

## NWB Annual Report

Year being reported:

2014 ▼

License No: 1BR-RES0916

Issued Date:

June 10, 2009

Expiry Date:

June 1, 2016

Project Name:

Resolution Island Long Term Monitoring Project

Licensee:

Aboriginal Affairs and Northern Development Canada

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):

NA

## General Background Information on the Project (\*optional):

The Former BAF-5 (Resolution Island) Pole Vault Line Site is located 320 km southeast of Iqaluit at the mouth of Frobisher Bay, within the Qikiqtani Region, Nunavut (at general latitude of 61 deg. 35 sec N and general longitude 64 deg. 38 min. W). The facility was constructed in 1953 and abandoned in 1972 with over 20 buildings, eight dump sites and over 4,000 barrels left on site.

Remediation of this site was completed in 2005 and a long-term monitoring program was initiated. In 2013 and 2014 a maintenance assessment was completed at site to provide additional information to complete the design and specifications for additional remedial work at

**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):

Surface water samples from New Freshwater Lake and Old

Water Quantity:

5

Quantity Allowable Domestic (cu.m)

&lt;1

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:

No waste produced on-site for 2014

Additional Details:

Field work on-site in 2014 included surface water sampling from New Freshwater Lake and Old Freshwater Lake to assess water quality. Soil sampling was conducted at fuel storage areas and the Camp landfill, a non-hazardous waste landfill. An assessment of the Short Range Radar (SSR) Construction landfill was completed.

All work was carried out on a daily charter flight basis from Iqaluit.

An Environment Canada licenced temporary PCB storage facility is at site. In addition, Tier 1 and 2 level contaminated soils are stockpiled for later removal and off-site disposal.

A temporary PCB storage facility registered with Environment Canada is maintained on-site.

The Resolution Island Supplementary Maintenance Assessment Report is appended to this report outlining activities conducted in 2014 at this site.

#### 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:

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:

Spill contingency plan will be maintained and updated only for relevant contact information as required.

#### Revisions to the Abandonment and Restoration Plan

No Abandonment and Restoration (AR) Plan submitted or approved ▼

Additional Details:

#### Progressive Reclamation Work Undertaken

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

Future work includes:  
- decommissioning of PCB barriers

- incineration of old fuel and decommissioning of fuel systems
- monitoring existing non-hazardous landfills
- further delineation and risk assessment of the identified contaminated soils
- removal of contaminated soils and stockpiled materials

Background:

From 1993 – 1996, environmental work at the site was detailed in a set of reports entitled “Environmental Study of a Military Installation at Resolution Island, BAF-5” by Environmental Sciences Group.

From 1997 onwards, work at the site was managed by the Qikiqtaaluk Corporation through a contribution agreement with INAC. Initial work included infrastructure improvements and included some remediation activities and training. From 2003-2005 remediation was conducted.

In 2005 approximately 12,000 m<sup>3</sup> of contaminated soil was placed within the Tier II landfill. Following placement of all Tier II and Tier I soil the landfill was sealed and capped. The Beach Dump, PCL Dump, Maintenance Dump and North Slope Dump were excavated, compacted and capped. Miscellaneous debris on site was collected and landfilled in the new non-hazardous landfills which were compacted and capped. All hazardous waste found on-site was packaged, according to the Transportation of Dangerous Goods Regulation and transported to a southern facility for disposal.

Remediation efforts were completed in 2006 with the demolition of the camp which was placed in the non-hazardous landfill nearby and compacted and capped. Demobilization from site occurred in September, leaving a Tier II landfill, two nonhazardous landfills, a remediated PHC landfarm, an experimental insitu landfarm, several regraded dump and borrow areas, and three Permeable Reactive Interceptor Barrier systems installed in the drainage pathways of the S1/S4 Valley, S1/S4 Beach and the Furniture Dump. A small camp to accommodate up to ten people to support the Long Term Monitoring (LTM) activities was also established.

In addition to the infrastructure described above, a number of original site buildings were left in place as they were either deemed to pose no risk to human or environmental health, or were left to support the LTM activities. Nine 32,000L and one 60,000L fuel storage tanks remain on site, these tanks contain a total of approximately 50,000L of product; they continue to be in used in support of LTM activities. However, current plans are to begin decommissioning these fuel systems.

Long-term monitoring activities have been conducted on site since 2005. Long-term monitoring conducted in 2012 identified a number of issues that required additional review. A Maintenance Survey was conducted in 2013 and 2014 to define the scope of the additional work required.

Future work will include continued monitoring of the performance and condition of existing landfills; decommissioning of fuel storage systems; further delineate contaminated soils; removal of residual contaminated soils; and removal, repair or replacement of existing PCB barrier systems.

**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:

Surface water samples were obtained from Freshwater Lake and Old Freshwater Lake to assess water quality.

**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:

**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**

Select ▼

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

**Any additional comments or information for the Board to consider**

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**Date Submitted:**  
**Submitted/Prepared by:**  
**Contact Information:**

June 26, 2015
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### GPS Coordinates for water sources utilized

Source Description	Latitude			Longitude		
	Deg °	Min '	Sec "	Deg °	Min '	Sec "
Monitoring Well (MW) 1A	61	35	48.11	64	38	39.75
MW 1B	61	35	48.37	64	38	36.92
MW 2	61	35	45.66	64	38	42.96
MW3A	61	35	43.93	64	38	48.18
MW3B	61	35	44.01	64	38	48.06
MW4	61	35	44.71	64	38	48.91
MW5A	61	35	43.47	64	38	50.54
MW5B	61	35	43.43	64	38	50.75
MW6	61	35	42.65	64	38	53.88
MW11	61	35	51.36	64	39	40.99
MW12	61	35	54.67	64	39	45.85
MW13	61	35	53.55	64	39	48.01
MW14	61	35	54.5	64	39	48.27
MW21	61	35	43.15	64	38	58.8
MW22	61	35	43.1	64	38	59.06
Old Water Lake	61	35	22.24	64	39	24.55

### GPS Locations of areas of waste disposal

Location Description (type)	Latitude			Longitude		
	Deg °	Min '	Sec "	Deg °	Min '	Sec "
Monitoring camp sewage lagoon	61	35	49.23	64	37	59.82
Temporary PCB Storage facility	61	34	57.38	64	38	52.53