

WATER LICENCE INSPECTION FORM

☒ Original

☐ Follow-Up Report

Licensee		Licensee Representative	
Hamlet of Igloolik Baffin Region P.O. Box 30 Igloolik, NU X0A 0L0 Email: Igloolik@magma.ca		Brian Flemming	
Licence No. / Expiry		Representative's Title	
3BM-IGL0911 EXP. July 31, 2011		Senior Administrative Officer	
Land / Other Authorizations		Land / Other Authorizations	
Date of Inspection		Inspector	
08/08/2014		A.Keim	
Activities Inspected			
<div><input type="checkbox"/> Camp<input type="checkbox"/> Roads/Hauling<input type="checkbox"/> Drilling<input type="checkbox"/> Other: Water Discharge<input type="checkbox"/> Mining<input type="checkbox"/> Construction<input checked="" type="checkbox"/> Other: Municipal<input type="checkbox"/> Reclamation<input type="checkbox"/> Fuel Storage</div>			

Conditions:

A - Acceptable

C - Concern

U - Unacceptable

NA – Not Applicable

NI – Not Inspected

Water Use	Condition	Comment	Site Conditions	Condition	Comment	Haz/Mat Management	Condition	Comment
Intake/Screen	NI		Water Management Structures			Storage	U	1,3
Flow Measure. Device	NA		Culverts / Bridges	NA		Spills	C	1
Source: South Lake			Drainage	NA		Spill Plan	U	1,3
Water Use:	A		Erosion / Sediment	NA				
Recirculation (y /n)	N		Mitigation Measures	NA		Administrative		
			Reclamation Activities	NA		Records	A	
			Materials Storage	A		Reports	A	
Waste Disposal			Signage	C	1	Plans	C	1
Waste Water	C	1				Notifications	A	
Solid Waste	C	1	Monitoring			Other		
Hazardous Waste	C	1	Sample Collection / Analysis	C	1	Fencing at Reservoir	C	1
						Decanting	U	1,3

*The number in the comments field will correspond with specific comments provided below.

Samples taken by Inspector:

☒ Yes ☐ No

Location(s): Raw Water (Reservoir), Waste Management Area (GPS collected),

SECTION 1	<input checked="" type="checkbox"/> Comments (s.____)	<input type="checkbox"/> Non-Compliance with Act or Licence (s.____)	<input type="checkbox"/> Action Required (s.____)
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Administration:

The Water License for the Municipality of Igloolik expired on July 31st 2011. On March 13, 2014 the Municipality and the Government of Nunavut submitted a new application for renewal to the Nunavut Water Board (NWB).

A review of the application on the NWB public registry found that it contained the following items:

- Annual reports between 2011 and 2013
- A map showing the new Potable water source location
- A revised Plan for Compliance
- A Technical summary of the Environmental Facilities under the water License (It is not clear what this means)
- A copy of spill reports filed in 2013
- A Bathymetric survey of South Lake (new source)

Missing from the application were the following items as required under the now expired license.

- a. Updates to the Water Storage and Distribution Facility Operation and Maintenance (O&M) Plan;
- b. Sewage Disposal Facility Operation and Maintenance (O&M) Plan;
- c. Sewage Sludge Management Plan;
- d. Solid Waste Disposal Facility Operation and Maintenance (O&M) Plan;
- e. Spill Contingency Plan; and
- f. Monitoring Program Quality Assurance/Quality Control Plan.
- g. Geotechnical inspection reports

The Licensee, in the application for renewal has left out any reference to these items in both their summary documents and the new compliance plan simply indicating that new plans and manuals for new facilities will be submitted when they are constructed at some point in the future when the money becomes available.

The Inspector questions why the missing but still required documents have not been filed with the Board and the Inspector at any point within the last 6 years. It is noted that the Inspector has identified that these requirements must be met in previous inspection reports and that in the previously submitted compliance plan submitted by the GN and the Licensee it was indicated that these plans

would be completed and submitted for review.

The Licensee is also reminded that the required Abandonment and Restoration plans for facilities scheduled for replacement must be submitted a minimum of 6 months prior to their end of life (usage). Not six month prior to their Restoration.

The Inspector will wait on the Nunavut Water Board's review of the application to determine it's completeness.

During the Inspection the Inspector, Mr Bhabesh Roy of the Government of Nunavut and the Hamlet Senor Administrative Officer, Mr. Brian Flemming met to review the inspection process and to identify issues that could be addressed proactively.

Some issues identified were the need for a Land Farm within the Municipality to address the staggering volume of hydrocarbon contaminated soils that have recently been excavated from a number of spills that were recently identified in the community.

The use of Municipal by-laws and suggested changes to the way the Government of Nunavut tenders and awards contracts that generate and deposit Hazardous wastes within the communities. It was suggested that the these contracts contain provisions and requirements for the back hauling of that waste outside of Nunavut as part of the contract and not depositing them in the Municipal dump as this only compounds the existing problems faced by the Municipalities.

The total water usage records were reviewed as well as a general discussion on both record keeping as well as the submission of annual reports were also discussed.

Water Use:

During the period of Inspection a site visit to the Water reservoir was conducted. During this inspection the following were identified:

- 1. Fencing is required to prevent access and protect the facility
- 2. Signage should be up-graded and improved
- 3. Vehicle access to the raw water reservoir must be blocked off
- 4. Water levels were low and filling will begin this month.
- 5. Secondary containment around the backup generator fuel tank must be installed without any delay

Waste Management:

During the period of Inspection the following were identified and documented;

- The GPS location of IGL-4 was set and recorded by the Inspector, signage is to be installed immediately

As no flow was identified during the inspection the final control point from the 5 cells of the Sewage Disposal facility could be identified.

During the period of Inspection the following issues were identified;

- A Large volume of contaminated soils are being stored within the soil waste management area. The contaminated soils are not on a liner and are leaching hydrocarbons into the ground. It was stated that these soils originated from the Housing Authority and not the Municipality...
- A great deal of contaminated soils in Maxi bags was located by the airport. These contaminated soils are the responsibility of the Municipality and are for the most part contained on a liner.
- The Municipality requires a long term plan and management plan for Hydrocarbon contaminated soils within the Municipality.
- Hazardous wastes have been consolidated into one area in the Solid Waste Management Area. These batteries, tanks, paint cans and other items require proper packaging for shipment off site and out of the territory to a facility licensed to accept and treat them.
- At the Sewage treatment facility is was noted that suction hoses being used to decant the facilities did not have any form of floatation attached to the source end to prevent the up-take and expulsion of sludge into the environment. This is not the first time this issue has been identified to the Licensee.

SECTION 2	<input type="checkbox"/> Comments (s.__)	<input checked="" type="checkbox"/> Non-Compliance with Act or Licence (s.__)	<input type="checkbox"/> Action Required (s.__)
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Following a review of the Nunavut Water Board's FTP site and the submission of Documents related to this file by the GN-CGS on behalf of the Municipality and based on observations, documents, photographs and samples collected during the period of the Inspection, The Inspector finds that the GN-CGS and the Municipality of Igloolik are in contravention of the terms of the now expired Water License and the Nunavut Waters and Nunavut Surface Rights Tribunal Act, specifically;

Water License: 3BM-IGL0911

- Part B (2) Failure to fully implement with the Monitoring Program
- Part B (5) Failure to maintain the appropriate signage, and Surveillance Network Program (SNP)
- Part D (2) Failure to notify the Inspector
- Part D (5) Failure to maintain and operate the lagoon to prevent structural failure
- Part D (8) Failure to implement measures to control wind blown litter at the solid waste disposal facility
- Part H Failure to implement the requirements listed under the Monitoring Program
- Part F (1) Failure to submit Operation and Maintenance Manuals as required

The Nunavut Waters and Nunavut Surface Rights Tribunal Act;

- 11. (1) Subject to subsection (2), no person shall use, or permit the use of, waters in Nunavut except in accordance with the conditions of a licence.
 - (2) Subsection (1) does not apply in respect of
 - (a) any unlicensed use of waters that is authorized by the regulations;
 - (b) the use of waters

- (i) for a domestic purpose, or
(ii) for the purpose of extinguishing a fire or, on an emergency basis, controlling or preventing a flood; or
(c) the use of waters in a national park.
- (3) Where a person diverts waters for a purpose referred to in subparagraph (2)(b)(ii), the person shall, when the need for the diversion has ceased, discontinue the diversion and, in so far as possible, restore the waters to their original channel.
12. (1) Subject to subsection (2) and except in accordance with the conditions of a licence, no person shall deposit or permit the deposit of waste
(a) in waters in Nunavut; or
(b) in any other place in Nunavut under conditions in which the waste, or any other waste that results from the deposit of that waste, may enter waters in Nunavut.
- (2) Subsection (1) does not apply in respect of
(a) any unlicensed deposit of waste that is authorized by the regulations; or
(b) the deposit of waste in a national park.

SECTION 3

☐ Comments (s.__)

☐ Non-Compliance with Act or Licence, (s.__)

☒ Action Required (s.__)

The Licensee and the Government of Nunavut Department of Community and Government Services continue to operate and conduct activities in contravention of the expired license and the Act. It is suggested that the following are required to bring the Municipality into compliance;

1. Submit the following lab results collected during the 2013 Year: B13-24340_R.pdf B13-15751_R.pdf B13-29381_R.pdf B13-29380_R.pdf

2. Undertake such work as required to properly segregate the hazardous wastes and batteries from the Large steel tanks and secure them for storage and shipment off site

3. Resubmit to the Nunavut Water Board a complete application for a water license that includes a comprehensive plan to address the very large volume of hydrocarbon contaminated soils currently stored at both the Solid Waste Management Area and adjacent to the Municipal airport. This may or may not include Plans for construction of a land Farm and an Operations manual for it's use but at minimum will include some form of segregation and containment to prevent migration of hydrocarbons from the sites.

4. Install fencing around the Reservoir area to ensure the security of the community drink water reservoir

5. A plan to initiate segregation and sorting of wastes store within the solid waste management area.

6. Resubmission to the Nunavut Water Board and the Inspector a compliance plan that the Government of Nunavut and the Municipality can achieve.

7. Submission of a plan to train Municipal staff on the requirements necessary to maintain and operate the community waste water (effluent) treatment facilities including the decanting process.

Photo Log

Date	Authorization	Camera	Inspector
August 8, 2014	3BM-IGL0911	Sony Cyber shot	A. Keim



Figure 1 Signage had been received by the community and was to be installed this season


		Community Name: <u>Iqaluit</u>						
		Date: <u>Aug 4</u> to <u>Aug 6</u>						
		Operator: <u>013</u>			Foreman name _____			
Time		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Accuflow Meter Located at Truck Operator Panel (x 100 L)		11:47	11:40am	10:14am	10:25	8:45am		
Flow Rate of Water Pump		1592730	1587884	15919080	1595730	16011750		
Chlorine Tank Level		20 MIN	20 MIN	20 MIN	20 MIN	20 MIN	20 MIN	20 MIN
Chlorine Pump Stroke/Speed		112	112	112	112	112		
Free Chlorine (mg/L) Between 0.2 and 0.5		0.29	0.31	0.24	0.25	0.025		
Total Chlorine (mg/L) Greater than Free Chlorine		0.34	0.037	0.33	0.33	0.30		
Building Temperature (°C)	Pump Room	26		27	27	19		
	Generator Room	26		27	27	18		
Heat Trace Power On (Y or N)	Pump Room	Y	Y	Y	Y	Y	Y	Y
	Truck Fill	Y	Y	Y	Y	Y	Y	Y
Operator Initials		SL	SL	SL	SL	SL		
Comments:								
Water Sample sent	Water truck#							
	Water truck#							
	Water truck#							
	Water truck#							
	Water truck#							
Additional sites	Raw water							

Figure 2 Chlorine checks and records were up to date and available for review



Figure 3 Lack of proper secondary containment at fuel tank adjacent to reservoir



Figure 4 Lack of proper secondary containment



Figure 5 Chemical storage in Pumping station



Figure 6 Water levels in Reservoir



Figure 7 fencing is to be installed



Figure 8 Old fuel drums in SWM Area- No secondary containment



Figure 9 More drums of unknown origin or contents in solid waste area



Figure 10 Segregated hazardous wastes by seacan



Figure 11 10,000 l tanks full of waste batteries and other hazardous materials



Figure 12 Tanks full of old batteries



Figure 13 Non segregated waste metals



Figure 14 Non segregated waste metals



Figure 15 decanting of cell at Lagoon. Lack of a float on suction line allows sludge to be taken up and ejected out of the facility



Figure 16 Wall of lagoon



Figure 17 wall of lagoon showing signs of settling and erosion



Figure 18 Lagoon wall, erosion and settling, sloughing evident on both faces



Figure 19 Down grade of the lagoon toward the ocean



Licensee or Representative	Inspector's Name
	A.Keim
Signature	Signature
	Sent by Email, Original On file
Date	Date
	September 26 2014

Office Use Only:	Follow-up report to be issued by Inspector	<input type="checkbox"/> Yes <input type="checkbox"/> No
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