October 15, 2007

Nunavut Water Board
Box 119
Gjoa Haven, NU
X0B 0J0
Attention: Phyllis Beaulieu, Manager of Licensing

Indian and Northern Affairs Canada
P.O. Box 100
Iqaluit, Nunavut
X0A 0H0
Attention: Spencer Dewar, Manager, Lands Administration

Dear Ms. Beaulieu and Mr. Dewar;

Re: Polaris Mine – 2007 1st and 2nd Decommissioning and Reclamation Monitoring Report (Water Licence #NWB1POL0311)

Please find attached the Polaris Mine 2007 1st and 2nd Quarter Decommissioning and Reclamation Monitoring Reports.

The attached reports are in paper format complete with a CD containing electronic copies of the reports in pdf format.

If there are any questions with regard to these reports, please contact the undersigned.

Yours truly,

Bruce J. Donald
Reclamation Manager
Environment and Corporate Affairs
Teck Cominco Limited

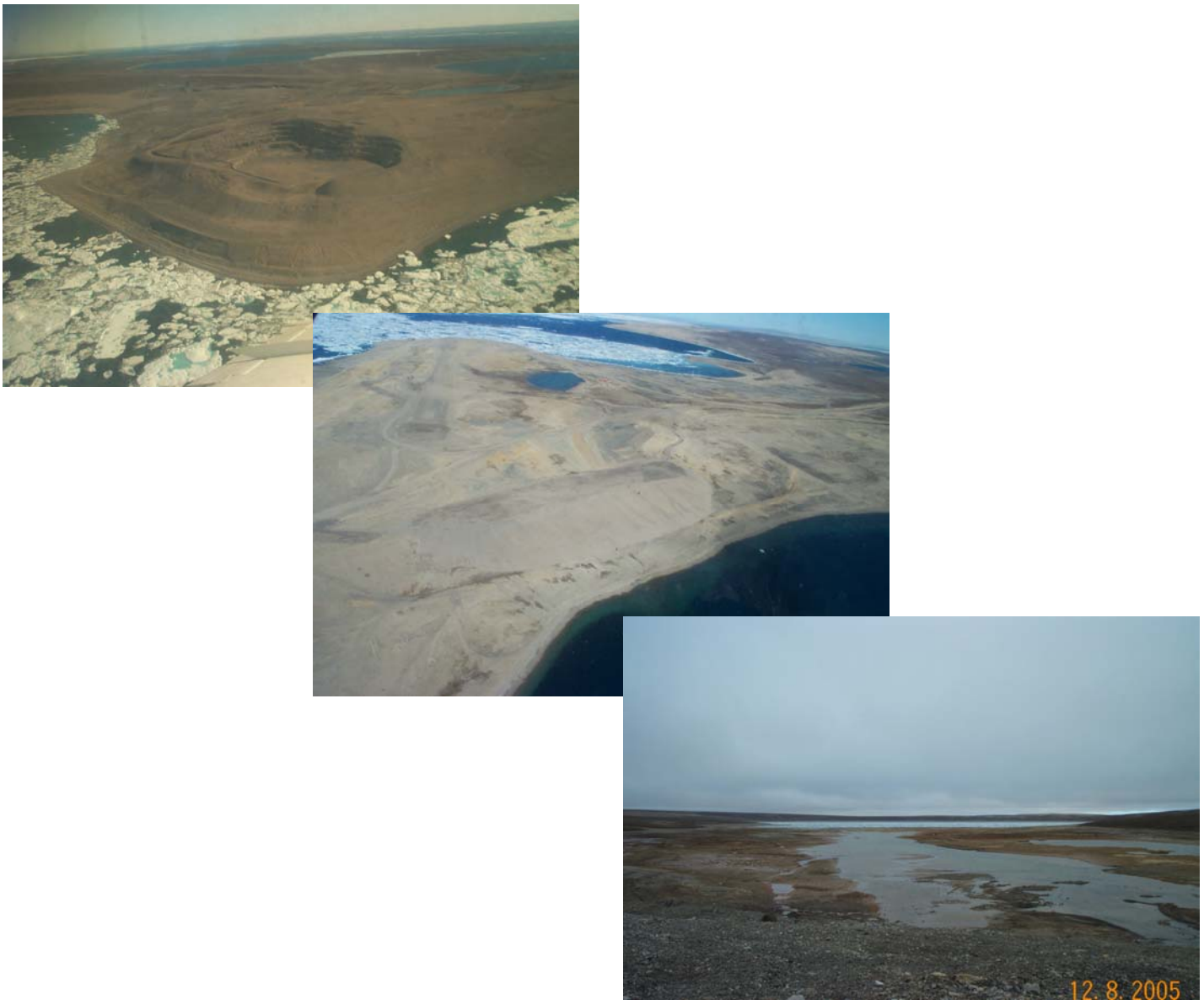
Enclosures:

- 1st and 2nd Quarter 2007 Decommissioning and Reclamation Report – Paper and Electronic versions.

Teck Cominco Limited / Environment and Corporate Affairs
Bag 2000/Kimberley, British Columbia, Canada V1A 3E1 · Tel: 250-427-8405 · Fax: 250-427-8451 · Email: bruce.donald@teckcominco.com

POLARIS MINE
2007 1ST AND 2ND QUARTER DECOMMISSIONING AND RECLAMATION REPORT

FOR THE
NUNAVUT WATER BOARD
AND
INDIAN AND NORTHERN AFFAIRS CANADA



2007 POLARIS MINE 1ST AND 2ND QUARTER POST-RECLAMATION MONITORING REPORT

INTRODUCTION

During the 1st and 2nd Quarters of 2007 the Polaris Mine site remained un-occupied due to winter weather conditions. As there was no effluent discharge from Garrow Lake, the only monitoring undertaken was the spring sampling of Garrow Lake. An executive summary of information for the 1st and 2nd Quarter in Inuktitut is provided in Appendix 1.

1st Quarter, 2007

During the 1st Quarter of 2007, the Polaris Mine remained un-occupied by personnel. No monitoring events occurred during the quarter.

The Water Licence requires a mid-winter sampling of Garrow Lake stratigraphy for water quality parameters. At mid-winter the site was not safely accessible. Charter aircraft will not fly to the site due to the dark conditions without the site having runway lighting and visual confirmation from the ground of landing conditions.

There was no data collected of temperature conditions in the Little Red Dog Landfill or the Operational Landfill as there was no one at the site during the quarter. However, last summer data loggers were installed on the thermistors at both landfills so they are recording the data over the winter and the data will be retrieved and reported in the 2007 3rd quarter monitoring report.

As part of the DRP work, the dam at Garrow Lake was decommissioned in 2004 so there are no dam thermistors to monitor.

Due to winter conditions at the site throughout the 1st Quarter reporting period, there was no discharge from Garrow Lake and thus there was no effluent discharge to monitor.

2nd Quarter, 2007

During the majority of the 2nd Quarter the Polaris Mine site remained un-occupied by personnel. However, monitoring of the water column of Garrow Lake was completed in early June to capture the Maximum Ice Thickness conditions as required by the Water Licence (the ice was approximately 2m thick).

There was no effluent flow to monitor from the site in June so there is no effluent data to report for the quarter.

The Decommissioning and Reclamation Plan approvals have a number of parameters that must be monitored in addition to the monitoring requirements identified in the Water Licence. The majority of the monitoring required each year at the site will be undertaken during the 3rd Quarter.

1. **Garrow Lake Water Quality and Stratigraphy Monitoring**
   Please find attached to this report the results of the June 3, 2007 sampling event of Garrow Lake (Appendix 2). This represents the Maximum Ice Thickness monitoring event required by the Water Licence.

   The commercial laboratory continues to have difficulty analyzing TSS parameters for the waters of Garrow Lake due to the high salt content. As in the past, the lab is not having success in

eliminating salt in the water from leaving residues on the filter paper during the TSS analysis resulting in TSS concentrations that are incorrect.

The attached data continue to confirm that the stratigraphy of the lake is intact and stable and continues to indicate low zinc values in the water column consistent with the previous few years of data (Refer to Figures 1 and 2 in Appendix 2).

2. Notification of Intent to Initiate Planned Discharge of Effluent from the Tailings Impoundment Area (Part D, Section 1)

The date of initiation of effluent discharge is no longer under the control of Teck Cominco. As part of the approved site decommissioning plan, Garrow Dam was removed in 2004 and discharge from the lake has been restored to its natural annual discharge cycle.

3. Water Quality and Environmental Effects Monitoring Program

There was no effluent discharge from Garrow Lake in the 2nd Quarter.

4. Landfill Temperature Monitoring

Landfill temperature data was not collected during the Quarter as there was only one day where anyone was on site (and were fully occupied collecting Garrow Lake data). As there are data loggers on the landfill thermistors, the data will be collected during the 3rd Quarter and reported at along with the other 3rd Quarter data collected.

APPENDIX 1

EXECUTIVE SUMMARY OF 1ST AND 2ND QUARTER 2007

POLARIS MINE POST RECLAMATION MONITORING

REPORT

TRANSLATED INTO INUKTITUT

ᒪᕈᓕᕿᒥ ᐅᔭᕋᒃᓯᐅᓂᖅ - 2007ᒥ ᓯᕗᓕᕐᐹᖅ ᐊᐃᐸᖓᓗ ᑎᓴᒪᐃᓕᖃᖓᔪᓂᑦ ᐃᒍᑎᕐᑕᐅᓂᖓᓄᑦ ᖃᓄᐃᑐᓂᖓᓄᓗ ᐅᑎᑎᑕᐅᓇᓱᓂᖓᑕ ᐅᐊᓯᔭᐅᓂᖓᑕ ᐅᓂᑳᖓ

ᑭᓱᒎᒪᖔᑦ

ᓯᕗᓕᕐᐸᖓᓂ ᐊᐃᐸᖓᓂᓗ ᑎᓴᒪᐅᓕᖃᖓᔪᓂᑦ 2007ᐅᑎᓗᒍ ᒪᕈᓕᕿᒥ ᐅᔭᕋᒃᓯᐅᕐᕕᒃ ᓱᓕ ᐃᓄᖃᓚᐅᖏᑐᖅ ᐅᑭᐅᖑᓂᖓ ᐱᔪᑎᒋᓗᒍ. ᑰᒃᐸᓕᐊᔪᓂᒃ ᐱᑕᖃᓚᐅᖏᒪᑦ ᒋᐊᕈ ᑕᓯᖓᓂᑦ, ᑕᐃᒪ ᐅᐊᓯᔭᐅᔪᑐᓚᐅᑐᖅ ᑕᐃᑲᓂ ᐅᐱᖓᓵᖁᑦ ᖃᐅᔨᓴᕈᑎᐅᓚᐅᑐᑦ ᒋᐊᕈ ᑕᓯᖓᓂ ᐱᔭᐅᓚᐅᑐᑦ.

ᓯᕗᓕᕐᐸᖓ ᑎᓴᒪᐃᓕᖃᖓᔪᓂᑦ, 2007

ᑕᕙᓂ ᓯᕗᓕᕐᐸᖓᓂ ᑎᓴᒪᐃᓕᖃᖓᔪᓂᑦ 2007ᐅᑎᓗᖑ, ᒪᕈᓕᕿᒥ ᐅᔭᕋᒃᓯᐅᕐᕕᒃ ᓱᓕ ᐃᓄᖃᓚᐅᖏᑐᖅ ᐃᖃᓇᐃᔭᕐᑎᒥᒃ. ᐅᐊᓯᓂ ᑲᔪᓯᓚᐅᖏᑐᖅ ᑕᕙᓂ ᓯᕗᓕᕐᐸᖓᓂ ᑎᓴᒪᐃᓕᖃᖓᔪᓂᑦ. ᐃᒪᒍᑦ ᐱᔪᓇᐅᑎᒃ ᐅᑭᐅᓕᕆᑯᑦ ᐃᒪᒥᑦ ᖃᐅᔨᓴᕈᑎᒥᒃ ᑭᖑᒪᒃᓚᑐᑦ ᒋᐊᕿᑉ ᑕᓯᖓᓂᑦ ᐱᐅᓂᖓᓂᑦ ᖃᐅᔨᓴᕆᐊᖅᑎᓯᔪᑦ. ᐅᑭᐅᓕᕆᑯᑦ ᑕᐃᓇ ᓄᓇ ᐊᑕᕐᓇᖏᑐᓂ ᐅᐸᒐᓴᐅᖏᑐᖅ. ᑕᐃᑯᖓᕐᑐᖃᔮᖏᒪᑦ ᓵᑕᒥᒃ ᖃᖓᑕᓱᕐᒥᒃ ᑖᖏᓇᕐᓂᖓ ᐱᔪᑎᒋᓗᒍ ᒥᕕᖓ ᐃᑯᒪᑕᖃᖏᓂᖓ ᐱᒍᑕᐅᓗᓂ ᐊᒪᓗ ᓄᓇᖓ ᑕᑯᓴᐅᖏᓂᖓ ᖃᖓᑕᓗᓂ.

ᖃᓄᐃᑐᓂᖓᑕ ᑎᑎᕐᓯᒪᔭᖏᓂᒃ ᖃᐅᔨᓴᕈᑎᖏᓂᒃ ᐅᖁᓂᖓᑕ ᓂᓚᓱᓂᖓᑕᓗᓃᑦ ᐱᔭᐅᓚᐅᖏᑐᑦ ᐊᐅᐸᑐᖅ ᕿᒥᑯᓘᑉ ᒪᕐᓗᑰᕐᕕᖓᓂᑦ ᐅᕙᓗᓃᑦ ᐊᑐᕐᑕᐅᔪᕐᒥᒃ ᒪᕐᓗᑰᕐᕕᒥᑦ ᑕᐃᑲᓂᑐᖃᓚᐅᖏᓂᖓ ᐱᔪᑎᒋᓗᒍ. ᑭᓯᐊᓂᓕ, ᑎᑎᖃᐅᑎᓯᕙᓕᐊᔪᓂᒃ ᑕᐃᑲᓂ ᐊᕿᑕᐅᓯᒪᔪᕐᑕᓕ ᐅᓇᓂᖓᑕ ᖃᐅᔨᓴᕈᑎᖏᓂᒃ ᑕᒪᐃᓂ ᒪᕐᓗᑰᕐᕕᓂ. ᑕᑯᐊ ᑎᑎᖃᐅᑎᓯᕙᓕᐊᔪᑦ ᐱᔭᐅᓛᕐᑐᑦ ᐅᓂᑲᐅᑎᓂᓗ 2007ᐅᑎᓗᒍ ᐱᖓᔪᖓᓂ ᑎᓴᒪᐃᓕᖃᖓᔪᓂ ᐅᓂᑳᓕᐅᓕᕈᑕ ᑎᑎᕐᓯᒪᓛᕐᑐᑦ ᖃᐅᔨᓴᕈᑎᕕᓃᑦ.

ᐅᑭᐅᖑᓂᖅ ᐱᒍᑎᒋᓗᒍ ᑕᐃᑲᓂ ᓄᓇᒥ ᓯᕗᓕᕐᐸᖓᓂ ᑎᓴᒪᐃᓕᖃᖓᔪᐃᑦ ᐅᓂᑳᓕᐅᕆᐊᖃᑎᓗᑕ, ᑕᐃᓱᒪᓂᐅᑎᓗᒍ ᑰᓕᐅᖏᑐᖅ ᒋᐊᕈ ᑕᓯᖓᓂᖓᕐᑐᕐᒥᒃ.

ᐊᐃᐸᕆᔭᖓ ᑎᓴᒪᐃᓕᖃᖓᔪᓂᑦ, 2007

ᐅᓗᖏᓂ ᑕᐃᒪᓂᐸᓗ ᐊᐃᐸᕆᔭᖓᑕ ᐅᓪᓗᖏᓂ ᑎᓴᒪᐃᓕᖃᖓᔪᓂᑦ ᒪᕈᓕᕿᐅᑉ ᐅᔭᕋᓯᕐᕕᖓ ᐃᓄᖃᖐᓇᓚᐅᑐᖅ ᐃᖃᓇᐃᔭᑎᑕᖃᓚᐅᖏᑐᖅ. ᑭᓯᐊᓂᓕ, ᐅᐊᓯᓂᐅᔪᑦ ᐃᒪᖓᑕ ᑕᕆᐅᖑᓕᕇᖑᓂᖓᑕ ᐅᐊᓯᔭᐅᓂᖓ ᒋᐊᕈ ᑕᓯᖓᓂ ᐱᔭᕆᑕᐅᓚᐅᑐᖅ ᔪᓂᐅᑉ ᐱᒥᐸᕐᓂᖓᓂ ᖃᓄᑎᒥ ᐃᔪᑎᒥᒪᖏᑦ ᑭᖑᒪᔭᐅᒪᑦ ᐃᒪᒍᑦ ᐱᔪᓇᐅᑎᑎᓂ (ᓯᑯ ᐃᒪᖅ 2ᒥᑕᓂ ᐃᔪᓂᖃᓚᐅᑐᖅ). ᑕᑯᐊ ᑎᑎᕐᓯᒪᔪᑦ ᐱᑕᖃᒥᔪᑦ ᐃᓚᒋᐊᕈᑎᒃ 2ᒥᒃ ᐊᒪᓗ ᐃᓄᓕᖃᓗᓂ ᓇᓗᓇᐃᓯᔪᑎᒥᒃ ᑕᓇ ᖁᓕᕆᒃᓯᕙᓕᐊᓂᖓ ᐊᒪᓗ ᑕᕆᐅᖑᔪᓂᕐᐸᓕᐊᓂᖓ ᑕᓯᐅᑉ ᓱᓕ ᓱᓂᕐᓯᒪᖏᒪᑦ ᓴᕕᕐᔭᒃᓴᖃᓂᖓ ᓱᓕ ᑐᖔᓂᑐᖅ ᐊᖏᕈᑕᐅᓯᒪᔫᑉ.

ᑰᓕᐅᖏᑐᖅ ᐅᐊᓯᔭᕆᐊᓕᒥᒃ ᑕᕙᖓᑦ ᔪᓂᐅᑎᓗᒍ ᑕᐃᒪᐃᓂᖓᓄᑦ ᑎᑎᕐᓯᒪᔪᕐᑕᖃᖏᑐᖅ ᑰᓂᐅᑉ ᖃᐅᔨᓴᑕᐅᓂᖓᑕ ᑎᑎᖃᖏᓂᒃ ᑕᑯᓇᓂ ᐅᓪᓗᓂ.

ᐃᒪᕐᒍᑦ ᐱᔪᓇᐅᑎᒃ ᐱᔭᕆᐊᖃᑎᓯᐊᖅ ᓄᓇᕗᕐᒥ ᐃᒪᓕᕆᔨᑯᑦ ᑲᑎᒪᔨᖏᑦ ᖃᐅᔨᑲᑕᐅᖃᑕᕆᐊᖃᑐᑦ ᑰᓂᕆᔭᖅ ᑲᔪᓯᑎᑕᐅᓚᐅᖏᓂᖓᓂ. ᑕᐃᒪ ᓯᒥᖓ ᑰᑉ ᐹᕐᑕᐅᓯᒪᓕᒪᑦ, ᑰᓂᖓ ᐊᐅᓚᑕᐅᔪᓂᕐᑐᖅ ᑎᒃ ᑲᒥᑯᑯᓄᑦ.

ᒪᕐᓗᑯᐃ ᐅᓇᕐᓂᖓᑕ ᑎᑎᕐᓯᒪᔪᖏᑦ ᐱᔭᐅᓚᐅᖏᑐᑦ ᑕᑯᓇᓂ ᐅᓪᓗᓂ ᑎᓴᒪᐃᓕᖃᖓᔪᓂᑦ, ᑕᑯᐊ ᑎᑎᕐᓯᒪᔪᑦ ᓄᐊᑕᐅᓛᕐᑐᑦ ᐱᖓᔪᖓᓂ ᑎᓴᒪᐃᓕᖃᖓᔪᓂᑦ ᐅᓂᑳᓕᐅᓕᕐᐸᑕ ᐊᒪᓗ ᐊᓯᖏᑦ ᑕᐃᑯᐊ ᐅᓂᑳᓕᐊᖑᔭᕆᐊᓖᑦ ᐱᖓᔪᖓᓂ ᑎᓴᒪᐃᓕᖃᖓᔪᑦ ᑎᑎᕐᓯᒪᔪᑦ ᓄᐊᑕᐅᐸᑕ.

APPENDIX 2

JUNE 3, 2007 GARROW LAKE

WATER QUALITY AND STRATIGRAPHY

MONITORING RESULTS

FIGURE 1
GARROW LAKE - Station 262-3
Trend In Zinc Concentrations In The Water Column 2002 to 2006

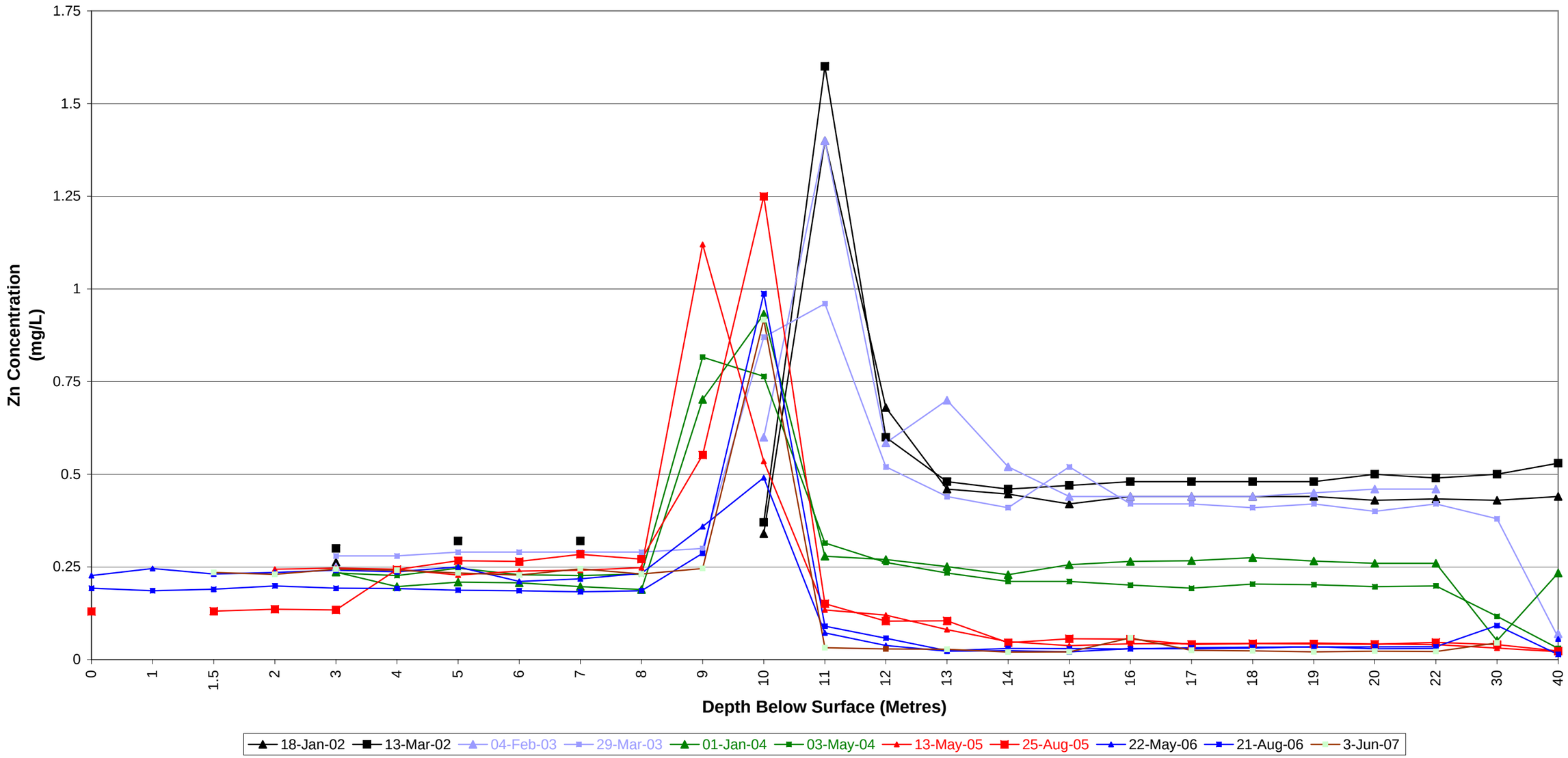
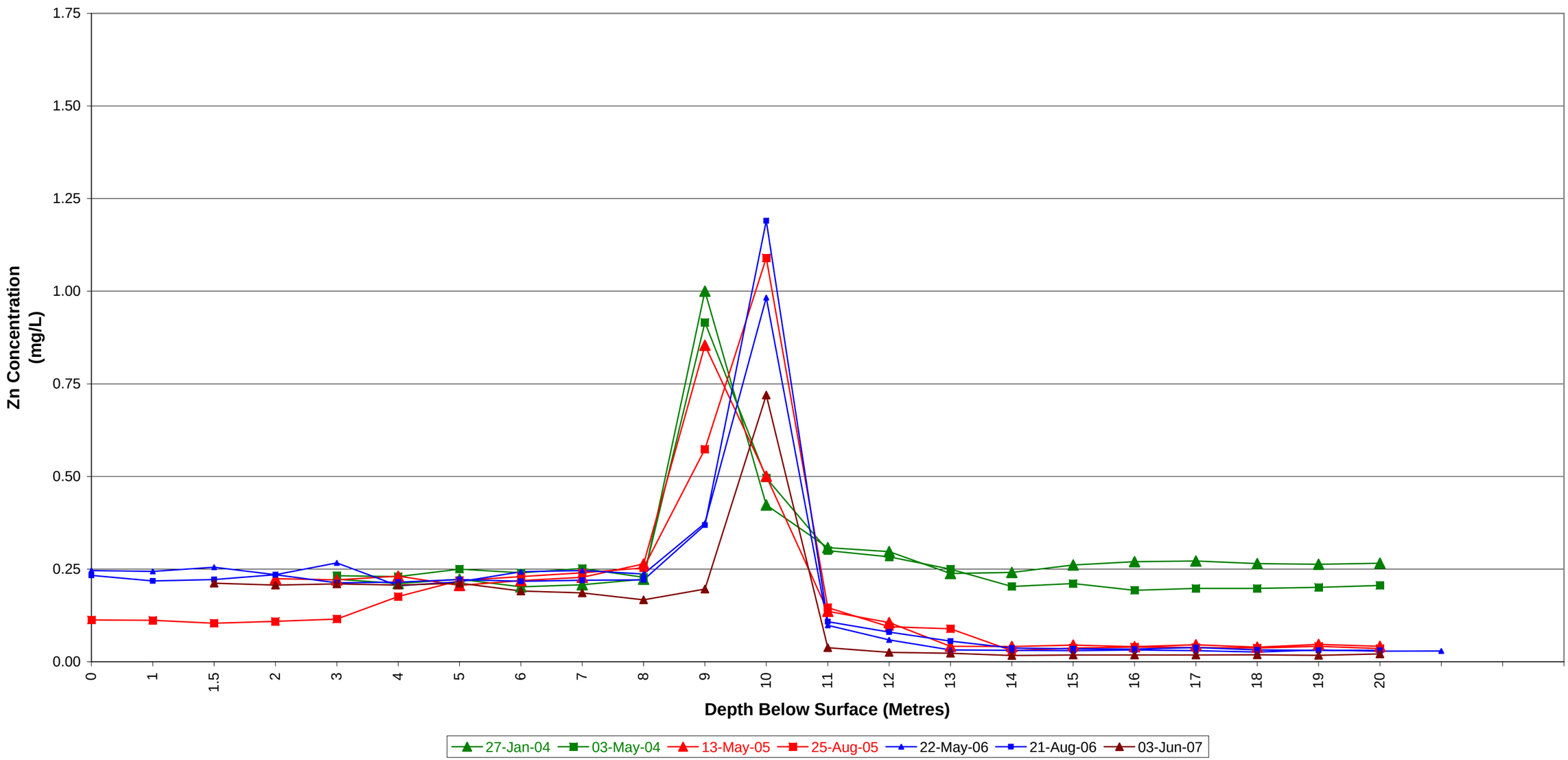


FIGURE 2
GARROW LAKE - Station 262-3A
Zinc Concentrations In The Water Column



ANALYTICAL REPORT

TECK COMINCO METALS LTD.

ATTN: BRUCE DONALD

BAG 2000

KIMBERLEY BC V1A 3E1

Reported On: 17-JUL-07 02:30 PM
Revision: 1

Lab Work Order #: **L514329** **Date Received:** **06-JUN-07**

Project P.O. #:
Job Reference: 2007 JUNE POLARIS GARROW LAKE
Legal Site Desc:
CofC Numbers:

Other Information:

Comments:

Please note that the sample "GL-BLANK" had some results above detection limit. It is uncertain as to the source of the water used for this blank. If it was not lab grade water in certified cleaned bottles then there is a possibility that the elevated levels in this sample are due to the bottle or the water source.

Timothy Guy Crowther
General Manager, Vancouver

For any questions about this report please contact your Account Manager:

Heather Easton

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID	L514329-1	L514329-2	L514329-3	L514329-4	L514329-5
	Description					
	Sampled Date	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07
	Sampled Time	14:30	15:08	11:58	12:38	12:27
	Client ID	GLS-6A M	GLS-20A M	GLC-9A M	GLC-20A M	GL-BLANK
Grouping	**Analyte**					
SEAWATER						
Physical Tests	Hardness (as CaCO3) (mg/L)	1980	12600	2030	13000	53.5
Total Metals	Aluminum (Al)-Total (mg/L)	<0.050	<0.20	<0.050	<0.20	<0.0010
	Arsenic (As)-Total (mg/L)	<0.00020	0.00027	<0.00020	<0.00020	<0.00020
	Cadmium (Cd)-Total (mg/L)	0.000603	<0.000020	0.000582	<0.000020	0.000114
	Calcium (Ca)-Total (mg/L)	156	829	158	862	16.7
	Copper (Cu)-Total (mg/L)	0.000990	0.000354	0.00107	0.000479	0.00635
	Iron (Fe)-Total (mg/L)	<0.010	0.255	0.010	0.273	<0.010
	Lead (Pb)-Total (mg/L)	0.000165	0.000725	0.000142	0.000781	<0.000050
	Magnesium (Mg)-Total (mg/L)	386	2550	396	2640	2.88
	Manganese (Mn)-Total (mg/L)	0.00657	0.0777	0.00672	0.0758	0.0166
	Molybdenum (Mo)-Total (mg/L)	0.0028	<0.010	0.0026	<0.010	<0.000050
	Nickel (Ni)-Total (mg/L)	0.00419	0.00499	0.00464	0.00485	0.00327
	Zinc (Zn)-Total (mg/L)	0.219	0.0214	0.228	0.0216	0.129

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID	L514329-1	L514329-2	L514329-3	L514329-4	L514329-5
	Description					
	Sampled Date	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07
	Sampled Time	14:30	15:08	11:58	12:38	12:27
	Client ID	GLS-6A M	GLS-20A M	GLC-9A M	GLC-20A M	GL-BLANK
Grouping	**Analyte**					
WATER						
Physical Tests	Salinity (EC) (g/L)	8.7	61.9	8.7	62.4	
	Conductivity (uS/cm)	14100	83000	14200	83600	
	pH (pH)	8.05	7.71	8.09	7.71	
	Total Suspended Solids (mg/L)	3.5	4.2	<3.0	10.2	
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	161	410	163	423	
	Sulphide as S (mg/L)	<0.020	0.126		0.150	
Total Metals	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010

Reference Information

Qualifiers for Sample Submission Listed:

Qualifier	Description
SPL	Sample was Preserved at the laboratory - sample #5 - Total Metals

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
ALK-COL-VA	Water	Alkalinity by Colourimetric (Automated)	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).

EC-PCT-VA	Water	Conductivity (Automated)	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-LOW-CVAFS-VA	Water	Total Mercury in Water by CVAFS(Low)	EPA 245.7

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 a cold-oxidation of the acidified sample using bromine monochloride prior to reduction of the sample with stannous chloride. Instrumental analysis is by cold vapour atomic fluorescence spectrophotometry (EPA Method 245.7).

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-PCT-VA	Water	pH by Meter (Automated)	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

S2-T-COL-VA	Water	Total Sulphide by Colorimetric	APHA 4500-S2 "Sulphide"

This analysis is carried out using procedures adapted from APHA Method 4500-S2 "Sulphide". Sulphide is determined using the methlyene blue colourimetric method.

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
SALINITY-EC-VA	Water	Salinity by calculation using EC	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-VA	Water	Solids by Gravimetric	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.

ALS Environmental
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www.alsenviro.com

CHAIN OF CUSTODY FORM

L514329

SEND REPORT TO:

COMPANY:	Teck Cominco Metals Ltd.				
ADDRESS:	Bag 2000				
CITY:	Kimberley	PROV:	BC	POSTAL CODE:	V1A 3E1
TEL:	250-427-8405	FAX:	250-427-8451	CONTACT:	Bruce Donald
PROJECT NAME AND NO.:		2007 June Polaris Garrow Lake		SAMPLER:	Arlene Laudrum
QUOTE NO.:		PO NO.:		ALS CONTACT:	

REPORT FORMAT: ☑ HARDCOPY ☑ EMAIL - ADDRESS: bruce.donald@teckcominco.co
☐ FAX ☑ EXCEL ☑ PDF ☐ OTHER:

ANALYSIS REQUESTED:

FOR LAB USE ONLY	SAMPLE IDENTIFICATION	DATE / TIME COLLECTED YYYY-MM-DD	TIME	MATRIX	Conductivity, hardness, pH, salinity	TSS, Alkalinity	Total Metals (MS-ICP)	Sulphide	NOTES (sample specific comments, due dates, etc.)
	GLS-6A m	2007-06-03	2:30 pm	seawater	x	x	x	X	
	GLS-20A m	2007-06-03	3:08 pm	seawater	x	x	x	x	
	GLC-9A m	2007-06-03	11:58 am	seawater	x	x	x		
	GLC-20A m	2007-06-03	12:28 pm	seawater	x	x	x	x	
	GL-BLANK	2007-06-03	12:27 pm	water			x		

TURN AROUND REQUIRED: ◉ ROUTINE ○ RUSH SPECIFY DATE: _____ (surcharge may apply)

SEND INVOICE TO: ☑ SAME AS REPORT ☐ DIFFERENT FROM REPORT (provide details below)

INVOICE FORMAT: ☑ HARDCOPY ☐ PDF ☐ FAX

RELINQUISHED BY:	DATE:	RECEIVED BY:	DATE:
Curtis Kidd	June 05/07		
	TIME:		TIME:
RELINQUISHED BY:	DATE:	RECEIVED BY:	DATE: 07/06/05
	TIME:	GW	TIME:

SPECIAL INSTRUCTIONS: Water is hypersaline, for TSS measurement run 1-2L distilled through filters!!!

CC: alaudrum@gartnerlee.com; Total metals have been preserved with HNO3; No preservative for general parameters; Sulfide has been preserved with NaOH and zinc acetate

FOR LAB USE ONLY

Cooler Seal Intact?	Sample Temperature:	Cooling Method?
X Yes ___No ___N/A	Frozen? ___Yes X No	X Icepacks ___Ice ___None

ANALYTICAL REPORT

AZIMUTH CONSULTING GROUP INC.

ATTN: CHERYL MACKINTOSH

218 - 2902 WEST BROADWAY

VANCOUVER BC V6K 2G8

Reported On: 09-JUL-07 02:57 PM
Revision: 1

Lab Work Order #: **L513940** **Date Received:** **05-JUN-07**

Project P.O. #: NOT SUBMITTED
Job Reference: 2007 JUNE POLARIS GARROW LAKE
Legal Site Desc:
CofC Numbers:

Other Information:

Comments:

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

T. G. Crowther

Timothy Guy Crowther
General Manager, Vancouver

For any questions about this report please contact your Account Manager:

Heather Easton

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID	L513940-1	L513940-2	L513940-3	L513940-4	L513940-5
	Description					
	Sampled Date	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07
	Sampled Time	11:40	11:43	11:46	11:48	11:50
	Client ID	GLC-1.5M	GLC-2M	GLC-3M	GLC-4M	GLC-5M
Grouping	**Analyte**					
SEAWATER						
Physical Tests	Hardness (as CaCO3) (mg/L)	2030	2020	2070	2060	2030
Total Metals	Aluminum (Al)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Arsenic (As)-Total (mg/L)	0.00021	<0.00020	<0.00020	0.00021	<0.00020
	Cadmium (Cd)-Total (mg/L)	0.000605	0.000614	0.000620	0.000633	0.000638
	Calcium (Ca)-Total (mg/L)	157	160	163	162	160
	Copper (Cu)-Total (mg/L)	0.00122	0.00125	0.00119	0.00119	0.00116
	Iron (Fe)-Total (mg/L)	<0.010	<0.010	<0.010	0.012	<0.010
	Lead (Pb)-Total (mg/L)	0.000208	0.000235	0.000275	0.000320	0.000473
	Magnesium (Mg)-Total (mg/L)	398	394	404	402	396
	Manganese (Mn)-Total (mg/L)	0.00691	0.00677	0.00701	0.00748	0.00705
	Molybdenum (Mo)-Total (mg/L)	0.0027	0.0025	0.0026	<0.0025	<0.0025
	Nickel (Ni)-Total (mg/L)	0.00443	0.00452	0.00469	0.00464	0.00454
	Zinc (Zn)-Total (mg/L)	0.235	0.230	0.244	0.241	0.234

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID	L513940-6	L513940-7	L513940-8	L513940-9	L513940-10
	Description					
	Sampled Date	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07
	Sampled Time	11:52	11:54	11:56	11:58	12:00
	Client ID	GLC-6M	GLC-7M	GLC-8M	GLC-9M	GLC-10M
Grouping	**Analyte**					
SEAWATER						
Physical Tests	Hardness (as CaCO3) (mg/L)	2070	2070	2050	2060	9180
Total Metals	Aluminum (Al)-Total (mg/L)	<0.050	<0.090	<0.050	<0.050	<0.20
	Arsenic (As)-Total (mg/L)	<0.00020	0.00020	<0.00020	0.00020	0.00033
	Cadmium (Cd)-Total (mg/L)	0.000592	0.000610	0.000596	0.000638	0.00219
	Calcium (Ca)-Total (mg/L)	165	166	163	162	615
	Copper (Cu)-Total (mg/L)	0.00113	0.00117	0.00158	0.00116	0.00271
	Iron (Fe)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	0.017
	Lead (Pb)-Total (mg/L)	0.000127	0.000147	0.000189	0.000154	0.00102
	Magnesium (Mg)-Total (mg/L)	403	403	398	401	1860
	Manganese (Mn)-Total (mg/L)	0.00695	0.00694	0.00680	0.00693	0.0675
	Molybdenum (Mo)-Total (mg/L)	0.0028	0.0025	0.0030	0.0026	<0.010
	Nickel (Ni)-Total (mg/L)	0.00470	0.00482	0.00455	0.00487	0.00887
	Zinc (Zn)-Total (mg/L)	0.228	0.245	0.231	0.246	0.917

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID	L513940-11	L513940-12	L513940-13	L513940-14	L513940-15
	Description					
	Sampled Date	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07
	Sampled Time	12:02	12:04	12:08	12:10	12:14
	Client ID	GLC-11M	GLC-12M	GLC-13M	GLC-14M	GLC-15M
Grouping	**Analyte**					
SEAWATER						
Physical Tests	Hardness (as CaCO3) (mg/L)	12900	13200	13100	12300	13000
Total Metals	Aluminum (Al)-Total (mg/L)	<0.50	<0.50	<0.50	<0.50	<0.50
	Arsenic (As)-Total (mg/L)	0.00049	0.00021	0.00040	0.00029	0.00026
	Cadmium (Cd)-Total (mg/L)	0.000029	0.000024	0.000020	<0.000020	<0.000020
	Calcium (Ca)-Total (mg/L)	834	850	837	798	833
	Copper (Cu)-Total (mg/L)	0.000972	0.00150	0.000704	0.000577	0.000556
	Iron (Fe)-Total (mg/L)	0.154	0.156	0.288	0.257	0.274
	Lead (Pb)-Total (mg/L)	0.000954	0.00101	0.000806	0.000775	0.000803
	Magnesium (Mg)-Total (mg/L)	2640	2690	2680	2510	2640
	Manganese (Mn)-Total (mg/L)	0.119	0.106	0.0880	0.0851	0.0843
	Molybdenum (Mo)-Total (mg/L)	<0.025	<0.025	<0.025	<0.025	<0.025
	Nickel (Ni)-Total (mg/L)	0.00826	0.00754	0.00573	0.00508	0.00518
	Zinc (Zn)-Total (mg/L)	0.0319	0.0288	0.0279	0.0204	0.0208

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID	L513940-16	L513940-17	L513940-18	L513940-19	L513940-20
	Description					
	Sampled Date	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07
	Sampled Time	12:16	12:20	12:22	12:26	12:28
	Client ID	GLC-16M	GLC-17M	GLC-18M	GLC-19M	GLC-20M
Grouping	**Analyte**					
SEAWATER						
Physical Tests	Hardness (as CaCO3) (mg/L)	13400	12900	13100	13300	13200
Total Metals	Aluminum (Al)-Total (mg/L)	<0.50	<0.50	<0.50	<0.20	<0.20
	Arsenic (As)-Total (mg/L)	<0.00020	0.00023	0.00034	0.00024	0.00028
	Cadmium (Cd)-Total (mg/L)	0.000020	<0.000020	0.000021	0.000022	<0.000020
	Calcium (Ca)-Total (mg/L)	875	844	851	857	864
	Copper (Cu)-Total (mg/L)	0.000523	0.000746	0.000472	0.000461	0.000637
	Iron (Fe)-Total (mg/L)	0.299	0.303	0.300	0.277	0.289
	Lead (Pb)-Total (mg/L)	0.000789	0.000850	0.000871	0.000811	0.000775
	Magnesium (Mg)-Total (mg/L)	2730	2630	2670	2710	2680
	Manganese (Mn)-Total (mg/L)	0.0878	0.0879	0.0945	0.0850	0.0871
	Molybdenum (Mo)-Total (mg/L)	<0.025	<0.025	<0.025	<0.010	<0.010
	Nickel (Ni)-Total (mg/L)	0.00564	0.00569	0.00620	0.00540	0.00588
	Zinc (Zn)-Total (mg/L)	0.0589	0.0252	0.0238	0.0208	0.0228

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID	L513940-21	L513940-22	L513940-23		
	Description					
	Sampled Date	03-JUN-07	03-JUN-07	03-JUN-07		
	Sampled Time	12:32	12:43	12:52		
	Client ID	GLC-22M	GLC-30M	GLC-35M		
Grouping	**Analyte**					
SEAWATER						
Physical Tests	Hardness (as CaCO3) (mg/L)	13100	13100	13300		
Total Metals	Aluminum (Al)-Total (mg/L)	<0.20	<0.20	1.09		
	Arsenic (As)-Total (mg/L)	0.00035	0.00022	0.00063		
	Cadmium (Cd)-Total (mg/L)	<0.000020	0.000040	0.00286		
	Calcium (Ca)-Total (mg/L)	847	854	897		
	Copper (Cu)-Total (mg/L)	0.000430	0.000860	0.0149		
	Iron (Fe)-Total (mg/L)	0.281	0.295	0.648		
	Lead (Pb)-Total (mg/L)	0.000780	0.0171	0.495		
	Magnesium (Mg)-Total (mg/L)	2660	2670	2680		
	Manganese (Mn)-Total (mg/L)	0.0842	0.0780	0.143		
	Molybdenum (Mo)-Total (mg/L)	<0.010	<0.010	<0.010		
	Nickel (Ni)-Total (mg/L)	0.00544	0.00283	0.00281		
	Zinc (Zn)-Total (mg/L)	0.0218	0.0453	0.529		

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID	L513940-1	L513940-2	L513940-3	L513940-4	L513940-5
	Description					
	Sampled Date	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07
	Sampled Time	11:40	11:43	11:46	11:48	11:50
	Client ID	GLC-1.5M	GLC-2M	GLC-3M	GLC-4M	GLC-5M
Grouping	**Analyte**					
WATER						
Physical Tests	Salinity (EC) (g/L)	6.2	6.5	6.6	6.6	6.6
	Conductivity (uS/cm)	10200	10600	10800	10900	10700
	pH (pH)	8.04	8.06	8.08	8.08	8.08
	Total Suspended Solids (mg/L)	5.4	5.5	4.8	<3.0	<3.0
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	150	153	158	156	3.6
	Sulphide as S (mg/L)					
Total Metals	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID	L513940-6	L513940-7	L513940-8	L513940-9	L513940-10
	Description					
	Sampled Date	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07
	Sampled Time	11:52	11:54	11:56	11:58	12:00
	Client ID	GLC-6M	GLC-7M	GLC-8M	GLC-9M	GLC-10M
Grouping	**Analyte**					
WATER						
Physical Tests	Salinity (EC) (g/L)	7.2	7.1	7.1	7.0	27.1
	Conductivity (uS/cm)	11700	11600	11600	11500	39400
	pH (pH)	8.04	8.08	8.08	8.08	7.68
	Total Suspended Solids (mg/L)	<3.0	5.5	4.2	3.5	8.2
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	161	121	170	167	248
	Sulphide as S (mg/L)	<0.020				<0.020
Total Metals	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID	L513940-11	L513940-12	L513940-13	L513940-14	L513940-15
	Description					
	Sampled Date	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07
	Sampled Time	12:02	12:04	12:08	12:10	12:14
	Client ID	GLC-11M	GLC-12M	GLC-13M	GLC-14M	GLC-15M
Grouping	**Analyte**					
WATER						
Physical Tests	Salinity (EC) (g/L)	44.3	43.9	44.4	44.4	44.6
	Conductivity (uS/cm)	61000	60500	61100	61100	61300
	pH (pH)	7.70	7.70	7.69	7.68	7.69
	Total Suspended Solids (mg/L)	16.2	16.8	9.5	17.5	15.5
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	430	433	454	438	443
	Sulphide as S (mg/L)		<0.020		0.130	
Total Metals	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID	L513940-16	L513940-17	L513940-18	L513940-19	L513940-20
	Description					
	Sampled Date	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07
	Sampled Time	12:16	12:20	12:22	12:26	12:28
	Client ID	GLC-16M	GLC-17M	GLC-18M	GLC-19M	GLC-20M
Grouping	**Analyte**					
WATER						
Physical Tests	Salinity (EC) (g/L)	44.7	45.1	45.7	45.3	45.1
	Conductivity (uS/cm)	61500	62000	62700	62200	62000
	pH (pH)	7.69	7.70	7.69	7.69	7.68
	Total Suspended Solids (mg/L)	16.8	8.2	38.2	7.5	16.2
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	432	424	425	410	420
	Sulphide as S (mg/L)	0.153		0.164		0.146
Total Metals	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID	L513940-21	L513940-22	L513940-23		
	Description					
	Sampled Date	03-JUN-07	03-JUN-07	03-JUN-07		
	Sampled Time	12:32	12:43	12:52		
	Client ID	GLC-22M	GLC-30M	GLC-35M		
Grouping	**Analyte**					
WATER						
Physical Tests	Salinity (EC) (g/L)	45.1	45.5	46.1		
	Conductivity (uS/cm)	61900	62400	63100		
	pH (pH)	7.69	7.67	7.65		
	Total Suspended Solids (mg/L)	8.8	7.5	1020		
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	425	442	425		
	Sulphide as S (mg/L)	0.104	1.04	0.054		
Total Metals	Mercury (Hg)-Total (mg/L)	<0.000010	0.000041	<0.000010		

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
ALK-COL-VA	Water	Alkalinity by Colourimetric (Automated)	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).

EC-PCT-VA	Water	Conductivity (Automated)	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-LOW-CVAFS-VA	Water	Total Mercury in Water by CVAFS(Low)	EPA 245.7

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 a cold-oxidation of the acidified sample using bromine monochloride prior to reduction of the sample with stannous chloride. Instrumental analysis is by cold vapour atomic fluorescence spectrophotometry (EPA Method 245.7).

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-PCT-VA	Water	pH by Meter (Automated)	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

S2-T-COL-VA	Water	Total Sulphide by Colorimetric	APHA 4500-S2 "Sulphide"

This analysis is carried out using procedures adapted from APHA Method 4500-S2 "Sulphide". Sulphide is determined using the methlyene blue colourimetric method.

SALINITY-EC-VA	Water	Salinity by calculation using EC	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-VA	Water	Solids by Gravimetric	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.

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#2 - 8820 100th Street, **Fort St. John**, BC Canada V1J 3W9 Tel: 250-785-8281 Fax: 250-785-8286

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CHAIN OF CUSTODY FORM

L513940

SEND REPORT TO:

COMPANY:	Teck Cominco Metals Ltd.				
ADDRESS:	Bag 2000				
CITY:	Kimberley	PROV:	BC	POSTAL CODE:	V1A 3E1
TEL:	250-427-8405	FAX:	250-427-8451	CONTACT:	Bruce Donald
PROJECT NAME AND NO.:		2007 June Polaris Garrow Lake		SAMPLER:	Arlene Laudrum
QUOTE NO.:		PO NO.:		ALS CONTACT:	

REPORT FORMAT: ☑ HARDCOPY ☑ EMAIL - ADDRESS: bruce.donald@teckcominco.cc
☐ FAX ☑ EXCEL ☑ PDF ☐ OTHER:

ANALYSIS REQUESTED:

	SAMPLE IDENTIFICATION	DATE / TIME COLLECTED YYYY-MM-DD	TIME	MATRIX	Conductivity, hardness, pH, salinity	TSS, Alkalinity	Total Metals (MS-ICP)	Sulphide									NOTES (sample specific comments, due dates, etc.)
FOR LAB USE ONLY	GLC-1.5m	2007-06-03	11:40 am	seawater	x	x	x										
	GLC-2m	2007-06-03	11:43 am	seawater	x	x	x										
	GLC-3m	2007-06-03	11:46 am	seawater	x	x	x										
	GLC-4m	2007-06-03	11:48 am	seawater	x	x	x										
	GLC-5m	2007-06-03	11:50 am	seawater	x	x	x										
	GLC-6m	2007-06-03	11:52 am	seawater	x	x	x	x									
	GLC-7m	2007-06-03	11:54 am	water	x	x	x										
	GLC-8m	2007-06-03	11:56 am	seawater	x	x	x										
	GLC-9m	2007-06-03	11:58 am	seawater	x	x	x										
	GLC-10m	2007-06-03	12:00 pm	seawater	x	x	x	x									

TURN AROUND REQUIRED: ◉ ROUTINE ○ RUSH SPECIFY DATE: _____ (surcharge may apply)

SEND INVOICE TO: ☑ SAME AS REPORT ☐ DIFFERENT FROM REPORT (provide details below)

INVOICE FORMAT: ☑ HARDCOPY ☐ PDF ☐ FAX

RELINQUISHED BY:	DATE: June 06/07	RECEIVED BY:	DATE:
Curtis Kidd	TIME:		TIME:
RELINQUISHED BY:	DATE:	RECEIVED BY:	DATE:
	TIME:		TIME:

SPECIAL INSTRUCTIONS: Water is hypersaline, for TSS measurement run 1-2L distilled through filters!!!

CC: alaudrum@gartnerlee.com; Total metals have been preserved with HNO3; No preservative for general parameters; Sulfide has been preserved with NaOH and zinc acetate

FOR LAB USE ONLY

Cooler Seal Intact? ___Yes ___No ___N/A	Sample Temperature: ___ °C Frozen? ___Yes ___No	Cooling Method? ___Icepacks ___Ice ___None

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#2 -21 Highfield Circle SE, **Calgary**, AB Canada T2G 5N6 Tel: 403-214-5431 Toll Free: 1-866-722-6231 Fax: 403-214-5430
#2 - 8820 100th Street, **Fort St. John**, BC Canada V1J 3W9 Tel: 250-785-8281 Fax: 250-785-8286

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CHAIN OF CUSTODY FORM

LS445 LS445

SEND REPORT TO:

COMPANY:	Teck Cominco Metals Ltd.				
ADDRESS:	Bag 2000				
CITY:	Kimberley	PROV:	BC	POSTAL CODE:	V1A 3E1
TEL:	250-427-8405	FAX:	250-427-8451	CONTACT:	Bruce Donald
PROJECT NAME AND NO.:		2007 June Polaris Garrow Lake		SAMPLER:	Arlene Laudrum
QUOTE NO.:		PO NO.:		ALS CONTACT:	
REPORT FORMAT:	☑ HARDCOPY ☑ EMAIL - ADDRESS: bruce.donald@teckcominco.co ☐ FAX ☑ EXCEL ☑ PDF ☐ OTHER:				

ANALYSIS REQUESTED: L513940

FOR LAB USE ONLY	SAMPLE IDENTIFICATION	DATE / TIME COLLECTED YYYY-MM-DD	TIME	MATRIX	Conductivity, hardness, pH, salinity	TSS, Alkalinity	Total Metals (MS-ICP)	Sulphide										NOTES (sample specific comments, due dates, etc.)
	GLC-11m	2007-06-03	12:02 pm	seawater	x	x	x											
	GLC-12m	2007-06-03	12:04 pm	seawater	x	x	x	x										
	GLC-13m	2007-06-03	12:08 pm	seawater	x	x	x											
	GLC-14m	2007-06-03	12:10 pm	seawater	x	x	x	x										
	GLC-15m	2007-06-03	12:14 pm	seawater	x	x	x											
	GLC-16m	2007-06-03	12:16 pm	seawater	x	x	x	x										
	GLC-17m	2007-06-03	12:20 pm	seawater	x	x	x											
	GLC-18m	2007-06-03	12:22 pm	seawater	x	x	x	x										
	GLC-19m	2007-06-03	12:26 pm	seawater	x	x	x											
	GLC-20m	2007-06-03	12:28pm	seawater	x	x	x	x										

TURN AROUND REQUIRED: ◉ ROUTINE ○ RUSH SPECIFY DATE: _____ (surcharge may apply)

SEND INVOICE TO: ☑ SAME AS REPORT ☐ DIFFERENT FROM REPORT (provide details below)

INVOICE FORMAT: ☑ HARDCOPY ☐ PDF ☐ FAX

RELINQUISHED BY:	DATE: June 05/07	RECEIVED BY:	DATE:		
Curtis Kidd	TIME:		TIME:		
RELINQUISHED BY:	DATE:	RECEIVED BY:	DATE:	07/06/05	
	TIME:	GAN	TIME:	15:47	

SPECIAL INSTRUCTIONS: Water is hypersaline, for TSS measurement run 1-2L distilled through filters!!!

CC: alaudrum@gartnerlee.com; Total metals have been preserved with HNO3; No preservative for general parameters; Sulfide has been preserved with NaOH and zinc acetate

FOR LAB USE ONLY

Cooler Seal Intact? X Yes ___No ___N/A	Sample Temperature 8.4 °C Frozen? ___Yes X No	Cooling Method? X Icepacks ___Ice ___None

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#2 -21 Highfield Circle SE, **Calgary**, AB Canada T2G 5N6 Tel: 403-214-5431 Toll Free: 1-866-722-6231 Fax: 403-214-5430
#2 - 8820 100th Street, **Fort St. John**, BC Canada V1J 3W9 Tel: 250-785-8281 Fax: 250-785-8286

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CHAIN OF CUSTODY FORM

~~ESLHB~~ L513940

SEND REPORT TO:

COMPANY:	Teck Cominco Metals Ltd.				
ADDRESS:	Bag 2000				
CITY:	Kimberley	PROV:	BC	POSTAL CODE:	V1A 3E1
TEL:	250-427-8405	FAX:	250-427-8451	CONTACT:	Bruce Donald
PROJECT NAME AND NO.:		2007 June Polaris Garrow Lake		SAMPLER:	Arlene Laudrum
QUOTE NO.:		PO NO.:		ALS CONTACT:	
REPORT FORMAT:	☑ HARDCOPY ☑ EMAIL - ADDRESS: bruce.donald@teckcominco.co ☐ FAX ☑ EXCEL ☑ PDF ☐ OTHER:				

ANALYSIS REQUESTED:

WO#	SAMPLE IDENTIFICATION	DATE / TIME COLLECTED YYYY-MM-DD	TIME	MATRIX	Conductivity, hardness, pH, salinity	TSS, Alkalinity	Total Metals (MS-ICP)	Sulphide	NOTES (sample specific comments, due dates, etc.)
FOR LAB USE ONLY	GLC-22m	2007-06-	12:32 pm	seawater	x	x	x	x	
	GLC-30m	2007-06-	12:43pm	seawater	x	x	x	x	
	GLC ~~40m~~ 35m	2007-06-	12:52pm	seawater	x	x	x	x	

TURN AROUND REQUIRED: ◉ ROUTINE ○ RUSH SPECIFY DATE: _____ (surcharge may apply)

SEND INVOICE TO: ☑ SAME AS REPORT ☐ DIFFERENT FROM REPORT (provide details below)

INVOICE FORMAT: ☑ HARDCOPY ☐ PDF ☐ FAX

RELINQUISHED BY:	DATE: June 05/06	RECEIVED BY:	DATE:		
Curtis Kidd	TIME:		TIME:		
RELINQUISHED BY:	DATE:	RECEIVED BY:	DATE:	07/06/05	
	TIME:	GW	TIME:	15:47	

SPECIAL INSTRUCTIONS: Water is hypersaline, for TSS measurement run 1-2L distilled through filters!!!

CC: alaudrum@gartnerlee.com; Total metals have been preserved with HNO3; No preservative for general parameters; Sulfide has been preserved with NaOH and zinc acetate

FOR LAB USE ONLY

Cooler Seal Intact?	Sample Temperature: 8.4°C	Cooling Method?
X Yes ___ No ___ N/A	Frozen? ___ Yes X No	X Icepacks ___ Ice ___ None

ANALYTICAL REPORT

TECK COMINCO METALS LTD.

ATTN: BRUCE DONALD

Reported On: 10-JUL-07 11:51 AM

BAG 2000

KIMBERLEY BC V1A 3E1

Lab Work Order #: **L514095** **Date Received:** **05-JUN-07**

Project P.O. #:

Job Reference: 2007 JUNE POLARIS GARROW LAKE

Legal Site Desc:

CofC Numbers:

Other Information:

Comments:

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

Timothy Guy Crowther
General Manager, Vancouver

For any questions about this report please contact your Account Manager:

Heather Easton

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID	L514095-1	L514095-2	L514095-3	L514095-4	L514095-5
	Description					
	Sampled Date	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07
	Sampled Time	14:20	14:22	14:24	14:26	14:28
	Client ID	GLS-1.5M	GLS-2M	GLS-3M	GLS-4M	GLS-5M
Grouping	**Analyte**					
SEAWATER						
Physical Tests	Hardness (as CaCO3) (mg/L)	2020	2030	2020	2040	2050
Total Metals	Aluminum (Al)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Arsenic (As)-Total (mg/L)	<0.00020	0.00020	<0.00020	<0.00020	<0.00020
	Cadmium (Cd)-Total (mg/L)	0.000702	0.000636	0.000608	0.000603	0.000634
	Calcium (Ca)-Total (mg/L)	173	170	169	173	173
	Copper (Cu)-Total (mg/L)	0.00154	0.00108	0.000985	0.000970	0.000988
	Iron (Fe)-Total (mg/L)	0.251	0.046	<0.010	<0.010	<0.010
	Lead (Pb)-Total (mg/L)	0.00815	0.00150	0.000250	0.000192	0.000155
	Magnesium (Mg)-Total (mg/L)	387	390	389	390	393
	Manganese (Mn)-Total (mg/L)	0.00988	0.00724	0.00676	0.00660	0.00707
	Molybdenum (Mo)-Total (mg/L)	<0.0025	<0.0025	<0.0025	0.0030	<0.0025
	Nickel (Ni)-Total (mg/L)	0.00451	0.00423	0.00424	0.00425	0.00417
	Zinc (Zn)-Total (mg/L)	0.212	0.207	0.210	0.207	0.212

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID	L514095-6	L514095-7	L514095-8	L514095-9	L514095-10
	Description					
	Sampled Date	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07
	Sampled Time	14:30	14:34	14:36	14:38	14:40
	Client ID	GLS-6M	GLS-7M	GLS-8M	GLS-9M	GLS-10M
Grouping	**Analyte**					
SEAWATER						
Physical Tests	Hardness (as CaCO3) (mg/L)	1980	1970	2010	2000	7420
Total Metals	Aluminum (Al)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.10
	Arsenic (As)-Total (mg/L)	<0.00020	<0.00020	<0.00020	<0.00020	0.00026
	Cadmium (Cd)-Total (mg/L)	0.000582	0.000569	0.000587	0.000592	0.00203
	Calcium (Ca)-Total (mg/L)	168	167	168	168	485
	Copper (Cu)-Total (mg/L)	0.000946	0.000919	0.000967	0.000976	0.00221
	Iron (Fe)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Lead (Pb)-Total (mg/L)	0.000134	0.000100	0.000120	0.000109	0.000557
	Magnesium (Mg)-Total (mg/L)	379	377	385	383	1510
	Manganese (Mn)-Total (mg/L)	0.00654	0.00647	0.00658	0.00655	0.0459
	Molybdenum (Mo)-Total (mg/L)	<0.0025	<0.0025	0.0047	0.0028	<0.0050
	Nickel (Ni)-Total (mg/L)	0.00385	0.00377	0.00399	0.00422	0.00693
	Zinc (Zn)-Total (mg/L)	0.191	0.186	0.197	0.196	0.720

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID	L514095-11	L514095-12	L514095-13	L514095-14	L514095-15
	Description					
	Sampled Date	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07
	Sampled Time	14:42	14:44	14:48	14:50	14:54
	Client ID	GLS-11M	GLS-12M	GLS-13M	GLS-14M	GLS-15M
Grouping	**Analyte**					
SEAWATER						
Physical Tests	Hardness (as CaCO3) (mg/L)	12800	12700	12800	12700	12600
Total Metals	Aluminum (Al)-Total (mg/L)	<0.20	<0.20	<0.20	<0.20	<0.20
	Arsenic (As)-Total (mg/L)	0.00029	0.00029	<0.00020	0.00028	<0.00020
	Cadmium (Cd)-Total (mg/L)	0.000045	<0.000020	<0.000020	<0.000020	<0.000020
	Calcium (Ca)-Total (mg/L)	799	794	810	802	801
	Copper (Cu)-Total (mg/L)	0.000606	0.000522	0.000491	0.000399	0.000406
	Iron (Fe)-Total (mg/L)	0.146	0.174	0.279	0.253	0.276
	Lead (Pb)-Total (mg/L)	0.000732	0.000699	0.000725	0.000691	0.000720
	Magnesium (Mg)-Total (mg/L)	2610	2590	2620	2590	2570
	Manganese (Mn)-Total (mg/L)	0.117	0.121	0.0902	0.0835	0.0888
	Molybdenum (Mo)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Nickel (Ni)-Total (mg/L)	0.00745	0.00778	0.00521	0.00455	0.00483
	Zinc (Zn)-Total (mg/L)	0.0380	0.0251	0.0228	0.0168	0.0183

ALS LABORATORY GROUP ANALYTICAL REPORT

		Sample ID	L514095-16	L514095-17	L514095-18	L514095-19	L514095-20
		Description					
		Sampled Date	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07
		Sampled Time	14:56	15:00	15:02	15:06	15:08
		Client ID	GLS-16M	GLS-17M	GLS-18M	GLS-19M	GLS-20M
Grouping	**Analyte**						
SEAWATER							
Physical Tests	Hardness (as CaCO3) (mg/L)		12800	13000	12800	12700	12700
Total Metals	Aluminum (Al)-Total (mg/L)		<0.20	<0.20	<0.20	<0.20	<0.20
	Arsenic (As)-Total (mg/L)		0.00034	0.00025	<0.00020	<0.00020	0.00025
	Cadmium (Cd)-Total (mg/L)		<0.000020	<0.000020	<0.000020	<0.000020	0.000022
	Calcium (Ca)-Total (mg/L)		812	816	801	801	802
	Copper (Cu)-Total (mg/L)		0.000432	0.000383	0.000400	0.000407	0.000485
	Iron (Fe)-Total (mg/L)		0.279	0.244	0.272	0.266	0.307
	Lead (Pb)-Total (mg/L)		0.000734	0.000703	0.000721	0.000680	0.000900
	Magnesium (Mg)-Total (mg/L)		2610	2660	2620	2600	2590
	Manganese (Mn)-Total (mg/L)		0.0852	0.0860	0.0859	0.0816	0.0879
	Molybdenum (Mo)-Total (mg/L)		<0.010	<0.010	<0.010	<0.010	<0.010
	Nickel (Ni)-Total (mg/L)		0.00489	0.00503	0.00532	0.00472	0.00538
	Zinc (Zn)-Total (mg/L)		0.0181	0.0183	0.0186	0.0175	0.0209

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID	L514095-1	L514095-2	L514095-3	L514095-4	L514095-5
	Description					
	Sampled Date	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07
	Sampled Time	14:20	14:22	14:24	14:26	14:28
	Client ID	GLS-1.5M	GLS-2M	GLS-3M	GLS-4M	GLS-5M
Grouping	**Analyte**					
WATER						
Physical Tests	Salinity (EC) (g/L)	8.9	8.9	8.8	8.8	8.8
	Conductivity (uS/cm)	14200	14200	14100	14100	14100
	pH (pH)	8.01	8.06	8.07	8.08	8.08
	Total Suspended Solids (mg/L)	8.0	6.0	8.0	7.3	8.0
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	140	144	143	138	144
	Sulphide as S (mg/L)					
Total Metals	Mercury (Hg)-Total (mg/L)	0.000012	<0.000010	<0.000010	<0.000010	0.000012

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID	L514095-6	L514095-7	L514095-8	L514095-9	L514095-10
	Description					
	Sampled Date	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07
	Sampled Time	14:30	14:34	14:36	14:38	14:40
	Client ID	GLS-6M	GLS-7M	GLS-8M	GLS-9M	GLS-10M
Grouping	**Analyte**					
WATER						
Physical Tests	Salinity (EC) (g/L)	8.8	8.8	8.9	8.9	22.8
	Conductivity (uS/cm)	14100	14100	14200	14200	33700
	pH (pH)	8.08	8.08	8.09	8.09	7.77
	Total Suspended Solids (mg/L)	4.7	6.0	5.3	6.7	14.0
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	140	142	138	141	181
	Sulphide as S (mg/L)	<0.020				<0.020
Total Metals	Mercury (Hg)-Total (mg/L)	<0.000010	0.000013	0.000015	<0.000010	<0.000010

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID	L514095-11	L514095-12	L514095-13	L514095-14	L514095-15
	Description					
	Sampled Date	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07
	Sampled Time	14:42	14:44	14:48	14:50	14:54
	Client ID	GLS-11M	GLS-12M	GLS-13M	GLS-14M	GLS-15M
Grouping	**Analyte**					
WATER						
Physical Tests	Salinity (EC) (g/L)	57.6	62.1	62.6	62.8	62.8
	Conductivity (uS/cm)	76700	81800	82300	82600	82600
	pH (pH)	7.72	7.72	7.71	7.70	7.71
	Total Suspended Solids (mg/L)	52.0	28.7	44.0	50.0	48.0
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	400	429	407	421	407
	Sulphide as S (mg/L)		0.042		0.141	
Total Metals	Mercury (Hg)-Total (mg/L)	<0.000010	<0.000010	<0.000010	0.000015	0.000013

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID	L514095-16	L514095-17	L514095-18	L514095-19	L514095-20
	Description					
	Sampled Date	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07	03-JUN-07
	Sampled Time	14:56	15:00	15:02	15:06	15:08
	Client ID	GLS-16M	GLS-17M	GLS-18M	GLS-19M	GLS-20M
Grouping	**Analyte**					
WATER						
Physical Tests	Salinity (EC) (g/L)	63.0	62.9	63.2	62.9	62.9
	Conductivity (uS/cm)	82800	82700	83000	82700	82600
	pH (pH)	7.71	7.72	7.73	7.71	7.72
	Total Suspended Solids (mg/L)	57.3	31.3	60.0	57.3	37.3
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	424	427	435	417	432
	Sulphide as S (mg/L)	0.023		0.086		0.053
Total Metals	Mercury (Hg)-Total (mg/L)	0.000010	<0.000010	<0.000010	<0.000010	<0.000010

Reference Information

Qualifiers for Sample Submission Listed:

Qualifier	Description
NR:NR	No Result: Sample Not Received At Laboratory - SR:COC - GLS-10M is an extra sample not on COC.

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
ALK-COL-VA	Water	Alkalinity by Colourimetric (Automated)	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).

EC-PCT-VA	Water	Conductivity (Automated)	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-LOW-CVAFS-VA	Water	Total Mercury in Water by CVAFS(Low)	EPA 245.7

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 a cold-oxidation of the acidified sample using bromine monochloride prior to reduction of the sample with stannous chloride. Instrumental analysis is by cold vapour atomic fluorescence spectrophotometry (EPA Method 245.7).

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-PCT-VA	Water	pH by Meter (Automated)	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

S2-T-COL-VA	Water	Total Sulphide by Colorimetric	APHA 4500-S2 "Sulphide"

This analysis is carried out using procedures adapted from APHA Method 4500-S2 "Sulphide". Sulphide is determined using the methlyene blue colourimetric method.

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
SALINITY-EC-VA	Water	Salinity by calculation using EC	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-VA	Water	Solids by Gravimetric	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.

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1988 Triumph Street, **Vancouver**, BC Canada V5L 1K5 Tel: 604-253-4188 Toll Free: 1-800-665-0243 Fax: 604-253-6700
#2 -21 Highfield Circle SE, **Calgary**, AB Canada T2G 5N6 Tel: 403-214-5431 Toll Free: 1-866-722-6231 Fax: 403-214-5430
#2 - 8820 100th Street, **Fort St. John**, BC Canada V1J 3W9 Tel: 250-785-8281 Fax: 250-785-8286

www.alsenviro.com

CHAIN OF CUSTODY FORM

L514095

SEND REPORT TO:

COMPANY:	Teck Cominco Metals Ltd.				
ADDRESS:	Bag 2000				
CITY:	Kimberley	PROV:	BC	POSTAL CODE:	V1A 3E1
TEL:	250-427-8405	FAX:	250-427-8451	CONTACT:	Bruce Donald
PROJECT NAME AND NO.:		2007 June Polaris Garrow Lake		SAMPLER:	Arlene Laudrum
QUOTE NO.:		PO NO.:		ALS CONTACT:	

REPORT FORMAT: ☑ HARDCOPY ☑ EMAIL - ADDRESS: bruce.donald@teckcominco.com
☐ FAX ☑ EXCEL ☑ PDF ☐ OTHER:

ANALYSIS REQUESTED:

	SAMPLE IDENTIFICATION	DATE / TIME COLLECTED YYYY-MM-DD	TIME	MATRIX	Conductivity, hardness, pH, salinity	TSS, Alkalinity	Total Metals (MS-ICP)	Sulphide	NOTES (sample specific comments, due dates, etc.)
FOR LAB USE ONLY	GLS-1.5m	2007-06-03	2:20	seawater	x	x	x		
	GLS-2m	2007-06-03	2:22	seawater	x	x	x		
	~~GLS-4m~~	~~2007-06-~~	~~2:24~~	~~seawater~~	~~x~~	~~x~~	~~x~~		
	GLS-3m	2007-06-03	2:24	seawater	x	x	x		
	GLS-4m	2007-06-03	~~2:26~~ 2:28	seawater	x	x	x		
	GLS-5m	2007-06-03	2:28	seawater	x	x	x		
	GLS-6m	2007-06-03	2:30	seawater	x	x	x	x	
	GLS-7m	2007-06-03	2:34	seawater	x	x	x		
	GLS-8m	2007-06-03	2:36	seawater	x	x	x		
	GLS-9m	2007-06-03	2:38	seawater	x	x	x		

TURN AROUND REQUIRED: ◉ ROUTINE ○ RUSH SPECIFY DATE: _____ (surcharge may apply)

SEND INVOICE TO: ☑ SAME AS REPORT ☐ DIFFERENT FROM REPORT (provide details below)

INVOICE FORMAT: ☑ HARDCOPY ☐ PDF ☐ FAX

RELINQUISHED BY:	DATE: June 05/07	RECEIVED BY:	DATE:	7/6/5
Curtis Kidd	TIME:		TIME:	4pm
RELINQUISHED BY:	DATE:	RECEIVED BY:	DATE:	
	TIME:		TIME:	

SPECIAL INSTRUCTIONS: Water is hypersaline, for TSS measurement run 1-2L distilled through filters!!!

CC: alaudrum@gartnerlee.com; Total metals have been preserved with HNO3; No preservative for general parameters; Sulfide has been preserved with NaOH and zinc acetate

FOR LAB USE ONLY

Cooler Seal Intact? ✓Yes ___No ___N/A	Sample Temperature ___°C	Cooling Method? ✓Icepacks ___Ice ___None
	Frozen? ___Yes ___No	

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#2 -21 Highfield Circle SE, **Calgary**, AB Canada T2G 5N6 Tel: 403-214-5431 Toll Free: 1-866-722-6231 Fax: 403-214-5430
#2 - 8820 100th Street, **Fort St. John**, BC Canada V1J 3W9 Tel: 250-785-8281 Fax: 250-785-8286

www.alsenviro.com

CHAIN OF CUSTODY FORM

~~5139~~ L5140095

SEND REPORT TO:

COMPANY:	Teck Cominco Metals Ltd.				
ADDRESS:	Bag 2000				
CITY:	Kimberley	PROV:	BC	POSTAL CODE:	V1A 3E1
TEL:	250-427-8405	FAX:	250-427-8451	CONTACT:	Bruce Donald
PROJECT NAME AND NO.:		2007 June Polaris Garrow Lake		SAMPLER:	Arlene Laudrum
QUOTE NO.:		PO NO.:		ALS CONTACT:	
REPORT FORMAT:	☑ HARDCOPY ☑ EMAIL - ADDRESS: bruce.donald@teckcominco.co ☐ FAX ☑ EXCEL ☑ PDF ☐ OTHER:				

ANALYSIS REQUESTED:

FOR LAB USE ONLY	SAMPLE IDENTIFICATION	DATE / TIME COLLECTED YYYY-MM-DD	TIME	MATRIX	Conductivity, hardness, pH, salinity	TSS, Alkalinity	Total Metals (MS-ICP)	Sulphide	NOTES (sample specific comments, due dates, etc.)
	GLS-10m	2007-06-03	2:40 pm	seawater	x	x	x	x	
	GLS-11m	2007-06-03	2:42 pm	seawater	x	x	x		
	GLS-12m	2007-06-03	2:44 pm	seawater	x	x	x	x	
	GLS-13m	2007-06-03	2:48 pm	seawater	x	x	x		
	GLS-14m	2007-06-03	2:50 pm	seawater	x	x	x	x	
	GLS-15m	2007-06-03	2:54 pm	seawater	x	x	x		
	GLS-16m	2007-06-03	2:56 pm	seawater	x	x	x	x	
	GLS-17m	2007-06-03	3:00 pm	seawater	x	x	x		
	GLS-18m	2007-06-03	3:02 pm	seawater	x	x	x	x	
	GLS-19m	2007-06-03	3:06 pm	seawater	X	X	X	X	

TURN AROUND REQUIRED:	◉ ROUTINE ○ RUSH SPECIFY DATE: (surcharge may apply)	RELINQUISHED BY: Curtis Kidd	DATE: June 05/07	RECEIVED BY:	DATE:		
			TIME:		TIME:		
SEND INVOICE TO:	☑ SAME AS REPORT ☐ DIFFERENT FROM REPORT (provide details below)	RELINQUISHED BY:	DATE:	RECEIVED BY: G W	DATE:	07/06/05	
INVOICE FORMAT:	☑ HARDCOPY ☐ PDF ☐ FAX		TIME:		TIME:	15:46	

SPECIAL INSTRUCTIONS: Water is hypersaline, for TSS measurement run 1-2L distilled through filters!!!

CC: alaudrum@gartnerlee.com; Total metals have been preserved with HNO3; No preservative for general parameters; Sulfide has been preserved with NaOH and zinc acetate

FOR LAB USE ONLY

Cooler Seal Intact?	Sample Temperature: 7.0 °C	Cooling Method?
X Yes ___ No ___ N/A	Frozen? ___ Yes X No	X Icepacks ___ Ice ___ None

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#2 -21 Highfield Circle SE, **Calgary**, AB Canada T2G 5N6 Tel: 403-214-5431 Toll Free: 1-866-722-6231 Fax: 403-214-5430
#2 - 8820 100th Street, **Fort St. John**, BC Canada V1J 3W9 Tel: 250-785-8281 Fax: 250-785-8286

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L514095
~~L513941~~

CHAIN OF CUSTODY FORM

SEND REPORT TO:

COMPANY:	Teck Cominco Metals Ltd.				
ADDRESS:	Bag 2000				
CITY:	Kimberley	PROV:	BC	POSTAL CODE:	V1A 3E1
TEL:	250-427-8405	FAX:	250-427-8451	CONTACT:	Bruce Donald
PROJECT NAME AND NO.:		2007 June Polaris Garrow Lake		SAMPLER:	Arlene Laudrum
QUOTE NO.:		PO NO.:		ALS CONTACT:	
REPORT FORMAT:	☑ HARDCOPY ☑ EMAIL - ADDRESS: bruce.donald@teckcominco.co ☐ FAX ☑ EXCEL ☑ PDF ☐ OTHER:				

ANALYSIS REQUESTED:

FOR LAB USE ONLY	SAMPLE IDENTIFICATION	DATE / TIME COLLECTED YYYY-MM-DD	TIME	MATRIX	Conductivity, hardness, pH, salinity	TSS, Alkalinity	Total Metals (MS-ICP)	Sulphide	NOTES (sample specific comments, due dates, etc.)
	GLS-20m	2007-06-03	3:08pm	seawater	x	x	x	x	
	~~GLS-22m~~	~~2007-06-~~		~~seawater~~	~~x~~	~~x~~	~~x~~	~~x~~	
	~~GLS-30m~~	~~2007-06-~~		~~seawater~~	~~x~~	~~x~~	~~x~~	~~x~~	
	MAX DEPTH 21m								

TURN AROUND REQUIRED:	◉ ROUTINE ○ RUSH SPECIFY DATE: _____ (surcharge may apply)	RELINQUISHED BY: CURTIS KIDD	DATE: June 05/07	RECEIVED BY:	DATE:	
			TIME:		TIME:	
SEND INVOICE TO:	☑ SAME AS REPORT ☐ DIFFERENT FROM REPORT (provide details below)	RELINQUISHED BY:	DATE:	RECEIVED BY: GW	DATE: 07/06/05	
INVOICE FORMAT:	☑ HARDCOPY ☐ PDF ☐ FAX		TIME:		TIME: 15:46	

SPECIAL INSTRUCTIONS: Water is hypersaline, for TSS measurement run 1-2L distilled through filters!!!

CC: alaudrum@gartnerlee.com; Total metals have been preserved with HNO3; No preservative for general parameters; Sulfide has been preserved with NaOH and zinc acetate

FOR LAB USE ONLY

Cooler Seal Intact?	Sample Temperature: 20°C	Cooling Method?
X Yes ___No ___N/A	Frozen? ___Yes X No	X Icepacks ___Ice ___None