



WATER LICENCE INSPECTION FORM

☒ Original

☐ Follow-Up Report

Licensee	Licensee Representative
Hamlet of Sanikiluaq	Bhabesh Roy
Licence No. / Expiry	Representative's Title
3BM-SAN1520	Municipal Engineer & Senior Administrative Officer
Land / Other Authorizations	Land / Other Authorizations
Date of Inspection	Inspector
September 11, 2018	Joseph Monteith
Activities Inspected	
<div><input type="checkbox"/> Camp<input type="checkbox"/> Drilling<input type="checkbox"/> Mining<input type="checkbox"/> Construction<input type="checkbox"/> Reclamation<input type="checkbox"/> Fuel Storage</div> <div><input type="checkbox"/> Roads/Hauling<input checked="" type="checkbox"/> Other: Water Treatment Facility, Solid Waste Facility, and Waste Water Treatment Facility<input type="checkbox"/> Other:</div>	

Conditions:	A- Acceptable	U-Unacceptable	C-Concern	NI-Not Inspected	NA- Not applicable
PART:				Condition	Observation No.*
A: SCOPE, DEFINITIONS AND ENFORCEMENT				A	
B: GENERAL CONDITIONS				C	
C: CONDITIONS APPLYING TO SECURITY				NI	
D: CONDITIONS APPLYING TO WATER USE				A	1-7
E: CONDITIONS APPLYING TO WASTE DISPOSAL AND MANAGEMENT				A	8-20
F: CONDITIONS APPLYING TO MODIFICATIONS				NA	
G: CONDITIONS APPLYING TO CONSTRUCTION				NA	
H: CONDITIONS APPLYING TO EMERGENCY RESPONSE AND CONTINGENCY PLANNING				A	
I: CONDITIONS APPLYING TO ABANDONMENT, RECLAMATION AND CLOSURE PLANNING				NA	
J: CONDITIONS APPLYING TO MONITORING				A	
SCHEDULES				A	
*The observation number corresponds with specific comments provided below.					
Samples taken by Inspector:		Location(s): Located at 56° 32' N latitude and 79° 14' W longitude			
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					

SECTION 1	<input checked="" type="checkbox"/> Comments (s. __)	<input type="checkbox"/> Non-Compliance with Act or Licence (s. __)	<input type="checkbox"/> Action Required (s. __)
BACKGROUND <p>The Hamlet of Sanikiluaq is located on the North end of Flaherty Island, a large central island of The Belcher Islands in Hudson Bay. Located at 56° 32' N latitude and 79° 14' W longitude, it is the southernmost community in Nunavut, about 150 kilometres off the west coast of Nunavik, Quebec, in the Baffin Region of Nunavut. It has an estimated population of 856 people (2014).</p> <p>Relevant infrastructure includes:</p> <ul style="list-style-type: none">- The Water Supply Facility which draws freshwater from Sanikiluaq Lake situated near the edge of the Community. Water is treated and then transferred to municipal trucks that distribute the Water to the Community;- The Sewage Disposal Facility which consists of a natural ditch (serving as Sewage Lagoon) located 2.9 km west of the Hamlet with an approximate capacity of 21,600 m3. The sewage effluent is discharged from the lagoon to a wetland and then it migrates to the marine environment; and- The Solid Waste Disposal Facility which includes a generic Landfill Area, a Bulky Metals Disposal Area, and a Hazardous Waste Storage Area. Inspector Statement <p>On September 11, 2018 a Water Licence was conducted on the Hamlet of Sanikiluaq, Qiqiktani Region, Nunavut, to verify compliance with the Water Licence 3BM-SAN1520.</p> General Condition <p>On July 12, 2018, Richard Dwyer, Nunavut Water Board, Manager of Licencing, sent an email to Water Resource Officer (WRO) Monteith with a PDF attachment for the Sanikiluaq Annual Report Technical Review. Satisfying Part B: Item 1 of the Water Licence. In the review, it was found that additional information is necessary to meet the following requirements of the licence.</p> Water Treatment Facility (See photo 1)			



1.

The Water Treatment Facility withdraws water from Sanikiluaq Lake as approved by the licence.
2.

Water Treatment plant contains:

•

Broken flow metre (Photo 2);

•

Four water filter housing units(Photo 3);

•

Three Chlorine mixing tub(Photo 4);

•

Sump Pit (Photo 5).
3.

Signs of water leak in filter housing #1 (Photo 6).
4.

Fencing requires maintenance as it appears to be in a state of disrepair (Photo 7).
5.

The withdrawal of water from Sanikiluaq Lake is being measured using meters installed on the water trucks. This method of measurement does not capture all water used from Sanikiluaq Lake by the Hamlet.
6.

Activities such as dust suppression, truck cleaning, and any discharges from the truck not used for portable water deliveries are not reported or recorded.
7.

The Licensee has identified Windy Lake as a potential secondary raw water source

Waste Water Treatment Facility (See photo 8)

8.

The non-engineered Sewage Lagoon operates by passive exfiltration and overflow of the berm wall. The waste when discharging from the lagoon passes through approximately 1km of marshland before depositing into the ocean.
9.

The intended design of the facility maintaining the 1.0 metre of freeboard does not appear to be feasible (See Photo 9).
10.

A Yellow Triangle Sign was observed at the far side of the Sewage Lagoon, indicating a monitoring site. The labelling of the monitoring site was not observed. But, was observed in previous inspection reports.
11.

The location where the trucks would discharge waste into the lagoon isn't in a fixed location. The trucks appear to be discharging at different locations at the Waste Water Truck Pad (Photos 10 and 11).
12.

Numerous amounts of wind blow garbage were observed at the sewage lagoon (Photos 12).

Solid Waste Facility (See photo 13)

13.

The majority of the Solid Waste Facility was segregated from each other in a fenced area into Bulk Metal, Burn and Cap, Bulk Woods, and tires. The Hazardous Waste section was outside of the fenced area.
14.

The fencing was in a state of disrepair (Photo 14 and 15).
15.

Gaps built into the fencing on the north side of the Solid Waste Facility allow for windblown garbage to exit the fenced area, and mixes with the leachate exiting the fenced area (Photo 16).
16.

Geese were observed in the leachate streams exiting through the gaps in the fence (Photo 16).
17.

The Burn and Cap area is a fenced structure with a fenced ceiling and a concrete foundation. The walls appear to be breaking apart (Photo 17).
18.

Hazardous Waste Section is exposed to the elements with no berm to limit any migration of leaks. Multiple pools of water surround the Hazardous Waste Area (See photo 18). Contrary to Part D: Item 10, and Part D: Item 9.
19.

Multiple signs of leaks and spills that appear to be migrating down slope (Photo 19 and 20).
20.

There were numerous observations of hazardous waste such as batteries, and waste oil drums throughout the Bulk Metal section (Photo 21, 22, and 23).

Water Consumption Reports

On October 25, 2018, William Toonoo, Municipal Technical Clerk, GN-CGS, emailed WRO Monteith a copy of the Hamlet of Sanikiluaq Water Consumption from January to June, 2018 and showed a total consumption of 31174.73 m³. The Hamlet is authorized for 40,000 m³ per annum. The tread shows they might be exceeding their authorized amount, but are currently below (Photo 24).

SECTION 2	<input type="checkbox"/> Comments	<input type="checkbox"/> Non-Compliance with Act or Licence	<input checked="" type="checkbox"/> Action Required
<p>The following information is a summary of the Actions Required by the licensee to promote and ensure compliance. Please provide a response to the following Actions Required within 30 days of receiving this report proposing timelines to address the concerns noted:</p> <div><div>•</div><div>It is recommended that a flow meter be installed at the water intake to ensure compliance with Part B Item 1(b) of the Water Licence</div></div> <div><div>•</div><div>The Licensee is under conditions from the water licence to allow at least 1.0 metre of freeboard</div></div> <div><div>•</div><div>Maintain the fencing surrounding the Solid Waste Facility and the Water Treatment Facility as per Part C: Item 4, and Part D: Item 5.</div></div> <div><div>•</div><div>Contain all leachate exiting the Solid Waste Facility</div></div> <div><div>•</div><div>Consolidate all hazardous Waste in the Solid Waste Disposal Facility, and deposit into the Hazardous Waste Section</div></div>			
SECTION 3	<input type="checkbox"/> Comments	<input checked="" type="checkbox"/> Non-Compliance with Act or Licence	<input type="checkbox"/> Action Required

Due to the body of water within the Solid Waste Disposal Facility, and its migration outside of the fenced area, please review Part D: Item 10 of the Water Licence.


Part D: Item 10

- The licensee shall implement measures to ensure Hazardous Waste and or leachate from the Solid Waste Disposal Facility does not enter Water.

Due to the Hazardous Waste within the Bulk Metal Storage area, please review below Part D: Item 9.

Part D: Item 9

- The Licensee shall segregate and store all hazardous materials and/or Hazardous Waste within the Solid Waste Disposal Facility in such a manner as to prevent the deposit of deleterious substances into any Water, until such a time that the materials have been removed for proper disposal at an approved facility.

Licensee or Representative	Inspector's Name
Bhabesh Roy	Joseph Monteith
Signature	Signature
	
Date	Date
	November 27, 2018

CC: Licensing Department, NWB
Justin Hack, Manager of Field Operations, CIRNAC

PHOTO LOG

Date	Camera	Inspector	
September 11, 2018	Nikon Coolpix	Joseph Monteith	
Photo Log #1	Location		
Photo 1	Sanikiluaq		
			
Description: Truck Water Recharge hose at Water Treatment Facility			



Photo Log #1

Location

Photo 2

Sanikiluaq



Description: Water or Flow metre.

Photo Log #1

Location

Photo 3

Sanikiluaq



Description: Four Filter Housing Units



Photo Log #1
Photo 4

Location
Sanikiluaq



Description: Two Chlorine Mixing drums

Photo Log #1
Photo 5

Location
Sanikiluaq



Description: Sump Pit at the base of the water filters



Photo Log #1

Location

Photo 6

Sanikiluaq



Description: sign of a leak in filter housing #1

Photo Log #1

Location

Photo 7

Sanikiluaq



Description: Water Intake Facility – Fencing requires maintenance



Photo Log #1	Location
Photo 7	Sanikiluaq



Description: Non-Engineered Sewage Lagoon

Photo Log #1	Location
Photo 8	Sanikiluaq



Description: Non-Engineered Sewage Lagoon didn't build any walls across the landscape, the lowest point frequently overfills



Photo Log #1	Location
Photo 9	Sanikiluaq
<div><div></div><div></div><div></div></div>	
Description: Signs of truck discharging #1	

Photo Log #1	Location
Photo 10	Sanikiluaq
<div><div></div><div></div><div></div></div>	
Description: Multiple areas of discharge areas between the foreground and the flag in the mid ground	



Photo Log #1	Location
Photo 11	Sanikiluaq
<div><div></div><div></div><div></div></div>	
Description: Wind Blown Garbage along the coast. Three Snowy Geese along the coast amongst the windblown garbage	

Photo Log #1	Location
Photo 12	Sanikiluaq
<div><div></div><div></div><div></div></div>	
Description: The fenced in Solid Waste Facility	



Photo Log #1	Location
Photo 13	Sanikiluaq



11.09.2018 10:20

Description: Fencing has fallen off its posts, right side of entrance to Solid Waste Facility

Photo Log #1	Location
Photo 14	Sanikiluaq



11.09.2018 10:20

Description: Left hand Side of entrance to Solid Waste Facility- Fencing in multiple spots have fallen off the posts.



Photo Log #1	Location
Photo 15	Sanikiluaq



Description: Gap in fencing on the North Side of Solid Waste Facility has leachate draining out of facility, wind blow garbage on both sides of the fencing. Geese along the path of the leachate. Migration path appears to be less than 500 metres

Photo Log #1	Location
Photo 16	Sanikiluaq



Description: Geese on North side of fencing amongst the leachate, and windblown garbage.



Photo Log #1	Location
Photo 17	Sanikiluaq



Description: Most of the fencing on the wall has fallen off. Ceiling appears to be slumping downwards

Photo Log #1	Location
Photo 18	Sanikiluaq



Description: Hazardous Waste exposed to the elements, no berms



Photo Log #1

Location

Photo 19

Sanikiluaq



Description: Three Pools of water in the mid ground and background on the right hand side of the hazardous waste. Signs of spills in the foreground

Photo Log #1

Location

Photo 20

Sanikiluaq



Description: oil leak migration



Photo Log #1

Location

Photo 21

Sanikiluaq



Description: 6 batteries within the Bulk Metals section of the Solid Waste Facility.

Photo Log #1

Location

Photo 22

Sanikiluaq



Description: Waste oil drum in Bulk Metals Section of the Solid Waste Facility, appears to have leaked.



Photo Log #1

Location

Photo 23

Sanikiluaq



Description: 4 vehicle batteries in the Bulk Metals section of the Solid Waste Facility.

Photo Log #1

Location

Photo 23

Sanikiluaq

Water Consumption from January to June 2018

YEAR BEING REPORTED: 2018

The following information is compiled pursuant to the requirements of **Part B, Item 1** of Water License #----- issued to the Hamlet of Kimmirut Nunavut.

i) - iii) tabular summaries of all data generated under the "Monitoring Program"; monthly and annual quantities in cubic metres of freshwater obtained from all sources; monthly and annual quantities in cubic metres of each and all wastes discharged;

Attached are quantities of water used as reported in our On Tap Water Delivery System and the estimated discharge of sewage waste based on quantities used.

Month Reported	Quantity of Water Obtained from all sources (litres)	Quantity of Sewage Waste Discharged (Estimated)
January	3,705,174.60	Same
February	3,239,472.60	Same
March	3,878,476.50	Same
April	3,493,502.30	Same
May	3,701,670.30	Same
June	3,378,545.00	Same
July	3,067,163.20	Same
August	3,447,200.10	Same
September	3,263,535.10	Same
October	0.00	Same
November	0.00	Same
December	0.00	Same
Annual Total	31,174,739.70	Same

Note: The average consumption volume is considered equal to the discharge volume in each month because there is no meter in the intake or discharge pipe.

Description: 2018 Water Consumption Report for Sanikiluaq between January to June 2018 shows a total consumption of 31174739.70 Litres consumed.