



WATER LICENCE INSPECTION FORM

☒ Original
☐ Follow-Up Report

Licensee	Licensee Representative
Hamlet of Cape Dorset	Bhabesh Roy, William Koonoo
Licence No. / Expiry	Representative's Title
3BM-CAP0810	Municipal Engineer, Municipal Technical Clerk,
Land / Other Authorizations	Land / Other Authorizations
Date of Inspection	Inspector
July 9, 2018	Joseph Monteith & Jonathan Mesher
Activities Inspected	
<input type="checkbox"/> Camp	<input type="checkbox"/> Drilling
<input type="checkbox"/> Roads/Hauling	<input type="checkbox"/> Mining
	<input type="checkbox"/> Construction
	<input checked="" type="checkbox"/> Other: Potable Water Source, Waste Disposal Facility, and Solid Waste Facility
	<input type="checkbox"/> Reclamation
	<input type="checkbox"/> Fuel Storage
	<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				A	
B: GENERAL CONDITIONS				A	1-2
C: CONDITIONS APPLYING TO SECURITY				NI	
D: CONDITIONS APPLYING TO WATER USE				A	3-10
E: CONDITIONS APPLYING TO WASTE DISPOSAL AND MANAGEMENT				C	11-21
F: CONDITIONS APPLYING TO MODIFICATIONS				NA	
G: CONDITIONS APPLYING TO CONSTRUCTION				NA	
H: CONDITIONS APPLYING TO EMERGENCY RESPONSE AND CONTINGENCY PLANNING				NI	
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): Latitude 64°14'N and Longitude 76°32'W				
<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>Hamlet of Cape Dorset is situated on Dorset Island off the South coast of Baffin Island and located at 64°13'N and 76°31'W. The population in 2016 of the community is 1520. The community's water Licence # 3BM-CAP 0810 –Type B, expired in 2010. Under this Licence, the community has a permit to withdraw 70,000 cubic meters of water annually from the Tee Lake which is their designated potable Water source. Water supply, Waste management and Wastewater treatment are the Water Management Facilities under the Water Licence. This project proposal is for a water license renewal of License # 3BM-CAP0810. Currently the Hamlet is under the Inspector's Direction. The Hamlet of Cape Dorset has an expired Water Licence for Municipal Undertakings for the use 70,000m³ per year.</p> Inspector Statement <p>On July 9, 2018, a water licence inspection was conducted at the Hamlet of Cape Dorset, Qikiqtani Region, Nunavut, to verify terms and conditions of the water licence, and the Nunavut Waters, and Nunavut Surface Rights Tribunal Act.</p> General Conditions <ol style="list-style-type: none">On April 19, 2018 Ida Porter, Licence Administrator Sent, Water Resource Officer(WRO) Monteith a copy of the Hamlet of Cape Dorset's 2017 Annual Report. Satisfying the General Requirement, subsection 1 of the submission of an Annual Report.On May 27, 2018 an amendment and renewal application for a Type "B" water licence license for water use and/or waste disposal associated with activities in the Qikiqtani region of Nunavut was filed by Hamlet of Cape Dorset to the Nunavut Water board.On May 22, 2019 Ida Porter, Licence Administrator, Nunavut Water Board emailed WRO Monteith a copy of the Hamlet of Cape Dorset water licence 3BM-CAP1925. Issued May 22, 2019, water licence 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			



5. At the time of the inspection no water use records were provided due to the timing of the inspection and the closure of the hamlet office, and absence of a Senior Administration Officer.
6. On October 25, 2018 William Koonoo, Municipal Technical Clerk, for Government of Nunavut(GN)-Community & Government Services(CGS) provided the 2018 Water Consumption Report, from January 1, 2018 to September 30, 2018 which showed a total 35,212m³ of water withdrawn to date. Well below the 70,080m³ permitted.
7. On October 25, 2018 William Koonoo, Municipal Technical Clerk for the GN-CGS provided the Delivery Summary by Month and Year showing that 35,212m³ matching the 2018 Water Consumption Report.
8. During the inspection WRO Monteith did observe rusting of the pipe at Tee Lake below grade of the water table. (Photo 4).
9. Monitoring Station Cap-1 was observed at the water fill station.
10. Old damaged piping still existed following the path of the operating pipe. The operating pipe appeared to be operating as intended, with no signs of leaking or damage. The pump house appears to have signs of damage in regards to the connection points of the old pipe (Photo 1).
11. 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 GoogleEarth.
12. The Hamlet water fill station was locked due to the timing of the inspection, and the absence of a hamlet foreman, and Hamlet SAO.

Waste Water Treatment Facility

13. 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. 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.
14. 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.
15. 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 of run-off water. Across the road from this emergency lagoon was berm walls constructed to possibly 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.
16. 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

17. 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.
18. 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.
19. 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.
20. 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, contrary to Part D: Item 10



(photo 5).

21. A Stan pipe was observed in the berm wall. White metals and bulk metals makes up the 3rd portion of the metals storage area.
22. A project has been erected in the north side of the metal storage area to crush and ship away, old oil drums, and vehicles.

Hazardous Waste

23. 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 escape into the ocean through the compromised mitigation wall.

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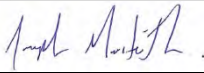
The following information is a summary of the actions required by the licensee to promote and ensure compliance:

- 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 will mitigate the migration of leachate into the ocean.
- 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 *Official Languages of Nunavut*

SECTION 3	<input type="checkbox"/> Comments	<input checked="" type="checkbox"/> Non-Compliance with Act or Licence	<input type="checkbox"/> Action Required
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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

Part D: Item 10. The Licensee shall implement appropriate erosion and diversion control methods, to minimize surface water intrusion and leachate generation at the Solid Waste Storage Facility

Licensee or Representative	Inspector's Name
Bhabesh Roy	Joseph Monteith
Signature	Signature
	
Date	Date
	December 6, 2018

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



PHOTO LOG

Date	Camera	Inspector	Authorization
July 9, 2018	Nikon Coolpix	Joseph Monteith	3BM-CAP0810

Photo Log # 1

Photo 1

Cape Dorset



Description: Pump House – Old Pipe, Damage to connection point of old pipe.

Photo Log

Location

Photo 2

Cape Dorset



Description: 2nd Cell Lagoon Culvert 1 metre freeboard, north side corner less than 1 metre freeboard.



Photo Log

Location

Photo 3

Cape Dorset



Description: signs of overflow and migration to drainage ditch south side of sewage lagoon cell.

Photo Log

Location

Photo 4

Cape Dorset



Description: Rusting of intake pipes below grade of the potable water source table



Photo Log

Photo 5

Location

Cape Dorset



Description: erosion of the containment wall to mitigate any leachate from the bulk metal section has eroded, and compromised its intended purpose.

Photo Log #1

Photo 6

Location

Cape Dorset



Description: 2x hazardous waste sea cans with paint cans, vehicle battery exposed to the elements