



WATER LICENCE INSPECTION FORM

☒ Original
☐ Follow-Up Report

Licensee		Licensee Representative	
David Alderdice Senior Administrative Officer Hamlet of Kimmirut, Baffin Region, P.O.Box-120, X0A 0N0, NU		David Alderdice	
Licence No. / Expiry		Representative's Title	
3bm-KIM0911 Exp. Jan 29, 2011		Senior Administrative Officer	
Land / Other Authorizations		Land / Other Authorizations	
Date of Inspection		Inspector	
August 11, 2014		A.Keim	
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 type="checkbox"/> Other: Water Discharge <input checked="" type="checkbox"/> Other: Municipal			

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	C		
Flow Measure. Device	NA	1		Culverts / Bridges	NA			Spills	C		
Source: Fundo Lake				Drainage	NA			Spill Plan	C		
Water Use:	A			Erosion / Sediment	NA						
Recirculation (y /n)	N			Mitigation Measures	NA			Administrative			
				Reclamation Activities	NA			Records	A		
				Materials Storage	NA			Reports	A		
Waste Disposal				Signage	C			Plans	C		
Waste Water	U							Notifications	NA		
Solid Waste	C			Monitoring		Other					
Hazardous Waste	C			Sample Collection / Analysis	C						
<i>*The number in the comments field will correspond with specific comments provided below.</i>											
Samples taken by Inspector:			Location(s): AANDC Inspectors collected Raw Water samples from lake Fundo at the								
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			Intake location, Effluent sample from the ditch and leachate samples from within the SWMA								

SECTION 1	<input checked="" type="checkbox"/> Comments (s.____)	<input type="checkbox"/> Non-Compliance with Act or Licence (s.____)	<input type="checkbox"/> Action Required (s.____)
<p>The Water License for the Municipality of Kimmirut expired on January 29, 2011.</p> <p>Between 2009 and the expiry of the Water License in 2011 the Nunavut Water Board made a number of requests for information from the Government of Nunavut. These requests included;</p> <div><div>1. Acceptable, alternative methods for sewage disposal during construction and up-grading of the Lagoon system in the community.</div><div>2. Results of sampling to determine if there are fish in the wetland area or the small pond upstream of Soper Lake</div><div>3. Detailed topographic maps covering the entire sewage effluent treatment train including definitive flow patterns, discharge location into wetlands, predicted flow course through the wetlands, discharge into small ponds, and finally discharge into Soper Lake;</div><div>4. A site-specific wetland study; and</div><div>5. A Plan for Compliance that addresses the Board's requirements and the concerns of interveners expressed during the 2009 application for amendment</div></div> <p>On August 12, 2013 the Government of Nunavut Department of Community and Government Services (GN-CGS) submitted an application for renewal of the expired Water License to the Nunavut Water Board (NWB).</p> <p>In May of 2014 the Government of Nunavut submitted an Operations and Maintenance Manual for the Lagoon constructed in 2001 and recently up-graded in 2012. It is noted that this lagoon has not yet been commissioned nor has any effluent been deposited within the facility. It is noted that issues with the safety of the roadway remain and that the site remains un-commissioned as of August 2014.</p> <p>In September of 2014 the Government of Nunavut submitted to the Inspector and the Nunavut Water Board two fish studies on the wetlands area. One fish study was completed in 2001and formed part of the application for renewal of the Water License at that time. A more recent study, as was required by the Board in support of the current application for renewal was completed by Stantec in March of 2014. Both studies indicated that Fish are present in the wetlands area below the lagoon and that the input of effluent into the wetlands area may have detrimental effects on the wetlands with respect to the quality and condition of existing fish habitat.</p> <p>The Community of Kimmirut has for many years been in Non-compliance with the terms of their Water License and with the</p>			



Nunavut Water and Nunavut Surface Rights Tribunal Act (ACT). In 2012 an Inspector's Direction was issued by AANDC under the authority of the Nunavut Waters and Nunavut Surface Rights Tribunal Act to the Municipality of Kimmirut and the Government of Nunavut. The Direction requires the Municipality and the Government of Nunavut to develop submit and apply a Compliance Plan that effectively addresses the recurring issues of Non-compliance with the Act and the expired Water License.

In 2013, following the submission of the Compliance Plan by the GN-CGS and the Municipality, an Inspection was completed and a report generated on that Inspection. While the Inspection report did not indicate that the Plan had been approved by the Inspector it did indicate that, as of the time of the Inspection, very few of the terms and conditions committed to by the GN-CGS and the Municipality had been accomplished. A complete list of the non-compliance can be found in the Inspection Report submitted to the NWB and the Licensee in 2013.

In August of 2014 the Inspector again conducted an annual compliance inspection and found that some progress has been made by the Licensee but that the problems or barriers to achieve compliance identified in previous inspection reports remain.

A review of the NWB Public Registry reveals a number of documents submitted by the GN-CGS on behalf of the Licensee in support of a renewal application. Identified within these documents is an Operations and Maintenance Manual for the Lagoon system built on top of the mountain in 2000- 2001 and then renovated (addition of a lower cell and the rebuilding of the upper berm wall) in 2011 and 2012. This facility has never been used and remains un-commissioned as of the date of the Inspection. It is notable that prior to the construction of the new lagoon system in 2001 the community of Kimmirut had and continues to deposit their sewage to a ditch in the Solid Waste Management Area with direct overland discharge to the ocean. Additionally, issues with the width and safety of the roadway to the new Lagoon system remain as serious concerns for the Licensee.

A review of the status of the Compliance Plan submissions and actions undertaken to date by the Government of Nunavut and the Municipality indicate that as of April of 2014 following items remained outstanding;

B.1 Submission of complete and accurate Annual Reports.

B.9 A report to have been produced by the consultant, EXP, on identified outstanding reports and Plans that are required by the NWB to facilitate the renewal process for the expired water license.

D.1 A Plan of Action was to have been produced by the consultant hired by the GN-CGS, to identify the steps necessary to achieve compliance. This plan was due on July 1, 2013. It was not found on the NWB's FTP site.

D.2 Effluent quality / discharge criteria. This, given the current discharge location will be impossible to meet until such time as the new (2001 2012) Enhanced Sewage Disposal facility is fixed, commissioned and finally in use, or alternatively a new lagoon site is chosen and construction and commissioning are completed. Until then the community is forced to discharge to the ditch located in the Solid Waste Management Area.

F.1 A Operations and Maintenance Manual for the Solid Waste Management Area, the Current Sewage/Effluent disposal site and the 2001-2012 Enhanced Sewage Treatment facility. It was noted during the compilation of this report that an O&M Manual for the new enhanced facility has been submitted though this Facility remains un-commissioned. An O&M manual for the Solid waste area however remains outstanding.

G.1 Abandonment and Restoration plans have not been submitted as required.

H.1 The Monitoring program, at the time of the Inspection was still being detailed and put in place within the community.

Additionally, on May 26, 2014 the Nunavut Water Board wrote to the Government of Nunavut, Department of Community and Government Services and the Licensee requesting clarification and submission of information on 14 specific items including;

- Submission of Studies and reports
- Clarification in increased water consumption requests
- Complete information on treatment systems within the Community for the disposal of wastes
- Clarification on the proposed use of the new Solid Waste Management facility built on top of the mountain and adjacent to the Enhanced Sewage Treatment Facility
- Clarification on Locations and applications for Quarrying as required for new construction
- Sampling results with respect to the submission of the required Fish Study (this has been addressed)
- Clarification on the status of the Enhanced Sewage lagoon facilities and work still required prior to commissioning
- Submission of a quarry management Plan
- Submission of outstanding Operations and maintenance manuals
- Submission of an up-dated and complete Monitoring program (EXP)
- Submission of Up-dated Compliance Plans clearly outlining what has been accomplished to date, what remains outstanding and a Plan of Action to address these deficiencies
- Submission of Abandonment and restoration Plans as is required by the license.

Inspection

Water Use:

During the period of Inspection the site was found to be clear and clear of debris and garbage. The Licensee has undertaken a work program whereby school students are sent to clean up around the lake every summer. This makes a great impact on the land surrounding the Lake.

The site of the fuel spill adjacent to the Pumping station was found to have been excavated and no further contamination was noted on site at the time of the Inspection. The area had been back filled and leveled. This was documented during the Inspection. The cause of the spill was determined to be kids playing on the fuel lines into the Pumping station.

On the opposite side of the building a 45 gallon drum, full of fuel and sitting on a wooden stand immediately adjacent to the Potable water source was identified as an issue for the inspector. The fuel barrel was feeding the heater inside the building through a copper line feeding into the building. This formed an unacceptable level of risk to the Inspector and the fuel was found to be within

30 m of the Potable source. As such the Inspector ordered the drum to be removed by licensee. Removal was completed by the Licensee the same day. Records for sampling and chlorine monitoring were available for review within the pumping station.

Samples were collected at the source by both the Licensee and the Inspector.

Waste Disposal:

Waste Water Treatment Facilities:

The Licensee continues to discharge the communities’ raw effluent into a ditch in the Solid Waste Management Area. Samples were collected. This practice has been on-going for a number of years within the community, and has been identified in every inspection report since 2006. The Licensee has raised this as a concern to the Inspector and even with the issuance of an Inspector’s Direction to the Government of Nunavut this issue remains unresolved. It is unclear what it will take short of judicial intervention to resolve this issue in a timely manner.

Municipal and Solid Waste /Bulk Metals Management Area

The facility was found to have recently been burned with materials moved to the adjacent side where they are placed and then covered by .25 meters of cover material that appears to have been compacted. The facility now appears to be well managed and while some metals and other items were noted within the Municipal burn and bury site, it appears that the domestic waste is being efficiently managed. Additionally, the fence on the three side of the facility was found to be free standing and in good repair without a great deal of windblown garbage attached to the fencing.

This is a great improvement over previous inspections. It was noted that the community did this without any outside funding or support.

Hazardous Materials Storage and Segregation

During the period of Inspection the Inspector and GN representative were very happy to note that all of the Batteries and a large percentage of other hazardous wastes that had been accumulating is consolidated in one area and being held for shipment off site. The layout of the facility requires more work and signage to facilitate the proper segregation of materials as they are transferred into the facility but a great deal of improvement has been noted over previous inspections.

SECTION 2

☐ Comments (s.____)

☒ Non-Compliance with Act or Licence (s.____)

☐ Action Required (s.____)

Non-compliance related to the now expired license;

- Part B (1) Failure to submit complete Annual Reports
- Part F (2) Failure to develop and submit an Operation and Maintenance Manuals for the facilities currently in use.
- Part F (5) Failure to submit a geotechnical Inspection report to be completed annually in July.
- Part G Failure to submit all Abandonment and Restoration Plans.
- Part H – Failure to fully implement the requirements listed under the Monitoring Program.

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.

Compliance Plan

B-2. While sampling was conducted within the community there are concerns that the locations, number of samples and parameters being sampled for are not consistent with the requirements of the License.

B-9. A deliverable committed to in the Compliance Plan submitted by the GN-CGS states that the consultant EXP will develop and submit a report outlining all outstanding documents, plan and reports due to the NWB to facilitate the application process. This report has not been completed or not been submitted to the NWB. Will this be undertaken by the GN-CGS or should this be removed from the compliance plan.

D-2. This issue will remain outstanding until the issue with the 2001/2 lagoon is resolved or a new solution is found.

F-1. The submission of O&M manuals for existing facilities is mandatory and not an option that can be dropped as convenient. The GN-CGS is required to submit the O&M manuals for the existing facilities.

G-1. The Government of Nunavut is required to submit an A&R plan for the enhanced sewage lagoon. H. The Licensee and the Government of Nunavut and the Licensee have consistently failed to fully implement the Monitoring program.			
SECTION 3	<input type="checkbox"/> Comments (s. __)	<input type="checkbox"/> Non-Compliance with Act or Licence, (s. __)	<input checked="" type="checkbox"/> Action Required (s. __)
<p>Following a review of the documents related to this file found on the Nunavut Water Board’s FTP site submitted by 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 Kimmirut remain in contravention of the terms of the now expired water License, the Nunavut Waters and Nunavut Surface Rights Tribunal Act and the Direction issued to the Government of Nunavut in 2012.</p> <p>It was however noted during the Inspection that the Municipality has moved ahead on its own over the last year and initiated a segregation program at the Solid Waste management Area and has started to fully over the burn and bury area to prevent the ejection of wild blown materials. It is hoped that over the next year the Licensee will find the resources to ensure that adequate fencing around the entire site is completed.</p> <p>Signage has been installed in the community to denote the monitoring locations as outlined in the now expired Water license. An Annual Report was submitted by the GN in cooperation with the Municipality. The sampling program however was found to be incomplete.</p> <p>The Municipality continues to work with infrastructure that is outdated and undersized. Capacity issues, poor planning and a lack of adequate capital project funding continue to plague the community.</p> <p>It is clear that the Municipality has undertaken some effort toward achieving compliance with the now expired license and has made significant changes in their operations in an effort to achieving compliance with the Act. This is an encouraging sign and while a great deal of work remains to be done there are signs of obvious improvement within the community.</p>			

Photo Log

Date	Authorization	Camera	Inspector
August 11 2014	3BM-KIM0911	Sony Cyber shot	A. Keim



Figure 1 Kimmirut Lake Fundo pumping and intake station



Figure 2 Intake station - Note removal of fuel tanks and re-grading of ground adjacent to building



Figure 3 45 gallon drum of fuel on wooden tank beside building



Figure 4 Drum feeding fuel oil into building



Figure 5 Testing equipment found inside building

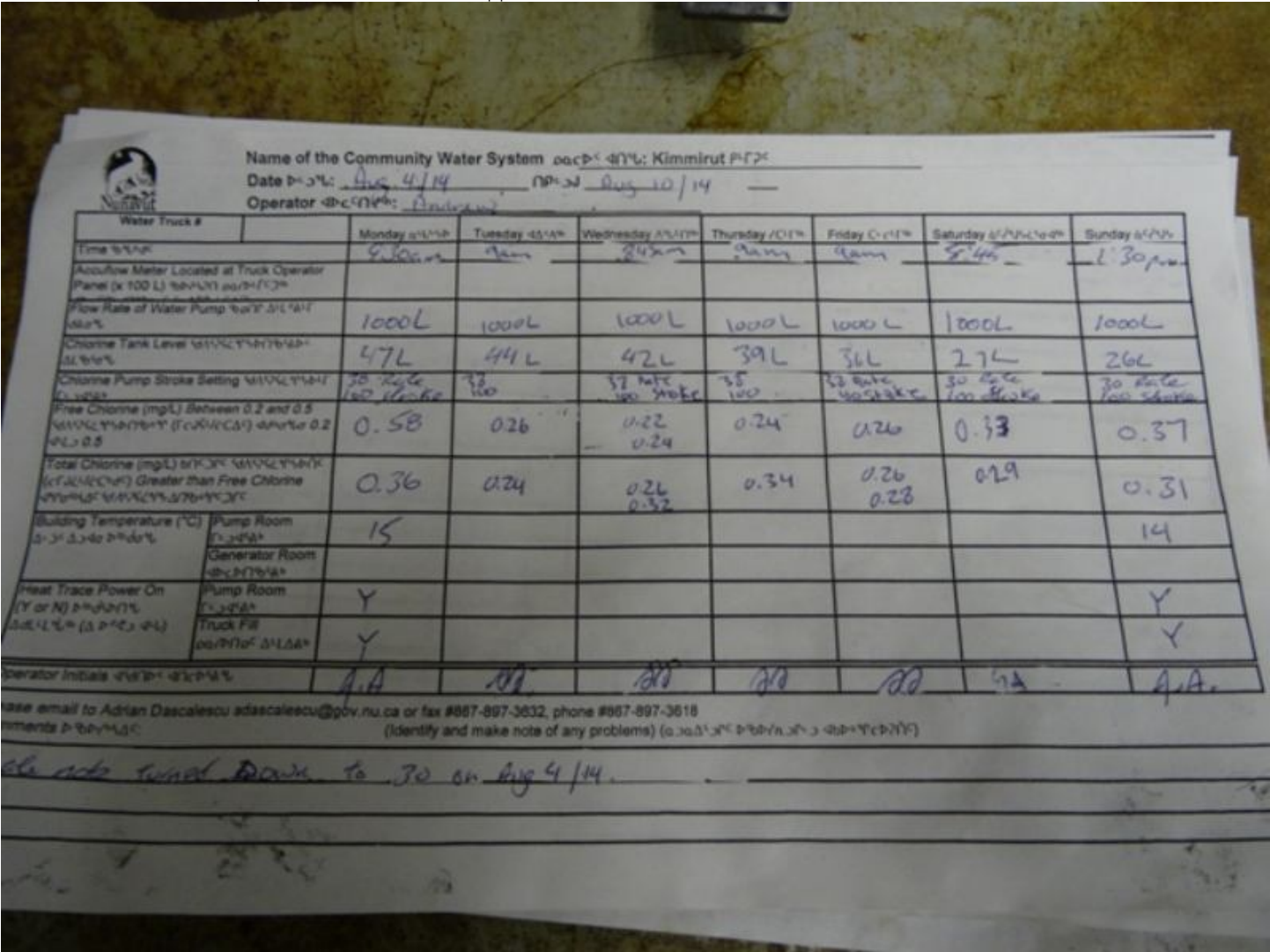


Figure 6 Records were available for review during the period of Inspection



Figure 7 Chlorine system required regular monitoring to ensure it is not drawn down



Figure 8 Bulk metals on the right and cover materials for the municipal waste management area



Figure 9 Municipal waste management area with new cover materials



Figure 10 Ditch where raw effluent is deposited. Cover materials over the burn and bury in the back ground



Figure 11 Ditch



Figure 12 vehicle and snow machine graveyard



Figure 13 Snow machine grave yard with tank farm in back ground



Figure 14 new lagoon with recontoured cell wall (upper cell)



Figure 15 Upper cell of new lagoon - truck drop off. Below in background is lower cell berm wall with ponded water



Licensee or Representative	Inspector's Name
	A. Keim
Signature	Signature
	Sent by Email. Original on file
Date	Date
	October 20, 2014

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