



HOPE BAY MINING LTD
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North Vancouver BC V7P 3S1

Date Received: 20-JUL-11
Report Date: 25-JUL-11 17:02 (MT)
Version: DRAFT

Client Phone: 604-985-2572

Certificate of Analysis

Lab Work Order #: L1034072
Project P.O. #: CED24A
Job Reference: COMPLIANCE WATER SAMPLES
Legal Site Desc:
C of C Numbers: 1

Jessica Spira
Senior Account Manager

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1034072-1 ST1-19JULY11							
Sampled By: L.KANIAK/J.TURK on 19-JUL-11 @ 16:19							
Matrix: WATER							
Total Metals - CCME							
Mercury (Hg) - Total							
Mercury (Hg)-Total	<0.00010		0.00010	mg/L		25-JUL-11	R2224172
Total Metals in Water by ICPMS (Low)							
Aluminum (Al)-Total	0.446		0.010	mg/L		25-JUL-11	R2224163
Antimony (Sb)-Total	<0.00040		0.00040	mg/L		25-JUL-11	R2224163
Arsenic (As)-Total	0.00116		0.00040	mg/L		25-JUL-11	R2224163
Barium (Ba)-Total	0.0074		0.0030	mg/L		25-JUL-11	R2224163
Beryllium (Be)-Total	<0.0010		0.0010	mg/L		25-JUL-11	R2224163
Boron (B)-Total	0.155		0.050	mg/L		25-JUL-11	R2224163
Cadmium (Cd)-Total	<0.000050		0.000050	mg/L		25-JUL-11	R2224163
Chromium (Cr)-Total	<0.0050		0.0050	mg/L		25-JUL-11	R2224163
Cobalt (Co)-Total	<0.0020		0.0020	mg/L		25-JUL-11	R2224163
Copper (Cu)-Total	0.0038		0.0010	mg/L		25-JUL-11	R2224163
Lead (Pb)-Total	0.00020		0.00010	mg/L		25-JUL-11	R2224163
Lithium (Li)-Total	<0.010		0.010	mg/L		25-JUL-11	R2224163
Molybdenum (Mo)-Total	<0.0050		0.0050	mg/L		25-JUL-11	R2224163
Nickel (Ni)-Total	<0.0020		0.0020	mg/L		25-JUL-11	R2224163
Selenium (Se)-Total	<0.00040		0.00040	mg/L		25-JUL-11	R2224163
Silver (Ag)-Total	<0.00010		0.00010	mg/L		25-JUL-11	R2224163
Thallium (Tl)-Total	<0.00010		0.00010	mg/L		25-JUL-11	R2224163
Tin (Sn)-Total	<0.050		0.050	mg/L		25-JUL-11	R2224163
Titanium (Ti)-Total	0.0091		0.0010	mg/L		25-JUL-11	R2224163
Uranium (U)-Total	<0.00010		0.00010	mg/L		25-JUL-11	R2224163
Vanadium (V)-Total	0.0017		0.0010	mg/L		25-JUL-11	R2224163
Zinc (Zn)-Total	0.0066		0.0040	mg/L		25-JUL-11	R2224163
Total Metals in Water by ICPOES (Low)							
Calcium (Ca)-Total	17.9		0.50	mg/L		25-JUL-11	R2224061
Iron (Fe)-Total	0.397		0.010	mg/L		25-JUL-11	R2224061
Magnesium (Mg)-Total	5.14		0.10	mg/L		25-JUL-11	R2224061
Manganese (Mn)-Total	0.0219		0.0020	mg/L		25-JUL-11	R2224061
Potassium (K)-Total	4.98		0.10	mg/L		25-JUL-11	R2224061
Sodium (Na)-Total	60.6		1.0	mg/L		25-JUL-11	R2224061
Miscellaneous Parameters							
Ammonia (as N)	3.97		0.050	mg/L		22-JUL-11	R2222870
Cyanide, Total	0.0098		0.0020	mg/L		25-JUL-11	R2224303
Nitrate (as N)	11.5		0.050	mg/L		22-JUL-11	R2223004
Nitrite (as N)	0.104		0.050	mg/L		22-JUL-11	R2223004
Oil And Grease (Visible Sheen)	NO VISIBLE SHEEN					22-JUL-11	R2222814
Oil and Grease	<1.0		1.0	mg/L		22-JUL-11	R2223219
Sulfate (SO4)	24.0		0.50	mg/L		22-JUL-11	R2223004
Total Suspended Solids	<3.0		3.0	mg/L		22-JUL-11	R2222975
pH	8.24		0.10	pH		21-JUL-11	R2221478

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

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
CN-TOT-WP	Water	Cyanide, Total	EPA 335.3 (modified)
Total or strong acid dissociable (SAD) cyanide in aqueous matrices is determined by sample distillation and analyzed using colourimetric detection.			
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.			
NO2-IC-ED	Water	Nitrite as N by IC	APHA 4110 B-ION CHROMATOGRAPHY
NO3-IC-ED	Water	Nitrate as N by IC	APHA 4110 B-ION CHROMATOGRAPHY
OGG-ED	Water	Oil and Grease-Gravimetric	APHA 5520 G HEXANE MTBE EXT. GRAVIME
OGG-VISIBLE-SHEEN-ED	Water	Oil and Grease - Visible Sheen	Alberta Environment Regs. (Ind. Runoff)
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
SOLIDS-TOTSUS-ED	Water	Total Suspended Solids	APHA 2540 D-Gravimetric

** 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
WP	ALS ENVIRONMENTAL - WINNIPEG, MANITOBA, 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 ww - 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.

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