

NWB Annual Report

Year being reported: 2009 ▼

License No: 1BR-RES0916

Issued Date: June 10, 2009

Expiry Date: June 1, 2016

Project Name: Resolution Island Remediation Project Long Term Monitoring

Licensee: Indian and Northern Affairs Canada - Contaminated Sites

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):

N/A

General Background Information on the Project (*optional):

The Former BAF-5 (Resolution Island) Pole Vault Line Site, located 320 km southeast of Iqaluit at the mouth of Frobisher Bay, within the Qikiqtani Region, Nunavut (at general latitude of 61°35'N and general longitude 64°38'W). The facility was constructed in 1953 and abandoned in 1972 with over 20 buildings, eight dump sites and over 4000 barrels left on site.

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):

Monitoring Wells only, no domestic water was used in 2009

Water Quantity:

5 per day

Quantity Allowable Domestic (cu.m)

None

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

☐ Solid Waste Disposal

☐ Sewage

☐ Drill Waste

☐ Greywater

☒ Hazardous

☒ Other:

Tier I and Tier II PCB contaminated soil

Additional Details:

Sediments trapped by the three Interceptor Barriers in the S1/S4 Valley, S1/S4 Beach, and Furniture Dump drainage pathways have been hand excavated and containerized during the monitoring activities. A temporary PCB Storage Facility was registered with Environment Canada on April 30, 2009 for storage of the four (4) steel salvage drums containing CEPA soil. Tier I and Tier II soils contained in salvage drums and waste wranglers are staged for off site disposal, currently scheduled for Aug or Sept of 2011. See Appendix 4 for Wrangler Specifications.

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

Other: (see additional details) ▼

Additional Details:

An application for amendment to 1BR-RES0916 to permit the use of a small camp to facilitate the implementation of the Long Term Monitoring Plan will be submitted to the NWB in April of 2010. Included in this application will be an addendum to the approved Spill Contingency Plan (SCP) to reflect the current conditions and activities at the site. In addition to the SCP addendum, a revised version or an addendum to the Long Term Monitoring Plan for Resolution Island will be submitted to the NWB to address comments received from Environment Canada in a letter dated February 5, 2009 and clarifications requested by NWB in a letter dated January 8, 2009.

Revisions to the Abandonment and Restoration Plan

AR plan submitted and approved - no revision required or proposed ▼

Additional Details:

Progressive Reclamation Work Undertaken

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

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

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 took place as per the approved "Resolution Island Project Description and New Remediation Plan Revision 1 March, 2003".

In 2005 approximately 12,000 m³ 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. All the physical debris on site was collected and landfilled in the new non-hazardous landfills which are now 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, three non-hazardous 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. See Appendix 3 for end of season 2006 final construction as-built drawings. (NB: note that the image resolution on the stamped drawings is not as high as the same drawings (without stamp) provided in the electronic submission.) Qikiqtaaluk Corp. (QC) also renovated the old training center into a small camp to accommodate up to ten people to support the Long Term Monitoring (LTM) activities.

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. Fuel from the beach storage tank system was used by the helicopter contracted to move containers of contaminated soils collected in the barrier sediment traps in 2007 and again in 2009. These tanks have secondary containment and are registered with Environment Canada; yearly inspection of their condition is conducted as part of the LTM activities.

LTM of the site began in 2006 and was funded through a contribution agreement with the Analytical Services Unit at Queen's University. During LTM in 2007 and 2008 a total of approximately 10 cu. m of Tier I and Tier II PCB contaminated sediment was trapped by the Interceptor Barriers (See Appendix 1 Table 37 and Figure 15), this sediment was containerized in salvage drums and waste wranglers (See Appendix 4 for container specifications) during LTM of those years. The sediment trapped by the Furniture Dump barrier in 2008 was removed and containerized in steel salvage drums as in past years; it was sampled and found to contain PCBs at concentrations greater than 50ppm, triggering action to meet CEPA regulations. During the 2009 LTM activities, these CEPA salvage drums were moved from their position near the barrier and were placed in a newly established Registered temporary PCB storage facility located within the B2 building, near the

registered temporary PCB storage facility located within the B2 building, near the barging area of Brewer's Bay to await removal by sealift, this work was accomplished with the use of a Bell 212 helicopter.

In addition to the drums of CEPA sediment; all the drums and waste wranglers of Tier I and Tier II sediments collected from the Interceptor Barriers were repositioned by the helicopter to the vicinity of the B2 building, and staged for off site transport and disposal. Given the high cost for a sealift to remove this CEPA and Tier I/II sediment from Resolution Island, the decision was made, in keeping with Environment Canada regulations, to leave these containers in place until after results of 2010 LTM and the Five Year Summary Report are received by the department. It is anticipated that another year of monitoring data will indicate any trends in the accumulation of PCB contaminated sediment in the three barriers, and inform optimal timing for their removal by sealift.

Proposed work at the site for the 2010 field season includes renovation of the Monitoring Camp facility that QC established to bring it back into habitable condition or, if due to mold problems this is not possible, establishing a small camp in the old cold storage building remaining on site.

Since 1BR-RES0916 does not have provision for the use of a camp, an application for amendment to the licence and a completed Camp Questionnaire will be submitted to the NWB for approval.

This will be the 5th year of LTM at the site and all of the monitoring activities that have been conducted previously, including visual, thermal and chemical analyses of the site infrastructure will be completed and a Five Year Summary Report of the LTM will be produced and distributed for review. This report will provide guidance for LTM scheduling and scope for the next phase of the monitoring at 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:

Details are in the GPS Coordinates table provided with this form.

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:

Details are in the GPS Coordinates table provided with this form.

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

Select ▼

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

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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)

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

Inspection Report received by the Licensee (Date): ▼

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

Site was inspected by INAC Lands Officer on Sept. 5, 2009. An inspection report was received by the licensee on November 16, 2009. The report is attached in Appendix 5.

Any additional comments or information for the Board to consider

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Date Submitted:

March 26, 2010

Submitted/Prepared by:

Natalie Plato

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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
MW 3A	61	35	43.93	64	38	48.18
MW 3B	61	35	44.01	64	38	48.06
MW 4	61	35	44.71	64	38	48.91
MW 5A	61	35	43.47	64	38	50.54
MW 5B	61	35	43.43	64	38	50.75
MW 6	61	35	42.65	64	38	53.88
MW 11	61	35	51.36	64	39	40.99
MW 12	61	35	54.67	64	39	45.85
MW 13	61	35	53.55	64	39	48.01
MW 14	61	35	54.5	64	39	48.27
MW 21	61	35	43.15	64	38	58.8
MW 22	61	35	43.1	64	38	59.06
Non-Potable Water Source*	61	35	22.24	64	39	24.55

* No non-potable water utilized from the non-potable water source in 2009

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
B2 Building Temporary PCB Storage Facility	61	34	57.38	64	38	52.53

** No waste water was deposited in 2009