

## Municipal Water Licence Annual Report

**Hamlet of Fort Liard**

**Licence #:** MV2009L3-0025

**Reporting year:** \_\_\_\_\_

**Expires:** February 29, 2020

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

### 1. Water Usage (B.1.a)

**Licensed Water Volume Withdrawal: not to exceed 40,000 m<sup>3</sup>**

Total volume withdrawn for reporting year: \_\_\_\_\_ m<sup>3</sup>

**Table 1: Monthly & Annual withdrawal volumes pumped** (Surveillance Network Program station 1478-3)

Month	Volume from main source (m <sup>3</sup> )	Volume from any other source (m <sup>3</sup> )	TOTAL Volume (m <sup>3</sup> )
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			
TOTALS			
% Increase/decrease from previous year			

Reasons for increase / decrease:

Reasons for exceeding the annual licensed withdrawal volume (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. Waste Disposal (B.1.b)**

**i. Solid Waste**

Approximate total yearly volume of solid waste deposited: \_\_\_\_\_ m<sup>3</sup>

*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 m<sup>3</sup>** X 30 days X 860 people = 387 m<sup>3</sup> of domestic trash deposited into Solid Waste Facility in a 30 day month*

**Table 2: Monthly solid waste disposal volumes**

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

Reasons for increase / decrease (e.g. an industrial project close to the Hamlet of Fort Liard, or a large influx of people into town):

Information regarding any agreements with outside organizations to be a waste receiving facility should be outlined here along with an estimate of the amount and type of waste to be received.

**ii. Sewage**

*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. WTP = Water Treatment Plant.*

**Table 3: Monthly sewage waste disposal volumes**

Month	Volume of waste deposited (m <sup>3</sup> )				
	Pumper Truck	Piped	WTP sludge	WTP backwash	TOTAL
January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					
TOTALS					
Is this an estimated volume? (yes/no)					
% Increase/decrease from previous year					

Reasons for increase / decrease (e.g. an industrial project close to the Hamlet of Fort Liard, or a large influx of people into town):

Was there any decanting this reporting year? Please provide dates. What was the decant duration and the approximate volume decanted? As this is a Surveillance Network Program (SNP) site, the resulting testing is to be presented as part of the tabular SNP data to be provided as per the Water Licence [Part B(1)(d)].

**i. Other Waste Sources**

Are there any other types or sources of waste that were deposited at the Hamlet's Waste Disposal Facilities? Please list the type/source, where it is being deposited, and monthly/annual volumes for each waste.

**3. Problems, modifications or repairs completed during the year on Water Supply and Waste Disposal Facilities (B.1.c)**

Include a summary of any work done to infrastructure for all facilities completed during the year in this section. This includes any changes, repairs, maintenance and modifications. If any problems occurred during the year, please note them here. If there are no changes, make note of that. If required please attach any as-built drawings or reports as appendices to this report.

**4. Surveillance Network Program Data (B.1.d)**

Tabular summaries of all data generated under the Surveillance Network Program (SNP) should be included using the tables in Appendix A (attached). All lab results should also be attached as an appendix to this report.

**5. Unauthorized discharges (B.1.e)**

List any unauthorized discharges here including any spills, how and when they were reported, and how they were cleaned up. Please attach copies of spill reports, correspondence with the GNWT Inspector or any other pertinent documentation as appendices to this report.

**6. Spill Training and Communications Exercises (B.1.f)**

List any spill training and communications exercises that have been carried out including courses on spills prevention, waste management, SNP sampling, etc.

**7. Abandonment and restoration (B.1.g)**

Include any abandonment and restoration details here including any work anticipated to be completed during the next year. If required please attach any as-built drawings or reports as an appendix to this report.

**8. Studies requested by the Board (B.1.h)**

If the Board has requested that specific studies be completed, include details in this section with a summary of the outcome(s). Include any attachments as appendices to this report.

**9. Other details (B.1.i)**

If the Board (before November 1 of the year being reported) has requested that additional details be provided on water use or Waste disposal, these should be provided in this section.

**10. Updates or revisions to the approved Spill Contingency Plan (B.1.j)**

Include details on any changes to the approved Spill Contingency Plan, including contact names and phone numbers.

**11. Monthly and annual quantities of Sewage solids removed from the Sewage Disposal Facilities (B.1.k)**

**Table 4: monthly and annual quantities of sludge removed from Sewage Disposal Facilities**

Month	Volume of sludge removed (m3)	
	Sewage Disposal Facility	Total
January		
February		
March		
April		
May		
June		
July		
August		
September		
October		
November		
December		
TOTALS		
Is this an increase in volume	YES	NO
% Increase/decrease from previous year		

What testing was completed on the sludge and where it was disposed of? Please provide documentation for testing and GNWT Inspector approval of placement.

**12. Updates or revisions to approved Operation and Maintenance Plans (B.1.l)**

Summarize any updates or revisions to Management Plans and Operations and Maintenance Plans. Add rows to the table if necessary. Please attach documents as appendices to this report.

**Table 6: Updates to Plans**

<b>Plan</b>	<b>Summary of revisions made</b>	<b>Effective date</b>

**13. Sewage deposited by remote camp and liquid waste haulers (B.1.m)**

Include the annual quantity of all sewage deposited by each remote camp and liquid waste hauler into the Sewage Disposal Facilities.

**14. Other Information**

- Include all correspondence between the Inspector and the Licensee.
- Include any other information here that may be valuable to the MVLWB.
- Include details on upcoming studies that will be completed.
- Please include any non-compliance items identified in GNWT Inspection reports and detail how the Hamlet of Fort Liard is addressing them.
- If there are 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 Hamlet of Fort Liard. This can facilitate discussions to resolve the issues.

## Appendix A: Tabular summaries of all data generated under the Surveillance Network Program for the Hamlet of Fort Liard (MV2009L3-0025)

### Surveillance Network Program Lab Results Summary

Surveillance Network Program (SNP) information is to be summarized in a tabular format and shall indicate date of testing, parameters tested for, and any other information requested by the GNWT Inspector or the MVLWB. Summary tables have been provided below for your convenience. Laboratory analysis results should also be appended.

#### 1) SNP Summary – Station number 1478-3 (Raw water supply from new community well)

Month	Volume from new community well (m <sup>3</sup> )	Volume from any other source (m <sup>3</sup> )	TOTAL Volume (m <sup>3</sup> )
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			
ANNUAL TOTALS			

*Note that as per SNP Annex Part 2, item g, this station shall be sampled and analysed to the satisfaction of an Environmental Health Officer and/or Inspector.*

#### 2) SNP Lab Results Summary – Station number 1478-6 (Water from stream flowing to Petitot River upstream of culvert at Highway #7)

This station shall be sampled one week prior to discharge and weekly during discharge, and monitors effluent from the Sewage Disposal Facilities following decant (***exact location to be determined with an Inspector***). Note that if the decant period is less than seven days, this station shall be sampled on the first and last day of decant (add columns if necessary).

Parameter	Sample 1 Date	Sample 2 Date	Sample 3 Date	Sample 4 Date	Sample 5 Date	Sample 6 Date	Sample 7 Date	Sample 8 Date
pH								
Faecal Coliforms								
Total Suspended Solids								
Conductivity								
Ammonia-Nitrogen								
BOD <sub>5</sub>								
Total Dissolved Solids								
CBOD								

Please add additional rows to the table as required, to record any additional parameters measured.

**3) SNP Lab Results Summary – Station number 1478-7 (Backwash discharge from greensand filter at the water treatment plant)**

This station shall be sampled quarterly for Total Metals (ICP-MS(2)), during backwash operations of the greensand filter to determine water quality of backwash discharge into the Liard River.

Parameter	Sample 1 Date	Sample 2 Date	Sample 3 Date	Sample 4 Date
Aluminum				
Arsenic				
Antimony				
Barium				
Beryllium				
Cadmium				
Cesium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Manganese				
Molybdenum				
Nickel				
Rubidium				
Selenium				



Silver				
Strontium				
Thallium				
Titanium				
Uranium				
Vanadium				
Zinc				

Please add additional rows to the table as required, to record any additional parameters measured.

**4) SNP Lab Results Summary – Station number 1478-8 (Runoff from Solid Waste Disposal Facilities)**

This station shall be sampled at least twice annually during periods of flow (add columns if necessary).  
*(exact location to be determined with an Inspector).*

Parameter	Sample 1 Date	Sample 2 Date	Sample 3 Date
pH			
Total Suspended Solids			
Hydrocarbons			
Aluminum			
Arsenic			
Antimony			
Barium			
Beryllium			
Cadmium			
Cesium			
Chromium			
Cobalt			
Copper			
Iron			
Lead			
Lithium			
Manganese			
Molybdenum			
Nickel			
Rubidium			
Selenium			
Silver			
Strontium			
Thallium			
Titanium			
Uranium			
Vanadium			
Zinc			

Please add additional rows to the table as required, to record any additional parameters measured.

**5) SNP Lab Results Summary – Station number 1478-9 (Wastewater from new Cell 3 of the Sewage Disposal Facilities)**

*This station is the site of compliance.* This station shall be sampled one week prior to discharge and weekly during discharge, and monitors the final sewage effluent quality before discharge to the receiving environment. Note that if the decant period is less than seven days, this station shall be sampled on the first and last day of decant (add columns if necessary).

Parameter	EQC (Part D, item 2)	Sample 1 Date	Sample 2 Date	Sample 3 Date	Sample 4 Date	Sample 5 Date	Sample 6 Date	Sample 7 Date
pH	6-9							
Faecal Coliforms	1,000 CFU/100 mL							
Total Suspended Solids	30 mg/L							
Conductivity								
Ammonia-Nitrogen								
BOD <sub>5</sub>	40 mg/L							
Total Dissolved Solids								
CBOD								
Oil and Grease	No visible sheen							

*Please add additional rows to the table as required, to record any additional parameters measured.*

**6) Lab Results Summary – Station number 1478-10 (Sedimentation Pond at the new Solid Waste Facility)**

This station monitors water collected prior to discharge, and shall be sampled prior to discharge.

Parameter	Sample 1 Date	Sample 2 Date	Sample 3 Date
pH			
Total Suspended Solids			
Hydrocarbons			
Total Metals			
Turbidity			

*Please add additional rows to the table as required, to record any additional parameters measured.*