Indian and Northern Affairs Canada
Affaires indiennes et du Nord Canada

Water Resources Division
Nunavut Regional Office
Iqaluit, NU X0A 0H0

NWB file: 1AR-POL0311
CIDMS#: 349588

August 25, 2009

Richard Dwyer
License Administrator
P.O. Box 119
Gjoa Haven, NU, X0A 1J0

Re: 1AR-POL0311 – Annual Report, 2008 –Teck Cominco – Polaris Mine Site

Please be advised that Indian and Northern Affairs Canada (INAC) has completed a review of 1AR-POL Type "A" Water License 2008 Annual Report for the Polaris Mine Site. The NWB circulated the report for review and comments on July 28, 2009. All associated documents related to this license posted on the NWB ftp site under 1AR-POL were included in my review (see attached Technical Review Memo).

Should you have any questions or comments, please do not hesitate to contact me at (867) 975-4738 or by email at Andrea.Cull@inac.gc.ca.

Yours truly,

Original Signed By

Andrea Cull
Water Management Specialist

Cc: Kevin Buck – Water Resources Manager, INAC

Technical Review Memorandum

To: Richard Dwyer – License Administrator, NWB
Peter Kusugak – Field Operations Manager, INAC
Bruce Donald – Teck Cominco

From: Andrea Cull – Water Management Specialist, INAC

Re: 1AR-POL0311 – Annual Report, 2008 –Teck Cominco – Polaris Mine Site

The 2008 Annual Report submitted by Teck Cominco (Bruce Donald) addressed many of the requirements of Part B, Item 6 of the current water license # 1AR-POL0311. However, it was noted that the following information was not provided in the 2008 Annual Report.

> Part H, Item 44 of the water license requires the licensee to submit for review the results of the monitoring requirements in Table 1 - Summary of Monitoring Requirements in accordance with Part B, Item 6.
>
> Table 1, Summary of Monitoring Requirements,
>
> It is noted in the Water License that Station number 262-3 requires three monitoring events (at mid-winter, at maximum ice thickness, and at maximum ice melt) at two separate locations in Garrow Lake. Teck has advised that they cannot conduct mid winter sampling due to the fact that a charter aircraft will not land at the site in the dark. Therefore it appears that monitoring was not completed as required by the License. INAC recommends that Teck contact the Board and seek clarity or a revision to this monitoring requirement especially if they are unable to comply due to safety reasons. All correspondence to the Board in this regard should be copied to INAC Water Resources Division.
>
> It was also noted that all sample monitoring results provided indicated compliance with Water License criteria.

For your information INAC Water Resources staff conducted a site visit on July 24, 2009. The purpose of the visit was to determine reclamation progress as well as determining compliance with the approved Reclamation Plan "Polaris Mine Decommissioning and Reclamation Plan, prepared by Gartner Lee Limited, March 2001." INAC contracted BCG Engineering for assistance in this regard. Teck Resources staff was also present during the site visit. A full engineering report will be submitted to the Board in September, 2009. This report will also include a summary of geotechnical status at the site. INAC Water Resources

staff has also prepared a site visit report which will follow shortly. Sampling results from July 24, 2009 of the Garrow Lake discharge station 262-7 was conducted and the results indicate compliance with all Water License (1AR-POL0311) criteria – See attached lab results.

This information has been forwarded to our Field Operations Unit

Cc: Kevin Buck – Water Resources Manager, INAC

Taiga Environmental Laboratory
4601-52nd Ave., Box 1500, Yellowknife, NT. X1A 2R3
Tel: (867)-669-2788 Fax: (867)-669-2718

Taiga Batch No.: 290475

- FINAL REPORT -

Prepared For: Nunavut District Office

Address: Box 100
Building 918
Iqaluit, NU
X0A 0H0

Attn: Andrea Cull **Facsimile:** 8679794585

Final report has been reviewed and approved by:

Angelique Ruzindana
Quality Assurance Officer

NOTES:

- Test methods and data are validated by the laboratory's Quality Assurance Program. Taiga Environmental Laboratory is accredited by the Canadian Association of Environmental Analytical Laboratories (CAEAL) as a testing laboratory for specific tests registered with CAEAL.
- Routine methods are based on recognized procedures from sources such as
  - Standard Methods for the Examination of Water and Wastewater APHA AWWA WEF;
  - Environment Canada
  - USEPA
- Samples shall be kept for thirty (30) days after the final report is issued. All microbiological samples shall be disposed of immediately upon completion of analysis to minimize biohazardous risks to laboratory personnel. Please contact the laboratory if you have any special requirements.
- Final results are based on the specific tests at the time of analysis and do not represent the conditions during sampling.

ReportDate: Monday, August 10, 2009
Print Date: Monday, August 10, 2009

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Tel: (867)-669-2788 Fax: (867)-669-2718

Taiga Batch No.: 290475

- CERTIFICATE OF ANALYSIS -

Client Sample ID: Garrow Lake Discharge **Taiga Sample ID:** 001

Client Project:
Sample Type: Sea/Lake Water
Received Date: 25-Jul-09
Sampling Date: 24-Jul-09
Sampling Time:
Location: Polaris Mine Site
Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Inorganics - Physicals						
Alkalinity, Total (as CaCO3)	44.0	0.4	mg/L	27-Jul-09	SM2320:B	
Conductivity, Specific (@ 25°C)	3610	0.4	µS/cm	27-Jul-09	SM2510:B	
pH	8.04		pH units	27-Jul-09	SM4500-H:B	
Solids, Total Suspended	< 3	3	mg/L	29-Jul-09	SM2540:D	
Inorganics - Nutrients						
Ammonia as Nitrogen	< 0.01	0.01	mg/L	27-Jul-09	SM4500-NH3:	
Nitrate+Nitrite as Nitrogen	0.20	0.01	mg/L	27-Jul-09	SM4110:B	
Major Ions						
Calcium	47.6	0.1	mg/L	28-Jul-09	SM4110:B	
Hardness	419	0.7	mg/L	27-Jul-09	SM2340:B	
Magnesium	72.8	0.1	mg/L	28-Jul-09	SM4110:B	
Nitrate as Nitrogen	0.20	0.01	mg/L	28-Jul-09	SM4110:B	
Nitrite as Nitrogen	< 0.01	0.01	mg/L	28-Jul-09	SM4110:B	
Trace Metals, Total						

ReportDate: Monday, August 10, 2009
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Taiga Batch No.: 290475

- CERTIFICATE OF ANALYSIS -

Client Sample ID: Garrow Lake Discharge **Taiga Sample ID: 001**

Aluminum	< 5	5	µg/L	06-Aug-09	EPA200.8
Arsenic	5.6	0.2	µg/L	06-Aug-09	EPA200.8
Cadmium	< 0.1	0.1	µg/L	06-Aug-09	EPA200.8
Copper	8.4	0.2	µg/L	06-Aug-09	EPA200.8
Iron	14	5	µg/L	06-Aug-09	EPA200.8
Lead	0.2	0.1	µg/L	06-Aug-09	EPA200.8
Manganese	1.6	0.1	µg/L	06-Aug-09	EPA200.8
Mercury	< 0.01	0.01	µg/L	06-Aug-09	EPA200.8
Molybdenum	1.4	0.1	µg/L	06-Aug-09	EPA200.8
Nickel	2.3	0.1	µg/L	06-Aug-09	EPA200.8
Zinc	11	5	µg/L	06-Aug-09	EPA200.8
Subcontracted Organics					
Cyanide, Total	0.002	0.001	mg/L	29-Jul-09	EPA335.3

ReportDate: Monday, August 10, 2009
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Taiga Batch No.: 290475

- CERTIFICATE OF ANALYSIS -

Client Sample ID: Garrow Lake D2 **Taiga Sample ID:** 002

Client Project:
Sample Type: Sea/Lake Water
Received Date: 25-Jul-09
Sampling Date: 24-Jul-09
Sampling Time:
Location: Polaris Mine Site
Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Inorganics - Physicals						
Alkalinity, Total (as CaCO3)	44.1	0.4	mg/L	27-Jul-09	SM2320:B	
Conductivity, Specific (@ 25°C)	3630	0.4	µS/cm	27-Jul-09	SM2510:B	
pH	8.05		pH units	27-Jul-09	SM4500-H:B	
Solids, Total Suspended	< 3	3	mg/L	29-Jul-09	SM2540:D	
Inorganics - Nutrients						
Ammonia as Nitrogen	< 0.01	0.01	mg/L	27-Jul-09	SM4500-NH3:	
Nitrate+Nitrite as Nitrogen	0.19	0.01	mg/L	27-Jul-09	SM4110:B	
Major Ions						
Calcium	44.9	0.1	mg/L	28-Jul-09	SM4110:B	
Hardness	391	0.7	mg/L	27-Jul-09	SM2340:B	
Magnesium	67.8	0.1	mg/L	28-Jul-09	SM4110:B	
Nitrate as Nitrogen	0.19	0.01	mg/L	28-Jul-09	SM4110:B	
Nitrite as Nitrogen	< 0.01	0.01	mg/L	28-Jul-09	SM4110:B	
Trace Metals, Total						

ReportDate: Monday, August 10, 2009
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Taiga Batch No.: 290475

- CERTIFICATE OF ANALYSIS -

Client Sample ID: Garrow Lake D2 **Taiga Sample ID: 002**

Aluminum	< 5	5	µg/L	06-Aug-09	EPA200.8
Arsenic	5.6	0.2	µg/L	06-Aug-09	EPA200.8
Cadmium	< 0.1	0.1	µg/L	06-Aug-09	EPA200.8
Copper	8.4	0.2	µg/L	06-Aug-09	EPA200.8
Iron	14	5	µg/L	06-Aug-09	EPA200.8
Lead	0.2	0.1	µg/L	06-Aug-09	EPA200.8
Manganese	1.6	0.1	µg/L	06-Aug-09	EPA200.8
Mercury	0.01	0.01	µg/L	06-Aug-09	EPA200.8
Molybdenum	1.4	0.1	µg/L	06-Aug-09	EPA200.8
Nickel	2.1	0.1	µg/L	06-Aug-09	EPA200.8
Zinc	11	5	µg/L	06-Aug-09	EPA200.8
Subcontracted Organics					
Cyanide, Total	0.001	0.001	mg/L	29-Jul-09	EPA335.3

ReportDate: Monday, August 10, 2009
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Taiga Batch No.: 290475

- CERTIFICATE OF ANALYSIS -

Client Sample ID: Garrow Lake D3 **Taiga Sample ID:** 003

Client Project:
Sample Type: Sea/Lake Water
Received Date: 25-Jul-09
Sampling Date: 24-Jul-09
Sampling Time:
Location: Polaris Mine Site
Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Inorganics - Physicals						
Alkalinity, Total (as CaCO3)	No Container		mg/L		SM2320:B	16
Conductivity, Specific (@ 25°C)	No Container		µS/cm		SM2510:B	16
pH	No Container		pH units		SM4500-H:B	16
Solids, Total Suspended	No Container		mg/L		SM2540:D	16
Inorganics - Nutrients						
Ammonia as Nitrogen	No Container		mg/L		SM4500-NH3:	16
Nitrate+Nitrite as Nitrogen	No Container		mg/L		SM4110:B	16
Major Ions						
Calcium	No Container		mg/L		SM4110:B	16
Hardness	No Container		mg/L		SM2340:B	16
Magnesium	No Container		mg/L		SM4110:B	16
Nitrate as Nitrogen	No Container		mg/L		SM4110:B	16
Nitrite as Nitrogen	No Container		mg/L		SM4110:B	16
Trace Metals, Total						

ReportDate: Monday, August 10, 2009
Print Date: Monday, August 10, 2009

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Taiga Batch No.: 290475

- CERTIFICATE OF ANALYSIS -

Client Sample ID: Garrow Lake D3 **Taiga Sample ID: 003**

Aluminum	No Container		µg/L		EPA200.8	16
Arsenic	No Container		µg/L		EPA200.8	16
Cadmium	No Container		µg/L		EPA200.8	16
Copper	No Container		µg/L		EPA200.8	16
Iron	No Container		µg/L		EPA200.8	16
Lead	No Container		µg/L		EPA200.8	16
Manganese	No Container		µg/L		EPA200.8	16
Mercury	No Container		µg/L		EPA200.8	16
Molybdenum	No Container		µg/L		EPA200.8	16
Nickel	No Container		µg/L		EPA200.8	16
Zinc	No Container		µg/L		EPA200.8	16
Subcontracted Organics						
Cyanide, Total	0.001	0.001	mg/L	29-Jul-09	EPA335.3	

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Taiga Batch No.: 290475

- CERTIFICATE OF ANALYSIS -

Client Sample ID: Garrow Lake D3 **Taiga Sample ID:** 003

- DATA QUALIFERS -

Data Qualifier Descriptions:

16 *Test requested but no sample bottle received*

*** Taiga analytical methods are based on the following standard analytical methods**

SM - Standard Methods for the Examination of Water and Wastewater

EPA - United States Environmental Protection Agency

ReportDate: Monday, August 10, 2009
Print Date: Monday, August 10, 2009

Polaris Mine Site Visit

July 24, 2009

by: Andrea Cull
Water Management Specialist
Indian and Northern Affairs Canada

Polaris Lead-Zinc Mine:

- **Proponent:** Teck Resources Inc.

- **Location:** The Polaris Mine site is located in Canada's high Arctic at approximately Latitude 75°N and Longitude 97°W on Little Cornwallis Island. The former mine is approximately 140 km by air northwest of Resolute Bay.

- **Key Project Information:**

- Mining Lead, Zinc
- 1 Underground Mine
- 22 Year Mine Life
- Type A Water License
- Water License number: NWB1POL0311
- Description: Closure and Reclamation
- Date of License: March 1, 2003
- Expiry of License: December 31, 2011

- **Current Status:** Abandonment and Reclamation

- The Polaris Mine stopped operating in September of 2002 due to lack of ore. Immediately upon mine closure, reclamation activities commenced in accordance with the Decommissioning and Reclamation Plan (DRP) approved by the Nunavut Water Board and Indian and Northern Affairs Canada (April, 2002). The DRP as well as the Water Licence requires reporting of reclamation work completed and other monitoring activities on both a quarterly and an annual basis.

- Major decommissioning and reclamation of the mine site was conducted by Teck Resources (and associated contractors between 2002 and 2004).

- Closed mine site status was obtained from Environment Canada on July 27, 2006 confirming that Polaris Mine had no further obligations under the Metal Mining Effluent Regulations (MMER).

- A request to decrease Reclamation Security was submitted to the Nunavut Water Board. The Board recently approved a decrease to $3,539,000 based on remaining reclamation liability.

Purpose of Site Visit:

- The purpose of the site visit was to confirm water sample analysis results obtained by Teck Resources at the Final Discharge Point – Surface Water of Garrow Lake – Sample Location # 262-7 (as per the current water license 1AR-POL0311). Therefore INAC collected water samples at the Final Discharge Point – Location # 262-7 during the visit of July 24, 2009. The results of sample analysis were compared to the water license compliance limits – Part D, Item4 as well as to any results obtained by Teck during recent sampling events (Summer, 2008). Teck's results for the summer, 2009 sampling were not available at the time this report was completed. Once Teck's 2009 results are submitted they well be compared to the previous results.

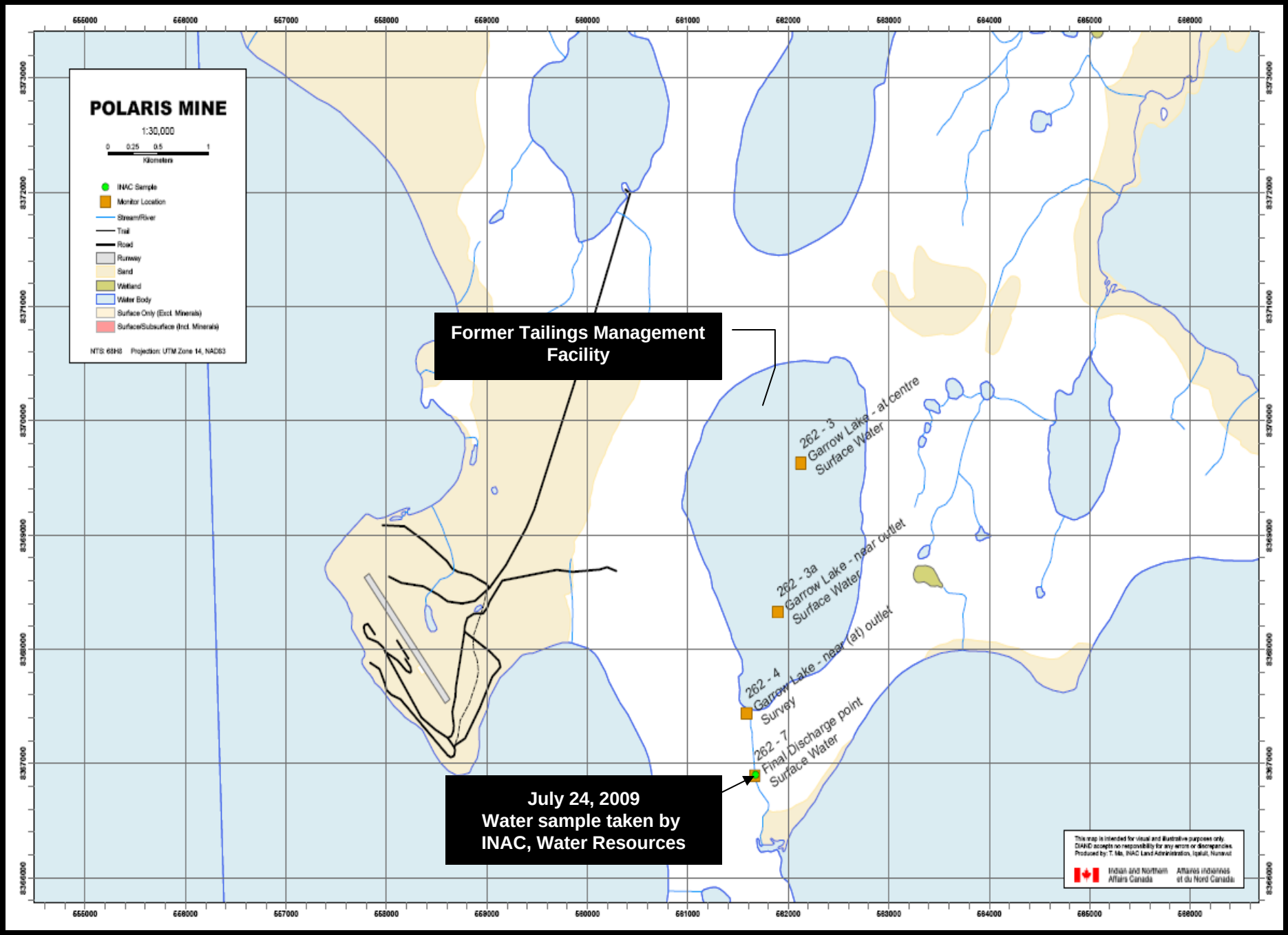
  - Please refer to the map on slide #5: Sample location.

  - Please refer to slide #7, 8, 9, 10, 11 and 12: Water sample results.

- The second purpose of the visit was to perform a geotechnical inspection of the site and to observe any changes, etc that may have occurred since the last inspection of August, 2008. As part of this assessment INAC has also initiated a review of the Garrow Lake water quality data from historical sample analysis results provided by Teck through their water license reporting requirements. BCG Engineering was contracted by the Department to perform this task.

Map of the Polaris Mine Site:

Sample location
262-7
Final Discharge Point


POLARIS MINE
1:30,000
0 0.25 0.5 1
Kilometers
INAC Sample
Monitor Location
Stream/River
Trail
Road
Runway
Sand
Wetland
Water Body
Surface Only (Excl. Minerals)
Surface/Subsurface (Incl. Minerals)
NTS: 68N8 Projection: UTM Zone 14, NAD83
Former Tailings Management Facility
262 - 3
Garrow Lake - at centre
Surface Water
262 - 3a
Garrow Lake - near outlet
Surface Water
262 - 4
Garrow Lake - near (at) outlet
Survey
262 - 7
Final Discharge point
Surface Water
July 24, 2009
Water sample taken by
INAC, Water Resources
Indian and Northern Affairs Canada
Affaires indiennes et du Nord Canada

Water Sample Lab Results:

Sample location (262-7) Final Discharge Point

The results indicate that Garrow Lake discharge meets the compliance criteria stated in Part D, Item 4 of The Water License

Garrow Lake Final Discharge Point 262-7

(Water Sample Results vs. Water License Criteria)

Substance	Teck Results – Summer 2008 – Average (12 Events)	July 24, 2009 INAC's Results	Water License Criteria (Part D, Item 4)
Arsenic (As)	<0.0002 mg/L	0.0056 mg/L	0.75 mg/L
Copper (Cu)	0.0012 mg/L	0.0084 mg/L	0.14 mg/L
Lead (Pb)	0.00036 mg/L	0.0002 mg/L	0.14 mg/L
Nickel (Ni)	0.00496 mg/L	0.0023 mg/L	1.00 mg/L
Zinc (Zn)	0.03963 mg/L	0.011 mg/L	1.00 mg/L
Total Suspended Solids (TSS)	3.242 mg/L	<3 mg/L	30 mg/L
Radium 226	0.0072 Bq/L	N/A	1.11 Bq/L
Cadmium (Cd)	0.00023 mg/L	0.0001 mg/L	0.01 mg/L
Mercury (Hg)	0.00001 mg/L	0.00001 mg/L	0.001 mg/L
Cyanide	0.005 mg/L	0.002 mg/L	1.00 mg/L

The results indicate that the discharge is within the limits stated in Part D, Item 4 of the license. Copies of the Certificates of Analysis follow in slides 10 and 11. Teck's results are on slide 11 and the Water License Criteria is on slide 12.

Field Measurements

Temperature:
4 degrees Celsius

Conductivity:
3.92 us/cm

Dissolved Oxygen:
8.91 mg/l

PH: 8.60

Part D, Item 5 (i) of the Water License (1AR-POL0311) requires that the licensee shall ensure that any Effluent discharge at all Final Discharge Points has a pH between 6.0 and 9.5

INAC 2009 Water Sample Results

Taiga Environmental Laboratory
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Taiga Batch No.: 290475

- CERTIFICATE OF ANALYSIS -

Client Sample ID: Garrow Lake Discharge **Taiga Sample ID: 001**

Client Project:
Sample Type: Sea/Lake Water
Received Date: 25-Jul-09
Sampling Date: 24-Jul-09
Sampling Time:
Location: Polaris Mine Site
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Inorganics - Physicals						
Alkalinity, Total (as CaCO3)	44.0	0.4	mg/L	27-Jul-09	SM2320:B	
Conductivity, Specific (@ 25°C)	3610	0.4	µS/cm	27-Jul-09	SM2510:B	
pH	8.04		pH units	27-Jul-09	SM4500-H:B	
Solids, Total Suspended	< 3	3	mg/L	29-Jul-09	SM2540:D	
Inorganics - Nutrients						
Ammonia as Nitrogen	< 0.01	0.01	mg/L	27-Jul-09	SM4500-NH3:	
Nitrate+Nitrite as Nitrogen	0.20	0.01	mg/L	27-Jul-09	SM4110:B	
Major Ions						
Calcium	47.6	0.1	mg/L	28-Jul-09	SM4110:B	
Hardness	419	0.7	mg/L	27-Jul-09	SM2340:B	
Magnesium	72.8	0.1	mg/L	28-Jul-09	SM4110:B	
Nitrate as Nitrogen	0.20	0.01	mg/L	28-Jul-09	SM4110:B	
Nitrite as Nitrogen	< 0.01	0.01	mg/L	28-Jul-09	SM4110:B	
Trace Metals, Total						

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- CERTIFICATE OF ANALYSIS -

Client Sample ID: Garrow Lake Discharge **Taiga Sample ID: 001**

Aluminum	< 5	5	µg/L	06-Aug-09	EPA200.8
Arsenic	5.6	0.2	µg/L	06-Aug-09	EPA200.8
Cadmium	< 0.1	0.1	µg/L	06-Aug-09	EPA200.8
Copper	8.4	0.2	µg/L	06-Aug-09	EPA200.8
Iron	14	5	µg/L	06-Aug-09	EPA200.8
Lead	0.2	0.1	µg/L	06-Aug-09	EPA200.8
Manganese	1.6	0.1	µg/L	06-Aug-09	EPA200.8
Mercury	< 0.01	0.01	µg/L	06-Aug-09	EPA200.8
Molybdenum	1.4	0.1	µg/L	06-Aug-09	EPA200.8
Nickel	2.3	0.1	µg/L	06-Aug-09	EPA200.8
Zinc	11	5	µg/L	06-Aug-09	EPA200.8
Subcontracted Organics					
Cyanide, Total	0.002	0.001	mg/L	29-Jul-09	EPA335.3

INAC 2009 Water Sample Results

ReportDate: Monday, August 10, 2009
Print Date: Monday, August 10, 2009

Teck's 2008 Results

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

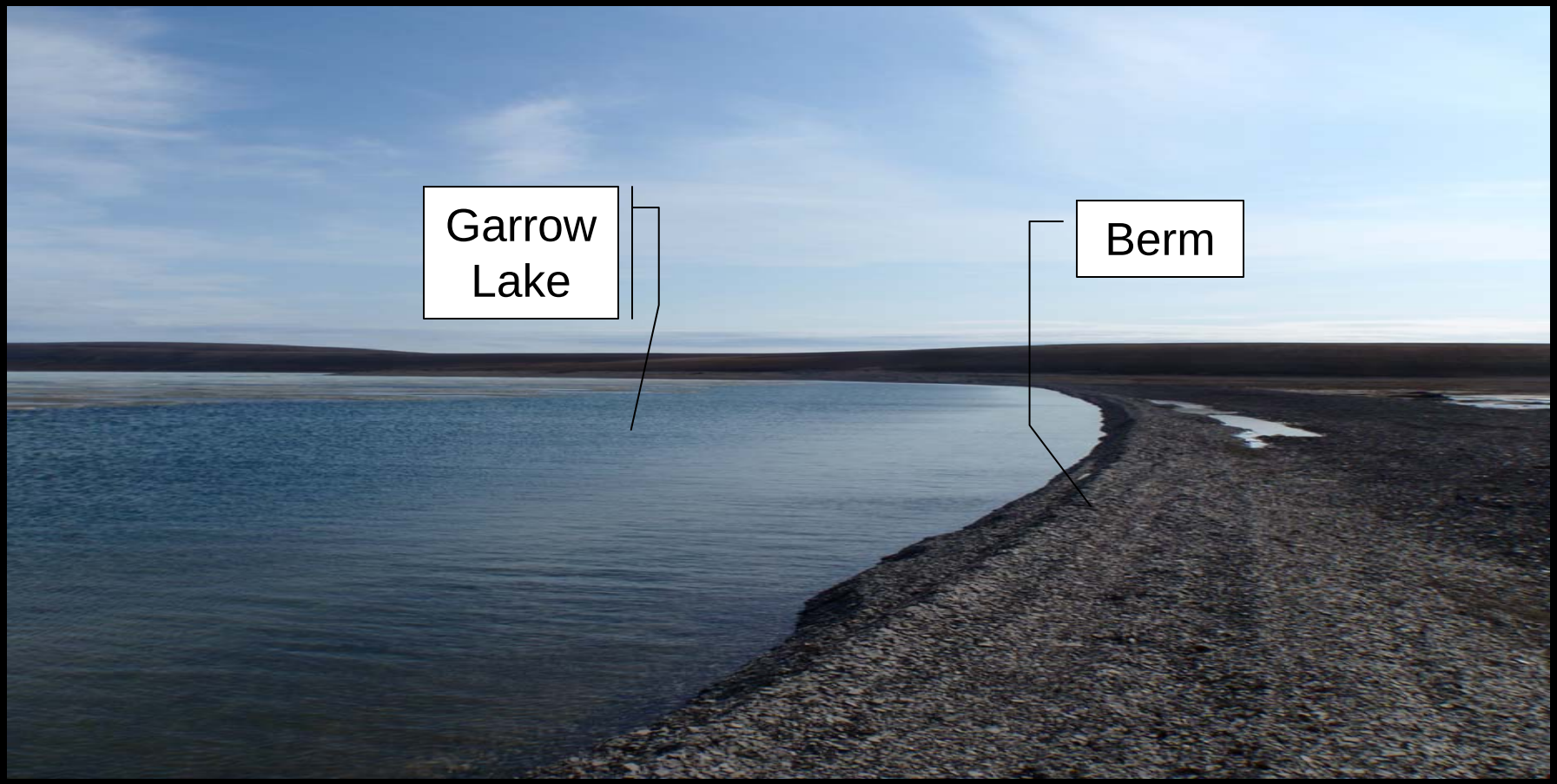
Part D, Item 4 of Water License # 1AR-POL0311

4. All Effluent discharged by the Licensee shall not exceed the following Effluent quality limits at all Final Discharge Points:

Substance	Maximum Authorized Monthly Mean Concentration	Maximum Authorized Concentration in a Composite Sample	Maximum Authorized Concentration in a Grab Sample
Arsenic (As)*	0.50mg/L	0. 625mg/L	0.75 mg/L
Copper (Cu)*	0.07 mg/L	0.105 mg/L	0.14 mg/L
Lead (Pb)*	0.07 mg/L	0.105 mg/L	0.14 mg/L
Nickel (Ni)*	0.50 mg/L	0.75 mg/L	1.00 mg/L
Zinc (Zn)*	0.50 mg/L	0.75 mg/L	1.00 mg/L
Total Suspended Solids (TSS)	15.00 mg/L	22.50 mg/L	30 mg/L
Radium 226 (^{226}Ra)*	0.37 Bq/L	0.74 Bq/L	1.11 Bq/L
Cadmium (Cd)	0.005 mg/L	0.008 mg/L	0.01 mg/L
Mercury (Hg)	0.0005 mg/L	0.0008 mg/L	0.001 mg/L
Cyanide	0.50 mg/L	0.75 mg/L	1.00 mg/L

Note: All concentrations represent total values and * indicates a Deleterious Substance.

Garrow Lake



Berm 1 Meter high

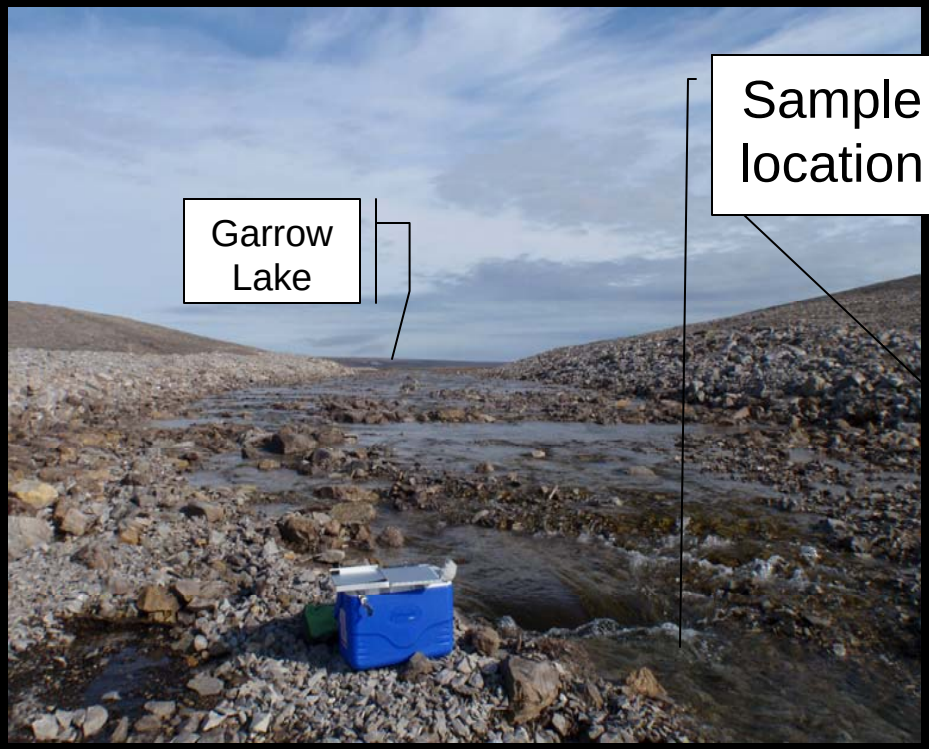
Note: Still ice in the Lake

Sample gear


Ziploc
Sample taken by Andrea Cull, Water Resources, INAC On July 23, 2009
Garrow Lake Discharge


Thermo
860
392
891

Discharge from Garrow Lake – Upstream Photo

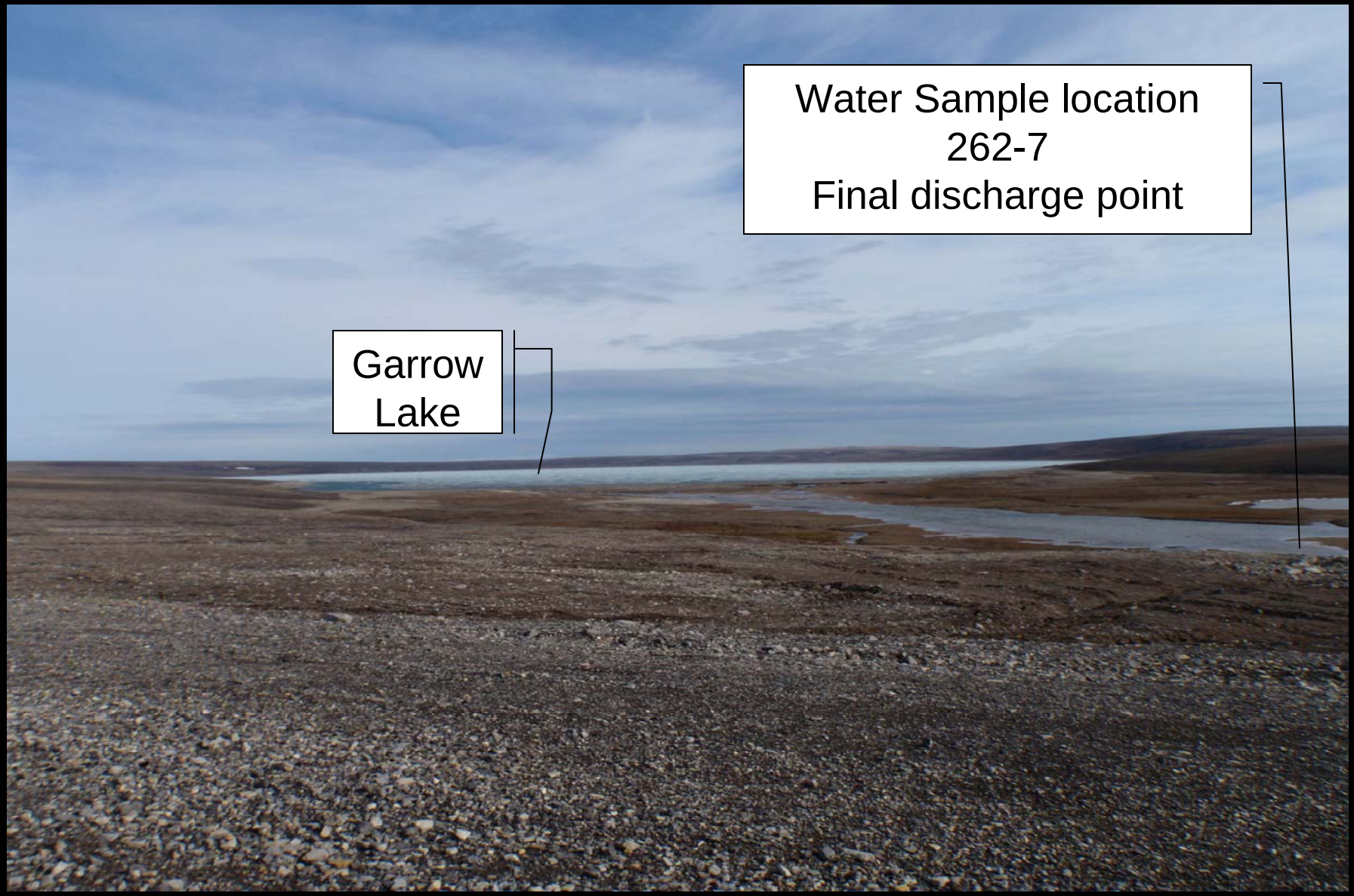


July 24, 2009 at 9:50 AM
Overcast, slightly windy

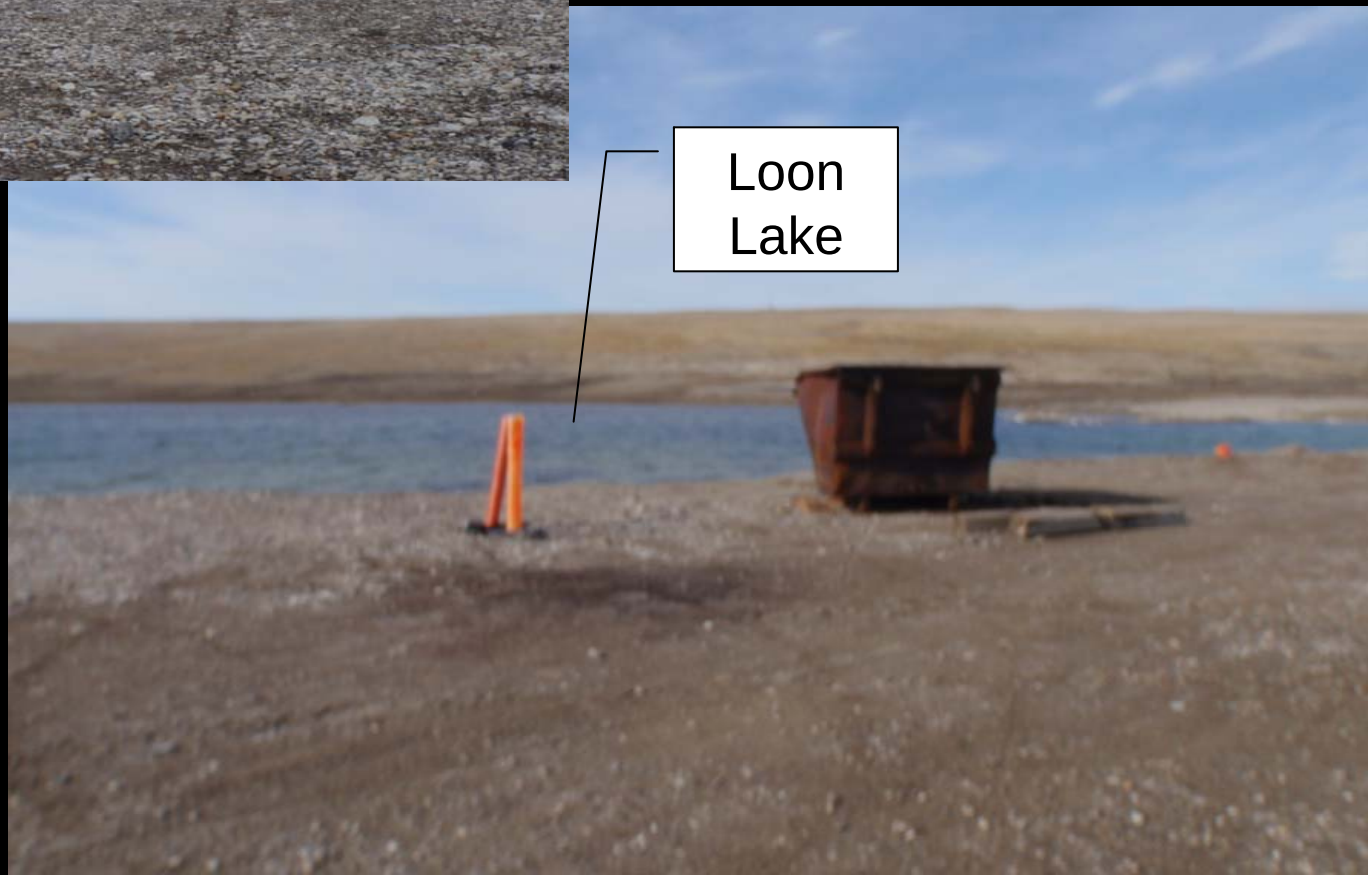
Sample Location:
N 75’ 22’ 40.1 W 96’ 48’ 39.3

Discharge from Garrow Lake – Down Stream

Garrow Lake + Final Discharge Point

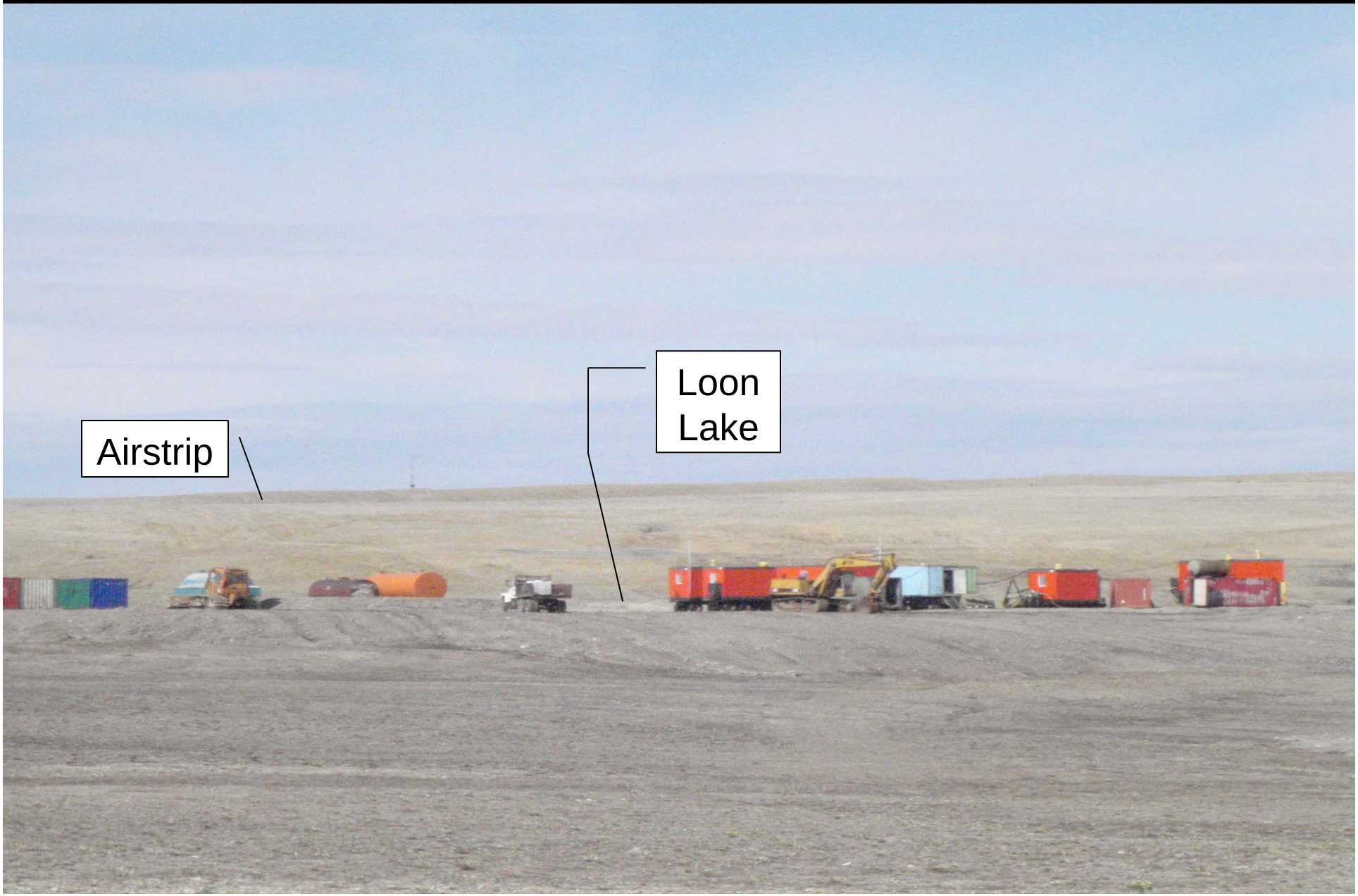


Burning area – Loon Lake



Please note that there is active burning in close proximity of a water body (Loon Lake).

Polaris Camp

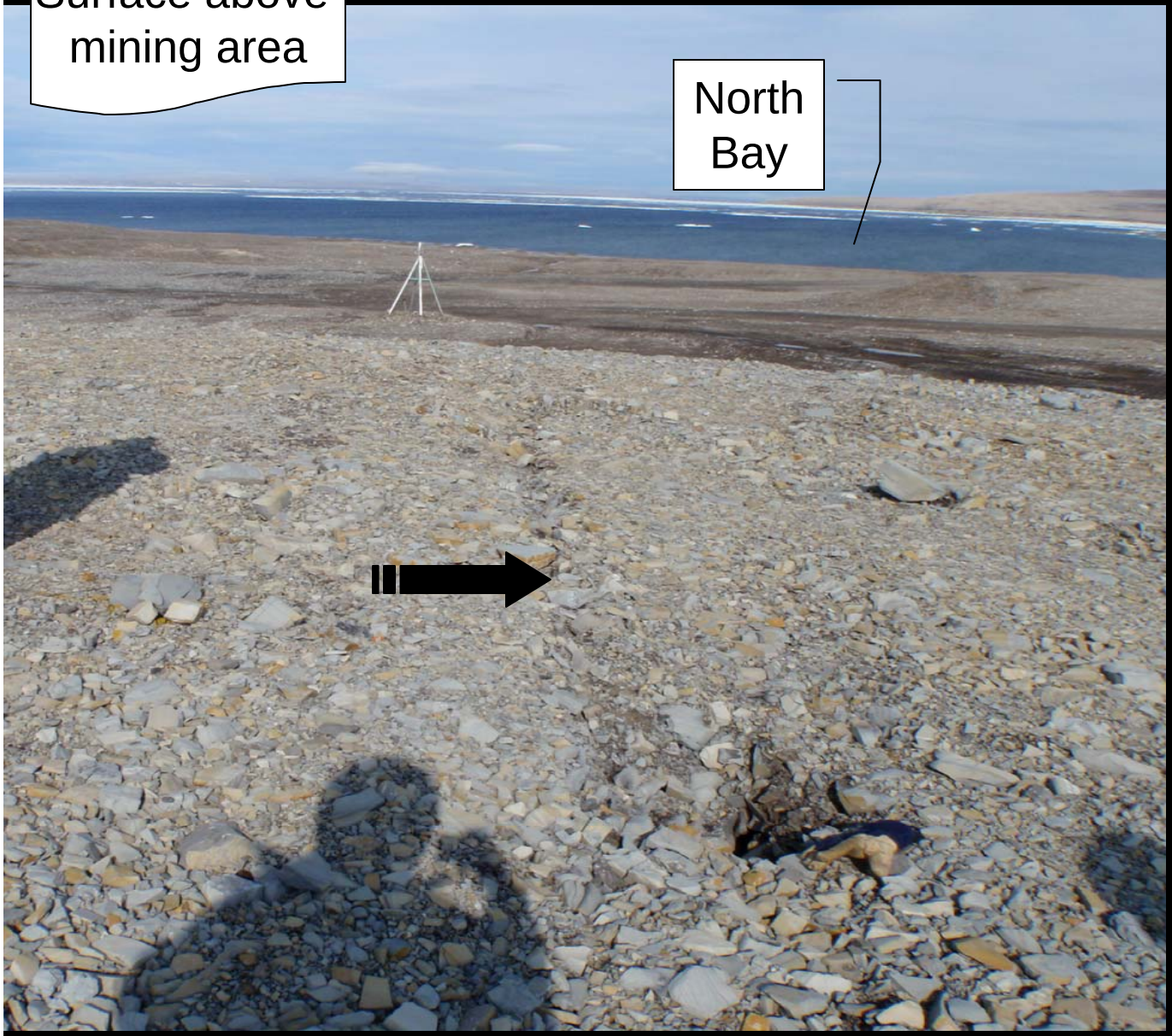


Subsidence Area

Please note:

Water at the surface. This water is evidence that there are no holes or pockets of air underneath. It is likely that permafrost is playing a role in sinkhole prevention. If the climate does change in the future and there is significant melting of the permafrost their may be an issue with sink holes.

…Subsidence Continued



Cracks in the ground (subsidence)

The area seen here is where the backfill was taken from…(center, in the distance)

Some Teck staff onsite and Andrea Cull & Holger Hartmaier representing INAC.