

WSER Sampling Requirements

Requirements under WSER

Under the [Wastewater Systems Effluent Regulations](#) (WSER), wastewater systems need to sample their wastewater and report the test results to Environment and Climate Change Canada (ECCC). Samples must be taken at the final discharge point before wastewater is released into the environment.

The final discharge point is the point beyond which it is no longer possible to exercise control over the quality of the effluent. This means:

- At the exit of the treatment plant (e.g. mechanical plant or lagoon).
- If there is no treatment plant, the manhole closest to the outfall that can be safely and easily accessed.

The wastewater samples must be tested for the following:

- Carbonaceous Biochemical Oxygen Demand (CBOD).
- Suspended Solids (SS), commonly referred to as Total Suspended Solids (TSS).

Samples must be taken, analyzed in a laboratory and test results entered online in monitoring reports. The sampling and reporting schedules depend on the System Type¹ and whether the system has a Transitional Authorization (TA). Schedules are shown in the table below:



System Type	Sampling Schedule	Reporting Schedule
Mechanical Plant or Outfall (no TA)	Monthly, at least 10 days between samples	Quarterly
Mechanical Plant or Outfall (with TA)	Quarterly, at least 60 days between samples	Annually
Lagoon (Continuous release) (regardless of TA)	Quarterly, at least 60 days between samples	Annually
Lagoon (Intermittent release) (regardless of TA)	Once at discharge if it lasts less than 30 days, or every two weeks if more than 30 days	Annually

Getting Ready

Before collecting wastewater samples, ensure you have the proper equipment ready, understand safety procedures, and have an account set up with a laboratory.

Accredited Analytical Laboratories – Newfoundland & Labrador

Samples collected need to be sent to an accredited analytical laboratory for testing. In Newfoundland, the following laboratories accept and analyze wastewater samples:

 <p>AGAT Laboratories 5 Sea Rose Ave, St. John's NL A1A 0P6 709-726-9345</p>	 <p>Bureau Veritas 49-55 Elizabeth Ave., Suite 101A St. John's, NL, A1A 1W9 709-754-0203</p>
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¹ See the Small Systems Handout for definitions of the different system types.

When contacting an analytical laboratory, be ready to:

- Open an account for billing purposes.
- Request, at least one month before sampling, a cooler and sample bottles for CBOD and TSS analysis.
 - If the province requires more testing (ammonia, coliforms, etc.), ask for additional bottles, as applicable.
 - You can ask for multiple kits at a time for future sampling and backup.
- Ask if the lab can pre-label bottles with sample details. This can include the sampling location (e.g., “Main Street Outfall”) and parameters for analysis (e.g., CBOD and TSS).
- Confirm the Chain of Custody (COC) form is included in the cooler. COCs are used by the laboratory to clearly understand which test to perform and to send you a report with the results.
 - Some labs can fill in the COC form on request.
- Confirm the address for shipping samples back to the laboratory.

Supply Checklist

Before sampling, ensure you have the following supplies. Consider having a stockpile of supplies.

- Clean sample bottles from the laboratory.
- Cooler and ice or freezer packs.
- COC form and material to fill it out:
 - Pen and clipboard.
 - Ziplock bag.
- Disposable nitrile gloves.
- Safety glasses.
- CSA-approved safety boots.
- Hi-Viz vest.
- Plastic material to wrap bottles (e.g., bubble wrap or bags) and packing tape.
- Permanent marker (for labeling bottles).
- Container and pole to collect sample (if needed).
- Traffic control equipment (if needed).
- Required safety equipment, such as:
 - Manhole cover lifter or manhole key (if needed).
 - Flashlight (if needed).
 - First-aid kit.

Sampling Procedure

Prior to Going to the Field

1. Schedule a courier to pick up the samples the same day as sampling.
 - Schedule sampling to happen Monday through Thursday but avoid Fridays and weekends.
 - Most samples need to reach the lab for analysis within 48 hours after sampling.
2. Prepare ice packs or ice for packing the samples in a cooler for shipping.
 - The samples need to be kept cold during shipping, however, they should not be frozen.
3. Label each sample bottle. Include the sample name, your name, the date and time of sampling and the sample type. Labs can prepare labels for you upon request.
4. Gather sampling supplies, equipment and personal protective equipment (PPE). Complete an initial safety assessment to ensure you have the necessary safety equipment and protocols in place.

At Sampling Location

1. Assess the area for potential hazards. If required, set up traffic controls. If in a pump station or wastewater treatment plant, avoid moving equipment.
2. Remove manhole cover or hatch of pumping station or effluent chamber. Use proper lifting techniques to lift covers.
3. Tip: Manhole Safety:
 - Make sure that traffic (foot and vehicle) is kept away from the manhole while sampling.
 - Use a manhole cover lifter or manhole key for safe lifting.
 - Wear safety boots and protect your feet when moving the cover.

- o Manhole covers are heavy. Ensure that you can safely lift the cover without causing strain or injury.
- o **Do not enter a manhole for sampling since there could be hazardous gas.** Use a container on a pole or a sampling stick to collect the sample.

! *Note: this list is not exhaustive and does not replace safety procedures set out for the system.*

Taking Samples

1. Wear appropriate PPE and follow safety protocols for the site.
2. A sampling stick can be used to collect and pour the sample into the sample bottle. Only use a clean container that has been rinsed three times with the sample water.
3. Take a sample of free-flowing wastewater. Don't drag the container along the bottom of the pipe or chamber. If sampling from a valve, run the line until it is free of debris before sampling.
4. Fill bottles to the recommended line on the sample bottle. If no line is shown, fill to the neck of the bottle. Cap each sample bottle tightly.
5. Tip: Take notes about the weather and sampling conditions. Taking photos is recommended.
 - o It is important to note if there was heavy rain or snow during sampling as it can impact the sample results. For lagoon systems, note if there is an algal bloom present.

Shipping Samples

1. Put samples in cooler with ice packs before transporting to ensure they cool as quickly as possible.
2. If needed, put sample bottles in the fridge to keep the samples refrigerated if shipped later in the day. Samples must not be frozen.
3. Fill out the COC form sent from the lab. Put the COC form in a zip-loc bag and seal it.
4. Pack the sample bottles and COC form in the cooler with ice or freezer packs. Make sure the samples are secure for transport.
5. Send to the lab via courier. Express courier is recommended for remote communities.

Sample Reporting

The laboratory will send a report, called a "Certificate of Analysis", with the results once testing is complete. This will be sent as a PDF document by email. The sample records must be kept onsite for a period of 5 years.

Tip: Organize all sample results in a dedicated folder on your computer. This will also help simplify the reporting process.



For each reporting period, communities will need to average the CBOD and SS results. Details on reporting periods is provided in the *Small Systems* handout. For systems with a TA, this involves averaging the four quarterly sample results for the annual reporting. It is important that the detection limit or RDL included on the certificate of analysis is not used in the calculation. Sample results then must be entered into the [Effluent Regulatory Reporting Information System \(ERRIS\)](#) for the reporting period. An example of an average calculation and reporting process is provided in Annex 2.

Disclaimer

This information does not in any way supersede or modify the *Wastewater Systems Effluent Regulations* or the *Fisheries Act*, or offer any legal interpretation of those Regulations or Act. Where there are any inconsistencies between this information and the Regulations or Act, the Regulations or Act take precedence, respectively.

Annex 1: Example COC Form

Report To		Report Format / Distribution			Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)							
Contact and company name below will appear on the final report		Select Report Format: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL)			Regular [R] <input checked="" type="checkbox"/> Standard TAT if received by 3 pm - business days - no surcharges apply							
Company:	Green Bay	Quality Control (QC) Report with Report: <input type="checkbox"/> YES <input type="checkbox"/> NO			PRIORITY (Business)	4 day [P4-20%] <input type="checkbox"/>		EMERGENCY				
Contact:	John Doe	<input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked				3 day [P3-25%] <input type="checkbox"/>		1 Business day [E - 100%] <input type="checkbox"/>				
Phone:	555-866-7777	Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX				2 day [P2-50%] <input type="checkbox"/>		Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] <input type="checkbox"/>				
Company address below will appear on the final report		Email 1 or Fax:			Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm							
Street:	20 Green Bay Lane	Email 3:			For tests that can not be performed according to the service level selected, you will be contacted.							
City/Province:	Green Bay, Ontario	Note here if you would prefer to be sent the results by fax, mail or email			Analysis Request							
Postal Code:		Invoice Distribution			Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below							
Invoice To	Same as Report To <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Select Invoice Distribution: <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX			NUMBER OF CONTAINERS						SAMPLES ON HOLD	SUSPECTED HAZARD (see Special Instructions)
Copy of Invoice with Report	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Email 1 or Fax:				CBOD						
Company:		Email 2:				TSS						
Contact:		Email 3:				WSER Un-ionized Ammonia						
Project Information		Oil and Gas Required Fields (client use)				For type of service request, put R for Regular						
Account # / Quote #:		AFE/Cost Center:	PO#									
Job #:	WSER	Major/Minor Cod	Routing Code:									
PO / AFE:		Requisitioner:										
LSD:		Location:										
Lab Work Order # (lab use only):		Lab Contact:	Sampler:									
Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type								
	Lagoon Effluent	2-Aug-24	10:30am	WW	3							
This should be the same name that appears on the sample bottles		WW stands for Wastewater		The number of containers you are sending back								
Drinking Water (DW) Samples ¹ (client use)		Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)			SAMPLE CONDITION AS RECEIVED (lab use only)							
Are samples taken from a Regulated DW System? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		Please use pH of the effluent adjusted to 15°C ± 1°C to calculate un-ionized ammonia.			Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input type="checkbox"/>							
Are samples for human consumption/ use? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		The time the samples leave your possession to be shipped.			Ice Packs <input type="checkbox"/> Ice Cubes <input type="checkbox"/> Custody seal intact Yes <input type="checkbox"/> No <input type="checkbox"/>							
SHIPMENT RELEASE (client use)		SHIPMENT RECEPTION (lab use only)			Cooling Initiated <input type="checkbox"/>							
Released by:	Date:	Time:	Date:	Time:	INITIAL COOLER TEMPERATURES °C					FINAL COOLER TEMPERATURES °C		
John Doe	August 2, 2024	2:30pm			Received by:					Date:		

Example

Annex 2: Example - Filling out a Monitoring Report

The laboratory will send a report, called a “Certificate of Analysis”, with the results once testing is complete. An example of the results provided in a certificate of analysis is provided below.

CLIENT NAME Demo Community					ATTENTION TO: Town Clerk
SAMPLING SITE: Outfall					SAMPLED BY: Town Operator
TSS, cBOD, pH					
DATE RECEIVED: 2026-02-06			DATE REPORTED: 2026-02-12		
SAMPLE DESCRIPTION:					
SAMPLE TYPE: Water					
DATE SAMPLED: 2026-02-06 12:15					
7467943					
Parameter	Unit	G / S	RDL		
Biochemical Oxygen Demand, Carbonaceous	mg/L	2	45		
Total Suspended Solids	mg/L	5	50		
pH			7.46		
Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard					
7467943 pH has been analyzed past the recommended holding time of 15 minutes from sampling. Field measurement recommended for most accurate result					

Figure 1: Example of Sample Results Reported by Accredited Laboratory

For each reporting period, communities will need to average the CBOD and SS results provided in the certificate of analysis. For systems with a TA, this involves averaging the four quarterly sample results for the annual reporting. The first step is to collect the sample data into a table. It is important that the detection limit or RDL included on the certificate of analysis is not used in the calculation.

Example of quarterly sampling results for a small system with a TA:

Sample Date (Once Per Quarter)	CBOD Result (mg/L)	SS Result (mg/L)
January	29	19
April	56	43
July	43	57
October	25	39

Example of Calculation for Monitoring Reports

CBOD: Average the quarterly sample results

$$CBOD\ Average = \frac{CBOD_{Quarter\ 1} + CBOD_{Quarter\ 2} + CBOD_{Quarter\ 3} + CBOD_{Quarter\ 4}}{4}$$

$$CBOD\ Average = \frac{29 + 56 + 43 + 25}{4} = 38\text{mg/L (to be reported in ERRIS)}$$

SS: Average all four samples

$$SS\ Average = \frac{SS_{Quarter\ 1} + SS_{Quarter\ 2} + SS_{Quarter\ 3} + SS_{Quarter\ 4}}{4}$$

$$SS\ Average = \frac{19 + 43 + 57 + 39}{4} = 40\text{ mg/L (to be reported in ERRIS)}$$

Sample results then must be entered into the Effluent Regulatory Reporting Information System (ERRIS), prior to the reporting deadline. This must be done for each reporting period. An example of the steps for entering the results for an annual report is shown below.

Monitoring Report

Wastewater System Summary

Owner: _____
 Wastewater System: _____
 Approval State: New
 Reporting Year: 2026
 System Type: Continuous
 Reporting Frequency: Annually

Reporting Period: January To December
 Average daily effluent volume (m³) based on volumes from the previous year: _____
 Averaging Period: Annually

Effluent Monitoring Data

Was effluent deposited in this reporting period? (required): **1**

For each month indicated, was effluent deposited? (required):

2 January: February: March:
 April: May: June:
 July: August: September:
 October: November: December:

Reporting Period	Number of days that effluent was deposited	Total volume of effluent deposited (m ³)	Average CBOD (mg/L)	Average concentration of suspended solids (mg/L)
Limit				
January To December	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Indicate any months from May to November (maximum of four) where the suspended solids results were not included in the calculation of the average because the result was greater than 25 mg/L and the result was caused by a bloom of algae or aquatic invertebrate:

May: June:
 July: August:
 September: October:
 November:

Acute Lethality Test Results

Does your wastewater system have Acute Lethality test sample(s) to report in this reporting period? (required)

Sample Date (YYYY/MM/DD)	Procedure(s) Used	Was sample acutely lethal?	Action
<input type="text"/>	EPS 1/RM/13 <input type="button" value="Select v"/>	EPS 1/RM/50 <input type="button" value="Select v"/>	<input type="button" value="Select v"/> <input type="button" value="Delete"/>

- 1** Select Yes
- 2** Choose the month(s) when discharge occurred using the drop-down menu
- 3** Enter:
 - Number of discharge days
 - Total volume discharged
 - Average CBOD (mg/L)
 - Average SS (mg/L)
- 4** If Acute Lethality test was completed, select YES and enter results