



## WATER USE INSPECTION REPORT FORM

Date: August 2,2013	Licensee Rep. (Name/Title): Kim Kalen, National Defence, Barb Thompson, Nasittuq, Lindey Clements, Nasittuq and Simon Landry, Nasittuq
Licensee: National Defence	Licence No: 3BC-SHE0919– Sheperds Bay Cam-3

**Comments:** The Inspector would like to thank Mr. Kalen, Ms. Thompson and Mr. Lindsey Clements for taking the time to facilitate and assist with the Inspection of these facilities. The last inspection of this site and facilities was completed on August 10, 2010. The CAM-3 North Warning System Long Range Radar Station is located within the Kitikmeot Region, Nunavut at latitude 68°48' 38" N; longitude 93°26' 01" W.

The site was constructed in the 1950's as part of the DEW Line, which provided radar surveillance of the northern approaches to North America. In March 1985, Canada and the United States agreed to close the DEW line sites by the early 1990's, and build the North Warning System (NWS). On August 31, 1995 the site changed from manned to unmanned status but is maintained on a quarterly basis or as needed. The site is occupied occasionally between the months of May and September to conduct projects.

Between 2001 and 2008 the site had remediation activities undertaken by Defence Construction Canada (DCC) under the authority of Water Licenses NWB5SHE0510. The site and landfills associated with the clean up continues to be monitored by DCC under the authority of 1BR-SHE1016 issued by the Nunavut Water Board (NWB).

The current 10 year license has been issued by the NWB to allow for the use of water and disposal of waste during operation and maintenance of the Shepherds Bay Long Range Radar Station. This site is maintained and habituated on a quarterly basis throughout the year. Water is drawn from an adjacent water source lake (Water Supply Lake) into tanks within the facility. The NWB has set the maximum Water usage (draw from the source) to the Facility at 1,440 Cubic meters annually. Both Sewage and Greywater are disposed of through the Sewage Disposal Facility. All Effluent from the Sewage Disposal Facility is pumped to a Sump located at a distance of at least thirty one (31) meters above the ordinary high water mark of any water body, at a site where direct flow into a water body is not possible. Non-hazardous solid waste is hauled off site and returned to be disposed of at the Cambridge Bay landfill while Hazardous waste is backhauled outside of Nunavut. These records are kept and provided in the required annual report and to the Inspector during regular inspections of the facilities.

### WATER SUPPLY

Source(s): Water Supply Lake	Quantity used: 32773 L
Owner:/Operator: NWS	Pump truck from Lake to Accommodation Train

Indicate: A - Acceptable U - Unacceptable NA - Not Applicable NI - Not Inspected

Intake Facilities: A	Storage Structure: A	Treatment Systems: A	Chemical Storage: NA
Flow Meas. Device: A	Conveyance Lines: NI	Pumping Stations: A	Screen : NI

**Comments:** Water from the lake is hauled via vacuum truck from the lake and pumped directly to a holding tank in the accommodation train. Water is metered as it is sent to treatment which consist of a series of four filters (10, 5 and .1 micron) and UV treatment before being sent on for use in the buildings. It was noted that all filters had been replaced and tags were signed off in July of 2013. The meter was working during the period of Inspection. This system is a similar to the unit used in Cape Dyer at the Dye Main facility.

Water testing within the facility remains unchanged. Tests are conducted monthly and results were available for review during the Inspection.



The Licensee is highly encouraged to install signage on Potable water and Waste Water Tanks in the facilities that reflect important dates and information such as inspections and cleaning as well as to aid in tank identification during the inspection process.

WASTE DISPOSAL

Sewage: Discharge to constructed lagoon (sump)                      Treatment :( Prim./Sec./Ter.) Primary

Natural Water Body: NA	Continuous Discharge (land or water): Land	
Seasonal Discharge: NA	Wetlands Treatment: None	Trench: None

Indicate:    A - Acceptable    U - Unacceptable    NA - Not Applicable    NI - Not Inspected

Discharge Quality: NI	Decant Structure: NA	Erosion: NA
Discharge Meas. Device: NA	Dyke Inspection: NA	Seepages: NA
Dams, Dykes: NA	Freeboard: NA	Spills:
Construction: NA	O&M Plan: Provided A	A&R Plan: As filed
Periods of Discharge: Con.	Effluent Discharge Rate: Unknown	

Comments:    Effluent from the accommodation train is discharged to a small lagoon constructed in 2009 in compliance with a Direction issued by the Inspector.    These lagoons were found in good repair.

Solid Waste: Wastes are hauled to the Municipality of Cambridge Bay for disposal.

Owner/Operator: Municipality of Cambridge Bay

Landfill: None	Burn & Landfill: None	Other: Haz-Mat marshalling area
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Comments: Waste is collected on site, bagged and then shipped out via aircraft to Cambridge Bay where it is transported to the Cambridge Bay Solid Waste Management Area. Hazardous wastes are logged and packaged for retrograde south to a Facility licensed to treat this waste. Logs and records from 2012 were available for review during the Inspection of the facility.

Storage of hazardous materials on site requires sufficient spill containment and clean up materials including some form of neutralizing agent for Battery Acid (H<sub>2</sub>SO<sub>4</sub>) – including SODIUM BICARBONATE, SODA ASH, LIME.    Keeping batteries sequestered from any form of oxidizer is also highly recommended.

Waste Oil Storage: Found on site awaiting transport south to a licensed facility.

FUEL STORAGE: On-site storage of fuels, all tanks inspected no issues noted.

Owner/Operator: North Warning System (Department of National Defence)

Indicate:    A - Acceptable    U - Unacceptable    NA - Not Applicable    NI - Not Inspected

Berms & Liners: A	Water within Berms: A	Evidence of Leaks: None
Drainage Pipes: A	Pump Station & Catchments Berm: A	
Pipeline Condition: NI	Condition of Tanks: NI	

Comments:

No water was found within the Fuel Storage berms at the Camp Tank farm. The tanks were noted as being locked out. All was found in order. The Beach tanks were not inspected during this inspection due to time limitations and weather. Photos of the Beach tanks were to be forwarded to the Inspector.

The use of Drip-trays at the fuel distribution points was noted during the inspection. Secondary containment is highly encouraged wherever fuel is stored or transferred to prevent accidental releases. This is also a requirement of the water license Part G item 4 and is to be addressed before the period of the next inspection.

Inspections conducted at all of the of fuel containment areas did not find notable issues.



Spill Files/ Reports Inspected and can be closed:

2010427	2010-10-22	BAF**	Sheperd Bay, CAM-3	Glycol	50 L	Nasittuq Corporation
2012095	2012-03-27	BAF**	NWS Site - LRR CAM-3, Shepherd Bay	50% Glycol Solution	200 L	Nasittuq Corporation

\*\* It was to be noted that the above two spills were misfiled in the Hazardous materials database as occurring in the Baffin Region. .

Spill files: On-going: None.

SURVEILLANCE NETWORK PROGRAM (SNP)

Samples Collected		Owner /Operator:	
1		INAC: Raw water source lake was sampled.	
Signs Posted	SNP: (potable source)	Warning: Noted on site	
Records & Reporting: Records were available as required.			
Geotechnical Inspection: N/A			

Non-Compliance of Act or Licence:

No obvious or serious issues of Non-compliance were noted during the period of Inspection. The Licensee is reminded that secondary containment, signage and segregation of hazardous materials are all constituent elements of the Water License. Diligence in the application of all aspects of the license is required to maintain compliance.

It is the recommendation that baring an incident that requires the attendance of the inspector at a date sooner, that a further inspection be done within 4 years at this facility.

Andrew Keim

Inspector's Name

Sent by E-mail (Original signed and on file)

Inspector's Signature

Cc:

Erik Allain - Manager Field Operations, AANDC  
Phyllis Beaulieu – Manager Licensing- Nunavut Water Board



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