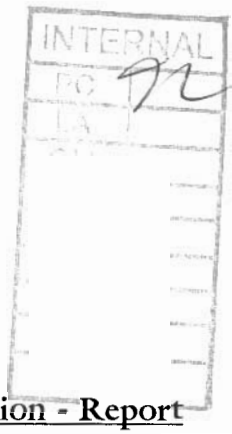
INAC, Nunavut District Office
P.O. Box 100
Iqaluit, NU
X0A 0H0

tel.: (867) 975-4275
fax.: (867) 979-6445

Your file Votre référence

Our file Notre référence
NWB2MEA0002



November 13, 2001.

Brian Alexander, Project Manager
Cumberland Resources Ltd.
#906 - 595 Howe Street
Vancouver, BC V6C 2T5

August 31, 2001 Water Licence Inspection - Report

Firstly, I wish to thank Ewald Gosner for the much appreciated time and assistance provided during the tour of the campsite's water use and waste disposal facilities. Attached for your records is the Industrial Water Use Inspection Report pertaining to the August 31, 2001 inspection; very little concerns were noted at the orderly camp. Accordingly, the following considerations were outlined during the inspection:

- **Water supply:** Due to the minimal activity on-site, the water intake and supply setup was of a temporary nature. Nonetheless, no concerns regarding the water use at the camp were noted. Further, the attached analytical results relating to a sample collected in the vicinity of the intake station indicate that the raw water meets all tested parameters of the *Guidelines for Canadian Drinking Water Quality*.

- **Waste disposal:** Since wastes are either incinerated or transported off-site, the potential for the deposit of waste into waters due to camp operations is minimal. However, as was mentioned at the time of the inspection, the greywater disposal area (figure 1) ought to be monitored during springtime, in order to ensure that sufficient filtration is provided before ground thaw, and that the direct flow of greywater into the nearby water body does not occur.

- **Fuel and chemical storage:** Whereas the fuel supply systems installed at the camp's accommodation units and infrastructure (figure 2) are most adequate, signs of minor spillage were observed at the temporary fuel and chemical storage site (figure 3). In this regards, it was guaranteed at the time of the inspection that the situation would promptly be seen to.

In related matters, attached are also the analytical results relating to background water quality data sampled at the inlets of Meadowbank and Tehert rivers; all tested parameters were found to readily meet the *Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life*.

Please feel free to contact me at (867) 975-4298 or lavalleep@inac.gc.ca if any questions/comments arise.

Sincerely,

Philippe Lavallée
Water Resources Officer
INAC, Nunavut District

c.c. - Nunavut Water Board, Gjoa Haven
- KIA Lands, Rankin Inlet (Luis Manzo)
- EC Environmental Protection, Yellowknife (Anne Wilson)
- DFO Habitat Management, Iqaluit (Jordan DeGroot)

Indian and Northern Affairs Canada | Affaires Indiennes et du Nord Canada

INDUSTRIAL WATER USE INSPECTION REPORT

Date: 2001/08/31 **Company Rep.** (Name/Title): Ewald Gosner / Camp Manager

Licensee: **Cumberland Resources Ltd.**, Meadowbank Project **Licence No.:** **NWB2MEA0002**

WATER SUPPLY

Source(s): Third Portage Lake **Quantity used:** Not recorded **Meter Reading:** none

Indicate: **A** - Acceptable **U** - Unacceptable **NA** - Not Applicable **NI** - Not Inspected

Intake Facilities: A **Storage Structure:** A **Treatment Systems:** A **Recycling:** NA

Flow Meas. Device: NA **Conveyance Lines:** A **Pumping Stations:** NA **Modifications:** NA

Comments: No concerns noted with the water intake and supply system; intake temporarily along the shoreline instead of on a floating platform.

WASTE DISPOSAL

Tailings: **Tailings Pond:** **Natural Lake:** **Underground:**

Sewage: **Sewage Treatment System:** **Tailings Pond:** **Natural Water Body:**
Continuous Discharge: **Intermittent Discharge:**

Solid Waste: **Open Dump:** **Landfill:** **Burn & Bury:** **Underground:**

Indicate: **A** - Acceptable **U** - Unacceptable **NA** - Not Applicable **NI** - Not Inspected

Discharge Quality: NA	**Decant Structure:** NA	**Dyke Inspections:** NA
Conveyance Lines: NA	**Pond Treatment:** NA	**Runoff Diversion:** NA
Discharge Meas. Device: NA	**Dams, Dykes:** NA	**Erosion:** A
Freeboard: NA	**Seepages:** NA	**Spills:** none reported
Effluent Discharge Rate: NA	**Samples Collected:** raw water @ intake	

Comments: Sewage and combustible wastes are incinerated on-site; ashes, hazardous materials, most waste oil, and non-combustible wastes dispatched to the Baker Lake solid wastes disposal facility. Greywater is discharged along a rocky stretch of tundra; adequate infiltration likely provided since no sediments noticeable downslope of the immediate discharge point.

GENERAL CONDITIONS

Indicate: **A** - Acceptable **U** - Unacceptable **NA** - Not Applicable **NI** - Not Inspected

Ore & Waste Rock Stockpiles: NA	**Records & Reporting:** A	**SNP:** NA
Geotechnical Inspection: NA	**Posting/Signage:** NA	**Contingency Plan:** A
Restoration Activities: NA	**New Construction:** NA	**Fuel Storage:** A
Mine Water Discharge: NA	**Chemical Storage:** A	**Annual Report:** A

Comments: Proper bulk fuel storage and supply systems. Minor leaks noted at the drilling salt and concrete storage area; was to be addressed forthwith.

Violations of Act or Licence: None noted.

General Comments: Camp recently reopened; generally well-kept despite the period of inactivity.

Philippe Lavallée
Inspector's Name

Inspector's Signature

figure 1. Greywater disposal area at the point of discharge; 2001/08/31.

figure 2. Fuel supply system at the generator shed; 2001/08/31.

figure 3. Temporary fuel and chemical storage site; 2001/08/31.

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

- CERTIFICATE OF ANALYSIS -

Prepared For: Nunavut District Office DIAND, Operations *Attn:* Philippe Lavalllee

Sample ID: raw water **Taiga Sample ID:** 212480

Client Project: **Sample Type:** freshwater **Received Date:** 07-Sep-01

Location: Meadowbank **Sampling Date:** 31-Aug-01

Report Status: **Final** ***Approved by:*** Kathleen Page

Test Parameter	Result	Units	Detection Limit	Analysis Date
Physicals				
Colour	<5		5	14-Sep-01
pH	6.66	pH units	0.05	24-Sep-01
Solids, Total Dissolved	<10	mg/L	10	13-Sep-01
Turbidity	0.4	NTU	0.1	14-Sep-01
Nutrients				
Ammonia as N	<0.005	mg/L	0.005	12-Sep-01
Nitrate+Nitrite as N	0.011	mg/L	0.008	10-Oct-01
Major Ions				
Sodium	0.43	mg/L	0.02	18-Sep-01
Metals, Total				
Arsenic	<1.0	µg/L	1	21-Sep-01
Cadmium	<0.3	µg/L	0.3	11-Sep-01
Chromium	<3	µg/L	3	11-Sep-01
Cobalt	<1	µg/L	1	11-Sep-01
Copper	<2	µg/L	2	11-Sep-01

Report Date: Tuesday, October 16, 2001

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Sample ID: raw water **Taiga Sample ID:** 212480

Iron	<30	µg/L	30	14-Sep-01
Lead	<1	µg/L	1	11-Sep-01
Manganese	<1	µg/L	1	11-Sep-01
Mercury	<0.01	µg/L	0.01	02-Oct-01
Nickel	<1	µg/L	1	11-Sep-01
Zinc	<10	µg/L	10	11-Sep-01
Subcontracted Tests				
Chloride	0.4	mg/L	0.1	05-Oct-01
Sulphate	1.3	mg/L	0.3	05-Oct-01

Field Data (01/08/31) raw water
Temperature: 11.5 °C
Conductivity: 18 µS/cm
pH: 8.2 **Time:** 12:54

Report Date: Tuesday, October 16, 2001

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- CERTIFICATE OF ANALYSIS -

Prepared For: Nunavut District Office DIAND, Operations *Attn:* Philippe Lavalllee

Sample ID: Meadowbank River **Taiga Sample ID:** 212481

Client Project: **Sample Type:** freshwater **Received Date:** 07-Sep-01

Location: Meadowbank **Sampling Date:** 31-Aug-01

Report Status: **Final** ***Approved by:***

Test Parameter	Result	Units	Detection Limit	Analysis Date
Physicals				
Colour	< 5		5	09-Sep-01
pH	6.80	pH units	0.05	24-Sep-01
Solids, Total Suspended	8	mg/L	3	19-Sep-01
Nutrients				
Ammonia as N	< 0.005	mg/L	0.005	12-Sep-01
Nitrate+Nitrite as N	0.017	mg/L	0.008	10-Oct-01
Phosphorous, Total	0.007	mg/L	0.004	27-Sep-01
Major Ions				
Sodium	0.50	mg/L	0.02	18-Sep-01
Organic				
Oil and Grease	< 0.2	mg/L	0.2	10-Oct-01
Metals, Total				
Arsenic	< 1.0	µg/L	1	21-Sep-01
Cadmium	< 0.3	µg/L	0.3	11-Sep-01
Chromium	< 3	µg/L	3	11-Sep-01

Report Date: Tuesday, October 16, 2001

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- CERTIFICATE OF ANALYSIS -

Prepared For: Nunavut District Office DIAND, Operations ***Attn:*** Philippe Lavalllee

Sample ID: Meadowbank River **Taiga Sample ID:** 212481

Cobalt	<1	µg/L	1	11-Sep-01
Copper	<2	µg/L	2	11-Sep-01
Iron	<30	µg/L	30	14-Sep-01
Lead	<1	µg/L	1	11-Sep-01
Manganese	<1	µg/L	1	11-Sep-01
Mercury	<0.01	µg/L	0.01	02-Oct-01
Nickel	<1	µg/L	1	11-Sep-01
Zinc	<10	µg/L	10	11-Sep-01
Subcontracted Tests				
Chloride	0.6	mg/L	0.1	05-Oct-01
Sulphate	1.5	mg/L	0.3	05-Oct-01

Field Data (01/08/31)**Mead. river**
Temperature: 13.0 °C
Conductivity: 20 µS/cm
pH: 8.2 **Time:** 14:20

Report Date: Tuesday, October 16, 2001

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- CERTIFICATE OF ANALYSIS -

Prepared For: Nunavut District Office DIAND, Operations *Attn:* Philippe Lavalllee

Sample ID: Tehert River **Taiga Sample ID:** 212482

Client Project: **Sample Type:** freshwater **Received Date:** 07-Sep-01

Location: Meadowbank **Sampling Date:** 31-Aug-01

Report Status: **Final** ***Approved by:***

Test Parameter	Result	Units	Detection Limit	Analysis Date
Physicals				
Colour	<5		5	09-Sep-01
pH	6.59	pH units	0.05	24-Sep-01
Solids, Total Suspended	4	mg/L	3	19-Sep-01
Nutrients				
Ammonia as N	<0.005	mg/L	0.005	12-Sep-01
Nitrate+Nitrite as N	<0.008	mg/L	0.008	10-Oct-01
Phosphorous, Total	<0.004	mg/L	0.004	27-Sep-01
Major Ions				
Sodium	0.46	mg/L	0.02	18-Sep-01
Organic				
Oil and Grease	<0.2	mg/L	0.2	10-Oct-01
Metals, Total				
Arsenic	<1.0	µg/L	1.0	05-Oct-01
Cadmium	<0.3	µg/L	0.3	11-Sep-01
Chromium	<3	µg/L	3	11-Sep-01

Report Date: Tuesday, October 16, 2001

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- CERTIFICATE OF ANALYSIS -

Prepared For: Nunavut District Office DIAND, Operations *Attn:* Philippe Lavalllee

Sample ID: Tehert River **Taiga Sample ID:** 212482

Cobalt	<1	µg/L	1	11-Sep-01
Copper	<2	µg/L	2	11-Sep-01
Iron	<30	µg/L	30	14-Sep-01
Lead	<1	µg/L	1	11-Sep-01
Manganese	<1	µg/L	1	11-Sep-01
Mercury	<0.01	µg/L	0.01	02-Oct-01
Nickel	<1	µg/L	1	11-Sep-01
Zinc	<10	µg/L	10	11-Sep-01
Subcontracted Tests				
Chloride	0.4	mg/L	0.1	05-Oct-01
Sulphate	1.1	mg/L	0.3	05-Oct-01

Field Data (01/08/31) **Tehert riv.**
Temperature: 13.0 °C
Conductivity: 12 µS/cm
pH: 8.3 **Time:** 15:02

Report Date: Tuesday, October 16, 2001