

**NWB Annual Report**
**Year being reported:** 2006 ▼

**License No:** 1BR-SAR0607 **Issued Date:** July 14, 2006  
**Expiry Date:** December 31, 2007

**Project Name:** CAM-F Sarcpa Lake Remediation Project

**Licensee:** Indian and Northern Affairs 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):**
**General Background Information on the Project (\*optional):**

The CAM-F Intermediate Distant Early Warning (DEW) Line Site was constructed in 1957 and subsequently abandoned in 1963. It was converted to a scientific research station in 1977 under the Science Institute of the Northwest Territories and Canada, Department of Indian and Northern Affairs and operated seasonally until 1988. The site is located on the Melville Peninsula, approximately 85 km west of Hall Beach, and 100 km south-west of Igloolik, Nunavut.

Year one of the planned two year remediation phase of the CAM-F Sarcpa Lake Remediation Project has been completed. The current plan will result in the completion of the remediation phase of the CAM-F project in 2007. This will be followed by the shipping of hazardous wastes and demobilization from the site.

**Licence Requirements: the licensee must provide the following information in accordance with**

Part B ▼ Item 2 ▼

**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):	Water Body Near Airstrip	
	Water Body North West of Secure Soil Disposal Facility Sarcpa Lake	
Water Quantity:	1,500/year	Quantity Allowable Domestic (cu.m)
	639.218/year	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 landfilled in the Non-Hazardous Waste Landfill. Sewage and Greywater was treated with the Biogreen treatment unit and transferred into a temporary sewage lagoon for testing. The analytical test results for this wastewater did not meet the Wastewater Discharge Criteria and it was not discharged. At the end of the field season the wastewater in the lagoon was treated with chlorine and alum, the wastewater will be tested to see if it meets the Wastewater Discharge Criteria at the beginning of the 2007 field season. Wastewater from the processing of barrels was directed to storage ponds where it was treated, sampled and discharged upon meeting the Wastewater Discharge Criteria (sample results are in Appendix 1). All Hazardous Wastes were properly packaged and stored; these will be shipped to a southern disposal facility at the end of the project.

**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 19, 2006

Date of Notification to an Inspector:

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

PCB Paint Chips in Garage Area. Demolition of metal cladding on garage, material not placed on or covered by plastic sheeting. Placed material onto sheeting and covered. Major chips collected; area to be excavated next season.

Spill No.:  (as reported to the Spill Hot-line)

Date of Spill: July 22, 2006

Date of Notification to an Inspector:

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

Approximately 20 litres of heating oil in the Warehouse. Dismantling of heating oil tanks. Excavated soil, put into quatrex bag.

Spill No.:  (as reported to the Spill Hot-line)

Date of Spill: July 31, 2006

Date of Notification to an Inspector:

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

Approximately 25 litres of used oil in Dump B. During removal of old barrels; barrel was rolled over and leaked. Soil was excavated and absorbent was placed on contaminated bedrock to soak up excess. Absorbent & soil put into quatrex bag.

Spill No.:  (as reported to the Spill Hot-line)

Date of Spill: August 2, 2006

Date of Notification to an Inspector:

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

Approximately 10 litres of hydraulic fluid in the Secure Landfill. Mechanical failure on excavator. Contaminated soil excavated and placed in quatrex bags.

Spill No.:  (as reported to the Spill Hot-line)

Date of Spill: August 9, 2006

Date of Notification to an Inspector:

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

Approximately 500 litres of sewage from the Biogreen unit. Reversed polarity caused reverse flow. Berm placed to stop spread; sewage sucked up using vacuum truck and put into lagoon. 300 mm of clean soil placed over spill area.

Spill No.:  (as reported to the Spill Hot-line)

Date of Spill: August 10, 2006

Date of Notification to an Inspector:

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

Approximately 10 litres of hydraulic fluid in Borrow Area #1. Vibration loosened the hydraulic fitting on the excavator. Used absorbent to recover product, no soil impacted, fluid collected in pail.

Spill No.:  (as reported to the Spill Hot-line)

Date of Spill: August 16, 2006

Date of Notification to an Inspector:

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

Approximately 50 litres of sewage from the Biogreen unit. Interruption in the electrical power caused flow return on the blower. Liquid was vacuumed up and placed in the lagoon. Clean soil was placed over the spill area.

Spill No.:  (as reported to the Spill Hot-line)

Date of Spill: August 17, 2006

Date of Notification to an Inspector:

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

Approximately 1 litre of hydraulic fluid in Borrow Area #1. Loose hydraulic fitting on excavator. Contaminated soil removed with shovel and fluid on excavator wiped up with absorbent pad. All contaminated products were placed into quatrex bag

Spill No.:  (as reported to the Spill Hot-line)

Date of Spill: August 19, 2006

Date of Notification to an Inspector:

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

Approximately 10 litres of hydraulic fluid in Secure Landfill. Hydraulic hose broke. Soil excavated and put into quatrex bag.

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)

Approximately 15 litres of Diesel in the Fuel Storage Area. Improper use of equipment  
Contaminated soil was excavated and put into quatrex bags.

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)

Approximately 50 litres of sewage from the Biogreen unit. Equipment malfunctioned,  
created vacuum and exited the system. Liquid vacuumed up and placed in lagoon,  
clean soil placed over spill area.

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)

Approximately 2 litres of hydraulic fluid in the Secure Landfill. Rock hit a hydraulic  
fitting on the compactor. Product recovered with absorbent pads, put into quatrex  
bags.

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)

Approximately 3 litres of hydraulic fluid in the Secure Landfill. Rock hit a hydraulic  
fitting on the compactor. Product recovered with absorbent pads, put into quatrex  
bags.

### Revisions to the Spill Contingency Plan

SCP submitted and approved - no revision required or proposed



Additional Details:

### 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)

### WORK COMPLETED

- Camp set up
  - Initial levelling
  - Access road improvement
  - Generator set up
  - Camp module installation
  - Waste water lagoon construction
  - Fuel storage facility construction
  - Communication system set up
  - Incinerator set up
- Debris removal and disposal
  - Assessment of debris
  - Collection and disposal of non-hazardous debris
  - Consolidation of liquids in drums, equipment & tanks
  - Cleaning of contaminated debris
  - Treatment of contaminated water from cleaning
  - Debris assessment and removal in and around Sarcpa Lake using a barge and tugboat
- Demolition work
  - Asbestos removal
  - PCB contaminated concrete removal & containerization
  - PCB amended painted material removal & containerization
  - Structural demolition
- Construction of disposal facilities and waste processing area
  - Initial survey & facility location
  - Borrow area development
  - Key trench excavation
  - Granular material production placement and compaction
  - Construction of water lagoon and lined processing area

### FUTURE WORK PROPOSED

- Community meetings
  - Hall Beach & Igloolik
- Mobilization
  - Reopening of camp
  - Camp re-supply
  - Worker orientation
- Field activities
  - Equipment maintenance & repair
  - Granular fill production
  - Secure soil landfill construction/operation/closure
  - Non-hazardous waste landfill construction/operation/closure
  - Debris collection and disposal
  - Operation of waste processing area
  - Contaminated soil excavation
  - Demolition
  - Reshaping
- Demobilization
  - Camp closure
  - Worker 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 page 8

**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 page 8

**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**

No additional contaminated soil or hazardous materials were encountered during the 2006 field season. Additional debris was located in and around Sarcpa Lake; approximately 26% of it was collected and placed into the Non-Hazardous Waste Landfill. The remaining debris will be collected and disposed of during the 2007 field season. Further information on the additional debris is provided in Appendix 2. Photographs of the Non-Hazardous Waste Landfill and the Secure Soil Disposal Facility can be found in Appendix 3.

**Date Submitted:**

March 26, 2007

**Submitted/Prepared by:**

Lou Spagnuolo

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### GPS Coordinates for water sources utilized

Source Description	Latitude			Longitude		
	° Deg	, Min	, Sec	° Deg	, Min	, Sec
Water Body Near Airstrip	68	33	0	83	19	19
Water Body Northwest of Secure Soil Disposal Facility	68	32	53	83	18	37
Sarcpa Lake	68	31	59	83	15	50

### GPS Locations of areas of waste disposal

Location Description (type)	Latitude			Longitude		
	° Deg	, Min	, Sec	° Deg	, Min	, Sec
Non-Hazardous Landfill	68	33	6	83	18	50
Temporary Sewage Lagoon	68	32	57	83	19	0
Waste water discharge point (drum processing)	68	33	5	83	18	52



## APPENDIX 1: BARREL PROCESSING WATER SAMPLE RESULTS

DISCHARGE EVENT	#1	#2	#3	#4
AREA DISCHARGED	Pond #1	Pond #2	Pond #3	Pond #1
DATE	12-Aug	05-Sep	05-Sep	12-Sep
DISCHARGE CRITERIA	Analytical Results		Analytical Results	
pH (6 to 9)	7.7	7.7	7.8	7
Oil and Grease – 5000ug/L	900	ND	2400	ND
Arsenic (total) – 100ug/L	3	14	ND	54
Cadmium (dissolved) – 10ug/L	ND	ND	ND	ND
Chromium (dissolved) – 100ug/L	ND	ND	ND	ND
Cobalt (dissolved) – 50ug/L	ND	ND	ND	ND
Copper (dissolved) – 200ug/L	ND	4	2	ND
Lead (dissolved) – 50ug/L	2.3	6.7	0.9	ND
Mercury (total) – 0.6ug/L	ND	ND	ND	ND
Nickel (dissolved) – 200ug/L	ND	2	ND	ND
PCB (total) – 1000ug/L	ND	0.07	ND	ND
Phenols – 20ug/L	0.003	5	3	3
Zinc (total) – 500ug/L	5	20	9	6

## APPENDIX 2: INVENTORY OF DEBRIS AROUND SARCPA

LOCATION WP #	# OF BARRELS ON/IN		COLLECTION COMPLETE	COMMENTS
	SHORE	WATER		
100				Camp
101				Dock
102	5		x	Located on shore of bay
103		1	x	Broken barrel in water 10m from shore
104	3		x	On peninsula
105		2	x	2 to 3 pieces at bottom - rusted and disintegrating
106		1	x	Barrel ends
107		1	x	Barrel ends
108	11	1	x	Barrel ends in water barrels on shore in 3 areas
109		1	x	Barrel ends
110		1	x	Barrel on side
111	4		x	On hillside
112	1		x	Motor and barrel on shore
113	3	1	x	Barrel rim in water + 3 barrels on shore
114	1		x	North of this WP board still to be picked up
115	1		x	
116	1		x	
117	1		x	Before waterfall on rock bluff
118	1		x	Located past waterfall
119	2		x	On shore near rapids 20m East of the point
120	8		x	
121	56			Barrels between WP 121 & WP 133 need to be removed
122		1	x	Barrel rim
123	4	1	x	
124	4	1	x	1 rim in water, 2 half barrels and 3 full barrels on shore
125	4		x	1 blue plastic barrel at end of bay and 3 on shoreline
126	1		x	
127	5		x	
128	2		x	
129	5		x	spread out on shoreline
130	18		x	
131	7		x	
Island 1	19		x	Island across from Borrow Area 6
Island 2	2	1	x	Island adjacent to island across from Borrow Area 6
132	1			collection to be confirmed
133	20			end point of WP 121
End of Lake	14	1	x	At far south end of lake
134		1		Half barrel in water
135				Pieces of barrel in water 1.5m from shore
136	3			
137	20		x	lots of wood pieces along with 20 barrels all over island

138	1		x	
139	2		x	
140	5		x	FULL barrels on shore in bay
141	1		x	
142	1			island
143	2			
144	1			in the small bay
145	1			
146	1			
147	1			
148	2			
149	9			very rocky and shallow no barge access in this area
150	5			very rocky and shallow no barge access in this area
151	8			very rocky and shallow no barge access in this area
152	1			
153	1			
154	1			
155	2			
156	5			
157	1			
158	2			
159	1			
160	5			
161	1			
162	53			Borrow area 7
163	9			Borrow area 7
164	8			Borrow area 7
165	32			Borrow area 7
166	27			Borrow area 7
167	13			Borrow area 7
168	8			Borrow area 7
169	46			Borrow area 7
170				3 pieces of debris - Borrow Area 7
171				2 pieces of debris - Borrow Area 7
172	1			
173	15			15 on shore+ 1 half barrel
174				1 barrel ring on shore
175	1			
176	1			
177	0.5			half barrel on shore
178	2			
179	1			
180	3			
181	2			
182	1			

183	1			
184	1			
185	1			
186	1			
187	4			3 large barrels + one small barrel
188	1			
189	11			
190				End of Inventory
191	1			
192	5			Cab of dozer in water - Borrow Area 3
193	1			
194	80			
195	8			shore line south of WP 121
196	4			
197	2			
<b>TOTALS</b>	<b>631.5</b>	<b>15</b>	<b>646.5</b>	





### **APPENDIX 3: PHOTOGRAPHS**

As built drawings are not being submitted because the Non-Hazardous Waste Landfill and Secure Soil Disposal Facility are not completed. Please see the pictures below:



**Non-Hazardous Waste Landfill**



**Secure Soil Disposal Facility**