2.0	2.0	<2.0	2.0
Hardness (as CaCO3)	mg/L	<0.13	0.50	<0.13	0.50
Total Suspended Solids	mg/L	<3.0	3.0	<3.0	3.0
Total Dissolved Solids	mg/L	<10	10	<10	10
Turbidity	NTU	<0.10	0.10	<0.10	0.10
Anions and Nutrients					
Alkalinity, Total (as $CaCO_3$)	mg/L	<2.0	2.0	<2.0	2.0
Ammonia, Total (as N)	mg/L	<0.0050	0.0050	<0.0050	0.0050
Bicarbonate (HCO_3)	mg/L	<5.0	5.0	<5.0	5.0
Carbonate (CO_3)	mg/L	<5.0	5.0	<5.0	5.0
Chloride (Cl)	mg/L	<0.50	0.50	<0.50	0.50
Conductivity (EC)	µS/cm	<0.20	0.20	<0.20	0.20
Fluoride (F)	mg/L	<0.020	0.020	<0.020	0.020
Hydroxide (OH)	mg/L	<5.0	5.0	<5.0	5.0
Nitrate and Nitrite (as N)	mg/L	<0.0060	0.0060	<0.0060	0.0060
Nitrate (as N)	mg/L	<0.0060	0.0060	<0.0060	0.0060
Nitrite (as N)	mg/L	<0.0020	0.0020	<0.0020	0.0020
Total Kjeldahl Nitrogen	mg/L	<0.050	0.050	<0.050	0.050
pH	pH	5.09	0.10	5.10	0.10
Orthophosphate-Dissolved (as P)	mg/L	<0.0010	0.0010	<0.0010	0.0010
Phosphorus (P)-Total Dissolved	mg/L	<0.0010	0.0010	<0.0010	0.0010
Phosphorus (P)-Total	mg/L	<0.0010	0.0010	<0.0010	0.0010
TDS (Calculated)	mg/L	<1.0	-	<1.0	-
Sulfate (SO_4)	mg/L	<0.050	0.050	<0.050	0.050
Sulphide (as S)	mg/L	**0.0028**	0.0015	**0.0026**	0.0015
Organic / Inorganic Carbon					
Dissolved Organic Carbon	mg/L	<0.50	0.50	<0.50	0.50
Total Organic Carbon	mg/L	<0.50	0.50	<0.50	0.50
Total Metals					
Aluminum (Al)-Total	mg/L	<0.0030	0.0030	<0.0030	0.0030
Antimony (Sb)-Total	mg/L	<0.000030	0.000030	<0.000030	0.000030
Arsenic (As)-Total	mg/L	<0.000050	0.000050	<0.000050	0.000050
Barium (Ba)-Total	mg/L	<0.00010	0.00010	<0.00010	0.00010
Beryllium (Be)-Total	mg/L	<0.0000050	0.0000050	<0.0000050	0.0000050
Bismuth (Bi)-Total	mg/L	<0.000050	0.000050	<0.000050	0.000050
Boron (B)-Total	mg/L	<0.010	0.010	<0.010	0.010
Cadmium (Cd)-Total	mg/L	<0.0000050	0.0000050	<0.0000050	0.0000050
Calcium (Ca)-Total	mg/L	<0.050	0.050	<0.050	0.050

Table I-2 Quality Assurance and Quality Control of Field and Travel Blank Results

RESULTS OF ANALYSIS		Trip Blank		Field Blank	
Sample ID		TRIP BLANK	Detection Limits	JGT-06-I9S1-FB	Detection Limits
Date Sampled		-		26-APR-15	
Time Sampled		-		00:00	
ALS Sample ID		L1604978-2		L1604978-3	
Matrix		Water		Water	
Cesium (Cs)-Total	mg/L	<0.0000050	0.0000050	<0.0000050	0.0000050
Chromium (Cr)-Total	mg/L	<0.00050	0.00050	<0.00050	0.00050
Cobalt (Co)-Total	mg/L	<0.000050	0.000050	<0.000050	0.000050
Copper (Cu)-Total	mg/L	<0.00050	0.00050	<0.00050	0.00050
Gallium (Ga)-Total	mg/L	<0.000050	0.000050	<0.000050	0.000050
Iron (Fe)-Total	mg/L	<0.030	0.030	<0.030	0.030
Lead (Pb)-Total	mg/L	<0.000050	0.000050	<0.000050	0.000050
Lithium (Li)-Total	mg/L	<0.00040	0.00040	<0.00040	0.00040
Magnesium (Mg)-Total	mg/L	<0.10	0.10	<0.10	0.10
Manganese (Mn)-Total	mg/L	<0.00020	0.00020	<0.00020	0.00020
Mercury (Hg)-Total	µg/L	<0.00050	0.00050	<0.00050	0.00050
Molybdenum (Mo)-Total	mg/L	<0.000050	0.000050	<0.000050	0.000050
Nickel (Ni)-Total	mg/L	<0.00020	0.00020	<0.00020	0.00020
Phosphorus (P)-Total	mg/L	<0.30	0.30	<0.30	0.30
Potassium (K)-Total	mg/L	<2.0	2.0	<2.0	2.0
Rhenium (Re)-Total	mg/L	<0.0000050	0.0000050	<0.0000050	0.0000050
Rubidium (Rb)-Total	mg/L	<0.000020	0.000020	<0.000020	0.000020
Selenium (Se)-Total	mg/L	<0.00020	0.00020	<0.00020	0.00020
Silicon (Si)-Total	mg/L	<0.050	0.050	<0.050	0.050
Silver (Ag)-Total	mg/L	<0.0000050	0.0000050	<0.0000050	0.0000050
Sodium (Na)-Total	mg/L	<2.0	2.0	<2.0	2.0
Strontium (Sr)-Total	mg/L	<0.00020	0.00020	<0.00020	0.00020
Sulfur (S)-Total	mg/L	-	-	-	-
Tellurium (Te)-Total	mg/L	<0.000010	0.000010	<0.000010	0.000010
Thallium (Tl)-Total	mg/L	<0.0000050	0.0000050	<0.0000050	0.0000050
Thorium (Th)-Total	mg/L	<0.0000050	0.0000050	<0.0000050	0.0000050
Tin (Sn)-Total	mg/L	<0.00020	0.00020	<0.00020	0.00020
Titanium (Ti)-Total	mg/L	<0.00020	0.00020	<0.00020	0.00020
Tungsten (W)-Total	mg/L	<0.000010	0.000010	<0.000010	0.000010
Uranium (U)-Total	mg/L	<0.0000020	0.0000020	<0.0000020	0.0000020
Vanadium (V)-Total	mg/L	<0.000050	0.000050	<0.000050	0.000050
Yttrium (Y)-Total	mg/L	<0.0000050	0.0000050	<0.0000050	0.0000050
Zinc (Zn)-Total	mg/L	<0.0030	0.0030	<0.0030	0.0030
Zirconium (Zr)-Total	mg/L	<0.000050	0.000050	<0.000050	0.000050
Dissolved Metals					
Dissolved Mercury Filtration Location	-	FIELD	-	FIELD	-
Dissolved Metals Filtration Location	-	FIELD	-	FIELD	-
Aluminum (Al)-Dissolved	mg/L	<0.0010	0.0010	<0.0010	0.0010
Antimony (Sb)-Dissolved	mg/L	<0.000010	0.000010	<0.000010	0.000010

Table I-2 Quality Assurance and Quality Control of Field and Travel Blank Results

RESULTS OF ANALYSIS		Trip Blank		Field Blank	
Sample ID		TRIP BLANK	Detection Limits	JGT-06-I9S1-FB	Detection Limits
Date Sampled		-		26-APR-15	
Time Sampled		-		00:00	
ALS Sample ID		L1604978-2		L1604978-3	
Matrix		Water		Water	
Arsenic (As)-Dissolved	mg/L	<0.000050	0.000050	<0.000050	0.000050
Barium (Ba)-Dissolved	mg/L	<0.00010	0.00010	<0.00010	0.00010
Beryllium (Be)-Dissolved	mg/L	<0.0000050	0.0000050	<0.0000050	0.0000050
Bismuth (Bi)-Dissolved	mg/L	<0.000050	0.000050	<0.000050	0.000050
Boron (B)-Dissolved	mg/L	<0.0050	0.0050	<0.0050	0.0050
Cadmium (Cd)-Dissolved	mg/L	<0.0000050	0.0000050	<0.0000050	0.0000050
Calcium (Ca)-Dissolved	mg/L	<0.050	0.050	<0.050	0.050
Cesium (Cs)-Dissolved	mg/L	<0.0000050	0.0000050	<0.0000050	0.0000050
Chromium (Cr)-Dissolved	mg/L	<0.00050	0.00050	<0.00050	0.00050
Cobalt (Co)-Dissolved	mg/L	<0.000050	0.000050	<0.000050	0.000050
Copper (Cu)-Dissolved	mg/L	<0.00020	0.00020	<0.00020	0.00020
Gallium (Ga)-Dissolved	mg/L	<0.000050	0.000050	<0.000050	0.000050
Iron (Fe)-Dissolved	mg/L	<0.030	0.030	<0.030	0.030
Lead (Pb)-Dissolved	mg/L	<0.000050	0.000050	<0.000050	0.000050
Lithium (Li)-Dissolved	mg/L	<0.00020	0.00020	<0.00020	0.00020
Magnesium (Mg)-Dissolved	mg/L	<0.10	0.10	<0.10	0.10
Manganese (Mn)-Dissolved	mg/L	<0.00020	0.00020	<0.00020	0.00020
Mercury (Hg)-Dissolved	µg/L	<0.00050	0.00050	<0.00050	0.00050
Molybdenum (Mo)-Dissolved	mg/L	<0.000050	0.000050	<0.000050	0.000050
Nickel (Ni)-Dissolved	mg/L	<0.00020	0.00020	<0.00020	0.00020
Phosphorus (P)-Dissolved	mg/L	<0.30	0.30	<0.30	0.30
Potassium (K)-Dissolved	mg/L	<2.0	2.0	<2.0	2.0
Rhenium (Re)-Dissolved	mg/L	<0.0000050	0.0000050	<0.0000050	0.0000050
Rubidium (Rb)-Dissolved	mg/L	<0.000020	0.000020	<0.000020	0.000020
Selenium (Se)-Dissolved	mg/L	<0.00020	0.00020	<0.00020	0.00020
Silicon (Si)-Dissolved	mg/L	<0.050	0.050	<0.050	0.050
Silver (Ag)-Dissolved	mg/L	<0.0000050	0.0000050	<0.0000050	0.0000050
Sodium (Na)-Dissolved	mg/L	<2.0	2.0	<2.0	2.0
Strontium (Sr)-Dissolved	mg/L	<0.000050	0.000050	<0.000050	0.000050
Sulfur (S)-Dissolved	mg/L	-	-	-	-
Tellurium (Te)-Dissolved	mg/L	<0.000010	0.000010	<0.000010	0.000010
Thallium (Tl)-Dissolved	mg/L	<0.0000020	0.0000020	<0.0000020	0.0000020
Thorium (Th)-Dissolved	mg/L	<0.0000050	0.0000050	<0.0000050	0.0000050
Tin (Sn)-Dissolved	mg/L	<0.00020	0.00020	<0.00020	0.00020
Titanium (Ti)-Dissolved	mg/L	<0.00020	0.00020	<0.00020	0.00020
Tungsten (W)-Dissolved	mg/L	<0.000010	0.000010	<0.000010	0.000010
Uranium (U)-Dissolved	mg/L	<0.0000020	0.0000020	<0.0000020	0.0000020
Vanadium (V)-Dissolved	mg/L	<0.000050	0.000050	<0.000050	0.000050
Yttrium (Y)-Dissolved	mg/L	<0.0000050	0.0000050	<0.0000050	0.0000050

Table I-2 Quality Assurance and Quality Control of Field and Travel Blank Results

RESULTS OF ANALYSIS		Trip Blank		Field Blank	
Sample ID		TRIP BLANK	Detection Limits	JGT-06-I9S1-FB	Detection Limits
Date Sampled		-		26-APR-15	
Time Sampled		-		00:00	
ALS Sample ID		L1604978-2		L1604978-3	
Matrix		Water		Water	
Zinc (Zn)-Dissolved	mg/L	<0.0010	0.0010	<0.0010	0.0010
Zirconium (Zr)-Dissolved	mg/L	<0.000050	0.000050	<0.000050	0.000050
Sulfur Compounds					
Sulphide (as H_2S)	mg/L	**0.0030**	0.0015	**0.0028**	0.0015
Radiological Parameters					
Radium (Ra-226)	Bq/L	<0.0100	0.010	<0.0100	0.010

Note: **Bolded** values indicate exceedance of 20% RPD and/or detection in blank analysis
Phosphorus concentrations in the 2015 data were subject to contamination; results not presented.

ALS = ALS Environmental; ID = identification; % = percent; RPD = Relative Percent Difference; < = less than; µS/cm = microSiemens per centimetre; mg/L = milligrams per litre; µg/L = micrograms per litre; TCU = true colour units; NTU = nephelometric turbidity units; Bq/L = Becquerels per litre.

Table I-3 Quality Assurance and Quality Control of Duplicate Results and Relative Percentage Difference

RESULTS OF ANALYSIS		Duplicate				
Sample ID		Detection Limit		JGT-06-I5S1	JGT-06-I5S1-DUPLICATE	RPD (%)
Date Sampled		Sample	Duplicate	20-APR-15	20-APR-15	
Time Sampled				22:26	22:26	
ALS Sample ID				L1602560-1	L1602560-2	
Matrix				Water	Water	
Physical Tests						
Color, True	C.U.	2.0	2.0	2.1	3.6	-
Hardness (as $CaCO_3$)	mg/L	0.50	0.50	903	902	0.11
Total Suspended Solids	mg/L	3.0	3.0	8.2	4.4	-
Total Dissolved Solids	mg/L	10	10	1,910	2,080	8.5
Turbidity	NTU	0.10	0.10	4.46	3.08	37
Anions and Nutrients						
Alkalinity, Total (as $CaCO_3$)	mg/L	2.0	2.0	57.6	57.0	1.0
Ammonia, Total (as N)	mg/L	0.0050	0.0050	0.232	0.226	2.6
Bicarbonate (HCO_3)	mg/L	5.0	5.0	70.3	69.5	1.1
Carbonate (CO_3)	mg/L	5.0	5.0	<5.0	<5.0	-
Chloride (Cl)	mg/L	2.5	2.5	863	862	0.12
Conductivity (EC)	µS/cm	0.20	0.20	2,950	2,950	0
Fluoride (F)	mg/L	0.10	0.10	0.10	0.11	-
Hydroxide (OH)	mg/L	5.0	5.0	<5.0	<5.0	-
Nitrate and Nitrite (as N)	mg/L	0.0060	0.0060	<0.0060	<0.0060	-
Nitrate (as N)	mg/L	0.0060	0.0060	<0.0060	<0.0060	-
Nitrite (as N)	mg/L	0.0020	0.0020	<0.0020	<0.0020	-
Total Kjeldahl Nitrogen	mg/L	0.050	0.050	0.253	0.253	0
pH	pH	0.10	0.10	7.76	7.76	0
Orthophosphate-Dissolved (as P)	mg/L	-	-	-	-	-
Phosphorus (P)-Total Dissolved	mg/L	-	-	-	-	-
Phosphorus (P)-Total	mg/L	-	-	-	-	-
TDS (Calculated)	mg/L	-	-	1,530	1,500	2.0
Sulfate (SO_4)	mg/L	0.25	0.25	114	114	0
Sulphide (as S)	mg/L	0.0015	0.0015	0.368	0.223	**49**
Organic / Inorganic Carbon						
Dissolved Organic Carbon	mg/L	1.0	1.0	34.7	35.6	2.6
Total Organic Carbon	mg/L	1.0	1.0	37.1	36.7	1.1
Total Metals						
Aluminum (Al)-Total	mg/L	0.0030	0.0030	0.0041	0.0045	-
Antimony (Sb)-Total	mg/L	0.00010	0.000030	0.000106	0.000131	-
Arsenic (As)-Total	mg/L	0.00010	0.000050	0.000590	0.000455	**26**
Barium (Ba)-Total	mg/L	0.000050	0.00010	0.0106	0.0107	0.94
Beryllium (Be)-Total	mg/L	0.00010	0.0000050	<0.0000050	<0.0000050	-
Bismuth (Bi)-Total	mg/L	0.000050	0.000050	<0.000050	<0.000050	-
Boron (B)-Total	mg/L	0.010	0.010	0.132	0.154	15

Table I-3 Quality Assurance and Quality Control of Duplicate Results and Relative Percentage Difference

RESULTS OF ANALYSIS		Duplicate				
Sample ID		Detection Limit		JGT-06-I5S1	JGT-06-I5S1-DUPLICATE	RPD (%)
Date Sampled		Sample	Duplicate	20-APR-15	20-APR-15	
Time Sampled				22:26	22:26	
ALS Sample ID				L1602560-1	L1602560-2	
Matrix				Water	Water	
Cadmium (Cd)-Total	mg/L	0.0000050	0.0000050	<0.0000050	<0.0000050	-
Calcium (Ca)-Total	mg/L	0.050	0.050	198	202	2.0
Cesium (Cs)-Total	mg/L	0.000010	0.0000050	0.000136	0.000136	0
Chromium (Cr)-Total	mg/L	0.00010	0.00050	0.00305	0.00297	2.7
Cobalt (Co)-Total	mg/L	0.00010	0.000050	<0.000050	<0.000050	-
Copper (Cu)-Total	mg/L	0.00050	0.00050	0.00059	<0.00050	-
Gallium (Ga)-Total	mg/L	0.000050	0.000050	<0.000050	<0.000050	-
Iron (Fe)-Total	mg/L	0.010	0.030	0.599	0.635	5.8
Lead (Pb)-Total	mg/L	0.000050	0.000050	0.000079	0.000061	-
Lithium (Li)-Total	mg/L	0.0010	0.00040	0.0606	0.0618	2.0
Magnesium (Mg)-Total	mg/L	0.0050	0.10	99.6	100	0.4
Manganese (Mn)-Total	mg/L	0.00010	0.00020	0.0740	0.0738	0.27
Mercury (Hg)-Total	µg/L	0.00050	0.00050	<0.00050	<0.00050	-
Molybdenum (Mo)-Total	mg/L	0.000050	0.000050	0.00157	0.00168	6.8
Nickel (Ni)-Total	mg/L	0.00050	0.00020	0.00140	0.00155	10
Phosphorus (P)-Total	mg/L	-	-	-	-	-
Potassium (K)-Total	mg/L	0.050	2.0	9.0	9.5	5.4
Rhenium (Re)-Total	mg/L	0.0000050	0.0000050	<0.0000050	<0.0000050	-
Rubidium (Rb)-Total	mg/L	0.00020	0.000020	0.00735	0.00742	0.95
Selenium (Se)-Total	mg/L	0.000050	0.00020	0.00022	0.00042	-
Silicon (Si)-Total	mg/L	0.25	0.25	4.62	4.71	1.9
Silver (Ag)-Total	mg/L	0.000010	0.0000050	<0.0000050	<0.0000050	-
Sodium (Na)-Total	mg/L	0.050	2.0	236	240	1.7
Strontium (Sr)-Total	mg/L	0.00020	0.00020	3.93	3.94	0.25
Sulfur (S)-Total	mg/L	2.5	2.5	41.8	39.7	5.2
Tellurium (Te)-Total	mg/L	0.00020	0.000010	<0.000010	<0.000010	-
Thallium (Tl)-Total	mg/L	0.000010	0.0000050	<0.0000050	<0.0000050	-
Thorium (Th)-Total	mg/L	0.00010	0.00010	<0.0000050	<0.0000050	-
Tin (Sn)-Total	mg/L	0.00010	0.00020	<0.00020	<0.00020	-
Titanium (Ti)-Total	mg/L	0.00030	0.00020	<0.00020	<0.00020	-
Tungsten (W)-Total	mg/L	0.00010	0.000010	0.00798	0.00815	2.1
Uranium (U)-Total	mg/L	0.000010	0.0000020	0.000217	0.000217	0
Vanadium (V)-Total	mg/L	0.00050	0.000050	<0.000050	<0.000050	-
Yttrium (Y)-Total	mg/L	0.0000050	0.0000050	0.0000069	0.0000067	-
Zinc (Zn)-Total	mg/L	0.0030	0.0030	0.187	0.189	1.1
Zirconium (Zr)-Total	mg/L	0.0015	0.0015	<0.000050	0.000168	-
Dissolved Metals						

Table I-3 Quality Assurance and Quality Control of Duplicate Results and Relative Percentage Difference

RESULTS OF ANALYSIS		Duplicate				
Sample ID		Detection Limit		JGT-06-I5S1	JGT-06-I5S1-DUPLICATE	RPD (%)
Date Sampled		Sample	Duplicate	20-APR-15	20-APR-15	
Time Sampled				22:26	22:26	
ALS Sample ID				L1602560-1	L1602560-2	
Matrix				Water	Water	
Aluminum (Al)-Dissolved	mg/L	0.0010	0.0010	<0.0010	0.0036	-
Antimony (Sb)-Dissolved	mg/L	0.000010	0.000010	0.000055	0.000062	12
Arsenic (As)-Dissolved	mg/L	0.000050	0.000050	0.000340	0.000302	12
Barium (Ba)-Dissolved	mg/L	0.00010	0.00010	0.00863	0.00864	0.12
Beryllium (Be)-Dissolved	mg/L	0.0000050	0.0000050	<0.0000050	<0.0000050	-
Bismuth (Bi)-Dissolved	mg/L	0.000050	0.000050	<0.000050	<0.000050	-
Boron (B)-Dissolved	mg/L	0.0050	0.0050	0.133	0.148	11
Cadmium (Cd)-Dissolved	mg/L	0.0000050	0.0000050	<0.0000050	<0.0000050	-
Calcium (Ca)-Dissolved	mg/L	0.050	0.050	204	201	1.5
Cesium (Cs)-Dissolved	mg/L	0.0000050	0.0000050	0.000132	0.000138	4.4
Chromium (Cr)-Dissolved	mg/L	0.00050	0.00050	<0.00050	<0.00050	-
Cobalt (Co)-Dissolved	mg/L	0.000050	0.000050	<0.000050	<0.000050	-
Copper (Cu)-Dissolved	mg/L	0.00020	0.00020	<0.00020	<0.00020	-
Gallium (Ga)-Dissolved	mg/L	0.000050	0.000050	<0.000050	<0.000050	-
Iron (Fe)-Dissolved	mg/L	0.030	0.030	0.383	0.380	0.79
Lead (Pb)-Dissolved	mg/L	0.000050	0.000050	<0.000050	<0.000050	-
Lithium (Li)-Dissolved	mg/L	0.00020	0.00020	0.0588	0.0588	0
Magnesium (Mg)-Dissolved	mg/L	0.10	0.10	100	101	1.0
Manganese (Mn)-Dissolved	mg/L	0.00020	0.00020	0.0726	0.0718	1.1
Mercury (Hg)-Dissolved	ug/L	0.00050	0.00050	<0.00050	<0.00050	-
Molybdenum (Mo)-Dissolved	mg/L	0.000050	0.000050	0.00120	0.00128	6.5
Nickel (Ni)-Dissolved	mg/L	0.00020	0.00020	<0.00020	<0.00020	-
Phosphorus (P)-Dissolved	mg/L	-	-	-	-	-
Potassium (K)-Dissolved	mg/L	2.0	2.0	11.4	11.4	0
Rhenium (Re)-Dissolved	mg/L	0.0000050	0.0000050	<0.0000050	<0.0000050	-
Rubidium (Rb)-Dissolved	mg/L	0.000020	0.000020	0.00707	0.00713	0.85
Selenium (Se)-Dissolved	mg/L	0.00020	0.00020	<0.00020	0.00069	-
Silicon (Si)-Dissolved	mg/L	0.25	0.25	4.64	4.60	0.87
Silver (Ag)-Dissolved	mg/L	0.0000050	0.0000050	<0.0000050	<0.0000050	-
Sodium (Na)-Dissolved	mg/L	2.0	2.0	240	237	1.3
Strontium (Sr)-Dissolved	mg/L	0.000050	0.000050	3.79	3.63	4.3
Sulfur (S)-Dissolved	mg/L	2.5	2.5	36.7	36.9	0.54
Tellurium (Te)-Dissolved	mg/L	0.000010	0.000010	<0.000010	<0.000010	-
Thallium (Tl)-Dissolved	mg/L	0.0000020	0.0000020	<0.0000020	<0.0000020	-
Thorium (Th)-Dissolved	mg/L	0.00010	0.00010	<0.0000050	<0.0000050	-
Tin (Sn)-Dissolved	mg/L	0.00020	0.00020	<0.00020	<0.00020	-
Titanium (Ti)-Dissolved	mg/L	0.00020	0.00020	<0.00020	<0.00020	-

Table I-3 Quality Assurance and Quality Control of Duplicate Results and Relative Percentage Difference

RESULTS OF ANALYSIS		Duplicate				
Sample ID		Detection Limit		JGT-06-I5S1	JGT-06-I5S1-DUPLICATE	RPD (%)
Date Sampled		Sample	Duplicate	20-APR-15	20-APR-15	
Time Sampled				22:26	22:26	
ALS Sample ID				L1602560-1	L1602560-2	
Matrix				Water	Water	
Tungsten (W)-Dissolved	mg/L	0.000010	0.000010	0.00803	0.00898	11
Uranium (U)-Dissolved	mg/L	0.0000020	0.0000020	0.000204	0.000215	5.3
Vanadium (V)-Dissolved	mg/L	0.000050	0.000050	<0.000050	<0.000050	-
Yttrium (Y)-Dissolved	mg/L	0.0000050	0.0000050	0.0000060	0.0000162	-
Zinc (Zn)-Dissolved	mg/L	0.0010	0.0010	0.0012	0.0011	-
Zirconium (Zr)-Dissolved	mg/L	0.0015	0.0015	<0.000050	<0.000050	-
Radiological Parameters						
Radium (Ra-226)	Bq/L	0.0090	0.0060	0.3	0.27	11

Note: **Bolded** values indicate exceedance of 20% RPD and/or detection in blank analysis
Phosphorus concentrations in the 2015 data were subject to contamination; results not presented.

ALS = ALS Environmental; ID = identification; % = percent; RPD = Relative Percent Difference; < = less than; µS/cm = microSiemens per centimetre; mg/L = milligrams per litre; µg/L = micrograms per litre; TCU = true colour units; NTU = nephelometric turbidity units; Bq/L = Becquerels per litre; < = less than.

As a global, employee-owned organisation with over 50 years of experience, Golder Associates is driven by our purpose to engineer earth's development while preserving earth's integrity. We deliver solutions that help our clients achieve their sustainable development goals by providing a wide range of independent consulting, design and construction services in our specialist areas of earth, environment and energy.

For more information, visit golder.com

Africa	+ 27 11 254 4800
Asia	+ 86 21 6258 5522
Australasia	+ 61 3 8862 3500
Europe	+ 44 1628 851851
North America	+ 1 800 275 3281
South America	+ 56 2 2616 2000

solutions@golder.com
www.golder.com

Golder Associates Ltd.
Suite 200 - 2920 Virtual Way
Vancouver, BC, V5M 0C4
Canada
T: +1 (604) 296 4200

Golder Associates