



CERTIFICATE OF ANALYSIS

Date: September 27, 2005
ALS File No. W4413
Report On: 40692 Water Analysis
Report To: **Gartner Lee Ltd.**
2251 2nd Ave
Whitehorse, YT
Y1A 5W1
Attention: **Mr. Martin Guilbeault**
Received: September 13, 2005

ALS ENVIRONMENTAL

per:

Heather A. Ross-Easton, B.Sc. - Project Chemist
Leanne Harris, B.Sc. - Project Chemist

File No. W4413

REMARKS



The detection limits for some of the metals have been increased for the samples reported in the following data tables due to sample matrix interferences.

RESULTS OF ANALYSIS - Water



Sample ID	P03-05-01	P03-05-02	P03-05-03	P03-05-04	P03-05-05
Sample Date	05-09-10	05-09-10	05-09-10	05-09-10	05-09-10
Sample Time	15:00	14:52	15:18	15:25	15:40
ALS ID	1	2	3	4	5

Physical Tests

	(uS/cm)					
Conductivity		1510	1040	863	868	1780
Hardness	CaCO3	887	561	442	497	762
pH		7.81	7.42	7.66	7.22	6.48

Dissolved Anions

		CaCO3				
Alkalinity-Total		187	123	145	154	29.1
Bromide	Br	<0.010	<0.010	<0.010	<0.010	<0.010
Chloride	Cl	<5.0	0.57	0.57	0.54	<5.0
Fluoride	F	<0.20	0.078	0.091	0.098	0.28
Sulphate	SO4	744	454	336	334	1030

Nutrients

Nitrate Nitrogen	N	<0.050	<0.0050	0.0082	<0.0050	<0.050
Nitrite Nitrogen	N	<0.010	<0.0010	<0.0010	<0.0010	<0.010

Remarks regarding the analyses appear at the beginning of this report.
 Results are expressed as milligrams per litre except where noted.
 < = Less than the detection limit indicated.

RESULTS OF ANALYSIS - Water

Sample ID	P03-05-01	P03-05-02	P03-05-03	P03-05-04	P03-05-05
Sample Date	05-09-10	05-09-10	05-09-10	05-09-10	05-09-10
Sample Time	15:00	14:52	15:18	15:25	15:40
ALS ID	1	2	3	4	5

Dissolved Metals

Aluminum	D-Al	<0.050	<0.050	<0.050	<0.050	<0.050
Antimony	D-Sb	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
Arsenic	D-As	<0.0050	0.0052	<0.0050	<0.0050	0.0097
Barium	D-Ba	0.037	0.137	0.155	0.186	0.037
Beryllium	D-Be	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Boron	D-B	<0.10	<0.10	<0.10	<0.10	<0.10
Cadmium	D-Cd	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025
Calcium	D-Ca	276	172	137	155	198
Chromium	D-Cr	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
Cobalt	D-Co	<0.0025	0.0091	0.0044	0.0046	0.0098
Copper	D-Cu	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Iron	D-Fe	5.88	6.52	1.14	0.094	194
Lead	D-Pb	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Lithium	D-Li	<0.050	<0.050	<0.050	<0.050	<0.050
Magnesium	D-Mg	48.2	32.2	24.3	27.1	65.1
Manganese	D-Mn	0.712	12.0	9.59	10.9	19.0
Mercury	D-Hg	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Molybdenum	D-Mo	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Nickel	D-Ni	<0.025	<0.025	<0.025	<0.025	<0.025
Selenium	D-Se	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Silver	D-Ag	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025
Sodium	D-Na	28.8	10.5	10.0	11.3	41.0
Thallium	D-Tl	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium	D-Ti	<0.050	<0.050	<0.050	<0.050	<0.050
Uranium	D-U	0.0010	0.0038	0.0043	0.0047	0.0015
Vanadium	D-V	<0.030	<0.030	<0.030	<0.030	<0.15
Zinc	D-Zn	0.0062	0.0074	0.0062	0.0066	0.0081

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File No. W4413
RESULTS OF ANALYSIS - Water



Sample ID	P03-05-05-R	P03-05-06	P03-05-07	P03-05-08	P03-06-01
Sample Date	05-09-10	05-09-10	05-09-10	05-09-10	05-09-10
Sample Time	15:41	15:53	16:04	16:11	17:05
ALS ID	6	7	8	9	10

Physical Tests

Parameter	Unit	P03-05-05-R	P03-05-06	P03-05-07	P03-05-08	P03-06-01
Conductivity	(uS/cm)	1780	2550	7570	6610	1620
Hardness	CaCO3	832	739	2790	2340	799
pH		6.46	7.72	4.42	4.52	7.32

Dissolved Anions

Anion	Unit	P03-05-05-R	P03-05-06	P03-05-07	P03-05-08	P03-06-01
Alkalinity-Total	CaCO3	23.9	124	45.3	45.7	194
Bromide	Br	<0.010	-	-	-	-
Chloride	Cl	<5.0	-	-	-	-
Fluoride	F	0.28	-	-	-	-
Sulphate	SO4	1030	1300	6600	5550	804

Nutrients

Nutrient	Unit	P03-05-05-R	P03-05-06	P03-05-07	P03-05-08	P03-06-01
Nitrate Nitrogen	N	<0.050	-	-	-	-
Nitrite Nitrogen	N	<0.010	-	-	-	-

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RESULTS OF ANALYSIS - Water

Sample ID	P03-05-05-R	P03-05-06	P03-05-07	P03-05-08	P03-06-01
Sample Date	05-09-10	05-09-10	05-09-10	05-09-10	05-09-10
Sample Time	15:41	15:53	16:04	16:11	17:05
ALS ID	6	7	8	9	10

Dissolved Metals

Aluminum	D-Al	<0.050	<0.020	<0.020	<0.20	<0.050
Antimony	D-Sb	<0.0025	0.0033	<0.0010	0.012	<0.0025
Arsenic	D-As	0.0100	0.0020	<0.0020	0.021	<0.0050
Barium	D-Ba	0.038	<0.020	<0.10	<0.10	0.077
Beryllium	D-Be	<0.0050	<0.0050	<0.025	<0.025	<0.0050
Boron	D-B	<0.10	<0.10	<0.50	<0.50	<0.10
Cadmium	D-Cd	<0.00025	<0.00010	<0.00010	<0.0010	<0.00025
Calcium	D-Ca	214	119	325	297	223
Chromium	D-Cr	<0.0025	<0.0010	<0.0010	<0.010	<0.0025
Cobalt	D-Co	0.0098	<0.0010	<0.0010	<0.010	0.0210
Copper	D-Cu	<0.0050	<0.0040	<0.0020	<0.020	<0.0050
Iron	D-Fe	195	8.28	2190	1680	0.120
Lead	D-Pb	<0.0050	<0.0020	0.0099	0.102	<0.0050
Lithium	D-Li	<0.050	<0.050	<0.25	<0.25	<0.050
Magnesium	D-Mg	72.2	107	480	388	59.0
Manganese	D-Mn	19.4	0.097	30.8	23.3	14.0
Mercury	D-Hg	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Molybdenum	D-Mo	<0.0050	0.0055	<0.0020	<0.020	<0.0050
Nickel	D-Ni	<0.025	<0.010	<0.010	<0.10	<0.025
Selenium	D-Se	<0.0050	<0.0020	<0.0020	<0.020	<0.0050
Silver	D-Ag	<0.00025	<0.00010	<0.00010	<0.0010	<0.00025
Sodium	D-Na	43.6	235	290	284	36.2
Thallium	D-Tl	<0.0010	<0.00040	<0.00040	<0.0040	<0.0010
Titanium	D-Ti	<0.050	<0.050	<0.25	<0.25	<0.050
Uranium	D-U	0.0015	<0.00040	<0.00040	<0.0040	0.0146
Vanadium	D-V	<0.15	<0.030	<1.5	<1.0	<0.030
Zinc	D-Zn	0.0064	0.0054	0.389	0.289	0.199

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RESULTS OF ANALYSIS - Water



Sample ID	P03-06-02	P03-06-03	P03-06-04	P03-06-05	P03-06-06
Sample Date	05-09-10	05-09-10	05-09-10	05-09-10	05-09-10
Sample Time	17:19	17:25	17:35	17:42	17:54
ALS ID	11	12	13	14	15

Physical Tests

Conductivity	(uS/cm)	1490	2010	1070	1180	5880
Hardness	CaCO3	815	1160	558	452	3910
pH		7.07	6.80	7.07	6.09	5.49

Dissolved Anions

Alkalinity-Total		CaCO3	159	122	136	32.4	46.3
Bromide	Br		-	-	-	-	-
Chloride	Cl		-	-	-	-	-
Fluoride	F		-	-	-	-	-
Sulphate	SO4		734	1170	451	613	5080

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RESULTS OF ANALYSIS - Water

Sample ID	P03-06-02	P03-06-03	P03-06-04	P03-06-05	P03-06-06
Sample Date	05-09-10	05-09-10	05-09-10	05-09-10	05-09-10
Sample Time	17:19	17:25	17:35	17:42	17:54
ALS ID	11	12	13	14	15

Dissolved Metals

Aluminum	D-Al	<0.050	<0.10	<0.020	<0.020	<0.50
Antimony	D-Sb	<0.0025	<0.0050	<0.0010	0.0016	<0.025
Arsenic	D-As	<0.0050	<0.010	<0.0020	0.0066	<0.050
Barium	D-Ba	0.072	0.036	0.056	0.021	<0.040
Beryllium	D-Be	<0.0050	<0.0050	<0.0050	<0.0050	<0.010
Boron	D-B	<0.10	<0.10	<0.10	<0.10	<0.20
Cadmium	D-Cd	0.00071	0.0112	0.00011	<0.00010	<0.0025
Calcium	D-Ca	225	312	161	121	310
Chromium	D-Cr	<0.0025	<0.0050	<0.0010	<0.0010	<0.025
Cobalt	D-Co	0.0343	0.298	0.0123	0.0019	0.117
Copper	D-Cu	<0.0050	<0.010	<0.0020	<0.0020	<0.050
Iron	D-Fe	8.49	71.5	26.0	214	238
Lead	D-Pb	<0.0050	<0.010	<0.0020	0.0182	0.172
Lithium	D-Li	<0.050	<0.050	<0.050	<0.050	0.19
Magnesium	D-Mg	61.5	93.3	37.9	36.6	762
Manganese	D-Mn	15.2	32.1	11.1	8.46	152
Mercury	D-Hg	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Molybdenum	D-Mo	<0.0050	<0.010	0.0035	0.0047	<0.050
Nickel	D-Ni	0.036	0.449	0.018	<0.010	0.49
Selenium	D-Se	<0.0050	<0.010	<0.0020	<0.0020	<0.050
Silver	D-Ag	<0.00025	<0.00050	<0.00010	<0.00010	<0.0025
Sodium	D-Na	35.9	21.6	20.8	27.8	76.7
Thallium	D-Tl	<0.0010	<0.0020	<0.00040	<0.00040	<0.010
Titanium	D-Ti	<0.050	<0.050	<0.050	<0.050	<0.10
Uranium	D-U	0.0097	0.0030	0.0273	0.00375	<0.010
Vanadium	D-V	0.035	<0.090	<0.030	<0.090	0.141
Zinc	D-Zn	0.288	1.41	1.77	4.49	370

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RESULTS OF ANALYSIS - Water



Sample ID	BH14A	P96-6	BH13B	BH14B
Sample Date	05-09-11	05-09-11	05-09-11	05-09-11
Sample Time	13:20	11:00	13:50	13:15
ALS ID	16	17	18	19

Physical Tests

Conductivity	(uS/cm)	3740	2010	1030	3220
Hardness	CaCO3	2460	1220	601	2060
pH		7.25	6.87	7.47	7.46

Dissolved Anions

Alkalinity-Total		CaCO3	358	295	101	312
Bromide	Br		-	-	-	-
Chloride	Cl		-	-	-	-
Fluoride	F		-	-	-	-
Sulphate	SO4		2040	1030	437	1570

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File No. W4413
RESULTS OF ANALYSIS - Water



Sample ID	BH14A	P96-6	BH13B	BH14B
Sample Date	05-09-11	05-09-11	05-09-11	05-09-11
Sample Time	13:20	11:00	13:50	13:15
ALS ID	16	17	18	19

Dissolved Metals

Aluminum	D-Al	<0.050	<0.050	<0.020	<0.050
Antimony	D-Sb	<0.0025	<0.0025	<0.0010	<0.0025
Arsenic	D-As	<0.0050	<0.0050	<0.0020	<0.0050
Barium	D-Ba	0.023	0.035	0.025	<0.020
Beryllium	D-Be	<0.0050	<0.0050	<0.0050	<0.0050
Boron	D-B	<0.10	<0.10	<0.10	<0.10
Cadmium	D-Cd	<0.00025	0.00028	<0.00010	<0.00025
Calcium	D-Ca	600	328	164	506
Chromium	D-Cr	<0.0025	<0.0025	<0.0010	<0.0025
Cobalt	D-Co	<0.0025	<0.0025	<0.0010	<0.0025
Copper	D-Cu	<0.0050	<0.0050	0.0050	<0.0050
Iron	D-Fe	<0.030	<0.030	<0.030	<0.030
Lead	D-Pb	0.0056	<0.0050	<0.0020	<0.0050
Lithium	D-Li	0.069	<0.050	<0.050	0.057
Magnesium	D-Mg	233	96.9	46.3	194
Manganese	D-Mn	<0.010	<0.010	<0.010	<0.010
Mercury	D-Hg	<0.00020	<0.00020	<0.00020	<0.00020
Molybdenum	D-Mo	<0.0050	<0.0050	0.0040	<0.0050
Nickel	D-Ni	<0.025	<0.025	<0.010	<0.025
Selenium	D-Se	<0.0050	<0.0050	0.0053	<0.0050
Silver	D-Ag	<0.00025	<0.00025	<0.00010	<0.00025
Sodium	D-Na	15.4	7.2	4.9	12.5
Thallium	D-Tl	<0.0010	<0.0010	<0.00040	<0.0010
Titanium	D-Ti	<0.050	<0.050	<0.050	<0.050
Uranium	D-U	0.129	0.0557	0.00119	0.122
Vanadium	D-V	0.037	<0.030	<0.030	0.041
Zinc	D-Zn	0.164	0.555	0.0080	0.0763

Remarks regarding the analyses appear at the beginning of this report.
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 < = Less than the detection limit indicated.

Appendix 1 - QUALITY CONTROL - Replicates



Water	P03-05-05-R	P03-05-05-R	P03-06-01	P03-06-01
	05-09-10 15:41	QC # 463807	05-09-10 17:05	QC # 463808

Physical Tests

Conductivity	(uS/cm)	1780	1780	1620	1610
Hardness	CaCO3	832	755	799	875
pH		6.46	6.26	7.32	7.36

Dissolved Anions

Alkalinity-Total		CaCO3	23.9	35.7	194	198
Bromide	Br		<0.010	<0.010	-	-
Chloride	Cl		<5.0	<5.0	-	-
Fluoride	F		0.28	0.28	-	-
Sulphate	SO4		1030	1030	804	802

Nutrients

Nitrate Nitrogen		N	<0.050	<0.050	-	-
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 Results are expressed as milligrams per litre except where noted.
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Appendix 1 - QUALITY CONTROL - Replicates

Water	P03-05-05-R	P03-05-05-R	P03-06-01	P03-06-01
	05-09-10 15:41	QC # 463807	05-09-10 17:05	QC # 463808

Dissolved Metals

Aluminum	D-Al	<0.050	<0.050	<0.050	<0.050
Antimony	D-Sb	<0.0025	<0.0025	<0.0025	<0.0025
Arsenic	D-As	0.0100	0.0100	<0.0050	<0.0050
Barium	D-Ba	0.038	0.034	0.077	0.078
Beryllium	D-Be	<0.0050	<0.0050	<0.0050	<0.0050
Boron	D-B	<0.10	<0.10	<0.10	<0.10
Cadmium	D-Cd	<0.00025	<0.00025	<0.00025	<0.00025
Calcium	D-Ca	214	196	223	245
Chromium	D-Cr	<0.0025	<0.0025	<0.0025	<0.0025
Cobalt	D-Co	0.0098	0.0100	0.0210	0.0209
Copper	D-Cu	<0.0050	<0.0050	<0.0050	<0.0050
Iron	D-Fe	195	180	0.120	0.131
Lead	D-Pb	<0.0050	<0.0050	<0.0050	<0.0050
Lithium	D-Li	<0.050	<0.050	<0.050	<0.050
Magnesium	D-Mg	72.2	64.3	59.0	63.8
Manganese	D-Mn	19.4	18.2	14.0	14.3
Mercury	D-Hg	<0.00020	<0.00020	<0.00020	<0.00020
Molybdenum	D-Mo	<0.0050	<0.0050	<0.0050	<0.0050
Nickel	D-Ni	<0.025	<0.025	<0.025	<0.025
Selenium	D-Se	<0.0050	<0.0050	<0.0050	<0.0050
Silver	D-Ag	<0.00025	<0.00025	<0.00025	<0.00025
Sodium	D-Na	43.6	40.1	36.2	36.4
Thallium	D-Tl	<0.0010	<0.0010	<0.0010	<0.0010
Titanium	D-Ti	<0.050	<0.050	<0.050	<0.050
Uranium	D-U	0.0015	0.0015	0.0146	0.0146
Vanadium	D-V	<0.15	<0.15	<0.030	0.036
Zinc	D-Zn	0.0064	0.0059	0.199	0.222

Remarks regarding the analyses appear at the beginning of this report.
 Results are expressed as milligrams per litre except where noted.
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Appendix 2 - METHODOLOGY



Outlines of the methodologies utilized for the analysis of the samples submitted are as follows

Conductivity in Water

This analysis is carried out using procedures adapted from APHA Method 2510 "Conductivity". Conductivity is determined using a conductivity electrode.

Recommended Holding Time:

Sample: 28 days

Reference: APHA

Laboratory Location: ALS Environmental, Vancouver

pH in Water

This analysis is carried out using procedures adapted from APHA Method 4500-H "pH Value". The pH is determined in the laboratory using a pH electrode.

Recommended Holding Time:

Sample: 2 hours

Reference: APHA

Laboratory Location: ALS Environmental, Vancouver

Alkalinity in Water by Colourimetry

This analysis is carried out using procedures adapted from EPA Method 310.2 "Alkalinity". Total Alkalinity is determined using the methyl orange colourimetric method.

Recommended Holding Time:

Sample: 14 days

Reference: APHA

Laboratory Location: ALS Environmental, Vancouver

Dissolved Anions in Water by Ion Chromatography

This analysis is carried out using procedures adapted from APHA Method 4110 "Determination of Anions by Ion Chromatography" and EPA Method 300.0 "Determination of Inorganic Anions by Ion Chromatography". Anions are determined by filtering the sample through a 0.45 micron membrane filter and injecting the filtrate onto a Dionex IonPac AG17 anion exchange column with a hydroxide eluent stream. Anions routinely determined by this method include: bromide, chloride, fluoride, nitrate, nitrite and sulphate.

Recommended Holding Time:

Sample: 28 days (bromide, chloride, fluoride, sulphate)

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Appendix 2 - METHODOLOGY - Continued



Sample: 2 days (nitrate, nitrite)
Reference: APHA and EPA

Laboratory Location: ALS Environmental, Vancouver

Metals in Water

This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" 20th Edition 1998 published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedures may involve preliminary sample treatment by acid digestion, using either hotplate or microwave oven, or filtration (EPA Method 3005A). Instrumental analysis is by atomic absorption/emission spectrophotometry (EPA Method 7000 series), inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B), and/or inductively coupled plasma - mass spectrometry (EPA Method 6020).

Recommended Holding Time:
Sample: 6 months
Reference: EPA

Laboratory Location: ALS Environmental, Vancouver

Mercury in Water

This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" 20th Edition 1998 published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedure involves a cold-oxidation of the acidified sample using bromine monochloride prior to reduction of the sample with stannous chloride. Instrumental analysis is by cold vapour atomic fluorescence spectrophotometry (EPA Method 245.7).

Recommended Holding Time:
Sample: 28 days
Reference: EPA

Laboratory Location: ALS Environmental, Vancouver

Results contained within this certificate relate only to the samples as submitted.

This Certificate Of Analysis shall only be reproduced in full, except with the written approval of ALS Environmental.

End of Report