

Environment and Natural Resources  
Government of the Northwest Territories  
PO Box 2749  
Inuvik NT X0E 0T0

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November 25, 2015

Hamlet of Tuktoyaktuk  
PO Box 120  
Tuktoyaktuk NT X0E 1C0

**Attn: Grant Scott, Senior Administrative Officer**

**RE: Municipal Water Licence N7L3-0714  
CLASS B - MUNICIPAL**

Dear Mr. Scott,

An inspection was conducted of the Municipal Water Supply and Waste Disposal Facilities on September 28, 2015. Enclosed is a copy of the Municipal Water Licence Inspection Report.

There were a number of violations identified as depicted on page five of the Inspection Report. Some of the violations relate to reporting, signage, Surveillance Network Program responsibilities and administrative requirements and can be dealt with promptly. Please review and address the concerns throughout the Inspection Report.

Additionally, the Hamlet of Tuktoyaktuk is still operating its Municipal Water Supply and Waste Disposal Facilities under an expired Water Licence. However there appears to be progress as Environment and Natural Resources understands that the Inuvialuit Water Board is in the process of reviewing the Hamlet's renewal application.

Please note that it is the Hamlet's responsibility to ensure compliance with all of the terms and conditions of its Water Licence. Environment and Natural Resources is available to assist you in achieving this goal.

A copy of this report will be sent to the Inuvialuit Water Board for their review and public records. A copy will also be sent to the Hamlet Mayor and Council. If you have any questions/concerns regarding the enclosed, please do not hesitate to me at (867) 678-6676.

Sincerely,



Philippe Thibert-Leduc  
Water Resource Officer  
Inuvik Region

Cc: Stephen Charlie – Superintendent – Inuvik Region – ENR

Enclosure: Municipal Water Licence Inspection Report (6 pages)

<b>LICENCE #:</b>	<b>N7L3-0714</b>	<b>EXPIRY DATE:</b>	<b>June 30, 2014</b>
<b>LICENCEE:</b>	<b>Hamlet of Tuktoyaktuk</b>	<b>PREVIOUS INSPECTION:</b>	<b>August 27, 2013</b>
<b>COMPANY REP:</b>	<b>Grant Scott, SAO</b>	<b>INSPECTION DATE:</b>	<b>September 28, 2015</b>

**WATER SUPPLY**

Source:	Kudlak Lake	Quantity Used:	N/A
Owner/Operator:	Hamlet of Tuktoyaktuk	Meter Reading:	N/I

**Indicate:      A - Acceptable                  U - Unacceptable                  N/A - Not Applicable                  N/I - Not Inspected**

Intake Facilities	A	Storage Structures	A	Treatment Systems	A	Recycling	N/A
Flow Meas. Device	A	Conveyance Lines	A	Pumping Stations	A	Chem. Storage	A
Water Delivery Truck	A					Modifications	N/A

- At the time of the inspection, only the total quantity of treated water since inception could be found in the system.
- Clean, tidy lab and work stations, good record-keeping practices.
- Water Treatment Plant (WTP) is experiencing some problems with its chlorine pump and system. Hamlet staff working closely with contractor to remediate these issues as they appear. Hamlet is looking to upgrade their water treatment system.
- Hamlet benefits from having a number of certified water operators and dedicated backups.
- Hamlet staff reported leveling the WTP building in July 2015. Building has settled since. Advise keeping a close eye on above-ground fuel tank flexor pipe when such work occurs.
- Recommend consolidating all chemicals in a designated area as it is currently spread around the WTP due to lack of space.
- Oil and dirt were observed at the back of one of the potable water trucks (see Figure 1). It is the Hamlet's responsibility to see that such issues are resolved in a timely manner as soon as they are noticed. If left unattended the potable water storage compartment and domestic potable water storage tanks risk being contaminated. Otherwise, the general condition of the truck seemed adequate.
- Pumping station by the WTP uses portable fans to circulate hot air to prevent pumping system from freezing. This is an adequate solution in the short term, however, recommend revamping the system in the future with proper ventilation as the portable fans are not industrial grade and thus not intended to be used for this purpose.
- WTP sign is in good condition but was not easily visible as it is not put up; it is leaning on the WTP. No warning sign observed anywhere.
- WTP area, road and pilings are in good condition.
- No debris/issues observed around the water reservoir. The fence surrounding it is kept locked at all times and prevents wildlife and debris from reaching in. Hamlet staff regularly inspects for debris and remove anything as necessary.
- Kudlak Lake and pumping station there were not inspected at this time as access is limited. Hamlet staff and ENR Inspector will coordinate in the winter to conduct an inspection. There have been reports of beavers around Kudlak Lake, this does not pose an immediate risk to source water protection. Advise consulting with ENR before removing any beavers around Kudlak Lake as human activity around any water supply is highly discouraged.
- Slow leak was observed under the backup generator inside the WTP. Advise adding secondary containment (e.g. metal sheet drip tray) under the backup generator and inspecting regularly.
- No spill kit observed at the WTP, recommend adding one and ensuring all Hamlet staff are knowledgeable on its content and trained in spill response.

**WASTE DISPOSAL – SEWAGE**

Disposal Method		Primary Treatment					
Mechanical	N	Camp Sump	N	Natural Water Body	Y	Wetland Treatment	Y
Continuous Discharge	Y	Intermittent Discharge	N	Seasonal Discharge	N	Land Spread	N
Accelerated Biological	N	Other	N/A				

**Indicate:      A - Acceptable                  U - Unacceptable                  N/A - Not Applicable                  N/I - Not Inspected**

Discharge Quality	A	Decent Process & Structures	N/A	Discharge Measurement Device	A
Freeboard	A	Sludge Disposal Method	N/A		

Periods Of Discharge	Appears to discharge continuously, water levels remain high. Heavy precipitations lead to a need for emergency decant during September 2015.	SNP Samples Collected	No
Effluent Discharge Rates	Natural outflow into the wetland and occasional controlled decants.		

- Access road is in good condition (good slope and drainage).
- Important erosion and stability issues observed around the discharge structure (see Figures 2 and 3). The Hamlet is aware of this and Hamlet staff work continuously on mitigation. This is satisfactory in the short term but recommend revamping the entire discharge structure in the near future. Recommend using a catchment basin under the sewage pipes to help minimize damage from spilled sewage.
- A controlled decant was requested and granted in September 2015 due to high freeboard level following heavy precipitations over the summer. The decant was ongoing at the time of the inspection and was successful in reducing the abnormally high sewage level in the Sewage Disposal Facility (SDF) due to high precipitations in August and September 2015. Sewage samples were provided to the Water Resource Officer as per the Water Licence requirements and were below criteria.
- Hamlet intends to elevate the berms at the point of discharge in the future. Reminder that such works should be reported to the Inuvialuit Water Board as per the Water Licence requirements.
- The sewage discharge pad includes two discharge pipes. One is fully functional and in adequate condition however the second chute (east side) is showing signs of corrosion and failing. It was evident that the chute is leaking sewage on the pad and contributing to issues with stability and erosion around the pad structure. Hamlet staff is now aware of this spill and using the other discharge chute until the problematic one is repaired.
- Discharge chutes are not long enough to reach the sewage lake. As a result metal sheets were installed at the point of discharge. This seems effective for the time being however I would advise that the Hamlet consider upgrading the entire structure and chutes in the future. Longer and wider pipes would be more effective and help prevent build-up and clogging of the chutes.
- The Hamlet is to be commended for using cinderblocks to help drivers when backing up the sewage trucks. It is evident that these cinderblocks are effective at stopping the trucks from running into the discharge chute, however overtime the cinderblocks are being pushed backwards, reducing their effectiveness. Advise securing cinderblocks into place regularly and adding high visibility signage as well.
- Some of the area is fenced and there is signage on site. However it is evident that there is human activity surrounding the SDF (sewage lagoon and wetland).
- No floating debris or weeds were observed around the SDF. Quality of the water (colour, smell, turbidity) in the sewage lake seemed adequate.
- As has been stated in past inspection reports, warning signage needs to be posted for the SDF so that residents are aware of the hazard.

**WASTE DISPOSAL – SOLID WASTE**

Disposal Method		Landfill					
Open Dump	N	Landfill	Y	Burn & Landfill	A	Underground	N
Offsite Removal	N	Other	N/A				
Owner / Operator	Hamlet of Tuktoyaktuk						

**Indicate:**      **A - Acceptable**                      **U - Unacceptable**                      **N/A - Not Applicable**                      **N/I - Not Inspected**  
**Y - Yes**    **N - No**

Runoff Diversion	N/A	SNP Samples Collected	No
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- A significant amount of household wastes is being windblown into nearby water bodies (see Figure 6). This is particularly worse where the Solid Waste Disposal Facility (SWDF) is without a fence. This constitutes a deposit of wastes into water bodies and is a violation of the *Waters Act*. Understanding that this is an ongoing issue for the Hamlet and its SWDF, Hamlet staff needs to be diligent in removing floating garbage being windblown out of the solid waste site and do this regularly. Advise compacting and covering household wastes with fill on a regular basis and inspecting the surrounding area for windblown debris.
- The Hamlet is to be commended for its management of hazardous wastes generated by residents. Residents are aware that they are to dispose of their hazardous wastes at the Hamlet garage, and any newly generated wastes left at the SWDF are brought back to the garage by Hamlet staff. Hamlet staff needs to be diligent in what is being accepted at the SWDF as it has no obligation to accept wastes from the industrial and commercial sectors.
- Signage is present but not easily visible at this time.
- It is evident that the Hamlet is continually dealing with windblown garbage issues. Some areas around the SWDF are fenced-off but most of them are failing due to the repeated strain caused by the cumulative weight of the household wastes. Recommend periodically removing garbage piling up on fences to prevent damage.
- Recommend using fill to help with managing SWDF capacity and windblown garbage as compacting is not sufficient. It was evident at the time of the inspection that no fill is being used to cover household wastes. Using fill will help control windblown debris and deter wildlife. Fencing and higher berms are also effective control methods.
- Oil drums and batteries should be kept above ground (e.g. wood pellets) and inspected regularly for leaks/general condition.

Empty oil drums should be sealed and stored on their side so that no water accumulates inside. There is evidence of spillage of drum/containers contents on the ground especially near the drums at the SWDF. Contaminated soil needs to be cleaned up and disposed in the designated contaminated soil storage area. Please note that when any contaminated soil is deposited at the SWDF the Hamlet needs to notify the Inspector as per Part D: Conditions applying to Waste Disposal, Item 7, of the Water Licence. The contaminated soil storage area at the SWDF should not be for long term storage but allow for the remediation of soils and their permanent disposal. There needs to be regular turning of soil/aeration, sampling, removal of soil for proper disposal. This will ultimately expose other layers of soil to the remediation process and create an efficient remediation program.

- Any new drums should be brought to the Hamlet garage or triaged by Hamlet staff before entering the SWDF. Knowing their content is key so that chemicals and fuels can be consolidated together in plastic pails and stored adequately. Empty drums can then be brought at the landfill. The Hamlet is to be commended for managing a considerable amount of hazardous waste using the Hamlet garage as a temporary storage. ENR can provide advice and assistance as to the final disposal of temporarily stored hazardous waste.
- As has been mentioned in past inspection reports, there needs to be better/further segregation of waste. Signage would help and educate residents as to where to dispose of their wastes. Efforts have been made with regards to segregation but this needs to be maintained to further increase public awareness and assistance. Signage should be present for but not limited to the following: bulk metal waste, white metal waste (fridges, washers/dryers, etc.), hazardous waste (oil, fuel, batteries, drums), empty drums, fuel tanks, tires, vehicles/ATVs/ skidoos, honey bag pit, waste animal pit, domestic/household garbage, paper/wood/cardboard-designated burning area, etc. Segregation will aid in an organized site that residents will respect and help maintain. This will also keep costs down in the future when it is time to recycle waste or abandon and restore the site.
- For your information, ENR Inuvik Region Office can also provide assistance in dealing with any mercury containing products (e.g. fluorescent tubes, thermostats, switches, etc.) at no cost other than shipping. Please contact the regional office or the Water Resource Officer directly for any assistance.
- Waste could be observed in water between landfill and sewage lagoon should be moved above water line.
- It is apparent that components of the current Operation and Maintenance Plan (O&M Plan) are not being followed as per Part E: Conditions Applying to Operation and Maintenance, Item 4, of the Water Licence. Ensure that Hamlet personnel are familiar with the approved O&M Plan and that it is being properly implemented. A copy of the approved O&M Plan must be onsite and readily available.

### **FUEL STORAGE**

**Indicate:**      **A - Acceptable**                      **U - Unacceptable**                      **N/A - Not Applicable**      **N/I - Not Inspected**

Owner:	Hamlet of Paulatuk	Operator:	Hamlet of Paulatuk	Condition of tanks:	A
Berms & Liners	A	Water within Berm:	A	Evidence of Leaks:	None
Drainage Pipes	N/A	Pump Station and Catchment Berm	A	Runoff Diversion	N/A
Pipeline Condition	A				

### **Fuel Storage Comments:**

- Above ground storage tank outside is double-walled and stable-looking on a gravel pad. No accumulation of water observed. Tank is protected by pilings but no berm. Though this does not pose an immediate risk to the water supply, storing fuel in a bermed area is a best management practice from a risk management standpoint.
- Flexor pipe connecting the outside fuel tank to the WTP appears to be fully stretched. Advise caution and regular monitoring as any more settling of the tank/building could add strain on the flexor pipe (see Figure 5).
- No spill kit observed around the WTP. Advise having an emergency spill response kit on site and ensure that all Hamlet staff are trained and knowledgeable on its contents.

### **SURVEILLANCE NETWORK PROGRAM**

Samples Collected Hamlet	No SNP samples have been taken/reported for the last few years		
Samples Collected ENR	None		
Signs Posted:    SNP	N/A – all that is needed is a map with sampling sites, GPS coordinates etc. This has yet to be done.	Warning	No warning signs observed at the WSF, SWDF and SDF.

- As previously noted in past inspection reports, regular SNP sampling is not being conducted by the Hamlet as per SNP requirements.

### **GENERAL CONDITIONS/REPORTS/PLANS**

**Indicate:**      **A - Acceptable**                      **U - Unacceptable**                      **N/A - Not Applicable**      **N/I - Not Inspected**

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C&R Plan	N/A	Records & Reporting	A	Final Report	N/A
Geotechnical Inspection	N/A	Posting, Signage	U <sup>1</sup>	Contingency Plan	U <sup>2</sup>
Restorations Activities	N/A	Spills	U <sup>2</sup>	O&M Plan	U <sup>2</sup>
Maintenance	A	Modifications	N/A	Annual Report	U <sup>3</sup>

**General Comments:**

- Despite numerous efforts by the Inuvialuit Water Board and representatives from the Government of Northwest Territories, the Hamlet of Tuktoyaktuk has yet to renew its Municipal Water Licence. This is an ongoing violation of the *Waters Act* and cannot continue. ENR can provide assistance throughout the entire Water Licence renewal process. As a reminder, it is important to note that the expiry of a Water Licence does not relieve the licensee from any obligations imposed by the licence.
- ENR understands that the Hamlet intends to operate their SWDF at a new site in the coming year. ENR would like to work with the Hamlet once the new site is ready to ensure that segregation and other requirements of the O&M Plan are followed from the very beginning.
- ENR also understands that the current SWDF will be remediated and that this project will be led by MACA. ENR would like to be involved at the time of remediation to provide assistance and expertise on waste management.
- <sup>1</sup>Missing warning sites at municipal facilities.

**Missing Deliverables:**

- <sup>2</sup>Missing updated Sewage Treatment Plan, Spill Contingency Plan and Solid Waste Operations and Maintenance Plan.
- <sup>3</sup>If data is limited the Annual Reports should be sent with what information is known so there are records available. The last Annual Report on file was submitted for 2012. An Annual report for 2014 was due on April 30<sup>th</sup>, 2015.

**Water Licence Comments:**

- Please note that as per Item 4, under “General Procedures for the Administration of Licences Issued Under the *Northwest Territories Waters Act* in the Northwest Territories”, it is the responsibility of the Licensee to apply to the Water Board for renewal of the Licence. It is recommended that a renewal application be submitted at least 8 months in advance of the Licence expiry date.
- Recommendations in the short term:
  - o Submit complete Water Licence renewal application to the Inuvialuit Water Board
  - o Review general terms and conditions of the expired Water Licence
  - o Ensure Hamlet staff are familiar with the general terms and conditions of the Water Licence
  - o Prepare for SNP sampling as per the terms of the Water Licence in time for spring and summer 2016
  - o Consider using cover material to manage household wastes and control windblown debris and wildlife
  - o Address issues observed at the sewage discharge pad
  - o Prioritize non-compliant items flagged in most recent inspection reports and correspondence with the Inuvialuit Water Board
- Please note that as of April 1, 2014 (post devolution environment), some information has changed under Item 6 of Water Licence N7L3-0714, under “General Procedures for the Administration of Licences Issued Under the *Northwest Territories Waters Act* in the Northwest Territories”. In the future, you may use the following contact information for the Analyst and the Inspector:

ANALYST:

Analyst	Phone: (867) 765-6645
Taiga Environmental Laboratory	Fax: (867) 920-8740
Department of Environment and Natural Resources	Email: taiga@gov.nt.ca
Government of the Northwest Territories	

4601 - 52nd Avenue  
Yellowknife NT X1A 2L9

INSPECTOR:

Philippe Thibert-Leduc	Phone: (867) 678-6676
Water Resource Officer	Mobile: (867) 678-0623
Department of Environment and Natural Resources	Fax: (867) 678-6699
Government of the Northwest Territories	Email: philippe_thibert-leduc@gov.nt.ca

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**NON-COMPLIANCE/VIOLATIONS OF ACT OR LICENCE**

Part B: General Conditions, Item 1,

"The Licensee shall file an Annual Report with the Board no later than April 30<sup>th</sup> of the year following the calendar year reported [...]"

Part B: General Conditions, Item 2,

"The Licensee shall comply with the "Surveillance Network Program" annexed to this Licence, and any amendment to the said "Surveillance Network Program" as may be made from time to time, pursuant to the conditions of this Licence."

Part B: General Conditions, Item 5,

"The Licensee shall, within 60 days of issuance of this Licence, post signs in the appropriate areas to inform the public of Water Supply and Waste Disposal Facilities. Additional signage at the Solid Waste Disposal Facility shall clearly indicate where different waste streams collected by the Hamlet should be deposited. All postings shall be located and maintained to the satisfaction of an Inspector."

Part E: Conditions Applying to Operation and Maintenance, Item 1,

"The Licensee shall submit to the Board for approval by June 30, 2014 a Spill Contingency Plan (SCP) in accordance, for example, with the *Guidelines for Spill Contingency Planning, April 2007*, developed by AANDC-Water Resources Division.

Part E: Conditions Applying to Operation and Maintenance, Item 2,

"The Licensee shall submit to the Board, for approval, by June 30, 2014, a Sewage Treatment Plan (STP) that includes the following [...]"

Part E: Conditions Applying to Operation and Maintenance, Item 3,

"The Licensee shall submit to the Board for approval by June 30, 2014, a Municipal Solid Waste Operations and Maintenance Plan (SWOMP) in accordance with, for example, the *Guideline for the Planning, Design, Operations and Maintenance of Modified Solid Waste Sites in the Northwest Territories, April 2003* developed for The Department of Municipal and Community Affairs, Government of the Northwest Territories.

Inspector's Signature: \_\_\_\_\_





**Inspection Images:**

**Figure 1**

Potable water trucks should be kept clean at all times as it is a potential source of water contamination. Oil and dirt was observed at the back of this truck.



**Figure 2**

Important erosion and stability issues observed at the sewage discharge structure (1 of 2).



**Figure 3**

Important erosion and stability issues observed at the sewage discharge structure (2 of 2).

**Figure 4**

Wastes could be observed in water bodies surrounding the SWDF. Recommend cleaning this up on a regular basis.



**Figure 5**

Flexor pipe connecting the above ground fuel tank to the WTP is fully stretched.

