

WATER LICENCE INSPECTION FORM

☒ Original

☐ Follow-Up Report

Licensee	Licensee Representative
Hamlet of Hall Beach	Bhabesh Roy
Licence No. / Expiry	Representative's Title
3BM-HAL2025	Municipal Engineer
Land / Other Authorizations	Land / Other Authorizations
Date of Inspection	Inspector
September 8, 2021	Joseph Monteith
Activities Inspected	
<div><div><input type="checkbox"/> Camp</div><div><input type="checkbox"/> Drilling</div><div><input type="checkbox"/> Mining</div><div><input type="checkbox"/> Construction</div><div><input type="checkbox"/> Reclamation</div><div><input type="checkbox"/> Fuel Storage</div></div> <div><div><input type="checkbox"/> Roads/Hauling</div><div><input checked="" type="checkbox"/> Other: Potable Water Source, Waste Water Treatment Facility, and Solid Waste Facility</div><div><input type="checkbox"/> Other:</div></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				A	
C: CONDITIONS APPLYING TO SECURITY				NI	
D: CONDITIONS APPLYING TO WATER USE				A	1-6
E: CONDITIONS APPLYING TO WASTE DISPOSAL AND MANAGEMENT				C	7-17
F: CONDITIONS APPLYING TO MODIFICATIONS				NI	
G: CONDITIONS APPLYING TO CONSTRUCTION				NI	
H: CONDITIONS APPLYING TO EMERGENCY RESPONSE AND CONTINGENCY PLANNING				U	
I: CONDITIONS APPLYING TO ABANDONMENT, RECLAMATION AND CLOSURE PLANNING				NA	
J: CONDITIONS APPLYING TO MONITORING				A	
SCHEDULES				A	
*The licence and the observation number corresponds with specific comments provided below.					
Samples taken by Inspector:		Location(s): Latitude: N 68.790757°, W81.236942°			
<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>On April 23, 2020, The Nunavut Water Board(NWB) issued 3BM-HAL2025. The Type “B” water license authorizes the use of 40,000m³ per annum or maximum of 299m³ per day. Effective as of April 30, 2020, and expiry April 29, 2025.</p> <p>The Hamlet of Hall Beach owns and operates several municipal facilities aimed at providing relevant services to the residents of the community including a potable Water Supply Facility (WSF), Solid Waste Disposal Facility (SWDF), and a Sewage Disposal Facility (SDF). The Hamlet shares the same Potable Water Source with the Department of National Defence – North Warning Sites.</p> Inspector Statement <p>On September 8, 2021, a water licence inspection was conducted to verify compliance with the water license 3BM-HAL2025 by Water Resource Officer(WRO) Joseph Monteith at the Hamlet of Hall Beach, Qikiqtani Region, Nunavut.</p> General Condition <p>ON April 23, 2020, Sylvia Ekelik, Licensing Administrative Assistant, NWB, emailed a copy of the Hamlet’s 2020 Annual Report.</p> Water Use Related Structures <ol style="list-style-type: none">Water withdrawal is conducted from South Lake to the Water Storage Reservoir. The Water from South Lake is recharged by opening up a gate on a dyke which is also a man-made reservoir. The Storage Reservoir has a capacity of 60,000m³ Erosion is happening on dyke that separates the water source and a historically contaminated man made lake (See photo 1). The road on the dyke is only used by Transport Canada, or Nav Canada to access an antenna, and the dyke is used as wall to separate historical contamination, and the source of water for the community and FOX-M, the North Warning Site operated			

- by Raytheon. Discussions with CGS is ongoing into see who is responsible to maintain the road/dyke.
- At the time of the inspection a yellow triangle sign was observed titled HAL 1 at the pump house of the water treatment facility indicating a monitoring site at Fundo Lake.
 - The water reservoir appeared to be working as intended(photo 5).
 - Two pumping stations at the Water Storage Reservoir. One for community, and another for the North Warning Site.
 - Water meter used to record usage amounts . At the time of the inspection the flow metre read 1492382.2m³ (photo 2), and the logs read the same amount as of July 11, 2018 on the log sheet (See photo 3).
 - The monthly water consumption report recorded 0053422.8m³ used for September 12, 2021 totals for the month (photo 4).

Waste Water Treatment Facility

- The Water Treatment Facility consists of two cells. Cell #1 is the south side cell of the two; whereas, Cell #2 is the north side of the two cells. At the time of the inspection the sewage lagoon was under construction for repairs (photo 6).
- The fencing looked like it was operating as intended, but the base of the fencing looked as if it was causing some structural damage to the lagoon walls, this may need to be maintained and should be monitored.
- The freeboard was in good standing above 1 metre.
- A leak was observed at the South East corner of Cell # 1 at the time of the inspection. A spill report was requested to be submitted. On June 24, 2019 at 16:00 hrs a Spill Report – Spill 2019-253 was submitted to the Spill Line as per Part B: Subsection 6. On June 26, 2019 an update was submitted to the Spills line with an estimated quantity of 593317 litres, and a 10,000 square metres area of contamination. The reason was a cracked liner, damaged as result of sewage seeping/leaking through the berm to the sandy wetlands. The migration of waste travelled through the sandy wetlands for 3km before being received by the receiving marine environment. The type of lagoon is exfiltration, and its natural migration was the same migration path of the spill. No concerns of spill migrating to any fresh water, or impacting any fish bearing waters. This spill will not be closed off till all obligations for follow up have been met.
- Another occurrence at the same lagoon generated another spill report 2020-198. The leak spilled 7843869 Litres of sewage. These two spill reports will be closed together when the obligations for post clean-up have been met.
- Spill Report 2021-289 submitted July 8, 2021 informs the spill of 181,52m³ sewage spill from a breakage in the walls of the sewage lagoon. Follow up report after 30 days hasn’t been provided. (photo 7,8,&9)).

Solid Waste Facility

- The Solid Waste Facility located next to the Water Treatment Facility segregates their waste into metals, burnable waste, hazardous waste, and woods.
- Fencing requires maintenance around burnable waste section.
- Hazardous waste is located throughout in the Solid Waste Facility. This should be removed and segregated appropriately and deposited into the Hazardous Waste Disposal Facility. (See photo 14).
- The Hazardous Waste section is a non engineered berm, with a liner. A gap in the north west section of the Hazardous Waste Facility has been closed off (Photo 11, 12, & 13).
- The old Bulk Metals section of the Solid Waste Facility (photo 15).

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:</p> <ul style="list-style-type: none">Maintain fencing at burnable waste facilityRemove hazardous waste from bulk metal storage facility, deposit in the Hazardous Waste Storage Facility (see photo 11).Seek consultation about the interaction of wildlife at the water reservoir.Report all spills within hazardous waste facility, the solid waste facility, the 2 cell sewage lagoons, the water source, water storage, and water treatment/pump house facility as per conditions of water license.Follow up with Spill reporting requirements as per the water license terms and conditions Part F: 8.(c) for spill reports 2019-253, 2020-198, and 2021-289Provide accurate GPS Coordinates of actual location of spills for 2019-253, 2020-198, 2021, 289.As Per Part F: section 7. 7. The Licensee shall perform more frequent inspections of the engineered facilities at the request of an Inspector. Due to the frequency, and large amount of product being spilled over the last 3 years, we request more frequent inspections of the engineered facility in Hall Beach.Provide Engineers Report, or Contractors Report indicating the work conducted to repair the sewage lagoon walls			

SECTION 3	<input type="checkbox"/> Comments	<input checked="" type="checkbox"/> Non-Compliance with Act or Licence	<input type="checkbox"/> Action Required
Part F: Conditions Applying to Operations and Maintenance			
8. If, during the period of this Licence, an unauthorized discharge of waste occurs, or if such a discharge is foreseeable, the Licensee shall:			
a. employ the appropriate contingency measures outlined in the Spill Contingency Plan for the Hamlet of Hall Beach. Take whatever steps are immediately practicable to protect human life, health and the environment;			
b. report the incident immediately to the NWT/NU 24-Hour Spill Line at (867) 920-8130 and to the Inspector at (867) 975-4295; and			
c. for each spill occurrence, submit to the Inspector, within thirty (30) days after initially reporting the event, a detailed report that provides the necessary information on the location (including the GPS coordinates), initial response action, remediation/clean-up, status of response (ongoing, complete), proposed disposal options for dealing with contaminated materials and any preventative measures to be implemented.			

Licensee or Representative	Inspector's Name
Bhabesh Roy	Joseph Monteith
Signature	Signature
Date	Date
	November 15, 2021

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

PHOTO LOG

Date	Camera	Inspector
August 12, 2020	Nikon Coolpix N16D3-52000738	Joseph Monteith
Photo Log #1		Location:
Photo 1		Water Source Reservoir/Dyke Road, Hall Beach, NU



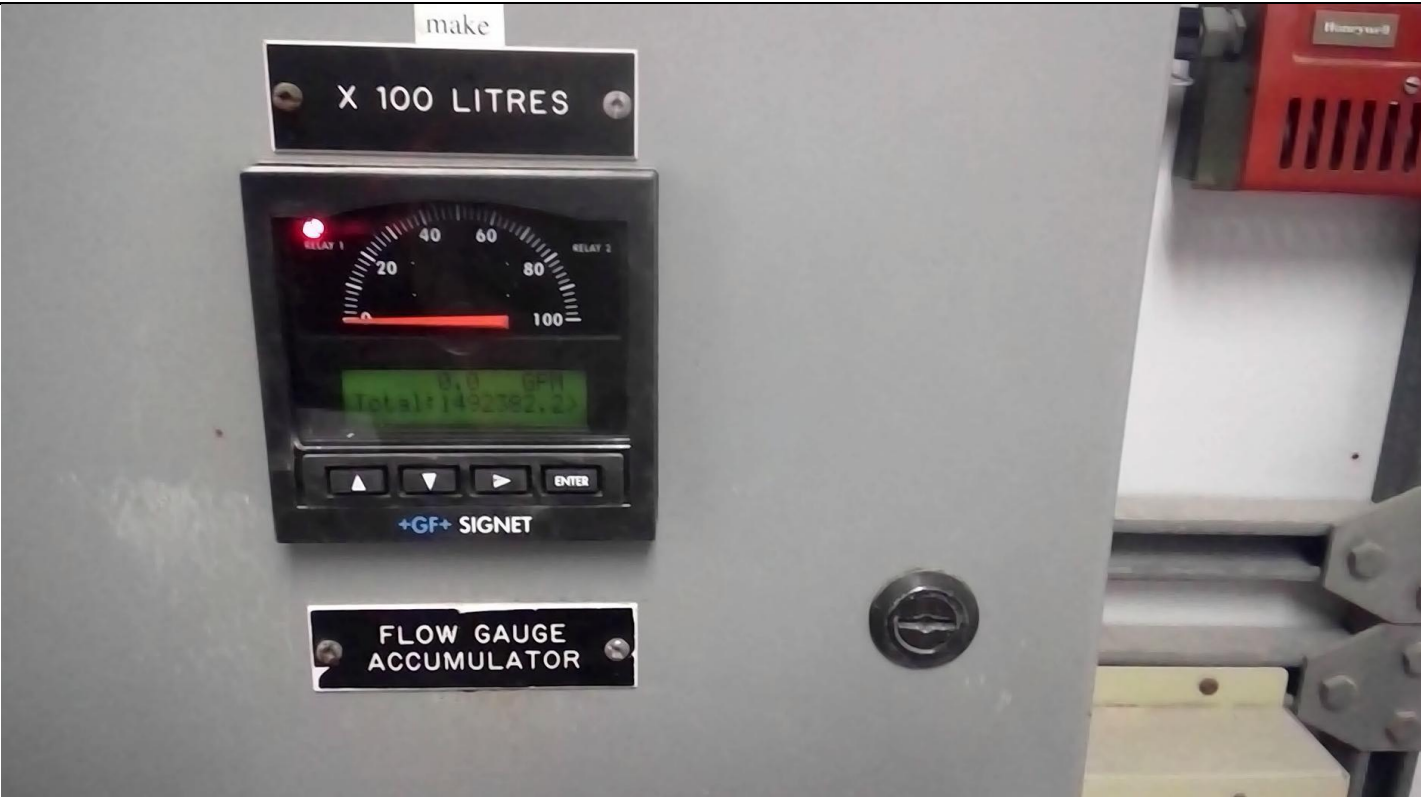
Description: Water Source on left hand side of road wall. Culverts allow water on the historically contaminated side of the dyke road, bypassing interaction with the man made reservoir.

Photo Log

Photo 2

Location

Water Treatment/water truck pump house, Hall Beach, NU



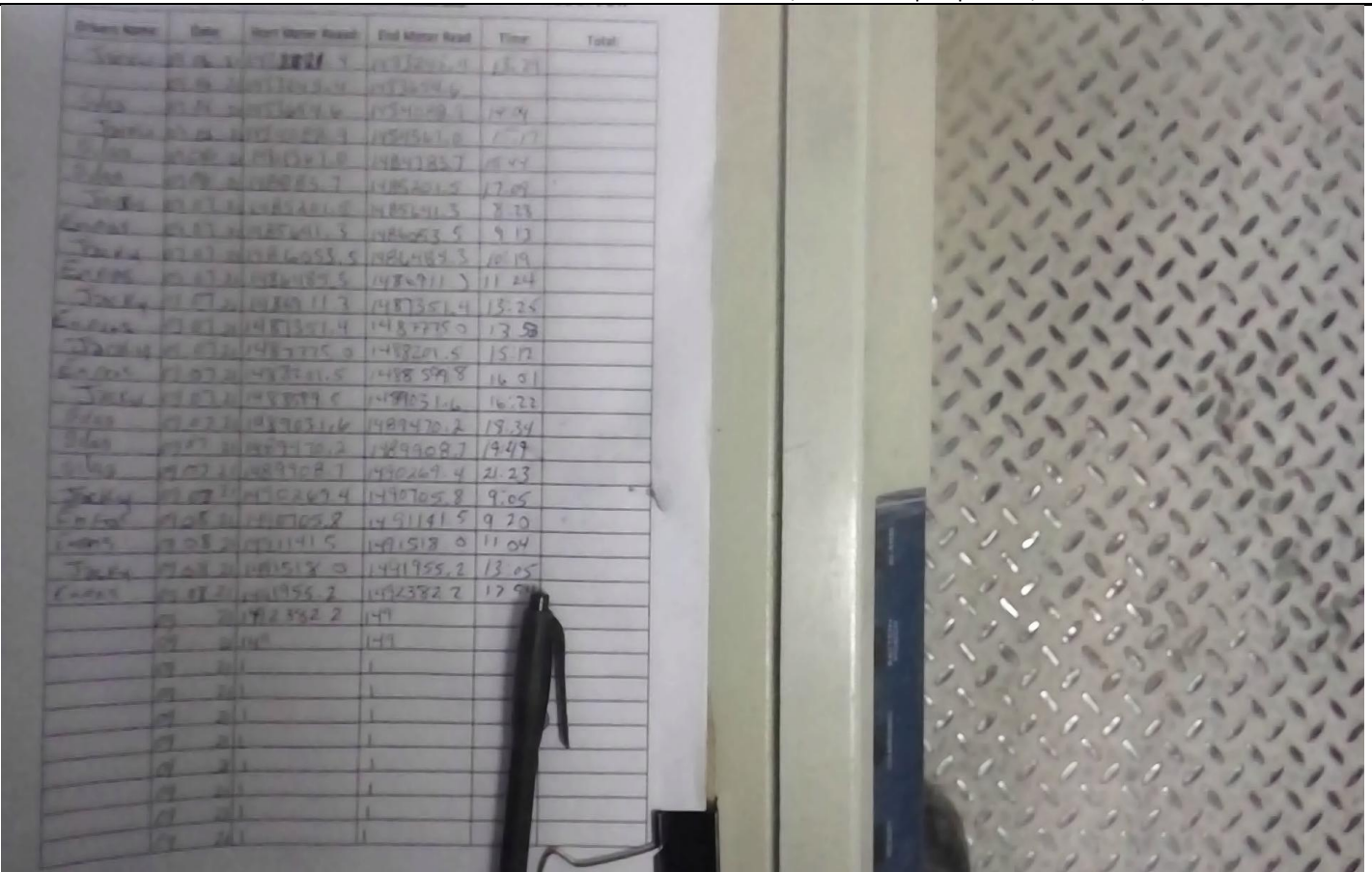
Description: Water Meter – reads 1492382.2 x 100 litres. Signet Flow Gauge Accumulator

Photo Log

Photo 3

Location

Water Treatment/water truck pump house, Hall Beach, NU



Description: Water Usage Logs from Water Pump House – “end meter read” “1492382.2” on September 8, 2021 at 17:04pm

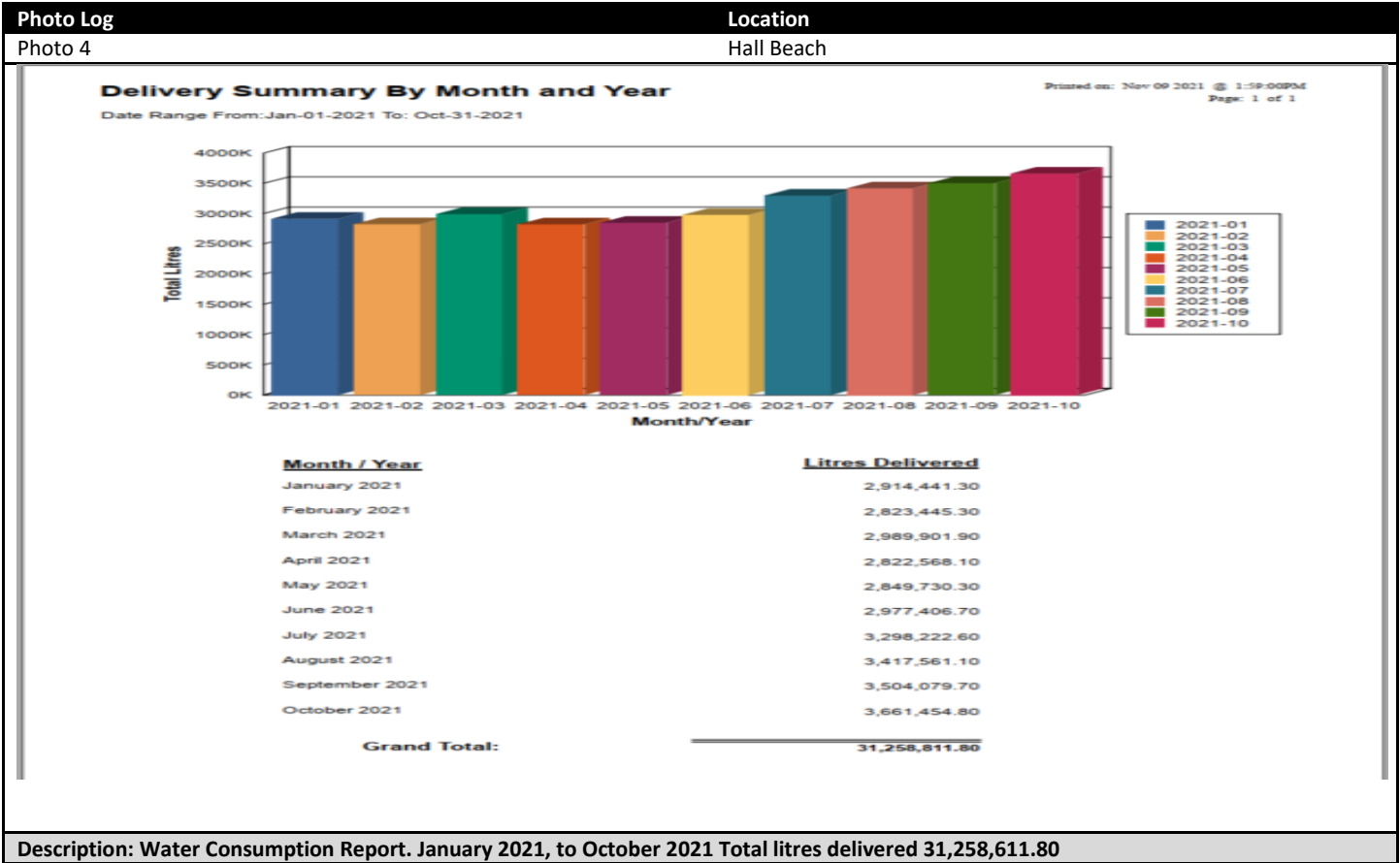




Photo Log	Location
Photo 6	Hall Beach
	
Description: New gravel laid down after repairs	


Photo Log	Location
Photo 7	Hall Beach
	
Description: Spill appears to have migrated from under the supports installed at the base of the sewage lagoon. Spill migrated top left of the photo. Distance from	

Photo Log

Photo 8

Location

Hall Beach

spill-2021289

View

Edit

Timeline

Thursday, July 8, 2021 - 12:14

Spill Status

Lead Agency: CIRNAC - Crown-Indigenous Relations and Northern Affairs Canada

Spill Status: Open

Occurance Date/Time: Thursday, July 8, 2021 - 00:00

Received Method: Email

Potential Spill: No

Responsible Party/Vessel Address: Canada

Contractor Address: Canada

Spill Information

Spill Region: Baffin

Spill Location: Hall Beach, Community, Nunavut

Spill Location Description: Hall Beach Sewage Lagoon

Geolocation: Geolocation is 68.778333, -81.2394194

Land Sea Indicator: Land

Spill Source: Sewage Lagoon

Spill Cause: Breakage

Product Spilled: Wastewater (sewage, mine tailings)

Product Spilled Description: Sewage

Spill Quantity: 18152793.00

Measurement: Litres

Supporting Information

Additional Information: Spill Source: Berm failure One of the two cells of the Hamlet's sewage lagoon has been leaking since constructed (see previous spill reports filed 19/06/26 for 2019 and 20/06/29 for previous two years). When the cell was checked this morning it showed that the cell had started leaking again. As both lagoon cells are approximately the same size, the estimated volume of the spill is 50% of the previous fiscal year's water deliveries, as eventually the full contents of the leaking cell will leak. The GN is working with its contractor to effect repairs for the sewage lagoon berm leak; it is hoped that the cell will be repaired to prevent future leaking this summer.

Description: Spill Report 2021-289 – Source of leak repaired at the time of the inspection.

Photo Log

Photo 9

Location

Hall Beach

2021-289

181,52m3 sewage spill

Distance to Ocean 232.77 metres

Ruler

Line Path Polygon Circle 3D path 3D poly

Measure the distance between two points on the ground

Map Length: 232.77 Meters

Ground Length: 232.77

Heading: 68.36 degrees

☒ Mouse Navigation

Save Clear

Legend

Historical Spill Report Source

Historical Spill Report Source

Google Earth

Image © 2021 Maxar Technologies

600 ft

Description: Spill Report 2021-289 GoogleEarth Map. Distance to ocean is 232.77 metres.



Photo Log	Location
Photo 10	Hall Beach
Description: Hazardous Waste: Open Paint Cans, and other hazardous waste laid across the bulk metal section of the Solid Waste Facility.	

Photo Log	Location
Photo 11	Hall Beach
Description: Gap in the walls of the hazardous waste facility has been closed, and confirmed by photo emailed to WRO Joseph Monteith by the foremen.	

Photo Log	Location
Photo 12	Hall Beach



Description: Hazardous Waste Section of the Solid Waste Facility. Non-engineered walls prevent water from entering and mixing with Hazardous waste.

Photo Log	Location
Photo 13	Hall Beach



Description: Hazardous Waste sea can locked. New box to receive small hazardous waste materials a new addition to the facility.

Location	
Photo 14	Hall Beach
	
Description: Bulk Metals : Signs of hazardous waste spill unreported.	

Location	
Photo Log	Hall Beach
Photo 15	Hall Beach
	
Description: Bulk Metal Storage. A separate Bulk Metal Storage Facility, with Government of Nunavut vehicles in it.	