

WATER LICENCE INSPECTION FORM

☒ Original

☐ Follow-Up Report

Licensee	Licensee Representative
Hamlet of Clyde River	Bhabesh Roy , Johnathan Paulluq, Moe Kuluguktuk
Licence No. / Expiry	Representative's Title
3BM-CLY1924Renewal Licence	Municipal Engineer – GN- C&GS , Acting Senior Administration Officer, acting Hamlet foreman
Land / Other Authorizations	Land / Other Authorizations
Date of Inspection	Inspector
August 22, 2020	Joseph Monteith
Activities Inspected	
<input type="checkbox"/> Camp	<input type="checkbox"/> Drilling
<input type="checkbox"/> Roads/Hauling	<input type="checkbox"/> Mining
	<input type="checkbox"/> Construction
	<input type="checkbox"/> Reclamation
	<input type="checkbox"/> Fuel Storage
	<input type="checkbox"/> Other: Potable Source, Waste Disposal Facility, Solid Waste Facility, General Conditions , water crossing (LUP N1999X0043)
	<input type="checkbox"/> Other:

Conditions:	A- Acceptable	U-Unacceptable	C-Concern	NI-Not Inspected	NA- Not applicable
PART:				Condition	Observation No.*
A: SCOPE, DEFINITIONS AND ENFORCEMENT				NA	
B: GENERAL CONDITIONS				A	1,2
C: CONDITIONS APPLYING TO SECURITY				NI	
D: CONDITIONS APPLYING TO WATER USE				C	3-6
E: CONDITIONS APPLYING TO WASTE DISPOSAL AND MANAGEMENT				A	7-15
F: CONDITIONS APPLYING TO MODIFICATIONS				NI	
G: CONDITIONS APPLYING TO CONSTRUCTION				NI	
H: CONDITIONS APPLYING TO EMERGENCY RESPONSE AND CONTINGENCY PLANNING				A	
I: CONDITIONS APPLYING TO ABANDONMENT, RECLAMATION AND CLOSURE PLANNING				NI	
J: CONDITIONS APPLYING TO MONITORING				A	
SCHEDULES				A	
*The observation number corresponds with specific comments provided below.					
Samples taken by Inspector:		Location(s): 3BM-CLY1419 Renewal coordinates: N70° 27', W68° 33' is incorrect as the coordinate is in the old town part of Clyde River apart of 1BR-CLY1828			
<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 Clyde River (Clyde River or the Hamlet or Licensee) is located approximately 750 kilometres North of Iqaluit, on the shore of Patricia Bay, on the east coast of Baffin Island, within the Qikiqtani Region of Nunavut. The annual snowfall in Clyde River is approximately 169 cm and the annual rainfall is approximately 5 cm. In February the daily mean temperature is approximately -30° Celsius while in July the daily mean temperature is approximately 5° Celsius. Freeze up usually occurs during the month of November but may occur as early as September or October, while spring thaw usually occurs between late May and June.</p> <p>The Hamlet, which has a population of approximately 963 (2014), operates water and waste management facilities for which a water licence from the Nunavut Water Board is required. The Hamlet is authorized to withdraw 36,000 cubic metres of water per year.</p> <p>Relevant infrastructure include:</p> <p>A Water Supply Facilities which draws water from Water Source Lake. Water is treated in the truck-fill station and stored for trucked water to holding tanks in each building;</p> <p>- A Sewage Disposal/Treatment Facilities (Two Lagoon Cells) which receives trucked sewage collected from holding tanks in every building, with a wetland area between the lagoon and the ocean; and</p> <p>- A Solid Waste Disposal/Management Facility, which includes a bulky metals disposal area, and hazardous waste/used oil storage area. Segregation of waste needs to be approved.</p> Inspector Statement <p>On August 22, 2020 at 3:58pm Water Resource Officer (WRO) Joseph Monteith conducted an inspection on water</p>			



licences 3BM-CLY1419 Renewal Licence. The inspection was complete on October 3, 2019 at 4:51pm.

General Conditions

- On August 22, 2020 WRO Monteith inspected the required documents, and observed the licence posted up at the Hamlet. No concerns noted.
- On Wednesday, November 25, 2020 4:42 PMWRO Monteith received an email from Richard Dwyer, Manager of Licencing, Nunavut Water a copy of the 2019 Annual Report.

Water Use and Related Structures

- Water is withdrawn from Water Source Lake. GPS Coordinates: Lat: N70° 28' 59.339" Long: W68° 36' 48.744 (photo 1).
- The condition of the piping is questionable. The pipe may have slumped over time, any attempt to withdrawal the internal pump may cause damage to the pipes, and pump. The design and equipment is the same as Pond Inlet and may encounter the same emergency situation. The length approximately 47 metres. Diameter 8 inches, with a 4 inch internal pump housed within the intake pipe. The pipe has a fish mesh screen (photo 2).
- The pump house has a flow meter, and it measured less than 00934422 at the time of the inspection (photo 3).
- WRO Monteith also photographed the Pump Meter Readings log for August 2020 with 3 entries for the day, starting on August 1, 2020 - 933996m³ starting reading and on August 3, 2020 end reading 934343 m³ (photo 4). The date of the inspection and the dates of withdrawal recordings provided questions in record keeping, and difficult to verify total water usage for the year.

Waste Water Treatment Facility

- At the time of the inspection, the sewage lagoon was in-use. The walls were operating as intended, no signs of leakage, but some slumping or erosion were observed on the west side of the lagoon walls (photo 5).
- The lagoon has two cells; the first is the original lagoon with a capacity of 11,600 cubic metres, the other cell forms as an extension from the original lagoon, with no listing for the amount of sewage it can store. No issues were observed during the course of the inspection.

Solid Waste Facility

- Burnable solid waste is deposited in the fenced Open Pit Burning area of the solid waste facility. They burn the burnable garbage and push it into a pit, then cover the ash and burnt garbage with gravel.
- The fencing approximately 1.5 metres high is damaged on some parts of the north side of the fire pit. The fencing only covers a portion of the fire pit which may have been incomplete in its construction and should have more fencing put in to mitigate any garbage from blowing across the environment (photo 5).
- The metal dump, one pile a mix of vehicles, white waste, empty oil drums, boats, building material and engines has some hazardous waste paint cans, within that section. No observations of batteries, or waste oil barrels in the metal dump (photo 7).
- There is no berm to contain any leachate coming from the hazardous waste facility, and the bulk metal section of the land farm. Contaminants may interact with external environmental elements, and migrate downslope and eventually the receiving marine environment (photo 8).

Hazardous Waste Facility

- Hazardous Waste section contains a few sea cans(full), a bermed area full of waste oil drums, some packaged ready for delivery, other waste oil drums litter the inside and outside of the berm, multiple signs of leaked contents on the ground and the surrounding the area. Some of the sea cans with various forms of hazardous waste are left open to the environment.
- The Hamlet was good for signage, properly posting their segregated wastes, and this may have helped the public in segregating their hazardous wastes (photo7).
- Between the bulk metal and the hazardous waste facility a puddle pooled with signs of hazardous waste. The puddle lays on the side of the road in the bulk metal section downgrade of the hazarded waste facility. It was discussed that one of the monitoring stations should be moved to this site as it appears to be the natural migration of any liquids following the path of least resistance (photo 9).

Section 2	<input checked="" type="checkbox"/> Comments	<input type="checkbox"/> Non-Compliance with Act or Licence	<input type="checkbox"/> Action Required
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The following information is a summary of the Actions required by the licensee to promote and ensure compliance.

-The Open Pit Burning Area has some damage to the fencing that could be fixed with maintenance. The fencing only covers a portion of the open pit burning, and could use some more fencing to ensure wind does not displace any loose garbage and deposit them onto the environment, any water bodies, and other parts to the Hamlet land farm.

-Make a plan to send out Hazardous Waste to approved Hazardous Waste Facility to make room for any future hazardous waste in the bermed section of the Hazardous Waste Facility.

-The bulk metals portion is not bermed, and has the potential of releasing hazardous waste directly onto the environment. Rain has the potential washing away any hazardous waste onto the environment, which may migrate to

any water bodies.

- Limit the amount of water withdrawal to the authorized amount listed in the water licence, or apply to the Water Board for an amendment to increase water withdrawal amount.
- Record your Annual Reports and books and records in Metres Cubed as per the Nunavut Water Regulations.
- Make a plan to move or create a new monitoring station to the area observed between the Bulk Metal Facility, and the Hazardous Waste Facility.

SECTION 3

☐ Comments

☒ Non-Compliance with Act or Licence

☐ Action Required

Part C: Conditions Applying to Water Use

2. The annual quantity of water use for all purposes under Part C, Item 1, shall not exceed thirty-eight thousand (38,000) cubic metres per year or one hundred and forty-five (145) cubic metres per day.

Nunavut Water Regulations – Annual Reports

Section 14 (1) A licensee must submit an annual report to the Board, in a form acceptable to the Board, by March 31 of each year. The report must contain the following information in respect of the previous calendar year.

(b): the quantity of water, in cubic metres, used by the licensee, the source of the water and the purpose of its use;


Nunavut Water Regulations - Books and Records

Section 13 (a) Books and Records

A licensee must

(a) maintain accurate and detailed books and record of

(i) the quantity of water, in cubic metres, used each day,

Licensee or Representative	Inspector's Name
	Joseph Monteith
Signature	Signature
	
Date	Date
	November 22, 2020

CC: Licensing Department, NWB

Justin Hack, Manager of Field Operations, INAC

Photo Log

Date	Camera	Inspector	Authorization
August 22,2020	Nikon Coolpix	Joseph Monteith	3BM-CLY1924

Photo Log #1

Photo 1

Location


Clyde River, NU



Description: Water Source Lake. Water Extraction pipe. Similar in design as the Pond Inlet Water Pump House




Photo Log #1	Location
Photo 2	Clyde River, NU



Description: Water intake pipe below water table.

Photo Log #1	Location
Photo 3	Clyde River, NU



Description: Working Water Meter – 00934422 Litres withdrawn from potable water source

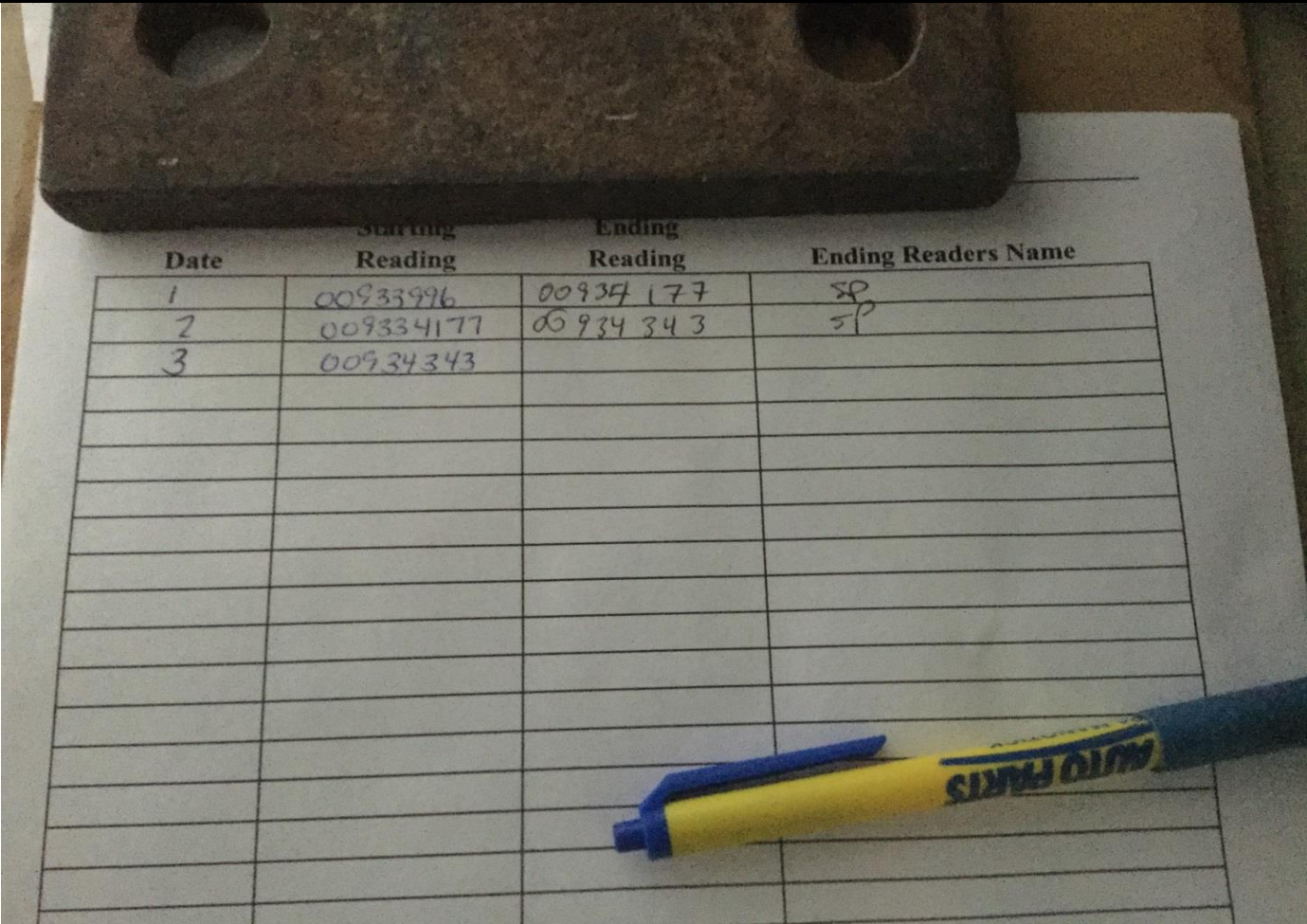


Photo Log #1

Location

Photo 4

Clyde River, NU



Description: Water Usage Logs – Different from Water Usage Meter. Starting read on August 3, 2020 00934343.

Photo Log #1

Location

Photo 5

Clyde River, NU



Description: Fire Pit – No fencing on East Side, wind may blow ash and debris out of area onto the environment, to the sewage lagoon



Photo Log #1	Location
Photo 6	Clyde River, NU
	
Description: Sign of slumping on base of sewage lagoon wall	

Photo Log #1	Location
Photo 7	Clyde River, NU
	
Description: Hazardous Waste Disposal Facility. Berm is overfilled with waste oil drums. Waste oil drums deposited outside of bermed area.	



Photo Log #1

Location

Photo 8

Clyde River, NU



Description: the outer extent of bulk metal section of land farm, no berm to mitigate any interaction with external environmental elements, and migration of wastes outside the facilities.

Photo Log #1

Location

Photo 9

Clyde River, NU



Description: Puddle along the side of the road between the Bulk Metal and the Hazardous Waste Facility.



Photo Log #1		Location	
Photo 10		Clyde River, NU	
	Clyde River		
	3,474,765.70		
	3,430,704.40		
	3,667,224.30		
	3,395,941.70		
	3,522,792.40		
	3,596,172.20		
	3,613,628.30		
	3,785,629.80		
	3,572,869.60		
Description: Water Consumption Rates for the Months of January to September, 2020. 3572.8696 cubic metres.			