

WATER LICENCE INSPECTION FORM

☒ Original

☐ Follow-Up Report

Licensee	Licensee Representative
Hamlet of Cape Dorset	Bhabesh Roy
Licence No. / Expiry	Representative's Title
3BM-CAP1925	Municipal Engineer
Land / Other Authorizations	Land / Other Authorizations
Date of Inspection	Inspector
July 29, 2021	Joseph Monteith
Activities Inspected	

<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
<input type="checkbox"/> Roads/Hauling	<input checked="" type="checkbox"/> Other: Potable Water Source, Waste Water Treatment, Solid Waste Facility, and Hazardous Waste Facility		<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				C	1-3
C: CONDITIONS APPLYING TO SECURITY				NI	
D: CONDITIONS APPLYING TO WATER USE				A	4-9
E: CONDITIONS APPLYING TO WASTE DISPOSAL AND MANAGEMENT				C	10-20
F: CONDITIONS APPLYING TO MODIFICATIONS				NI	
G: CONDITIONS APPLYING TO CONSTRUCTION				NI	
H: CONDITIONS APPLYING TO EMERGENCY RESPONSE AND CONTINGENCY PLANNING				C	
I: CONDITIONS APPLYING TO ABANDONMENT, RECLAMATION AND CLOSURE PLANNING				NI	
J: CONDITIONS APPLYING TO MONITORING				NI	
SCHEDULES				A	
* The observation number corresponds with specific comments provided below.					
Samples taken by Inspector:			Location(s): N62° 50' 06'' and W69°52'04''		
<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 community's water license # 3BM-CAP1925 –Type B, issued on May 22, 2019 expires in 2025. Under this Licences, the community has a permit to withdraw 70,000 cubic meters of water annually from the Tee Lake.</p> <p>Relevant infrastructure include Water supply Tee Lake, water storage/treatment, and pump house, the 3 cell sewage lagoon, an emergency sewage lagoon, a solid waste facility, hazardous waste facility and a burn and cap facility.</p> Inspector Statement <p>On July 29, 2021, a water license inspection was conducted at the Hamlet of Cape Dorset, Qikiqtani Region, Nunavut, by Water Resource Officer (WRO) Joseph Monteith, to verify terms and conditions of the water license, and the Nunavut Waters, and Nunavut Surface Rights Tribunal Act.</p> General Conditions <ol style="list-style-type: none">As of the inspection date, no submission of the 2019 Annual Report has been submitted.On May 22, 2019 Ida Porter, Licences Administrator, Nunavut Water Board emailed WRO Monteith a copy of the Hamlet of Cape Dorset water license 3BM-CAP1925. Issued May 22, 2019, water license expires May 21, 2025. Water Use Related Structures <ol style="list-style-type: none">Water is being withdrawn from Tee Lake as approved in the expired Water Licence at Latitude: 64° 12.916'N, Longitude: 76° 32.448'W (photo 1).At the time of the inspection no water use records were provided.			



5. During the inspection WRO Monteith did observe rusting of the pipe at Tee Lake below grade of the water table. (Photo 1).
6. Monitoring Station Cap-1 was observed at the water fill station.
7. The length of piping from the potable water source to the truck fill station is approximately 1,318.93 metres (1.3km) as measured from Google Earth (photo 2).
8. The Hamlet water fill station was observed. No water meter was observed at the time of the inspection.
9. Water Usage Records were emailed to WRO Monteith by Grant Scott, Interim Senior Administrative Officer, Hamlet of Cape Dorset. The report shows 41, 169m³ was withdrawn from Tee Lake(photo 12).

Waste Water Treatment Facility

10. At the time of the inspection the sewage lagoon, a 3 tiered cell sewage lagoon much like a sump pit was in-use and appeared to be operating as intended(Photo 4). The top two cells have culverts to maintain sufficient freeboard. The third and lowest cell has a couple of culverts to maintain a freeboard, but if the intent of the sewage lagoons is to settle all suspended solids and decant at specific times of the year, this lagoon isn't doing that. As each cell fills up, it drains into the next cell. But once at the bottom cell, the intent should be to hold the waste, and decant after notifying the inspector. The current method if intended is to always maintain a freeboard, and allow waste to flow out at the culverts when the cells are filled to the culvert line. After the third and lowest cell, the run off has approximately 100 metres counting the distance from the top of the cell wall to the ocean. A drainage ditch was created along the south side of the lagoon, to divert any runoff from Nungaaait Mountain and the solid waste facility. This drainage ditch has a monitoring station titled CAP-3. The drainage ditch also showed signs of overflow from the sewage lagoon cells (Photo 3). An Emergency Lagoon was also observed at the time of the inspection.
11. The freeboard for highest upper cell was at the level of the culvert, which is approximately 1 metre from the top of the sewage lagoon cell wall. The second cell also had a culvert which appeared to be an overflow culvert to maintain the 1 metres freeboard on the lagoon. The cell wall on the second tier middle lagoon was not even in height. The culvert may have been installed to maintain the 1 metre freeboard, but in other areas of the walls, the freeboard was below 1 metre (Photo 2). The corner of cell 2 appeared to have no lining, and waste was leaking through to the third tier by exfiltration. Monitoring Station Cell-4 should be here, but the sign was down. The third and last cell was full to the lower culverts spilling out. No 1 metre freeboard on the lower cell with sewage table at the lower culvert.
12. The emergency lagoon appears to have been built to capture run off from the 3 tier lagoon, but showed signs of recent use. Hoses litter the area, and must have been used to decant the emergency lagoon, and had shown signs of past overflow from run-off water. Across the road from this emergency lagoon was berm walls constructed to capture the run off that had entered the emergency lagoon, overflow, and also where they would decant from the emergency lagoon. A monitoring station listed as CAP-5 sign was also observed there. The emergency Lagoon is approximately 171 metres away from the high water mark of the ocean.
13. The 2007 uncommission Sewage Lagoon (P-Lake Lagoon) located on the south side of Nungaaait Mountain, is not in use, and has accumulated raw water. The berm walls appeared to have a leak on the southern wall, downstream of the lagoon. The distance from the P-Lake Lagoon to the ocean is approximately 633 metres.

Solid Waste Facilities


14. The solid waste facility is an open pit burning dug into the base of Nungaaait Mountain. The Metal Storage Area and the Hazardous Waste Storage Area are located at another site, away from the Nungaaait Mountain, and along the shoreline by the ocean. Monitoring Station CAP-2 was observed along the drainage route. Wood waste is segregated into its own pile.
15. The open pit burning has fencing along the top of the pit, along the north east side of the pit. Probably to capture windblown garbage as the prevailing winds comes from the North West. The fencing is damaged. The approximately 4 metre high posts that support the fencing is bent out of shape, and the fencing itself is folded outwards from the post, and doesn't appear to be operating as intended.
16. Garbage has piled up along the East side of the pit where water runoff from Nungaaait Mountain has settled and flows along the drainage ditch next to the sewage lagoon.
17. Metal Storage Area has three parts to it. Snowmobiles and ATV's appear to be segregated. The bulk metal waste comprised of old vehicles has numerous waste batteries, propane tanks and waste oil within this site. A berm was set up around this bulk waste area to mitigate any leachate from entering the ocean. The wall on the south side of this area appears to have eroded, and has compromised its intended purpose, the project is contrary to Part D: Item 9 (photo 6).
18. A Stan pipe was observed in the berm wall. White metals and bulk metals makes up the 3rd portion of the metals storage area.
19. A project has been erected in the north side of the metal storage area to crush and ship away, old oil drums, and vehicles, at the time of the inspection it was decommissioned due to damage, and awaiting parts.

Hazardous Waste

20. The hazardous waste area has a couple of sea cans which may have hazardous waste within them, but at the time of the inspection, both were closed and locked. Paint cans litter the outside of the sea cans, waste

batteries, and waste oil drums were also observed out in the open near the hazardous Waste Disposal area (photo 6). No signage was observed around these sites. If rainwater gets in contact with the hazardous wastes around the sea cans, the hazardous wastes can migrate downgrade to the bulk metals section, and contaminate the water bermed in solid waste facility.

SECTION 2	<input type="checkbox"/> Comments	<input checked="" type="checkbox"/> Non-Compliance with Act or Licence	<input type="checkbox"/> Action Required
<p>The following information is a summary of the actions required by the licensee to promote and ensure compliance:</p> <ul style="list-style-type: none">• Repair to the fencing on the north east side open pit burning may mitigate any windblown garbage from blowing away and impacting any water bodies. Erection of another fence on the North West side may mitigate garbage from entering the sewage lagoon cells and compromising its capacity.• Send hazardous waste to a proper Hazardous Waste Facility to free up room in the current Hazardous Waste Facility. Keep copies of Hazardous Waste Manifest for verification purposes.• Repair of the wall at the Solid Waste Facility was not requested, and has resulted in the accumulation of surface water. The accumulated water will have to be tested, and if found to have contaminants, be treated before being released. The intention of Part D: Item 10 is to implement appropriate erosion and diversion control methods to prevent the entry of water into the facility and to prevent the retention of water to minimize surface water accumulation in the facility. In regards to Part D: Item 6, the licensee was not compliant on this dam.• Test the bermed water inside the solid waste facility, and provide results to the inspector, and submit results in 2021 Annual Report.• The Licensee is reminded to remain diligent to prevent wastes from entering water, and the environment.• Ensure all monitoring sites have the signs indicating that it is a monitoring site, and have it listed in the <i>Official Languages of Nunavut</i>			
SECTION 2	<input type="checkbox"/> Comments	<input checked="" type="checkbox"/> Non-Compliance with Act or Licence	<input type="checkbox"/> Action Required
<p>Part B: Item 7. The Licensee shall immediately report to the 24-Hour Spill Report Line at (867) 920-8130, any spills of Waste, which are reported to, or observed by the Licensee, within the municipal boundaries or in the areas of the Water Supply or Waste Disposal Facilities.</p> <p>Part C: Item 7. Sediment and erosion control measures shall be implemented prior to and maintained during the undertaking to prevent entry of sediment into Water.</p> <p>Part D: Item 6. The Licensee shall maintain at all times, a freeboard of at least 1.0 metre, or as recommended by a qualified Geotechnical Engineer with notice in writing provided to the Board, for all dams, dykes or other structures intended to contain, divert or retain water or wastes</p> <p>Part D: Item 7. The Sewage Disposal Facilities shall be maintained and operated in such a manner as to prevent structural failure.</p> <p>Part D: Item 9. The Licensee shall implement appropriate erosion and diversion control methods, to minimize surface water intrusion and leachate generation at the Solid Waste Storage Facility</p> <p>Part D: Item 10. The Licensee shall segregate and securely store all hazardous materials and/or hazardous waste within the Solid Waste Disposal Facility in a manner as to prevent the deposit of deleterious substances into any water.</p> <p>Part G: Item 3. The Licensee shall conduct any equipment maintenance and servicing in designated areas and shall implement special procedures (such as the use of drip pans) to manage motor fluids and other Waste and contain potential spills.</p>			


Licensee or Representative	Inspector's Name
Bhabesh Roy	Joseph Monteith
Signature	Signature
	
Date	Date
	November 10, 2021

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

PHOTO LOG



Date	Camera	Inspector
July 29, 2021	Nikon Coolpix	Joseph Monteith
Photo Log #	Location	
Photo 1	Cape Dorset, NU	




Description: Tee Lake: 2x water withdrawal pipes

Photo Log	Location
Photo 2	Kimmirut



Description: Pipe Line from water source to water treatment plant. No concerns

Photo Log #1	Location
Photo 3	Kimmirut




Description: Water Treatment Plant

Photo Log #1	Location
Photo 4	Kimmirut



Description: Cell 3 full, overflows into already full Cell 2, which then spills into Cell 3 through a spill way culvert. Cell 3 full, spilling out uncontrolled out of the 3 cell lagoon.

Photo Log #1	Location
Photo 5	Kimmirut



Description: Cell 3 full, and spilling out the overflow culvert. An uncontrolled discharge of waste.

Photo Log	Location
Photo 6	Kimmirut



Description: The uncontrolled discharge of sewage down the spill way has caused erosion and sedimentation. A spill report was requested and submitted to the NT\NU Spills line.



Photo Log

Photo 7

Location

Kimmirut



Description: A berm rebuilt into the solid waste facility is overflowing. The water being built up has to be tested and treated if found to have contaminants before being released.

Photo Log

Photo 8

Location

Kimmirut



Description: Observable spill within the 3 walled berm for hazardous waste drums.

Photo Log	Location
Photo 9	Kimmirut



Description: 3 walled, non-engineered berm for storage of drums of hazardous waste. Active spill coming from drums. Spill of this size was not observed in 2020.

Photo Log	Location
Photo 10	Kimmirut



Description: Unreported spill at the emergency lagoon. A spill report submission was requested, and clean up. Walls of emergency sewage lagoon repaired, and 1 metre free board now maintained.

Photo Log

Photo 11

Location

Burn and Cap, Kimmirut, NU



Description: Fencing at the burn and cap section of the solid waste facility. Fencing condition has been demolished.

Photo Log

Photo 12

Location

Kimmirut, NU

Delivery Summary By Month and Year

Date Range From: Jan-01-2021 To: Oct-31-2021

Printed on: Nov 09 2021 @ 2:16:40PM

Page: 1 of 1

Total Litres

5000K

4000K

3000K

2000K

1000K

0K

1/2021

2/2021

3/2021

4/2021

5/2021

6/2021

7/2021

8/2021

9/2021

10/2021

Month/Year

1/2021

2/2021

3/2021

4/2021

5/2021

6/2021

7/2021


8/2021

9/2021

10/2021

Month / Year	Litres Delivered
January 2021	3,849,066.60
February 2021	3,617,457.60
March 2021	4,756,512.90
April 2021	4,184,398.40
May 2021	4,063,999.00
June 2021	4,190,873.40
July 2021	4,112,104.70
August 2021	4,212,610.60
September 2021	3,827,094.70
October 2021	4,355,083.70
Grand Total:	41,169,201.60

Description: Water Usage Report for January, 2021 to October 2021. Shows 41, 169m³ withdrawn from Tee Lake.



Report #

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