

Municipal Water Licence Annual Report
Hamlet of Aklavik
Licence #: N3L3-0570
Reporting year: 2018
Expires: 2019

The Licensee shall file an Annual Report with the Board not later than March 31st of the year following the calendar year reported which shall contain the following information:

1. Water Usage

Licensed Water Volume Withdrawal: 31,422,913 L

Total volume withdrawn for reporting year: 31,422,913 L

Table 1 – Monthly & Annual withdrawal volumes pumped (SNP)

Month	Volume from main source (L)	Volume from any other source (m ³)	TOTAL Volume (L)
January	2,494,233		
February	2,095,263		
March	2,821,403		
April	2,675,782		
May	2,772,293		
June	2,810,994		
July	2,635,052		
August	2,665,577		
September	1,784,852		
October	3,045,969		
November	2,797,115		
December	2,824,380		
TOTALS	31,422,923		
% Increase/decrease from previous year	+ .04		

Reasons for increase / decrease:

Reasons for exceeding licensed withdrawal volumes (if applicable):

General information:

Information regarding any modifications to the water withdrawal procedure or facilities should be included here. If necessary please attach any relevant reports to the end of this document.

2. Solid Waste Disposal

Approximate total yearly volume of solid waste deposited: 3,364.2 m³

Table 2 – Monthly solid waste disposal volumes at Solid Waste Facility (Landfill)

Month	Volume of solid waste deposited (m ³)
January	280.35
February	280.35
March	280.35
April	280.35
May	280.35
June	280.35
July	280.35
August	280.35
September	280.35
October	280.35
November	280.35
December	280.35
TOTALS	3364.2
% Increase/decrease from previous year	0

GNWT – MACA has provided a standard formula for estimating the amount of solid waste deposited into a Solid Waste Facility in the absence of a metered Garbage Truck. The following can be used: **Volume per person per day X number of days X population**

e.g. **0.015 m³ X 30 days X 122 people = 55 m³** of domestic trash deposited into Solid Waste Facility in a 30 day month

Reasons for increase / decrease: (e.g. an industrial project close to the **NAME OF COMMUNITY**, or a large influx of people into town)

General information: In 2014 the Hamlet staff along with our local contractor started to cover the solid waste site with the river bank silt. This practice has continued once a year since then and for the summer of 2019 we plan to do approximately \$600,000.00 worth of work, developing new cells as well as covering existing cell. (attached is the plan) Once complete we are anticipating we will have at least another 20 years of life out of this site. This plan is all dependent on being approved for the funding.

3. Sewage Deposited to Sewage Lagoon

Table 3 – Monthly sewage waste volumes deposited at Sewage Treatment Facility (Lagoon) (SNP)

Month	Volume of sewage waste deposited (m ³)		
	Pumper Truck	Utilidor	TOTAL
January	2,494,233		
February	2,095,263		
March	2,821,403		
April	2,675,782		
May	2,772,293		
June	2,810,994		
July	2,635,052		
August	2,665,577		
September	1,784,852		
October	3,045,969		
November	2,797,115		
December	2,824,380		
TOTALS	31,422,913		
Is this an estimated volume?		YES	NO
% Increase/decrease from previous year	+04		

To calculate monthly sewage waste deposited to the Primary Lagoon, please provide the above information if metered information is available. If metered information is not available, please fill in the table using the corresponding TOTAL water volumes from Table 1. This provides estimation only and equals water in/sewage out.

Reasons for increase / decrease: (eg.: an industrial project close to the **NAME OF COMMUNITY**, or a large influx of people into town)

No sludge has been removed as natural outflow occurs with sludge build up.

No decanting as is a continuous out flow.

Copies of ENR inspections are attached for site 0570-3

4. Problems, modifications or repairs completed during the year on water supply and waste disposal facilities

Over the course of the year we have built up the gravel around the sewage chute and made it easier for the truck to line up and dispose of the sewage without worry of spills as indicated in Inspections

5. Surveillance Network Program Data

Surveillance Network Program (SNP) information is to be submitted in a tabular format and shall indicate date of testing, parameters tested for and any other information requested by the ENR Water Licence Inspector or the IWB. [This section can be completed separately on an Excel worksheet].

Table 5a - SNP Station Number 0570-3 : SNP Station Description as per Hamlet of Aklavik

Parameters Water Licence	Max. Average Concentration	Sample	Sample	Sample	Sample	Sample	Sample	Sample
Sample Date								
BOD ₅	mg/L							
Total Suspended Solids	mg/L							
pH								
Fecal Coliforms	CFU/100ml							
Oil & Grease	mg/L							

Effluent at SNP Station Number shall be inspected monthly during period of flow for the presence of oil sheen. If sheen detected, a sample shall be collected and analyzed for the presence of oil and grease.

Table 5b – SNP Station Number 0570-3 : SNP Station Description Hamlet of Aklavik

Parameters examples (verify which ones are enumerated in your water licence and provide)	Results: Please provide dates of results							
Date:								
pH								
Total Mercury								
Total Cadmium								
Total Chromium								
Total Colbalt								
Total Copper								
Total Iron								
Total Lead								
Total Manganese								
Total Nickel								

Total Zinc						
Total Suspended Solids						

Effluent at SNP Station Number _____ shall be inspected monthly during period of flow for the presence of oil sheen. If sheen detected, a sample shall be collected and analyzed for the presence of oil and grease.

6. SNP Sample Locations

Map Attached.

7. Unauthorized discharges

No unauthorized discharges where made and inspection reports included.

8. Spill Training and Communications Exercises

No training has been done.

9. Abandonment and restoration

N/A

10. Studies requested by the Board

N?A

11. Updates or revisions to approved plans

Details on any changes to approved plans such as the O&M Plan, the Closure and Reclamation Plan, the Spill Contingency Plan, or any other that is specific to this Municipal Water Licence. Please attach documents as appendices to this report.

12. Other Information

- Include any other information here that may be valuable to the IWB or to ENR.
- Include details on upcoming studies that will be completed.
- Please include any non-compliance items identified in the ENR Water Licence Inspection report and detail how the **NAME OF COMMUNITY** is addressing them.
- If there is any contaminated soil piles currently in use (land farming), please list the details of containment, remediation and progress in this section.
- Please identify any on-going compliance issues for the **NAME OF COMMUNITY**
- This can facilitate discussions to resolve the issues.

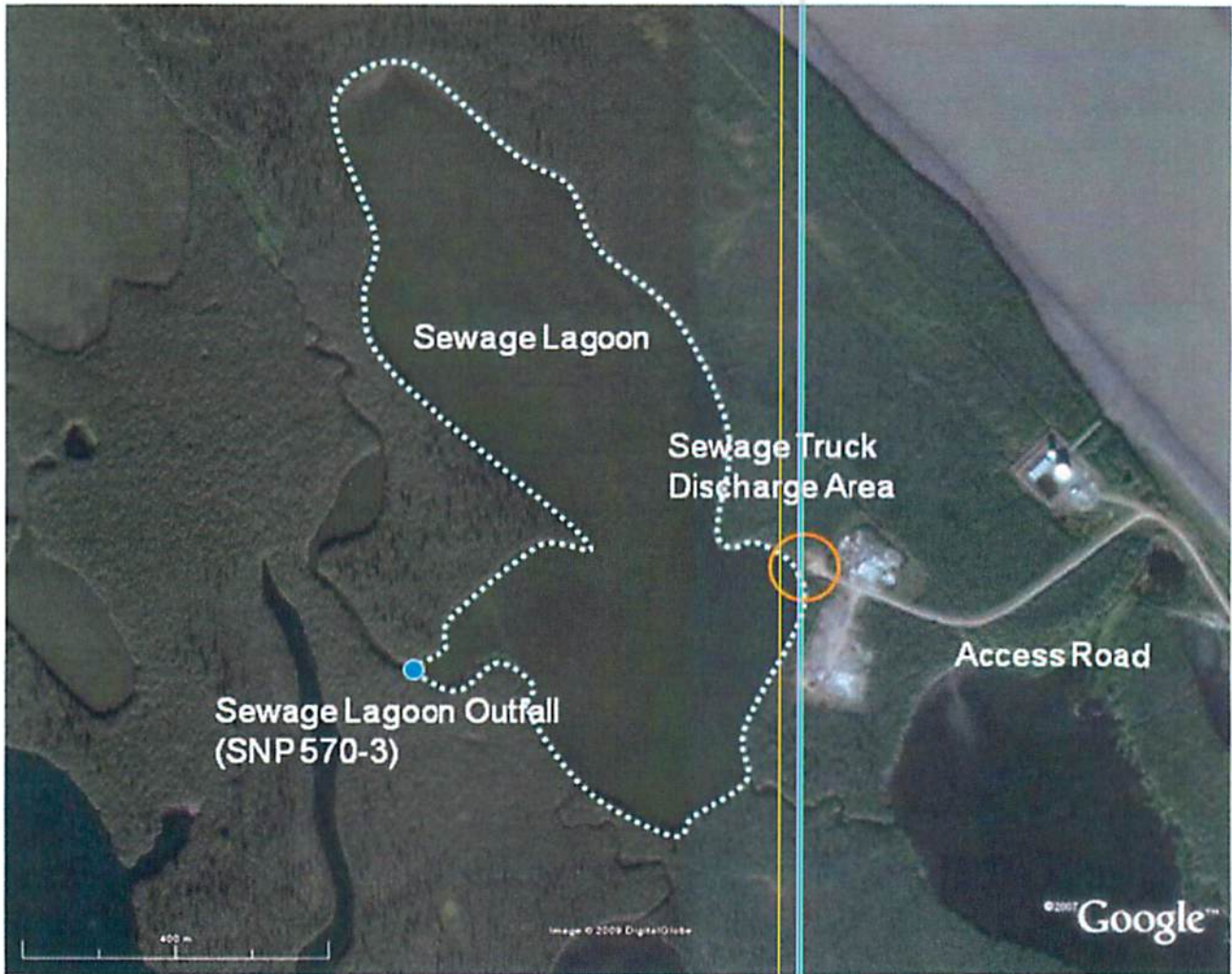


Figure 3-3: Sewage Lagoon Site Plan

Name of Facility or Operation	Solid Waste Disposal Site	Date (d/m/y)	February 14, 2018
Mailing Address	P.O. Box 88 XOE OAO		
Physical Address	AKlavik, NT		
Type of Inspection	<input checked="" type="checkbox"/> Other: GNWT General Sanitation Regulation <input checked="" type="checkbox"/> Routine <input type="checkbox"/> Complaint <input type="checkbox"/> Follow-up		

Under authority of the Public Health Act and/or Tobacco Control Act, an inspection of the above listed facility/operation was conducted and the following observations and/or Orders are made. Required Correction Dates are listed.

Item Number	Observations and Corrective Actions	Correction Date (if applicable)
*	Space where large metal wastes are being stored is getting close to capacity.	
*	Improvement needed regarding: <ul style="list-style-type: none"> - Covering of waste - Segregation of waste, including segregation of hazardous wastes. 	
	Will discuss with Hamlet its plans for short-term and long-term management of wastes.	
	acting SAO Roxanne John	
	Report reviewed with Hamlet plant operator, Kelly Arey, in the absence of Hamlet foreman and SAO.	

Public Health Officer's Name (print)	Shawn Hardy	Public Health Officer's Signature	<i>Shawn Hardy</i>	Date (d/m/y)	Feb 14/18
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Owner/Operator (please print)	X Roxanne John	Owner/Operator's Signature	<i>Roxanne John</i>	Date (d/m/y)	Feb. 14. 18
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ENVIRONMENTAL HEALTH INSPECTION
REPORT CONT'D

Sewage Lagoon
P.O. Box 88
Aklavik, NT X0E 0A0

Re: Inspection under the GNWT General Sanitation Regulation

- 2 offloading chutes present, only one in regular use.
No leaks or issues observed.
- observable freeboard appeared acceptable.

Overall no issues observed at time of inspection.

Person in Charge: Fred Behrens
Signature:

EHO: Shawn Hardy
Signature:

Date: December 20, 2017



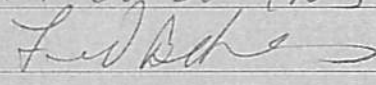
ENVIRONMENTAL HEALTH INSPECTION
REPORT CONT'D

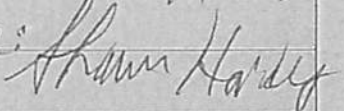
Solid Waste Disposal Site
P.O. Box 88
Aklavik, NT X0E 0A0

Re: Inspection under the GNWT General Sanitation Regulation

- Signs posted to indicate areas to segregate different wastes. Large metal (vehicles) waste currently kept near lagoon.
- Overall good segregation. Piles of household wastes will need better coverage.
- No barriers or fencing currently being used to enclose the site.
- Hamlet is giving consideration to future plans for the site as it approaches capacity.

No other issues noted at time of inspection.

Person in charge: X Fred Behrens
Signature: 

EHO: Shawn Hardy
Signature: 

Date: December 20, 2017

Name of Facility or Operation: Sewage Lagoon Date (d/m/y): February 14, 2018

Mailing Address: P.O. Box 88 XOE 0A0

Physical Address: Aklavik, NT

Type of Inspection
 Tobacco Other: GINWT General Sanitation Regulation Routine Complaint Follow-up

Under authority of the Public Health Act and/or Tobacco Control Act, an inspection of the above listed facility/operation was conducted and the following observations and/or Orders are made. Required Correction Dates are listed.

Item Number	Observations and Corrective Actions	Correction Date (if applicable)
-	2 off-loading chutes present, only one in use. No issues noted with the active chute.	
-	No obvious issues noted with freeboard and terms. Limited visual inspection due to snow cover.	
*	Note:- A black plastic barrel (appearing to be used to store liquid) was observed close to the off-loading chute on the right. A white plastic bucket (flipped upside down) was observed on top of the barrel, and seemed to cover a funnel and pink-coloured liquid (which would have been poured into the barrel). Will discuss with the Hamlet the nature of this barrel and its contents.	
	No additional issues noted at time of inspection.	
	Report reviewed with water plant operator acting SAO Roxanne John, Ketty Aray , in absence of the Hamlet foreman & SAO.	

Public Health Officer's Name (print): Shawn Hardy

Public Health Officer's Signature: [Signature] Date (d/m/y): Feb 14/18

Owner/Operator (please print): X Roxanne John

Owner/Operator's Signature: [Signature] Date (d/m/y): Feb 14, 18

Community	Aklavik	Circuit Rider Trainer(s)	Jaime Goddard
Date	Feb 14, 2018	Plant Operator(s)	Kelly Arey
Weather	-40, sun	Other Attendees	Shawn Hardy (EHO)

Activities Since Last Circuit Rider Trip:

Replacement of damaged inline chlorine meter.
 Electrician replaced electronics for valves that were burned out due to power fluctuations.
 Repair of leak at treated water tank (seems to be an ongoing issue)

Activities During Circuit Rider Trip:

Reviewed sampling requirements
 Discussed backup operator certification
 Reviewed recent maintenance activities
 Landfill and lagoon inspection

Planned Future Activities

Hamlet is looking into surge protection for the WTP building to protect electronics, as they have had frequent problems.

Records Review (e.g. Log sheets, O&M checklists, etc.)

Ok

Training Delivered

Review of sampling requirements with Kelly. The two backup operators were not present.

Safety

Eye Wash	Not checked
Fire Extinguishers	Present
PPE	Not checked

MSDS	Not checked
Daily Safety Meetings	Not checked
Other	Not checked

Raw Water System	
Source	Peel River
Pump Status (duty/stand-by/spare)	Have issues with organic material that clogs the pumps from time to time, no current problems.
Heat Trace	Not checked
Water Quality	Good
Issues	None
Last Inspected	Not checked

Truckfill	
Flow Meter	Not checked
Heat Trace	Not checked
Pump Status (duty/stand-by/spare)	Not checked
Issues	None noted

Chlorine System/Disinfection	
Type	Chlorine
Usage	Not checked
Storage	Not checked
Last UV bulb change	n/a
Other	n/a

Filtration	
Pressure Readings	Not checked
Filter Condition	Good. Tank was cleaned in January.
Extra Filter Media	Not checked
Alarm Status	Ok
Backwash Cycle	Not checked
CIP	n/a
Other	Working well.

Coagulation	
Type	Not checked

Dose	Not checked
Aluminum Level	Ok
pH	Ok
Storage	Ok. Recent pipe leak at tank repaired. All operators know this should be checked frequently as there have been leaks in the past.
Other	n/a

Treated Water Storage	
Turbidity	Ok
Capacity/Level	Not checked
Chlorine Level	Ok
Fire Storage	Not checked
Last cleaned/Inspected	Not checked
BacT sample history	Ok. Expired reagents disposed of and replaced by EHO.
Usage Demand (days of storage and capacity)	Not checked
Other	n/a

Building Systems	
Heating type	Not checked
Fuel Level	Not checked
Last serviced	Not checked

Backup Generator	
Generator Hours	Not checked
Last serviced	Not checked

Other comments from operator:

Backup operator attendance is improving. An additional backup has recently been hired and is being trained.

The new chlorine meter has been working well. Kelly is looking at a filter that the manufacturer suggests to go ahead of the meter.

Noted challenges for Operator:

Power fluctuations cause issues with valves and pumps.

Suggested improvements:

Continued training of backup operators to provide coverage when Kelly is away.

Conclusion:

Plant is running well, need to keep up with ongoing maintenance including leaks.

Other comments:

Work needed at the landfill to improve segregation and maximize use of space – the SAO is looking into some improvements and has been in touch with Gerald Enns at MACA.

WATER SUPPLY

Source:	Peel Channel – Mackenzir River	Quantity Used:	N/A
Owner/Operator:	Hamlet of Aklavik	Meter Reading:	N/I

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

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

Water Supply Comments:

Water intake from Peel Channel, Mackenzir River. Upstream, no activity noticed during inspection

WASTE DISPOSAL - WELL WASTE

Disposal Method									
Off-Site Removal	N	Drilling Sump	N	Downhole Injection	N	Treat and Landsread	N	Other	

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

Sump Liners		Sump Treatment		Freeboard	
Erosion		Construction			
SNP Samples Collected					

Well Waste Comments:

Date:		Licence #:		Page No:	1
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Accelerated Biological	N	Other	N/A
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Indicate: **A - Acceptable** **U - Unacceptable** **N/A - Not Applicable** **N/I - Not Inspected**

Discharge Quality	N/I	Decant Process & Structures	N/A	Discharge Measurement Device	N/I
Freeboard	N/I	Sludge Disposal Method	N/A		
Periods Of Discharge	Continuous			SNP Samples Collected	Y
Effluent Discharge Rates	Natural outflow into the wetland and occasional decants				

Sewage Comments:

There was evidence of sewage being discharged outside of the sewage lagoon, near the discharge pad of the Sewage Disposal Facilities (SDF). Operator must ensure that all sewage is discharged into the sewage lagoon as authorized under the Water Licence. During inspection, sewage was noticed under the sewage discharge chute. Under further inspection, hole was noticed in the discharge chute causing sewage leakage during discharge. Discharging excess or buildup of sewage directly onto the ground is considered an unauthorized discharge of hazardous wastes and cannot continue. If excess sewage cannot be discharged in the chute then it must be contained in a sealed container until it can be discharged properly

There is evidence of erosion at the sewage disposal chute currently in use. The Chute has a hole causing pooling of sewage below the chute and damaging the pad.

Sewage is being spilled around and beneath the sewage chute. Operator must ensure that all sewage is discharged in the chute and any spilled sewage is being contained. Recommend adding a catchment basin which can be emptied in the chute when at capacity or on a daily basis.

Area will need to be monitored during the spring and summer that any spilled during the offload will drain into the lagoon or into batchment basin.

Recommend stabilizing sewage disposal site for safety reasons as pad is sinking and potholes

Empty engine oil containers noticed by the Sewagse Disposal Site

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