



## Inspection Report

**License #: 3BM-HAL0810**

**Inspector: A. Keim & K. Pottle**

**CIDMS # 567963**

<b>Client</b>	Municipality of Hall Beach		
<b>Mailing address</b>	Box 3		
<b>Inspection Site location</b>	Hall Beach, Nunavut		
<b>Contact Name</b>	John Ivey	<b>Title</b>	SAO
<b>Previous Inspection Dates</b>	July 16, 2007, August 10, 2008, July 20, 2009, July 21, 2010, July. 28, 2011		
<b>Inspection Date</b>	August. 3, 2012		
<b>Region</b>	Qikiqtani		



Nunavut Regional Office  
P.O. Box 100  
Building 918  
Iqaluit, NU, X0A 0H0

Submitted Via E-Mail

Our File: 3BM-HAL0810

Your File: \_\_\_\_\_

CIDM # 567963

December 10, 2012

John Ivey  
Senior Administrative Officer  
Municipality of Hall Beach  
Box 3  
Hall Beach, Nunavut  
XOA OKO

Please find attached the report on the Water License Inspection conducted in the Municipality of Hall Beach on August 3 2012. Included at the end of the report is a record of observations made during the inspection with respect to issues of Non-compliance or Non-conformity with the issued Water License or the Nunavut Water and Nunavut Surface Rights Tribunals Act.

The role of Aboriginal Affairs and Northern Development Canada (AANDC) in issues related to the use of water or the deposit of waste in Nunavut is one of compliance monitoring and enforcement. Our preferred option is to work with clients to identify and address instances of non-compliance, risks to the environment and/ or people.

Should you require more information or clarification please contact the undersigned at the coordinates listed below.

I look forward to working with you and your staff. If you have any questions please do not hesitate to contact our offices here in Iqaluit.

Sincerely,

*Sent by E-mail*

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Water Resources Officer  
Aboriginal Affairs Northern Development Canada  
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John Ivey  
Senior Administrative Officer  
Municipality of Hall Beach  
Box 3  
Hall Beach, Nunavut  
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**RE: August 3<sup>rd</sup>, 2012 Hall Beach Municipal Water License Inspection 3BM-HAL0810**

The following inspection report is generated on an inspection conducted to determine compliance with the terms and conditions of the water license issued to the Municipality of Hall Beach by the Nunavut Water Board (NWB). The report references the applicable parts of the current Water License (3BM-HAL0810-**Expired**) and the findings observed under each of those parts. During the writing of this report a review of documents located on the Nunavut Water Board's FTP site was completed by the Inspector.

The Inspector would like to thank Adrian Dascalescu, Municipal Technical Officer, and John Ivey, Senior Administrative Officer, for taking the time to meet during the inspection period and for acting as guides during the inspection.

**Part B: General Conditions**

It should be noted that during the period of inspection the Municipality of Hall Beach was operating under an **expired** Water License (3BM-HAL0810). The Nunavut Water Board had most recently issued a short term (two year) water license based on a risk assessment that relied on the need for mitigation strategies to be implemented by the Licensee and monitored by the regulator. With this direction from the Nunavut Water Board in mind, annual inspections were carried out on the Municipal water and waste facilities in Hall Beach, Nunavut over the duration of the License and up to and including the most recent inspection on August 3, 2012.

An application for a renewal license was initially submitted to the Nunavut Water Board on May 21<sup>st</sup> 2010. Following the submission of additional information the package was then distributed for comment on September 2, 2010. Comments from regulators were provided to the NWB at that time. Following this and over the course of the next two years additional information was provided to the NWB who have again sent out the application for comment and review by regulators. AANDC submitted their comments back to the NWB in April of 2012.

The current inspection report relies on the information provided by the Licensee and observations during the inspection period in determining compliance with the issued authorizations. It is noted that upon review of the documents to be found on the Nunavut Water Board (NWB) public registry an annual report for the year 2011 was submitted by the licensee. The report was found to be incomplete.



### **Part C: Conditions Applying to Water Use**

A visual inspection of the water transfer pipe line and intake facilities was conducted during the period of inspection. No issues were noted.

Water samples were collected from the water supply lake/reservoir near the gate valve as required. The raw water comes from a natural source lake. There is an annual storage reservoir built next to the lake that water is then extracted from through intake pipes that lead directly to the treatment plant. Water is disinfected inside the treatment plant with chlorine. The chlorine residual is measured twice daily. The chlorine mixing tank seemed to be in good working order and it was approximately  $\frac{3}{4}$  full at the time of inspection.

Meters and records were observed during the inspection inside the pumping station. Chlorination records were not available at the time of inspection but were later obtained from the hamlet garage.

### **Part D: Conditions Applying to Waste Disposal**

#### **Sewage treatment;**

The Licensee is reminded that while the current authorization has expired, the responsibility of the licensee to continue to meet the listed Effluent discharge criteria from the sewage treatment system (2 cell lagoon systems) is a mandatory requirement for discharge. They are listed as follows;

<b>Parameter:</b>	<b>Max Concentration</b>
Fecal Coli forms:	$1 \times 10^4$ CFU/100mL
BOD	120 mg/L
TSS	180 mg/L
Oil & Grease	No visible sheen
PH	Between 6 and 9

Samples of discharged effluent from the Sewage treatment facility were collected at HAL-4. This point having been determined with the licensee in previous inspections allows for continuity in the monitoring program and to ensure that samples collected by the regulatory agency can be compared to sampling results from the licensee's monitoring program.

The following exceedances were noted in the sampling results received by AANDC from the lab on August 27, 2012.

<b><u>Parameter</u></b>	<b><u>Location</u></b>	<b><u>Sample Result</u></b>	<b><u>Guideline/ License criteria</u></b>
Ph	HAL-4	9.45	6-9
TSS	HAL-4	206 mg/L	180 mg/L
Arsenic	HAL-4	6.5 µg/L	5 µg/L <sup>1</sup>

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<sup>1</sup> Canadian Council of Ministers of the Environment Guideline for Protection of Aquatic Life



During the period of inspection it was noted that cell 1 (nearest town) of the two cell system was absent any volume of effluent. Additionally, two large areas of subsidence (sink holes) that were not evident in previous inspections were identified immediately adjacent to the wall of Lagoon Cell 1. Direction was provided to the Licensee during the Inspection to take such measures as were required to rectify the cause of the sink holes. Comments and statements made by the Licensee and staff at the time of the inspection indicate that a volume of effluent had been deposited in the lagoon following work to install a liner on the wall of the lagoon was completed.

Following this and for a period of time the lagoon contained effluent until, according to staff in late May of 2012 the sink holes were noted adjacent to the lagoon wall and cell 1 was found to be empty.

During the inspection, noticeable brownish and green surface stains beginning near the sink holes and proceeding down gradient towards the foreshore of Foxe Basin were evident.

A review of the data from the Spill Line and spill reports for 2012 reveal that a spill report was not submitted to the Spill Line or the inspector at the time of the release. This is the second time that a containment failure of the lagoon cell 1 has resulted in the loss of an unknown quantity of effluent into the environment and not been reported to the proper authorities as required by legislation. At the time of the Inspection, and when questioned by the Inspector it was made clear by the Licensee that the release and observations regarding the development of the sink holes was provided to the Government of Nunavut, Department of Community and Government Services in late May 2012.

The Licensee is reminded that under Part F (5) of the license any unauthorized discharge of waste occurs, or if such a discharge is foreseeable, the licensee shall;

- A. employ the appropriate contingency measures as approved under the Operation and Maintenance Manual for the Hamlet of Hall Beach;
- B. Report the incident immediately via the 24-Hour Spill Reporting Line at (867) 920-8130 and to the Inspector at (867) 975-4289; and
- C. submit to the Inspector, a detailed report on each occurrence, not later than thirty (30) days after initially reporting the event, 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 preventative measures to be implemented.

The licensee is also reminded that prior to a planned decant of the sewage treatment lagoon system there is a requirement for the Municipality to notify the Inspector ten days in advance and to ensure the monitoring program is followed.

During the inspection it was also identified by Inspectors that the rigid pipe that enters the lagoon to facilitate the decanting process (in the absence of a gated valve) is to be suspended in the water column and not allowed to sit on the bottom of the lagoon floor. Such practices result in the discharge of sludge and other solid matter from the containment of the lagoon. This has been identified to the Licensee a number of times over the course of annual inspections.

#### **Solid Waste Management Area;**

An inspection was conducted and samples were collected at the solid waste management area (Municipal/Bulk metals dump).



The following exceedances were noted in the sampling results received by AANDC from the lab on August 27, 2012.

<u>Parameter</u>	<u>Location</u>	<u>Sample Result</u>	<u>Guideline/ License criteria</u>
Mercury	Municipal Dump	0.05 µg/L	0.026 µg/L
Iron	Municipal Dump	3390 µg/L	3390 µg/L

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During the 2012 inspection the inspector noted that the metal waste area has now expanded to three different locations throughout the community. These areas do not show any signs of sorting of bulk metal wastes, all were seen to contain examples of hazardous materials and none of the sites visited are lined. It was also noted in previous inspections and again in 2012 that while a specific site for hazardous materials has not yet been designated by the licensee, a number of drums of waste oil are being stored within the community on a lot not far from the school. The Licensee was reminded of their requirement under the current authorization to segregate hazardous materials and will be required to remove contaminated materials from the site in town to a lined area for remediation or shipment off site to a facility to treat contaminated materials.

A recommendation from the Inspector to the Licensee in 2011 to install a fence around the Municipal burn and bury area prevent the continuing ejection of windblown materials from the site has to date not been addressed. The Licensee did indicate that materials have been ordered and this work is to be done prior to the next inspection.

#### **Part F: Conditions Applying to Operations and Maintenance**

The Water Intake Facility was well maintained and found to be working and in good order.

The Licensee was unable to produce a Sewage Waste Disposal Operations and Maintenance manual during the period of inspection. During the consolidation of this report a review of the Nunavut Water Board FTP site notes that as part of the application submitted for the license renewal a document entitled *Hamlet of Hall Beach, NU Sewage Treatment Facility Operation and Maintenance Manual –Dated June 2011* was found. It is not apparent at the time of the submission of this report is the Nunavut Water Board has accepted and approved this Manual.

The Licensee was unable to produce a Solid Waste Disposal Operations and Maintenance manual during the period of inspection. During the consolidation of this report a review of the Nunavut Water Board FTP site notes that as part of the application submitted for the license renewal a document entitled *Hamlet of Hall Beach, NU Solid Waste Facility Operation and Maintenance Manual –Dated June 2011* was found. It is not apparent at the time of the submission of this report is the Nunavut Water Board has accepted and approved this Manual. Additionally, it is noted that the manual also appears to include a section on land farm Operations that is not currently part of the issued authorization.

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<sup>2</sup> Canadian Council of Ministers of the Environment Guideline for Protection of Aquatic Life



### **Part G: Conditions Applying to Abandonment and Restoration**

The Municipality was unable to produce an Abandonment and Restoration Plan during the period of inspection. During the consolidation of this report a review of the Nunavut Water Board FTP site was not able to locate this document.

### **Part H: Conditions Applying to the Surveillance Network Program (Monitoring Program)**

During the period of Inspection the Inspector did not find adequate signage where required. The licensee is reminded that they must ensure that adequate signage remains in place.

The Licensee is reminded that as detailed in the current authorization the licensee shall maintain Monitoring Program Stations at the following locations; Hal-1(Raw water supply intake at Water Supply Lake), Hal-2(Runoff from Solid Waste Disposal Facility), Hal-3(Raw Sewage at discharge point into the Sewage Disposal Facility), Hal-4(Effluent discharged from Sewage Disposal Facility), Hal-5(Final Effluent Discharge Point prior entering Foxe Basin).

#### **Sewage Waste monitoring:**

During the inspection it was noted that the Hamlet had not complied with Section 2 of this part. The Licensee is reminded that they must collect the required samples at the following two locations (HAL-4 and HAL-5) as outlined in the current license.

To assist the licensee in the future, the following are the required parameters to be tested for as a requirement of their water license. The Licensee is also required, as per the License, to notify the Inspector when a flow is observed from the lagoon (HAL-4 and HAL-5) and then sample from that flow monthly from that point on until no flow is observed.

Biochemical Oxygen Demand - BOD	Fecal Coliforms
Total Suspended Solids	pH
Conductivity	Nitrate-Nitrite
Oil and Grease (visual)	Total Phenols
Magnesium	Calcium
Sodium	Potassium
Chloride	Sulphate
Total Hardness	Total Alkalinity
Ammonia Nitrogen	Total Zinc
Total Cadmium	Total Iron
Total Cobalt	Total Manganese
Total Chromium	Total Nickel
Total Copper	Total Lead
Total Aluminum	Total Arsenic
Total Mercury	Total Organic Carbon (TOC)

These samples are to be collected and analyzed in accordance with a Quality Control / Quality Assurance plan. A review of the renewal application submitted by the licensee found that a QA/QC plan appears to be included with the application. It is not yet determined if the plan as submitted has been approved by the NWB.





### **Solid Waste Management monitoring:**

To assist the licensee in the future, the following are the required parameters to be tested for as a requirement of their water license. The Licensee is required, as per the License, to sample for the following parameters during periods of run-off or seepage from the Waste Management Area (HAL-2).

BOD	Fecal Coli form
pH	Conductivity
Total Suspended Solids	Oil and Grease
Nitrate-Nitrite	Ammonia Nitrogen
Total Phenols	Total Alkalinity
Total Hardness	Calcium
Magnesium	Potassium
Sodium	Sulphate
Total Arsenic	Total Cadmium
Total Copper	Total Chromium
Total Iron	Total Lead
Total Mercury	Total Nickel
TPH (Total Petroleum Hydrocarbons)	
PAH (Polycyclic Aromatic Hydrocarbons)	
BTEX (Benzene, Toluene, Ethyl benzene, Xylene)	

These samples are to be collected and analyzed in accordance with an approved Quality Control / Quality Assurance plan. A review of the renewal application submitted by the licensee found that a QA/QC plan appears to be included with the application. It is not yet determined if the plan as submitted has been approved by the NWB.

**Non-compliance:** Issues identified during August 3<sup>rd</sup> 2012 inspection and/or review of submissions made by the Licensee to the NWB since the period of the last Inspection are as follows;

- Part B (1a through i) Failure to submit complete Annual reports
- Part B (2) Failure to fully implement the conditions of the Monitoring Program
- Part B (5) Failure to maintain the appropriate signage, Surveillance Network Program (SNP)
- Part B (6) Failure to immediately report unauthorized discharges of waste to the 24 hour spill line
- Part B (10) Failure to submit a suitably detailed Plan for Compliance with the required dates for completion
- Part D (2) Failure to notify the Inspector when flow is observed from the SDF and upon commencement of sampling
- Part D (5) Failure to maintain and operate the lagoon to prevent structural failure
- Part D (6) Failure to conduct required testing as required ( Acute Toxicity)
- Part D (8) Failure to segregate and store hazardous wastes in a manner as to prevent the deposit of deleterious substances into any water
- Part D (9) Failure to undertake measures to control wind-blown litter at the Solid Waste Disposal Facility
- Part E (3) Failure to submit as-built drawings for work undertaken at the Sewage Disposal facility
- Part F (3) Failure to conduct inspections of all engineered facilities related to the management of water and waste water by a Geotechnical Engineer in July or August.
- Part F (5 (b) and (c) ) Failure report an unauthorized discharge of waste to the Spill Line and the Inspector as required
- Part H ( 1 through 12) Failure to implement the requirements listed under the Monitoring Program





The Municipality of Hall Beach continues to operate in non-conformity with the terms and conditions of the Water License (now expired). While an application for renewal of the current license has been submitted the review of that application package is on-going.

A. Keim  
Inspector's Name

( Sent by E-mail)  
Inspector's Signature

Cc:  
Phyllis Beaulieu – Manager Licensing – Nunavut Water Board

**Contact :**

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