



CERTIFICATE OF ANALYSIS

Date: May 26, 2005

ALS File No. V8129

Report On: 40692 Water Analysis

Report To: Gartner Lee Ltd.
2251 2nd Ave
Whitehorse, YT
Y1A 5W1

Attention: Mr. Martin Guilbeault

Received: May 13, 2005

ALS ENVIRONMENTAL

per:

Brent C. Mack, B.Sc. - Client Services Coordinator
Natasha Markovic-Mirovic, B.Sc. - Project Chemist

File No. V8129

REMARKS



Please note that the detection limits for certain Metals have been increased for some of the samples reported in the following data tables due to sample matrix interferences.

File No. V8129
RESULTS OF ANALYSIS - Water



Sample ID	P01-07D	P01-07D- DD-34M	P01-07C	P01-07C- DD-27M	P01-02B
Sample Date	05-05-10	05-05-10	05-05-10	05-05-10	05-05-10
Sample Time	11:24	11:30	09:40	10:00	13:51
ALS ID	1	2	3	4	5

Physical Tests

Conductivity	(uS/cm)	1910	1820	1440	1520	182
Hardness	CaCO3	1090	1010	746	641	-
pH		7.30	7.53	7.85	8.02	8.11

Dissolved Anions

Alkalinity-Total		CaCO3	148	141	194	209	66.8
Sulphate	SO4		1020	941	605	619	19.0

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

RESULTS OF ANALYSIS - Water

Sample ID	P01-07D	P01-07D- DD-34M	P01-07C	P01-07C- DD-27M
Sample Date	05-05-10	05-05-10	05-05-10	05-05-10
Sample Time	11:24	11:30	09:40	10:00
ALS ID	1	2	3	4

Dissolved Metals

Aluminum	D-Al	<0.20	<0.20	<0.10	<0.10
Antimony	D-Sb	<0.010	<0.010	<0.0050	<0.0050
Arsenic	D-As	<0.020	<0.020	0.016	0.017
Barium	D-Ba	0.075	0.074	0.115	0.116
Beryllium	D-Be	<0.015	<0.015	<0.015	<0.015
Boron	D-B	<0.30	<0.30	<0.30	<0.30
Cadmium	D-Cd	<0.0010	<0.0010	<0.00050	<0.00050
Calcium	D-Ca	319	294	225	188
Chromium	D-Cr	<0.010	<0.010	<0.0050	<0.0050
Cobalt	D-Co	0.048	0.038	0.0115	<0.0050
Copper	D-Cu	<0.020	<0.020	<0.010	<0.010
Iron	D-Fe	21.2	19.9	21.8	16.7
Lead	D-Pb	<0.020	<0.020	<0.010	<0.010
Lithium	D-Li	<0.15	<0.15	<0.15	<0.15
Magnesium	D-Mg	71.1	65.9	44.7	41.8
Manganese	D-Mn	60.6	52.3	29.1	23.0
Mercury	D-Hg	<0.00020	<0.00020	<0.00020	<0.00020
Molybdenum	D-Mo	<0.020	<0.020	<0.010	<0.010
Nickel	D-Ni	<0.10	<0.10	<0.050	<0.050
Selenium	D-Se	<0.020	<0.020	<0.010	<0.010
Silver	D-Ag	<0.0010	<0.0010	<0.00050	<0.00050
Sodium	D-Na	26.3	32.4	31.1	75.3
Thallium	D-Tl	<0.0040	<0.0040	<0.0020	<0.0020
Titanium	D-Ti	<0.15	<0.15	<0.15	<0.15
Uranium	D-U	0.0047	0.0048	0.0075	0.0069
Vanadium	D-V	<0.090	<0.090	<0.090	<0.090
Zinc	D-Zn	0.018	0.023	<0.015	<0.015

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File No. V8129
RESULTS OF ANALYSIS - Water



Sample ID	P01-05A	P01-05B	P01-05A- DD-10M	P01-05B- DD-16M	X21A
Sample Date	05-05-10	05-05-10	05-05-10	05-05-10	05-05-10
Sample Time	17:55	17:22	17:30	17:00	16:15
ALS ID	6	7	8	9	10

Physical Tests

Conductivity	(uS/cm)	1500	1740	1330	1710	2830
Hardness	CaCO3	315	794	263	919	977
pH		7.46	7.89	7.72	7.94	5.74

Dissolved Anions

Alkalinity-Total		CaCO3	26.0	222	27.3	221	17.4
Sulphate	SO4		682	794	570	758	1760

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RESULTS OF ANALYSIS - Water

Sample ID	P01-05A	P01-05B	P01-05A- DD-10M	P01-05B- DD-16M	X21A
Sample Date	05-05-10	05-05-10	05-05-10	05-05-10	05-05-10
Sample Time	17:55	17:22	17:30	17:00	16:15
ALS ID	6	7	8	9	10

Dissolved Metals

Aluminum	D-Al	<0.020	<0.050	<0.020	<0.020	<0.10
Antimony	D-Sb	0.0456	0.0095	<0.0010	<0.0010	<0.0050
Arsenic	D-As	0.0044	0.0118	<0.0020	0.0058	<0.010
Barium	D-Ba	<0.060	<0.060	<0.060	<0.060	<0.060
Beryllium	D-Be	<0.015	<0.015	<0.015	<0.015	<0.015
Boron	D-B	<0.30	<0.30	<0.30	<0.30	<0.30
Cadmium	D-Cd	<0.00010	<0.00025	<0.00010	<0.00010	<0.00050
Calcium	D-Ca	94.6	246	79.3	285	134
Chromium	D-Cr	<0.0010	<0.0025	<0.0010	<0.0010	<0.0050
Cobalt	D-Co	0.0021	0.0088	0.0018	0.0064	0.0336
Copper	D-Cu	<0.0020	<0.0050	<0.0020	<0.0020	<0.010
Iron	D-Fe	<0.090	4.91	0.783	11.2	502
Lead	D-Pb	0.0257	0.0264	<0.0020	<0.0020	0.014
Lithium	D-Li	<0.15	<0.15	<0.15	<0.15	<0.15
Magnesium	D-Mg	19.2	43.6	15.8	50.4	156
Manganese	D-Mn	0.125	15.5	0.098	17.7	30.4
Mercury	D-Hg	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Molybdenum	D-Mo	0.0088	<0.0050	0.0155	<0.0020	<0.010
Nickel	D-Ni	<0.010	<0.025	<0.010	<0.010	<0.050
Selenium	D-Se	<0.0020	<0.0050	<0.0020	<0.0020	<0.010
Silver	D-Ag	<0.00010	<0.00025	<0.00010	<0.00010	<0.00050
Sodium	D-Na	146	52.4	174	66.3	94.2
Thallium	D-Tl	<0.00040	<0.0010	<0.00040	<0.00040	<0.0020
Titanium	D-Ti	<0.15	<0.15	<0.15	<0.15	<0.15
Uranium	D-U	<0.00040	0.0058	<0.00040	0.00556	<0.0020
Vanadium	D-V	<0.090	<0.090	<0.090	<0.090	<0.090
Zinc	D-Zn	<0.015	0.052	0.187	0.037	0.837

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RESULTS OF ANALYSIS - Water



Sample ID	X21B	X21C	X21B-R	P01-11
Sample Date	05-05-10	05-05-10	05-05-10	05-05-10
Sample Time	16:10	16:20	16:15	14:30
ALS ID	11	12	13	14

Physical Tests

Conductivity	(uS/cm)	1280	349	1290	1940
Hardness	CaCO3	602	190	606	1170
pH		7.63	8.29	7.85	7.97

Dissolved Anions

Alkalinity-Total		CaCO3	165	177	161	285
Sulphate	SO4		520	9.34	544	914

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File No. V8129
RESULTS OF ANALYSIS - Water



Sample ID	X21B	X21C	X21B-R	P01-11
Sample Date	05-05-10	05-05-10	05-05-10	05-05-10
Sample Time	16:10	16:20	16:15	14:30
ALS ID	11	12	13	14

Dissolved Metals

Aluminum	D-Al	<0.050	<0.010	<0.020	<0.020
Antimony	D-Sb	<0.0025	<0.00050	<0.0010	<0.0010
Arsenic	D-As	<0.0050	0.0248	0.0049	0.0207
Barium	D-Ba	<0.060	0.178	<0.060	<0.060
Beryllium	D-Be	<0.015	<0.015	<0.015	<0.015
Boron	D-B	<0.30	<0.30	<0.30	<0.30
Cadmium	D-Cd	<0.00025	<0.000050	<0.00010	<0.00010
Calcium	D-Ca	179	59.8	180	357
Chromium	D-Cr	<0.0025	<0.00050	<0.0010	<0.0010
Cobalt	D-Co	0.0074	<0.00050	0.0073	0.0015
Copper	D-Cu	<0.0050	<0.0010	<0.0020	<0.0020
Iron	D-Fe	31.9	0.292	31.4	24.7
Lead	D-Pb	<0.0050	<0.0010	<0.0020	<0.0020
Lithium	D-Li	<0.15	<0.15	<0.15	<0.15
Magnesium	D-Mg	37.6	9.94	37.6	66.9
Manganese	D-Mn	13.4	0.262	13.6	13.4
Mercury	D-Hg	<0.00020	<0.00020	<0.00020	<0.00020
Molybdenum	D-Mo	<0.0050	0.0040	<0.0020	<0.0020
Nickel	D-Ni	<0.025	<0.0050	<0.010	<0.010
Selenium	D-Se	<0.0050	<0.0010	<0.0020	<0.0020
Silver	D-Ag	<0.00025	<0.000050	<0.00010	<0.00010
Sodium	D-Na	65.0	<6.0	64.2	46.6
Thallium	D-Tl	<0.0010	<0.00020	<0.00040	<0.00040
Titanium	D-Ti	<0.15	<0.15	<0.15	<0.15
Uranium	D-U	0.0029	0.00024	0.00305	0.00315
Vanadium	D-V	<0.090	<0.090	<0.090	<0.090
Zinc	D-Zn	0.164	<0.015	0.166	<0.015

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Appendix 1 - QUALITY CONTROL - Replicates



Water	P01-02B	P01-02B
	05-05-10 13:51	QC # 441212

Dissolved Anions

Alkalinity-Total		CaCO3	66.8	68.0
Sulphate	SO4		19.0	18.8

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

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

Sulphate in Water

This analysis is carried out using procedures adapted from APHA Method 4500-SO4 "Sulphate". Sulphate is determined using the turbidimetric method.

Recommended Holding Time:

Sample: 28 days

Reference: APHA

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