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

Nunavut Regional Office (NRO)
P.O. Box 2200, Iqaluit,
NU X0A 0H0

March 4, 2010

Mr. Thomas Kabloona
A/Chief Administrative Officer
Nunavut Water Board
P.O. Box 119, Gjoa Haven,
NU X0B 1J0

Dear Mr. Kabloona:

RE: Roberts Bay and Ida Bay Project: 2009 Annual Report for Water Licence No: 1BR-ROB0813

Please find attached the 2009 Annual report for the Water licence No: 1BR-ROB0813 issued for the remediation of the Roberts Bay and Ida Bay abandoned mine sites.

If you have any questions or comments, please contact the undersigned or the Project Manager, Dele Morakinyo at dele.morakinyo@inac-ainc.gc.ca, or by telephone at (819) 934-9224

Sincerely,

Natalie Plato, Director,
Contaminated Sites Program (NRO)
Tel: (867) 975-4730;
Fax: (867) 975-4736
Email: natalie.plato@inac-ainc.gc.ca

CC: Nunavut Impact Review Board, Cambridge Bay, Nunavut

Canada

NWB Annual Report **Year being reported:** 2009

License No: 1BR-ROB0813 **Issued Date:** August 8, 2008
Expiry Date: August 30, 2013

Project Name: Roberts Bay and Ida Bay Mine Site Remediation Project

Licensee: Indian and Northern Affairs Canada Contaminated Sites program

Mailing Address:
PO Box 2200
Iqaluit NU
X0A 0H0

Name of Company filing Annual Report (if different from Name of Licensee please clarify relationship between the two entities, if applicable):

General Background Information on the Project (*optional):

Roberts Bay and Ida Bay Silver Mine sites are located approximately 115 kilometres southwest of Cambridge Bay, West kitikmeot, Nunavut. The Roberts Bay site is located approximately 1 km north of Roberts Lake while the Ida Bay mine site is located about 7 km north of the Roberts Bay site.

Silver (Ag) was explored and mined from both sites from 1964 to 1975. The two mine sites were abandoned since 1975 following censure of mining and exploration.

The remediation (field works) of the Roberts Bay and Ida Bay sites started during the 2008 season and it is expected to be completed during the 2010 season.

Licence Requirements: the licensee must provide the following information in accodance with

Part B Item 1

A summary report of water use and waste disposal activities, including, but not limited to: methods of obtaining water; sewage and greywater management; drill waste management; solid and hazardous waste management.

Water Source(s):	Unnamed lake/pond adjacent to the camp. Water was not taken	
Water Quantity:	5/day	Quantity Allowable Domestic (cu.m)
	2.9/day max	Actual Quantity Used Domestic (cu.m)
	N/A	Quantity Allowable Drilling (cu.m)
	N/A	Total Quantity Used Drilling (cu.m)

Waste Management and/or Disposal

- [x] Solid Waste Disposal
- [x] Sewage
- [ ] Drill Waste
- [x] Greywater
- [x] Hazardous
- [ ] Other:

Additional Details:

Soild waste from the Camp was landfilled in the Non-Hazardous Waste Landfill. Sewage and Greywater generated were treated in the wastewater treatment unit brought to the site. All Hazardous Wastes were properly packaged and stored for shipment to a licenced southern disposal facility.

A list of unauthorized discharges and a summary of follow-up actions taken.

Spill No.: none (as reported to the Spill Hot-line)
Date of Spill: April 21, 2009
Date of Notification to an Inspector: April 21, 2009
Additional Details: (impacts to water, mitigation measures, short/long term monitoring, etc)

See the "NT-NU Spill Report Form" and "Spill Clean Up Report" contained in Appendix 2

Spill No.:
Date of Spill:
Date of Notification to an Inspector:
Additional Details: (impacts to water, mitigation measures, short/long term monitoring, etc)

Revisions to the Spill Contingency Plan

SCP submitted and approved - no revision required or proposed

Additional Details:

None

Revisions to the Abandonment and Restoration Plan

AR plan submitted and approved - no revision required or proposed

Additional Details:

None

Progressive Reclamation Work Undertaken

Additional Details (i.e., work completed and future works proposed)

WORK COMPLETED

 Mobilization of equipment, supplies and facilities, by sealift, from south to Ida Bay;
 Closure of the mine opening (adit) at Ida Bay;
 Collection of non-hazardous wastes at Ida Bay;
 Relocation of equipment and materials by winter mobilization to Roberts Bay;
 Closure of the two adits at Roberts Bay;
 Reinforcing the concrete capped vent raise at Roberts Bay by covering with waste rock and grading;
 Collection and packaging of 319 m3 of petroleum Hydrocarbon (PHC) impacted soils; and 38 m3 of metal/PHC impacted soils;
 Tailings pond remediation / Non-hazardous waste landfill (NHWL) construction at tailings pond area (tailings capped in place) as per the Engineer's design;
 Demolition of all site infrastructure (garage, mill structure, former camp area);
 Collection and disposal of non-hazardous demolition and surface debris in the NHWL;
 Non-hazardous waste landfill closure;
 Collection and packaging of hazardous demolition and surface debris; and
 Other activities are:
- Workers orientation seminar;
- Community meetings in Cambridge Bay; and
- Inuit Capacity Building Training in Cambridge Bay

FUTURE WORK PROPOSED

 Closure of the vent raise and exploration trenches at Ida Bay;
 Collection, packaging and disposal offsite of remaining wastes at Ida Bay;
 Removal and disposal of the waste rock from the shoreline above low tide;
Site Grading; and
Close-out comprising final Site Survey, final inspection, and preparation of all items for demobilization.
 Final site demobilization.

Results of the Monitoring Program including:

The GPS Co-ordinates (in degrees, minutes and seconds of latitude and longitude) of each location where sources of water are utilized;

Details attached

Additional Details:

See GPS Co-ordinates below

The GPS Co-ordinates (in degrees, minutes and seconds of latitude and longitude) of each location where wastes associated with the licence are deposited;

Details attached

Additional Details:

See GPS Co-ordinates below

Results of any additional sampling and/or analysis that was requested by an Inspector

No additional sampling requested by an Inspector or the Board

Additional Details: (date of request, analysis of results, data attached, etc)

Any other details on water use or waste disposal requested by the Board by November 1 of the year being reported.

No additional sampling requested by an Inspector or the Board

Additional Details: (Attached or provided below)

Any responses or follow-up actions on inspection/compliance reports

No inspection and/or compliance report issued by INAC

Additional Details: (Dates of Report, Follow-up by the Licensee)

Any additional comments or information for the Board to consider

Before and After photographs are provided in Appendix 3

Date Submitted:	March 4, 2010	
Submitted/Prepared by:	Natalie Plato	
Contact Information:	**Tel:**	(867) 975-4730
	Fax:	(867) 975-4736
	email:	natalie.plato@inac-ainc.gc.ca

GPS Coordinates for water sources utilized

Source Description	Latitude			Longitude		
	Deg °	Min `	Sec	Deg °	Min `	Sec
Unnamed lake/pond adjacent to the camp	68	10	59.65	106	32	10.04

GPS Locations of areas of waste disposal

Location Description (type)	Latitude			Longitude		
	Deg °	Min `	Sec	Deg °	Min `	Sec
Non-Hazardous Waste Landfill	68	10	49.92	106	33	31.05
Waste water discharge point	68	10	55.8	106	33	26.75

Appendix 1

Water and Wastewater Tracking

SUMMARY (Water and Wastewater Tracking)

During the 2009 field season, water was taken from the Unnamed Lake for cooking, cleaning and other camp uses. Bottled water was used by crews as the potable water. The summary of the volume of water withdrawn from the lake on monthly basis is as shown in the table that follows:

Month	# of days of Remediation Activities	Volume of Water taken from Unnamed Lake (m^3)
July 2009 (July 16-31)	16	33.974
August/September 2009 (August 1 to September 5)	36	117.300
Total	**52**	**151.274**

The total volume of water taken from the Unnamed Lake over the 51 days of construction at Roberts Bay in 2009 was 151.274 m^3. Therefore the water consumption rate during the 2009 construction season was 2.9 m^3 / day.

The volume of wastewater generated during the course of the 2009 remediation program is assumed to be approximately the same as the volume of water withdrawn from the Unnamed Lake and it is represented by the table below.

Month	Volume of Wastewater Generated (m^3)
July 2009 (July 16-31)	33.974
August/September 2009 (August 1 to September 5)	117.300
Total	**151.274**

APPENDIX 2

Spill Report Form and Spill Initial Clean up Report

Northwest Territories

NWT SPILL REPORT

(Oil, Gas, Hazardous Chemicals or other Materials)

24 – Hour Report Line
Phone: (867) 920-8130
Fax: (867) 873-6924

A Report Date and Time: APRIL 25/2009 1:10 PM

B Date and Time of spill (if known): APRIL 25/2009 11:30 AM

C ☑ Original Report ☐ Update no.____

Spill Number:

D Location and map coordinates (if known) and direction (if moving)
IDA BAY MINE 68° 14' 2" N 106° 31' 46" W SPILL CONTAINED AND REMOVED. NO LEAKAGE FROM SPILL SITE.

E Partly responsible for spill
QUANTUM MURRAY LP

F Product(s) spilled and estimated quantities (provide metric volumes/weights if possible)
DIESEL FUEL, APPROX. 120 LITRES

G Cause of spill
ACCIDENTAL OPENING OF FUEL TANK VALVE WHILE DIGGING MACHINE OUT OF SNOW BANK

H Is spill terminated? ☑ yes ☐ no

I If spill is continuing, give estimated rate: N/A

J Is further spillage possible? ☐ yes ☑ no

K Extent of contaminated area (in square meters if possible): 0.5 m^2 APPROX. 1.3 m x 0.3 m

L Factors effecting spill or recovery (weather conditions, terrain, snow cover, etc.)
FROZEN GROUND, SNOW COVER

M Containment (natural depression, dikes, etc.)
NATURAL DEPRESSION 0.3 DEEP & ROCK BERM

N Action, if any, taken or proposed to contain, recover, clean up or dispose of product(s) and contaminated materials
THE SPILL WAS CONTAINED BY A NATURAL DEPRESSION, BUT A ROCK BERM WAS PLACED AROUND THE SPILL. A PROPANE TIGER TORCH WAS USED TO BURN OFF ALL THE SNOW AND DIESEL FUEL INSIDE THE BERM. A ROCK CAP WAS PLACED OVER THE SPILL AREA.

O Do you require assistance?
☑ no ☐ yes, describe:

P Possible hazards to person, property, or environment; eg: fire, drink water, fish or wildlife
NONE. FUEL REMOVED. AREA CONTAINED & COVERED.

Q Comments or recommendations
SPILL AREA WILL BE TESTED WHEN CREW RETURNS TO IDA BAY FOR SITE REMEDIATION WORK IN JULY 2009.
ANY CONTAMINATED SOIL WILL BE EXCAVATED, PACKAGED AND TRANSPORTED OFF SITE FOR PROPER DISPOSAL.

FOR SPILL LINE USE ONLY

Lead agency

Spill significance

Lead Agency contact and time

Is this file now closed? ☐ yes ☐ no

Reported by	Position, Employer, Location	Telephone
JOHN WIEGEL	SITE SUPERINTENDENT QUANTUM MURRAY LP. IDA BAY	8816 514 2605
Reported to	**Position, Employer, Location**	**Telephone**
Rod Bosse	GENERAL SUPERINTENDENT QUANTUM MURRAY LP. BURNABY BC	604 238-2220

NWT 1752/0202

Fuel Spill Report at Ida Bay Mine – April 21, 2009

QMLP personnel at Ida Bay Mine were preparing equipment for transport to Roberts Bay Mine. The equipment had been mobilized to Ida Bay Mine in September 2008 but could not be moved to Roberts Bay until spring 2009 when it could be transported overland by ice road.

To prepare for transport the work crew had to dig the equipment out of the snow that had accumulated on and around the equipment during the winter, then get the equipment operational and ready to move. During snow removal from around the engine compartment of a CAT 325DL excavator a fuel tank drain valve was inadvertently opened. No fuel was noticed leaking from the fuel tank probably due to the frozen conditions around the valve outlet.

The excavator was subsequently started and the engine left running to warm up the machine for operation. When the machine later stopped running investigation by the Site Superintendent revealed the fuel leak. The excavator had originally contained almost 1/4 of a tank of fuel (approximately 120 litres).

The fuel valve was closed and wired shut, the excavator was then partially fuelled and moved from the spill area. Examination of the spill area revealed that the leaked fuel had collected in a natural depression below the machine, was contained and not migrating from the immediate spill area, and the underlying ground was protected by the frozen conditions. A rock berm was constructed around the spill area to further contain the spill area and prevent fuel migration.

Initial attempts to soak up the spill using absorbent pads were unsuccessful as the spill area consisted largely of mushy snow.

It was felt that the consistency of the impacted material would cause additional contamination during excavation and packaging, and removal of rocks in the spill area would likely cause release of fuel from the spill area during attempts to excavate the area.

It was decided that using a propane tiger torch to incinerate the impacted material in place and not disturb the surrounding terrain was the best way to maintain the integrity of the spill area, remove the potential for spreading any fuel and completely remove all traces of the fuel. A tiger torch has a BTU rating of 208,000. Torching the spill area at close range would be completely burn all fuel.

A tiger torch was used to burn all the snow, fuel and ice inside the berm.

A rock cap was finally placed over the spill area to delineate the area and prevent any exposure to wildlife.

The site engineer is scheduled to arrive at site April 22, 2009. The engineer and site superintendent will inspect the spill area and determine whether:

- all fuel in the spill area has been destroyed
- excavation of the area is required
- excavation of the area is feasible in the existing conditions, or
- excavation should be postponed until summer when the ground surface has thawed.

QMLP personnel are scheduled to undertake remediation activities at Roberts Bay Mine starting July 2009.

APPENDIX 3

SOME SELECT PHOTOS OF BEFORE AND AFTER REMEDIATION

Adit #1 at Roberts Bay prior to remediation

Adit #1 at Roberts Bay post remediation

Adit #2 and Vent Raise at Roberts Bay prior to remediation

Adit #2 at Roberts Bay post remediation (13 August 2009)

Former Camp Area prior to remediation

Former Camp Area post remediation

Mill Area prior to remediation

Mill Area post remediation

Garage/Machine Shop Area prior to remediation

Garage/Machine Shop Area post remediation

Petroleum Hydrocarbon remediation at the POL Area of Roberts Bay

Petroleum Hydrocarbon remediation at the POL Area of Roberts Bay

Tailings Containment Area prior to remediation

Placement of final cover on Solid Waste Disposal Facility (at the former tailings containment area) – post remediation