



TECHNICAL MEMORANDUM

DATE February 9, 2012

PROJECT No. 11-1127-0081

TO Alan Sexton
GeoVector Management Inc.

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SURFACE WATER QUALITY MONITORING PROGRAM AMER LAKE URANIUM PROPERTY, NUNAVUT

1.0 INTRODUCTION

Uranium North Resources (Uranium North) is doing exploration drilling at the Amer Lake property in Nunavut, a sandstone-hosted uranium deposit.

GeoVector Consultants were on site for approximately two months beginning in early June 2011 supervising drilling activities. Golder Associates Ltd. (Golder) was retained by GeoVector Management Inc. (GeoVector) to provide support services for surface water sampling related to the exploration drilling activities at Amer Lake Uranium Project, Nunavut. The services provided include (1) development of a plan to sample surface water near the drilling activities, and (2) compilation and analysis of laboratory data to document existing site water quality and the effects of exploration drilling on surface water quality, if any.

This Technical Memorandum describes the surface water sampling plan and presents water quality data from samples collected in the summer of 2011.

2.0 FIELD PROGRAM

The aim of the sampling plan was to define possible effects on water quality from drilling activities. Drilling locations were subdivided into 4 zones based on ground topography and apparent water catchment areas from maps provided by GeoVector: Zone A, B, C, and D as shown in Figure 1. Samples were collected within each zone by GeoVector from water bodies located upslope and downslope of drilling activities, to represent water quality up-gradient, cross-gradient and/or down-gradient of the drilling locations. Sampling took place from July 26 to 27, 2011 and from July 31 to August 2, 2011. A total of 24 surface water samples were collected. Sampling locations and dates are summarized in Table 1 and are shown on Figure 1.

Locations C1 and D1 were dry at the time of drilling and as such, no samples were collected at these two locations. The field blank sample was collected in Amer Lake. Samples A1b and B1b were collected at upstream locations A1 and B1 to represent water quality before drilling activities.

Each set of surface water sample subject to general chemistry and metals analysis was collected, prepared and preserved in the field as per follows:

- One 250 millilitre (mL) plastic bottle, triple rinsed and preserved with nitric acid for analysis of total metals;
- One 500 mL plastic bottle, triple rinsed and unpreserved for the analysis of alkalinity, conductivity, anions and pH;

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- One 500 mL plastic bottle, triple rinsed and preserved with sulphuric acid for the analysis of chemical oxygen demand (COD) and nutrients (total Kjeldahl nitrogen and ammonia); and,
- One 100 mL amber glass bottle, not rinsed and preserved with hydrochloric acid for the analysis of total organic carbon (TOC).

Water samples were also collected at the camp water supply source. These were collected in a 300 mL plastic bottle preserved with sodium thiosulfate.

Samples for radiological analysis were collected in a 1 L bottle preserved with 17.5% nitric acid.

All samples subject to general chemistry and metals, and microbiological analysis were entered on a Chain of Custody form and were shipped to ALS Laboratory in Edmonton, Alberta. Samples subject to radiological analysis were entered on a Chain of Custody Form and were delivered to SRC Analytical Laboratory in Saskatoon, Saskatchewan.

Due to shipping delays and flight issues, samples collected on July 31, 2011 were received at laboratories on August 12, 2011. This period exceeds the holding time for microbiology tests.

3.0 RESULTS

The results of the surface water analyses collected in July and August 2011 are presented in Tables 2, 3 and 4. Laboratory Analytical certificates are included Attachment 1.

3.1 Comparative Guidelines

Surface water chemistry data are compared to the Canadian Council of Ministers for the Environment (CCME), Guidelines for the Protection of Freshwater Aquatic Life, updated December 2007. Guideline value for uranium came effective in 2011 (CCME, 2011) and is used in this study.

Surface water radiological data are compared to Canadian Drinking Water Quality Guideline – Technical document, May 2009. The guideline technical document specifies that "*Compliance with the guidelines may be inferred if the measurements are less than 0.5 Bq/L for gross alpha activity and less than 1 Bq/L for gross beta activity*" (Health Canada, 2009).

Surface water microbiological analysis data is compared to Canadian Drinking Water Quality Guidelines, May 2008. The guideline value for E.Coli and total coliforms is zero count of per 100 mL of water sample (Health Canada, 2008).

3.2 General Chemistry and Metals Analysis

Surface water samples are characterized by circum-neutral pH values around 8.0, low salinity (alkalinity less than 61 mg/L, chloride less than 2 mg/L, low sodium and other major ions), and metal concentrations that are generally below laboratory detection limits, with few exceptions. These exceptions include barium, iron and manganese which occur, nonetheless, at concentrations that are well below CCME aquatic life water quality guidelines. Few exceedances to these guidelines are observed: chloride at most sample locations, both before and after drilling, total copper at C2 after drilling and aluminum at C2 before and after drilling as well as aluminum at D3 after drilling as well as the field blank. Aluminum concentration in the field blank sample was slightly higher than the CCME guideline value (i.e., 0.012 mg/L compared to 0.010 mg/L guideline value).

The few parameters that were detectable show consistent constituent concentrations before and after drilling activities, with some elements showing very slight increases or decreases. The low magnitude of differences is

attributable to natural and/or analytical variability. It is also noted that parameter concentrations in the samples collected at up-gradient locations (e.g., A1, B1 etc.) were generally consistent with those collected at cross-gradient or down-gradient locations (e.g., A2, B2, C2, D2 etc.). Surface water quality before drilling is represented by samples A1b and B1b; their results suggest that water quality is consistent before, during and after drilling activities.

3.3 Radiological Analysis

Gross alpha and gross beta activity (concentration) were used to screen surface water samples for radioactivity. Alpha emissions are generally associated with naturally occurring radionuclides, whereas beta emissions are generally associated with radiologically enriched (man made) materials. Gross alpha and gross beta measurements for the surface water samples were well below the suggested values specified in Canadian Drinking Water Quality Guidelines technical document. Results suggest the waters sampled are not naturally or artificially enriched in radiological elements. Thus, no further radioisotope-specific analysis were completed.

3.4 Microbiological Analysis

Three samples from the camp supply water source were collected on July 27, 2011 and another two samples were collected on August 2, 2011. E.Coli. was detected at 1 MPN/100 mL in one sample collected on July 27, 2011 (AMER-WSII-3), E.Coli. counts in all other samples were below laboratory detection limit (i.e., <1 MPN/100mL). All five samples had detectable total coliforms, with higher values in samples collected on July 27, 2011 where results are above 100 MPN/100 mL. The elevated total coliform values correspond to the samples for which holding time was exceeded by 11 days over which period coliform bacteria may have proliferated in the sample bottle and thus, may not reflect the actual bacterial count at the time of sampling. The presence of total coliforms is not a reliable indicator of the presence of faecal contamination, nonetheless, the cause of their presence is recommended to be investigated by additional sampling and analysis within the prescribed holding time (Health Canada, 2006).

3.5 Quality Assurance/Quality Control

As part of the Quality Assurance/Quality Control (QA/QC) program, two duplicate water samples and one field blank were collected at locations of GeoVector's choice. The duplicate samples and field blank were submitted for analysis for the same general chemistry and metals suite of parameters as specified in Table 1. The relative percent difference (RPD) between the sample and its duplicate were calculated and presented in Table 5 at the end of the text.

RPD were calculated following USEPA Guidelines for Inorganic Data Review (USEPA, 1994). In keeping with this guidance, the surface water sample analysis data were compared to an RPD of 20%. Parameters report RPD values greater than 20% include: chloride, TOC, iron, magnesium and uranium for samples collected at B2 and alkalinity, chloride, conductivity, TOC, barium, calcium, iron, and manganese for sample collected at C2.

Despite some discrepancy in the data, results of both the original sample and duplicate sample at location B2 were lower than CCME guideline and thus do not affect the overall interpretation. For surface water samples collected at location C2, several parameters were not considered acceptable under USEPA guidelines. However, concentrations for these parameters (e.g., aluminum, copper, chloride, and iron etc.) are very close to the CCME guideline values. Therefore no systematic error is suspected for chemical parameters. Bacteriological parameters, specifically total coliform may not represent actual site water quality bacteriological population.

4.0 CONCLUSION

Surface water samples were collected at various locations at Amer Lake Uranium Project, Nunavut in July 2011. At locations up-gradient, cross-gradient and down-gradient of drilling locations, constituent concentrations in samples collected prior to, during and after drilling activities are very consistent. Water quality from up-gradient locations are also consistent that at cross-gradient and down-gradient locations. Surface water samples have low salinity and are naturally slightly alkaline. Analytical results were compared to CCME Water Quality Guidelines and showed that aluminum and copper concentrations are slightly above CCME Guidelines. There appears to have been no negative effects to water quality from drilling activities.

GOLDER ASSOCIATES LTD.



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Attachments: Tables 1, 2, 3, 4 and 5

Figure 1

Attachment 1 - Laboratory Analytical Certificates

References

- Canadian Council of Ministers of the Environment, 2007. Canadian Water Quality Guidelines for the Protection of Aquatic Life. Summary Table, Updated 7.1, December 2007.
- Canadian Council of Ministers of the Environment, 2011. Canadian Water Quality Guidelines for the Protection of Aquatic Life: Uranium.
- Health Canada, 2006. Guidelines for Canadian Drinking Water Quality: Guideline Technical Document – Total Coliforms, prepared by the Federal-Provincial-Territorial Committee on Drinking Water of the Federal-Provincial-Territorial Committee on Health and the Environment. Ottawa, Ontario, February 2006.
- Health Canada, 2008. Guidelines for Canadian Drinking Water Quality Summary Table. Prepared by the Federal-Provincial-Territorial Committee on Drinking Water of the Federal-Provincial-Territorial Committee on Health and the Environment. Ottawa, Ontario, May 2008.
- Health Canada, 2009. Guidelines for Canadian Drinking Water Quality, Guideline Technical Document, Radiological Parameters. Prepared by the Federal-Provincial-Territorial Committee on Drinking Water of the Federal-Provincial-Territorial Committee on Health and the Environment. Ottawa, Ontario, May 2009.
- U.S. Environmental Protection Agency (USEPA), 1994. USEPA Contract Laboratory Program, National Functional Guidelines for Inorganic Data Review. EPA 9240.1-05-01.

Table 1: List of Surface Water Samples, Amer Lake Uranium Project

Sampling Date	Sample Identification	General Chemistry Analysis ¹	Radiological Analysis ²	Bacteriological Analysis ³
July 26 - 27, 2011 (During drilling)	A1	X	X	X
	A2	X	X	X
	B1	X	X	X
	B2	X	X	X
	C2	X	X	X
	D2	X	X	X
	D3	X	X	X
	Duplicate-B2	X	--	--
	Field blank	X	--	--
	AMER-WSII-2 ^a	--	--	X
	AMER-WSII-3 ^a	--	--	X
	AMER-WSII-4 ^a	--	--	X
July 31 – Aug 2, 2011 (After drilling)	A1	X	X	X
	A1b ^b	X	X	X
	A2	X	X	X
	B1	X	X	X
	B1b ^b	X	X	X
	B2	X	X	X
	C2	X	X	X
	D2	X	X	X
	D3	X	X	X
	Duplicate-C2	X	--	--
	bacteriological sample ^c	--	--	X
	bacteriological sample ^c	--	--	X

Notes:

¹ Includes alkalinity, conductivity, anions (bromide, chloride, fluoride, sulphate), pH, COD and nutrients (ammonia, total Kjeldahl nitrogen), TOC, and total metals (aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, calcium, chromium, cobalt, copper, iron, lead, lithium, magnesium, manganese, mercury, molybdenum, nickel, potassium, selenium, silver, sodium, thallium, tin, titanium, uranium, vanadium and zinc).

² Includes gross beta and gross alpha.

³ Includes escherichia coli and total coliforms.

^a These samples were collected at camp water supply locations on July 27, 2011

^b A1b and B1b was collected upstream of A1 and B1, respectively.

^c These two samples were collected at camp water supply locations on August 2, 2011.

Samples collected at the same location used the same identification name during the two sampling sessions.

Table 2: Surface Water Analytical Results - General Chemistry and Metals Analysis
Amer Lake Uranium Project, Nunavut

Sample Location	Unit	Method Detection Limit	CCME Water Quality Guidelines ^a	A1b	B1b	A1		A2		B1		B2		C2		D2		D3		Field Blank
Sampling Date				31/07/2011 (Upstream location considered as before drilling)	31/07/2011 (Upstream location considered as before drilling)	26-Jul-11 (During Drilling)	31-July-11 (After Drilling)	26-Jul-11												
Anions and Nutrients																				
Alkalinity, Total (as CaCO ₃)	mg/L	5.0		60.8	38.5	38.1	56.7	36.7	37.8	37.5	38.4	34.2	39.7	49	54.5	47.8	46.9	10.7	10.1	6.4
Ammonia-N	mg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Bromide (Br)	mg/L	0.1		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	
Chemical Oxygen Demand	mg/L	10		14	<10	12	12	<10	<10	<10	<10	<10	<10	<10	15.0	20.0	12.0	16	<10	<10
Chloride (Cl)	mg/L	0.50	0.64 ¹¹	<0.50	1.15	0.51	<0.50	0.60	0.61	1.13	1.18	0.92	1.18	0.76	0.91	0.96	0.99	0.82	0.84	0.67
Conductivity (EC)	µS/cm	0.20		120.0	79.0	71.8	108	70.9	74.2	74.4	78.3	67.6	80.5	96.6	111	96.9	96.8	32.7	33	16.8
Fluoride (F)	mg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Sulfate (SO ₄)	mg/L	0.50		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	00.6	0.98	0.12	1.18	3.7	3.5	1.1
Total Kjeldahl Nitrogen	mg/L	0.20		<0.20	<0.20	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.59	0.35	0.3	0.25	<0.20	<0.20	<0.20
Total Organic Carbon	mg/L	1.0		4.0	2.9	5.8	4.8	3.1	3.2	3.5	2.8	3.9	3.3	5.7	7	5.7	2.6	2.1	2.9	
pH	pH	0.10	6.5-9	7.92	7.86	7.88	7.91	8.00	7.96	8.05	7.83	7.94	7.94	8.09	8.01	8.13	8.02	7.54	7.47	7.17
Total Metals																				
Aluminum (Al)-Total	mg/L	0.010	0.005-0.1 ⁵	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.017	0.114	<0.010	<0.010	<0.010	0.027	0.012
Antimony (Sb)-Total	mg/L	0.00040		<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	
Arsenic (As)-Total	mg/L	0.00040	0.005 ⁶	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	
Barium (Ba)-Total	mg/L	0.0030		0.0042	0.0090	<0.0030	0.0038	0.0036	0.0038	0.0090	0.0071	0.0092	0.0048	0.0060	0.0039	0.0042	<0.0030	0.0032	0.0031	
Beryllium (Be)-Total	mg/L	0.0010		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Boron (B)-Total	mg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Cadmium (Cd)-Total	mg/L	0.000050	0.000017	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Calcium (Ca)-Total	mg/L	0.50		14.9	11.40	10.4	8.87	9.39	10.9	11.7	9.76	11.6	14.3	17	13.1	13.0	3.2	3.37	1.64	
Chromium (Cr)-Total	mg/L	0.00500	0.0010 ⁶	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0055	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	
Cobalt (Co)-Total	mg/L	0.0020		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
Copper (Cu)-Total	mg/L	0.0010	0.002-0.004 ⁷	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0011	0.0024	<0.0010	<0.0010	<0.0010	<0.0010	
Iron (Fe)-Total	mg/L	0.010	0.300	0.064	0.013	0.076	0.085	0.014	0.017	0.013	0.014	0.016	0.014	0.438	0.761	0.096	0.124	0.019	0.061	0.026
Lead (Pb)-Total	mg/L	0.00010	0.001-0.007 ⁸	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00013	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Lithium (Li)-Total	mg/L	0.0100		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Magnesium (Mg)-Total	mg/L	0.10		3.46	1.84	2.23	2.90	2.89	2.77	1.83	1.88	1.80	1.92	2.59	3.01	3.15	3.16	1.49	1.52	0.74
Manganese (Mn)-Total	mg/L	0.0020		0.0211	<0.020	0.021	0.028	0.004	<0.020	<0.020	<0.020	<0.020	<0.020	0.015	0.015	0.015	0.021	0.003	0.010	0.0027
Mercury (Hg)-Total	mg/L	0.00010	0.000026																	

Table 3: Surface Water Analytical Results - Radiological Analysis
Amer Lake Uranium Project, Nunavut

Sample Location	Unit	Canadian Drinking Water Quality Guideline ^a	A1b	A1		A2		B1b	B1		B2		C2		D2		D3	
			31-July-11 (After Drilling)	26-Jul-11 (During Drilling)	31-July-11 (After Drilling)	26-Jul-11 (During Drilling)	31-July-11 (After Drilling)	31-July-11 (After Drilling)	26-Jul-11 (During Drilling)	31-July-11 (After Drilling)								
PARAMETERS																		
Gross alpha	Bq/L	0.5	0.06±0.03	0.03±0.02	0.07±0.04	0.05±0.02	0.05±0.03	0.03±0.02	0.05±0.02	<0.02	0.13±0.05	0.09±0.04	0.10±0.04	0.04±0.03	0.04±0.02	0.03±0.03	0.02±0.01	0.02±0.01
Gross beta	Bq/L	1	0.09±0.05	0.06±0.01	0.09±0.05	0.08±0.02	0.07±0.04	0.08±0.04	0.1±0.02	0.09±0.05	0.14±0.02	0.08±0.04	0.10±0.02	0.06±0.04	0.09±0.02	<0.03	0.04±0.01	0.05±0.03

Notes:

Bq/L - Becquerel per Litre

a: Guidelines for Canadian Drinking Water Quality: Guideline Technical Document - Radiological

Parameters, May 2009. Compliance with the guidelines may be inferred if the measurements are less than 0.5

Bq/L for gross alpha activity and less than 1 Bq/L for gross beta activity.

Table 4: Surface Water Analytical Results - Microbiological Analysis
Amer Lake Uranium Project, Nunavut

Sample Location	Unit	Method Detection Limit	Canadian Drinking Water Quality Guidelines ^a	AMER-WSII-2 (camp)	AMER-WSII-3 (camp)	AMER-WSII-4 (camp)	Sample 1 (camp)	Sample 2 (camp)
Sampling Date				27/07/2011 (During Drilling)	27/07/2011 (During Drilling)	27/07/2011 (During Drilling)	02/08/2011 (After Drilling)	02/08/2011 (After Drilling)
PARAMETERS								
Escherichia coli.	MPN/100mL	1	0 per 100 mL	<1	<u>1</u>	<1	<1	<1
Total Coliforms	MPN/100mL	1	0 per 100 mL	<u>109</u>	<u>129</u>	<u>194</u>	<u>20</u>	<u>34</u>

Notes:

a. Guidelines for Canadian Drinking Water Quality Summary Table, May 2008.

bold underlined: Values exceeding CCME Water Quality Guidelines

Table 5: Surface Water Analytical Results - QA/QC
Amer Lake Uranium Project, Nunavut

Sample Location	Unit	Method Detection Limit	CCME Water Quality Guidelines ^a	B2	Dup of B2		C2	Dup of C2		Field Blank
				26-Jul-11 (During Drilling)	26-Jul-11 (During Drilling)	RPD (%)	31-July-11 (After Drilling)	31-July-11 (After Drilling)	RPD	26-Jul-11
Anions and Nutrients										
Alkalinity, Total (as CaCO ₃)	mg/L	5.0		38.1	37.6	1.3	36.7	54	38	6.4
Ammonia-N	mg/L	0.050		<0.050	<0.050	nc	<0.050	<0.050	nc	<0.050
Bromide (Br)	mg/L	0.1		<0.10	<0.10	nc	<0.10	<0.10	nc	<0.10
Chemical Oxygen Demand	mg/L	10		12	<10	nc	<10	12.0	nc	<10
Chloride (Cl)	mg/L	0.50		0.51	1.11	74	0.60	0.81	30	0.67
Conductivity (EC)	µS/cm	0.20		71.8	74	3.6	70.9	109.0	42	16.8
Fluoride (F)	mg/L	0.050		<0.050	<0.050	nc	<0.050	<0.050	nc	<0.050
Sulfate (SO ₄)	mg/L	0.50		<0.50	<0.50	nc	<0.50	00.7	nc	1.1
Total Kjeldahl Nitrogen	mg/L	0.20		0.20	<0.20	nc	<0.20	0.26	nc	<0.20
Total Organic Carbon	mg/L	1.0		5.8	3.0	64	3.1	5.9	62	2.9
pH	pH	0.10	6.5-9	7.88	8.05	2.1	8.00	8.05	0.6	7.17
Total Metals										
Aluminum (Al)-Total	mg/L	0.010	0.005-0.1 ^b	<0.010	<0.010	nc	<0.010	0.187	nc	0.012
Antimony (Sb)-Total	mg/L	0.00040		<0.00040	<0.00040	nc	<0.00040	<0.00040	nc	<0.00040
Arsenic (As)-Total	mg/L	0.00040	0.005 ^c	<0.00040	<0.00040	nc	<0.00040	<0.00040	nc	<0.00040
Barium (Ba)-Total	mg/L	0.0030		<0.0030	0.0089	nc	0.0036	0.0077	73	0.0031
Beryllium (Be)-Total	mg/L	0.0010		<0.0010	<0.0010	nc	<0.0010	<0.0010	nc	<0.0010
Boron (B)-Total	mg/L	0.050		<0.050	<0.050	nc	<0.050	<0.050	nc	<0.050
Cadmium (Cd)-Total	mg/L	0.000050	0.000017	<0.000050	<0.000050	nc	<0.000050	<0.000050	nc	<0.000050
Calcium (Ca)-Total	mg/L	0.50		10.4	10.8	3.8	8.87	17.5	65	1.64
Chromium (Cr)-Total	mg/L	0.00500	0.0010 ^d	<0.0050	<0.0050	nc	<0.0050	<0.0050	nc	<0.0050
Cobalt (Co)-Total	mg/L	0.0020		<0.0020	<0.0020	nc	<0.0020	<0.0020	nc	<0.0020
Copper (Cu)-Total	mg/L	0.0010	0.002-0.004 ^e	<0.0010	<0.0010	nc	<0.0010	0.0028	nc	<0.0010
Iron (Fe)-Total	mg/L	0.010	0.300	0.076	0.015	134	0.014	0.976	194	0.026
Lead (Pb)-Total	mg/L	0.00010	0.001-0.007 ^f	<0.00010	<0.00010	nc	<0.00010	0.00029	nc	<0.00010
Lithium (Li)-Total	mg/L	0.0100		<0.010	<0.010	nc	<0.010	<0.010	nc	<0.010
Magnesium (Mg)-Total	mg/L	0.10		2.23	1.81	21	2.69	3.11	14.5	0.74
Manganese (Mn)-Total	mg/L	0.0020		0.021	<0.0020	nc	0.004	0.030	153	0.0027
Mercury (Hg)-Total	mg/L	0.00010	0.000026	<0.00010	<0.00010	nc	<0.00010	<0.00010	nc	<0.00010
Molybdenum (Mo)-Total	mg/L	0.0050	0.073 ^g	<0.0050	<0.0050	nc	<0.0050	<0.0050	nc	<0.0050
Nickel (Ni)-Total	mg/L	0.0020	0.025-0.150 ^h	<0.0020	<0.0020	nc	<0.0020	<0.0020	nc	<0.0020
Potassium (K)-Total	mg/L	0.10		0.49	0.59	19	0.43	0.40	7.2	0.18
Selenium (Se)-Total	mg/L	0.00040	0.00100	<0.00040	<0.00040	nc	<0.00040	<0.00040	nc	<0.00040
Silver (Ag)-Total	mg/L	0.00010	0.00010	<0.00010	<0.00010	nc	<0.00010	<0.00010	nc	<0.00010
Sodium (Na)-Total	mg/L	1.0		<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0
Thallium (Tl)-Total	mg/L	0.00010	0.00080	<0.00010	<0.00010	nc	<0.00010	<0.00010	nc	<0.00010
Tin (Sn)-Total	mg/L	0.050		<0.050	<0.050	nc	<0.050	<0.050	nc	<0.050
Titanium (Ti)-Total	mg/L	0.0010		<0.0010	<0.0010	nc	<0.0010	0.0056	nc	<0.0010
Uranium (U)-Total	mg/L	0.00010	0.015-0.033 ⁱ	0.00069	0.00139	67	0.00147	0.00174	17	<0.00010
Vanadium (V)-Total	mg/L	0.0010		<0.0010	<0.0010	nc	<0.0010	<0.0010	nc	<0.0010
Zinc (Zn)-Total	mg/L	0.0040	0.0300	<0.0040	<0.0040	nc	<0.0040	0.0056	nc	<0.0040

Notes:

a. Canadian Council of Ministers of the Environment, 2007. Canadian water quality guidelines for the protection of aquatic life: Summary table. Updated December 2007.

bold underlined: Values exceeding CCME Water Quality Guidelines

nc: not calculated

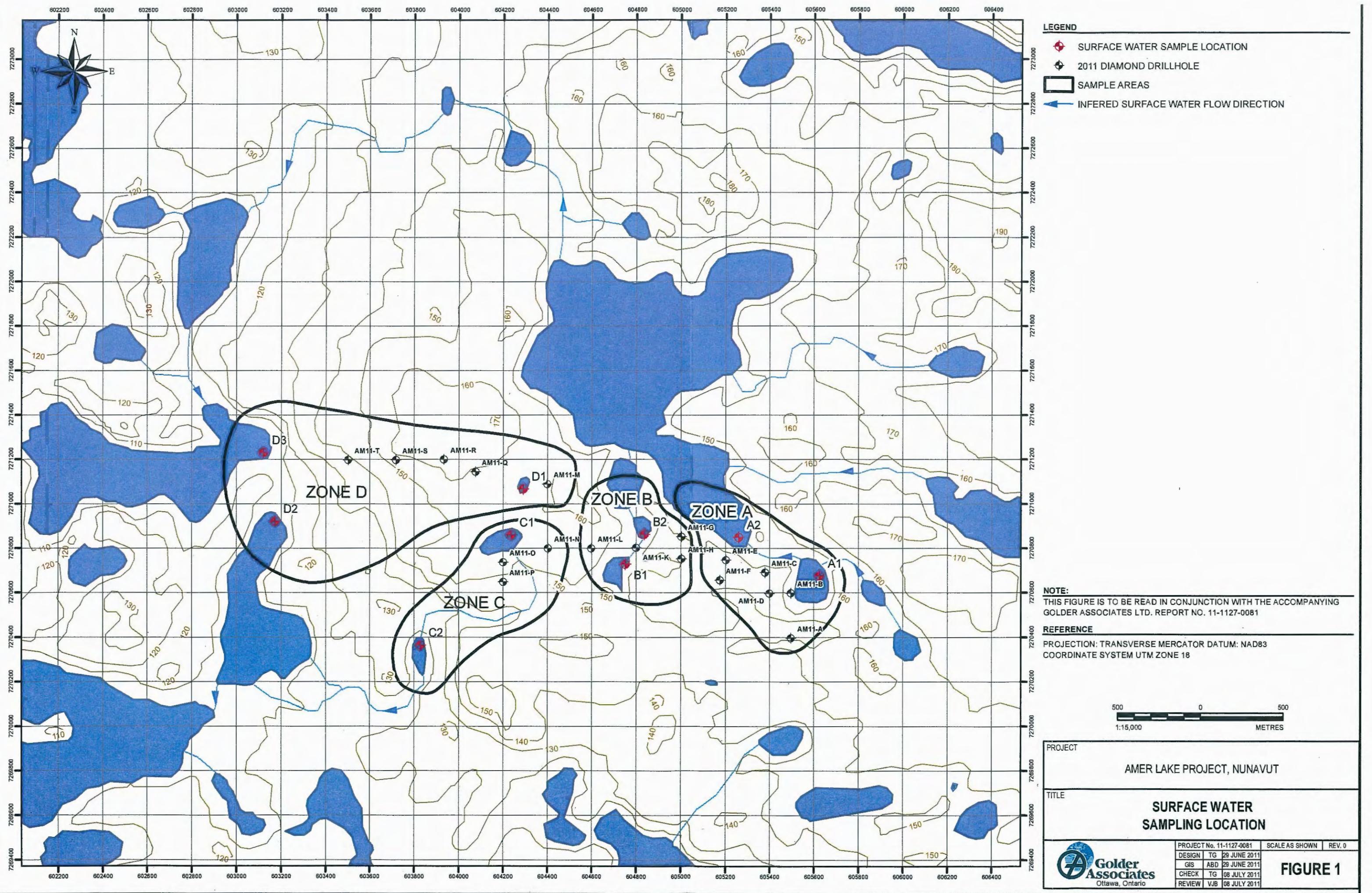
1. Interim guideline.

2. For protection from direct toxic effects; the guidelines do not consider indirect effects due to eutrophication.

3. Guidelines are expressed in µg nitrate-L⁻¹. These values are equivalent to 2900 µg nitrate-nitrogen-L⁻¹, and 3600 µg nitrate-nitrogen-L⁻¹, for freshwater and marine respectively.4. Guideline is expressed as µg nitrite-nitrogen-L⁻¹. This value is equivalent to 197 µg nitrite-L⁻¹.5. Aluminium guideline = 5 µg·L⁻¹ at pH <6.5= 100 µg·L⁻¹ at pH ≥6.5

6. Substance has been re-evaluated since CCREM 1987 + Appendixes. Either a new guideline has been derived or insufficient data existed to derive a new guideline.

7. Copper guideline = 2 µg·L⁻¹ at a water hardness of 0–120 mg·L⁻¹ (soft to medium) as CaCO₃= 3 µg·L⁻¹ at a water hardness of 120–180 mg·L⁻¹ (hard) as CaCO₃= 4 µg·L⁻¹ at a water hardness >180 mg·L⁻¹ (very hard) as CaCO₃8. Lead guideline = 1 µg·L⁻¹ at a water hardness of 0–60 mg·L⁻¹ (soft) as CaCO₃= 2 µg·L⁻¹ at a water hardness of 60–120 mg·L⁻¹ (medium) as CaCO₃= 4 µg·L⁻¹ at a water hardness of 120–180 mg·L⁻¹ (hard) as CaCO₃= 7 µg·L⁻¹ at a water hardness >180 mg·L⁻¹ (very hard) as CaCO₃9. Nickel guideline = 25 µg·L⁻¹ at a water hardness of 0–60 mg·L⁻¹ (soft) as CaCO₃= 65 µg·L⁻¹ at a water hardness of 60–120 mg·L⁻¹ (medium) as CaCO₃= 110 µg·L⁻¹ at a water hardness of 120–180 mg·L⁻¹ (hard) as CaCO₃= 150 µg·L⁻¹ at a water hardness >180 mg·L⁻¹ (very hard) as CaCO₃10. Uranium guideline = 15 µg·L⁻¹ for long term exposure= 33 µg·L⁻¹ for short term exposure



ATTACHMENT 1

Laboratory Analytical Certificates



GOLDER ASSOCIATES LTD.
ATTN: Valerie Bertrand
32 Steacie Drive
Kanata ON K2K 2A9

Date Received: 03-AUG-11
Report Date: 12-AUG-11 08:50 (MT)
Version: FINAL

Client Phone: 613-592-9600

Certificate of Analysis

Lab Work Order #: L1039825

Project P.O. #: 11-1127-0081
Job Reference: AMER LAKE
C of C Numbers: 1
Legal Site Desc:

Shannon

Shannon Luchka
Account Manager

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ADDRESS: 9936-67 Avenue, Edmonton, AB T6E 0P5 Canada | Phone: +1 780 413 5227 | Fax: +1 780 437 2311
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters		Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1039825-1	A1							
Sampled By:	D. STODD on 26-JUL-11 @ 11:00							
Matrix:	WATER							
Total Metals - CCME								
Mercury (Hg) - Total		<0.00010		0.00010	mg/L		08-AUG-11	R2230975
Mercury (Hg)-Total								
Total Metals in Water by ICPMS (Low)								
Aluminum (Al)-Total		<0.010		0.010	mg/L		05-AUG-11	R2230044
Antimony (Sb)-Total		<0.00040		0.00040	mg/L		05-AUG-11	R2230044
Arsenic (As)-Total		<0.00040		0.00040	mg/L		05-AUG-11	R2230044
Barium (Ba)-Total		<0.0030		0.0030	mg/L		05-AUG-11	R2230044
Beryllium (Be)-Total		<0.0010		0.0010	mg/L		05-AUG-11	R2230044
Boron (B)-Total		<0.050		0.050	mg/L		05-AUG-11	R2230044
Cadmium (Cd)-Total		<0.000050		0.000050	mg/L		05-AUG-11	R2230044
Chromium (Cr)-Total		<0.0050		0.0050	mg/L		05-AUG-11	R2230044
Cobalt (Co)-Total		<0.0020		0.0020	mg/L		05-AUG-11	R2230044
Copper (Cu)-Total		<0.0010		0.0010	mg/L		05-AUG-11	R2230044
Lead (Pb)-Total		<0.00010		0.00010	mg/L		05-AUG-11	R2230044
Lithium (Li)-Total		<0.010		0.010	mg/L		05-AUG-11	R2230044
Molybdenum (Mo)-Total		<0.0050		0.0050	mg/L		05-AUG-11	R2230044
Nickel (Ni)-Total		<0.0020		0.0020	mg/L		05-AUG-11	R2230044
Selenium (Se)-Total		<0.00040		0.00040	mg/L		05-AUG-11	R2230044
Silver (Ag)-Total		<0.00010		0.00010	mg/L		05-AUG-11	R2230044
Thallium (Tl)-Total		<0.00010		0.00010	mg/L		05-AUG-11	R2230044
Tin (Sn)-Total		<0.050		0.050	mg/L		05-AUG-11	R2230044
Titanium (Ti)-Total		<0.0010		0.0010	mg/L		05-AUG-11	R2230044
Uranium (U)-Total		0.00069		0.00010	mg/L		05-AUG-11	R2230044
Vanadium (V)-Total		<0.0010		0.0010	mg/L		05-AUG-11	R2230044
Zinc (Zn)-Total		<0.0040		0.0040	mg/L		05-AUG-11	R2230044
Total Metals in Water by ICPOES (Low)								
Calcium (Ca)-Total		10.4		0.50	mg/L		04-AUG-11	R2229261
Iron (Fe)-Total		0.076		0.010	mg/L		04-AUG-11	R2229261
Magnesium (Mg)-Total		2.23		0.10	mg/L		04-AUG-11	R2229261
Manganese (Mn)-Total		0.0206		0.0020	mg/L		04-AUG-11	R2229261
Potassium (K)-Total		0.49		0.10	mg/L		04-AUG-11	R2229261
Sodium (Na)-Total		<1.0		1.0	mg/L		04-AUG-11	R2229261
Miscellaneous Parameters								
Alkalinity, Total (as CaCO ₃)		38.1		5.0	mg/L		04-AUG-11	R2228902
Ammonia (as N)		<0.050		0.050	mg/L		05-AUG-11	R2229684
Bromide (Br)		<0.10		0.10	mg/L		05-AUG-11	R2229953
Chemical Oxygen Demand		12		10	mg/L		11-AUG-11	R2232908
Chloride (Cl)		0.51		0.50	mg/L		05-AUG-11	R2229953
Conductivity (EC)		71.8		0.20	uS/cm		04-AUG-11	R2228902
Fluoride (F)		<0.050		0.050	mg/L		05-AUG-11	R2229953
Sulfate (SO ₄)		<0.50		0.50	mg/L		05-AUG-11	R2229953
Total Kjeldahl Nitrogen		0.21		0.20	mg/L	05-AUG-11	05-AUG-11	R2229697
Total Organic Carbon		5.8		1.0	mg/L		09-AUG-11	R2232781
pH		7.88		0.10	pH		04-AUG-11	R2228902
L1039825-2	A2							
Sampled By:	D. STODD on 26-JUL-11 @ 11:00							
Matrix:	WATER							
Total Metals - CCME								
Mercury (Hg) - Total		<0.00010		0.00010	mg/L		08-AUG-11	R2230975
Mercury (Hg)-Total								

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1039825-2 A2 Sampled By: D. STODD on 26-JUL-11 @ 11:00 Matrix: WATER Total Metals in Water by ICPMS (Low) Aluminum (Al)-Total Antimony (Sb)-Total Arsenic (As)-Total Barium (Ba)-Total Beryllium (Be)-Total Boron (B)-Total Cadmium (Cd)-Total Chromium (Cr)-Total Cobalt (Co)-Total Copper (Cu)-Total Lead (Pb)-Total Lithium (Li)-Total Molybdenum (Mo)-Total Nickel (Ni)-Total Selenium (Se)-Total Silver (Ag)-Total Thallium (Tl)-Total Tin (Sn)-Total Titanium (Ti)-Total Uranium (U)-Total Vanadium (V)-Total Zinc (Zn)-Total	<0.010 <0.00040 <0.00040 0.0036 <0.0010 <0.050 <0.000050 <0.0050 <0.0020 <0.0010 <0.00010 <0.010 <0.0050 <0.0020 <0.00040 <0.00010 <0.00010 <0.050 <0.0010 0.00147 <0.0010 <0.0040	0.010 0.00040 0.00040 0.0030 0.0010 0.050 0.000050 0.0050 0.0020 0.0010 0.00010 0.010 0.0050 0.0020 0.00040 0.00010 0.00010 0.050 0.0010 0.00147 0.0010 0.0040	mg/L mg/L		05-AUG-11 05-AUG-11	R2230044 R2230044	
Total Metals in Water by ICPOES (Low) Calcium (Ca)-Total Iron (Fe)-Total Magnesium (Mg)-Total Manganese (Mn)-Total Potassium (K)-Total Sodium (Na)-Total	8.87 0.014 2.69 0.0040 0.43 <1.0	0.50 0.010 0.10 0.0020 0.10 1.0	mg/L mg/L mg/L mg/L mg/L mg/L		04-AUG-11 04-AUG-11 04-AUG-11 04-AUG-11 04-AUG-11 04-AUG-11	R2229261 R2229261 R2229261 R2229261 R2229261 R2229261	
Miscellaneous Parameters Alkalinity, Total (as CaCO ₃) Ammonia (as N) Bromide (Br) Chemical Oxygen Demand Chloride (Cl) Conductivity (EC) Fluoride (F) Sulfate (SO ₄) Total Kjeldahl Nitrogen Total Organic Carbon pH	36.7 <0.050 <0.10 <10 0.60 70.9 <0.050 <0.50 <0.20 3.1 8.00	5.0 0.050 0.10 10 0.50 0.20 0.050 0.50 0.20 1.0 0.10	mg/L mg/L mg/L mg/L mg/L uS/cm mg/L mg/L mg/L mg/L pH		04-AUG-11 05-AUG-11 05-AUG-11 11-AUG-11 05-AUG-11 04-AUG-11 05-AUG-11 05-AUG-11 05-AUG-11 09-AUG-11 04-AUG-11	R2228902 R2229684 R2229953 R2232908 R2229953 R2228902 R2229953 R2229953 R2229697 R2232781 R2228902	
L1039825-3 B2 Sampled By: D. STODD on 26-JUL-11 @ 11:00 Matrix: WATER Total Metals - CCME Mercury (Hg) - Total Mercury (Hg)-Total	<0.00010	0.00010	mg/L		08-AUG-11	R2230975	
Total Metals in Water by ICPMS (Low) Aluminum (Al)-Total Antimony (Sb)-Total	<0.010 <0.00040	0.010 0.00040	mg/L mg/L		05-AUG-11 05-AUG-11	R2230044 R2230044	

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1039825-3 B2 Sampled By: D. STODD on 26-JUL-11 @ 11:00 Matrix: WATER							
Total Metals in Water by ICPMS (Low)							
Arsenic (As)-Total	<0.00040	0.00040	mg/L		05-AUG-11	R2230044	
Barium (Ba)-Total	0.0071	0.0030	mg/L		05-AUG-11	R2230044	
Beryllium (Be)-Total	<0.0010	0.0010	mg/L		05-AUG-11	R2230044	
Boron (B)-Total	<0.050	0.050	mg/L		05-AUG-11	R2230044	
Cadmium (Cd)-Total	<0.000050	0.000050	mg/L		05-AUG-11	R2230044	
Chromium (Cr)-Total	<0.0050	0.0050	mg/L		05-AUG-11	R2230044	
Cobalt (Co)-Total	<0.0020	0.0020	mg/L		05-AUG-11	R2230044	
Copper (Cu)-Total	<0.0010	0.0010	mg/L		05-AUG-11	R2230044	
Lead (Pb)-Total	<0.00010	0.00010	mg/L		05-AUG-11	R2230044	
Lithium (Li)-Total	<0.010	0.010	mg/L		05-AUG-11	R2230044	
Molybdenum (Mo)-Total	<0.0050	0.0050	mg/L		05-AUG-11	R2230044	
Nickel (Ni)-Total	<0.0020	0.0020	mg/L		05-AUG-11	R2230044	
Selenium (Se)-Total	<0.00040	0.00040	mg/L		05-AUG-11	R2230044	
Silver (Ag)-Total	<0.00010	0.00010	mg/L		05-AUG-11	R2230044	
Thallium (Tl)-Total	<0.00010	0.00010	mg/L		05-AUG-11	R2230044	
Tin (Sn)-Total	<0.050	0.050	mg/L		05-AUG-11	R2230044	
Titanium (Ti)-Total	<0.0010	0.0010	mg/L		05-AUG-11	R2230044	
Uranium (U)-Total	0.00069	0.00010	mg/L		05-AUG-11	R2230044	
Vanadium (V)-Total	<0.0010	0.0010	mg/L		05-AUG-11	R2230044	
Zinc (Zn)-Total	<0.0040	0.0040	mg/L		05-AUG-11	R2230044	
Total Metals in Water by ICPOES (Low)							
Calcium (Ca)-Total	9.76	0.50	mg/L		04-AUG-11	R2229261	
Iron (Fe)-Total	0.016	0.010	mg/L		04-AUG-11	R2229261	
Magnesium (Mg)-Total	1.60	0.10	mg/L		04-AUG-11	R2229261	
Manganese (Mn)-Total	<0.0020	0.0020	mg/L		04-AUG-11	R2229261	
Potassium (K)-Total	0.50	0.10	mg/L		04-AUG-11	R2229261	
Sodium (Na)-Total	<1.0	1.0	mg/L		04-AUG-11	R2229261	
Miscellaneous Parameters							
Alkalinity, Total (as CaCO ₃)	34.2	5.0	mg/L		04-AUG-11	R2228902	
Ammonia (as N)	<0.050	0.050	mg/L		05-AUG-11	R2229684	
Bromide (Br)	<0.10	0.10	mg/L		05-AUG-11	R2229953	
Chemical Oxygen Demand	<10	10	mg/L		11-AUG-11	R2232908	
Chloride (Cl)	0.92	0.50	mg/L		05-AUG-11	R2229953	
Conductivity (EC)	67.6	0.20	µS/cm		04-AUG-11	R2228902	
Fluoride (F)	<0.050	0.050	mg/L		05-AUG-11	R2229953	
Sulfate (SO ₄)	<0.50	0.50	mg/L		05-AUG-11	R2229953	
Total Kjeldahl Nitrogen	<0.20	0.20	mg/L	05-AUG-11	05-AUG-11	R2229697	
Total Organic Carbon	3.9	1.0	mg/L		09-AUG-11	R2232781	
pH	7.94	0.10	pH		04-AUG-11	R2228902	
L1039825-4 C2 Sampled By: D. STODD on 26-JUL-11 @ 11:00 Matrix: WATER							
Total Metals - CCME							
Mercury (Hg) - Total							
Mercury (Hg)-Total	<0.00010	0.00010	mg/L		08-AUG-11	R2230975	
Total Metals in Water by ICPMS (Low)							
Aluminum (Al)-Total	0.017	0.010	mg/L		04-AUG-11	R2229249	
Antimony (Sb)-Total	<0.00040	0.00040	mg/L		04-AUG-11	R2229249	
Arsenic (As)-Total	<0.00040	0.00040	mg/L		04-AUG-11	R2229249	
Barium (Ba)-Total	0.0048	0.0030	mg/L		04-AUG-11	R2229249	

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters		Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1039825-4	C2							
Sampled By:	D. STODD on 26-JUL-11 @ 11:00							
Matrix:	WATER							
Total Metals in Water by ICPMS (Low)								
Beryllium (Be)-Total	<0.0010	0.0010	mg/L			04-AUG-11	R2229249	
Boron (B)-Total	<0.050	0.050	mg/L			04-AUG-11	R2229249	
Cadmium (Cd)-Total	<0.000050	0.000050	mg/L			04-AUG-11	R2229249	
Chromium (Cr)-Total	<0.0050	0.0050	mg/L			04-AUG-11	R2229249	
Cobalt (Co)-Total	<0.0020	0.0020	mg/L			04-AUG-11	R2229249	
Copper (Cu)-Total	0.0011	0.0010	mg/L			04-AUG-11	R2229249	
Lead (Pb)-Total	<0.00010	0.00010	mg/L			04-AUG-11	R2229249	
Lithium (Li)-Total	<0.010	0.010	mg/L			04-AUG-11	R2229249	
Molybdenum (Mo)-Total	<0.0050	0.0050	mg/L			04-AUG-11	R2229249	
Nickel (Ni)-Total	<0.0020	0.0020	mg/L			04-AUG-11	R2229249	
Selenium (Se)-Total	<0.00040	0.00040	mg/L			04-AUG-11	R2229249	
Silver (Ag)-Total	<0.00010	0.00010	mg/L			04-AUG-11	R2229249	
Thallium (Tl)-Total	<0.00010	0.00010	mg/L			04-AUG-11	R2229249	
Tin (Sn)-Total	<0.050	0.050	mg/L			04-AUG-11	R2229249	
Titanium (Ti)-Total	<0.0010	0.0010	mg/L			04-AUG-11	R2229249	
Uranium (U)-Total	0.00099	0.00010	mg/L			04-AUG-11	R2229249	
Vanadium (V)-Total	<0.0010	0.0010	mg/L			04-AUG-11	R2229249	
Zinc (Zn)-Total	<0.0040	0.0040	mg/L			04-AUG-11	R2229249	
Total Metals in Water by ICPOES (Low)								
Calcium (Ca)-Total	14.3	0.50	mg/L			04-AUG-11	R2229261	
Iron (Fe)-Total	0.438	0.010	mg/L			04-AUG-11	R2229261	
Magnesium (Mg)-Total	2.59	0.10	mg/L			04-AUG-11	R2229261	
Manganese (Mn)-Total	0.0152	0.0020	mg/L			04-AUG-11	R2229261	
Potassium (K)-Total	0.42	0.10	mg/L			04-AUG-11	R2229261	
Sodium (Na)-Total	<1.0	1.0	mg/L			04-AUG-11	R2229261	
Miscellaneous Parameters								
Alkalinity, Total (as CaCO ₃)	49.0	5.0	mg/L			04-AUG-11	R2228902	
Ammonia (as N)	<0.050	0.050	mg/L			05-AUG-11	R2229684	
Bromide (Br)	<0.10	0.10	mg/L			05-AUG-11	R2229953	
Chemical Oxygen Demand	15	10	mg/L			11-AUG-11	R2232908	
Chloride (Cl)	0.76	0.50	mg/L			05-AUG-11	R2229953	
Conductivity (EC)	96.6	0.20	µS/cm			04-AUG-11	R2228902	
Fluoride (F)	<0.050	0.050	mg/L			05-AUG-11	R2229953	
Sulfate (SO ₄)	0.55	0.50	mg/L			05-AUG-11	R2229953	
Total Kjeldahl Nitrogen	0.59	0.20	mg/L	05-AUG-11	05-AUG-11	R2229697		
Total Organic Carbon	5.7	1.0	mg/L			09-AUG-11	R2232781	
pH	8.09	0.10	pH			04-AUG-11	R2228902	
L1039825-5	D2							
Sampled By:	D. STODD on 26-JUL-11 @ 11:00							
Matrix:	WATER							
Total Metals - CCME								
Mercury (Hg) - Total								
Mercury (Hg)-Total	<0.00010	0.00010	mg/L			08-AUG-11	R2230975	
Total Metals in Water by ICPMS (Low)								
Aluminum (Al)-Total	<0.010	0.010	mg/L			05-AUG-11	R2230044	
Antimony (Sb)-Total	<0.00040	0.00040	mg/L			05-AUG-11	R2230044	
Arsenic (As)-Total	<0.00040	0.00040	mg/L			05-AUG-11	R2230044	
Barium (Ba)-Total	0.0039	0.0030	mg/L			05-AUG-11	R2230044	
Beryllium (Be)-Total	<0.0010	0.0010	mg/L			05-AUG-11	R2230044	
Boron (B)-Total	<0.050	0.050	mg/L			05-AUG-11	R2230044	

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1039825-5 D2 Sampled By: D. STODD on 26-JUL-11 @ 11:00 Matrix: WATER							
Total Metals in Water by ICPMS (Low)							
Cadmium (Cd)-Total	<0.000050	0.000050	mg/L		05-AUG-11	R2230044	
Chromium (Cr)-Total	<0.0050	0.0050	mg/L		05-AUG-11	R2230044	
Cobalt (Co)-Total	<0.0020	0.0020	mg/L		05-AUG-11	R2230044	
Copper (Cu)-Total	<0.0010	0.0010	mg/L		05-AUG-11	R2230044	
Lead (Pb)-Total	<0.00010	0.00010	mg/L		05-AUG-11	R2230044	
Lithium (Li)-Total	<0.010	0.010	mg/L		05-AUG-11	R2230044	
Molybdenum (Mo)-Total	<0.0050	0.0050	mg/L		05-AUG-11	R2230044	
Nickel (Ni)-Total	<0.0020	0.0020	mg/L		05-AUG-11	R2230044	
Selenium (Se)-Total	<0.00040	0.00040	mg/L		05-AUG-11	R2230044	
Silver (Ag)-Total	<0.00010	0.00010	mg/L		05-AUG-11	R2230044	
Thallium (Tl)-Total	<0.00010	0.00010	mg/L		05-AUG-11	R2230044	
Tin (Sn)-Total	<0.050	0.050	mg/L		05-AUG-11	R2230044	
Titanium (Ti)-Total	<0.0010	0.0010	mg/L		05-AUG-11	R2230044	
Uranium (U)-Total	0.00023	0.00010	mg/L		05-AUG-11	R2230044	
Vanadium (V)-Total	<0.0010	0.0010	mg/L		05-AUG-11	R2230044	
Zinc (Zn)-Total	<0.0040	0.0040	mg/L		05-AUG-11	R2230044	
Total Metals in Water by ICPOES (Low)							
Calcium (Ca)-Total	13.1	0.50	mg/L		04-AUG-11	R2229261	
Iron (Fe)-Total	0.096	0.010	mg/L		04-AUG-11	R2229261	
Magnesium (Mg)-Total	3.15	0.10	mg/L		04-AUG-11	R2229261	
Manganese (Mn)-Total	0.0152	0.0020	mg/L		04-AUG-11	R2229261	
Potassium (K)-Total	0.52	0.10	mg/L		04-AUG-11	R2229261	
Sodium (Na)-Total	<1.0	1.0	mg/L		04-AUG-11	R2229261	
Miscellaneous Parameters							
Alkalinity, Total (as CaCO ₃)	47.8	5.0	mg/L		04-AUG-11	R2228902	
Ammonia (as N)	<0.050	0.050	mg/L		05-AUG-11	R2229684	
Bromide (Br)	<0.10	0.10	mg/L		05-AUG-11	R2229953	
Chemical Oxygen Demand	12	10	mg/L		11-AUG-11	R2232908	
Chloride (Cl)	0.96	0.50	mg/L		05-AUG-11	R2229953	
Conductivity (EC)	96.9	0.20	uS/cm		04-AUG-11	R2228902	
Fluoride (F)	<0.050	0.050	mg/L		05-AUG-11	R2229953	
Sulfate (SO ₄)	1.16	0.50	mg/L		05-AUG-11	R2229953	
Total Kjeldahl Nitrogen	0.30	0.20	mg/L	05-AUG-11	05-AUG-11	R2229697	
Total Organic Carbon	5.7	1.0	mg/L		09-AUG-11	R2232781	
pH	8.13	0.10	pH		04-AUG-11	R2228902	
L1039825-6 D3 Sampled By: D. STODD on 26-JUL-11 @ 11:00 Matrix: WATER							
Total Metals - CCME							
Mercury (Hg) - Total							
Mercury (Hg)-Total	<0.00010	0.00010	mg/L		08-AUG-11	R2230975	
Total Metals in Water by ICPMS (Low)							
Aluminum (Al)-Total	<0.010	0.010	mg/L		05-AUG-11	R2230044	
Antimony (Sb)-Total	<0.00040	0.00040	mg/L		05-AUG-11	R2230044	
Arsenic (As)-Total	<0.00040	0.00040	mg/L		05-AUG-11	R2230044	
Barium (Ba)-Total	<0.0030	0.0030	mg/L		05-AUG-11	R2230044	
Beryllium (Be)-Total	<0.0010	0.0010	mg/L		05-AUG-11	R2230044	
Boron (B)-Total	<0.050	0.050	mg/L		05-AUG-11	R2230044	
Cadmium (Cd)-Total	<0.000050	0.000050	mg/L		05-AUG-11	R2230044	
Chromium (Cr)-Total	<0.0050	0.0050	mg/L		05-AUG-11	R2230044	

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters		Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1039825-6	D3							
Sampled By:	D. STODD on 26-JUL-11 @ 11:00							
Matrix:	WATER							
Total Metals in Water by ICPMS (Low)								
Cobalt (Co)-Total	<0.0020	0.0020	mg/L			05-AUG-11	R2230044	
Copper (Cu)-Total	<0.0010	0.0010	mg/L			05-AUG-11	R2230044	
Lead (Pb)-Total	<0.00010	0.00010	mg/L			05-AUG-11	R2230044	
Lithium (Li)-Total	<0.010	0.010	mg/L			05-AUG-11	R2230044	
Molybdenum (Mo)-Total	<0.0050	0.0050	mg/L			05-AUG-11	R2230044	
Nickel (Ni)-Total	<0.0020	0.0020	mg/L			05-AUG-11	R2230044	
Selenium (Se)-Total	<0.00040	0.00040	mg/L			05-AUG-11	R2230044	
Silver (Ag)-Total	<0.00010	0.00010	mg/L			05-AUG-11	R2230044	
Thallium (Tl)-Total	<0.00010	0.00010	mg/L			05-AUG-11	R2230044	
Tin (Sn)-Total	<0.050	0.050	mg/L			05-AUG-11	R2230044	
Titanium (Ti)-Total	<0.0010	0.0010	mg/L			05-AUG-11	R2230044	
Uranium (U)-Total	<0.00010	0.00010	mg/L			05-AUG-11	R2230044	
Vanadium (V)-Total	<0.0010	0.0010	mg/L			05-AUG-11	R2230044	
Zinc (Zn)-Total	<0.0040	0.0040	mg/L			05-AUG-11	R2230044	
Total Metals in Water by ICPOES (Low)								
Calcium (Ca)-Total	3.17	0.50	mg/L			04-AUG-11	R2229261	
Iron (Fe)-Total	0.019	0.010	mg/L			04-AUG-11	R2229261	
Magnesium (Mg)-Total	1.49	0.10	mg/L			04-AUG-11	R2229261	
Manganese (Mn)-Total	0.0029	0.0020	mg/L			04-AUG-11	R2229261	
Potassium (K)-Total	0.31	0.10	mg/L			04-AUG-11	R2229261	
Sodium (Na)-Total	<1.0	1.0	mg/L			04-AUG-11	R2229261	
Miscellaneous Parameters								
Alkalinity, Total (as CaCO ₃)	10.7	5.0	mg/L			04-AUG-11	R2228902	
Ammonia (as N)	<0.050	0.050	mg/L			05-AUG-11	R2229684	
Bromide (Br)	<0.10	0.10	mg/L			05-AUG-11	R2229953	
Chemical Oxygen Demand	<10	10	mg/L			11-AUG-11	R2232908	
Chloride (Cl)	0.82	0.50	mg/L			05-AUG-11	R2229953	
Conductivity (EC)	32.7	0.20	µS/cm			04-AUG-11	R2228902	
Fluoride (F)	<0.050	0.050	mg/L			05-AUG-11	R2229953	
Sulfate (SO ₄)	3.71	0.50	mg/L			05-AUG-11	R2229953	
Total Kjeldahl Nitrogen	<0.20	0.20	mg/L	05-AUG-11		05-AUG-11	R2229697	
Total Organic Carbon	2.6	1.0	mg/L			09-AUG-11	R2232781	
pH	7.54	0.10	pH			04-AUG-11	R2228902	
L1039825-7	DUP							
Sampled By:	D. STODD on 26-JUL-11 @ 11:00							
Matrix:	WATER							
Total Metals - CCME								
Mercury (Hg) - Total								
Mercury (Hg)-Total	<0.00010	0.00010	mg/L			08-AUG-11	R2230975	
Total Metals in Water by ICPMS (Low)								
Aluminum (Al)-Total	<0.010	0.010	mg/L			05-AUG-11	R2230044	
Antimony (Sb)-Total	<0.00040	0.00040	mg/L			05-AUG-11	R2230044	
Arsenic (As)-Total	<0.00040	0.00040	mg/L			05-AUG-11	R2230044	
Barium (Ba)-Total	0.0089	0.0030	mg/L			05-AUG-11	R2230044	
Beryllium (Be)-Total	<0.0010	0.0010	mg/L			05-AUG-11	R2230044	
Boron (B)-Total	<0.050	0.050	mg/L			05-AUG-11	R2230044	
Cadmium (Cd)-Total	<0.000050	0.000050	mg/L			05-AUG-11	R2230044	
Chromium (Cr)-Total	<0.0050	0.0050	mg/L			05-AUG-11	R2230044	
Cobalt (Co)-Total	<0.0020	0.0020	mg/L			05-AUG-11	R2230044	
Copper (Cu)-Total	<0.0010	0.0010	mg/L			05-AUG-11	R2230044	

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1039825-7 DUP Sampled By: D. STODD on 26-JUL-11 @ 11:00 Matrix: WATER Total Metals in Water by ICPMS (Low) Lead (Pb)-Total Lithium (Li)-Total Molybdenum (Mo)-Total Nickel (Ni)-Total Selenium (Se)-Total Silver (Ag)-Total Thallium (Tl)-Total Tin (Sn)-Total Titanium (Ti)-Total Uranium (U)-Total Vanadium (V)-Total Zinc (Zn)-Total	<0.00010 <0.010 <0.0050 <0.0020 <0.00040 <0.00010 <0.00010 <0.050 <0.0010 0.00139 <0.0010 <0.0040	0.00010 0.010 0.0050 0.0020 0.00040 0.00010 0.00010 0.050 0.0010 0.00010 0.0010 0.0040		mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L		05-AUG-11 05-AUG-11 05-AUG-11 05-AUG-11 05-AUG-11 05-AUG-11 05-AUG-11 05-AUG-11 05-AUG-11 05-AUG-11 05-AUG-11 05-AUG-11	R2230044 R2230044 R2230044 R2230044 R2230044 R2230044 R2230044 R2230044 R2230044 R2230044 R2230044 R2230044
Total Metals in Water by ICPOES (Low) Calcium (Ca)-Total Iron (Fe)-Total Magnesium (Mg)-Total Manganese (Mn)-Total Potassium (K)-Total Sodium (Na)-Total	10.8 0.015 1.81 <0.0020 0.59 <1.0	0.50 0.010 0.10 0.0020 0.10 1.0		mg/L mg/L mg/L mg/L mg/L mg/L		04-AUG-11 04-AUG-11 04-AUG-11 04-AUG-11 04-AUG-11 04-AUG-11	R2229261 R2229261 R2229261 R2229261 R2229261 R2229261
Miscellaneous Parameters Alkalinity, Total (as CaCO ₃) Ammonia (as N) Bromide (Br) Chemical Oxygen Demand Chloride (Cl) Conductivity (EC) Fluoride (F) Sulfate (SO ₄) Total Kjeldahl Nitrogen Total Organic Carbon pH	37.6 <0.050 <0.10 <10 1.11 74.4 <0.050 <0.50 <0.20 3.0 8.05	5.0 0.050 0.10 10 0.50 0.20 0.050 0.50 0.20 1.0 0.10		mg/L mg/L mg/L mg/L mg/L µS/cm mg/L mg/L mg/L mg/L pH		04-AUG-11 05-AUG-11 05-AUG-11 11-AUG-11 05-AUG-11 04-AUG-11 05-AUG-11 05-AUG-11 05-AUG-11 09-AUG-11 04-AUG-11	R2228902 R2229684 R2229953 R2232908 R2229953 R2228902 R2229953 R2229953 R2229697 R2232781 R2228902
L1039825-8 FIELD BLANK Sampled By: D. STODD on 26-JUL-11 @ 11:00 Matrix: WATER Total Metals - CCME: Mercury (Hg) - Total Mercury (Hg)-Total	<0.00010	0.00010		mg/L		08-AUG-11	R2230975
Total Metals in Water by ICPMS (Low) Aluminum (Al)-Total Antimony (Sb)-Total Arsenic (As)-Total Barium (Ba)-Total Beryllium (Be)-Total Boron (B)-Total Cadmium (Cd)-Total Chromium (Cr)-Total Cobalt (Co)-Total Copper (Cu)-Total Lead (Pb)-Total Lithium (Li)-Total	0.012 <0.00040 <0.00040 0.0031 <0.0010 <0.050 <0.000050 <0.0050 <0.0020 <0.0010 <0.00010 <0.010	0.010 0.00040 0.00040 0.0030 0.0010 0.050 0.000050 0.0050 0.0020 0.0010 0.00010 0.010		mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L		05-AUG-11 05-AUG-11 05-AUG-11 05-AUG-11 05-AUG-11 05-AUG-11 05-AUG-11 05-AUG-11 05-AUG-11 05-AUG-11 05-AUG-11	R2230044 R2230044 R2230044 R2230044 R2230044 R2230044 R2230044 R2230044 R2230044 R2230044 R2230044

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters		Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1039825-8	FIELD BLANK							
Sampled By:	D. STODD on 26-JUL-11 @ 11:00							
Matrix:	WATER							
Total Metals in Water by ICPMS (Low)								
Molybdenum (Mo)-Total	<0.0050	0.0050	mg/L			05-AUG-11	R2230044	
Nickel (Ni)-Total	<0.0020	0.0020	mg/L			05-AUG-11	R2230044	
Selenium (Se)-Total	<0.00040	0.00040	mg/L			05-AUG-11	R2230044	
Silver (Ag)-Total	<0.00010	0.00010	mg/L			05-AUG-11	R2230044	
Thallium (Tl)-Total	<0.00010	0.00010	mg/L			05-AUG-11	R2230044	
Tin (Sn)-Total	<0.050	0.050	mg/L			05-AUG-11	R2230044	
Titanium (Ti)-Total	<0.0010	0.0010	mg/L			05-AUG-11	R2230044	
Uranium (U)-Total	<0.00010	0.00010	mg/L			05-AUG-11	R2230044	
Vanadium (V)-Total	<0.0010	0.0010	mg/L			05-AUG-11	R2230044	
Zinc (Zn)-Total	<0.0040	0.0040	mg/L			05-AUG-11	R2230044	
Total Metals in Water by ICPOES (Low)								
Calcium (Ca)-Total	1.64	0.50	mg/L			04-AUG-11	R2229261	
Iron (Fe)-Total	0.026	0.010	mg/L			04-AUG-11	R2229261	
Magnesium (Mg)-Total	0.74	0.10	mg/L			04-AUG-11	R2229261	
Manganese (Mn)-Total	0.0027	0.0020	mg/L			04-AUG-11	R2229261	
Potassium (K)-Total	0.18	0.10	mg/L			04-AUG-11	R2229261	
Sodium (Na)-Total	<1.0	1.0	mg/L			04-AUG-11	R2229261	
Miscellaneous Parameters								
Alkalinity, Total (as CaCO ₃)	6.4	5.0	mg/L			04-AUG-11	R2228902	
Ammonia (as N)	<0.050	0.050	mg/L			05-AUG-11	R2229684	
Bromide (Br)	<0.10	0.10	mg/L			05-AUG-11	R2229953	
Chemical Oxygen Demand	<10	10	mg/L			11-AUG-11	R2232908	
Chloride (Cl)	0.67	0.50	mg/L			05-AUG-11	R2229953	
Conductivity (EC)	16.8	0.20	uS/cm			04-AUG-11	R2228902	
Fluoride (F)	<0.050	0.050	mg/L			05-AUG-11	R2229953	
Sulfate (SO ₄)	1.14	0.50	mg/L			05-AUG-11	R2229953	
Total Kjeldahl Nitrogen	<0.20	0.20	mg/L	05-AUG-11		05-AUG-11	R2229697	
Total Organic Carbon	2.9	1.0	mg/L			09-AUG-11	R2232781	
pH	7.17	0.10	pH			04-AUG-11	R2228902	
L1039825-9	B1							
Sampled By:	D. STODD on 26-JUL-11 @ 11:00							
Matrix:	WATER							
Total Metals - CCME								
Mercury (Hg) - Total								
Mercury (Hg)-Total	<0.00010	0.00010	mg/L			08-AUG-11	R2230975	
Total Metals in Water by ICPMS (Low)								
Aluminum (Al)-Total	<0.010	0.010	mg/L			05-AUG-11	R2230044	
Antimony (Sb)-Total	<0.00040	0.00040	mg/L			05-AUG-11	R2230044	
Arsenic (As)-Total	<0.00040	0.00040	mg/L			05-AUG-11	R2230044	
Barium (Ba)-Total	0.0090	0.0030	mg/L			05-AUG-11	R2230044	
Beryllium (Be)-Total	<0.0010	0.0010	mg/L			05-AUG-11	R2230044	
Boron (B)-Total	<0.050	0.050	mg/L			05-AUG-11	R2230044	
Cadmium (Cd)-Total	<0.000050	0.000050	mg/L			05-AUG-11	R2230044	
Chromium (Cr)-Total	<0.0050	0.0050	mg/L			05-AUG-11	R2230044	
Cobalt (Co)-Total	<0.0020	0.0020	mg/L			05-AUG-11	R2230044	
Copper (Cu)-Total	<0.0010	0.0010	mg/L			05-AUG-11	R2230044	
Lead (Pb)-Total	<0.00010	0.00010	mg/L			05-AUG-11	R2230044	
Lithium (Li)-Total	<0.010	0.010	mg/L			05-AUG-11	R2230044	
Molybdenum (Mo)-Total	<0.0050	0.0050	mg/L			05-AUG-11	R2230044	
Nickel (Ni)-Total	<0.0020	0.0020	mg/L			05-AUG-11	R2230044	

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1039825-9 B1 Sampled By: D. STODD on 26-JUL-11 @ 11:00 Matrix: WATER							
Total Metals in Water by ICPMS (Low)							
Selenium (Se)-Total	<0.00040	0.00040	mg/L		05-AUG-11	R2230044	
Silver (Ag)-Total	<0.00010	0.00010	mg/L		05-AUG-11	R2230044	
Thallium (Tl)-Total	<0.00010	0.00010	mg/L		05-AUG-11	R2230044	
Tin (Sn)-Total	<0.050	0.050	mg/L		05-AUG-11	R2230044	
Titanium (Ti)-Total	<0.0010	0.0010	mg/L		05-AUG-11	R2230044	
Uranium (U)-Total	0.00138	0.00010	mg/L		05-AUG-11	R2230044	
Vanadium (V)-Total	<0.0010	0.0010	mg/L		05-AUG-11	R2230044	
Zinc (Zn)-Total	<0.0040	0.0040	mg/L		05-AUG-11	R2230044	
Total Metals in Water by ICPOES (Low)							
Calcium (Ca)-Total	10.9	0.50	mg/L		04-AUG-11	R2229261	
Iron (Fe)-Total	0.013	0.010	mg/L		04-AUG-11	R2229261	
Magnesium (Mg)-Total	1.83	0.10	mg/L		04-AUG-11	R2229261	
Manganese (Mn)-Total	<0.0020	0.0020	mg/L		04-AUG-11	R2229261	
Potassium (K)-Total	0.65	0.10	mg/L		04-AUG-11	R2229261	
Sodium (Na)-Total	<1.0	1.0	mg/L		04-AUG-11	R2229261	
Miscellaneous Parameters							
Alkalinity, Total (as CaCO ₃)	37.5	5.0	mg/L		04-AUG-11	R2228902	
Ammonia (as N)	<0.050	0.050	mg/L		05-AUG-11	R2229684	
Bromide (Br)	<0.10	0.10	mg/L		05-AUG-11	R2229953	
Chemical Oxygen Demand	<10	10	mg/L		11-AUG-11	R2232908	
Chloride (Cl)	1.13	0.50	mg/L		05-AUG-11	R2229953	
Conductivity (EC)	74.4	0.20	uS/cm		04-AUG-11	R2228902	
Fluoride (F)	<0.050	0.050	mg/L		05-AUG-11	R2229953	
Sulfate (SO ₄)	<0.50	0.50	mg/L		05-AUG-11	R2229953	
Total Kjeldahl Nitrogen	<0.20	0.20	mg/L	05-AUG-11	05-AUG-11	R2229697	
Total Organic Carbon	3.5	1.0	mg/L		09-AUG-11	R2232781	
pH	8.05	0.10	pH		04-AUG-11	R2228902	
L1039825-10 AMER-WSII-2 Sampled By: D. STODD on 27-JUL-11 @ 07:00 Matrix: WATER							
Total Coliform and E.coli							
Total Coliforms	109	1	MPN/100mL		03-AUG-11	R2229377	
Escherichia Coli	<1	1	MPN/100mL		03-AUG-11	R2229377	
L1039825-11 AMER-WSII-3 Sampled By: D. STODD on 27-JUL-11 @ 07:00 Matrix: WATER							
Total Coliform and E.coli							
Total Coliforms	129	1	MPN/100mL		03-AUG-11	R2229377	
Escherichia Coli	1	1	MPN/100mL		03-AUG-11	R2229377	
L1039825-12 AMER-WSII-4 Sampled By: D. STODD on 27-JUL-11 @ 07:00 Matrix: WATER							
Total Coliform and E.coli							
Total Coliforms	194	1	MPN/100mL		03-AUG-11	R2229377	
Escherichia Coli	<1	1	MPN/100mL		03-AUG-11	R2229377	

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
ALK-TOT-ED	Water	Alkalinity, Total	APHA 2320 B-Auto-Pot. Titration
BR-IC-ED	Water	Bromide by IC	APHA 4110 B-ION CHROMATOGRAPHY
C-TOT-ORG-ED	Water	Total Organic Carbon	APHA 5310 B-Instrumental
CL-IC-ED	Water	Chloride by IC	APHA 4110 B-ION CHROMATOGRAPHY
COD-ED	Water	Chemical Oxygen Demand	APHA 5220 D-Micro Colorimetry
EC-ED	Water	Conductivity (EC)	APHA 2510 B-electrode
F-IC-ED	Water	Fluoride by IC	APHA 4110 B-ION CHROMATOGRAPHY
HG-T-CVAA-ED	Water	Mercury (Hg) - Total	EPA 245.7 / EPA 245.1
MET-T-L-ICP-ED	Water	Total Metals in Water by ICPOES (Low)	APHA 3120 B-ICP-OES
MET-T-L-MS-ED	Water	Total Metals in Water by ICPMS (Low)	SW 846 - 6020-ICPMS
NH3-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.			
PH-ED	Water	pH	APHA 4500 H-Electrode
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)			
SO4-IC-ED	Water	Sulfate by IC	APHA 4110 B-ION CHROMATOGRAPHY
TC,EC-QT97-YL	Water	Total Coliform and E.coli	APHA 9223
The analysis of Total Coliform (TC) & Escherichia coli (EC) is processed by Quanti-tray (QT): Two substrates, ONPG for TC detection and MUG for EC detection are used. The substrates are added to the 100 ml sample dispensed into the 51 well tray. The tray is incubated at 35 Celcius for 24 hours. A colour reaction develops to indicate a positive reaction (presence of TC, EC). The number of positive wells are counted and converted to Most Probable Number Units (MPNU) per 100 ml. This test is also called 'rapid MPN method', therefore, the MPN results are derived from a statistical table with a 95% confidence and report as MPN units. The QT detection limit for a negative result is reported as zero.			
TKN-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.			

** 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
YL	ALS ENVIRONMENTAL - YELLOWKNIFE, NW, CANADA

Chain of Custody Numbers:

1

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

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

mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

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.



Chain of Custody / Analytical Request Form
Canada Toll Free: 1 800 668 9878
www.alsglobal.com

COC # _____

Page 1 of 1

Report To		Report Format / Distribution			Service Requested (Rush for routine analysis subject to availability)								
Company: Golder Associates Ltd Contact: Valérie Bertrand Address: 32, Steacie Drive, Kanata, ON. K2K 2A9 Phone: 613 592-9600 Fax: 613 592-9601		<input type="checkbox"/> Standard <input type="checkbox"/> Other <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> Excel <input type="checkbox"/> Digital <input type="checkbox"/> Fax			<input checked="" type="radio"/> Regular (Standard Turnaround Times - Business Days) <input type="radio"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT <input type="radio"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT <input type="radio"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT								
		Email 1: valerie.bertrand@golder.com			Analysis Request								
		Email 2: anne.croteau@golder.com			Please indicate below Filtered, Preserved or both (F, P, F/P)								
		Email 3: tian.gao@golder.com											
Invoice To Same as Report? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Client / Project Information											
Hardcopy of Invoice with Report? <input type="checkbox"/> Yes <input type="checkbox"/> No		Job #: Amer Lake											
Company:		PO / AFE: 11-1127-0081											
Contact:		LSD:											
Address:													
Phone: Fax:		Quote #:											
Lab Work Order# (lab use only)		ALS Contact: Sampler: D. Stodd											
Sample #	Sample Identification (This description will appear on the report)		Date (dd-mm-yy)	Time (hh:mm)	Sample Type	Total metals (P)	Alkalinity, conductivity, anions, pH	COD (P)	TOC (P)	Nutrients	E. Coli.	Total Coliforms	Number of Containers
5	Uranium Exploration Drilling Project- Amer Lake		26-JUL-11	11:00	water								2
5	A1												
5	A2												
5	B2												
5	C2												
5	D2												
5	D3												
5	DLP.												
5	Field Blank.												
5	B1												
1	AMER- WSII- 2												
1/1	AMER- WSII- 3 / AMER- WSII- 84												

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 RECEIPTION (lab use only)			SHIPMENT VERIFICATION (lab use only)				
Released by:	Date (dd-mm-yy)	Time (hh-mm)	Received by:	Date: 3-Aug	Time: 2pm	Temperature: °C	Verified by:	Date:	Time:

Observations:
Yes / No ?
If Yes add SIF

GENF 18.01 Front



GOLDER ASSOCIATES LTD.
ATTN: Valerie Bertrand
32 Steacie Drive
kanata on k2k 2a9

Date Received: 12-AUG-11
Report Date: 22-AUG-11 15:54 (MT)
Version: FINAL

Client Phone: 613-592-9600

Certificate of Analysis

Lab Work Order #: L1044213

Project P.O. #: 11-1127-0081
Job Reference: AMER LAKE
C of C Numbers:
Legal Site Desc:

Shannon Luchka
Account Manager

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

ADDRESS: 9936-67 Avenue, Edmonton, AB T6E 0P5 Canada | Phone: +1 780 413 5227 | Fax: +1 780 437 2311
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters		Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1044213-1	A1							
Sampled By:	D.STUDD on 31-JUL-11 @ 10:00							
Matrix:	WATER							
Total Metals - CCME								
Mercury (Hg) - Total		<0.00010		0.00010	mg/L		17-AUG-11	R2235835
Mercury (Hg)-Total								
Total Metals in Water by ICPMS (Low)								
Aluminum (Al)-Total		<0.010		0.010	mg/L		16-AUG-11	R2235306
Antimony (Sb)-Total		<0.00040		0.00040	mg/L		16-AUG-11	R2235306
Arsenic (As)-Total		<0.00040		0.00040	mg/L		16-AUG-11	R2235306
Barium (Ba)-Total		0.0038		0.0030	mg/L		16-AUG-11	R2235306
Beryllium (Be)-Total		<0.0010		0.0010	mg/L		16-AUG-11	R2235306
Boron (B)-Total		<0.050		0.050	mg/L		16-AUG-11	R2235306
Cadmium (Cd)-Total		<0.000050		0.000050	mg/L		16-AUG-11	R2235306
Chromium (Cr)-Total		<0.0050		0.0050	mg/L		16-AUG-11	R2235306
Cobalt (Co)-Total		<0.0020		0.0020	mg/L		16-AUG-11	R2235306
Copper (Cu)-Total		<0.0010		0.0010	mg/L		16-AUG-11	R2235306
Lead (Pb)-Total		<0.00010		0.00010	mg/L		16-AUG-11	R2235306
Lithium (Li)-Total		<0.010		0.010	mg/L		16-AUG-11	R2235306
Molybdenum (Mo)-Total		<0.0050		0.0050	mg/L		16-AUG-11	R2235306
Nickel (Ni)-Total		<0.0020		0.0020	mg/L		16-AUG-11	R2235306
Selenium (Se)-Total		<0.00040		0.00040	mg/L		16-AUG-11	R2235306
Silver (Ag)-Total		<0.00010		0.00010	mg/L		16-AUG-11	R2235306
Thallium (Tl)-Total		<0.00010		0.00010	mg/L		16-AUG-11	R2235306
Tin (Sn)-Total		<0.050		0.050	mg/L		16-AUG-11	R2235306
Titanium (Ti)-Total		<0.0010		0.0010	mg/L		16-AUG-11	R2235306
Uranium (U)-Total		0.00084		0.00010	mg/L		16-AUG-11	R2235306
Vanadium (V)-Total		<0.0010		0.0010	mg/L		16-AUG-11	R2235306
Zinc (Zn)-Total		<0.0040		0.0040	mg/L		16-AUG-11	R2235306
Total Metals in Water by ICPOES (Low)								
Calcium (Ca)-Total		12.9		0.50	mg/L		15-AUG-11	R2234662
Iron (Fe)-Total		0.085		0.010	mg/L		15-AUG-11	R2234662
Magnesium (Mg)-Total		2.90		0.10	mg/L		15-AUG-11	R2234662
Manganese (Mn)-Total		0.0280		0.0020	mg/L		15-AUG-11	R2234662
Potassium (K)-Total		0.62		0.10	mg/L		15-AUG-11	R2234662
Sodium (Na)-Total		<1.0		1.0	mg/L		15-AUG-11	R2234662
Miscellaneous Parameters								
Alkalinity, Total (as CaCO ₃)		56.7		5.0	mg/L		15-AUG-11	R2234444
Ammonia (as N)		<0.050		0.050	mg/L		16-AUG-11	R2235090
Bromide (Br)		<0.10		0.10	mg/L		15-AUG-11	R2234693
Chemical Oxygen Demand		12		10	mg/L		19-AUG-11	R2237389
Chloride (Cl)		<0.50		0.50	mg/L		15-AUG-11	R2234693
Conductivity (EC)		109		0.20	uS/cm		15-AUG-11	R2234444
Fluoride (F)		<0.050		0.050	mg/L		15-AUG-11	R2234693
Sulfate (SO ₄)		<0.50		0.50	mg/L		15-AUG-11	R2234693
Total Kjeldahl Nitrogen		<0.20		0.20	mg/L	17-AUG-11	17-AUG-11	R2235690
Total Organic Carbon		4.8		1.0	mg/L		19-AUG-11	R2237350
pH		7.91		0.10	pH		15-AUG-11	R2234444
L1044213-2	A1B							
Sampled By:	D.STUDD on 31-JUL-11 @ 10:00							
Matrix:	WATER							
Total Metals - CCME								
Mercury (Hg) - Total		<0.00010		0.00010	mg/L		17-AUG-11	R2235835
Mercury (Hg)-Total								

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1044213-2 A1B Sampled By: D.STUDD on 31-JUL-11 @ 10:00 Matrix: WATER							
Total Metals in Water by ICPMS (Low)							
Aluminum (Al)-Total	<0.010	0.010	mg/L		16-AUG-11	R2235306	
Antimony (Sb)-Total	<0.00040	0.00040	mg/L		16-AUG-11	R2235306	
Arsenic (As)-Total	<0.00040	0.00040	mg/L		16-AUG-11	R2235306	
Barium (Ba)-Total	0.0042	0.0030	mg/L		16-AUG-11	R2235306	
Beryllium (Be)-Total	<0.0010	0.0010	mg/L		16-AUG-11	R2235306	
Boron (B)-Total	<0.050	0.050	mg/L		16-AUG-11	R2235306	
Cadmium (Cd)-Total	<0.000050	0.000050	mg/L		16-AUG-11	R2235306	
Chromium (Cr)-Total	<0.0050	0.0050	mg/L		16-AUG-11	R2235306	
Cobalt (Co)-Total	<0.0020	0.0020	mg/L		16-AUG-11	R2235306	
Copper (Cu)-Total	<0.0010	0.0010	mg/L		16-AUG-11	R2235306	
Lead (Pb)-Total	<0.00010	0.00010	mg/L		16-AUG-11	R2235306	
Lithium (Li)-Total	<0.010	0.010	mg/L		16-AUG-11	R2235306	
Molybdenum (Mo)-Total	<0.0050	0.0050	mg/L		16-AUG-11	R2235306	
Nickel (Ni)-Total	<0.0020	0.0020	mg/L		16-AUG-11	R2235306	
Selenium (Se)-Total	<0.00040	0.00040	mg/L		16-AUG-11	R2235306	
Silver (Ag)-Total	<0.00010	0.00010	mg/L		16-AUG-11	R2235306	
Thallium (Tl)-Total	<0.00010	0.00010	mg/L		16-AUG-11	R2235306	
Tin (Sn)-Total	<0.050	0.050	mg/L		16-AUG-11	R2235306	
Titanium (Ti)-Total	<0.0010	0.0010	mg/L		16-AUG-11	R2235306	
Uranium (U)-Total	0.00099	0.00010	mg/L		16-AUG-11	R2235306	
Vanadium (V)-Total	<0.0010	0.0010	mg/L		16-AUG-11	R2235306	
Zinc (Zn)-Total	<0.0040	0.0040	mg/L		16-AUG-11	R2235306	
Total Metals in Water by ICPOES (Low)							
Calcium (Ca)-Total	14.9	0.50	mg/L		15-AUG-11	R2234662	
Iron (Fe)-Total	0.064	0.010	mg/L		15-AUG-11	R2234662	
Magnesium (Mg)-Total	3.46	0.10	mg/L		15-AUG-11	R2234662	
Manganese (Mn)-Total	0.0211	0.0020	mg/L		15-AUG-11	R2234662	
Potassium (K)-Total	0.52	0.10	mg/L		15-AUG-11	R2234662	
Sodium (Na)-Total	<1.0	1.0	mg/L		15-AUG-11	R2234662	
Miscellaneous Parameters							
Alkalinity, Total (as CaCO ₃)	60.8	5.0	mg/L		15-AUG-11	R2234444	
Ammonia (as N)	<0.050	0.050	mg/L		16-AUG-11	R2235090	
Bromide (Br)	<0.10	0.10	mg/L		15-AUG-11	R2234693	
Chemical Oxygen Demand	14	10	mg/L		19-AUG-11	R2237389	
Chloride (Cl)	<0.50	0.50	mg/L		15-AUG-11	R2234693	
Conductivity (EC)	120	0.20	uS/cm		15-AUG-11	R2234444	
Fluoride (F)	<0.050	0.050	mg/L		15-AUG-11	R2234693	
Sulfate (SO ₄)	<0.50	0.50	mg/L		15-AUG-11	R2234693	
Total Kjeldahl Nitrogen	<0.20	0.20	mg/L	17-AUG-11	17-AUG-11	R2235690	
Total Organic Carbon	4.0	1.0	mg/L		19-AUG-11	R2237350	
pH	7.92	0.10	pH		15-AUG-11	R2234444	
L1044213-3 B1 Sampled By: D.STUDD on 31-JUL-11 @ 10:00 Matrix: WATER							
Total Metals - CCME							
Mercury (Hg) - Total							
Mercury (Hg)-Total	<0.00010	0.00010	mg/L		17-AUG-11	R2235835	
Total Metals in Water by ICPMS (Low)							
Aluminum (Al)-Total	<0.010	0.010	mg/L		16-AUG-11	R2235306	
Antimony (Sb)-Total	<0.00040	0.00040	mg/L		16-AUG-11	R2235306	

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1044213-3 B1 Sampled By: D.STUDD on 31-JUL-11 @ 10:00 Matrix: WATER							
Total Metals in Water by ICPMS (Low)							
Arsenic (As)-Total	<0.00040	0.00040	mg/L		16-AUG-11	R2235306	
Barium (Ba)-Total	0.0090	0.0030	mg/L		16-AUG-11	R2235306	
Beryllium (Be)-Total	<0.0010	0.0010	mg/L		16-AUG-11	R2235306	
Boron (B)-Total	<0.050	0.050	mg/L		16-AUG-11	R2235306	
Cadmium (Cd)-Total	<0.000050	0.000050	mg/L		16-AUG-11	R2235306	
Chromium (Cr)-Total	<0.0050	0.0050	mg/L		16-AUG-11	R2235306	
Cobalt (Co)-Total	<0.0020	0.0020	mg/L		16-AUG-11	R2235306	
Copper (Cu)-Total	<0.0010	0.0010	mg/L		16-AUG-11	R2235306	
Lead (Pb)-Total	<0.00010	0.00010	mg/L		16-AUG-11	R2235306	
Lithium (Li)-Total	<0.010	0.010	mg/L		16-AUG-11	R2235306	
Molybdenum (Mo)-Total	<0.0050	0.0050	mg/L		16-AUG-11	R2235306	
Nickel (Ni)-Total	<0.0020	0.0020	mg/L		16-AUG-11	R2235306	
Selenium (Se)-Total	<0.00040	0.00040	mg/L		16-AUG-11	R2235306	
Silver (Ag)-Total	<0.00010	0.00010	mg/L		16-AUG-11	R2235306	
Thallium (Tl)-Total	<0.00010	0.00010	mg/L		16-AUG-11	R2235306	
Tin (Sn)-Total	<0.050	0.050	mg/L		16-AUG-11	R2235306	
Titanium (Ti)-Total	<0.0010	0.0010	mg/L		16-AUG-11	R2235306	
Uranium (U)-Total	0.00082	0.00010	mg/L		16-AUG-11	R2235306	
Vanadium (V)-Total	<0.0010	0.0010	mg/L		16-AUG-11	R2235306	
Zinc (Zn)-Total	<0.0040	0.0040	mg/L		16-AUG-11	R2235306	
Total Metals in Water by ICPOES (Low)							
Calcium (Ca)-Total	11.7	0.50	mg/L		15-AUG-11	R2234662	
Iron (Fe)-Total	0.014	0.010	mg/L		15-AUG-11	R2234662	
Magnesium (Mg)-Total	1.88	0.10	mg/L		15-AUG-11	R2234662	
Manganese (Mn)-Total	<0.0020	0.0020	mg/L		15-AUG-11	R2234662	
Potassium (K)-Total	0.67	0.10	mg/L		15-AUG-11	R2234662	
Sodium (Na)-Total	<1.0	1.0	mg/L		15-AUG-11	R2234662	
Miscellaneous Parameters							
Alkalinity, Total (as CaCO ₃)	38.4	5.0	mg/L		15-AUG-11	R2234444	
Ammonia (as N)	<0.050	0.050	mg/L		16-AUG-11	R2235090	
Bromide (Br)	<0.10	0.10	mg/L		15-AUG-11	R2234693	
Chemical Oxygen Demand	<10	10	mg/L		19-AUG-11	R2237389	
Chloride (Cl)	1.18	0.50	mg/L		15-AUG-11	R2234693	
Conductivity (EC)	78.3	0.20	uS/cm		15-AUG-11	R2234444	
Fluoride (F)	<0.050	0.050	mg/L		15-AUG-11	R2234693	
Sulfate (SO ₄)	<0.50	0.50	mg/L		15-AUG-11	R2234693	
Total Kjeldahl Nitrogen	<0.20	0.20	mg/L	17-AUG-11	17-AUG-11	R2235690	
Total Organic Carbon	2.8	1.0	mg/L		19-AUG-11	R2237350	
pH	7.83	0.10	pH		15-AUG-11	R2234444	
L1044213-4 B1B Sampled By: D.STUDD on 31-JUL-11 @ 10:00 Matrix: WATER							
Total Metals - CCME							
Mercury (Hg) - Total							
Mercury (Hg)-Total	<0.00010	0.00010	mg/L		17-AUG-11	R2235835	
Total Metals in Water by ICPMS (Low)							
Aluminum (Al)-Total	<0.010	0.010	mg/L		16-AUG-11	R2235306	
Antimony (Sb)-Total	<0.00040	0.00040	mg/L		16-AUG-11	R2235306	
Arsenic (As)-Total	<0.00040	0.00040	mg/L		16-AUG-11	R2235306	
Barium (Ba)-Total	0.0090	0.0030	mg/L		16-AUG-11	R2235306	

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1044213-4 B1B Sampled By: D.STUDD on 31-JUL-11 @ 10:00 Matrix: WATER							
Total Metals in Water by ICPMS (Low)							
Beryllium (Be)-Total	<0.0010	0.0010	mg/L		16-AUG-11	R2235306	
Boron (B)-Total	<0.050	0.050	mg/L		16-AUG-11	R2235306	
Cadmium (Cd)-Total	<0.000050	0.000050	mg/L		16-AUG-11	R2235306	
Chromium (Cr)-Total	<0.0050	0.0050	mg/L		16-AUG-11	R2235306	
Cobalt (Co)-Total	<0.0020	0.0020	mg/L		16-AUG-11	R2235306	
Copper (Cu)-Total	<0.0010	0.0010	mg/L		16-AUG-11	R2235306	
Lead (Pb)-Total	<0.00010	0.00010	mg/L		16-AUG-11	R2235306	
Lithium (Li)-Total	<0.010	0.010	mg/L		16-AUG-11	R2235306	
Molybdenum (Mo)-Total	<0.0050	0.0050	mg/L		16-AUG-11	R2235306	
Nickel (Ni)-Total	<0.0020	0.0020	mg/L		16-AUG-11	R2235306	
Selenium (Se)-Total	<0.00040	0.00040	mg/L		16-AUG-11	R2235306	
Silver (Ag)-Total	<0.00010	0.00010	mg/L		16-AUG-11	R2235306	
Thallium (Tl)-Total	<0.00010	0.00010	mg/L		16-AUG-11	R2235306	
Tin (Sn)-Total	<0.050	0.050	mg/L		16-AUG-11	R2235306	
Titanium (Ti)-Total	<0.0010	0.0010	mg/L		16-AUG-11	R2235306	
Uranium (U)-Total	0.00079	0.00010	mg/L		16-AUG-11	R2235306	
Vanadium (V)-Total	<0.0010	0.0010	mg/L		16-AUG-11	R2235306	
Zinc (Zn)-Total	<0.0040	0.0040	mg/L		16-AUG-11	R2235306	
Total Metals in Water by ICPOES (Low)							
Calcium (Ca)-Total	11.4	0.50	mg/L		15-AUG-11	R2234662	
Iron (Fe)-Total	0.013	0.010	mg/L		15-AUG-11	R2234662	
Magnesium (Mg)-Total	1.84	0.10	mg/L		15-AUG-11	R2234662	
Manganese (Mn)-Total	<0.0020	0.0020	mg/L		15-AUG-11	R2234662	
Potassium (K)-Total	0.71	0.10	mg/L		15-AUG-11	R2234662	
Sodium (Na)-Total	<1.0	1.0	mg/L		15-AUG-11	R2234662	
Miscellaneous Parameters							
Alkalinity, Total (as CaCO ₃)	38.5	5.0	mg/L		15-AUG-11	R2234444	
Ammonia (as N)	<0.050	0.050	mg/L		16-AUG-11	R2235090	
Bromide (Br)	<0.10	0.10	mg/L		15-AUG-11	R2234693	
Chemical Oxygen Demand	<10	10	mg/L		19-AUG-11	R2237389	
Chloride (Cl)	1.15	0.50	mg/L		15-AUG-11	R2234693	
Conductivity (EC)	79.0	0.20	uS/cm		15-AUG-11	R2234444	
Fluoride (F)	<0.050	0.050	mg/L		15-AUG-11	R2234693	
Sulfate (SO ₄)	<0.50	0.50	mg/L		15-AUG-11	R2234693	
Total Kjeldahl Nitrogen	<0.20	0.20	mg/L	17-AUG-11	17-AUG-11	R2235690	
Total Organic Carbon	2.9	1.0	mg/L		19-AUG-11	R2237350	
pH	7.86	0.10	pH		15-AUG-11	R2234444	
L1044213-5 C2 Sampled By: D.STUDD on 31-JUL-11 @ 10:00 Matrix: WATER							
Total Metals - CCME							
Mercury (Hg) - Total							
Mercury (Hg)-Total	<0.00010	0.00010	mg/L		17-AUG-11	R2235835	
Total Metals in Water by ICPMS (Low)							
Aluminum (Al)-Total	0.114	0.010	mg/L		16-AUG-11	R2235306	
Antimony (Sb)-Total	<0.00040	0.00040	mg/L		16-AUG-11	R2235306	
Arsenic (As)-Total	<0.00040	0.00040	mg/L		16-AUG-11	R2235306	
Barium (Ba)-Total	0.0060	0.0030	mg/L		16-AUG-11	R2235306	
Beryllium (Be)-Total	<0.0010	0.0010	mg/L		16-AUG-11	R2235306	
Boron (B)-Total	<0.050	0.050	mg/L		16-AUG-11	R2235306	

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1044213-5 C2 Sampled By: D.STUDD on 31-JUL-11 @ 10:00 Matrix: WATER							
Total Metals in Water by ICPMS (Low)							
Cadmium (Cd)-Total	<0.000050	0.000050	mg/L		16-AUG-11	R2235306	
Chromium (Cr)-Total	0.0055	0.0050	mg/L		16-AUG-11	R2235306	
Cobalt (Co)-Total	<0.0020	0.0020	mg/L		16-AUG-11	R2235306	
Copper (Cu)-Total	0.0024	0.0010	mg/L		16-AUG-11	R2235306	
Lead (Pb)-Total	0.00013	0.00010	mg/L		16-AUG-11	R2235306	
Lithium (Li)-Total	<0.010	0.010	mg/L		16-AUG-11	R2235306	
Molybdenum (Mo)-Total	<0.0050	0.0050	mg/L		16-AUG-11	R2235306	
Nickel (Ni)-Total	<0.0020	0.0020	mg/L		16-AUG-11	R2235306	
Selenium (Se)-Total	<0.00040	0.00040	mg/L		16-AUG-11	R2235306	
Silver (Ag)-Total	<0.00010	0.00010	mg/L		16-AUG-11	R2235306	
Thallium (Tl)-Total	<0.00010	0.00010	mg/L		16-AUG-11	R2235306	
Tin (Sn)-Total	<0.050	0.050	mg/L		16-AUG-11	R2235306	
Titanium (Ti)-Total	0.0031	0.0010	mg/L		16-AUG-11	R2235306	
Uranium (U)-Total	0.00127	0.00010	mg/L		16-AUG-11	R2235306	
Vanadium (V)-Total	<0.0010	0.0010	mg/L		16-AUG-11	R2235306	
Zinc (Zn)-Total	<0.0040	0.0040	mg/L		16-AUG-11	R2235306	
Total Metals in Water by ICPOES (Low)							
Calcium (Ca)-Total	17.0	0.50	mg/L		16-AUG-11	R2235291	
Iron (Fe)-Total	0.761	0.010	mg/L		16-AUG-11	R2235291	
Magnesium (Mg)-Total	3.01	0.10	mg/L		16-AUG-11	R2235291	
Manganese (Mn)-Total	0.0150	0.0020	mg/L		16-AUG-11	R2235291	
Potassium (K)-Total	0.50	0.10	mg/L		16-AUG-11	R2235291	
Sodium (Na)-Total	1.1	1.0	mg/L		16-AUG-11	R2235291	
Miscellaneous Parameters							
Alkalinity, Total (as CaCO ₃)	54.5	5.0	mg/L		15-AUG-11	R2234444	
Ammonia (as N)	<0.050	0.050	mg/L		16-AUG-11	R2235090	
Bromide (Br)	<0.10	0.10	mg/L		15-AUG-11	R2234693	
Chemical Oxygen Demand	20	10	mg/L		19-AUG-11	R2237389	
Chloride (Cl)	0.91	0.50	mg/L		15-AUG-11	R2234693	
Conductivity (EC)	111	0.20	uS/cm		15-AUG-11	R2234444	
Fluoride (F)	<0.050	0.050	mg/L		15-AUG-11	R2234693	
Sulfate (SO ₄)	0.98	0.50	mg/L		15-AUG-11	R2234693	
Total Kjeldahl Nitrogen	0.35	0.20	mg/L	17-AUG-11	17-AUG-11	R2235690	
Total Organic Carbon	7.0	1.0	mg/L		19-AUG-11	R2237350	
pH	8.01	0.10	pH		15-AUG-11	R2234444	
L1044213-6 A2 Sampled By: D.STUDD on 31-JUL-11 @ 10:00 Matrix: WATER							
Total Metals - CCME							
Mercury (Hg) - Total							
Mercury (Hg)-Total	<0.00010	0.00010	mg/L		17-AUG-11	R2235835	
Total Metals in Water by ICPMS (Low)							
Aluminum (Al)-Total	<0.010	0.010	mg/L		16-AUG-11	R2235306	
Antimony (Sb)-Total	<0.00040	0.00040	mg/L		16-AUG-11	R2235306	
Arsenic (As)-Total	<0.00040	0.00040	mg/L		16-AUG-11	R2235306	
Barium (Ba)-Total	0.0038	0.0030	mg/L		16-AUG-11	R2235306	
Beryllium (Be)-Total	<0.0010	0.0010	mg/L		16-AUG-11	R2235306	
Boron (B)-Total	<0.050	0.050	mg/L		16-AUG-11	R2235306	
Cadmium (Cd)-Total	<0.000050	0.000050	mg/L		16-AUG-11	R2235306	
Chromium (Cr)-Total	<0.0050	0.0050	mg/L		16-AUG-11	R2235306	

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1044213-6 A2 Sampled By: D.STUDD on 31-JUL-11 @ 10:00 Matrix: WATER							
Total Metals in Water by ICPMS (Low)							
Cobalt (Co)-Total	<0.0020	0.0020	mg/L		16-AUG-11	R2235306	
Copper (Cu)-Total	<0.0010	0.0010	mg/L		16-AUG-11	R2235306	
Lead (Pb)-Total	<0.00010	0.00010	mg/L		16-AUG-11	R2235306	
Lithium (Li)-Total	<0.010	0.010	mg/L		16-AUG-11	R2235306	
Molybdenum (Mo)-Total	<0.0050	0.0050	mg/L		16-AUG-11	R2235306	
Nickel (Ni)-Total	<0.0020	0.0020	mg/L		16-AUG-11	R2235306	
Selenium (Se)-Total	<0.00040	0.00040	mg/L		16-AUG-11	R2235306	
Silver (Ag)-Total	<0.00010	0.00010	mg/L		16-AUG-11	R2235306	
Thallium (Tl)-Total	<0.00010	0.00010	mg/L		16-AUG-11	R2235306	
Tin (Sn)-Total	<0.050	0.050	mg/L		16-AUG-11	R2235306	
Titanium (Ti)-Total	<0.0010	0.0010	mg/L		16-AUG-11	R2235306	
Uranium (U)-Total	0.00149	0.00010	mg/L		16-AUG-11	R2235306	
Vanadium (V)-Total	<0.0010	0.0010	mg/L		16-AUG-11	R2235306	
Zinc (Zn)-Total	<0.0040	0.0040	mg/L		16-AUG-11	R2235306	
Total Metals in Water by ICPOES (Low)							
Calcium (Ca)-Total	9.39	0.50	mg/L		15-AUG-11	R2234662	
Iron (Fe)-Total	0.017	0.010	mg/L		15-AUG-11	R2234662	
Magnesium (Mg)-Total	2.77	0.10	mg/L		15-AUG-11	R2234662	
Manganese (Mn)-Total	0.0041	0.0020	mg/L		15-AUG-11	R2234662	
Potassium (K)-Total	0.39	0.10	mg/L		15-AUG-11	R2234662	
Sodium (Na)-Total	<1.0	1.0	mg/L		15-AUG-11	R2234662	
Miscellaneous Parameters							
Alkalinity, Total (as CaCO ₃)	37.8	5.0	mg/L		15-AUG-11	R2234444	
Ammonia (as N)	<0.050	0.050	mg/L		16-AUG-11	R2235090	
Bromide (Br)	<0.10	0.10	mg/L		15-AUG-11	R2234693	
Chemical Oxygen Demand	<10	10	mg/L		19-AUG-11	R2237389	
Chloride (Cl)	0.61	0.50	mg/L		15-AUG-11	R2234693	
Conductivity (EC)	74.2	0.20	uS/cm		15-AUG-11	R2234444	
Fluoride (F)	<0.050	0.050	mg/L		15-AUG-11	R2234693	
Sulfate (SO ₄)	<0.50	0.50	mg/L		15-AUG-11	R2234693	
Total Kjeldahl Nitrogen	<0.20	0.20	mg/L	17-AUG-11	17-AUG-11	R2235690	
Total Organic Carbon	3.2	1.0	mg/L		19-AUG-11	R2237350	
pH	7.96	0.10	pH		15-AUG-11	R2234444	
L1044213-7 B2 Sampled By: D.STUDD on 31-JUL-11 @ 10:00 Matrix: WATER							
Total Metals - CCME							
Mercury (Hg) - Total							
Mercury (Hg)-Total	<0.00010	0.00010	mg/L		17-AUG-11	R2235835	
Total Metals in Water by ICPMS (Low)							
Aluminum (Al)-Total	<0.010	0.010	mg/L		16-AUG-11	R2235306	
Antimony (Sb)-Total	<0.00040	0.00040	mg/L		16-AUG-11	R2235306	
Arsenic (As)-Total	<0.00040	0.00040	mg/L		16-AUG-11	R2235306	
Barium (Ba)-Total	0.0092	0.0030	mg/L		16-AUG-11	R2235306	
Beryllium (Be)-Total	<0.0010	0.0010	mg/L		16-AUG-11	R2235306	
Boron (B)-Total	<0.050	0.050	mg/L		16-AUG-11	R2235306	
Cadmium (Cd)-Total	<0.000050	0.000050	mg/L		16-AUG-11	R2235306	
Chromium (Cr)-Total	<0.0050	0.0050	mg/L		16-AUG-11	R2235306	
Cobalt (Co)-Total	<0.0020	0.0020	mg/L		16-AUG-11	R2235306	
Copper (Cu)-Total	<0.0010	0.0010	mg/L		16-AUG-11	R2235306	

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters		Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1044213-7	B2							
Sampled By:	D.STUDD on 31-JUL-11 @ 10:00							
Matrix:	WATER							
Total Metals in Water by ICPMS (Low)								
Lead (Pb)-Total	<0.00010	0.00010	mg/L			16-AUG-11	R2235306	
Lithium (Li)-Total	<0.010	0.010	mg/L			16-AUG-11	R2235306	
Molybdenum (Mo)-Total	<0.0050	0.0050	mg/L			16-AUG-11	R2235306	
Nickel (Ni)-Total	<0.0020	0.0020	mg/L			16-AUG-11	R2235306	
Selenium (Se)-Total	<0.00040	0.00040	mg/L			16-AUG-11	R2235306	
Silver (Ag)-Total	<0.00010	0.00010	mg/L			16-AUG-11	R2235306	
Thallium (Tl)-Total	<0.00010	0.00010	mg/L			16-AUG-11	R2235306	
Tin (Sn)-Total	<0.050	0.050	mg/L			16-AUG-11	R2235306	
Titanium (Ti)-Total	<0.0010	0.0010	mg/L			16-AUG-11	R2235306	
Uranium (U)-Total	0.00183	0.00010	mg/L			16-AUG-11	R2235306	
Vanadium (V)-Total	<0.0010	0.0010	mg/L			16-AUG-11	R2235306	
Zinc (Zn)-Total	<0.0040	0.0040	mg/L			16-AUG-11	R2235306	
Total Metals in Water by ICPOES (Low)								
Calcium (Ca)-Total	11.6	0.50	mg/L			15-AUG-11	R2234662	
Iron (Fe)-Total	0.014	0.010	mg/L			15-AUG-11	R2234662	
Magnesium (Mg)-Total	1.92	0.10	mg/L			15-AUG-11	R2234662	
Manganese (Mn)-Total	<0.0020	0.0020	mg/L			15-AUG-11	R2234662	
Potassium (K)-Total	0.77	0.10	mg/L			15-AUG-11	R2234662	
Sodium (Na)-Total	<1.0	1.0	mg/L			15-AUG-11	R2234662	
Miscellaneous Parameters								
Alkalinity, Total (as CaCO ₃)	39.7	5.0	mg/L			15-AUG-11	R2234444	
Ammonia (as N)	<0.050	0.050	mg/L			16-AUG-11	R2235090	
Bromide (Br)	<0.10	0.10	mg/L			15-AUG-11	R2234693	
Chemical Oxygen Demand	<10	10	mg/L			19-AUG-11	R2237389	
Chloride (Cl)	1.18	0.50	mg/L			15-AUG-11	R2234693	
Conductivity (EC)	80.5	0.20	µS/cm			15-AUG-11	R2234444	
Fluoride (F)	<0.050	0.050	mg/L			15-AUG-11	R2234693	
Sulfate (SO ₄)	<0.50	0.50	mg/L			15-AUG-11	R2234693	
Total Kjeldahl Nitrogen	<0.20	0.20	mg/L			17-AUG-11	17-AUG-11	R2235690
Total Organic Carbon	3.3	1.0	mg/L				19-AUG-11	R2237350
pH	7.94	0.10	pH				15-AUG-11	R2234444
L1044213-8	D2							
Sampled By:	D.STUDD on 31-JUL-11 @ 10:00							
Matrix:	WATER							
Total Metals - CCME								
Mercury (Hg) - Total								
Mercury (Hg)-Total	<0.00010	0.00010	mg/L			17-AUG-11	R2235835	
Total Metals in Water by ICPMS (Low)								
Aluminum (Al)-Total	<0.010	0.010	mg/L			16-AUG-11	R2235306	
Antimony (Sb)-Total	<0.00040	0.00040	mg/L			16-AUG-11	R2235306	
Arsenic (As)-Total	<0.00040	0.00040	mg/L			16-AUG-11	R2235306	
Barium (Ba)-Total	0.0042	0.0030	mg/L			16-AUG-11	R2235306	
Beryllium (Be)-Total	<0.0010	0.0010	mg/L			16-AUG-11	R2235306	
Boron (B)-Total	<0.050	0.050	mg/L			16-AUG-11	R2235306	
Cadmium (Cd)-Total	<0.000050	0.000050	mg/L			16-AUG-11	R2235306	
Chromium (Cr)-Total	<0.0050	0.0050	mg/L			16-AUG-11	R2235306	
Cobalt (Co)-Total	<0.0020	0.0020	mg/L			16-AUG-11	R2235306	
Copper (Cu)-Total	<0.0010	0.0010	mg/L			16-AUG-11	R2235306	
Lead (Pb)-Total	<0.00010	0.00010	mg/L			16-AUG-11	R2235306	
Lithium (Li)-Total	<0.010	0.010	mg/L			16-AUG-11	R2235306	

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters		Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1044213-8	D2							
Sampled By:	D.STUDD on 31-JUL-11 @ 10:00							
Matrix:	WATER							
Total Metals in Water by ICPMS (Low)								
Molybdenum (Mo)-Total		<0.0050		0.0050	mg/L		16-AUG-11	R2235306
Nickel (Ni)-Total		<0.0020		0.0020	mg/L		16-AUG-11	R2235306
Selenium (Se)-Total		<0.00040		0.00040	mg/L		16-AUG-11	R2235306
Silver (Ag)-Total		<0.00010		0.00010	mg/L		16-AUG-11	R2235306
Thallium (Tl)-Total		<0.00010		0.00010	mg/L		16-AUG-11	R2235306
Tin (Sn)-Total		<0.050		0.050	mg/L		16-AUG-11	R2235306
Titanium (Ti)-Total		<0.0010		0.0010	mg/L		16-AUG-11	R2235306
Uranium (U)-Total		0.00024		0.00010	mg/L		16-AUG-11	R2235306
Vanadium (V)-Total		<0.0010		0.0010	mg/L		16-AUG-11	R2235306
Zinc (Zn)-Total		<0.0040		0.0040	mg/L		16-AUG-11	R2235306
Total Metals in Water by ICPOES (Low)								
Calcium (Ca)-Total		13.0		0.50	mg/L		15-AUG-11	R2234662
Iron (Fe)-Total		0.124		0.010	mg/L		15-AUG-11	R2234662
Magnesium (Mg)-Total		3.16		0.10	mg/L		15-AUG-11	R2234662
Manganese (Mn)-Total		0.0213		0.0020	mg/L		15-AUG-11	R2234662
Potassium (K)-Total		0.59		0.10	mg/L		15-AUG-11	R2234662
Sodium (Na)-Total		<1.0		1.0	mg/L		15-AUG-11	R2234662
Miscellaneous Parameters								
Alkalinity, Total (as CaCO ₃)		46.9		5.0	mg/L		15-AUG-11	R2234444
Ammonia (as N)		<0.050		0.050	mg/L		16-AUG-11	R2235090
Bromide (Br)		<0.10		0.10	mg/L		15-AUG-11	R2234693
Chemical Oxygen Demand		16		10	mg/L		19-AUG-11	R2237389
Chloride (Cl)		0.99		0.50	mg/L		15-AUG-11	R2234693
Conductivity (EC)		96.8		0.20	uS/cm		15-AUG-11	R2234444
Fluoride (F)		<0.050		0.050	mg/L		15-AUG-11	R2234693
Sulfate (SO ₄)		1.18		0.50	mg/L		15-AUG-11	R2234693
Total Kjeldahl Nitrogen		0.25		0.20	mg/L	17-AUG-11	17-AUG-11	R2235690
Total Organic Carbon		5.7		1.0	mg/L		19-AUG-11	R2237350
pH		8.02		0.10	pH		15-AUG-11	R2234444
L1044213-9	D3							
Sampled By:	D.STUDD on 31-JUL-11 @ 10:00							
Matrix:	WATER							
Total Metals - CCME								
Mercury (Hg) - Total								
Mercury (Hg)-Total		<0.00010		0.00010	mg/L		17-AUG-11	R2235835
Total Metals in Water by ICPMS (Low)								
Aluminum (Al)-Total		0.027		0.010	mg/L		16-AUG-11	R2235306
Antimony (Sb)-Total		<0.00040		0.00040	mg/L		16-AUG-11	R2235306
Arsenic (As)-Total		<0.00040		0.00040	mg/L		16-AUG-11	R2235306
Barium (Ba)-Total		0.0032		0.0030	mg/L		16-AUG-11	R2235306
Beryllium (Be)-Total		<0.0010		0.0010	mg/L		16-AUG-11	R2235306
Boron (B)-Total		<0.050		0.050	mg/L		16-AUG-11	R2235306
Cadmium (Cd)-Total		<0.000050		0.000050	mg/L		16-AUG-11	R2235306
Chromium (Cr)-Total		<0.0050		0.0050	mg/L		16-AUG-11	R2235306
Cobalt (Co)-Total		<0.0020		0.0020	mg/L		16-AUG-11	R2235306
Copper (Cu)-Total		<0.0010		0.0010	mg/L		16-AUG-11	R2235306
Lead (Pb)-Total		<0.00010		0.00010	mg/L		16-AUG-11	R2235306
Lithium (Li)-Total		<0.010		0.010	mg/L		16-AUG-11	R2235306
Molybdenum (Mo)-Total		<0.0050		0.0050	mg/L		16-AUG-11	R2235306
Nickel (Ni)-Total		<0.0020		0.0020	mg/L		16-AUG-11	R2235306

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters		Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1044213-9	D3							
Sampled By:	D.STUDD on 31-JUL-11 @ 10:00							
Matrix:	WATER							
Total Metals in Water by ICPMS (Low)								
Selenium (Se)-Total	<0.00040	0.00040	mg/L			16-AUG-11	R2235306	
Silver (Ag)-Total	<0.00010	0.00010	mg/L			16-AUG-11	R2235306	
Thallium (Tl)-Total	<0.00010	0.00010	mg/L			16-AUG-11	R2235306	
Tin (Sn)-Total	<0.050	0.050	mg/L			16-AUG-11	R2235306	
Titanium (Ti)-Total	<0.0010	0.0010	mg/L			16-AUG-11	R2235306	
Uranium (U)-Total	0.00017	0.00010	mg/L			16-AUG-11	R2235306	
Vanadium (V)-Total	<0.0010	0.0010	mg/L			16-AUG-11	R2235306	
Zinc (Zn)-Total	<0.0040	0.0040	mg/L			16-AUG-11	R2235306	
Total Metals in Water by ICPOES (Low)								
Calcium (Ca)-Total	3.37	0.50	mg/L			15-AUG-11	R2234662	
Iron (Fe)-Total	0.061	0.010	mg/L			15-AUG-11	R2234662	
Magnesium (Mg)-Total	1.52	0.10	mg/L			15-AUG-11	R2234662	
Manganese (Mn)-Total	0.0095	0.0020	mg/L			15-AUG-11	R2234662	
Potassium (K)-Total	0.34	0.10	mg/L			15-AUG-11	R2234662	
Sodium (Na)-Total	<1.0	1.0	mg/L			15-AUG-11	R2234662	
Miscellaneous Parameters								
Alkalinity, Total (as CaCO ₃)	10.1	5.0	mg/L			15-AUG-11	R2234444	
Ammonia (as N)	<0.050	0.050	mg/L			16-AUG-11	R2235090	
Bromide (Br)	<0.10	0.10	mg/L			15-AUG-11	R2234693	
Chemical Oxygen Demand	<10	10	mg/L			19-AUG-11	R2237389	
Chloride (Cl)	0.84	0.50	mg/L			15-AUG-11	R2234693	
Conductivity (EC)	33.0	0.20	uS/cm			15-AUG-11	R2234444	
Fluoride (F)	<0.050	0.050	mg/L			15-AUG-11	R2234693	
Sulfate (SO ₄)	3.48	0.50	mg/L			15-AUG-11	R2234693	
Total Kjeldahl Nitrogen	<0.20	0.20	mg/L			17-AUG-11	17-AUG-11	R2235690
Total Organic Carbon	2.1	1.0	mg/L				19-AUG-11	R2237350
pH	7.47	0.10	pH				15-AUG-11	R2234444
L1044213-10	DUP-C2							
Sampled By:	D.STUDD on 31-JUL-11 @ 10:00							
Matrix:	WATER							
Total Metals - CCME								
Mercury (Hg) - Total								
Mercury (Hg)-Total	<0.00010	0.00010	mg/L			17-AUG-11	R2235835	
Total Metals in Water by ICPMS (Low)								
Aluminum (Al)-Total	0.187	0.010	mg/L			16-AUG-11	R2235306	
Antimony (Sb)-Total	<0.00040	0.00040	mg/L			16-AUG-11	R2235306	
Arsenic (As)-Total	<0.00040	0.00040	mg/L			16-AUG-11	R2235306	
Barium (Ba)-Total	0.0077	0.0030	mg/L			16-AUG-11	R2235306	
Beryllium (Be)-Total	<0.0010	0.0010	mg/L			16-AUG-11	R2235306	
Boron (B)-Total	<0.050	0.050	mg/L			16-AUG-11	R2235306	
Cadmium (Cd)-Total	<0.000050	0.000050	mg/L			16-AUG-11	R2235306	
Chromium (Cr)-Total	<0.0050	0.0050	mg/L			16-AUG-11	R2235306	
Cobalt (Co)-Total	<0.0020	0.0020	mg/L			16-AUG-11	R2235306	
Copper (Cu)-Total	0.0028	0.0010	mg/L			16-AUG-11	R2235306	
Lead (Pb)-Total	0.00029	0.00010	mg/L			16-AUG-11	R2235306	
Lithium (Li)-Total	<0.010	0.010	mg/L			16-AUG-11	R2235306	
Molybdenum (Mo)-Total	<0.0050	0.0050	mg/L			16-AUG-11	R2235306	
Nickel (Ni)-Total	<0.0020	0.0020	mg/L			16-AUG-11	R2235306	
Selenium (Se)-Total	<0.00040	0.00040	mg/L			16-AUG-11	R2235306	
Silver (Ag)-Total	<0.00010	0.00010	mg/L			16-AUG-11	R2235306	

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1044213-10 DUP-C2 Sampled By: D.STUDD on 31-JUL-11 @ 10:00 Matrix: WATER Total Metals in Water by ICPMS (Low) Thallium (Tl)-Total Tin (Sn)-Total Titanium (Ti)-Total Uranium (U)-Total Vanadium (V)-Total Zinc (Zn)-Total	<0.00010 <0.050 0.0056 0.00174 <0.0010 0.0056		0.00010 0.050 0.0010 0.00010 0.0010 0.0040	mg/L mg/L mg/L mg/L mg/L mg/L		16-AUG-11 16-AUG-11 16-AUG-11 16-AUG-11 16-AUG-11 16-AUG-11	R2235306 R2235306 R2235306 R2235306 R2235306 R2235306
Total Metals in Water by ICPOES (Low) Calcium (Ca)-Total Iron (Fe)-Total Magnesium (Mg)-Total Manganese (Mn)-Total Potassium (K)-Total Sodium (Na)-Total	17.5 0.976 3.11 0.0297 0.40 <1.0		0.50 0.010 0.10 0.0020 0.10 1.0	mg/L mg/L mg/L mg/L mg/L mg/L		16-AUG-11 16-AUG-11 16-AUG-11 16-AUG-11 16-AUG-11 16-AUG-11	R2235291 R2235291 R2235291 R2235291 R2235291 R2235291
Miscellaneous Parameters Alkalinity, Total (as CaCO ₃) Ammonia (as N) Bromide (Br) Chemical Oxygen Demand Chloride (Cl) Conductivity (EC) Fluoride (F) Sulfate (SO ₄) Total Kjeldahl Nitrogen Total Organic Carbon pH	54.0 <0.050 <0.10 12 0.81 109 <0.050 0.66 0.26 5.9 8.05		5.0 0.050 0.10 10 0.50 0.20 0.050 0.50 0.20 1.0 0.10	mg/L mg/L mg/L mg/L mg/L uS/cm mg/L mg/L mg/L mg/L pH		15-AUG-11 16-AUG-11 15-AUG-11 19-AUG-11 15-AUG-11 15-AUG-11 15-AUG-11 15-AUG-11 17-AUG-11 17-AUG-11 15-AUG-11	R2234444 R2235090 R2234693 R2237389 R2234693 R2234444 R2234693 R2234693 R2235690 R2237350 R2234444
L1044213-11 BACTERIA SAMPLE 1 Sampled By: D.STUDD on 02-AUG-11 @ 10:00 Matrix: WATER Total Coliform and E.coli Total Coliforms Escherichia Coli							
	20 <1	EHT EHT	1 1	MPN/100mL MPN/100mL		13-AUG-11 13-AUG-11	R2234399 R2234399
L1044213-12 BACTERIA SAMPLE 2 Sampled By: D.STUDD on 02-AUG-11 @ 10:00 Matrix: WATER Total Coliform and E.coli Total Coliforms Escherichia Coli							
	34 <1	EHT EHT	1 1	MPN/100mL MPN/100mL		13-AUG-11 13-AUG-11	R2234399 R2234399

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
B	Method Blank exceeds ALS DQO. All associated sample results are at least 5 times greater than blank levels and are considered reliable.
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.
EHT	Exceeded Recommended Holding Time Prior To Analysis

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
ALK-TOT-ED	Water	Alkalinity, Total	APHA 2320 B-Auto-Pot. Titration
BR-IC-ED	Water	Bromide by IC	APHA 4110 B-ION CHROMATOGRAPHY
C-TOT-ORG-ED	Water	Total Organic Carbon	APHA 5310 B-Instrumental
CL-IC-ED	Water	Chloride by IC	APHA 4110 B-ION CHROMATOGRAPHY
COD-ED	Water	Chemical Oxygen Demand	APHA 5220 D-Micro Colorimetry
EC-ED	Water	Conductivity (EC)	APHA 2510 B-electrode
F-IC-ED	Water	Fluoride by IC	APHA 4110 B-ION CHROMATOGRAPHY
HG-T-CVAA-ED	Water	Mercury (Hg) - Total	EPA 245.7 / EPA 245.1
MET-T-L-ICP-ED	Water	Total Metals in Water by ICPOES (Low)	APHA 3120 B-ICP-OES
MET-T-L-MS-ED	Water	Total Metals in Water by ICPMS (Low)	SW 846 - 6020-ICPMS
NH3-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.			
PH-ED	Water	pH	APHA 4500 H-Electrode
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)			
SO4-IC-ED	Water	Sulfate by IC	APHA 4110 B-ION CHROMATOGRAPHY
TC,EC-QT97-YL	Water	Total Coliform and E.coli	APHA 9223
The analysis of Total Coliform (TC) & Escherichia coli (EC) is processed by Quanti-tray (QT): Two substrates, ONPG for TC detection and MUG for EC detection are used. The substrates are added to the 100 ml sample dispensed into the 51 well tray. The tray is incubated at 35 Celcius for 24 hours. A colour reaction develops to indicate a positive reaction (presence of TC, EC). The number of positive wells are counted and converted to Most Probable Number Units (MPNU) per 100 ml. This test is also called 'rapid MPN method', therefore, the MPN results are derived from a statistical table with a 95% confidence and report as MPN units. The QT detection limit for a negative result is reported as zero.			
TKN-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.			

** 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
YL	ALS ENVIRONMENTAL - YELLOWKNIFE, NW, CANADA

Chain of Custody Numbers:

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
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GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

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

mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

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.



Chain of Custody / Analytical Request Form
Canada Toll Free: 1 800 668 9878
www.alsglobal.com

COC # _____
Page 1 of 1

Report To		Report Format / Distribution			Service Requested (Rush for routine analysis subject to availability)							
Company: Golder Associates Ltd. Contact: Valérie Bertrand Address: 32 Steacie Drive Kanata, ON K2K 2A9 Phone: 613 592-9600, Fax: 613 592-9601		<input type="checkbox"/> Standard <input type="checkbox"/> Other <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> Excel <input type="checkbox"/> Digital <input type="checkbox"/> Fax Email 1: vbertrand@golder.com Email 2: acroteam@golder.com Email 3: tany@golder.com			<input type="radio"/> Regular (Standard Turnaround Times - Business Days) <input type="radio"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT <input type="radio"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT <input type="radio"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT							
Invoice To Same as Report? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Client / Project Information			Analysis Request							
Hardcopy of Invoice with Report? <input type="checkbox"/> Yes <input type="checkbox"/> No		Job #: Amer Lakes PO / AFE: 11-1127-0081 LSD:			Please indicate below Filtered, Preserved or both (F, P, F/P)							
Company:					Total metals (P)	Alkalinity, conductivity, anion, pH	COD (P)	TOL (P)	Nutrients	E. coli.	Total Coliforms	Number of Containers
Contact:												
Address:												
Phone: Fax:		Quote #:										
Lab Work Order # (lab use only)		ALS Contact:										
Sample #		Sample Identification (This description will appear on the report)		Date (dd-mm-yy)	Time (hh:mm)	Sample Type						
A1		(10 sets water samples)		31-JUL-11	10:00	water.	X	X	X	X	X	
A1b		2 bacteriological water samples		2-Aug-11	10:00	water.)						
B1												
B1b												
C2												
A2												
B2												
D2												
D3												
Duo-C2												

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 RECEIPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)				
Released by:	Date (dd-mm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No? If Yes add SIF

SRC ANALYTICAL
422 Downey Road
Saskatoon, Saskatchewan, Canada
S7N 4N1
(306) 933-6932 or 1-800-240-8808

Aug 16, 2011

Golder Associates
32 Steacie Drive
Kanata, ON K2K 2A9
Attn: Valerie Bertrand

Date Samples Received: Aug-04-2011

Client P.O.: 11-1127-0081

This is a final report.

Organics results have been authorized by Pat Moser, Supervisor

ICP results have been authorized by Keith Gipman, Supervisor

Inorganics and Radiochemistry results have been authorized by Jeff Zimmer, Supervisor

SLOWPOKE-2 results have been authorized by Dave Chorney

* Test methods and data are validated by the laboratory's Quality Assurance Program.

* Routine methods follow recognized procedures from sources such as

- * Standard Methods for the Examination of Water and Wastewater APHA AWWA WEF
- * Environment Canada
- * US EPA
- * CANMET

* The results reported relate only to the test samples as provided by the client.

* Samples will be kept for 30 days after the final report is sent. Please contact the lab if you have any special requirements.

* Additional information is available upon request.

SRC ANALYTICAL

422 Downey Road
 Saskatoon, Saskatchewan, Canada
 S7N 4N1
 (306) 933-6932 or 1-800-240-8808

Aug 16, 2011

Golder Associates
 32 Steacie Drive
 Kanata, ON K2K 2A9
 Attn: Valerie Bertrand

Page 1 of 3

Date Samples Received: Aug-04-2011

Client P.O.: 11-1127-0081

25342	07/26/2011 URANIUM EXPLORATION DRILLING PROJECT A1	*WATER*
25343	07/26/2011 URANIUM EXPLORATION DRILLING PROJECT A2	*WATER*
25344	07/26/2011 URANIUM EXPLORATION DRILLING PROJECT B1	*WATER*

Analyte	Units	25342	25343	25344
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Radio Chemistry

Gross alpha	Bq/L	0.03±0.02	0.05±0.02	0.05±0.02
Gross beta	Bq/L	0.06±0.01	0.08±0.02	0.10±0.02

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Aug 16, 2011

Golder Associates

Page 2 of 3

25345	07/26/2011 URANIUM EXPLORATION DRILLING PROJECT B2 *WATER*
25346	07/26/2011 URANIUM EXPLORATION DRILLING PROJECT C2 *WATER*
25347	07/26/2011 URANIUM EXPLORATION DRILLING PROJECT D2 *WATER*

Analyte	Units	25345	25346	25347
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Radio Chemistry

Gross alpha	Bq/L	0.13±0.05	0.10±0.04	0.04±0.02
Gross beta	Bq/L	0.14±0.02	0.10±0.02	0.09±0.02

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Aug 16, 2011

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25348

07/26/2011 URANIUM EXPLORATION DRILLING PROJECT D3 *WATER*

Analyte	Units	25348
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Radio Chemistry

Gross alpha	Bq/L	0.02±0.01
Gross beta	Bq/L	0.04±0.01

SRC ANALYTICAL

422 Downey Road
Saskatoon, Saskatchewan, Canada
S7N 4N1
(306) 933-6932 or 1-800-240-8808

Aug 26, 2011

Golder Associates
32 Steacie Drive
Kanata, ON K2K 2A9
Attn: Valerie Bertrand

Date Samples Received: Aug-17-2011

Client P.O.: 11-11127-0081

This is a final report.

Organics results have been authorized by Pat Moser, Supervisor

ICP results have been authorized by Keith Gipman, Supervisor

Inorganics and Radiochemistry results have been authorized by Jeff Zimmer, Supervisor

SLOWPOKE-2 results have been authorized by Dave Chorney

* Test methods and data are validated by the laboratory's Quality Assurance Program.

* Routine methods follow recognized procedures from sources such as

- * Standard Methods for the Examination of Water and Wastewater APHA AWWA WEF
- * Environment Canada
- * US EPA
- * CANMET

* The results reported relate only to the test samples as provided by the client.

* Samples will be kept for 30 days after the final report is sent. Please contact the lab if you have any special requirements.

* Additional information is available upon request.

SRC ANALYTICAL
 422 Downey Road
 Saskatoon, Saskatchewan, Canada
 S7N 4N1
 (306) 933-6932 or 1-800-240-8808

Aug 26, 2011

Golder Associates
 32 Steacie Drive
 Kanata, ON K2K 2A9
 Attn: Valerie Bertrand

Page 1 of 3

Date Samples Received: Aug-17-2011

Client P.O.: 11-1127-0081

26983	07/31/2011 A1B *WATER*
26984	07/31/2011 A1 *WATER*
26985	07/31/2011 B1B *WATER*

Analyte	Units	26983	26984	26985
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Radio Chemistry

Gross alpha	Bq/L	0.06±0.03	0.07±0.04	0.03±0.02
Gross beta	Bq/L	0.09±0.05	0.09±0.05	0.08±0.04

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Aug 26, 2011

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Page 2 of 3

26986	07/31/2011 B1 *WATER*
26987	07/31/2011 A2 *WATER*
26988	07/31/2011 B2 *WATER*

Analyte	Units	26986	26987	26988
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Radio Chemistry

Gross alpha	Bq/L	<0.02	0.05±0.03	0.09±0.04
Gross beta	Bq/L	0.09±0.05	0.07±0.04	0.08±0.04

"<": not detected at level stated above.

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Aug 26, 2011

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Page 3 of 3

26989	07/31/2011 C2 *WATER*
26990	07/31/2011 D2 *WATER*
26991	07/31/2011 D3 *WATER*

Analyte	Units	26989	26990	26991
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Radio Chemistry

Gross alpha	Bq/L	0.04±0.03	0.03±0.03	0.02±0.01
Gross beta	Bq/L	0.06±0.04	<0.03	0.05±0.03

"<": not detected at level stated above.