MUNICIPALITY OF ARVIAT

Environmental Monitoring Program and Quality Assurance/Quality Control Plan for Municipal Water Licence 3AM-ARV2232

March 2026

Document Control

Date	Document Title	Author	Details
May 2009, Revised May 2010	Environmental Monitoring Program and Quality Assurance/Quality Control Plan Hamlet of Arviat	Nuna Burnside Engineering and Environmental Ltd.	Initial document
October 2010	Environmental Monitoring Training Manual Hamlet of Arviat	Nuna Burnside Engineering and Environmental	Manual to compliment the QA/QC (2010)
January 2021	Environmental Monitoring Program and Quality Assurance/Quality Control Plan	Dillion Consulting and Government of Nunavut – Department of Community and Government Services	Updated monitoring program in accordance with water licence and QA/QC standards of laboratory
March 2026	Municipality of Arviat Environmental Monitoring Program and Quality Assurance/Quality Control Plan for Municipal Water Licence	Government of Nunavut – Department of Transportation and Infrastructure Nunavut	Update to the most recent standardized template including details on replicate sampling

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1.0 Introduction

This quality assurance/quality control (QA/QC) plan for sampling and monitoring describes the procedures and protocols to be followed when conducting environmental sampling under the Nunavut Water Board (NWB) Water Licence monitoring program.

Although the QA/QC Plan is submitted to the NWB as a condition of the water license, it is primarily intended to be read, understood, and implemented by Municipality personnel responsible for environmental quality monitoring.

The water licence requires Hamlet personnel to adhere to these procedures, which should be applied to all water quality samples taken by the Hamlet. This document applies to the currently used infrastructure and environmental laboratory, and any changes will require this document to be updated.

Date this plan was prepared: March 2026

Community: Arviat
Latitude: 61º06’30” N
Longitude: 94º03’31” W

This quality assurance/quality control (QA/QC) plan for sampling and monitoring was created to meet the requirements of the community’s water licence:

Water licence number: 3AM-ARV2232 / Type “A”
Issue date: July 13, 2022
Expiry date: July 12, 2032

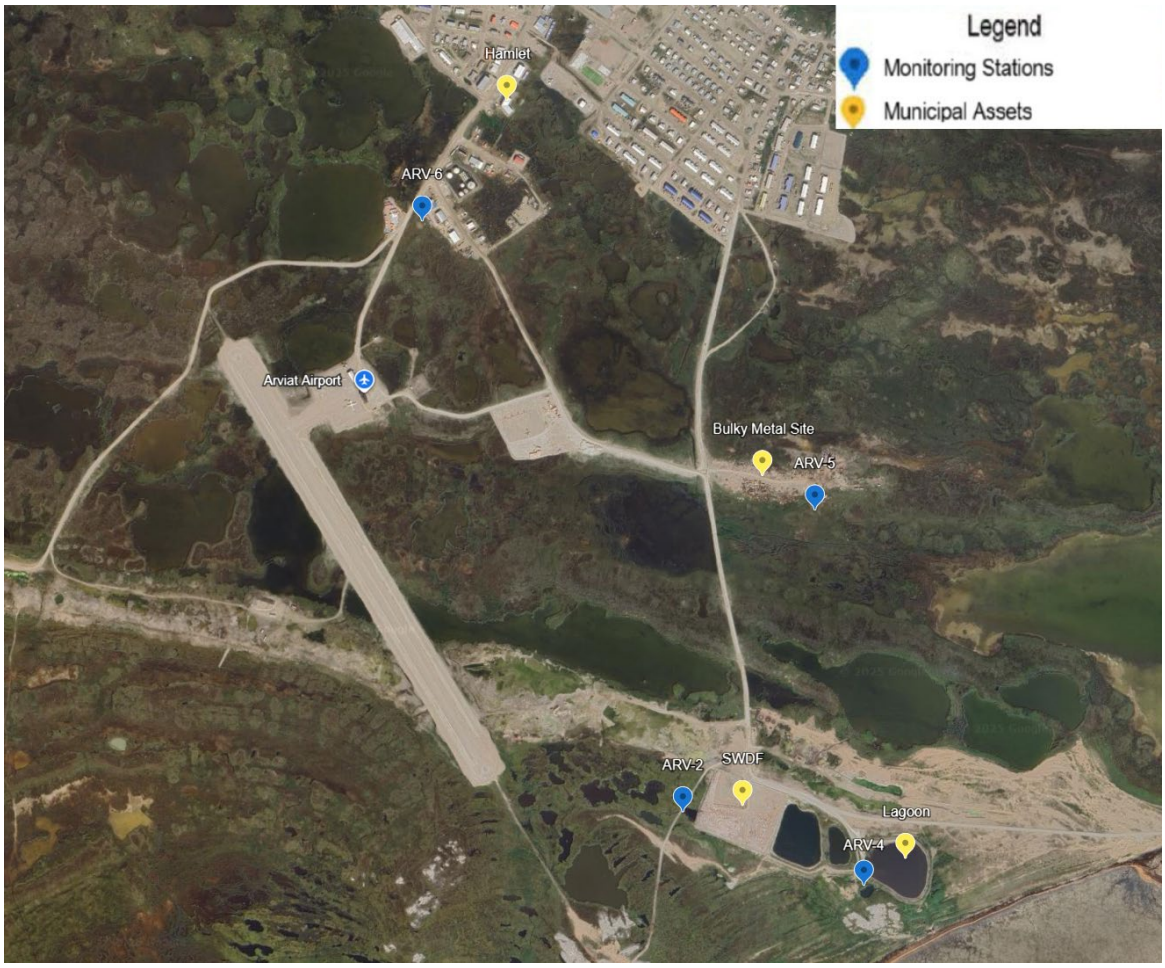


Figure 1: Arviat Monitoring Locations using GPS Coordinates (Google Earth, 2025)

2.0 Environmental Monitoring and Reporting

Part I of the NWB licence provides specific requirements for the monitoring program. **Table 1** summarises the sampling locations, while **Table 2** details the water quality sampling parameters.

Table 1: Water License Sampling Locations

Station ID	Description	Sample Type	Frequency	Status	Coordinates (LAT LONG)
ARV-2	Effluent from the discharge point of the Solid Waste Disposal Facility	Leachate	Monthly during periods of observed flow and prior to discharge	Active	61° 05' 16.6'' N 94° 03' 20.1'' W
ARV-4	Effluent from sewage lagoon(s) to Wetland Treatment Area	Wastewater	Monthly during periods of observed flow	Active	61° 05' 10.2" N 94° 02' 47.6" W
ARV-5	Discharge from Bulky Metal Waste Area	Leachate	Monthly during periods of observed flow	Active	61° 05' 40.1" N 94° 03' 10.6" W
ARV-6	Discharge from the Hazardous Waste Storage Area	Leachate	Monthly during periods of observed flow	Active	61° 06' 07.8" N 94° 04' 06.9" W

For monitoring program locations that that are used to collect chemical data for surface water or groundwater, the parameters that will be analyzed are as follows:

Table 2: Water License Sampling Parameters

MONITORING LOCATIONS	PARAMETERS	
ARV-2a ARV-4 ARV-5 ARV-6	• Bicarbonate (HCO3) • Carbonate (CO3) • Hydroxide (OH) • Total Alkalinity (as CaCO3) • Total Ammonia (as N) • Biochemical Oxygen Demand • BOD Carbonaceous • Chloride (Cl) • Conductivity • Fecal Coliforms • Hardness (as CaCO3) • Mercury (Hg) • Nitrate (as N) • Nitrate + Nitrite (as N) • Nitrite (as N) • Oil and Grease • Phenols • Phosphorus (P) • Sulfate (SO4) • Aluminium (Al) • Arsenic (As)	• Cadmium (Cd) • Calcium (Ca) • Chromium (Cr) • Cobalt (Co) • Copper (Cu) • Iron (Fe) • Lead (Pb) • Magnesium (Mg) • Manganese (Mn) • Nickel (Ni) • Potassium (K) • Sodium (Na) • Zinc (Zn) • Total Organic Carbon • Total Suspended Solids • pH • Benzene • Toluene • Ethyl Benzene • o-Xylene • F1 (C6-C10) • F2 (C10-C16) • F3 (C16-C34) • F4 (C34-C50) • Total Hydrocarbons (C6-C50)

Samples shall be taken at the same location during each sampling event. If flow volumes are not sufficient to collect a sample at Monitoring Stations ARV-3, ARV-6, and ARV-6, sampling may be collected upstream of the locations where adequate flow volumes exist.

A new Solid Waste Disposal Facility and Wastewater Treatment Facility is planned to be constructed within the timeline of this licence. Prior to the commissioning of these facilities,

additional Monitoring Stations will need to be established and approved by the NWB. This plan will need to be updated to include these sampling locations.

Additional sampling and analysis may be requested by a CIRNAC Inspector or the NWB.

The environmental lab used to analyze the samples collected for the monitoring program must meet the accreditation requirements outlined in the community's water licence.

Proof of environmental lab's accreditation is provided in **Appendix B**.

The address and contact information for the environmental laboratory used for analysis by Arviat is:

ALS Laboratory Group – Environmental Division

Toll Free: 1-800-668-9878
1329 Niakwa Road East, Unit 12
Winnipeg, Manitoba
R2L 3T4

Phone: (204) 255-9720
Fax: (204) 255-9721

Laboratory analyses shall meet the following standards:

- All sampling, sample preservation and analyses shall be conducted in accordance with methods prescribed in the current edition of Standard Methods for the Examination of Water and Wastewater, or by such other methods approved by the Board in writing.
- All analyses shall be performed in a laboratory accredited according to ISO/IEC Standard 17025. The accreditation shall be current and in good standing.

Reports will be distributed to the municipality, Government of Nunavut Department of Transportation and Infrastructure Nunavut (GN-TIN), and the Nunavut Water Board.

3.0 Sampling Procedures and Protocols

To ensure quality of the monitoring program, the following procedures and protocols shall be used for field sampling. These methods are consistent with the Standard Methods for the Examination of Water and Wastewater (Eaton et al., 2005) and have been approved by the Nunavut Water Board.

3.1 Sampling Location and Frequency

The monitoring program included in the water license includes specific requirements regarding sampling locations, sampling frequency and parameters to be analyzed. These are provided in **Table 1** and **Table 2**. Monitoring locations are shown in **Figure 1**.

3.2 Sample Container Selection

Sample containers vary in size and material of construction depending on the specific type of analysis to be conducted. Containers to be used shall be obtained directly from the laboratory. The laboratory will provide the correct sizes and types of bottles based on the parameters required. The sample containers for specific analysis are provided in **Appendix C**. The laboratory shall be contacted at least one (1) month prior to the sampling event to ensure that containers are available for sampling.

3.3 Field Sample Log

It is best practice for the individual collecting the samples to record the following at each location at the time of sampling:

- Date of sampling;
- Time of sampling;
- Weather conditions;
- Monitoring Station Number (i.e., ARV-1, ARV-2, etc.);
- Results of any field measurements;
- Sampler shall also indicate if sample used preservatives;
- Any unusual conditions; and
- Any deviation from standard procedures.

An example of a Sample Log is included in **Appendix D**.

3.4 General Procedures for Sample Collection

General procedures for sample collection are outlined below. Different laboratories have slightly different bottle requirements and sample handling protocols. Sampling technicians must receive site specific training and laboratory procedures must take precedence over other protocols.

- Sample Locations and Sampling Frequency – The location and frequency of each sampling option has been carefully selected, and is part of site design and layout, as well as the Water Board License. Sampling will follow their requirements. Diversions must be recorded and submitted to the Water Board for approval;
- Preparation – Approximately one (1) month prior to the sampling event the laboratory will be notified, and the required bottles, blanks, and materials assembled. Plans for rapid return of the samples prepared;
- Field Collection – At each sampling station the specified samples will be collected, and field data recorded;
- Handling Storage and Transportation –Appropriate personal protective equipment (gloves, safety glasses, etc.) will be used when handling samples. Samples will be stored a 4ºC and protected from freezing until delivered to the laboratory. Chain of custody for sampling, storage, and delivery must be maintained. Laboratory sample sheets will be filled in as per laboratory protocols; and
- Delivery to Laboratory – Samples will be delivered to the laboratory in the laboratory dictated method and within the hold times specified, as much as possible.

3.5 Surface Water Sampling Procedures

All the samples taken will be grab samples. Samples will normally be taken from natural lakes, streams, treatment ponds, or process streams. Where possible, samples shall be taken from just below the surface to avoid floating debris, which may contaminate the sample.

3.5.1 Freshwater Streams, Surface Drainage, and Wetlands

Guidelines for collecting samples from streams, surface drainage, and wetlands are as follows:

- The samples shall be collected as close to the middle of the stream where water flows freely and is free of debris.
- Samples shall be collected upstream of the sampler.
- After getting into position, the sampler shall wait to allow any stirred sediment that occurred from entering the stream to settle or wash away.

- The sample bottle shall be partially filled with the water to be sampled and rinsed with the lid in place.
- Rinse water shall be emptied downstream of the sampling point, so that stream sediments remain undisturbed.
- Prior to sampling for oil/grease, bacteria, and for any bottles containing preservative, the bottles shall not be rinsed.
- If possible, bottles shall be plunged into the stream to a depth of approximately half the total stream depth and allow it to fill with the mouth of the bottle facing upstream.
- If the stream is too shallow to allow for sample bottle to be filled completely, without disturbing bottom sediment of the streambed, the sampler may use a smaller container that has been properly rinsed to transfer sample to the larger bottle.
- Do not use a smaller sample bottle containing preservatives.
- When taking the sample, sufficient room shall be left to allow for the addition of preservatives, if required.

3.5.2 Lakes or Ponds

When collecting samples from lakes or ponds, the below procedures should be followed:

- Surface sampling shall be collected using the same procedures as streams.
- Sample bottles shall be plunged to approximately 150 mm (6 inches) below the water surface.

3.6 Sample Identification

All samples collected are to be labelled according to standard identification procedures (Name of sampler, time and date of sampling, sample identifier, sampling method and type of sample). Sample labels shall be water-resistant and prepared prior to going into the field. The individual samples will be labelled with the following information:

- Sample ID #;
- Monitoring Station Name (e.g., ARV-#);
- Date and time of collection;
- Parameter to be analyzed;
- Preservatives;
- Project number identifier; and
- Bottle number 1 of __.

3.7 Sample Preservation

To obtain good results from a sampling program, timing is critical. All samples are to be shipped to the Laboratory that has been contracted to carry out the analysis the same day as they are collected. Samples must be protected from breakage and shall be shipped in an insulated cooler that can be provided by the Laboratory. If samples cannot be shipped until the next day, due to unavoidable events such as weather or mechanical problems with transport aircraft, all samples must be stored in a refrigerator at 4ºC. Samples must not be frozen.

In all cases where samples cannot be delivered to the lab on the same day, specific preservatives must be added to the samples to prevent chemical changes that may alter the concentration of the parameters of interest. The samples must be preserved within two hours of sampling. Usually, samples can be preserved away from the field at the end of the site visit. In most cases, the laboratory can fill the bottles with preservative and then ship them to the Municipality to be filled and sent back for analysis.

3.8 Sample Transportation

The main objective of the sampler is to minimize any chemical changes to the sample between the time it is collected and delivery to the laboratory. Heat, light, and agitation can all impact the water chemistry, and the samples shall be protected from these effects.

Effluent and surface water samples shall be stored and transported at a temperature of 4ºC. Coolers and ice packs need to be available and are usually provided by the laboratory. Upon arrival at the laboratory, samples shall be refrigerated as soon as possible.

3.9 Water Volume and Water Level Measurements

The NWB license includes measuring the monthly and annual volume of water pumped from Wolf Creek (ARV-1) This can be accomplished by installing a flow meter on the intake pipe.

4.0 Quality Assurance and Quality Control

Quality Assurance (QA) and Quality Control (QC) are vitally important components of environmental management.

4.1 Quality Assurance

Quality Assurance (QA) is a set of operating principles that, if strictly followed during sample collection and analysis, will produce data of known and defensible quality. As such the accuracy of the analytical results can be stated with a high level of confidence. A high level of quality assurance can be achieved by applying the following principles:

- Personnel involved in water sampling and analysis are well trained;
- Facilities and equipment required for sampling are suitable, well maintained, and always kept clean;
- Standard procedures are developed and implemented for the collection, transportation, and analysis of samples, based on recognized best management practices (BMP);
- Laboratory and field instruments are calibrated according to manufacturers recommendations or recognized as good operating practice; and
- Supplies used in sampling and analysis are of consistent high quality and are not expired.

4.2 Quality Control

Quality Control (QC) is a set of specific procedures used to measure the quality of the data produced and correct deficiencies in the sampling or analyses, as they occur. Quality control is used by the analyst and sampler to achieve standards of measurement for the three principles components of quality: precision, accuracy, and reliability.

Most commercial laboratories undertake QA/QC procedures with the volume of sample sent for analysis. Reports are usually provided with the Certificates of Analysis. It is recommended that the suggested QA/QC protocols by the laboratory be followed.

To ensure that the monitoring program maintains accepted quality control, field blanks and duplicate samples should be collected. These samples are collected and analyzed for the sample parameters listed in the monitoring program in the license as part of a quality control check on monitoring activities.

4.2.1 Field Blanks

Field Blanks are samples that the lab uses to identify any environmental impacts caused during sample collection or sample transportation. Field Blanks sent by the lab shall accompany the sampler into the field, labelled as field blanks, preserved in the field, and submitted to the laboratory with the field samples.

4.2.2 Replicate or Duplicate Samples

Replicate or duplicate samples involves collecting more than one sample for a given sampling station subject to specific analysis. Standard procedures used for the routine sampling shall be applied. The replicate or duplicate samples are useful in identifying problems with accuracy and sampling methods. Replicate and/or duplicate samples will come at the request of the NWB or CIRNAC.

4.3 Lab Accreditation

Analytical methods and accreditation are usually dictated by the guideline criteria being followed. In most cases, the guideline criteria are the Canadian Environmental Quality Guidelines (CCME, 2007). These guidelines specify bottles, hold times, preservatives, sampling protocols, as well as lab accreditation, and analytical methodologies. These guidelines or equivalent standard will be used. Prior to any sampling, this information should be reviewed to ensure consistency with regulation and standards. Laboratory accreditation is included in **Appendix B**.

5.0 Laboratory Analysis and Reporting

The laboratory will perform the analysis of all samples as outlined herein. The results shall be received by the Municipality within the time frame agreed to with the laboratory. The results shall contain the limits of detection used for analysis of each parameter as supplied by the laboratory. The Municipality may request clarification of the analysis by contacting the NWB Technical Advisor and a review of the analysis will be provided upon request. The laboratory results are compared to the limits of the Water Licence for each parameter, and/or to other comparative criteria such as the Canadian Environment Water Quality Guidelines. Results of the monitoring program are reported in the Annual Report as required in the water license. The Annual Report must be submitted by March 31 of the year following the calendar year for which the report has been submitted. The content of the Annual Report and Guideline Criteria is outlined in the following documents:

- Solid Waste Management Facility Operations and Maintenance Plan;
- Sewage Treatment Facility Operations and Maintenance Plan; and
- Water Supply Facility Operations and Maintenance Plan.

Appendix A

Site Drawings

FIGURE 1

HAMLET OF ARVIAT
HAMLET OF ARVIAT, NUNAVUT
ENVIRONMENTAL MONITORING TRAINING MANUAL

WATER SUPPLY FACILIITY MONITORING LOCATIONS

LEGEND

- MONITORING STATION LOCATION
- WATER FLOW DIRECTION

Satellite Image Source:
Background colour satellite image obtained from Google Earth Pro. © Google Earth Pro: Image © 2010 DigitalGlobe, Photo Date: July, 2006

N

0 10 20 30 40 50 60 70 80 90 100 110 120
Metres

1:1,500
October 2010
Project Number: N-015746

Projection: UTM Zone 15
Datum: NAD83

Prepared by: C. Dickie

Verified by: S. Charity

BURNSIDE

N-015746 EMTM WATER SUPPLY MONITORING STATIONS.dwg

Plot Time: Dec 17, 2010 - 10:55am

FIGURE 2

HAMLET OF ARVIAT
HAMLET OF ARVIAT, NUNAVUT
ENVIRONMENTAL MONITORING TRAINING MANUAL

SEWAGE TREATMENT FACILITY MONITORING LOCATIONS

LEGEND

● MONITORING STATION LOCATION

Satellite Image Source:
Quickbird Satellite Image ©Digital Globe Inc., Date 2008

Map Source:
Background physical features obtained from the National Topographic Database Website.

N

0 25 50 75 100 125 150 175 200

Metres

1:2,500
December 2010
Project Number: N-O15746

Projection: UTM Zone 15
Datum: NAD83

Prepared by: C. Dickie

Verified by: J. Walls

BURNSIDE

N-O15746 EMTM SEWAGE TREATMENT FACILITY.dwg

Plot Time: Dec 17, 2010 - 11:09am

FIGURE 3

HAMLET OF ARVIAT
HAMLET OF ARVIAT, NUNAVUT
ENVIRONMENTAL MONITORING TRAINING MANUAL

SOLID WASTE MANAGEMENT FACILITY - MONITORING LOCATIONS - LANDFILL

LEGEND

● MONITORING STATION LOCATION

Satellite Image Source:
QuickBird Satellite Image ©Digital Globe Inc., Date 2008

N

0 20 40 60 80 100 120 140 160
Metres

1:2,000
December, 2010
Project Number: N-O157460

Projection: UTM Zone 15
Datum: NAD83

Prepared by: C. Dickie

Verified by: S. Charity

N-O15746 EMTM SOLID WASTE AREA.dwg

Plot Time: Dec 17, 2010 - 10:35am

FIGURE 4

HAMLET OF ARVIAT
HAMLET OF ARVIAT, NUNAVUT
ENVIRONMENTAL MONITORING TRAINING MANUAL

SOLID WASTE MANAGEMENT FACILITY - MONITORING LOCATIONS - BULKY METALS WASTE AREA

LEGEND

● MONITORING STATION LOCATION

Satellite Image Sources
QuickBird Satellite Image ©Digital Globe Inc., Date 2008

N

0 20 40 60 80 100 120 140 160
Metres

1:2,000
December, 2010
Project Number: N-O157460

Projection: UTM Zone 15
Datum: NAD83

Prepared by: C. Dickie

Verified by: S. Charity

Nunn BURNSIDE

N-O15746 EMTM BULKY METALS AREA.dwg

Plot Time: Dec 17, 2010--10:51am

FIGURE 5

HAMLET OF ARVIAT
HAMLET OF ARVIAT, NUNAVUT
ENVIRONMENTAL MONITORING TRAINING MANUAL

SOLID WASTE MANAGEMENT FACILITY - MONITORING LOCATIONS - HAZARDOUS WASTE STORAGE AREA

LEGEND

● MONITORING STATION LOCATION

Satellite Image Source:
Quickbird Satellite Image ©Digital Globe Inc., Date 2008

N

0 20 40 60 80 100 120 140 160
Metres

1:2,000
October, 2010
Project Number: N-O157460

Projection: UTM Zone 15
Datum: NAD83

Prepared by: C. Dickie

Verified by: S. Charity

N-O15746 EMTM HAZARDOUS WASTE AREA.dwg

Plot Time: Dec 17, 2010-11:03am

Appendix B

Laboratory Accreditation

Canadian Association for Laboratory Accreditation Inc.

Certificate of Accreditation

ALS Environmental (Winnipeg)
ALS Canada Ltd.
1329 Niakwa Road East
Unit 12
Winnipeg, Manitoba

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

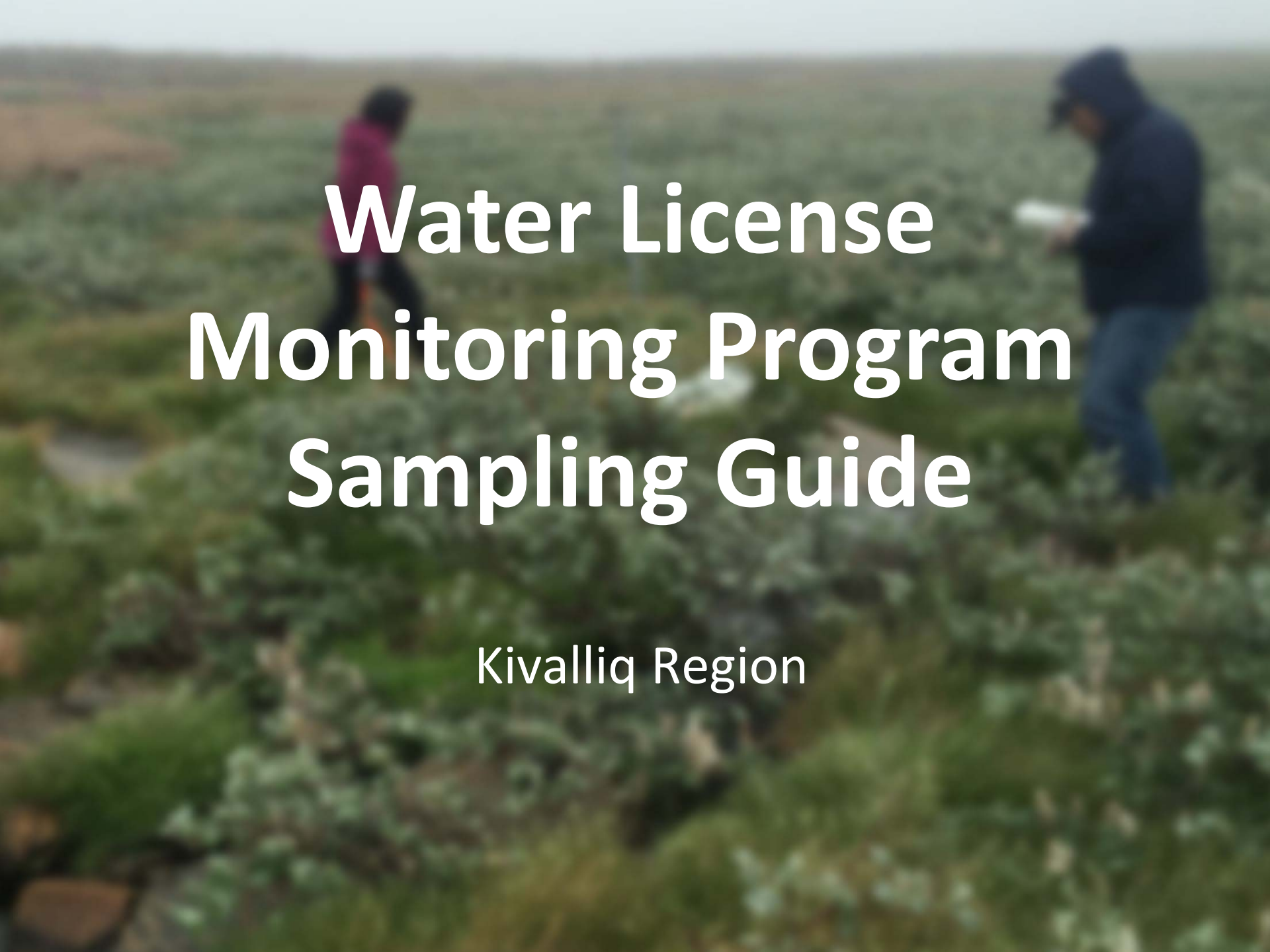
Accreditation No.: 1001442
Issued On: 2/7/2025
Accreditation Date: 1/3/2005
Expiry Date: 8/7/2027

President and CEO

This certificate is the property of the Canadian Association for Laboratory Accreditation Inc. and must be returned on request; reproduction must follow policy in place at date of issue.
For the specific tests to which this accreditation applies, please refer to the laboratory's scope of accreditation at www.cala.ca.

Appendix C

Wastewater and Leachate Sampling Guide



Water License Monitoring Program Sampling Guide

Kivalliq Region

Equipment Needed:

- Field Log
- Sampling Bottles
- Cooler
- Frozen Ice Packs
- Permanent Marker
- Rubber Gloves
- GPS or map of sampling sites
- Garbage Bags

Instructions

1. Label all bottles prior to going to sampling sites.
2. Begin sampling at the “cleanest” sampling site.
3. Separate bottles into garbage bags by sampling site.
4. Complete Field Log at each sampling site.
5. Put on new pair of gloves at each sampling site.
6. Face bottles upstream when collecting samples in flowing water.
7. Plunge bottle to half depth of water or 15 cm below surface for deeper water, avoid floating debris.
8. Fill bottles partially with water and rinse with lid in place, empty water downstream, repeat 3 times.
9. Do not rinse bottles when sampling if bottles contain preservatives (ie. Nutrients, Oil & Grease, Bacteria, BTX F1, F2-F4, PAH).

Instructions

10. If preservatives are to be added, leave room so there is no overflow.
11. If preservative is already in the bottle, fill slowly so not to wash out preservative.
12. Put bottles in cooler with ice/icepacks.
13. Place Chain of Custody (COC) form in plastic bag and put in cooler.
14. Send samples to lab as soon as possible (must arrive within 24 hours).
15. Wash your hands when you are done handling samples.
16. Notify the lab that the sample was shipped, waybill #, and what time it is expected to arrive.

Ship Samples To:

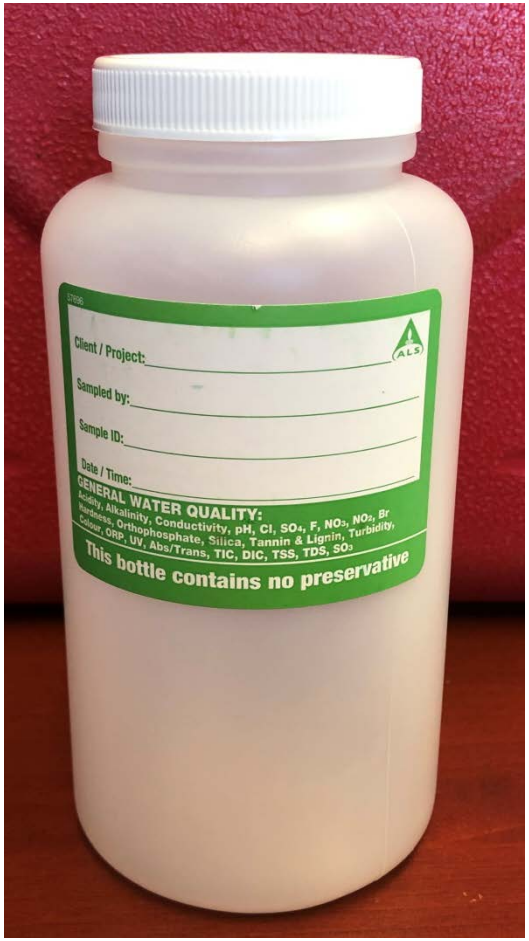
ALS Environmental
1329 Niakwa Road East, Unit 12
Winnipeg, Manitoba
Canada, R2J 3T4

Contact: Daniel Rocha

Phone: (204) 255-9739

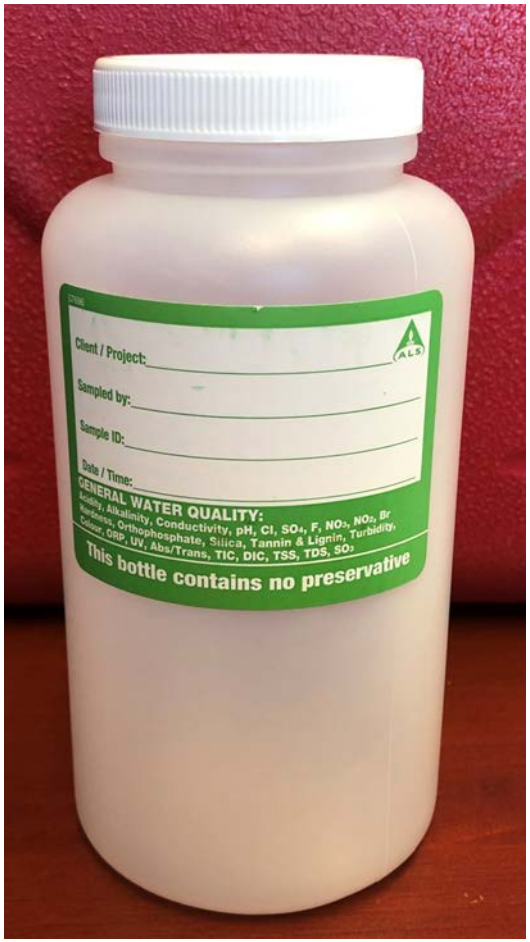
Email:Daniel.Rocha@alsglobal.com

1. BOD (Biochemical Oxygen Demand)



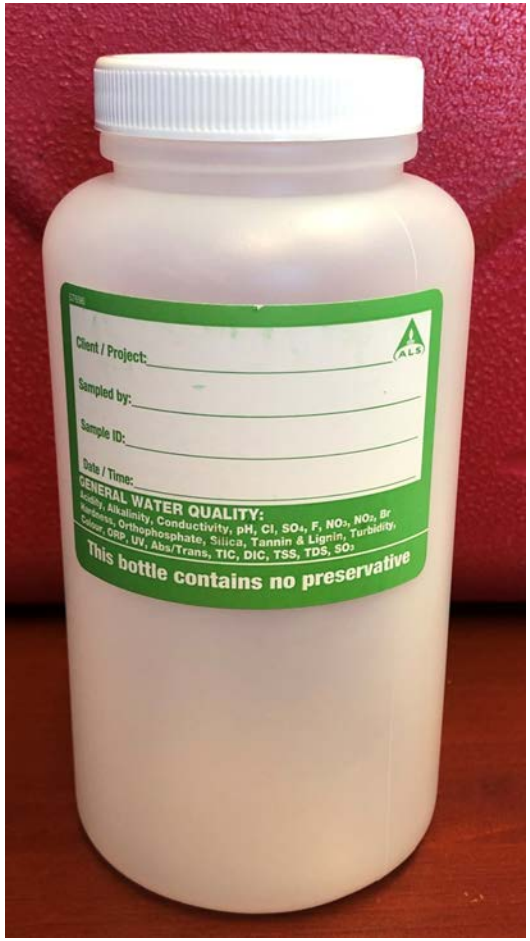
- Use the 500 mL plastic bottle
- Rinse the bottle 3 times
- Fill to 95% capacity
- No preservatives required
- Keep samples cool and return to lab as soon as practical
- Analysis should begin within 24 hours of sampling

2. Routine



- Use the 500 mL clear plastic bottle
- Rinse the bottle 3 times
- Fill to 95% capacity
- No preservatives required
- Keep samples cool and return to lab as soon as practical
- Hold times range from 48 hours to 28 days

3. CBOD



- Use the 500 mL plastic bottle
- Rinse the bottle 3 times
- Fill to 95% capacity
- No preservatives required
- Keep samples cool and return to lab as soon as practical

4. Metals Analysis (Total Metals)

- Use the 60 mL plastic bottle
- Rinse the bottle 3 times
- Fill to near capacity
- Add preservative found in the orange-taped plastic vial
- **CAUTION:** Preservative is a strong acid (3 mL of 20% nitric acid)
- Add entire contents of the vial to the sample
- Cap bottle tightly and invert to mix
- Maximum hold time is 6 months

5. Mercury

- Use the 40 mL clear glass bottle
- Rinse the bottle 3 times
- Fill to 90% capacity
- Add preservative found in the yellow-taped plastic vial
- **CAUTION:** Preservative is a strong acid (0.5 mL of 1:1 hydrochloric acid)
- Add entire contents of the vial to the sample
- Cap bottle tightly and invert to mix
- Maximum hold time is 30 days

6. Nutrient Analysis (Total Nutrients)

- Use the 100 mL Amber bottle
- **DO NOT RINSE THE BOTTLE**
- Fill to 95% capacity
- **CAUTION:** Preservative is a strong acid (1 mL of 1:1 sulphuric acid)
- Cap bottle tightly and invert to mix
- Maximum hold time is 28 days

7. Phenols

******The new phenols bottle looks the same as the nutrients bottle******

- Use the 100 mL glass amber bottle
- **DO NOT RINSE THE BOTTLE**
- Fill to 90% capacity
- **CAUTION:** Preservative is a strong acid (1 mL of 1:1 sulphuric acid)
- Cap bottle tightly and invert to mix
- Maximum hold time is 30 days

8. Bacteria

If the lab did not provide this bottle, put a note on the CoC to subsample from the 500 mL Routine

- This procedure is used for wastewaters and dirty surface waters
- Use the 250 mL sterile container
- Bottles already contain a powder preservative (sodium thiosulphate)
- **DO NOT RINSE THE BOTTLE**
- Uncap bottle (inside of cap must not come into contact with any surfaces)
- Fill bottle to the mark
- Cap bottle tightly and invert to mix
- Keep cool and return to the laboratory as soon as possible
- Analysis should be started within 48 hours

9. Oil and Grease

- Use two 250 mL amber bottles
- **DO NOT RINSE THE BOTTLES**
- Fill to greater than 95% capacity
- **CAUTION:** Preservative is a strong acid
- Cap bottles tightly and invert to mix
- Keep cool, return to lab as soon as possible
- Maximum hold time is 28 days

10. BTEX, F1

- Use three 40 mL clear glass vials for each sample
- Vials already contain tablet preservative (sodium bisulfite)
- **DO NOT RINSE THE VIALS**
- Completely fill the sample vial - there should be no head space (**no bubbles**) at the top of the vial
- This is best done by carefully overfilling the bottle, then capping it
- Invert the vial to verify no air space left in the vial
- If air spaces (bubbles) are present, uncap the bottle and add more of the sample water; recap and recheck to verify no air space
- Keep samples cool and return to laboratory as soon as possible
- Maximum hold time is 5 days

11. F2-F4

- Use two 100 mL glass amber vials for each sample
- Vials already contain tablet preservative (sodium bisulfite)
- **DO NOT RINSE THE BOTTLES**
- **Fill to top of label**
- Cap bottle tightly and invert to mix
- Keep cool and return to the laboratory as soon as possible
- Maximum hold time is 14 days

12. PAH (Polycyclic Aromatic Hydrocarbons)

- Use the two 100 mL amber bottles
- Bottles already contain tablet preservative (sodium bisulfite)
- **DO NOT RINSE THE BOTTLES**
- Fill to greater than 95% capacity
- Cap bottle tightly and invert to mix
- Keep cool and return to the laboratory as soon as possible
- Maximum hold time is 14 days

Appendix D

Field Log

Field Log

Name of Sampler(s): _____

Date of Sampling: _____

Time of Sampling: _____

Monitoring Station Number: _____

GPS Coordinates: N _____°_____’_____” W _____°_____’_____”

Weather Conditions: _____

Samples:

- ☐ 500 mL BOD
- ☐ 500 mL Routine
- ☐ 500 mL CBOD
- ☐ 40 mL Glass Mercury Vial + Pres
- ☐ 100 mL Amber Nutrients + Pres
- ☐ 100 mL Amber Phenols + Pres
- ☐ 250 mL Sterile Bacteria Bottle
- ☐ **2 x** 250 mL Amber Oil & Grease + Pres
- ☐ 60 mL Metals + Pres
- ☐ **3 x** 40 mL BTEX, F1 Vials + Pres
- ☐ **2 x** 100 mL Amber F2-F4 Vials + Pres
- ☐ **2 x** 250 mL Amber PAH + Pres

Other:

- ☐ _____
- ☐ _____
- ☐ _____

Other Notes: (any unusual conditions, any deviation from standard procedures, reason sample was not taken, etc.)

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