APPENDIX 2

2008 3rd Quarter

Garrow Lake Effluent Discharge Monitoring

by

Gartner Lee Ltd. (AECOM)

AECOM
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November 17, 2008 Project Number: 80325

Bruce Donald
Reclamation Manager
Teck Cominco Metals, Ltd.
601 Knighton Road
Kimberley, BC, V1A 3E1
Canada

Dear Mr. Donald:

Re: Polaris Mine 2008 3rd Quarter Report

Please find attached the Polaris Mine report for the third quarter of 2008. Similar to previous years, the report format follows the Environment Canada Mining Effluent Regulation (MMER) report protocols.

Mining operations at Polaris ceased in 2002. Site decommissioning was completed in 2004. Effluent quality monitoring in Garrow Creek has been on-going since closure. In 2006 Teck Cominco completed a three-year MMER and Environmental Effects Monitoring (EEM) program in order to achieve "closed mine status". The closed mine status has no further reporting requirements to Environment Canada. Monitoring of Garrow Creek and reporting continued to be required to meet the terms and conditions of the site's Water License. These monitoring requirements are similar to MMER requirements and therefore follow similar reporting protocols.

In 2008, effluent samples were collected by local residents flown to the site on a weekly basis, and by a small field crew onsite from July 12 to July 19, 2008. The local residents were trained in sampling collection, handling techniques and protocols by a Gartner Lee Limited (now known as AECOM) technician before they commenced sampling on their own.

It was assumed that flow within Garrow Creek would initiate similar to previous years; the last week of June / first week of July,. The first effluent sample was collected from the creek on July 3, 2008. Flow continued throughout July, August and into September. The last sample was collected on September 6, 2008. Local residents flew to the site on September 13, 2008 to collect an effluent sample, but it was not possible because Garrow Creek was frozen.

Effluent was characterized on a weekly basis for a total of ten sampling events. Flow measurements were made during each sampling event, except for July 10 and July 31, 2008. Samples were analyzed on a weekly basis for general chemistry, total metals, radium 226 and cyanide. Field parameters (pH and

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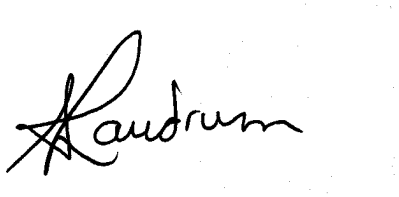
water temperature) were not collected on July 10 and 15, 2008. Once a month, samples were analyzed for ammonia, except for July 2008. A chronology of the 2008 sampling season is presented in Appendix A. Tables 1a, 1b, 1c and 1d summarize the effluent concentrations. The effluent quality results are presented in Table 2 and the laboratory reports are included in Appendix B. Analytical results for all parameters were less than the water licence discharge limits.

Standard acute LC_{50} tests, 96-h (rainbow trout) and 48-h (*Daphnia magna*), were conducted throughout the 3rd quarter. Three sets (i.e., rainbow trout and *Daphnia magna*) of acute toxicity tests were conducted on samples collected July 3, 2008, August 30, 2008 and September 6, 2008. The results are summarized in Table 3 and the acute toxicity testing reports are included in Appendix C. Results show that no toxicity was observed (0% mortality at 100% concentration) for either rainbow trout or *Daphnia magna* on all sampling dates. An attempt was made to conduct additional acute toxicity testing on samples collected August 15, 2008. Results are not available, as the samples arrived at the laboratory after the specified holding times due to delays incurred during shipping.

Please contact the undersigned if you have any questions regarding the Polaris Mine 2008 3rd Quarter Report.

Gartner Lee Limited doing business as AECOM,



Arlene Laudrum, P.Geol.
Senior Environmental Geologist
Arlene.Laudrun@aecom.com

c.c. Kimberley Wolgemuth, AECOM

KAW:kw

ATTACHMENTS

Table 1a. - 2008 3rd Quarter Polaris Mine Report, Concentrations of Effluent Sampled Weekly

Table 1b. - 2008 3rd Quarter Polaris Mine Report, Monthly Mean Concentrations of Effluent

Table 1c. - 2008 3rd Quarter Polaris Mine Report, Mass Loading of Deleterious Substance for Each Day Sampled

Table 1d. - 2008 3rd Quarter Polaris Mine Report, Mass Loading per Calendar Month for Each Deleterious Substance

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Table 2. - 2008 3rd Quarter Polaris Mine Effluent Characterization Results

Table 3. - 2008 3rd Quarter Polaris Mine Results of Acute Lethality Tests and *Daphnia magna* Monitoring Tests

Appendix A - 2008 Polaris Mine Sampling Event Chronology

Appendix B - Effluent Quality Analytical Test Reports

Appendix C - Acute Toxicity Test Reports

2008 3rd QUARTER MMER REPORT
LOCATION - FINAL DISCHARGE POINT FROM GARROW LAKE (GARROW LAKE DAM SIPHONS)

Table 1a. CONCENTRATIONS OF EFFLUENT FOR MMER SCHEDULE 4 SAMPLED WEEKLY

Sample Taken During the Week of	Date Sample Taken	DELETERIOUS SUBSTANCE								pH	Collection Method
		Arsenic	Copper	Cyanide	Lead	Nickel	Zinc	TSS	Radium 226		
30-Jun-08	03-Jul-08	*0.00020*	0.00215	*0.0050*	0.000215	0.00466	0.0242	4.4	*0.005*	8.42	Grab
07-Jul-08	10-Jul-08	*0.00020*	0.000865	*0.0050*	0.000774	0.00202	0.0798	*3.0*	0.006	7.95	Grab
14-Jul-08	19-Jul-08	*0.00020*	0.000554	*0.0050*	0.000189	0.00235	0.0121	*3.0*	0.020	7.94	Grab
21-Jul-08	24-Jul-08	*0.00020*	0.000837	0.0060	0.000316	0.00270	0.0169	*3.0*	*0.005*	7.95	Grab
28-Jul-08	31-Jul-08	*0.00020*	0.00110	*0.0050*	0.000643	0.00371	0.0304	*3.0*	*0.005*	7.90	Grab
04-Aug-08	07-Aug-08	*0.00020*	0.00104	*0.0050*	0.000679	0.00499	0.0360	*3.0*	0.010	7.87	Grab
11-Aug-08	15-Aug-08	*0.00020*	0.000924	*0.0050*	0.000263	0.00535	0.0365	4.2	*0.005*	7.98	Grab
11-Aug-08	15-Aug-08	*0.00020*	0.000866	*0.0050*	0.000269	0.00519	0.0368	*3.0*	*0.005*	8.00	Grab
18-Aug-08	22-Aug-08	*0.00020*	0.00117	*0.0050*	0.000302	0.00651	0.0520	*3.0*	*0.005*	7.86	Grab
25-Aug-08	29-Aug-08	*0.00020*	0.00106	*0.0050*	0.000213	0.00674	0.0522	*3.0*	*0.005*	8.10	Grab
01-Sep-08	06-Sep-08	*0.00020*	0.00112	*0.0050*	0.000247	0.00775	0.0502	3.3	*0.005*	8.08	Grab
01-Sep-08	06-Sep-08	*0.00020*	0.00108	*0.0050*	0.000173	0.00753	0.0485	*3.0*	0.01	8.06	Grab
08-Sep-08	13-Sep-08	Creek Frozen - No Sample									

Notes:

All concentrations are in mg/L except Radium 226 which is Bq/L and pH which is in pH units

Concentrations in italicized font are less than the detection limit shown

The second sampling event on August 15 and September 6, 2008 represents the results from the QA/QC sample taken on the same day

Table 1b. MONTHLY MEAN CONCENTRATIONS OF EFFLUENT FOR MMER SCHEDULE 4

MONTH OF	MONTHLY MEAN CONCENTRATION OF DELETERIOUS SUBSTANCE							
	Arsenic	Copper	Cyanide	Lead	Nickel	Zinc	TSS	Radium 226
July/08	0.0002	0.0011	0.0052	0.0004	0.0031	0.0327	3.3	0.0082
August/08	0.0002	0.0010	0.0050	0.0003	0.0058	0.0427	3.2	0.0060
September/08	0.0002	0.0011	0.0050	0.0002	0.0076	0.0494	3.2	0.0075

Notes:

All concentrations are in mg/L except Radium 226 which is Bq/L

Monthly Mean Concentrations is the mean value of the concentrations measured in all water samples collected during each month

The month of September value is a mean of only two numbers

Table 1c. MASS LOADING OF DELETERIOUS SUBSTANCE FOR EACH DAY SAMPLED

Sample Taken During the Week of	Date Sample Taken	DAILY MASS LOADING OF DELETERIOUS SUBSTANCE								Average Daily Discharge Rate (m^3/day)
		Arsenic	Copper	Cyanide	Lead	Nickel	Zinc	TSS	Radium 226	
30-Jun-08	**03-Jul-08**	0.0002	0.002	0.0043	0.0002	0.004	0.021	3.8	0.004	868
07-Jul-08	**10-Jul-08**	-	-	-	-	-	-	-	-	-
14-Jul-08	**19-Jul-08**	0.001	0.002	0.020	0.001	0.009	0.049	12.1	0.080	4,017
21-Jul-08	**24-Jul-08**	0.0002	0.001	0.006	0.000	0.003	0.018	3.1	0.005	1,037
28-Jul-08	**31-Jul-08**	-	-	-	-	-	-	-	-	-
04-Aug-08	**07-Aug-08**	0.006	0.033	0.158	0.021	0.158	1.137	94.8	0.316	31,590
11-Aug-08	**15-Aug-08**	0.001	0.005	0.029	0.002	0.031	0.214	24.6	0.029	5,862
11-Aug-08	**15-Aug-08**	0.001	0.005	0.029	0.002	0.030	0.216	17.6	0.029	5,862
18-Aug-08	**22-Aug-08**	0.001	0.008	0.034	0.002	0.045	0.356	20.5	0.034	6,847
25-Aug-08	**29-Aug-08**	0.002	0.011	0.050	0.002	0.067	0.517	29.7	0.050	9,906
01-Sep-08	**06-Sep-08**	0.003	0.017	0.076	0.004	0.118	0.765	50.3	0.076	15,240
01-Sep-08	**06-Sep-08**	0.003	0.016	0.076	0.003	0.115	0.739	45.7	0.152	15,240
08-Sep-08	**13-Sep-08**	Creek Frozen								

Notes:

Mass Loading is in kilograms/day of the deleterious substance deposited except Radium 226 which is in Bq/day

No discharge was measured on July 10 and July 31, 2008

07-Aug-08 represents a period of high rainfall and ice melting

The second sampling event on August 15 and September 6, 2008 represents the results from the QA/QC sample taken on the same day

Table 1d. MASS LOADING PER CALENDAR MONTH FOR EACH DELETERIOUS SUBSTANCE

CALENDAR MONTH OF	MASS LOADING FOR DELETERIOUS SUBSTANCE								Average Daily Discharge Rate (m^3/week)	Total Monthly Volume (m^3/month)
	Arsenic	Copper	Cyanide	Lead	Nickel	Zinc	TSS	Radium 226		
July/08	0.01	0.05	0.32	0.01	0.17	0.90	196.1	0.93	13,818	61,194
August/08	0.07	0.38	1.86	0.18	2.05	15.13	1160.9	2.84	84,094	372,415
September/08	0.09	0.50	2.29	0.10	3.49	22.56	1440.2	3.43	106,680	182,880

Notes:

Mass Loading Units are in kg/month except Radium 226, which is in Bq/month

Total Mass Loading for calendar month calculated by multiplying the Average Daily Mass Loading for the Month x # days in the month

Average Weekly Discharge Rate is calculated by multiplying the Average Daily Discharge Rate x 7 days

Total Monthly Volume is calculated by multiplying Average Daily Discharge Rate for the month x # days in the month

Average Daily Discharge Rate and Total Monthly Volume for September 2008 is based on only one measurement

On 13-Sep-08 the final discharge point in Garrow Creek was frozen, with no flow under ice.

Table 2. 2008 3rd Quarter Polaris Mine Effluent Characterization Results

Effluent Characterization from Final Discharge Point - Garrow Lake Former Dam / Syphons
Northing: 75°22'32"
Easting: 96°48'37"

		Facility Name	Teck Cominco Metals Limited - Polaris Mine (Little Cornwallis Island)											
		FDP Name	Garrow Lake Dam Siphons											
		Sample ID	G CREEK	G CREEK	G CREEK	G CREEK	G CREEK	G CREEK	G CREEK	G CREEK QA/QC	G CREEK	G CREEK	G CREEK	G CREEK QA/QC
		Date Sampled	03-Jul-08	10-Jul-08	19-Jul-08	24-Jul-08	31-Jul-08	07-Aug-08	15-Aug-08	15-Aug-08	22-Aug-08	29-Aug-08	06-Sep-08	06-Sep-08
		ALS Sample ID	L652656	L655970	L661124-1	L663175-1	L664579	L670595-1	L670595-2	L670595-3	L675318-1	L676658-1	L680721	L680721
		Sample Method	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
Field Tests	**units**	**Detection Limit**												
Field pH	pH	-	7.55	-	8.10	7.58	-	8.04	8.1	-	8.05	8.14	8.96	-
Temperature	°C	-	11.3	-	2.2	6.1	-	5.3	4.5	-	4.5	4	2	-
Physical Tests														
Salinity (EC)	g/L	*1*	2.1	2.3	3.3	3.7	4.4	5.2	6.3	6.3	6.5	6.8	6.7	6.8
Hardness (as CaCO3)	mg/L	*5*	559	445	678	768	942	1110	1260	1210	1420	1480	1540	1520
pH	pH	*0.01*	8.42	7.95	7.94	7.95	7.90	7.87	7.98	8.00	7.86	8.10	8.08	8.06
Total Suspended Solids	mg/L	*3*	4.4	<3.0	<3.0	<3.0	<3.0	<3.0	4.2	<3.0	<3.0	<3.0	3.3	<3.0
Anions and Nutrients														
Ammonia as N	mg/L	*0.005*	-	-	-	-	-	-	0.0072	0.0070	-	-	0.0102	0.0087
Alkalinity, Total (as CaCO3)	mg/L	*2*	-	-	71.0	-	78.100	99.3	103	108	110	111	121	122
Cyanides														
Cyanide, Total	mg/L	*0.005*	<0.0050	<0.0050	<0.0050	0.0060	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Metals														
Aluminum (Al)-Total	mg/L	*0.02*	0.048	<0.010	0.450	<0.020	<0.010	<0.040	<0.020	<0.020	<0.020	<0.020	<0.050	<0.050
Arsenic (As)-Total	mg/L	*0.0002*	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Cadmium (Cd)-Total	mg/L	*0.00002*	0.000163	0.000068	0.000094	0.000141	<0.000199	0.000261	0.000279	0.000270	0.000359	0.000322	0.000312	0.000294
Calcium (Ca)-Total	mg/L	*0.5*	86.1	50.4	63.7	74.7	94.2	126	125	121	129	128	135	132
Copper (Cu)-Total	mg/L	*0.00005*	0.00215	0.000865	0.000554	0.000837	0.00110	0.00104	0.000924	0.000866	0.00117	0.00106	0.00112	0.00108
Iron (Fe)-Total	mg/L	*0.01*	0.082	0.022	<0.015	0.014	0.023	0.052	0.013	0.011	0.014	<0.010	0.013	<0.010
Lead (Pb)-Total	mg/L	*0.00005*	0.000215	0.000774	0.000189	0.000316	0.000643	0.000679	0.000263	0.000269	0.000302	0.000213	0.000247	0.000173
Magnesium (Mg)-Total	mg/L	*0.2*	83.5	77.4	126	141	172	193	229	221	267	281	293	289
Manganese (Mn)-Total	mg/L	*0.00005*	0.00986	0.00201	0.00208	0.00375	0.01030	0.0158	0.00560	0.00526	0.00463	0.00313	0.00243	0.00274
Mercury (Hg)-Total	mg/L	*0.00001*	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum (Mo)-Total	mg/L	*0.001*	0.00297	0.00328	0.00211	0.0022	0.0023	0.0030	0.0030	0.0028	0.0035	0.0035	0.0032	0.0031
Nickel (Ni)-Total	mg/L	*0.00005*	0.00466	0.00202	0.00235	0.00270	0.00371	0.00499	0.00535	0.00519	0.00651	0.00674	0.00775	0.00753
Zinc (Zn)-Total	mg/L	*0.0005*	0.0242	0.0798	0.0121	0.0169	0.0304	0.0360	0.0365	0.0368	0.0520	0.0522	0.0502	0.0485
Radiological Parameters														
Radium-226	Bq/L	*0.005*	<0.005	0.006	0.020	<0.005	<0.005	0.010	<0.005	<0.005	<0.005	<0.005	<0.005	0.01

Table 3. 2008 3rd Quarter Polaris Mine Results of Acute Lethality Tests

Date Sample Collected	Effluent Acutely Lethal to Rainbow trout (YES or NO)	Effluent Acutely Lethal to *Daphnia magna* (YES or NO)
03-Jul-08	NO	NO
30-Aug-08	NO	NO
06-Sep-08	NO	NO

Appendix A

2008 Polaris Mine Sampling Event Chronology

Date	Event Type	Observations/Comments
Sat. Jun-28-08	-	Approximate date flow initiated in Garrow Creek
Thur. Jul-03-08	Monthly	Water chemistry sample collection from Garrow Creek. ALS File # 652656
	Acute toxicity	Toxicity samples arrived at the lab on Tuesday July 8, 2008 within holding times for all tests. The rainbow trout test was started on Tuesday July 8, 2008. The test was completed without incident and the results were a pass. The *Daphnia* test was started on Tuesday July 8, 2008. The test was completed without incident and the results were a pass. Nautilus Environmental WO # 08129-30
Thur. Jul-10-08	Weekly	Water chemistry sample collection from Garrow Creek. ALS File # 655970
Sat. Jul-19-07	Monthly	Water chemistry sample collection from Garrow Creek. ALS File # 661124
Thur. Jul-24-08	Monthly	Water chemistry sample collection from Garrow Creek. ALS File # 663175
Thur. Jul-31-08	Weekly	Water chemistry sample collection from Garrow Creek. ALS File # 664579
Thur. Aug-07-08	Weekly	Water chemistry sample collection from Garrow Creek. Error in shipping caused these samples to arrive at the same time as Aug. 15 samples. ALS File # 670595
Fri. Aug-15-08	Weekly	Water chemistry sample collection from Garrow Creek. ALS File # 670595
	Acute Toxicity	Samples didn't arrive at the lab within the 5 day holding time. No tests were conducted.
Fri. Aug-22-08	Monthly	Water chemistry sample collection from Garrow Creek. ALS File # 675318
Fri. Aug-29-08	Weekly	Water chemistry sample collection from Garrow Creek. ALS File # 676658
	Acute Toxicity	holding times for all tests. The rainbow trout test was started on Wednesday September 3, 2008. The test was completed without incident and the results were a pass. The *Daphnia* test was started on Wednesday September 3, 2008. The test was completed without incident and the results were a pass. Nautilus Environmental WO # 08210 211.
Sat. Sep-06-08	Weekly	Water chemistry sample collection from Garrow Creek. ALS File # 680721
	Acute Toxicity	times for all tests. The rainbow trout test was started on Tuesday September 9, 2008. The test was completed without incident and the results were a pass. The *Daphnia* test was started on Tuesday September 9, 2008. The test was completed without incident and the results were a pass. Nautilus Environmental WO # 08218 219.
Sat. Sep-13-08		No Monthly samples taken. Garrow Creek frozen solid. No flow under ice.
		No Acute Toxicity samples taken. Garrow Creek frozen solid.

Appendix B

Effluent Quality Analytical Test Reports

Certificate of Analysis

TECK COMINCO METALS LTD.

ATTN: BRUCE DONALD

BAG 2000

KIMBERLEY BC V1A 3E1

Reported On: 22-SEP-08 04:12 PM
Revision: 2

Lab Work Order #: **L652656** **Date Received:** **08-JUL-08**

Project P.O. #: 7541
Job Reference: 80325
Legal Site Desc:
CofC Numbers: A071261

Other Information:

Comments: Please note that the raw bottle was received preserved with Nitric Acid. One of the Cyanide bottles was not preserved. We used that bottle for pH, Salinity and TSS analyses.

Andre Langlais
Account Manager

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID	L652656-1				
	Description					
	Sampled Date	03-JUL-08				
	Sampled Time	16:00				
	Client ID	G CREEK				
Grouping	**Analyte**					
SEAWATER						
Physical Tests	Hardness (as CaCO3) (mg/L)	559				
	pH (pH)	8.42				
	Salinity (EC) (g/L)	2.1				
	Total Suspended Solids (mg/L)	4.4				
Cyanides	Cyanide, Total (mg/L)	<0.0050				
Total Metals	Aluminum (Al)-Total (mg/L)	0.048				
	Arsenic (As)-Total (mg/L)	<0.00020				
	Cadmium (Cd)-Total (mg/L)	0.000163				
	Calcium (Ca)-Total (mg/L)	86.1				
	Copper (Cu)-Total (mg/L)	0.00215				
	Iron (Fe)-Total (mg/L)	0.082				
	Lead (Pb)-Total (mg/L)	0.00215				
	Magnesium (Mg)-Total (mg/L)	83.5				
	Manganese (Mn)-Total (mg/L)	0.00986				
	Mercury (Hg)-Total (mg/L)	<0.000010				
	Molybdenum (Mo)-Total (mg/L)	0.00297				
	Nickel (Ni)-Total (mg/L)	0.00466				
	Zinc (Zn)-Total (mg/L)	0.0242				

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

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID	L652656-1				
	Description					
	Sampled Date	03-JUL-08				
	Sampled Time	16:00				
	Client ID	G CREEK				
Grouping	**Analyte**					
WATER						
Radiological Parameters	Radium-226 (Bq/L)	<0.005				

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

Reference Information

Additional Comments for Sample Listed:

Samplenum	Matrix	Report Remarks	Sample Comments

Qualifiers for Sample Submission Listed:

Qualifier	Description
ISCR:ST	Improper Sample Container Received: Subsamples Taken - Sample 1 - Total metals
SPL	Sample was Preserved at the laboratory - Sample 1 - Total metals

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
AS-TOT-C-HVAAS-VA	Seawater	Total Arsenic in Seawater by HVAAS	PUGET SOUND PROTOCOLS, EPA 7000 SERIES

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis of the seawater is by atomic absorption/emission spectrophotometry (EPA Method 7000 series).

CN-C-T-MID-HH-COL-VA	Seawater	Total Cyanide by HH Distil. (seawater)	APHA 4500-CN "Cyanide"

This analysis is carried out using procedures adapted from APHA Method 4500-CN "Cyanide". Total or strong acid dissociable (SAD) cyanide are determined by sample distillation and analysis using the chloramine-T colourimetric method.

HARDNESS-CALC-VA	Seawater	Hardness	APHA 2340B

Hardness is calculated from Calcium and Magnesium concentrations, and is expressed as calcium carbonate equivalents.

HG-TOT-C-CVAFS-VA	Seawater	Total Mercury in Seawater by CVAFS	PUGET SOUND PROTOCOLS, EPA 245.7

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedure involves a cold-oxidation of the acidified seawater 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).

MET-TOT-C-ICP-VA	Seawater	Total Metals in Seawater by ICPOES	PUGET SOUND PROTOCOLS, EPA 6010B

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis is by inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B).

MET-TOT-C-LOW-MS-VA	Seawater	Total Metals in Seawater by ICPMS	PUGET SOUND PROTOCOLS, EPA 6020A

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis is by atomic inductively coupled plasma - mass spectrometry (EPA Method 6020A).

MET-TOT-SPE-MS-VA	Seawater	Total Metals in Seawater by SPE ICPMS	PUGET SOUND PROTOCOLS, EPA 6020A

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995, and with procedures adapted from Cetac Technologies Incorporated. A suspended particulate resin (SPR), consisting of immobilized iminodiacetate (IDA) on a divinylbenzene polymer, is used to chelate and preconcentrate metals in seawater. Instrumental analysis is by inductively coupled plasma mass spectrometry (ICPMS).

PH-C-PCT-VA	Seawater	pH by Meter (Automated) (seawater)	APHA 4500-H "pH Value"

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

RADIO-RADIUM226-SR	Water	Radium 226	CANMET 1986
SALINITY-C-EC-VA	Seawater	Salinity by calc. using EC (seawater)	APHA 2520 B

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
		This analysis is carried out using procedures adapted from APHA Method 2520 "Salinity". Salinity is determined using a samples conductivity and the Practical Salinity Scale.	
TSS-C-VA	Seawater	Solids by Gravimetric (seawater)	APHA 2540 Gravimetric
		This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, TSS is determined by drying the filter at 104 degrees celsius.	

** Laboratory Methods employed follow in-house procedures, which are generally based on nationally or internationally accepted methodologies.
The last two letters of the above ALS Test Code column indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location	Laboratory Definition Code	Laboratory Location
SR	Saskatchewan Research Council - Saskatoon, Saskatchewan, Can	VA	ALS LABORATORY GROUP - VANCOUVER, BC, CANADA

GLOSSARY OF REPORT TERMS
Surr - A surrogate is an organic compound that is similar to the target analyte(s) in chemical composition and behavior but not normally detected in enviromental samples. Prior to sample processing, samples are fortified with one or more surrogate compounds.
The reported surrogate recovery value provides a measure of method efficiency.
mg/kg (units) - unit of concentration based on mass, parts per million
mg/L (units) - unit of concentration based on volume, parts per million
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.
Although test results are generated under strict QA/QC protocols, any unsigned test reports, faxes, or emails are considered preliminary.

ALS Laboratory Group has an extensive QA/QC program where all analytical data reported is analyzed using approved referenced procedures followed by checks and reviews by senior managers and quality assurance personnel. However, since the results are obtained from chemical measurements and thus cannot be guaranteed, ALS Laboratory Group assumes no liability for the use or interpretation of the results.

SRC Group # 2008-5800

SRC ANALYTICAL

Aug 07, 2008

422 Downey Road
Saskatoon, Saskatchewan, Canada
S7N 4N1
(306) 933-6932 or 1-800-240-8808
Fax: (306) 933-7922

ALS
Aurora Laboratory Services Ltd.
1988 Triumph Street
Vancouver, British Columbia V5L 1K5
Attn: Andre Langlais

Sample # **26514**
Date Sampled: **Jul 03, 2008 16:00**
Sample Matrix: **WATER**
Description: **L652656-1 G CREEK**

Client PO #: **ALS21595**
Date Received: **Jul 10, 2008**

Analyte	Units	Result	DL	Date Entered
Radio Chemistry				
Radium-226	Bq/L	<0.005	0.005	Aug 05, 2008

"<": not detected at level stated above.

Certificate of Analysis

TECK COMINCO METALS LTD.

ATTN: BRUCE DONALD

BAG 2000

KIMBERLEY BC V1A 3E1

Reported On: 22-SEP-08 04:11 PM

Lab Work Order #: **L655970** **Date Received:** **15-JUL-08**

Project P.O. #: 7541
Job Reference: 80325
Legal Site Desc:
CofC Numbers: C026639

Other Information:

Comments:

Andre Langlais
Account Manager

ALS LABORATORY GROUP ANALYTICAL REPORT

		Sample ID	L655970-1				
		Description					
		Sampled Date	10-JUL-08				
		Sampled Time	15:25				
		Client ID	G CREEK				
Grouping	**Analyte**						
SEAWATER							
Physical Tests	Hardness (as CaCO3) (mg/L)		445				
	pH (pH)		7.95				
	Salinity (EC) (g/L)		2.3				
	Total Suspended Solids (mg/L)		<3.0				
Cyanides	Cyanide, Total (mg/L)		<0.0050				
Total Metals	Aluminum (Al)-Total (mg/L)		<0.010				
	Arsenic (As)-Total (mg/L)		<0.00020				
	Cadmium (Cd)-Total (mg/L)		0.000068				
	Calcium (Ca)-Total (mg/L)		50.4				
	Copper (Cu)-Total (mg/L)		0.000865				
	Iron (Fe)-Total (mg/L)		0.022				
	Lead (Pb)-Total (mg/L)		0.000774				
	Magnesium (Mg)-Total (mg/L)		77.4				
	Manganese (Mn)-Total (mg/L)		0.00201				
	Mercury (Hg)-Total (mg/L)		<0.000010				
	Molybdenum (Mo)-Total (mg/L)		0.00328				
	Nickel (Ni)-Total (mg/L)		0.00202				
	Zinc (Zn)-Total (mg/L)		0.00798				

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID	L655970-1				
	Description					
	Sampled Date	10-JUL-08				
	Sampled Time	15:25				
	Client ID	G CREEK				
Grouping	**Analyte**					
WATER						
Radiological Parameters	Radium-226 (Bq/L)	0.006				

Reference Information

Additional Comments for Sample Listed:

Samplenum	Matrix	Report Remarks	Sample Comments

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
AS-TOT-C-HVAAS-VA	Seawater	Total Arsenic in Seawater by HVAAS	PUGET SOUND PROTOCOLS, EPA 7000 SERIES

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis of the seawater is by atomic absorption/emission spectrophotometry (EPA Method 7000 series).

CN-C-T-MID-HH-COL-VA	Seawater	Total Cyanide by HH Distil. (seawater)	APHA 4500-CN "Cyanide"

This analysis is carried out using procedures adapted from APHA Method 4500-CN "Cyanide". Total or strong acid dissociable (SAD) cyanide are determined by sample distillation and analysis using the chloramine-T colourimetric method.

HARDNESS-CALC-VA	Seawater	Hardness	APHA 2340B

Hardness is calculated from Calcium and Magnesium concentrations, and is expressed as calcium carbonate equivalents.

HG-TOT-C-CVAFS-VA	Seawater	Total Mercury in Seawater by CVAFS	PUGET SOUND PROTOCOLS, EPA 245.7

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedure involves a cold-oxidation of the acidified seawater 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).

MET-TOT-C-ICP-VA	Seawater	Total Metals in Seawater by ICPOES	PUGET SOUND PROTOCOLS, EPA 6010B

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis is by inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B).

MET-TOT-C-LOW-MS-VA	Seawater	Total Metals in Seawater by ICPMS	PUGET SOUND PROTOCOLS, EPA 6020A

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis is by atomic inductively coupled plasma - mass spectrometry (EPA Method 6020A).

MET-TOT-SPE-MS-VA	Seawater	Total Metals in Seawater by SPE ICPMS	PUGET SOUND PROTOCOLS, EPA 6020A

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995, and with procedures adapted from Cetac Technologies Incorporated. A suspended particulate resin (SPR), consisting of immobilized iminodiacetate (IDA) on a divinylbenzene polymer, is used to chelate and preconcentrate metals in seawater. Instrumental analysis is by inductively coupled plasma mass spectrometry (ICPMS).

PH-C-PCT-VA	Seawater	pH by Meter (Automated) (seawater)	APHA 4500-H "pH Value"

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

RADIO-RADIUM226-SR	Water	Radium 226	CANMET 1986
SALINITY-C-EC-VA	Seawater	Salinity by calc. using EC (seawater)	APHA 2520 B

This analysis is carried out using procedures adapted from APHA Method 2520 "Salinity". Salinity is determined using a samples conductivity and the Practical Salinity Scale.

TSS-C-VA	Seawater	Solids by Gravimetric (seawater)	APHA 2540 Gravimetric

This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total Suspended

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)

Solids (TSS) are determined by filtering a sample through a glass fibre filter, TSS is determined by drying the filter at 104 degrees celsius.

** Laboratory Methods employed follow in-house procedures, which are generally based on nationally or internationally accepted methodologies.
The last two letters of the above ALS Test Code column indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location	Laboratory Definition Code	Laboratory Location
SR	Saskatchewan Research Council - Saskatoon, Saskatchewan, Can	VA	ALS LABORATORY GROUP - VANCOUVER, BC, CANADA

GLOSSARY OF REPORT TERMS
Surr - A surrogate is an organic compound that is similar to the target analyte(s) in chemical composition and behavior but not normally detected in enviromental samples. Prior to sample processing, samples are fortified with one or more surrogate compounds.
The reported surrogate recovery value provides a measure of method efficiency.
mg/kg (units) - unit of concentration based on mass, parts per million
mg/L (units) - unit of concentration based on volume, parts per million
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.
Although test results are generated under strict QA/QC protocols, any unsigned test reports, faxes, or emails are considered preliminary.

ALS Laboratory Group has an extensive QA/QC program where all analytical data reported is analyzed using approved referenced procedures followed by checks and reviews by senior managers and quality assurance personnel. However, since the results are obtained from chemical measurements and thus cannot be guaranteed, ALS Laboratory Group assumes no liability for the use or interpretation of the results.

SRC Group # 2008-5994

SRC ANALYTICAL

Aug 09, 2008

422 Downey Road
Saskatoon, Saskatchewan, Canada
S7N 4N1
(306) 933-6932 or 1-800-240-8808
Fax: (306) 933-7922

ALS
Aurora Laboratory Services Ltd.
1988 Triumph Street
Vancouver, British Columbia V5L 1K5
Attn: Bryan Mark

Sample # **27637**
Date Sampled: **Jul 10, 2008 15:25**
Sample Matrix: **WATER**
Description: **L655970-1 G CREEK**

Client PO #: **ALS21913**
Date Received: **Jul 17, 2008**

Analyte	Units	Result	DL	Date Entered
Radio Chemistry				
Radium-226	Bq/L	0.006	0.005	Aug 06, 2008

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Certificate of Analysis

TECK COMINCO METALS LTD.

ATTN: BRUCE DONALD

BAG 2000

KIMBERLEY BC V1A 3E1

Reported On: 21-AUG-08 12:00 PM

Lab Work Order #: **L661124** **Date Received:** **26-JUL-08**

Project P.O. #: 7397
Job Reference: 80325
Legal Site Desc:
CofC Numbers: C048508

Other Information:

Comments:

Andre Langlais
Account Manager

ALS Canada Ltd.
Part of the **ALS Laboratory Group**
1988 Triumph Street, Vancouver, BC V5L 1K5
Phone: +1 604 253 4188 Fax: +1 604 253 6700 www.alsglobal.com
A Campbell Brothers Limited Company

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID	L661124-1				
	Description					
	Sampled Date	19-JUL-08				
	Sampled Time	08:30				
	Client ID	GARROW CREEK				
Grouping	**Analyte**					
SEAWATER						
Physical Tests	Hardness (as CaCO3) (mg/L)	678				
	pH (pH)	7.94				
	Salinity (EC) (g/L)	3.3				
	Total Suspended Solids (mg/L)	<3.0				
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	71.0				
Cyanides	Cyanide, Total (mg/L)	<0.0050				
Total Metals	Aluminum (Al)-Total (mg/L)	0.450				
	Arsenic (As)-Total (mg/L)	<0.00020				
	Cadmium (Cd)-Total (mg/L)	0.000094				
	Calcium (Ca)-Total (mg/L)	63.7				
	Copper (Cu)-Total (mg/L)	0.000554				
	Iron (Fe)-Total (mg/L)	<0.015				
	Lead (Pb)-Total (mg/L)	0.000189				
	Magnesium (Mg)-Total (mg/L)	126				
	Manganese (Mn)-Total (mg/L)	0.00208				
	Mercury (Hg)-Total (mg/L)	<0.000010				
	Molybdenum (Mo)-Total (mg/L)	0.00211				
	Nickel (Ni)-Total (mg/L)	0.00235				
	Zinc (Zn)-Total (mg/L)	0.0121				

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

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID	L661124-2	L661124-3	L661124-4		
	Description					
	Sampled Date	19-JUL-08	19-JUL-08	19-JUL-08		
	Sampled Time	10:00	10:00	10:00		
	Client ID	CSHED NORTH	CSHED MID	CSHED SOUTH		
Grouping	**Analyte**					
SOIL						
Physical Tests	pH (pH)	8.44	8.89	8.49		
Metals	Lead (Pb) (mg/kg)	282	121	84		
	Zinc (Zn) (mg/kg)	553	351	294		

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

ALS LABORATORY GROUP ANALYTICAL REPORT

		Sample ID	L661124-1	L661124-5	L661124-6		
		Description					
		Sampled Date	19-JUL-08	19-JUL-08	19-JUL-08		
		Sampled Time	08:30	11:00	11:30		
		Client ID	GARROW CREEK	FRUSTRATION LAKE	LRD		
Grouping	**Analyte**						
WATER							
Physical Tests	Hardness (as CaCO3) (mg/L)			84.8			
	Total Suspended Solids (mg/L)			3.5			
Total Metals	Aluminum (Al)-Total (mg/L)				<0.025		
	Antimony (Sb)-Total (mg/L)				<0.0025		
	Arsenic (As)-Total (mg/L)				<0.0025		
	Barium (Ba)-Total (mg/L)				<0.020		
	Beryllium (Be)-Total (mg/L)				<0.0050		
	Boron (B)-Total (mg/L)				0.56		
	Cadmium (Cd)-Total (mg/L)				0.000063		
	Calcium (Ca)-Total (mg/L)				107		
	Chromium (Cr)-Total (mg/L)				<0.0050		
	Cobalt (Co)-Total (mg/L)				<0.0015		
	Copper (Cu)-Total (mg/L)				<0.0050		
	Iron (Fe)-Total (mg/L)				<0.030		
	Lead (Pb)-Total (mg/L)				<0.0025		
	Lithium (Li)-Total (mg/L)				<0.025		
	Magnesium (Mg)-Total (mg/L)				46.6		
	Manganese (Mn)-Total (mg/L)				0.0022		
	Molybdenum (Mo)-Total (mg/L)				0.0087		
	Nickel (Ni)-Total (mg/L)				0.0094		
	Potassium (K)-Total (mg/L)				20.8		
	Selenium (Se)-Total (mg/L)				0.0116		
	Silver (Ag)-Total (mg/L)				<0.00010		
	Sodium (Na)-Total (mg/L)				220		
	Thallium (Tl)-Total (mg/L)				<0.0010		
	Tin (Sn)-Total (mg/L)				<0.0025		
	Titanium (Ti)-Total (mg/L)				<0.010		
	Uranium (U)-Total (mg/L)				0.0064		
	Vanadium (V)-Total (mg/L)				<0.0050		
	Zinc (Zn)-Total (mg/L)				0.0269		
Dissolved Metals	Calcium (Ca)-Dissolved (mg/L)			25.3			
	Magnesium (Mg)-Dissolved (mg/L)			5.25			
Radiological Parameters	Radium-226 (Bq/L)		0.020				

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

Reference Information

Qualifiers for Sample Submission Listed:

Qualifier	Description
ISCR:ST	Improper Sample Container Received: Subsamples Taken - Sample 5 - Dissolved metals
SFPL	Sample was Filtered and Preserved at the laboratory - Sample 5 - Dissolved metals
ISCR:ST	Improper Sample Container Received: Subsamples Taken - Sample 6 - Total metals
SPL	Sample was Preserved at the laboratory - Sample 6 - Total metals

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
ALK-C-COL-VA	Seawater	Alkalinity by Colourimetric (seawater)	APHA 310.2

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

AS-TOT-C-HVAAS-VA	Seawater	Total Arsenic in Seawater by HVAAS	PUGET SOUND PROTOCOLS, EPA 7000 SERIES

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis of the seawater is by atomic absorption/emission spectrophotometry (EPA Method 7000 series).

CN-C-T-MID-HH-COL-VA	Seawater	Total Cyanide by HH Distil. (seawater)	APHA 4500-CN "Cyanide"

This analysis is carried out using procedures adapted from APHA Method 4500-CN "Cyanide". Total or strong acid dissociable (SAD) cyanide are determined by sample distillation and analysis using the chloramine-T colourimetric method.

HARDNESS-CALC-VA	Water	Hardness	APHA 2340B

Hardness is calculated from Calcium and Magnesium concentrations, and is expressed as calcium carbonate equivalents.

HARDNESS-CALC-VA	Seawater	Hardness	APHA 2340B

Hardness is calculated from Calcium and Magnesium concentrations, and is expressed as calcium carbonate equivalents.

HG-TOT-C-CVAFS-VA	Seawater	Total Mercury in Seawater by CVAFS	PUGET SOUND PROTOCOLS, EPA 245.7

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedure involves a cold-oxidation of the acidified seawater 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).

MET-DIS-ICP-VA	Water	Dissolved Metals in Water by ICPOES	EPA SW-846 3005A/6010B

This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedure involves filtration (EPA Method 3005A) and analysis by inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B).

MET-TOT-C-ICP-VA	Seawater	Total Metals in Seawater by ICPOES	PUGET SOUND PROTOCOLS, EPA 6010B

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis is by inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B).

MET-TOT-C-LOW-MS-VA	Seawater	Total Metals in Seawater by ICPMS	PUGET SOUND PROTOCOLS, EPA 6020A

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis is by atomic inductively coupled plasma - mass spectrometry (EPA Method 6020A).

		Total Metals in Water by ICPOES (CCME)	EPA SW-846 3005A/6010B

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
MET-TOT-CCME-ICP-VA	Water	Total Metals in Water by ICPOES (CCME)	EPA SW-846 3005A/6010B

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

MET-TOT-CCME-MS-VA	Water	Total Metals in Water by ICPMS (CCME)	EPA SW-846 3005A/6020A

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

MET-TOT-SPE-MS-VA	Seawater	Total Metals in Seawater by SPE ICPMS	PUGET SOUND PROTOCOLS, EPA 6020A

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995, and with procedures adapted from Cetac Technologies Incorporated. A suspended particulate resin (SPR), consisting of immobilized iminodiacetate (IDA) on a divinylbenzene polymer, is used to chelate and preconcentrate metals in seawater. Instrumental analysis is by inductively coupled plasma mass spectrometry (ICPMS).

PB-CSR-ICP-VA	Soil	Pb in Soils by ICPOES (CSR SALM)	BCMELP CSR SALM Method 8

This analysis is carried out using procedures from CSR Analytical Method 8 "Strong Acid Leachable Metals (SALM) in Soil", BC Ministry of Environment, Lands and Parks, 26 June 2001, and procedures adapted from "Test Methods for Evaluating Solid Waste", SW-846 Method 3050B United States Environmental Protection Agency (EPA). The sample is manually homogenized, dried at 60 degrees Celsius, sieved through a 2 mm (10 mesh) sieve, and a representative subsample of the dry material is weighed. The sample is then digested at 90 degrees Celsius for 2 hours by block digester using a 1:1 ratio of concentrated nitric and hydrochloric acids. Instrumental analysis is by inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B).

Method Limitation: This method is not a total digestion technique. It is a very strong acid digestion that is intended to dissolve those metals that may be environmentally available. By design, elements bound in silicate structures are not normally dissolved by this procedure as they are not usually mobile in the environment.

PH-1:2-VA	Soil	CSR pH by 1:2 Water Leach	BC WLAP METHOD: PH, ELECTROMETRIC, SOIL

This analysis is carried out in accordance with procedures described in the pH, Electrometric in Soil and Sediment method - Section B Physical/Inorganic and Misc. Constituents, BC Environmental Laboratory Manual 2007. The procedure involves mixing the dried (at <60°C) and sieved (10 mesh /2mm) sample with deionized/distilled water at a 1:2 ratio of sediment to water. The pH of the solution is then measured using a standard pH probe.

PH-C-PCT-VA	Seawater	pH by Meter (Automated) (seawater)	APHA 4500-H "pH Value"

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

RADIO-RADIUM226-SR	Water	Radium 226	CANMET 1986
SALINITY-C-EC-VA	Seawater	Salinity by calc. using EC (seawater)	APHA 2520 B

This analysis is carried out using procedures adapted from APHA Method 2520 "Salinity". Salinity is determined using a samples conductivity and the Practical Salinity Scale.

TSS-C-VA	Seawater	Solids by Gravimetric (seawater)	APHA 2540 Gravimetric

This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, TSS is determined by drying the filter at 104 degrees celsius.

TSS-VA	Water	Solids by Gravimetric	APHA 2540 D - GRAVIMETRIC

This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, TSS is determined by drying the filter at 104 degrees celsius.

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
ZN-CSR-ICP-VA	Soil	Zn in Soil by ICPOES (CSR SALM)	BCMELP CSR SALM METHOD 8

This analysis is carried out using procedures from CSR Analytical Method 8 "Strong Acid Leachable Metals (SALM) in Soil", BC Ministry of Environment, Lands and Parks, 26 June 2001, and procedures adapted from "Test Methods for Evaluating Solid Waste", SW-846 Method 3050B United States Environmental Protection Agency (EPA). The sample is manually homogenized, dried at 60 degrees Celsius, sieved through a 2 mm (10 mesh) sieve, and a representative subsample of the dry material is weighed. The sample is then digested at 90 degrees Celsius for 2 hours by block digester using a 1:1 ratio of concentrated nitric and hydrochloric acids. Instrumental analysis is by inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B).

Method Limitation: This method is not a total digestion technique. It is a very strong acid digestion that is intended to dissolve those metals that may be environmentally available. By design, elements bound in silicate structures are not normally dissolved by this procedure as they are not usually mobile in the environment.

** Laboratory Methods employed follow in-house procedures, which are generally based on nationally or internationally accepted methodologies.
The last two letters of the above ALS Test Code column indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location	Laboratory Definition Code	Laboratory Location
SR	Saskatchewan Research Council - Saskatoon, Saskatchewan, Can	VA	ALS LABORATORY GROUP - VANCOUVER, BC, CANADA

GLOSSARY OF REPORT TERMS
Surr - A surrogate is an organic compound that is similar to the target analyte(s) in chemical composition and behavior but not normally detected in enviromental samples. Prior to sample processing, samples are fortified with one or more surrogate compounds.
The reported surrogate recovery value provides a measure of method efficiency.
mg/kg (units) - unit of concentration based on mass, parts per million
mg/L (units) - unit of concentration based on volume, parts per million
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.
Although test results are generated under strict QA/QC protocols, any unsigned test reports, faxes, or emails are considered preliminary.

ALS Laboratory Group has an extensive QA/QC program where all analytical data reported is analyzed using approved referenced procedures followed by checks and reviews by senior managers and quality assurance personnel. However, since the results are obtained from chemical measurements and thus cannot be guaranteed, ALS Laboratory Group assumes no liability for the use or interpretation of the results.

SRC Group # 2008-6405

SRC ANALYTICAL

Aug 21, 2008

422 Downey Road
Saskatoon, Saskatchewan, Canada
S7N 4N1
(306) 933-6932 or 1-800-240-8808
Fax: (306) 933-7922

ALS
Aurora Laboratory Services Ltd.
1988 Triumph Street
Vancouver, British Columbia V5L 1K5
Attn: Andre Langlais

Sample # **29612**
Date Sampled: **Jul 19, 2008 08:30**
Sample Matrix: **WATER**
Description: **L661124-1 GARROW CREEK**

Client PO #: **L661124**
Date Received: **Jul 29, 2008**

Analyte	Units	Result	DL	Date Entered
Radio Chemistry				
Radium-226	Bq/L	0.02	0.005	Aug 20, 2008

Certificate of Analysis

TECK COMINCO METALS LTD.

ATTN: BRUCE DONALD

BAG 2000

KIMBERLEY BC V1A 3E1

Reported On: 27-AUG-08 02:06 PM

Lab Work Order #: L663175 **Date Received:** 31-JUL-08

Project P.O. #: 7397
Job Reference: 80325
Legal Site Desc:
CofC Numbers: A039133

Other Information:

Comments:

Andre Langlais
Account Manager

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID	L663175-1				
	Description	SEA WATER				
	Sampled Date	24-JUL-08				
	Sampled Time	12:30				
	Client ID	G CREEK				
Grouping	**Analyte**					
SEAWATER						
Physical Tests	Conductivity (uS/cm)	6600				
	Hardness (as CaCO3) (mg/L)	768				
	pH (pH)	7.95				
	Salinity (EC) (g/L)	3.7				
	Total Suspended Solids (mg/L)	<3.0				
Cyanides	Cyanide, Total (mg/L)	0.0060				
Total Metals	Aluminum (Al)-Total (mg/L)	<0.020				
	Arsenic (As)-Total (mg/L)	<0.00020				
	Cadmium (Cd)-Total (mg/L)	0.000141				
	Calcium (Ca)-Total (mg/L)	74.7				
	Copper (Cu)-Total (mg/L)	0.000837				
	Iron (Fe)-Total (mg/L)	0.014				
	Lead (Pb)-Total (mg/L)	0.000316				
	Magnesium (Mg)-Total (mg/L)	141				
	Manganese (Mn)-Total (mg/L)	0.00375				
	Mercury (Hg)-Total (mg/L)	<0.000010				
	Molybdenum (Mo)-Total (mg/L)	0.0022				
	Nickel (Ni)-Total (mg/L)	0.00270				
	Zinc (Zn)-Total (mg/L)	0.0169				

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

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID	L663175-1				
	Description	SEA WATER				
	Sampled Date	24-JUL-08				
	Sampled Time	12:30				
	Client ID	G CREEK				
Grouping	**Analyte**					
WATER						
Radiological Parameters	Radium-226 (Bq/L)	<0.005				

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

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
AS-TOT-C-HVAAS-VA	Seawater	Total Arsenic in Seawater by HVAAS	PUGET SOUND PROTOCOLS, EPA 7000 SERIES

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis of the seawater is by atomic absorption/emission spectrophotometry (EPA Method 7000 series).

CN-C-T-MID-HH-COL-VA	Seawater	Total Cyanide by HH Distil. (seawater)	APHA 4500-CN "Cyanide"

This analysis is carried out using procedures adapted from APHA Method 4500-CN "Cyanide". Total or strong acid dissociable (SAD) cyanide are determined by sample distillation and analysis using the chloramine-T colourimetric method.

EC-C-PCT-VA	Seawater	Conductivity (Automated) (seawater)	APHA 2510 Auto. Conduc.

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

HARDNESS-CALC-VA	Seawater	Hardness	APHA 2340B

Hardness is calculated from Calcium and Magnesium concentrations, and is expressed as calcium carbonate equivalents.

HG-TOT-C-CVAFS-VA	Seawater	Total Mercury in Seawater by CVAFS	PUGET SOUND PROTOCOLS, EPA 245.7

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedure involves a cold-oxidation of the acidified seawater 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).

MET-TOT-C-ICP-VA	Seawater	Total Metals in Seawater by ICPOES	PUGET SOUND PROTOCOLS, EPA 6010B

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis is by inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B).

MET-TOT-C-LOW-MS-VA	Seawater	Total Metals in Seawater by ICPMS	PUGET SOUND PROTOCOLS, EPA 6020A

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis is by atomic inductively coupled plasma - mass spectrometry (EPA Method 6020A).

MET-TOT-SPE-MS-VA	Seawater	Total Metals in Seawater by SPE ICPMS	PUGET SOUND PROTOCOLS, EPA 6020A

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995, and with procedures adapted from Cetac Technologies Incorporated. A suspended particulate resin (SPR), consisting of immobilized iminodiacetate (IDA) on a divinylbenzene polymer, is used to chelate and preconcentrate metals in seawater. Instrumental analysis is by inductively coupled plasma mass spectrometry (ICPMS).

PH-C-PCT-VA	Seawater	pH by Meter (Automated) (seawater)	APHA 4500-H "pH Value"

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

RADIO-RADIUM226-SR	Water	Radium 226	CANMET 1986
SALINITY-C-EC-VA	Seawater	Salinity by calc. using EC (seawater)	APHA 2520 B

This analysis is carried out using procedures adapted from APHA Method 2520 "Salinity". Salinity is determined using a samples conductivity and the Practical Salinity Scale.

TSS-C-VA	Seawater	Solids by Gravimetric (seawater)	APHA 2540 Gravimetric

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)

This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, TSS is determined by drying the filter at 104 degrees celsius.

** Laboratory Methods employed follow in-house procedures, which are generally based on nationally or internationally accepted methodologies.
The last two letters of the above ALS Test Code column indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location	Laboratory Definition Code	Laboratory Location
SR	Saskatchewan Research Council - Saskatoon, Saskatchewan, Can	VA	ALS LABORATORY GROUP - VANCOUVER, BC, CANADA

GLOSSARY OF REPORT TERMS
Surr - A surrogate is an organic compound that is similar to the target analyte(s) in chemical composition and behavior but not normally detected in enviromental samples. Prior to sample processing, samples are fortified with one or more surrogate compounds.
The reported surrogate recovery value provides a measure of method efficiency.
mg/kg (units) - unit of concentration based on mass, parts per million
mg/L (units) - unit of concentration based on volume, parts per million
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.
Although test results are generated under strict QA/QC protocols, any unsigned test reports, faxes, or emails are considered preliminary.

ALS Laboratory Group has an extensive QA/QC program where all analytical data reported is analyzed using approved referenced procedures followed by checks and reviews by senior managers and quality assurance personnel. However, since the results are obtained from chemical measurements and thus cannot be guaranteed, ALS Laboratory Group assumes no liability for the use or interpretation of the results.

SRC Group # 2008-6761

SRC ANALYTICAL

Aug 27, 2008

422 Downey Road
Saskatoon, Saskatchewan, Canada
S7N 4N1
(306) 933-6932 or 1-800-240-8808
Fax: (306) 933-7922

ALS
Aurora Laboratory Services Ltd.
1988 Triumph Street
Vancouver, British Columbia V5L 1K5
Attn: Andre Langlais

Sample # **31738**
Date Sampled: **Jul 24, 2008 12:30**
Sample Matrix: **WATER**
Description: **L663175-1 G CREEK**

Client PO #: **ALS22836**
Date Received: **Aug 07, 2008**

Analyte	Units	Result	DL	Date Entered
Radio Chemistry				
Radium-226	Bq/L	<0.005	0.005	Aug 26, 2008

"<": not detected at level stated above.

Certificate of Analysis

TECK COMINCO METALS LTD.

ATTN: BRUCE DONALD

BAG 2000

KIMBERLEY BC V1A 3E1

Reported On: 27-AUG-08 02:49 PM

Lab Work Order #: **L664579** **Date Received:** **05-AUG-08**

Project P.O. #: 7397
Job Reference: 80325
Legal Site Desc:
CofC Numbers: C048719

Other Information:

Comments: See attached SRC report for Radium 226 result.

Andre Langlais
Account Manager

ALS LABORATORY GROUP ANALYTICAL REPORT

		Sample ID	L664579-1				
		Description	WATER				
		Sampled Date	31-JUL-08				
		Sampled Time	11:00				
		Client ID	G CREEK				
Grouping	**Analyte**						
SEAWATER							
Physical Tests	Conductivity (uS/cm)		7750				
	Hardness (as CaCO3) (mg/L)		942				
	pH (pH)		7.90				
	Salinity (EC) (g/L)		4.4				
	Total Suspended Solids (mg/L)		<3.0				
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)		78.1				
Cyanides	Cyanide, Total (mg/L)		<0.0050				
Total Metals	Aluminum (Al)-Total (mg/L)		<0.010				
	Arsenic (As)-Total (mg/L)		<0.00020				
	Cadmium (Cd)-Total (mg/L)		0.000199				
	Calcium (Ca)-Total (mg/L)		94.2				
	Copper (Cu)-Total (mg/L)		0.00110				
	Iron (Fe)-Total (mg/L)		0.023				
	Lead (Pb)-Total (mg/L)		0.000643				
	Magnesium (Mg)-Total (mg/L)		172				
	Manganese (Mn)-Total (mg/L)		0.0103				
	Mercury (Hg)-Total (mg/L)		<0.000010				
	Molybdenum (Mo)-Total (mg/L)		0.00230				
	Nickel (Ni)-Total (mg/L)		0.00371				
	Zinc (Zn)-Total (mg/L)		0.0304				

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

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
ALK-C-COL-VA	Seawater	Alkalinity by Colourimetric (seawater)	APHA 310.2

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

AS-TOT-C-HVAAS-VA	Seawater	Total Arsenic in Seawater by HVAAS	PUGET SOUND PROTOCOLS, EPA 7000 SERIES

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis of the seawater is by atomic absorption/emission spectrophotometry (EPA Method 7000 series).

CN-C-T-MID-HH-COL-VA	Seawater	Total Cyanide by HH Distil. (seawater)	APHA 4500-CN "Cyanide"

This analysis is carried out using procedures adapted from APHA Method 4500-CN "Cyanide". Total or strong acid dissociable (SAD) cyanide are determined by sample distillation and analysis using the chloramine-T colourimetric method.

EC-C-PCT-VA	Seawater	Conductivity (Automated) (seawater)	APHA 2510 Auto. Conduc.

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

HARDNESS-CALC-VA	Seawater	Hardness	APHA 2340B

Hardness is calculated from Calcium and Magnesium concentrations, and is expressed as calcium carbonate equivalents.

HG-TOT-C-CVAFS-VA	Seawater	Total Mercury in Seawater by CVAFS	PUGET SOUND PROTOCOLS, EPA 245.7

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedure involves a cold-oxidation of the acidified seawater 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).

MET-TOT-C-ICP-VA	Seawater	Total Metals in Seawater by ICPOES	PUGET SOUND PROTOCOLS, EPA 6010B

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis is by inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B).

MET-TOT-C-LOW-MS-VA	Seawater	Total Metals in Seawater by ICPMS	PUGET SOUND PROTOCOLS, EPA 6020A

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis is by atomic inductively coupled plasma - mass spectrometry (EPA Method 6020A).

MET-TOT-SPE-MS-VA	Seawater	Total Metals in Seawater by SPE ICPMS	PUGET SOUND PROTOCOLS, EPA 6020A

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995, and with procedures adapted from Cetac Technologies Incorporated. A suspended particulate resin (SPR), consisting of immobilized iminodiacetate (IDA) on a divinylbenzene polymer, is used to chelate and preconcentrate metals in seawater. Instrumental analysis is by inductively coupled plasma mass spectrometry (ICPMS).

PH-C-PCT-VA	Seawater	pH by Meter (Automated) (seawater)	APHA 4500-H "pH Value"

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

SALINITY-C-EC-VA	Seawater	Salinity by calc. using EC (seawater)	APHA 2520 B

This analysis is carried out using procedures adapted from APHA Method 2520 "Salinity". Salinity is determined using a samples conductivity and the Practical Salinity Scale.

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
TSS-C-VA	Seawater	Solids by Gravimetric (seawater)	APHA 2540 Gravimetric

This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, TSS is determined by drying the filter at 104 degrees celsius.

** Laboratory Methods employed follow in-house procedures, which are generally based on nationally or internationally accepted methodologies.
The last two letters of the above ALS Test Code column indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location	Laboratory Definition Code	Laboratory Location
VA	ALS LABORATORY GROUP - VANCOUVER, BC, CANADA		

GLOSSARY OF REPORT TERMS
Surr - A surrogate is an organic compound that is similar to the target analyte(s) in chemical composition and behavior but not normally detected in enviromental samples. Prior to sample processing, samples are fortified with one or more surrogate compounds.
The reported surrogate recovery value provides a measure of method efficiency.
mg/kg (units) - unit of concentration based on mass, parts per million
mg/L (units) - unit of concentration based on volume, parts per million
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.
Although test results are generated under strict QA/QC protocols, any unsigned test reports, faxes, or emails are considered preliminary.

ALS Laboratory Group has an extensive QA/QC program where all analytical data reported is analyzed using approved referenced procedures followed by checks and reviews by senior managers and quality assurance personnel. However, since the results are obtained from chemical measurements and thus cannot be guaranteed, ALS Laboratory Group assumes no liability for the use or interpretation of the results.

SRC Group # 2008-6765

SRC ANALYTICAL

Aug 26, 2008

422 Downey Road
Saskatoon, Saskatchewan, Canada
S7N 4N1
(306) 933-6932 or 1-800-240-8808
Fax: (306) 933-7922

ALS
Aurora Laboratory Services Ltd.
1988 Triumph Street
Vancouver, British Columbia V5L 1K5
Attn: Andre Langlais

Sample # **31751**
Date Sampled: **Jul 31, 2008 11:00**
Sample Matrix: **WATER**
Description: **L664579 G CREEK**

Client PO #: **ALS22838**
Date Received: **Aug 08, 2008**

Analyte	Units	Result	DL	Date Entered
Radio Chemistry				
Radium-226	Bq/L	<0.005	0.005	Aug 25, 2008

"<": not detected at level stated above.

Certificate of Analysis

TECK COMINCO METALS LTD.

ATTN: BRUCE DONALD

BAG 2000

KIMBERLEY BC V1A 3E1

Reported On: 22-SEP-08 05:25 PM

Lab Work Order #: **L670595** **Date Received:** **18-AUG-08**

Project P.O. #: 7541
Job Reference: 80325 POLARIS
Legal Site Desc:
CofC Numbers: C039136, C048721

Other Information:

Comments: Some of the metals detection limits have been increased due to high levels of metals in these samples.

LINDSAY JONES
Account Manager

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID	L670595-1	L670595-2	L670595-3		
	Description	WATER	WATER	WATER		
	Sampled Date	07-AUG-08	15-AUG-08	15-AUG-08		
	Sampled Time		15:00	15:00		
	Client ID	G CREEK	G CREEK	G CREEK QA/QC		
Grouping	**Analyte**					
SEAWATER						
Physical Tests	Conductivity (uS/cm)	8380	9940	9930		
	Hardness (as CaCO3) (mg/L)	1110	1260	1210		
	pH (pH)	7.87	7.98	8.00		
	Salinity (EC) (g/L)	5.2	6.3	6.3		
	Total Suspended Solids (mg/L)	<3.0	4.2	<3.0		
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	99.3	103	108		
	Ammonia as N (mg/L)		0.0072	0.0070		
Cyanides	Cyanide, Total (mg/L)	<0.0050	<0.0050	<0.0050		
Total Metals	Aluminum (Al)-Total (mg/L)	<0.040	<0.020	<0.020		
	Arsenic (As)-Total (mg/L)	<0.00020	<0.00020	<0.00020		
	Cadmium (Cd)-Total (mg/L)	0.000261	0.000279	0.000270		
	Calcium (Ca)-Total (mg/L)	126	125	121		
	Copper (Cu)-Total (mg/L)	0.00104	0.000924	0.000866		
	Iron (Fe)-Total (mg/L)	0.052	0.013	0.011		
	Lead (Pb)-Total (mg/L)	0.000679	0.000263	0.000269		
	Magnesium (Mg)-Total (mg/L)	193	229	221		
	Manganese (Mn)-Total (mg/L)	0.0158	0.00560	0.00526		
	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010	<0.000010		
	Molybdenum (Mo)-Total (mg/L)	0.0030	0.0030	0.0028		
	Nickel (Ni)-Total (mg/L)	0.00499	0.00535	0.00519		
	Zinc (Zn)-Total (mg/L)	0.0360	0.0365	0.0368		

Reference Information

Additional Comments for Sample Listed:

Samplenum	Matrix	Report Remarks	Sample Comments

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
ALK-C-COL-VA	Seawater	Alkalinity by Colourimetric (seawater)	APHA 310.2

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

AS-TOT-C-HVAAS-VA	Seawater	Total Arsenic in Seawater by HVAAS	PUGET SOUND PROTOCOLS, EPA 7000 SERIES

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis of the seawater is by atomic absorption/emission spectrophotometry (EPA Method 7000 series).

CN-C-T-MID-HH-COL-VA	Seawater	Total Cyanide by HH Distil. (seawater)	APHA 4500-CN "Cyanide"

This analysis is carried out using procedures adapted from APHA Method 4500-CN "Cyanide". Total or strong acid dissociable (SAD) cyanide are determined by sample distillation and analysis using the chloramine-T colourimetric method.

EC-C-PCT-VA	Seawater	Conductivity (Automated) (seawater)	APHA 2510 Auto. Conduc.

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

HARDNESS-CALC-VA	Seawater	Hardness	APHA 2340B

Hardness is calculated from Calcium and Magnesium concentrations, and is expressed as calcium carbonate equivalents.

HG-TOT-C-CVAFS-VA	Seawater	Total Mercury in Seawater by CVAFS	PUGET SOUND PROTOCOLS, EPA 245.7

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedure involves a cold-oxidation of the acidified seawater 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).

MET-TOT-C-ICP-VA	Seawater	Total Metals in Seawater by ICPOES	PUGET SOUND PROTOCOLS, EPA 6010B

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis is by inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B).

MET-TOT-C-LOW-MS-VA	Seawater	Total Metals in Seawater by ICPMS	PUGET SOUND PROTOCOLS, EPA 6020A

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis is by atomic inductively coupled plasma - mass spectrometry (EPA Method 6020A).

MET-TOT-SPE-MS-VA	Seawater	Total Metals in Seawater by SPE ICPMS	PUGET SOUND PROTOCOLS, EPA 6020A

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995, and with procedures adapted from Cetac Technologies Incorporated. A suspended particulate resin (SPR), consisting of immobilized iminodiacetate (IDA) on a divinylbenzene polymer, is used to chelate and preconcentrate metals in seawater. Instrumental analysis is by inductively coupled plasma mass spectrometry (ICPMS).

NH3-C-COL-VA	Seawater	Ammonia by Color (seawater)	APHA 4500-NH3 "Nitrogen (Ammonia)"

This analysis is carried out, on unpreserved samples, using procedures adapted from APHA Method 4500-NH3 "Nitrogen (Ammonia)". Ammonia is determined using the phenate colourimetric method.

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
PH-C-PCT-VA	Seawater	pH by Meter (Automated) (seawater)	APHA 4500-H "pH Value"

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

SALINITY-C-EC-VA	Seawater	Salinity by calc. using EC (seawater)	APHA 2520 B

This analysis is carried out using procedures adapted from APHA Method 2520 "Salinity". Salinity is determined using a samples conductivity and the Practical Salinity Scale.

TSS-C-VA	Seawater	Solids by Gravimetric (seawater)	APHA 2540 Gravimetric

This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, TSS is determined by drying the filter at 104 degrees celsius.

** Laboratory Methods employed follow in-house procedures, which are generally based on nationally or internationally accepted methodologies.
The last two letters of the above ALS Test Code column indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location	Laboratory Definition Code	Laboratory Location
VA	ALS LABORATORY GROUP - VANCOUVER, BC, CANADA		

GLOSSARY OF REPORT TERMS
Surr - A surrogate is an organic compound that is similar to the target analyte(s) in chemical composition and behavior but not normally detected in enviromental samples. Prior to sample processing, samples are fortified with one or more surrogate compounds.
The reported surrogate recovery value provides a measure of method efficiency.
mg/kg (units) - unit of concentration based on mass, parts per million
mg/L (units) - unit of concentration based on volume, parts per million
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.
Although test results are generated under strict QA/QC protocols, any unsigned test reports, faxes, or emails are considered preliminary.

ALS Laboratory Group has an extensive QA/QC program where all analytical data reported is analyzed using approved referenced procedures followed by checks and reviews by senior managers and quality assurance personnel. However, since the results are obtained from chemical measurements and thus cannot be guaranteed, ALS Laboratory Group assumes no liability for the use or interpretation of the results.

SRC Group # 2008-7394

SRC ANALYTICAL

Sep 17, 2008

422 Downey Road
Saskatoon, Saskatchewan, Canada
S7N 4N1
(306) 933-6932 or 1-800-240-8808
Fax: (306) 933-7922

ALS
Aurora Laboratory Services Ltd.
1988 Triumph Street
Vancouver, British Columbia V5L 1K5
Attn: Andre Langlais

Sample # **34393**
Date Sampled: **Aug 15, 2008**
Sample Matrix: **WATER**
Description: **L670595-1 G CREEK**

Client PO #: **ALS23316**
Date Received: **Aug 22, 2008**

Analyte	Units	Result	DL	Date Entered
Radio Chemistry				
Radium-226	Bq/L	0.01	0.005	Sep 17, 2008

SRC ANALYTICAL

ALS, Aurora Laboratory Services Ltd.

Sample # **34394**
Date Sampled: **Aug 15, 2008**
Sample Matrix: **WATER**
Description: **L670595-2 G CREEK AUG 15**

Client PO #: **ALS23316**
Date Received: **Aug 22, 2008**

Analyte	Units	Result	DL	Date Entered
Radio Chemistry				
Radium-226	Bq/L	<0.005	0.005	Sep 15, 2008

"<": not detected at level stated above.

SRC ANALYTICAL

ALS, Aurora Laboratory Services Ltd.

Sample # **34395**
Date Sampled: **Aug 15, 2008**
Sample Matrix: **WATER**
Description: **L670595-3 G CREEK QA/QC**

Client PO #: **ALS23316**
Date Received: **Aug 22, 2008**

Analyte	Units	Result	DL	Date Entered
Radio Chemistry				
Radium-226	Bq/L	<0.005	0.005	Sep 15, 2008

"<": not detected at level stated above.

Certificate of Analysis

TECK COMINCO METALS LTD.

ATTN: BRUCE DONALD

BAG 2000

KIMBERLEY BC V1A 3E1

Reported On: 29-SEP-08 04:52 PM

Lab Work Order #: L675318 **Date Received:** 28-AUG-08

Project P.O. #: 7397
Job Reference: 80325
Legal Site Desc:
CofC Numbers: C048722

Other Information:

Comments: Some of the metals detection limits were increased due to high levels of metals in these samples.

LINDSAY JONES
Account Manager

ALS LABORATORY GROUP ANALYTICAL REPORT

		Sample ID	L675318-1				
		Description					
		Sampled Date	22-AUG-08				
		Sampled Time	16:00				
		Client ID	G CREEK				
Grouping	**Analyte**						
SEAWATER							
Physical Tests	Conductivity (uS/cm)		11300				
	Hardness (as CaCO3) (mg/L)		1420				
	pH (pH)		7.86				
	Salinity (EC) (g/L)		6.5				
	Total Suspended Solids (mg/L)		<3.0				
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)		110				
Cyanides	Cyanide, Total (mg/L)		<0.0050				
Total Metals	Aluminum (Al)-Total (mg/L)		<0.020				
	Arsenic (As)-Total (mg/L)		<0.00020				
	Cadmium (Cd)-Total (mg/L)		0.000359				
	Calcium (Ca)-Total (mg/L)		129				
	Copper (Cu)-Total (mg/L)		0.00117				
	Iron (Fe)-Total (mg/L)		0.014				
	Lead (Pb)-Total (mg/L)		0.000302				
	Magnesium (Mg)-Total (mg/L)		267				
	Manganese (Mn)-Total (mg/L)		0.00463				
	Mercury (Hg)-Total (mg/L)		<0.000010				
	Molybdenum (Mo)-Total (mg/L)		0.0035				
	Nickel (Ni)-Total (mg/L)		0.00651				
	Zinc (Zn)-Total (mg/L)		0.0520				

Reference Information

Additional Comments for Sample Listed:

Samplenum	Matrix	Report Remarks	Sample Comments

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
ALK-C-COL-VA	Seawater	Alkalinity by Colourimetric (seawater)	APHA 310.2

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

AS-TOT-C-HVAAS-VA	Seawater	Total Arsenic in Seawater by HVAAS	PUGET SOUND PROTOCOLS, EPA 7000 SERIES

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis of the seawater is by atomic absorption/emission spectrophotometry (EPA Method 7000 series).

CN-C-T-MID-HH-COL-VA	Seawater	Total Cyanide by HH Distil. (seawater)	APHA 4500-CN "Cyanide"

This analysis is carried out using procedures adapted from APHA Method 4500-CN "Cyanide". Total or strong acid dissociable (SAD) cyanide are determined by sample distillation and analysis using the chloramine-T colourimetric method.

EC-C-PCT-VA	Seawater	Conductivity (Automated) (seawater)	APHA 2510 Auto. Conduc.

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

HARDNESS-CALC-VA	Seawater	Hardness	APHA 2340B

Hardness is calculated from Calcium and Magnesium concentrations, and is expressed as calcium carbonate equivalents.

HG-TOT-C-CVAFS-VA	Seawater	Total Mercury in Seawater by CVAFS	PUGET SOUND PROTOCOLS, EPA 245.7

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedure involves a cold-oxidation of the acidified seawater 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).

MET-TOT-C-ICP-VA	Seawater	Total Metals in Seawater by ICPOES	PUGET SOUND PROTOCOLS, EPA 6010B

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis is by inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B).

MET-TOT-C-LOW-MS-VA	Seawater	Total Metals in Seawater by ICPMS	PUGET SOUND PROTOCOLS, EPA 6020A

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis is by atomic inductively coupled plasma - mass spectrometry (EPA Method 6020A).

MET-TOT-SPE-MS-VA	Seawater	Total Metals in Seawater by SPE ICPMS	PUGET SOUND PROTOCOLS, EPA 6020A

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995, and with procedures adapted from Cetac Technologies Incorporated. A suspended particulate resin (SPR), consisting of immobilized iminodiacetate (IDA) on a divinylbenzene polymer, is used to chelate and preconcentrate metals in seawater. Instrumental analysis is by inductively coupled plasma mass spectrometry (ICPMS).

PH-C-PCT-VA	Seawater	pH by Meter (Automated) (seawater)	APHA 4500-H "pH Value"

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

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
SALINITY-C-EC-VA	Seawater	Salinity by calc. using EC (seawater)	APHA 2520 B

This analysis is carried out using procedures adapted from APHA Method 2520 "Salinity". Salinity is determined using a samples conductivity and the Practical Salinity Scale.

TSS-C-VA	Seawater	Solids by Gravimetric (seawater)	APHA 2540 Gravimetric

This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, TSS is determined by drying the filter at 104 degrees celsius.

** Laboratory Methods employed follow in-house procedures, which are generally based on nationally or internationally accepted methodologies.
The last two letters of the above ALS Test Code column indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location	Laboratory Definition Code	Laboratory Location
VA	ALS LABORATORY GROUP - VANCOUVER, BC, CANADA		

GLOSSARY OF REPORT TERMS
Surr - A surrogate is an organic compound that is similar to the target analyte(s) in chemical composition and behavior but not normally detected in enviromental samples. Prior to sample processing, samples are fortified with one or more surrogate compounds.
The reported surrogate recovery value provides a measure of method efficiency.
mg/kg (units) - unit of concentration based on mass, parts per million
mg/L (units) - unit of concentration based on volume, parts per million
N/A - Result not available. Refer to qualifier code and definition for explanation

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UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
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SRC Group # 2008-7624

SRC ANALYTICAL

Sep 26, 2008

422 Downey Road
Saskatoon, Saskatchewan, Canada
S7N 4N1
(306) 933-6932 or 1-800-240-8808
Fax: (306) 933-7922

ALS
Aurora Laboratory Services Ltd.
1988 Triumph Street
Vancouver, British Columbia V5L 1K5
Attn: Andre Langlais

Sample # **35636**
Date Sampled: **Aug 22, 2008 16:00**
Sample Matrix: **WATER**
Description: **L675318-1 G CREEK**

Client PO #: **ALS23701**
Date Received: **Sep 03, 2008**

Analyte	Units	Result	DL	Date Entered
Radio Chemistry				
Radium-226	Bq/L	<0.005	0.005	Sep 25, 2008

"<": not detected at level stated above.

ALS Canada Ltd.
Part of the ALS Laboratory Group
Toll Free: 1-800-668-9878 Manitoba: 1-800-607-7555
1988 Triumph Street, Vancouver, BC V5L 1K5
Phone: +1 604 253 4188 Fax: +1 604 253 6700 www.alsglobal.com

ALS LABORATORY GROUP SAMPLE RECEIPT CONFIRMATION

Company:	TECK COMINCO METALS LTD.
ATTN:	BRUCE DONALD
Fax Number:	--
Account Manager:	Andre Langlais
Job Reference:	80325
Project P.O. #:	7397
Date Sampled:	22-AUG-08
Date Received:	28-AUG-08
Sampled By:	RG
Workorder #:	**L675318**
Chain of Custody #:	C048722

Estimated Completion Date: 18-SEP-08

Sample #/SampleID/DateSampled/DateDue: L675318-1/G CREEK/22-AUG-08/18-SEP-08

Matrix	Product Description	Product Due*
Seawater	Alkalinity by Colourimetric (seawater)	
Seawater	Total Metals in Seawater	
	Total Arsenic in Seawater by HVAAS	
	Hardness	
	Total Mercury in Seawater by CVAFS	
	Total Metals in Seawater by ICPOES	
	Total Metals in Seawater by ICPMS	
	Total Metals in Seawater by SPE ICPMS	
Seawater	Total Cyanide by HH Distil. (seawater)	
Seawater	Conductivity (Automated) (seawater)	
Seawater	pH by Meter (Automated) (seawater)	
Water	Radium 226	
Seawater	Salinity by calc. using EC (seawater)	
Misc.	Handling/Disposal Fee	
Seawater	Solids by Gravimetric (seawater)	

* INDICATES ESTIMATED COMPLETION DATE OF REQUESTED PRODUCT IF DIFFERENT THAN THE ESTIMATED COMPLETION DATE.

ALS Laboratory Group strives to deliver on-time results to our clients at all times. However, there are times when, due to capacity issues or other unforeseen circumstances, we are unable to meet our expected TATs. The information above is related to a recent workorder you have submitted to our laboratory. We have also included a summary on the parameters of interest for this workorder. In the event that you have an inquiry, please refer to the Work Order # (L+6 digits) when calling your Account Manager.

Notice of Sub-contract Laboratory Service

Please be advised that the following tests will be subcontracted to the corresponding laboratory:

Radium 226 Subcontracted to: Saskatchewan Research Council - Saskatoon, Saskatchewan, Can

Please contact your Account Manager immediately should you have questions or concerns regarding this arrangement. Approval of this arrangement shall be implied unless otherwise notified by you.

ALS Laboratory Group strives to deliver on-time results to our clients at all times. However, there are times when, due to capacity issues or other unforeseen circumstances, we are unable to meet our expected TATs. The information above is related to a recent workorder you have submitted to our laboratory. We have also included a summary on the parameters of interest for this workorder. In the event that you have an inquiry, please refer to the Work Order # (L+6 digits) when calling your Account Manager.

Certificate of Analysis

TECK COMINCO METALS LTD.

ATTN: BRUCE DONALD

BAG 2000

KIMBERLEY BC V1A 3E1

Reported On: 29-SEP-08 04:58 PM

Lab Work Order #: **L676658** **Date Received:** **02-SEP-08**

Project P.O. #: 7397
Job Reference: 80325
Legal Site Desc:
CofC Numbers: C048720

Other Information:

Comments: Some of the metals detection limits were increased due to high levels of metals in these samples.

LINDSAY JONES
Account Manager

ALS LABORATORY GROUP ANALYTICAL REPORT

		Sample ID	L676658-1				
		Description					
		Sampled Date	29-AUG-08				
		Sampled Time	17:00				
		Client ID	G CREEK				
Grouping	**Analyte**						
SEAWATER							
Physical Tests	Conductivity (uS/cm)		11700				
	Hardness (as CaCO3) (mg/L)		1480				
	pH (pH)		8.10				
	Salinity (EC) (g/L)		6.8				
	Total Suspended Solids (mg/L)		<3.0				
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)		111				
Cyanides	Cyanide, Total (mg/L)		<0.0050				
Total Metals	Aluminum (Al)-Total (mg/L)		<0.020				
	Arsenic (As)-Total (mg/L)		<0.00020				
	Cadmium (Cd)-Total (mg/L)		0.000322				
	Calcium (Ca)-Total (mg/L)		128				
	Copper (Cu)-Total (mg/L)		0.00106				
	Iron (Fe)-Total (mg/L)		<0.010				
	Lead (Pb)-Total (mg/L)		0.000213				
	Magnesium (Mg)-Total (mg/L)		281				
	Manganese (Mn)-Total (mg/L)		0.00313				
	Mercury (Hg)-Total (mg/L)		<0.000010				
	Molybdenum (Mo)-Total (mg/L)		0.0035				
	Nickel (Ni)-Total (mg/L)		0.00674				
	Zinc (Zn)-Total (mg/L)		0.0522				

Reference Information

Additional Comments for Sample Listed:

Samplenum	Matrix	Report Remarks	Sample Comments

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
ALK-C-COL-VA	Seawater	Alkalinity by Colourimetric (seawater)	APHA 310.2

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

AS-TOT-C-HVAAS-VA	Seawater	Total Arsenic in Seawater by HVAAS	PUGET SOUND PROTOCOLS, EPA 7000 SERIES

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis of the seawater is by atomic absorption/emission spectrophotometry (EPA Method 7000 series).

CN-C-T-MID-HH-COL-VA	Seawater	Total Cyanide by HH Distil. (seawater)	APHA 4500-CN "Cyanide"

This analysis is carried out using procedures adapted from APHA Method 4500-CN "Cyanide". Total or strong acid dissociable (SAD) cyanide are determined by sample distillation and analysis using the chloramine-T colourimetric method.

EC-C-PCT-VA	Seawater	Conductivity (Automated) (seawater)	APHA 2510 Auto. Conduc.

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

HARDNESS-CALC-VA	Seawater	Hardness	APHA 2340B

Hardness is calculated from Calcium and Magnesium concentrations, and is expressed as calcium carbonate equivalents.

HG-TOT-C-CVAFS-VA	Seawater	Total Mercury in Seawater by CVAFS	PUGET SOUND PROTOCOLS, EPA 245.7

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedure involves a cold-oxidation of the acidified seawater 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).

MET-TOT-C-ICP-VA	Seawater	Total Metals in Seawater by ICPOES	PUGET SOUND PROTOCOLS, EPA 6010B

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis is by inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B).

MET-TOT-C-LOW-MS-VA	Seawater	Total Metals in Seawater by ICPMS	PUGET SOUND PROTOCOLS, EPA 6020A

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis is by atomic inductively coupled plasma - mass spectrometry (EPA Method 6020A).

MET-TOT-SPE-MS-VA	Seawater	Total Metals in Seawater by SPE ICPMS	PUGET SOUND PROTOCOLS, EPA 6020A

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995, and with procedures adapted from Cetac Technologies Incorporated. A suspended particulate resin (SPR), consisting of immobilized iminodiacetate (IDA) on a divinylbenzene polymer, is used to chelate and preconcentrate metals in seawater. Instrumental analysis is by inductively coupled plasma mass spectrometry (ICPMS).

PH-C-PCT-VA	Seawater	pH by Meter (Automated) (seawater)	APHA 4500-H "pH Value"

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

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
SALINITY-C-EC-VA	Seawater	Salinity by calc. using EC (seawater)	APHA 2520 B

This analysis is carried out using procedures adapted from APHA Method 2520 "Salinity". Salinity is determined using a samples conductivity and the Practical Salinity Scale.

TSS-C-VA	Seawater	Solids by Gravimetric (seawater)	APHA 2540 Gravimetric

This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, TSS is determined by drying the filter at 104 degrees celsius.

** Laboratory Methods employed follow in-house procedures, which are generally based on nationally or internationally accepted methodologies.
The last two letters of the above ALS Test Code column indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location	Laboratory Definition Code	Laboratory Location
VA	ALS LABORATORY GROUP - VANCOUVER, BC, CANADA		

GLOSSARY OF REPORT TERMS
Surr - A surrogate is an organic compound that is similar to the target analyte(s) in chemical composition and behavior but not normally detected in enviromental samples. Prior to sample processing, samples are fortified with one or more surrogate compounds.
The reported surrogate recovery value provides a measure of method efficiency.
mg/kg (units) - unit of concentration based on mass, parts per million
mg/L (units) - unit of concentration based on volume, parts per million
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.
Although test results are generated under strict QA/QC protocols, any unsigned test reports, faxes, or emails are considered preliminary.

ALS Laboratory Group has an extensive QA/QC program where all analytical data reported is analyzed using approved referenced procedures followed by checks and reviews by senior managers and quality assurance personnel. However, since the results are obtained from chemical measurements and thus cannot be guaranteed, ALS Laboratory Group assumes no liability for the use or interpretation of the results.

SRC Group # 2008-7634

SRC ANALYTICAL

Sep 26, 2008

422 Downey Road
Saskatoon, Saskatchewan, Canada
S7N 4N1
(306) 933-6932 or 1-800-240-8808
Fax: (306) 933-7922

ALS
Aurora Laboratory Services Ltd.
1988 Triumph Street
Vancouver, British Columbia V5L 1K5
Attn: Andre Langlais

Sample # **35754**
Date Sampled: **Aug 29, 2008 17:00**
Sample Matrix: **WATER**
Description: **L676658-1 G CREEK**

Client PO #: **ALS23694**
Date Received: **Sep 03, 2008**

Analyte	Units	Result	DL	Date Entered
Radio Chemistry				
Radium-226	Bq/L	0.009	0.005	Sep 25, 2008

Certificate of Analysis

TECK COMINCO METALS LTD.

ATTN: BRUCE DONALD

BAG 2000

KIMBERLEY BC V1A 3E1

Reported On: 15-OCT-08 04:42 PM

Lab Work Order #: **L680721** **Date Received:** **12-SEP-08**

Project P.O. #: 7397
Job Reference: 80325 POLARIS
Legal Site Desc:
CofC Numbers: A039137

Other Information:

Comments:

LINDSAY JONES
Account Manager

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID	L680721-1	L680721-2			
	Description	WATER	WATER			
	Sampled Date	06-SEP-08	06-SEP-08			
	Sampled Time	16:00	16:00			
	Client ID	G CREEK	G CREEK QA/QC			
Grouping	**Analyte**					
SEAWATER						
Physical Tests	Conductivity (uS/cm)	11400	11600			
	Hardness (as CaCO3) (mg/L)	1540	1520			
	pH (pH)	8.08	8.06			
	Salinity (EC) (g/L)	6.7	6.8			
	Total Suspended Solids (mg/L)	3.3	<3.0			
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	121	122			
	Ammonia as N (mg/L)	0.0102	0.0087			
Cyanides	Cyanide, Total (mg/L)	<0.0050	<0.0050			
Total Metals	Aluminum (Al)-Total (mg/L)	<0.050	<0.050			
	Arsenic (As)-Total (mg/L)	<0.00020	<0.00020			
	Cadmium (Cd)-Total (mg/L)	0.000312	0.000294			
	Calcium (Ca)-Total (mg/L)	135	132			
	Copper (Cu)-Total (mg/L)	0.00112	0.00108			
	Iron (Fe)-Total (mg/L)	0.013	<0.010			
	Lead (Pb)-Total (mg/L)	0.000247	0.000173			
	Magnesium (Mg)-Total (mg/L)	293	289			
	Manganese (Mn)-Total (mg/L)	0.00243	0.00274			
	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010			
	Molybdenum (Mo)-Total (mg/L)	0.0032	0.0031			
	Nickel (Ni)-Total (mg/L)	0.00775	0.00753			
	Zinc (Zn)-Total (mg/L)	0.0502	0.0485			

Reference Information

Additional Comments for Sample Listed:

Samplenum	Matrix	Report Remarks	Sample Comments

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
ALK-C-COL-VA	Seawater	Alkalinity by Colourimetric (seawater)	APHA 310.2

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

AS-TOT-C-HVAAS-VA	Seawater	Total Arsenic in Seawater by HVAAS	PUGET SOUND PROTOCOLS, EPA 7000 SERIES

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis of the seawater is by atomic absorption/emission spectrophotometry (EPA Method 7000 series).

CN-C-T-MID-HH-COL-VA	Seawater	Total Cyanide by HH Distil. (seawater)	APHA 4500-CN "Cyanide"

This analysis is carried out using procedures adapted from APHA Method 4500-CN "Cyanide". Total or strong acid dissociable (SAD) cyanide are determined by sample distillation and analysis using the chloramine-T colourimetric method.

EC-C-PCT-VA	Seawater	Conductivity (Automated) (seawater)	APHA 2510 Auto. Conduc.

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

HARDNESS-CALC-VA	Seawater	Hardness	APHA 2340B

Hardness is calculated from Calcium and Magnesium concentrations, and is expressed as calcium carbonate equivalents.

HG-TOT-C-CVAFS-VA	Seawater	Total Mercury in Seawater by CVAFS	PUGET SOUND PROTOCOLS, EPA 245.7

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedure involves a cold-oxidation of the acidified seawater 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).

MET-TOT-C-ICP-VA	Seawater	Total Metals in Seawater by ICPOES	PUGET SOUND PROTOCOLS, EPA 6010B

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis is by inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B).

MET-TOT-C-LOW-MS-VA	Seawater	Total Metals in Seawater by ICPMS	PUGET SOUND PROTOCOLS, EPA 6020A

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis is by atomic inductively coupled plasma - mass spectrometry (EPA Method 6020A).

MET-TOT-SPE-MS-VA	Seawater	Total Metals in Seawater by SPE ICPMS	PUGET SOUND PROTOCOLS, EPA 6020A

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995, and with procedures adapted from Cetac Technologies Incorporated. A suspended particulate resin (SPR), consisting of immobilized iminodiacetate (IDA) on a divinylbenzene polymer, is used to chelate and preconcentrate metals in seawater. Instrumental analysis is by inductively coupled plasma mass spectrometry (ICPMS).

NH3-C-COL-VA	Seawater	Ammonia by Color (seawater)	APHA 4500-NH3 "Nitrogen (Ammonia)"

This analysis is carried out, on unpreserved samples, using procedures adapted from APHA Method 4500-NH3 "Nitrogen (Ammonia)". Ammonia is determined using the phenate colourimetric method.

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
PH-C-PCT-VA	Seawater	pH by Meter (Automated) (seawater)	APHA 4500-H "pH Value"

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

SALINITY-C-EC-VA	Seawater	Salinity by calc. using EC (seawater)	APHA 2520 B

This analysis is carried out using procedures adapted from APHA Method 2520 "Salinity". Salinity is determined using a samples conductivity and the Practical Salinity Scale.

TSS-C-VA	Seawater	Solids by Gravimetric (seawater)	APHA 2540 Gravimetric

This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, TSS is determined by drying the filter at 104 degrees celsius.

** Laboratory Methods employed follow in-house procedures, which are generally based on nationally or internationally accepted methodologies.
The last two letters of the above ALS Test Code column indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location	Laboratory Definition Code	Laboratory Location
VA	ALS LABORATORY GROUP - VANCOUVER, BC, CANADA		

GLOSSARY OF REPORT TERMS
Surr - A surrogate is an organic compound that is similar to the target analyte(s) in chemical composition and behavior but not normally detected in enviromental samples. Prior to sample processing, samples are fortified with one or more surrogate compounds.
The reported surrogate recovery value provides a measure of method efficiency.
mg/kg (units) - unit of concentration based on mass, parts per million
mg/L (units) - unit of concentration based on volume, parts per million
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.
Although test results are generated under strict QA/QC protocols, any unsigned test reports, faxes, or emails are considered preliminary.

ALS Laboratory Group has an extensive QA/QC program where all analytical data reported is analyzed using approved referenced procedures followed by checks and reviews by senior managers and quality assurance personnel. However, since the results are obtained from chemical measurements and thus cannot be guaranteed, ALS Laboratory Group assumes no liability for the use or interpretation of the results.

SRC Group # 2008-8082

SRC ANALYTICAL

Oct 14, 2008

422 Downey Road
Saskatoon, Saskatchewan, Canada
S7N 4N1
(306) 933-6932 or 1-800-240-8808
Fax: (306) 933-7922

ALS
Aurora Laboratory Services Ltd.
1988 Triumph Street
Vancouver, British Columbia V5L 1K5
Attn: Selam Worku

Sample # **37736**
Date Sampled: **Sep 06, 2008 16:00**
Sample Matrix: **WATER**
Description: **L680721-1 G CREEK**

Client PO #: **L680721**
Date Received: **Sep 16, 2008**

Analyte	Units	Result	DL	Date Entered
Radio Chemistry				
Radium-226	Bq/L	<0.005	0.005	Oct 14, 2008

"<": not detected at level stated above.

SRC ANALYTICAL

ALS, Aurora Laboratory Services Ltd.

Sample # **37737**
Date Sampled: **Sep 06, 2008 16:00**
Sample Matrix: **WATER**
Description: **L680721-2 G CREEK QA/QC**

Client PO #: **L680721**
Date Received: **Sep 16, 2008**

Analyte	Units	Result	DL	Date Entered
Radio Chemistry				
Radium-226	Bq/L	0.01	0.005	Oct 14, 2008

Nautilus Environmental
8664 Commerce Court, Burnaby, BC V5A 4N7

WO#: 08129-30

Mr. Bruce Donald
Teck Cominco Metal Ltd.
Bag 2000
Kimberley, BC
V1A 3E1

August 11, 2008

Dear Mr. Donald:

Re: Toxicity testing on the sample identified as G Creek (Collected July 3, 2008)

Nautilus Environmental is pleased to provide you the results of the 96-h LC50 Rainbow Trout toxicity test and 48-h LC50 *Daphnia magna* on the above sample, received on July 8, 2008. Testing was conducted according to Environment Canada 1/RM/13, (Second Edition, 2000, including May 2007 amendments) and 1/RM/14, (Second Edition, 2000). The results of these tests are provided in the tables below and are based on the appended data. All acceptability criteria outlined in the Environment Canada protocol were met.

Table A. Results for the 96-h Rainbow Trout test.

Sample ID	Collection Date and Time	96-h LC50 (% vol/vol)
G Creek	July 3, 2008 (1500hrs)	>100

Table B. Results for the 48-h *D. magna* test.

Sample ID	Collection Date and Time	96-h LC50 (% vol/vol)
G Creek	July 3, 2008 (1500hrs)	>100

Please feel free to contact the undersigned at 604-420-8773 should you have any questions or require any additional information.

Yours truly,

Nautilus Environmental

Andy Diewald, B.Sc.
Lab Supervisor

Rainbow Trout Summary Sheet

Client: Teck Cominco

Start Date/Time: July 8/08 @ 1250

Work Order No.: 08129

Test Species: *Oncorhynchus mykiss*

Sample Information:

Sample ID: G Creek
Sample Date: July 3/08
Date Received: July 8/08
Sample Volume: 2 x 20L
Other:

Dilution Water:

Type: Dechlorinated Municipal Tap Water
Hardness (mg/L $CaCO_3$): 14
Alkalinity (mg/L $CaCO_3$): 12

Test Organism Information:

Batch No.: 061208
Source: Sun Valley
Test Volume/No. Fish: 10/15L
Loading Density: 0.35 g/L
Mean Length ± SD (mm): 41 ± 2 mm Range: 38 - 45 mm
Mean Weight ± SD (g): 0.53 ± 0.12 g/L Range: 0.38 - 0.73

SDS Reference Toxicant Results:

Reference Toxicant ID: RT33
Stock Solution ID: 0803
Date Initiated: June 30, 2008
96-h LC50 (95% CL): 5.3 (4.3 - 6.6) mg/L

Reference Toxicant Mean ± 2 SD: 5.4 ± 2.1 mg/L
Reference Toxicant CV (%): 19 %

Test Results: The 96hr LC_{50} is >100 % (v/v)

Reviewed by: L. Teng

Date reviewed: August 11/08

96-Hour Rainbow Trout Toxicity Test Data Sheet

Client/Project#: Teck Cominco
Sample I.D. G Creek
W.O. # 08129
RBT Batch #: 061208
Date Received/Time: July 8/08 @ 1055
Date Setup/Time: July 8/08 @ 1250
Sample Setup By: [illegible]

D.O. meter: DO-1
pH meter: pH-1
Cond. Meter: C-1

Number Fish/Volume: 10/15
7-d % Mortality: 0.02%
Total Pre-aeration Time (mins): 30
Aeration rate adjusted to 6.5 ± 1 mL/min/L? (Y/N): Y

Undiluted Sample WQ			
Parameters	Initial WQ	Adjustment	30 min WQ
Temp °C	14.3		15.0
pH	7.9		7.9
D.O. (mg/L)	10.6		10.6
Cond. (µS/cm)	3910		3900

Concentration %(v/v)	# Survivors							Temperature (°C)					Dissolved Oxygen (mg/L)					pH					Conductivity (µS/cm)	
	1	2	4	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	96
ctl				10	9	9	9	15.0	15.2	14.9	15.1	15.6	10.2	8.5	7.8	9.4	9.0	7.3	6.8	6.8	7.0	7.1	32	35
6.25				10	10	10	10	15.0	15.2	14.9	15.1	15.5	10.3	9.3	7.3	8.9	9.0	7.3	6.9	8.6	6.9	7.0	309	314
12.5				10	10	10	10	15.0	15.2	14.9	15.1	15.5	10.4	10.3	8.5	9.5	9.2	7.4	7.2	7.0	7.2	7.1	554	562
25				10	10	10	10	15.0	15.2	14.9	15.1	15.5	10.3	10.5	9.2	9.7	9.4	7.5	7.3	7.1	7.3	7.2	930	936
50				10	10	10	10	15.0	15.2	14.9	15.1	15.5	10.3	10.7	9.6	9.7	9.6	7.7	7.4	7.3	7.6	7.4	1940	1949
100				10	10	10	10	15.0	15.2	14.9	15.1	15.5	10.6	10.6	9.7	9.5	9.6	7.9	7.6	7.6	7.7	7.6	3900	3920
Initials				[illegible]	[illegible]	[illegible]	DLL	[illegible]	[illegible]	[illegible]	[illegible]	DLL	[illegible]	[illegible]	[illegible]	[illegible]	DLL	[illegible]	[illegible]	[illegible]	[illegible]	DLL	[illegible]	DLL

Sample Description/Comments: clear & transparent

Fish Description at 96? fish appear normal.

Other Observations:

Reviewed by: A. Tang

Date Reviewed: August 11, 2008

Daphnia magna Summary Sheet

Client: Teck Cominco Metal Ltd.
Work Order No.: 08130
Start Date/Time: July 8/08 @ 1500hr
Test Species: D. magna
Set up by: two

Sample Information:

Sample ID: B-Creek
Sample Date: July 3/08
Date Received: July 8/08
Sample Volume: 2x20L

Test Organism Information:

Broodstock No.: 062008
Age of young (Day 0): < 24
Avg No. young per brood in previous 7 d: 16
Mortality (%) in previous 7 d: 0
Days to first brood: 10

NaCl Reference Toxicant Results:

Reference Toxicant ID: DM35
Stock Solution ID: 08 NaCl
Date Initiated: July 9/08
48-h LC50 (95% CL): 4.5 (3.8 - 5.4) g/L NaCL

Reference Toxicant Mean ± 2 SD: 4.2 ± 1.0 g/L NaCL
Reference Toxicant CV (%): 12

Test Results: The 48h LC50 > 100 % (v/v)

Reviewed by: A. Tang
Date reviewed: August 11, 2008

Freshwater Acute
48 Hour Toxicity Test Data Sheet

Client: Teck cominco Metal Ltd.
Sample ID: 6 Creek
Work Order No.: 05130

Start Date/Time: July 8/08 @ 1500h
No. Organisms/volume: 10/200mL
Test Organism: *D.magna*
Set up by: [illegible]

DO meter: DO-1 pH meter: pH-1 Conductivity meter: C-1

Concentration % (v/v)	Rep	Number of Live Organisms			No. Immobilized	Temperature (°C)			Dissolved oxygen (mg/L)			pH			Conductivity (µS/cm)	
		0	24	48	48	0	24	48	0	24	48	0	24	48	0	48
Control	A	10	10	10	0	21.4	19.3	19.0	9.1		8.9	7.8		7.8	~~213~~ 229	356
	B															
	C															
	D															
6.25	A	10	10	10	0	21.1	19.3	19.0	9.1		8.9	7.9		7.9	514	538
	B															
	C															
	D															
12.5	A	10	10	10	0	20.8	19.3	19.0	9.1		9.0	7.9		7.7	769	790
	B															
	C															
	D															
25	A	10	10	10	0	20.5	19.3	19.0	9.0		9.0	7.8		7.8	1247	1310
	B															
	C															
	D															
50	A	10	10	10	0	20.4	19.3	19.0	9.0		8.9	7.8		7.7	2280	2340
	B															
	C															
	D															
100	A	10	10	10	0	19.7	19.3	19.0	9.1		8.9	7.6		7.7	3910	3960
	B															
	C															
	D															
Technician Initials		M	M	M	M	M	M	M	M		M	M		M	M	M

	Hardness*	Alkalinity*
Conc.	*(mg/L as CaCo3)	
Control (MHW)	100	60
Highest conc.	890	188

	Initial WQ	Adjustment	Adjusted WQ
Temp (°C)	19.7		
DO (mg/L)	9.1		
pH	7.6		
Cond (µS/cm)	3910		

Sample Description: clear

Comments: used 062008

Reviewed by: A. Teng Date reviewed: August 11, 2008

Client: Teck Cominco

W.O.#: 08130

Hardness and Alkalinity Datasheet

	Alkalinity						Hardness			
Sample ID	Sample Date	Sample Volume (mL)	(mL) 0.02N HCL/H_2SO_4 used to pH 4.5	(mL) of 0.02N HCL/H_2SO_4 used to pH 4.2	Total Alkalinity ($mg/LCaCO_3$)		Sample Volume (mL)	Volume of 0.01M EDTA Used (mL)	Total Hardness ($mg/L\ CaCO_3$)	Technician
G Creek	July 21/08	55.5	9.6	9.8	188 164		10①	8.9	890	A

Notes: ① diluted to 100mL w/ DI H2O

Reviewed by: A. Terry

Date Reviewed: August 11, 2008

Nautilus Environmental

Chain of Custody (electronic)

☐ California: 5550 Morehouse Drive, Suite 150, San Diego, CA 92121
☐ Washington: 5009 Pacific Highway East, Suite 2, Tacoma, WA 98424
☒ British Columbia: 8664 Commerce Court, Burnaby, BC, V5A 4N7

Date C7/C8/08 Page 1 of 1

Sample Collection By: Rick Swilton / Murray Balsom

	Report to:	Invoice to: Same as report to.
Company	Teck Cominco Metal Ltd.	
Address	Bag 2000	
City/Prov/Postal Code	Kimberley, BC V1A 3E1	
Contact	Bruce Donald	
Phone	250-427-8405 Fax: 250-427-8451	
Email	bruce.donald@teckcominco.com ; alaudrum@gartnerlee.com	

	SAMPLE ID	DATE	TIME	MATRIX	CONTAINER TYPE	# OF CONTAINERS	COMMENTS	ANALYSES REQUIRED: Acute Toxicity LC50	RBT LC50 ①	D. magna LC50 ①								Receipt Temperature (°C)
1	G Creek	July 3/08	3PM	Seawater	20 L Jug	2		X	✓	✓								12.8
2									WO# 08129	WO# 08130								
3																		
4							① Confirmed LC50 tests with Curtis Kidd July 8/08 JLE											
5																		
6																		
7																		
8																		
9																		
10																		

PROJECT INFORMATION	SAMPLE RECEIPT		RELIQUINSHED BY (CLIENT)	RELIQUINSHED BY (COURIER)
Client: Polaris 80325	Total # Containers:	2	Signature:	Signature:
P.O. No.:	Good Condition?	✓	Print: Rick Swilton	Print:
Shipped Via:	Matches Schedule?		Company: ATCO Frontec	Company: Fedex
			Time/Date: JULY 3/08 3PM	Time/Date: 1000L July 8/08
SPECIAL INSTRUCTIONS/COMMENTS: Water is hypersaline. Send report and invoice to Teck Cominco. Send electronic report to Teck and G.L. (ckidd@gartnerlee.com and above)			RECEIVED BY (COURIER)	RECEIVED BY (LABORATORY)
			Signature:	Signature:
			Print:	Print: J. Tedesco
			Company:	Company: Nautilus Environmental
			Time/Date:	Time/Date: 1000L July 8/08

Additional costs may be required for sample disposal or storage. Net 30 unless otherwise contracted.

Nautilus Environmental
8664 Commerce Court, Burnaby, BC V5A 4N7

WO#: 08210-211

Mr. Bruce Donald
Teck Cominco Metal Ltd.
Bag 2000
Kimberley, BC
V1A 3E1

September 26, 2008

Dear Mr. Donald:

Re: Toxicity testing on the sample identified as G Creek (Collected August 30, 2008)

Nautilus Environmental is pleased to provide you the results of the 96-h LC50 Rainbow Trout toxicity test and 48-h LC50 *Daphnia magna* on the above sample, received on September 2, 2008. Testing was conducted according to Environment Canada 1/RM/13, (Second Edition, 2000, including May 2007 amendments) and 1/RM/14, (Second Edition, 2000). The results of these tests are provided in the tables below and are based on the appended data. All acceptability criteria outlined in the Environment Canada protocol were met.

Table A. Results for the 96-h Rainbow Trout test.

Sample ID	Collection Date and Time	96-h LC50 (% vol/vol)
G Creek	August 30, 2008 @ 0800h	>100

Table B. Results for the 48-h *D. magna* test.

Sample ID	Collection Date and Time	48-h LC50 (% vol/vol)
G Creek	August 30, 2008 @ 0800h	>100

Please feel free to contact the undersigned at 604-420-8773 should you have any questions or require any additional information.

Yours truly,

Nautilus Environmental

Donna Leung
For,
Andy Diewald, B.Sc.
Lab Supervisor

Rainbow Trout Summary Sheet

Client: Teck Cominco

Start Date/Time: Sept 3 /08 @ 1245h

Work Order No.: 08210

Test Species: *Oncorhynchus mykiss*

Sample Information:

Sample ID: 6 Creek
Sample Date: Aug. 30/08 @ 0800h
Date Received: Sept. 2/08 @ 1600h
Sample Volume: 1 x 20L
Other:

Dilution Water:

Type: Dechlorinated Municipal Tap Water.
Hardness (mg/L $CaCO_3$): 10
Alkalinity (mg/L $CaCO_3$): 9

Test Organism Information:

Batch No.: 082608
Source: Sun Valley Trout Farm
Test Volume/No. Fish: 10/10L
Loading Density: 0.29
Mean Length ± SD (mm): ~~29 ± 0.05~~ 35 ± 2 Range: ~~0.22 - 0.36~~ 32 - 38
Mean Weight ± SD (g): 0.29 ± 0.05 Range: 0.22 - 0.34

SDS Reference Toxicant Results:

Reference Toxicant ID: RT36
Stock Solution ID: 08S03
Date Initiated: Sept 2/08
96-h LC50 (95% CL): 4.6 (3.9 - 5.5)

Reference Toxicant Mean ± 2 SD: 5.4 ± 2.1
Reference Toxicant CV (%): 19.6 %

Test Results: The 96-h LC50 > 100 %(v/v)

Reviewed by: A. Tang

Date reviewed: September 5, 2008

96-Hour Rainbow Trout Toxicity Test Data Sheet

Client/Project#: Teck Cominco
Sample I.D. G - Creek
W.O. # 08210
RBT Batch #: 082608
Date Received/Time: Sept 2/08 @ 1600
Date Setup/Time: Sept 3/08 @ 1245
Sample Setup By: [illegible]

D.O. meter: DO-1
pH meter: pH-1
Cond. Meter: C-1

Number Fish/Volume: 10/10L
7-d % Mortality: 0.05%
Total Pre-aeration Time (mins): ~~1~~ 55 min
Aeration rate adjusted to 6.5 ± 1 mL/min/L? (Y/N): Y

Undiluted Sample WQ			
Parameters	Initial WQ	Adjustment	30 min WQ
Temp °C	15.0		15.0
pH	7.8		7.1
D.O. (mg/L)	11.8		11.0
Cond. (µS/cm)	12010		11930

Concentration % (v/v)	# Survivors							Temperature (°C)					Dissolved Oxygen (mg/L)					pH					Conductivity (µS/cm)	
	1	2	4	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	96
ctl				10	10	10	10	15.5	14.7	14.8	14.8	15.1	10.1	9.0	10.0	9.6	10.1	7.2	7.0	7.1	6.9	7.2	39	43
6.25				10	10	10	10	15.5	14.7	14.8	14.8	15.1	10.1	9.6	10.1	9.8	10.1	7.2	7.0	7.1	7.0	7.2	935	909
12.5				10	10	10	10	15.3	14.7	14.8	14.8	15.1	10.1	9.8	10.1	9.9	10.0	7.3	7.3	7.1	7.1	7.3	1760	1750
25				10	10	10	10	15.3	14.7	14.8	14.8	15.1	10.1	9.8	10.1	10.0	10.0	7.3	7.3	7.2	7.2	7.3	3100	3110
50				10	10	10	10	15.2	14.7	14.8	14.8	15.1	10.2	9.9	10.1	10.1	9.8	7.6	7.5	7.4	7.5	7.6	7410	7500
100				10	10	10	10	15.4	14.7	14.8	14.8	15.1	10.3	10.0	10.1	10.1	9.8	7.7	7.1	7.7	7.8	7.7	11920	11990
Initials																								

Sample Description/Comments: clear

Fish Description at 96?

Other Observations: ① adjusted aeration

Reviewed by: A. Tang

Date Reviewed: September 25, 2008

Daphnia magna Summary Sheet

Client: Teck cominco
Work Order No.: 08211

Start Date/Time: sept. 3/08@
Test Species: D. magna
Set up by: AWD

Sample Information:

Sample ID: @ creek
Sample Date: Aug. 30/08 @ 0800h
Date Received: Sept 2/08 @ 1600h
Sample Volume: 1 x 20L

Test Organism Information:

Broodstock No.: 081508
Age of young (Day 0): < 24-h
Avg No. young per brood in previous 7 d: 16
Mortality (%) in previous 7 d: 0
Days to first brood: 9

NaCl Reference Toxicant Results:

Reference Toxicant ID: Dm 37
Stock Solution ID: 08NaCl
Date Initiated: Sept 3/08
48-h LC50 (95% CL): 3.9 (3.2-4.9) g/L NaCl

Reference Toxicant Mean ± 2 SD: 4.2 ± 1.0 g/L NaCl
Reference Toxicant CV (%): 12.2

Test Results: The 48h LC50 >100% (v/v)

Reviewed by: A. Tang

Date reviewed: September 25, 2008

Freshwater Acute
48 Hour Toxicity Test Data Sheet

Client: Teck Cominco
Sample ID: G-Creek
Work Order No.: 28211

Start Date/Time: Sept 3/08 @ 1520
No. Organisms/volume: 10/200mL
Test Organism: D.magna
Set up by: Aw

DO meter: DO-1 pH meter: pH-1 Conductivity meter: C-1

Concentration % (v/v)	Rep	Number of Live Organisms			No. Immobilized	Temperature (°C)			Dissolved oxygen (mg/L)			pH			Conductivity (µS/cm)	
		0	24	48	48	0	24	48	0	24	48	0	24	48	0	48
Control	A	10	10	10	0	20.8	19.7	20.8	8.8		8.7	8.1		7.8	331	382
	B															
	C															
	D															
6.25	A	10	10	10	0	20.6	19.7	20.8	9.0		8.8	7.9		7.7	1625	1728
	B															
	C															
	D															
12.5	A	10	10	10	0	20.5	19.9	20.8	8.8		8.7	7.8		7.8	2210	2360
	B															
	C															
	D															
25	A	10	10	10	0	20.5	19.7	20.8	8.9		8.7	7.8		7.8	3380	3690
	B															
	C															
	D															
50	A	10	10	10	0	20.6	19.7	20.8	8.9		8.7	7.7		7.7	5310	5670
	B															
	C															
	D															
100	A	10	10	10	0	21.2	19.7	20.8	8.8		8.7	7.7		7.7	11900	12980
	B															
	C															
	D															
Technician Initials		AD	AD	AD	AD	AD	AD	AD	AD		AD	AD		AD	AD	AD

	Hardness*	Alkalinity*
Conc.	*(mg/L as CaCo3)	
Control (MHW)	100	62
Highest conc.	640	98

	Initial WQ	Adjustment	Adjusted WQ
Temp (°C)	21.2 ~~20.8~~		
DO (mg/L)	8.8		
pH	7.7		
Cond (µS/cm)	11900		

Sample Description: Clear

Comments: used batch 081508AA

Reviewed by: A. Tang Date reviewed: September 25, 2008

Client: Teck Cominco

W.O.#: 08211

Hardness and Alkalinity Datasheet

	Alkalinity						Hardness			
Sample ID	Sample Date	Sample Volume (mL)	(mL) 0.02N HCL/H_2SO_4 used to pH 4.5	(mL) of 0.02N HCL/H_2SO_4 used to pH 4.2	Total Alkalinity ($mg/LCaCO_3$)		Sample Volume (mL)	Volume of 0.01M EDTA Used (mL)	Total Hardness ($mg/L\ CaCO_3$)	Technician
G-Creek	Sept. 16.08	50.0	5.0	5.1	98		①10.0	6.4	640	BBL

Notes:

Sept 3

Reviewed by: A. Terf

Date Reviewed: September 25, 2008

① 10mL sample diluted to 100mL

Nautilus Environmental

Chain of Custody (electronic)

☐ California: 5550 Morehouse Drive, Suite 150, San Diego, CA 92121
☐ Washington: 5009 Pacific Highway East, Suite 2, Tacoma, WA 98424
☒ British Columbia: 8664 Commerce Court, Burnaby, BC, V5A 4N7

Date Aug 30/08 Page 1 of 1

Sample Collection By:

	Report to:	Invoice to: Same as report to.
Company	Teck Cominco Metal Ltd.	
Address	Bag 2000	
City/Prov/Postal Code	Kimberley, BC V1A 3E1	
Contact	Bruce Donald	
Phone	250-427-8405 Fax: 250-427-8451	
Email	bruce.donald@teckcominco.com ; alaudrum@gartnerlee.com	

	SAMPLE ID	DATE	TIME	MATRIX	CONTAINER TYPE	# OF CONTAINERS	COMMENTS	Acute Toxicity LC50 (RBT)	48h LC50 D. magna									Receipt Temperature (°C)
1	G Creek	~~Aug 29~~ Aug 30	~~5pm~~ 8 AM	Seawater	20 L Jug	2	Recvd 1 Sept 2:30/08 @1600 AJ	X	X									6.9°C
2																		
3																		
4								WO # 082210	WO # 082211									
5																		
6																		
7																		
8																		
9																		
10																		

PROJECT INFORMATION	SAMPLE RECEIPT		RELIQUINSHED BY (CLIENT)	RELIQUINSHED BY (COURIER)
Client: Polaris 80325	Total # Containers:	1	Signature: Curtis Kidd	Signature:
P.O. No.:	Good Condition?		Print: CURTIS KIDD	Print:
Shipped Via:	Matches Schedule?		Company: GARTNER LEE LTD	Company:
			Time/Date: Aug 30/08	Time/Date:
SPECIAL INSTRUCTIONS/COMMENTS: Water is hypersaline.			RECEIVED BY (COURIER)	RECEIVED BY (LABORATORY)
			Signature:	Signature: [signature]
			Print:	Print: Jennifer Trowell
			Company:	Company: Nautilus
			Time/Date:	Time/Date: Sept 2/08 @1600

Additional costs may be required for sample disposal or storage. Net 30 unless otherwise contracted.

Nautilus Environmental
8664 Commerce Court, Burnaby, BC V5A 4N7

WO#: 08218-219

Mr. Bruce Donald
Teck Cominco Metal Ltd.
Bag 2000
Kimberley, BC
V1A 3E1

September 26, 2008

Dear Mr. Donald:

Re: Toxicity testing on the sample identified as G Creek (Collected September 6, 2008)

Nautilus Environmental is pleased to provide you the results of the 96-h LC50 Rainbow Trout toxicity test and 48-h LC50 *Daphnia magna* on the above sample, received on September 9, 2008. Testing was conducted according to Environment Canada 1/RM/13, (Second Edition, 2000, including May 2007 amendments) and 1/RM/14, (Second Edition, 2000). The results of these tests are provided in the tables below and are based on the appended data. All acceptability criteria outlined in the Environment Canada protocol were met.

Table A. Results for the 96-h Rainbow Trout test.

Sample ID	Collection Date and Time	96-h LC50 (% vol/vol)
G Creek	September 6, 2008 @ 1600h	>100

Table B. Results for the 48-h *D. magna* test.

Sample ID	Collection Date and Time	48-h LC50 (% vol/vol)
G Creek	September 6, 2008 @ 1600h	>100

Please feel free to contact the undersigned at 604-420-8773 should you have any questions or require any additional information.

Yours truly,

Nautilus Environmental

Donna Leung
For Andy Diewald, B.Sc.
Lab Supervisor

Rainbow Trout Summary Sheet

Client: Teck Cominco Metal Ltd

Start Date/Time: Sept. 9/08 @ 1730h

Work Order No.: 08218

Test Species: *Oncorhynchus mykiss*

Sample Information:

Sample ID: 9 Creek
Sample Date: Sept. 6/08 @ 1600h
Date Received: Sept. 9/08
Sample Volume: 1 x 20L
Other: /

Dilution Water:

Type: dechlorinated municipal tap water
Hardness (mg/L $CaCO_3$): 10
Alkalinity (mg/L $CaCO_3$): 9

Test Organism Information:

Batch No.: 082908
Source: Sun Valley Trout Farm
Test Volume/No. Fish: 10/10L
Loading Density: 0.3 g/L
Mean Length ± SD (mm): 35 ± 2 Range: 32 - 38
Mean Weight ± SD (g): 0.38 ± 0.03 Range: 0.31 - 0.42

SDS Reference Toxicant Results:

Reference Toxicant ID: RT 36
Stock Solution ID: 08SO3
Date Initiated: Sept. 2/08
96-h LC50 (95% CL): 4.6 (3.9 - 5.5)

Reference Toxicant Mean ± 2 SD: 5.4 ± 2.1
Reference Toxicant CV (%): 19.6%

Test Results: The 96-h LC50 is estimated to be >100% (v/v)

Reviewed by: A. Tang

Date reviewed: September 25, 2008

96-Hour Rainbow Trout Toxicity Test Data Sheet

Client/Project#: TECK COMINCO
Sample I.D. G-CREEK
W.O. # 08218
RBT Batch #: 082608
Date Received/Time: Sept 9/08
Date Setup/Time: Sept 9/08 1730h
Sample Setup By: [signature]

D.O. meter: DO-1
pH meter: pH-1
Cond. Meter: C-1

Number Fish/Volume: 10/10L
7-d % Mortality: 0
Total Pre-aeration Time (mins): 105
Aeration rate adjusted to 6.5 ± 1 mL/min/L? (Y/N): Ys

Undiluted Sample WQ			
Parameters	Initial WQ	Adjustment	30 min WQ
Temp °C	15.1		15.1
pH	7.8		7.8
D.O. (mg/L)	11.2		10.9
Cond. (µS/cm)	12070		12070

Concentration %(V/V)	# Survivors							Temperature (°C)					Dissolved Oxygen (mg/L)					pH					Conductivity (µS/cm)	
	1	2	4	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	96
Control				10	10	10	10	15.3	14.8	14.7	14.7	15.2	10.0	10.0	10.1	10.1	9.9	7.3	7.1	7.0	7.1	7.1	30	38
6.25				10	10	10	10	15.3	14.8	14.7	14.7	15.2	10.0	10.0	10.1	10.0	10.0	7.3	7.1	7.0	7.1	7.1	873	893
12.5				10	10	10	10	15.3	14.8	14.7	14.7	15.2	10.1	10.0	10.1	10.0	10.0	7.4	7.2	7.1	7.3	7.4	1353	1570
25				10	10	10	10	15.2	14.8	14.7	14.7	15.2	10.1	10.0	10.1	10.0	9.9	7.5	7.3	7.4	7.3	7.5	2310	3120
50				10	10	10	10	15.2	14.8	14.7	14.7	15.2	10.1	10.0	10.0	10.0	9.9	7.7	7.5	7.6	7.5	7.7	4560	6510
100				10	10	10	10	15.1	14.8	14.7	14.7	15.2	10.1	10.0	10.1	10.0	9.9	7.8	7.8	7.7	7.9	7.9	12070	12190
Initials				[signature]	JJ	JLT	n	[signature]	[signature]	JG	JLT	n	[signature]	[signature]	JLT	JG	n	[signature]	[signature]	JG	JLT	n	[signature]	n

Sample Description/Comments: clear sample.

Fish Description at 96? fish appear fine.

Other Observations:

Reviewed by: A. Tang

Date Reviewed: September 25, 2008

Daphnia magna Summary Sheet

Client: Teck Cominco Metal Ltd.
Work Order No.: 08219

Start Date/Time: sept 9/08 @ 1630h
Test Species: D. magna
Set up by: AWD

Sample Information:

Sample ID: G Creek
Sample Date: sept. 6/08 @ 1600h
Date Received: sept. 9/08
Sample Volume: 1x20L

Test Organism Information:

Broodstock No.: 082208B
Age of young (Day 0): < 24-h
Avg No. young per brood in previous 7 d: ~~Ø~~ 21
Mortality (%) in previous 7 d: 0
Days to first brood: 9

NaCl Reference Toxicant Results:

Reference Toxicant ID: Dm 37
Stock Solution ID: 08Na02
Date Initiated: Sept 3/08
48-h LC50 (95% CL): 3.9 (3.2-4.9) g/L NaCl

Reference Toxicant Mean ± 2 SD: 4.2 ± 1.0 g/L NaCl
Reference Toxicant CV (%): 12.2

Test Results: The 48-h LC50 is estimated to be >100% (v/v)

Reviewed by: A. Tang

Date reviewed: September 25th, 2008

Freshwater Acute
48 Hour Toxicity Test Data Sheet

Client: Teck Cominco
Sample ID: C-Creek
Work Order No.: 08219

Start Date/Time: Sept 9/08 @ 1634
No. Organisms/volume: 10/200mL
Test Organism: *D.magna*
Set up by: [illegible]

DO meter: DO-1 pH meter: pH-1 Conductivity meter: C-1

Concentration (%)	Rep	Number of Live Organisms			No. Immobilized	Temperature (°C)			Dissolved oxygen (mg/L)			pH			Conductivity (µS/cm)	
		0	24	48	48	0	24	48	0	24	48	0	24	48	0	48
Control	A	10	10	10	0	19.8	21.5	21.5	9.1		8.7	8.2		8.0	342	354
	B															
	C															
	D															
6.25	A	10	10	10	0	20.0	21.5	21.5	9.0		8.7	8.2		7.9	1170	1245
	B															
	C															
	D															
12.5	A	10	10	10	0	20.1	21.5	21.5	9.1		8.6	8.1		7.9	2043	2230
	B															
	C															
	D															
25	A	10	10	10	0	19.8	21.5	21.5	9.1		8.5	8.0		7.8	3730	3940
	B															
	C															
	D															
50	A	10	10	10	0	19.9	21.5	21.1	9.2		8.5	7.9		7.9	5580	6550
	B															
	C															
	D															
100	A	10	10	10	0	18.0	21.5	21.5	9.3		8.4	7.9		7.7	11870	12680
	B															
	C															
	D															
Technician Initials		[illegible]	DKL	[illegible]	[illegible]	[illegible]	DKL	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]	[illegible]

	Hardness*	Alkalinity*
Conc.	*(mg/L as CaCo3)	
Control (MHW)	100	62
Highest conc.	660	96

	Initial WQ	Adjustment	Adjusted WQ
Temp (°C)	15.2		
DO (mg/L)	9.3		
pH	7.9		
Cond (µS/cm)	1187		

Sample Description: Clear

Comments: used 082208B Days to 1st brood: 9 Mort: 0 Avg. # yng: 21

Reviewed by: A. Teng Date reviewed: September 25, 2008

Client: Teck Lamco

W.O.#: ~~SF~~ 08219

Hardness and Alkalinity Datasheet

	Alkalinity						Hardness			
Sample ID	Sample Date	Sample Volume (mL)	(mL) 0.02N HCL/H_2SO_4 used to pH 4.5	(mL) of 0.02N HCL/H_2SO_4 used to pH 4.2	Total Alkalinity ($mg/LCaCO_3$)		Sample Volume (mL)	Volume of 0.01M EDTA Used (mL)	Total Hardness ($mg/L\ CaCO_3$)	Technician
5-Creek	Sept. 16/08	500	4.9	5.0	96	①	10.0	6.6	660	BPL

Notes: Sept 9

Reviewed by: A. Terry Date Reviewed: September 25, 2008

① Diluted 10.0 mL of sample to 100.0 mL using D.I water.

7

Nautilus Environmental

Chain of Custody (electronic)

[ ] California: 5550 Morehouse Drive, Suite 150, San Diego, CA 92121
[ ] Washington: 5009 Pacific Highway East, Suite 2, Tacoma, WA 98424
[X] British Columbia: 8664 Commerce Court, Burnaby, BC, V5A 4N7

Date Sept 6/08 Page 1 of 1

Sample Collection By:	Rick Gawlton		
	Report to:	**Invoice to:**	Same as report to.
Company	Teck Cominco Metal Ltd.		
Address	Bag 2000		
City/Prov/Postal Code	Kimberley, BC V1A 3E1		
Contact	Bruce Donald		
Phone	250-427-8405 Fax: 250-427-8451		
Email	bruce.donald@teckcominco.com ; alaudrum@gartnerlee.com		

	SAMPLE ID	DATE	TIME	MATRIX	CONTAINER TYPE	# OF CONTAINERS	COMMENTS	Acute Toxicity 96h RBT LC50	48h D. magna LC50	ANALYSES REQUIRED	Receipt Temperature (°C)
1	G Creek	Sept6	4PM	Seawater	20 L Jug	2		X	X		6.2
2								WB#08218	WB#08219		
3											
4											
5											
6											
7											
8											
9											
10											

rec'd @ 1600 L Sept 9/08 JLT

PROJECT INFORMATION	SAMPLE RECEIPT		RELIQUINSHED BY (CLIENT)	RELIQUINSHED BY (COURIER)
Client: Polaris 80325	**Total # Containers:**	2	**Signature:**	**Signature:**
P.O. No.:	**Good Condition?**	✓	**Print:** Richard Gawlton	**Print:**
Shipped Via:	**Matches Schedule?**	✓	**Company:** Narwhal Arctic Svcs	**Company:** Novex
			Time/Date: Sept 6/08 4PM	**Time/Date:** 1600 Sept. 9/08
SPECIAL INSTRUCTIONS/COMMENTS: Water is hypersaline.			**RECEIVED BY (COURIER)**	**RECEIVED BY (LABORATORY)**
			Signature:	**Signature:**
			Print:	**Print:** John T.
			Company:	**Company:** Nautilus Environmental
			Time/Date:	**Time/Date:** 1600 Sept 9/08

Additional costs may be required for sample disposal or storage. Net 30 unless otherwise contracted.