



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: Cape Christian Remediation Project: 2009 Annual Report for
Water Licence No: 1BR-LOR0813**

Please find attached the 2009 Annual report for the Water licence No: 1BR-LOR0813 issued for the remediation of the Cape Christian LORAN Site, Baffin Region, Nunavut.

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

NWB Annual Report

Year being reported: 2009 ▼

License No: 1BR-LOR0813 Issued Date: April 30, 2008
Expiry Date: May 1, 2013

Project Name: Cape Christian 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):

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General Background Information on the Project (*optional):

The Cape Christian site is located near the mouth of the River Clyde, on the northeast coast of Baffin Island, Nunavut, at approximately 16 km northeast of the Hamlet of Clyde River.

The United States Coast Guard operated a Long Range Navigation (LORAN) communications station at the site from 1954 to 1974 when the site was abandoned leaving several contaminants and buildings/infrastructures in disrepair at the site.

The remediation (field works) of the Cape Christian site 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 accordance 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): An unnamed River adjacent to the Cape Christian to Clyde River Road

Water Quantity:	15/day	Quantity Allowable Domestic (cu.m)
	6.2/day (max)	Actual Quantity Used Domestic (cu.m)
		Quantity Allowable Drilling (cu.m)
		Total Quantity Used Drilling (cu.m)

Waste Management and/or Disposal

- ☒ Solid Waste Disposal
☒ Sewage
☐ Drill Waste
☒ Greywater
☒ Hazardous
☐ Other:

Additional Details:

Soild waste from the Camp was incinerated and the ash residue was stored in large, covered metal receptacles to be disposed off in the Non-Hazardous Waste Landfill. Sewage and Greywater was stored in the sewage lagoon. 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.: (as reported to the Spill Hot-line)

Date of Spill: July 13, 2009

Date of Notification to an Inspector: July 13, 2009

Additional Details: (impacts to water, mitigation measures, short/long term monitoring, etc)

Spill Report Form and Spill clean up report included as Appendix 2

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, materials and supplies to site.
- ☐ Demolition of all deteriorating site buildings;
- ☐ Construction and operation of non-hazardous waste landfill (NHWL);
- ☐ Construction and operation of on-site landfarm;
- ☐ Collection and disposal of the site and demolition debris in the NHWL;
- ☐ Excavation of all PHC contaminated soil and treatment in the landfarm;
- ☐ Excavation and packaging of all contaminated soils impacted by metals and PC;
- ☐ Collection and packaging of all hazardous materials;
- ☐ Removal of all PCB materials from site for disposal in facilities down south, so the site do not need to be registered as a PCB storage site;
- ☐ Excavation of barrels at 3 worked areas (#s 1, 3, 4), venting of the barrels, crushing and disposal in the NHWL;
- ☐ Excavation of barrels at worked area # 6. This worked area contained a second layer of barrels that are well into the active layer of the permafrost with their contents solidly frozen, so the barrels could not be vented and crushed until the contents thaw. The barrels were excavated, made to stand upright with a containment berm built around them, to contain barrel contents, waiting for 2010 summer when the contents will thaw and the barrels' content could be removed and the barrel will be crushed and disposed off in the landfill.

FUTURE WORK PROPOSED

- ☐ Continuing operation of the on-site NHWL (placement of further wastes from the site and crushed barrels from the worked areas);
- ☐ Excavation of buried barrels from worked areas 2, 5, 7 and 8, venting, crushing and disposal in the landfill of all barrels, including those at worked area # 6;
- ☐ Completion of the collection of site debris and remaining equipment at the equipment yard and disposal in the NHWL;
- ☐ Continuing operation of the landfarm facility to treat the PHC contaminated soils – the soil, after it has been confirmed to meet the remediation criteria, will be used for backfilling dug-out areas;
- ☐ Decommissioning of the existing water reservoir;
- ☐ Hazardous waste transport and disposal – transport and disposal of packaged hazardous wastes and contaminated soils;
- ☐ Re-grading;
- ☐ Camp and facilities (e.g. sewage lagoon etc) decommissioning;
- ☐ Closure of the on-site NHWL;
- ☐ Project closure inspection / close-out meeting.
- ☐ Demobilization from the site.

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

Some 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

[illegible]

GPS Locations of areas of waste disposal

[illegible]

Appendix 1

Water and Wastewater Tracking / Camp Wastes Management

Water Usage

The source of water at the on-site camp is an unnamed river adjacent to the Cape Christian to Clyde River road. Water use was metered continuously from camp opening on July 4, 2009 to camp close on October 2, 2009. As per the Water Licence, the maximum daily water use rate is 15 m³ per day.

Based on daily information provided to, the following table summarizes the water usage during the 2009 remediation season:

Months	July (July 5 -31)	August (August 1 - 31)	September (September 1 - 30)	October (October 1 - 2)
Meter Reading - end of month (m³)	154	345	530	537
Monthly Water Usage (m³)	154	191	185	7
Daily Water Usage (m³)	5.7	6.2	6.2	3.5

Water use was less than the permitted amount at all times in the 2009 season.

Wastewater/Sewage Generated

Sewage generation was not metered; however, as there was no consumptive use of water, the monthly and total volume of sewage generated is assumed to be equal to the water usage.

A single cell sewage lagoon with an approximate capacity of 1,200 m³ was constructed in July of 2009. Sewage decants are planned for the 2010 remediation season; there were no decants in 2009. Based on the water usage and the design capacity of the lagoon, the facility is approximately half full.

Solid Waste Generated

Sorted camp solid waste was incinerated during the 2009 remediation season, and domestic wastes will be incinerated in 2010 as well. To-date, the ash residue is stored in large, covered metal receptacles (flower-posts). The ash will be disposed of in the on-site non-hazardous waste landfill.

APPENDIX 2

Spill Report Form and Spill Initial Clean up Report

Spill Contingency Report

Information of Incident

Section A

7/13/2009 14:00

Date of Incident

Time

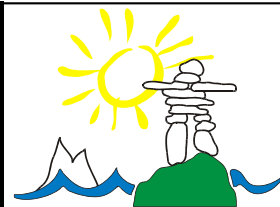
Cape Christian

Location

68° 17' 55,40" W

70° 31' 35,75" N

Coordinates:



Check the Direction of Spill Movement:

(State the bearing if possible)

N ☐ NW ☒ W ☐ SW ☐ S ☐ SE ☐ E ☐ NE ☐

Bearing: Unknown

Rate of Movement: Contained

Qikiqtaaluk Logistics Inc.

Party Responsible for Spill

Old diesel fuel

Type of Substance that Spilled

80 liters

Estimated Quantity of Substance

Specific Cause of Incident

Section B

Please state the causes of the incident above in the following space provided

While decommissioning old fuel tanks, one of them was dropped on the old fuel line that used to bring fuel from the tanks to the former abandoned station building. The fuel line fell down from its supports and some of the remaining fuel in the line spilled on the ground, by gravity.

Status of Incident

Section C

30 m²

Approximate surface area of contamination

Containment Actions Taken:

- ☐ Occurred Naturally
☒ Booms used
☒ Dyke used
☐ No containment implemented
☒ Other (specify)
Absorbent pads

List any factors affecting the spill such as: wind, temperature, etc.

Since the fuel tanks were built on a leveled pad (higher than the natural terrain), the fuel spilled followed the slopes around the pad.

Spills should be immediately reported using the 24 Hour Spill Report Line

Phone: (867) 920-8130

Fax: (867) 873-6924

Action Proposed to Clean, Contain or Dispose of Spilled Substance**Section D**

Since many supervisors were watching the work and spill kits were on site, dykes were quickly built to contain the fuel. Booms and absorbent pads were also deployed. About 70 liters were recovered with buckets and contained in an overpack drum. Since the excavator was on site for the decommissioning of the tanks, 10 cm of soils were excavated all over the contaminated surface (about 3 cubic meters). The soils are temporarily stockpiled and will be placed on the site landfarm when it will be ready.

Hazards of Spill**Section E**

- ☐ Flammable
☒ Combustible
☐ Health hazard (specify)

- ☐ Corrosive
☐ Explosive
☐ Radioactive
☐ Other (specify)

Information if Assistance is Required**Section F**

Organization

Qikiqtaaluk Logistics Inc.

Contact Person

Philippe Simon, Site Superintendant

Contact Number

(604) 759-0910 ext. 103

Hours of Operation:

7:00 to 21:00

Comments and Recommendations**Section G**

The spill was immediately addressed and cleaned.

Information on Person Making Report**Section H**

Jonathan Rémillard

Full Name

(604) 759-0910 ext. 102

Contact Number

Assistant Engineer

Position & Department

Qikiqtaaluk Environmental

Employer

Mr. Clinton

Submitted to

Reporter's Signature_____
Date

Spills should be immediately reported using the 24 Hour Spill Report Line

Phone: (867) 920-8130

Fax: (867) 873-6924

APPENDIX 3

Some Select Photos of before and after Remediation



Main Station Area (before
Remediation)



Main Station Area (after Remediation)



Main Station Area's Aboveground Storage Tanks (ASTs) (before Remediation)



Main Station Area's ASTs (after Decommissioning) – Tanks will be cut and disposed off in Landfill



Worked Area # 1 (before remediation)



Worked Area # 1 (after Remediation)



Debris Area # 6 (before/during remediation)



Debris Area # 6 (after remediation)