



WATER LICENCE INSPECTION FORM

☒ Original
☐ Follow-Up Report

Licensee		Licensee Representative	
Hamlet of Grise Fiord		Bhabesh Roy	
Licence No. / Expiry		Representative's Title	
3BM-GRI1520 Renewal Expires Dec. 8, 2020		Municipal Engineer	
Land / Other Authorizations		Land / Other Authorizations	
Date of Inspection		Inspector	
July 23, 2018		Joseph Monteith & Jonathan Mesher	
Activities Inspected			
<input type="checkbox"/> Camp	<input type="checkbox"/> Drilling	<input type="checkbox"/> Mining	<input type="checkbox"/> Construction
<input type="checkbox"/> Roads/Hauling	<input checked="" type="checkbox"/> Other: Potable Water Source, Waste Treatment Facility, and Solid Waste Facility	<input type="checkbox"/> Other:	<input type="checkbox"/> Reclamation
<input type="checkbox"/> Fuel Storage			

Conditions:	A- Acceptable	U-Unacceptable	C-Concern	NI-Not Inspected	NA- Not applicable
PART:		Item No.*	Condition	Observation No.*	
A: SCOPE, DEFINITIONS AND ENFORCEMENT			NA		
B: GENERAL CONDITIONS			A		
C: CONDITIONS APPLYING TO SECURITY			NI		
D: CONDITIONS APPLYING TO WATER USE		1-9	A		
E: CONDITIONS APPLYING TO WASTE DISPOSAL AND MANAGEMENT		10-21	C		
F: CONDITIONS APPLYING TO MODIFICATIONS			NI		
G: CONDITIONS APPLYING TO CONSTRUCTION			A		
H: CONDITIONS APPLYING TO EMERGENCY RESPONSE AND CONTINGENCY PLANNING		22-24	A		
I: CONDITIONS APPLYING TO ABANDONMENT, RECLAMATION AND CLOSURE PLANNING			NI		
J: CONDITIONS APPLYING TO MONITORING			A		
SCHEDULES			A		
<i>*The item number corresponds with specific conditions within the licence and the observation number corresponds with specific comments provided below.</i>					
Location(s): Latitude: 76° 25' N and Longitude: 83° 01' W listed on the water licence under Grid: Lat/Long hddd°mm'ss.s", Datum WGS 84 site is in the ocean southwest of the community. N76 25 32.5 W82 54 31.5 under Grid: Lat/Long hddd°mm'ss.s", Datum: WGS 84 this coordinate is the airport at Grise Fiord					
Samples taken by Inspector:					
<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 The Hamlet of Grise Fiord is a small community located on the southern tip of Ellesmere Island at Latitude 76°25'N and Longitude 83° 01'W, within the Qikiqtani Region of Nunavut. The Community is located approximately 320 km NE of Resolute. The Community is situated on a narrow strip of beach near the mouth of Grise Fiord. Surface soils in the area consist of free-draining gravel deposits. The depth of the active layer of permafrost is approximately 0.6m. Grease Fiord receives an average of 15.2 cm of snowfall each year, the rainfall mean annual precipitation totals near 0 cm. July mean high and low temperatures are 10°C and 2.2°C. January mean high and low temperatures are -27.2°C and -35°C. Winds are generally south-east and annually average 18.5km/h. The Hamlet of Grise Fiord is licenced to withdrawal 7,700 cubic metres per annum, and less than 300 cubic metres per day. Inspector Statement On July 23, 2018, a water licence was conducted at the Hamlet of Grise Fiord, Qikiqtani Region, Nunavut. General Conditions On June 7, 2018, Ida Porter, Licencing Administrator with the Nunavut Water Board emailed WRO Monteith with a copy of the Hamlet of Grise Fiord's 2017 Annual Report, satisfying the general conditions to submit an annual report.			



Water Use and Related Structures

1. Water withdrawal is conducted from a glacier run-off stream that meanders down to the Hamlet of Grise Fiord from the mountain above Grise Fiord. A couple of ponds with walls that extend up approximately a metre and a half catches water run-off, and pools up. Fencing was being erected around the ponds at the time of the inspection.
2. At the time of the inspection a yellow triangle sign was observed titled GRI-1. A monitoring station as listed in the water licence (Photo #1).
3. A 4 inch HDPE piping with a Fish Mesh Screen extends into the pond through the pond walls (Photo #2).
4. The single walled piping from the water source to the water storage tank has multiple holes in the piping, patched only by screwing in screws with the rubber washers built into the screws. At the time of the inspection no signs of leaks in the pipes were noted. The length of piping from the pond to the water treatment facility is approximately 173 metres. The pipe changes into a flexible hose before it goes into water treatment facility (Photo #3).
5. The secondary storage tank appeared to be pouring water. At the time of the inspection, there was no foreman, or SAO to verify whether the water in the storage tank was drained for cleaning, or if it was indeed a leak of the tank. Bhabesh Roy agreed to look into it.
6. The Flow Metre was not working at the time of the inspection.
7. On October 25, 2018 Jayson Mablick, Municipal Technical Clerk with the Government of Nunavut(GN), Community and Government Services(CGS) emailed WRO Monteith a copy of Water Consumption Report on an excel spreadsheet for the months of January 2018 to September 2018 showing the total water withdraw of 4,687,261 Litres withdrawn for consumption by Government, Residential and Commercial clients. This spreadsheet also had a tab for annual usage between 2013 and 2017. The trend shows that the Hamlet of Grise Fiord doesn't exceed 5.8 Million Litres a year. The current authorized amount is 7.7 million Litres per annum.
8. A bridge crossing was inspected within the community. No signs of erosion on the banks or sedimentation were observed in the fresh water. Buildup of sand was observed on the bridge. This buildup has the potential to spill over into the fresh water. A containment wall should be fixed onto the bridge, and maintained (Photo #5).
9. Culverts were inspected and some showed signs of erosion along the culvert on the road above it (Photo #6).

Waste Water Treatment Facility

10. The amount of waste deposited at the sewage lagoon should match the amount withdrawn from the potable water source, but doesn't take into account the amount water use such as dust suppression, which cannot be calculated as the same amount discharged at the sewage lagoon waste water. At the time of the inspection no record of waste deposited at the lagoon was observed.
11. The walls of the sewage lagoon appeared to be working as intended, with no signs of erosion or leaks. The freeboard was approximately 4 metres.
12. Two yellow triangle signs titled GRI-3 and GRI-4 was observed. GRI-3 was observed at the sewage lagoon. GRI-4 was observed down slope of the sewage lagoon indicating monitoring sites. No samples were taken.
13. Metal waste was observed within the lagoon (Photo #7).
14. There was fencing packed away next to the lagoon which appeared to be ready to construct.
15. On June 29, 2018 Grise Fiord foreman "David" emailed WRO Monteith notifying him of decanting the sewage lagoon. Transportation of samples was taken into account, and postponed the decanting till it was better for the samples to be shipped south for results. Sampling was conducted on July 16, 2018, and decanting proceeded

Solid Waste Facility

16. The land farm was segregated into Woods, Metals, Hazardous Wastes and Burnable Wastes.
17. The burnable waste is open pit burned, pushed off the end of that section then capped with soil. No fencing around the burnable waste (Photo#8).
18. The bulk metals contain white waste, and metal from construction. Hazardous Waste was observed at this site.
19. Wood waste was segregated, probably for the purpose of allowing the community help themselves to the wood wastes.
20. The Hazardous Waste sea can is mixed with the bulk metal waste. Lots of hazardous waste observed within the bulk metals (Photo # 9).
21. A yellow triangle sign titled GRI-2 was observed, which indicated a monitoring site. No Samples were taken on this inspection.



Spill Report 2018-088


- 22. Samples were taken at site of Spill Report N2018-088 – Qulliq Energy Corporation Power Plant Spill to verify if the spill did impact the fresh water lake within the community. (photo #10)
- 23. Samples were damaged enroute to Lab.
- 24. Observations were documented by photograph of the extent of the spill, and its migration to the fresh water lake. Notes and GPS Coordinates were taken. Further sampling will be required to verify if the fuel did migrate to the lake and sampling will conducted in the summer of 2019. Qulliq had deployed their spill contingency plan, although the Government of Nunavut – Environmental Protection Directorate is the lead on the spill report, there is a body of fresh water downgrade of the spill source, which triggers our participation in monitoring the spill in case the spill makes contact with the fresh body of water.

SECTION 2 ☐ Comments ☐ Non-Compliance with Act or Licence ☒ Action Required

- Consolidate Hazardous Waste from Solid Waste Facility and deposit into Hazardous Waste section (See Photo #9)
- Build a containment wall on the bridge to mitigate the amount of soil falling into the river and causing sedimentation. (See Photo # 5)
- Erect fencing around the open pit burning section of the Solid Waste Facility to manage wind-blown litter(See Photo #8)
- Repair the roads around the culvert that has been exposed due to erosion (See Photo # 6)
- Remove scrap metal within the sewage lagoon. (See photo # 7)

SECTION 3 ☐ Comments ☐ Non-Compliance with Act or Licence ☐ Action Required

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Licensee or Representative Bhabesh Roy	Inspector's Name Joseph Monteith
Signature	Signature 
Date	Date November 9, 2018

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



PHOTO LOG

Date	Camera	Inspector
July 23, 2018	Nikon Coolpix N16D3-52000738	Joseph Monteith
Photo Log #1	Location	
Photo 1	Grise Fiord	



Description: Yellow Triangle Sign titled GRI 1 monitoring station – Water runs down the mountain in the background, and fills up ditch.

Photo Log #1	Location
Photo 2	Grise Fiord



Description: Intake Pipe within water reservoir with fish mesh screen



Photo Log # 1	Location
Photo 3	Grise Fiord
	
Description: HDPE pipe with screws patching damage to pipe.	

Photo Log # 1	Location
Photo 4	Grise Fiord
	
Description: HDPE pipe to Flexible hose	



Photo Log # 1

Location

Photo 5

Grise Fiord



Description: Soil build up on bridge. No walls on bridge to prevent soil from falling into fresh water.

Photo Log # 1

Location

Photo 6

Grise Fiord



Description: Erosion around the culvert ahead of the Solid Waste Facility



Photo Log # 1

Photo 7

Location

Grise Fiord



Description: bulk metal within the sewage lagoon

Photo Log # 1

Photo 8

Location

Grise Fiord



Description: No fencing to control wind-blown litter



Photo Log # 1
Photo 9

Location
Grise Fiord



Description: Hazardous Waste Batteries exposed to the elements within the Solid Waste Facility

Photo Log # 1
Photo 10

Location
Grise Fiord



Description: Aerial Photograph of the spill site for Spill Report 2018-088