

March 13, 2023

Mackenzie Valley Land and Water Board 7th Floor – 4922 48th Street PO Box 2130 Yellowknife, NT X1A 2P6 Attention: Kimberley Murray, Regulatory Specialist

Ms. Murray,

Re: MV2015L2-0003 Renewal, Water Quality Sampling Quality Assurance and Quality Control Plan

North American Tungsten Corporation Ltd. ("NATC") is pleased to provide the enclosed revised document, *Water Quality Sampling Quality Assurance and Quality Control Plan*, in relation to NATC's application for a new land use permit and Type-B care and maintenance water licence, as the existing water licence expires on January 27, 2024. NATC looks forward to the public review of the enclosed document and other documents related to the application.

Should you have any questions regarding these responses, feel free to contact the writer or Vicki Chan at 604.639.0847 or vchan@alvarezandmarsal.com.

Yours truly,

North American Tungsten Corporation Ltd. by its Monitor, Alvarez & Marsal Canada Inc. acting in its capacity as Monitor of NATC and not in its personal capacity

Todd M. Martin Senior Vice President





WATER SAMPLING QUALITY ASSURANCE AND QUALITY CONTROL PLAN

CANTUNG MINE, NT

VERSION #2

PREPARED BY NORTH AMERICAN TUNGSTEN CORPORATION LTD.

Dated: March 13, 2023

SUMMARY

This Plan describes how water samples are collected, shipped, tested and reported to ensure that data collected is done so in a standard way and the data is high quality.

REVISION SUMMARY

Version	Date	Summary of Changes						
MV2023L2-xxxx								
2	Mar 2023	Revised throughout to reflect C&M, new water licence and SNP, revised for clarity and conciseness, formatted for consistency with other management plans. Removed discussion of instrumentation not related to water quality sampling or the SNP, aspects referring to toxicity testing, removed lab specificity to allow for flexibility and use of various labs. Added option for use of equivalent sampling equipment, single use disposable filtration cups and syringes, alternative groundwater sampling methods, detail on QAQC sample collection.						
MV2015L2-0003	I							
-	-	-						
MV2002L2-0019								
1	Mar 2015	Original Plan						

CONFORMITY

Condition	Plan Section	Comment
		[Table to be populated following licence issuance]

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GLOSSARY AND ACRONYMS

Term	Definition
A&M	Alvarez & Marsal Canada Inc., Court-appointed monitor of NATC
BTEXS	Benzene, toluene, ethyl benzene, xylenes and styrene
CALA	Canadian Association for Laboratory Accreditation Inc.
C&M	Care and Maintenance
ССАА	Companies' Creditors Arrangement Act
CIRNAC	Crown-Indigenous Relations and Northern Affairs Canada
COC	Chain of Custody
Company	North American Tungsten Corporation Ltd.
Court	The Supreme Court of British Columbia
DIANC	Department of Indian and Northern Affairs Canada
F1-F4	Hydrocarbon fractions 1-4
ICP	Inductively Coupled Plasma
ID	Identification
ILAC	International Laboratory Accreditation Cooperation
Joint Sales Process	Joint sales and marketing process for the Cantung Mine and Mactung property undertaken by the Government of Canada and Government of the Northwest Territories
Mine	Cantung Mine
MVRMA	Mackenzie Valley Resource Management Act
Monitor	Alvarez & Marsal Canada Inc.
NATC	North American Tungsten Corporation Ltd.
NT	Northwest Territories
NTWB	Northwest Territories Water Board
Plan	Water Quality Sampling Quality Assurance and Quality Control Plan
QA	Quality Assurance
QC	Quality Control
SCC	Standards Council of Canada
SNP	Surveillance Network Program
TDS	Total Dissolved Solids
TSS	Total Suspended Solids

1.0 INTRODUCTION

North American Tungsten Corporation Ltd.'s (NATC or the Company) Cantung Mine (Mine) is located on the Flat River, approximately 275 km northwest of Nahanni Butte, 300 km north of Watson Lake, just east of the Yukon border in the Dehcho Region of the Northwest Territories (NT). The site is accessible by air, utilizing the existing airstrip, or by the Nahanni Range Road.

The Cantung Mine, which opened in 1962, is North America's largest tungsten producer. It was most recently operated by NATC, up until the fall of 2015 when mining and milling ceased and the site entered care and maintenance. On June 9, 2015, NATC filed for creditor protection under the *Companies' Creditors Arrangement Act* (CCAA) and Alvarez & Marsal Canada Inc. (A&M or the Monitor) was appointed as Monitor by the Supreme Court of British Columbia (the Court).

This *Water Quality Sampling Quality Assurance and Quality Control Plan* (the Plan) has been prepared by NATC to describe how it collects water samples, submits the samples for laboratory analysis and reports the water quality results.

1.1 PURPOSE & OBJECTIVES

The purpose of this Plan is to identify field and laboratory requirements necessary to satisfy the Surveillance Network Program (SNP) and to standardize procedures for water quality sampling and handling and data management and reporting to ensure precision of the data, confidence in the results, and accuracy in reporting.

The objectives of this Plan are to:

- Outline required sampling and sample handling methodology.
- Outline considerations for maintaining sample integrity when shipping to and from a remote site.
- Identify appropriate analytical services for use by the Project.

1.2 SCOPE

The Plan includes both field and laboratory requirements required to satisfy the compliance monitoring program in the Licence(s). The Plan has been developed as a standardized procedure for water quality sampling, laboratory analysis, and reporting to ensure precision of the data, confidence in the results, and accuracy in the reporting. This Plan is developed in accordance with the following (together referred to as the Guides):

- Quality Assurance (QA) and Quality Control (QC) Guidelines for Use by Class "B" Licensees in Collecting Representative Water Samples in the Field and for Submission of a QA/QC Plan (DIANAC 1996a); and
- Quality Assurance (QA) and Quality Control (QC) Guidelines for Use by Class "B" Licensees in Meeting SNP Requirements and for Submission of a QA/QC Plan (DIANAC and NTWB 1996b).

The Guides defines QA and QC as follows:

- **Quality Assurance**: the system of activities designed to better ensure that quality control is done effectively.
- **Quality Control**: the use of established procedures to achieve standards of measurement for the three principal components of quality being precision, accuracy and reliability.

This Plan applies to all environmental water quality sampling undertaken in support of maintaining compliance at the Mine site.

1.3 PLAN MANAGEMENT AND IMPLEMENTATION

The Plan is effective upon approval. The Plan is reviewed annually by the Site Manager or designate and updated as needed and following issuance of new or amended authorizations to ensure alignment with relevant terms and conditions. When material changes occur, the updated document is provided to parties in accordance with the *Engagement Plan*.

A copy of this Plan is maintained on site in the administration office and in A&M's office in Vancouver.

2.0 ROLES AND RESPONSIBILITIES

NATC is responsible for the Mine, including implementation and management of this Plan. Contact information for NATC is provided below.

North American Tungsten Corporation Ltd. c/o Alvarez & Marsal Canada Inc. 925 W. Georgia St. Suite 902, Cathedral Place Building Vancouver, BC V6C 3L2 Ph: (604) 638-7440 Contact: Todd M. Martin, Sr. Vice President <u>tmartin@alvarezandmarsal.com</u> or Vicki Chan, Vice President <u>vchan@alvarezandmarsal.com</u>

2.1 SITE MANAGER AND STAFF

The Site Manager, or designate, is responsible for implementation and management of this Plan.

NATC staff are to implement and comply with the Plan as directed by the Site Manager.

2.2 CONTRACTORS, SUPPLIERS AND VISITORS

All personnel conducting activities on site, including contractors, suppliers and visitors, are required to implement this Plan as it pertains to their activities on site.

3.0 SAMPLE COLLECTION

Sampling locations, equipment and supplies used as well as methods employed to collect samples are each described below.

3.1 LOCATION

The water quality monitoring stations in association with water licence Surveillance Network Program (SNP) are listed in **Error! Reference source not found.** As stations may change from time t o time with SNP modifications and licence amendments, the reader is directed to always refer to the current version of the water licence for the current sampling requirements.

Depending on site activities, not all stations will be active at all times. Similarly, depending on site and weather conditions, water may not be present at all times at all stations. Accordingly, the methodology outlined in the Plan is intended to be applicable to water sampling at all current active SNP stations and where other licence conditions require water quality sampling, and aspects may be applied to other water quality sampling that may be undertaken, such as for drinking water testing, environmental studies or other monitoring. Further, some stations may have effluent quality criteria (EQC) pursuant to terms and conditions in the water licence; these parameters, by station, are also identified in **Error! Reference source not f ound.**.

SNP station	Location		Description		
#	Easting	Northing	Description		
4-1	540034	6871361	Flat River at the Project freshwater intake, located in the Water Supply Facility		
4-5	542520	6869094	Flat River at bridge downstream of airstrip		
4-13	539835	6871035	Mine water: discharge from "E" Zone		
4-20	541342	6870330	Drainage culvert from Stinky Pond		
4-27-9 ¹	540483	6871000	Groundwater monitoring downgradient of TCA 2		
4-27-11 ¹	541216	6869956	Groundwater monitoring downgradient of TCA 5		
4-27-12 ¹	541357	6870091	Groundwater monitoring downgradient of TCA 3		
4-27-15	541600	6869880	Groundwater well southeast of airstrip		
4-27-17	539968	6871380	Groundwater well upstream of the Project		
4-27-18 ¹	540646	6870369	Groundwater monitoring well up-gradient of the Project		
4-28-1 ¹	541224	6870386	Groundwater pumping well PW-1		
4-28-2 ¹	541118	6870491	Groundwater pumping well PW-2		
4-29	538180	6873871	Flat River, three (3) kilometres upstream of pumphouse		
4-33R	543488	6867875	Flat River, downstream station		
4-34 ²	-	-	Seepage down-gradient of the fuel berm		
4-36	541368	6870158	Any point between Tailings Containment Area 3 and the Flat River, where Seepage is visible		
4-37	-	-	Any point between Tailings Containment Area 4 and the Flat River, where Seepage is visible		
4-38	-	-	Any point between Tailings Containment Area 1 and the Flat River, where Seepage is visible		
4-39	-	-	Any point between Tailings Containment Area 2 and the Flat River, where Seepage is visible		
4-45	541000	6870605	Middle Bridge, upstream of Stinky Pond Discharge to Flat River		
5-2	540523	6870986	Old Lagoon Outflow		
TC11-7 ¹	540323	6871176	Groundwater monitoring well downgradient of TCA 1		
TC11-11 ¹	540405	6871071	Groundwater monitoring well downgradient of TCA 2		

Table 1. SNP Station name,	, location and c	description
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The applicable monitoring program, the SNP, is listed in the water licence annex and includes collection and analysis of both groundwater and surface water. Figures 1 and 2 illustrate the SNP station locations. Sampling frequency varies with season and station. As the SNP may be revised from time to time over the life of a water licence, this Plan provide general direction applicable to all environmental water sampling undertaken on site.

¹ EQC for pH, TSS, total ammonia as N, total arsenic, total cadmium, total copper, total lead, total nickel, total zinc

² EQC for extractable petroleum hydrocarbons, benzene, ethyl benzene, toluene

Analytical parameters required pursuant to the SNP include:

- Total and dissolved inductively coupled plasma (ICP) metal scan
 - ICP metal scan includes, at a minimum aluminum, arsenic, beryllium, boron, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, phosphorous, selenium, silver, strontium, thallium, tungsten, uranium, vanadium, and zinc.
- Total cyanide;
- Total ammonia, nitrate-nitrogen, nitrite-nitrogen;
- Total ions including sulphate, chloride, fluoride, bromide;
- Total and dissolved suspended solids;
- Total and dissolved organic carbon;
- Physical parameters including alkalinity, acidity, pH, hardness, electrical conductivity, total petroleum hydrocarbons
- Total petroleum hydrocarbons includes BTEXS, Fraction 1 (C6 to C10), Fraction 2 (C10 to C16), Fraction 3 (C16 to C34), and Fraction 4 (C34 to C50)
 - BTEXS includes benzene, toluene, ethyl benzene, xylenes and styrene.

3.2 EQUIPMENT

3.2.1 SPECIFICATIONS

The following field equipment, or equivalent, has been chosen for its suitability to the type of conditions at the Mine. The following sections identify the brand, model and rationale for selecting that piece of equipment.

3.2.1.1 YSI PROPLUS QUATTRO

The YSI ProPlus Quattro is a multiple parameter, handheld instrument that simultaneously measures and displays pH, electrical conductivity, specific conductance, dissolved oxygen (expressed in both mg/L and percent saturation) and temperature. YSI ProPlus Quattro was selected for ease of use and calibration, readability and durability. An additional practical feature of the ProPlus Quattro is that if one probe (e.g. the pH probe) is damaged, the unit can still be used to collect data from the undamaged probes since the probes are independent of one another.

3.2.1.2 OAKTON PCS TESTR 35

A handheld pocket multimeter, Oakton PCS Testr 35, is maintained as a backup in the event that the YSI ProPlus Quattro is not in service. It is capable of reading pH, conductivity, TDS, salinity and temperature.

3.2.1.3 HAND BAILER

Dedicated or disposable PVC plastic bailers may be used to purge and sample wells. Where possible, it is recommended that dedicated bailers either be left in each monitoring well or single use disposable bailers be used at each well to minimize the risk of cross contamination.

3.2.1.4 INERTIAL LIFT PUMP

An inertial lift pump consists of a disposable PVC tube (i.e. Waterra) with a foot valve. Where possible, dedicated or disposable tubing and valves are used to purge and sample wells. It is recommended that dedicated pumps are either left in each monitoring well or single use disposable pumps be used at each well to minimize the risk of cross contamination.

3.2.1.5 GRUNDFOS VARIABLE SPEED CONTROLLER AND REDI-FLO 2 PUMP

The Grundfos variable speed controller and Redi-Flo 2 submersible pump are used for collecting groundwater samples from the large diameter wells. The Redi-Flo 2 is a stainless steel pump that, coupled with the Grundfos variable speed controller, allows for the user to pump at a specific flow rate to properly purge wells without unnecessary disturbance or mobilization of sediment. The controller is uncomplicated and user-friendly and the pump is easy to clean and disinfect. This combination allows for easy collection of representative groundwater samples.

3.2.1.6 GEOTECH PERISTALTIC PUMP

The Geotech variable speed peristaltic pump was selected for its reliability and ease of transport between sampling locations. These pumps are used extensively throughout the field of environmental monitoring for sampling low recharge, or shallow groundwater wells. These units can be powered by a rechargeable, internal 12-volt battery or via an external battery with the use of the 12-volt adaptor. They are easy to operate and allow for a variable flow rate for effective purging and sample collection.

3.2.2 CALIBRATION, MAINTENANCE AND STORAGE

All portable field equipment is calibrated, used and stored according to manufacturer's specifications. Whenever possible, the field equipment selected for use has been industry proven and low maintenance, but eventually all equipment requires maintenance, calibration and/or servicing.

3.2.2.1 YSI PRO PLUS QUATTRO

The YSI Pro Plus is stored in a protective case between sampling events. The probes are stored in the plastic cover provided by the manufacturer to keep the probes hydrated between uses. The pH probes are calibrated using three point calibrations with pH 4, 7, and 10 buffers. Similar calibration is performed for conductivity. Temperature is compared to the air temperature and dissolved oxygen is calibrated to fully saturated air. Spare parts including membranes and solutions are stored with the meter in case of failure or expiration.

3.2.2.2 OAKTON PCS TESTR 35

The Oakton PCS Testr 35 is stored in a protective case between sampling events. The pH probes are calibrated using three point calibrations with pH 4, 7, and 10 buffers. Similar calibration is performed for conductivity. Temperature is compared to the air temperature. Spare parts including membranes and solutions are stored with the meter in case of failure or expiration.

3.2.2.3 HAND BAILER

Where a single stainless steel bailer is to be used at multiple wells it is decontaminated prior to being re-used. If bailers kept in a well are significantly stained, discolored, or damaged when removed, they are replaced prior to sampling. Extra bailers are maintained on site.

3.2.2.4 INERTIAL LIFT PUMP

Where dedicated tubing kept in a well is significantly stained, discolored, or damaged when removed, it is replaced prior to sampling. Extra Waterra tubing and replacement foot valves are maintained on site.

3.2.2.5 GRUNDFOS VARIABLE SPEED CONTROLLER AND REDI-FLO 2 PUMP

The Grundfos controller and the Redi-Flo 2 pump are nearly maintenance free. The controller is kept cleaned and the 120V plug inspected for damage. The unit is stored in the protective case provided by the manufacturer. The Redi-Flo 2 is a stainless steel pump that only requires rinsing between uses and is stored in a soft sided case between uses. The intake screen on the pump is visually checked for signs or debris and is cleaned as needed. The power cable is visually inspected for sign of wear.

3.2.2.6 GEOTECH PERISTALTIC PUMP

The Geotech peristaltic pump requires very little maintenance and no calibrations are required. The unit is kept clean and dry between uses and the rechargeable, internal 12-volt battery is kept charged. The tubing required to operate the pump is inspected and replaced as required. Extra tubing is maintained on site.

3.3 SUPPLIES

3.3.1 LAB SUPPLIES

All sample containers, coolers, deionized water and preservatives are provided to NATC by a qualified analytical lab. Except in unforeseen circumstances, new lab-supplies are used. All sample bottles are inspected prior to sample collection to make sure that they appear to be in good condition. Sample bottles found without caps are discarded and not used for sample collection.

An adequate supply of lab-supplied preservatives in vials is maintained on site. Further, some labsupplied bottles are 'pre-charged' with preservative. Any preservative that has expired, appears cloudy or shows signs of crystallization is not used and is either appropriately disposed of or returned to the lab.

While typical containers used, per parameter, are listed in Table 2, these may vary with different analytical labs.

3.3.2 FILTER APPARATUS

Filter apparatus may include:

- Disposable non-metallic vacuum filter flasks or syringes; or
- Reusable non-metallic vacuum flasks and disposable 0.45 μm filter membranes.

An external vacuum pump is used in both cases.

Disposable apparatus are disposed of after each use, while reusable apparatus are rinsed three times with commercial distilled water between uses.

Parameter	Container	Preservative	Other	
Alkalinity (PP as CaCO ₃ , CO ₃ ,				
HCO₃, OH)				
Chloride (Cl)				
Conductivity				
Sulphate (SO ₄)				
рН	1x 500 mL plastic	r	n/a	
Nitrite (N)				
Nitrate plus Nitrite (N)				
Nitrate (N)				
Total Dissolved Solids (TDS)		-		
Total Suspended Solids (TSS)	1x 1 L plastic			
Ammonia (N)	1x 40 mL glass vial	Sulphuric acid	Field Preserved	
		Suphane dela	No headspace	
Total Mercury (Hg)	1 x40 mL vial	Hydrochloric acid	Field Preserved	
Dissolved Mercury (Hg)	1 x 40 mL vial	Hydrochloric acid	Field Filtered	
		Tryaroemone dela	Field Preserved	
Total Metals + Hardness	1x 120 mL plastic	Nitric acid	Field Preserved	
Dissolved Metals	1x 120 mL plastic	Nitric acid	Field Filtered	
Dissolved ivietais	1x 120 IIIE plastic	NILLIC ACIU	Field Preserved	
Extractable Petroleum	2x 40 mL glass vial	Sodium bisulfate	No headspace	
Hydrocarbons (EPH)				
BTEXS, Fraction 1 (F1)	2x 40 mL glass vial	Sodium bisulfate	No headspace	
Fractions 2-4 (F2-F4)	2 x 100 mL amber glass	Sodium bisulfate	-	

Table 1. Typical bottles and preservatives used

3.4 METHODS

Methods to identify and collect samples are each described below.

3.4.1 SAMPLE IDENTIFICATION

Waterproof labels are completed with permanent ink to ensure sample information cannot be erased or altered. These labels are then placed directly on the sample bottle when dry to ensure proper adhesion.

The following information is recorded on all water quality sample bottles:

- Client name (NATC);
- Project;
- Date;
- Sample identification (ID);
- Preservative added;
- Field filtered (if applicable); and
- Analysis requested.

Blanks and duplicates are given a unique sample ID to maintain the blind nature of the sample.

3.4.2 SURFACE WATER COLLECTION

Surface water samples are collected either directly from the source into the sample bottle or with a clean 1-liter sample container. Sample containers that do not arrive containing preservatives are generally conditioned three times prior to taking the sample, unless indicated by the lab (i.e. acid rinsed bottles for low level parameters). Any 'pre-charged' bottles cannot be conditioned as the preservative would be discarded during the process.

For collecting surface water samples the following practices are employed:

- Sampling proceeds from the station likely to be least contaminated to the most likely contaminated station;
- Sample bottles and caps are conditioned or rinsed three times prior to use, unless indicated by the lab;
- Samples are collected upstream of the sampler to avoid accidental contamination;
- Sampler points the mouth of the bottle upstream into the direction of flow by submerging the entire mouth of the bottle to avoid collection of anything floating on the surface of the water;
- Where water is too shallow to fill the bottle all at once or where bottles are pre-charged with
 preservatives, water is collected either with a disposable syringe or a new smaller lab-supplied
 plastic bottle and decanted into larger bottles;
- New, powder-free nitrile gloves are worn while collecting and handling each sample;
- Samples are field-filtered as required and as safe work conditions allow;
- Preservatives are added immediately after the sample has been collected and/or filtered as required and as safe work conditions allow;
- Activities that can affect the water quality results (smoking, refueling vehicles, etc.) are not
 permitted during sample collection, and
- Caution is always taken to ensure samples are collected in a safe manner without unnecessary risk to involved personnel.

3.4.3 GROUNDWATER COLLECTION

Groundwater samples are collected using an appropriate method, given the depth to groundwater and well diameter.

Where a non-dedicated sampler is used, both the pump and tubing are thoroughly rinsed with the sample water from the sample site prior to collection. This is conducted during the purging of the stagnant water in the well and thus ensures that there is no cross contamination between samples and also purges the well to remove the stagnant water, allowing for a representative sample to be collected. After each sample is collected, the remaining water in both the pump and tubing is drained before moving to another groundwater sample location.

For collecting groundwater samples, the following practices are employed:

- Wells are purged and the *in situ* parameters measured must be stable before samples are collected;
- Pumps and associated tubing are drained between sample sites to prevent cross contamination;
- New, powder-free nitrile gloves are worn while collecting and handling each sample;
- Samples are field-filtered as required and as safe work conditions allow;
- Preservatives are added immediately after the sample has been collected and/or filtered as required and as safe work conditions allow;
- Activities that can affect the water quality results (smoking, refueling vehicles, etc.) are not
 permitted during sample collection, and
- Caution is always exercised to ensure samples are collected in a safe manner without unnecessary risk to involved personnel.

3.4.4 MINE WATER COLLECTION

Mine water and surface water are sampled in the same way.

3.4.5 METHOD BLANKS

Method blanks (also known as field blanks) are prepared in the field to monitor potential effects from the sampling procedure. Method blanks are collected and filtered in exactly the same way as regular water samples except the water source is not the stream or seep, but instead deionized water from bottles supplied by the lab and carried into the field.

One method blank sample is collected for every 10 samples (or part thereof).

3.4.6 TRAVEL BLANKS

Travel blanks (also known as trip blanks) are prepared by the laboratory to monitor potential effects from bottle materials. Travel blanks travel with the field crew in the same way as the bottle sets. Travel blanks are not opened in the field. The travel blanks should be set aside while sampling, then labelled and shipped with the samples.

Each shipment should have one travel blank set.

3.4.7 DUPLICATES

Duplicates (or replicates) are collected in exactly the same way as regular water samples. The duplicate is collected by the same person that collected the original sample and at stations with a reasonable amount of flow.

One duplicate sample is collected for every 10 samples (or part thereof).

3.4.8 PRESERVATION

Water samples are preserved either with chemicals and/or temperature control. Refrigeration of samples at 4°C is the most common preservation technique, in conjunction with chemical preservation, as discussed above and indicated by the lab.

Where possible, samples should be preserved in the field and maintained in a cool, dark container to minimize changes in water chemistry.

3.4.9 IN SITU DATA COLLECTION

Surface water sample collection occurs prior to collection of *in situ* data to avoid potential for disturbance of sediments by field meters.

In situ data are parameters that are measured in the field at the time of sample collection. These include, but are not limited to, pH, temperature, electrical conductivity, specific conductivity, total dissolved solids, and dissolved oxygen.

In situ data is collected by placing the multi-meter probe(s) directly in the water being tested. Occasionally the sampling conditions do not allow for this method and a subsample must be collected. The subsample is collected at the same time as the samples to be submitted to the laboratory. The multi-meter probe is placed into the subsample container to measure the parameters. Once the *in situ* values are recorded, the subsample is discarded. This procedure is usually reserved for particularly cold temperatures (i.e. below -15°C) as this can cause liquid crystal displays to react slowly or become unreadable entirely. Additionally, the multi meter probe(s) can develop a thin layer of ice, which may not be always apparent, but can cause inaccurate readings and/or damage to the probe.

4.0 SAMPLE HANDLING

4.1 SAMPLE STORAGE

Once the water quality samples have been collected, they are kept cool in hot weather either in a fridge or in a cooler with ice packs, and kept from freezing by storing indoors in winter. Fridge and coolers are dedicated to environmental sample storage.

During transportation, samples are packed in a cooler with frozen cooler packs as needed in an effort to maintain a temperature of 4°C.

4.2 CHAIN OF CUSTODY

A Chain of Custody (COC) form containing the following information is completed by the sampler for every cooler shipment of samples. This form includes:

- Company name and contact information;
- Analytical laboratory name, address, and contact person;
- Invoicing instructions;
- Report format requested;
- Project information;
- Sampler's name;
- Sample identification number, time and date of sampling, sample type, and analyses requested;
- Any special instructions; and
- Name of person releasing the shipment as well as date and time of release.

Each person relinquishing and receiving the samples must sign the COC form. Each cooler shipped must have a COC form indicating those samples contained in the particular cooler. COC forms should be enclosed in a sealable plastic bag to protect them from possible water damage during shipment, and may additionally be submitted by email or through an online lab management information system. One copy of the COC form is included with the shipment and one copy must remain on site for recording keeping. Standard COC forms are provided in both digital and hardcopy by the lab.

4.3 SHIPPING

Advance planning and sample collection timing supports sample transfer to the lab within hold times. While every reasonable effort is routinely made to submit samples within hold time limits, the remote location of the Mine may at times make this challenging.

For shipping, samples are securely stored in coolers with ice packs and packing material to keep bottles upright and intact during transport.

A completed COC form is placed in a plastic bag, sealed and placed inside the cooler with the water quality samples. The cooler is securely taped closed and the laboratory address is clearly marked on the outside of each cooler.

Samples are relinquished to freight handlers upon arrival of the inbound aircraft or vehicle. Should samples not be relinquished as planned due to unforeseen circumstances, such as a plane not landing as planned, samples are kept secure and cool, and repackaged as necessary, in preparation for a future flight as needed.

If possible, samples are shipped offsite on a weekday, excluding Friday, to avoid possible shipping delays over weekends.

Personnel responsible for shipping samples to the lab typically give the lab advance notice to ensure any transfers are arranged in advance to support achieving hold times. Upon receipt, the lab provides a sample receipt, documenting the condition of samples received.

5.0 ANALYSIS

Due to proximity and based on availability, one of four labs will typically be used to conduct analysis: Bureau Veritas; ALS; AGAT; Taiga. Lab facilities in either Whitehorse, Vancouver, Yellowknife, Calgary or Edmonton may typically be utilized, based on availability and logistics.

All labs are appropriately accredited and use standard methods. Each lab used is accredited by either Canadian Association for Laboratory Accreditation Inc. (CALA) and/or Standards Council of Canada (SCC). Both Canadian accreditation bodies are equally competent and recognized by the International Laboratory Accreditation Cooperation (ILAC); refer to Appendix A.

Certificates stating parameters for which each lab is accredited for are found in Appendix B. These certificates may be updated from time to time.

Detection limits and analytical methodology applied are routinely include in certificates of analysis issued by each lab.

6.0 DATA MANAGEMENT AND REPORTING

6.1 FIELD DATA

Field data including *in situ* data and sample event information such as the following are recorded in a field notebook:

- Type of sampling event (monthly, annual);
- Date and time for each sample location;
- Sampler; and
- Local weather conditions.

Documented information is uploaded to NATC's corporate data management system.

Any inspections and calibrations are similarly recorded in an electronically maintained calibration

and maintenance log.

6.2 DATA REVIEW

Upon receipt of the analytical data, the results are reviewed by NATC personnel for any EQC exceedances or water quality anomalies.

6.3 DATA STORAGE

Analytical results are received digitally by multiple NATC parties to ensure adequate backup and redundancy. Results are uploaded to NATC's corporate data management system and are also typically available through each lab's online data portal.

6.4 REPORTING

Completed chain of custody forms, sample receipt confirmation and results are provided digitally by the lab to NATC personnel.

All results are reviewed upon receipt and uploaded to the corporate data management system. Any anomalies are discussed with the lab and appropriate resolution sought as needed, including reanalysis as required.

Reporting is undertaken in accordance with the water licence, including reporting of analytical results for each station, results for any duplicates or blanks, listing of detection limits, indication of EQC exceedances and trends.

March 2023

7.0 REFERENCES

Companies' Creditors Arrangement Act. R.S.C., 1985, c. C-36

- Department of Indian and Northern Affairs Canada (DIANAC). 1996a. Quality Assurance (QA) and Quality Control (QC) Guidelines for Use by Class "B" Licensees in Collecting Representative Water Samples in the Field and For Submission of a QA/QC Plan. Water Resources Division and the Northwest Territories Water Board.
- DIANAC, Northwest Territories Water Board (NTWB). 1996b. Quality Assurance (QA) and Quality Control (QC) Guidelines for Use by Class "A" Licensees in Meeting SNP Requirements and For Submission of a QA/QC Plan. Water Resources Division and the Northwest Territories Water Board.
- Government of Canada, Government of the Northwest Territories, Inuvialuit Regional Corporation, Northwest Territories Métis Nation, Sahtu Secretariat Incorporated, Gwich'in Tribal Council, Tłįchǫ Government. 2013. Northwest Territories Lands and Resources Devolution Agreement.

Mackenzie Valley Resource Management Act. S.C. 1998, c. 25.

QAQC Plan MV2023L2-xxxx March 2023

APPENDIX A

APPENDIX A CALA & SCC JOINT STATEMENT

QAQC Plan MV2023L2-xxxx March 2023





Standards Council of Canada Conseil canadien des normes

Subject: References to Laboratory Accreditation in Requests for Proposal / Bids

Date: 2012-10-17

To: All Authors of RFPs Specifying Laboratory Accreditation

It has come to our attention that a number of Requests For Proposal (RFPs) issued by Canadian governments (federal, provincial, etc.) and private sector specifiers state that" "...the bidder and all subcontractors are required to secure accreditation from a specific organization...". In many of these cases only a single accrediting body is specifically named in the RFP.

With this joint public notice we wish to draw your attention to the fact that there are two Canadian based accrediting bodies, the Canadian Association for Laboratory Accreditation Inc. (CALA) and the Standards Council of Canada (SCC). Both of these accrediting bodies are recognized by the International Laboratory Accreditation Cooperation (ILAC) as equally competent accreditors of testing and/or calibration laboratories. In fact, worldwide, there are 68 signatories to the ILAC Mutual Recognition Arrangement (MRA)—an agreement which requires that accreditors of laboratories undergo stringent and regular peer evaluations of their operations based on the internationally recognized criteria and procedures outlined in ISO/IEC 17011.

In our opinion, the stipulations included in these RFPs are unnecessarily limiting and inconsistent. CALA and SCC have been informing the proper authorities that these RFP's should be amended to more consistently define an accredited laboratory as one whose accreditation has been obtained from an accrediting body that is signatory to the ILAC MRA, using the internationally recognized criteria and procedures outlined in ISO/IEC 17025: (General requirements for Competence of Calibration and Testing Laboratories).

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About the Canadian Association for Laboratory Accreditation Inc. (CALA)

The Canadian Association for Laboratory Accreditation Inc. (CALA) is a not-for-profit Canadian laboratory accreditation body. It is known for responsive and efficient quality assurance services. Its members participate in rigorous programs of inter-lab comparisons and on-site assessments based on international standards, and benefit from both workshop and web-based training opportunities. www.cala.ca

About the Standards Council of Canada (SCC)

The Standards Council of Canada is a federal Crown corporation. Its mandate is to promote efficient and effective standardization in Canada. Located in Ottawa, SCC has a 15-member governing Council and a staff of approximately 83. The organization reports to Parliament through the Minister of Industry and oversees Canada's national network of standardization expertise. The SCC offers accreditation services to both standards development bodies, and conformity assessment organizations. In the area of conformity assessment, it provides services to over 400 clients. www.scc.ca

C. Charles Brimley Canadian Association for Laboratory Accreditation Chief Executive Officer 613 233 5300 ext 223 <u>cbrimlev@cala.ca</u>

Chantal Suag

Chantal Guay, ing. P. Eng. Standards Council of Canada Vice-President, Accreditation Services 613 238 3222 ext. 432 cguay@scc.ca



APPENDIX B

APPENDIX B LAB ACCREDITATIONS

QAQC Plan MV2023L2-xxxx March 2023

Certificate Certificat of Accreditation

d'accréditation

SCC

Bureau Veritas Burnaby Laboratory 4606 Canada Way, Burnaby, BC V5G 1K5

SCC file number: / Dossier du CCN nº : 15188 Initial accreditation date: / Date de la première accréditation :1993-06-08

having been assessed by the Standards Council of Canada (SCC) and found to conform with the requirements of ISO/IEC 17025:2017 and the conditions for accreditation established by SCC is hereby recognized as an

ACCREDITED TESTING LABORATORY

for the specific tests or types of tests listed in the scope of accreditation approved by SCC and found on the SCC website at www.scc.ca.

ayant fait l'objet d'une évaluation du Conseil canadien des normes (CCN), et ayant été trouvé conforme aux exigences énoncées dans ISO/IEC 17025:2017 et aux conditions d'accréditation établies par le CCN, est de ce fait reconnu comme étant un

LABORATOIRE D'ESSAIS ACCRÉDITÉ

pour les essais ou types d'essais énumérés dans la portée d'accréditation approuvée par le CCN et figurant dans le site Web du CCN au www.ccn.ca.

Vice-President - Accreditation Services / Vice-président - Services d'accréditation Issued on: / Délivré le :2022-02-16

The validity of this certificate, including the date of last re-accreditation and its expiry can be confirmed by the accompanying Scope of Accreditation document in the Directory of Accredited Laboratories on the SCC website at www.scc.ca.

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. The 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).

Pour vérifier la validité du présent certificat, y compris la date de la dernière réaccréditation et la date d'expiration du certificat, consulter la portée d'accréditation qui se trouve dans le répertoire des laboratoires accrédités dans le site Web du CCN au www.ccn.ca.

Ce laboratoire est accrédité conformément à la Norme internationale reconnue ISO/IEC 17025:2017. Cette accréditation démontre la compétence technique d'un organisme pour une portée définie et l'exploitation d'un système de management de la qualité de laboratoire (cf. communiqué conjoint ISO-ILAC-IAF date d'avril 2017).



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			Forensic Program Sp Agriculture I Protection Environment Forensic	oecialty Area: nputs, Food, Ar al	nimal Health And P	lant		
			Initial Accre	editation Date:	1993/06/08			
			Status: Acc	redited				
			As of: 2022	/11/22				
			Expires on:	2025/06/08				
			4606 Canada	a Way				
			Burnaby					
			British Colur	nbia				
			V5G 1K5					
			Canada					
			www.bvna.co	om&				
			Scope of /	Accreditation (p	df) (English)			

Certificate Certificat of Accreditation

d'accréditation

SCC

Bureau Veritas Calgary Laboratory 2021 – 41st Avenue, N.E., Calgary, Alberta, T2E 6P2, Canada

having been assessed by the Standards Council of Canada (SCC) and found to conform with the requirements of ISO/IEC 17025:2017 and the conditions for accreditation established by SCC is hereby recognized as an

ACCREDITED TESTING LABORATORY

for the specific tests or types of tests listed in the scope of accreditation approved by SCC and found on the SCC website at www.scc.ca.

ayant fait l'objet d'une évaluation du Conseil canadien des normes (CCN), et ayant été trouvé conforme aux exigences énoncées dans ISO/IEC 17025:2017 et aux conditions d'accréditation établies par le CCN, est de ce fait reconnu comme étant un

LABORATOIRE D'ESSAIS ACCRÉDITÉ

pour les essais ou types d'essais énumérés dans la portée d'accréditation approuvée par le CCN et figurant dans le site Web du CCN au www.ccn.ca.

SCC file number: / Dossier du CCN nº : 151043 Initial accreditation date: / Date de la première accréditation :2016-08-30

Vice-President - Accreditation Services / Vice-président - Services d'accréditation Issued on: / Délivré le :2022-02-16

The validity of this certificate, including the date of last re-accreditation and its expiry can be confirmed by the accompanying Scope of Accreditation document in the Directory of Accredited Laboratories on the SCC website at www.scc.ca.

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. The 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).

Pour vérifier la validité du présent certificat, y compris la date de la dernière réaccréditation et la date d'expiration du certificat, consulter la portée d'accréditation qui se trouve dans le répertoire des laboratoires accrédités dans le site Web du CCN au www.ccn.ca.

Ce laboratoire est accrédité conformément à la Norme internationale reconnue ISO/IEC 17025:2017. Cette accréditation démontre la compétence technique d'un organisme pour une portée définie et l'exploitation d'un système de management de la qualité de laboratoire (cf. communiqué conjoint ISO-ILAC-IAF date d'avril 2017).



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SCC 🌀 CCN

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Subscribe		Chemical/Physical Program Specialty Area: Agriculture Inputs, Food, Animal Health And Plant Protection Environmental								
			Initial Accreditation Date: 2016/08/30 Status: Accredited							
			As of: 2022 Expires on:	/10/03 2024/08/30						
			Calgary							
			R2E 6P2 Canada							
			www.bvna.co	om& Accreditation (p	df) (English)					

Certificate Certificat of Accreditation

d'accréditation

SCC

Bureau Veritas Edmonton Laboratory

6744-50 Street NW. Edmonton, AB, T6B 3M9 9331 48 Street NW, Edmonton, AB, T6B 2R4

having been assessed by the Standards Council of Canada (SCC) and found to conform with the requirements of ISO/IEC 17025:2017 and the conditions for accreditation established by SCC is hereby recognized as an

ACCREDITED TESTING LABORATORY

for the specific tests or types of tests listed in the scope of accreditation approved by SCC and found on the SCC website at www.scc.ca.

ayant fait l'objet d'une évaluation du Conseil canadien des normes (CCN), et ayant été trouvé conforme aux exigences énoncées dans ISO/IEC 17025:2017 et aux conditions d'accréditation établies par le CCN, est de ce fait reconnu comme étant un

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pour les essais ou types d'essais énumérés dans la portée d'accréditation approuvée par le CCN et figurant dans le site Web du CCN au www.ccn.ca.

SCC file number: / Dossier du CCN nº : 15229 Initial accreditation date: / Date de la première accréditation :1995-03-06

Vice-President - Accreditation Services / Vice-président - Services d'accréditation Issued on: / Délivré le :2022-03-01

The validity of this certificate, including the date of last re-accreditation and its expiry can be confirmed by the accompanying Scope of Accreditation document in the Directory of Accredited Laboratories on the SCC website at www.scc.ca.

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. The 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).

Pour vérifier la validité du présent certificat, y compris la date de la dernière réaccréditation et la date d'expiration du certificat, consulter la portée d'accréditation qui se trouve dans le répertoire des laboratoires accrédités dans le site Web du CCN au www.ccn.ca.

Ce laboratoire est accrédité conformément à la Norme internationale reconnue ISO/IEC 17025:2017. Cette accréditation démontre la compétence technique d'un organisme pour une portée définie et l'exploitation d'un système de management de la qualité de laboratoire (cf. communiqué conjoint ISO-ILAC-IAF date d'avril 2017).



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Email address		Field of Testing:			L +780 577-7151					
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			Program Sp Environment	pecialty Area: al						
			Initial Accre	editation Date	1995/03/06					
			Status: Acc	redited						
			As of: 2023	/02/08						
			Expires on:	2027/03/06						
			6744-50 Str	reet						
			Edmonton							
			Alberta							
			T6B 3M9							
			Canada							
			www.bvna.com							
			Scope of Accreditation (pdf) (English)							

Canadian Association for Laboratory Accreditation Inc.



CALA

Certificate of Accreditation

AGAT Laboratories (Calgary) AGAT Laboratories Ltd. 2910 12th Street N.E. Calgary, Alberta

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.: 1002702 Issued On: December 1, 2021 Accreditation Date: February 22, 2005 Expiry Date: May 31, 2024

Acting 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.

CALA Scope of Accreditation Laboratory Name: AGAT Laboratories (Calgary) Client ID: 1002702 Parent Institution: AGAT Laboratories Ltd. Address: 2910 12th Street N.E., Calgary, Alberta, T2E 7P7 Contact: Mr. Vince Hill Email: vhill@agatlabs.com Phone: (403) 735-2016 Fax: (403) 735-2771 Standard: Conforms with requirements of ISO/IEC 17025:2017 Clients Served: All Interested Parties Revised On: 11/14/2022 Valid To: 06/01/2024 001 - Alkalinity Field of Accreditation: Environmental Matrix: Water Analytical Method: TITRIMETRIC Preparation Method: Lab Method ID(s): INST-0100 Method Reference Modified From Analytical Method Preparation Method SM 2320 B Yes Yes No Parameter Alkalinity (pH 4.5) 002 - Anions Field of Accreditation: Environmental Matrix Water Analytical Method: ION CHROMATOGRAPHY (IC) Preparation Method: Lab Method ID(s): INS-0150, WATR-0200 Method Reference Modified From Analytical Method Preparation Method SM 4110 B Yes Yes No Parameter Bromate (BrO3) Bromide Chlorate Chloride Chlorite Fluoride lodide Nitrate Nitrite Sulfate 003 - Conductivity Field of Accreditation: Environmental Matrix: Water Analytical Method: CONDUCTIVITY METER Preparation Method: Lab Method ID(s): INST-0120 Method Reference Modified From Analytical Method Preparation Method SM 2510 B Yes Yes No Parameter Conductivity (25C) 004 - Dissolved Metals Field of Accreditation: Environmental Matrix: Water Analytical Method: ICP/OES Preparation Method: Lab Method ID(s): INST-0140, WATR-0200 Method Reference Modified From Analytical Method Preparation Method SM 3120 B Yes Yes No Parameter Aluminum Antimony Arsenic Barium Beryllium Bismuth

i ulullotoi				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
lead				
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Magnesium				
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Nickel				
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Sodium				
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009 - Total Kjelda	ahl Nitrogen (1	ΓKN)		
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Analytical Method: A	UTOMATED COI	LORIMETRIC		Preparation Method: DIGESTION
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010 - Biochemica	al Oxygen Der	mand (BOD)		
U10 - BIOCNEMICa	al Oxygen Der n: Environmental	mand (BOD)		Matrix: Water
Field of Accreditatio	al Oxygen Der n: Environmental	mand (BOD) GEN METER (DO)		Matrix: Water Preparation Method:
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U10 - BIOChemica Field of Accreditatio Analytical Method: D Lab Method ID(s): M	al Oxygen Der n: Environmental DISSOLVED OXY IC-1500	mand (BOD) GEN METER (DO)		Matrix: Water Preparation Method:
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010 - Blochemica Field of Accreditatio Analytical Method: D Lab Method ID(s): M Method Reference SM 4500-O C SM 5210 B Parameter BOD (5 day) CBOD (5 day) O11 - Solids Field of Accreditatio Analytical Method: D Lab Method ID(s): W Method Reference SM 2540 C SM 2540 D Parameter Total Dissolved Solid	al Oxygen Der n: Environmental DISSOLVED OXY IC-1500 Modified From Yes Yes n: Environmental GRAVIMETRIC ATR-0600, WATF Modified From Yes No ds	mand (BOD) GEN METER (DO) Analytical Method Yes Yes R-0610 Analytical Method Yes Yes	Preparation Meth No No Preparation Meth No No	Matrix: Water Preparation Method: nod Matrix: Water Preparation Method: nod
010 - Blochemica Field of Accreditatio Analytical Method: D Lab Method ID(s): M Method Reference SM 4500-O C SM 5210 B Parameter BOD (5 day) CBOD (5 day) 011 - Solids Field of Accreditatio Analytical Method: D Lab Method ID(s): W Method Reference SM 2540 C SM 2540 D Parameter Total Dissolved Solid Total Suspended So	al Oxygen Der n: Environmental DISSOLVED OXY IC-1500 Modified From Yes Yes n: Environmental GRAVIMETRIC ATR-0600, WATF Modified From Yes No ds lids	mand (BOD) GEN METER (DO) Analytical Method Yes Yes R-0610 Analytical Method Yes Yes	Preparation Meth No No Preparation Meth No No	Matrix: Water Preparation Method: nod Matrix: Water Preparation Method: nod
010 - Blochemica Field of Accreditatio Analytical Method: D Lab Method ID(s): M Method Reference SM 4500-O C SM 5210 B Parameter BOD (5 day) CBOD (5 day) 011 - Solids Field of Accreditatio Analytical Method: D Lab Method ID(s): W Method Reference SM 2540 C SM 2540 D Parameter Total Dissolved Solid Total Suspended Solid O14 Delayscali	al Oxygen Der n: Environmental DISSOLVED OXY IC-1500 Modified From Yes Yes n: Environmental BRAVIMETRIC ATR-0600, WATR Modified From Yes No ds lids	mand (BOD) GEN METER (DO) Analytical Method Yes 4-0610 Analytical Method Yes Yes	Preparation Meth No No Preparation Meth No No	Matrix: Water Preparation Method: nod Matrix: Water Preparation Method: nod
010 - Blochemica Field of Accreditatio Analytical Method: D Lab Method ID(s): M Method Reference SM 4500-O C SM 5210 B Parameter BOD (5 day) CBOD (5 day) 011 - Solids Field of Accreditatio Analytical Method: D Lab Method ID(s): W Method Reference SM 2540 C SM 2540 D Parameter Total Dissolved Solid Total Suspended Sol 014 - Polycyclic A	Al Oxygen Der n: Environmental DISSOLVED OXY IC-1500 Modified From Yes Yes n: Environmental SRAVIMETRIC ATR-0600, WATR Modified From Yes No ds lids Aromatic Hydr	mand (BOD) GEN METER (DO) Analytical Method Yes Yes 2-0610 Analytical Method Yes Yes	Preparation Meth No No Preparation Meth No No	Matrix: Water Preparation Method: nod Matrix: Water Preparation Method: nod
010 - Blochemica Field of Accreditatio Analytical Method: D Lab Method ID(s): M Method Reference SM 4500-0 C SM 5210 B Parameter BOD (5 day) CBOD (5 day) 011 - Solids Field of Accreditatio Analytical Method: D Lab Method ID(s): W Method Reference SM 2540 C SM 2540 D Parameter Total Dissolved Solid Total Suspended Sol 014 - Polycyclic A Field of Accreditatio	al Oxygen Der n: Environmental DISSOLVED OXY IC-1500 Modified From Yes Yes n: Environmental SRAVIMETRIC ATR-0600, WATF Modified From Yes No ds liids Aromatic Hydr n: Environmental	mand (BOD) GEN METER (DO) Analytical Method Yes Yes 	Preparation Meth No No Preparation Meth No No	Matrix: Water Preparation Method: nod Matrix: Water Preparation Method: nod Matrix: Water Matrix: Water
010 - Blochemica Field of Accreditatio Analytical Method: D Lab Method ID(s): M Method Reference SM 4500-0 C SM 5210 B Parameter BOD (5 day) CBOD (5 day) CBOD (5 day) O11 - Solids Field of Accreditatio Analytical Method: D Lab Method ID(s): W Method Reference SM 2540 C SM 2540 D Parameter Total Dissolved Solid Total Suspended Sol 014 - Polycyclic A Field of Accreditatio	al Oxygen Der n: Environmental DISSOLVED OXY IC-1500 Modified From Yes Yes Yes n: Environmental SRAVIMETRIC ATR-0600, WATF Modified From Yes No ds liids Aromatic Hydr n: Environmental GC/MS	mand (BOD) GEN METER (DO) Analytical Method Yes Yes 	Preparation Meth No No Preparation Meth No No	Matrix: Water Preparation Method: nod Matrix: Water Preparation Method: nod Matrix: Water Matrix: Water Preparation Method: Matrix: Water
010 - Blochemica Field of Accreditatio Analytical Method: D Lab Method ID(s): M Method Reference SM 4500-O C SM 5210 B Parameter BOD (5 day) CBOD (5 day) O11 - Solids Field of Accreditatio Analytical Method: D Lab Method ID(s): W Method Reference SM 2540 C SM 2540 D Parameter Total Dissolved Solid Total Suspended Solid O14 - Polycyclic / Field of Accreditatio Analytical Method: C Lab Method ID(s): TO	al Oxygen Der n: Environmental DISSOLVED OXY IC-1500 Modified From Yes Yes n: Environmental GRAVIMETRIC ATR-0600, WATF Modified From Yes No ds lids Aromatic Hydr n: Environmental GC/MS D-0200	mand (BOD) GEN METER (DO) Analytical Method Yes Yes R-0610 Analytical Method Yes Yes Yes	Preparation Meth No No Preparation Meth No No	Matrix: Water Preparation Method: nod Matrix: Water Preparation Method: nod Matrix: Water Preparation Method: Preparation Method: EXTRACTION
010 - Blochemica Field of Accreditatio Analytical Method: D Lab Method ID(s): M Method Reference SM 4500-O C SM 5210 B Parameter BOD (5 day) CBOD (5 day) 011 - Solids Field of Accreditatio Analytical Method: D Lab Method ID(s): W Method Reference SM 2540 C SM 2540 D Parameter Total Dissolved Solid Total Suspended Solid O14 - Polycyclic / Field of Accreditatio Analytical Method: D Data Suspended Solid Total Suspended Solid Total Suspended Solid Total Suspended Solid Method ID(s): TO Method ID(s): TO	al Oxygen Der n: Environmental DISSOLVED OXY IC-1500 Modified From Yes Yes n: Environmental GRAVIMETRIC ATR-0600, WATE Modified From Yes No ds lids Aromatic Hydr n: Environmental GC/MS D-0200 Modified From	mand (BOD) GEN METER (DO) Analytical Method Yes Yes R-0610 Analytical Method Yes Yes Yes	Preparation Meth No No Preparation Meth No No	Matrix: Water Preparation Method: nod Matrix: Water Preparation Method: nod Matrix: Water Preparation Method:
010 - Blochemica Field of Accreditatio Analytical Method: D Lab Method ID(s): M Method Reference SM 4500-O C SM 5210 B Parameter BOD (5 day) CBOD (5 day) 011 - Solids Field of Accreditatio Analytical Method: D Lab Method ID(s): W Method Reference SM 2540 C SM 2540 D Parameter Total Dissolved Solid Total Suspended Solid O14 - Polycyclic / Field of Accreditatio Analytical Method: C Lab Method ID(s): TO Method Reference EPA 3610B	al Oxygen Der n: Environmental DISSOLVED OXY IC-1500 Modified From Yes Yes n: Environmental GRAVIMETRIC ATR-0600, WATF Modified From Yes No ds lids Aromatic Hydr n: Environmental GC/MS D-0200 Modified From Yes	mand (BOD) GEN METER (DO) Analytical Method Yes Yes R-0610 Analytical Method Yes Yes Yes Tocarbons (PAH) Analytical Method Yes	Preparation Meth No No Preparation Meth No No	Matrix: Water Preparation Method: nod Matrix: Water Preparation Method: nod Matrix: Water Preparation Method: EXTRACTION nod
010 - Blochemica Field of Accreditatio Analytical Method: D Lab Method ID(s): M Method Reference SM 4500-O C SM 5210 B Parameter BOD (5 day) CBOD (5 day) 011 - Solids Field of Accreditatio Analytical Method: D Lab Method ID(s): W Method Reference SM 2540 C SM 2540 D Parameter Total Dissolved Solid Total Suspended Sol 014 - Polycyclic / Field of Accreditatio Analytical Method: C Lab Method ID(s): TO Method Reference EPA 3510B EPA 3511	Al Oxygen Der n: Environmental DISSOLVED OXY IC-1500 Modified From Yes Yes n: Environmental GRAVIMETRIC ATR-0600, WATF Modified From Yes No ds lids Aromatic Hydr n: Environmental GC/MS D-0200 Modified From Yes Yes	mand (BOD) GEN METER (DO) Analytical Method Yes Yes R-0610 Analytical Method Yes Yes Yes Analytical Method Yes Yes	Preparation Meth No No Preparation Meth No No	Matrix: Water Preparation Method: nod Matrix: Water Preparation Method: nod Matrix: Water Preparation Method: nod Matrix: Water Preparation Method: EXTRACTION nod

Parameter 1-Methylnaphthalene

2-Methylnaphthalene									
Acenaphthene									
Acridine									
Anthracene									
Benzo(a)anthracene									
Benzo(a)pyrene									
Benzo(b)fluoranthene									
Benzo(g,h,i)perylene									
Benzo(k)fluoranthene									
Chrysene									
Dibenzo(a,h)anthracer	ne								
Fluorene									
Indeno(1,2,3 - cd)pyre	ne								
Naphthalene									
Perylene									
Pyrene									
Quinoline									
015 - Polychlorinat	ted Biphenyls	s (PCB)							
Field of Accreditation:	Environmental				Matr	ix: C	Dil		
Analytical Method: GC	/ECD				Prep	arat	tion Method: EXTRACTION		
Lab Method ID(s): TO-0	0420								
Method Reference N	Modified From	Analytica	Method Pr	eparation	Method				
AEC M106.0 Y	/es /es	Yes	No)					
	105	105		,					
Aroclor 1016									
Aroclor 1221									
Aroclor 1232									
Aroclor 1242									
Aroclor 1248 Aroclor 1254									
Aroclor 1260									
Aroclor 1262									
Aroclor 1268									
Total PCB									
020 - Microtox									
Field of Accreditation:	Environmental				Matr	ix: V	Vater		
Analytical Method: BIC	DLUMINESCEN	CE			Prep	Preparation Method:			
Lab Method ID(s): TOX	(-0100								
Method Reference M EPS 1/RM/24 Y	Modified From Tes	Analytica Yes	l Method Pr No	eparation	Method				
Parameter									
Microtox IC50 (15 min))								
024 - Mercury									
Field of Accreditation:	Environmental				Matr	ix: S	Solids [Soil]		
Analytical Method: CO	DLD VAPOUR AT	OMIC ABS	SORPTION (CVAA)	Prep	arat	tion Method: DIGESTION		
Lab Method ID(s): INST	T-0161, SOIL-39	0							
Method Reference			Modified Fr	om Anal	ytical Metho	od	Preparation Method		
BC MOE LABORATOR	RY MANUAL SE	CTION C	Yes	Yes			No		
EPA 3050B SM 3112 B			res Yes	Yes			No No		
Deremeter				100					
Farameter Mercury									
026 - Metals									

Field of Accreditation: Environmental	Matrix: Solids [Soil]
Analytical Method: ICP/OES	Preparation Method: DIGESTION

Lab Method ID(s): INST-0140, SOIL-390

Method Reference	Modified From	Analytical Method	Preparation Method
BC MOE LABORATORY MANUAL SECTION C	Yes	Yes	No
EPA 3050B	Yes	Yes	No
SM 3120	Yes	Yes	No

Parameter

Aluminum
Arsenic
Barium
Beryllium
Bismuth
Boron
Cadmium
Calcium
Chromium
Cobalt
Copper
Iron
Lead
Lithium
Magnesium
Manganese
Molybdenum
Nickel
Phosphorus
Potassium
Selenium
Silicon
Silver
Sodium
Strontium
Sulphur (Sulfur)
Thallium
Titanium
Tungsten
Vanadium
Zinc
Zirconium

028 - Polycyclic Aromatic Hydrocarbons (PAH)

Field of Accreditation: Environmental				Matrix: Solids [Soil]		
Analytical Method: GC/MS			Preparation Method: EXTRACTION			
Lab Method ID(s): TO	0-0210					
Method Reference	Modified From	Analytical Method	Preparation Meth	od		
EPA 3540C	Yes	Yes	No			
EPA 3570	Yes	Yes	No			
EPA 8270E	Yes	Yes	No			
Parameter						
1-Methylnaphthalene	9					
2-Methylnaphthalene	9					
Acenaphthene						
Acenaphthylene						
Acridine						
Anthracene						
Benzo(a)anthracene						
Benzo(a)pyrene						
Benzo(b)fluoranthen	e					
Benzo(e)pyrene						
Benzo(g,h,i)perylene	9					
Benzo(k)fluoranthen	e					
Chrysene						
Dibenzo(a,h)anthrac	ene					
Fluoranthene						
Fluorene						
Indeno(1,2,3 - cd)py	rene					
Naphthalene						
Perylene						
Phenanthrene						
Pyrene						

Parameter Quinoline						
043 - Anions						
Field of Accreditation: Environmental			Matrix: Soli	ds [Soil]		
Analytical Method: ION CHROMATOGRA	APHY (IC)		Preparation	Method: SATURA	ATED PASTE	
Lab Method ID(s): INST-0150, SOIL-140						
Method ReferenceModified FromArSM 4110 BYesYes	nalytical Method	Preparation Met	hod			
Parameter Chloride Nitrate-N Nitrite (NO2) Sulphate						
046 - pH						
Field of Accreditation: Environmental			Matrix: Soli	ds [Soil]		
Analytical Method: PH METER			Preparation	Method:		
Lab Method ID(s): INOR-401-0120, INST-	-0104, SOIL-0110	SOIL-0140				
Method ReferenceMMETHODS OF SOIL ANALYSIS 15.2YeSM 4500-H+Ye	lodified From Ai es Ye es Ye	nalytical Method es es	Preparation No No	Method		
Parameter pH (saturated paste)						
047 - Oil and Grease						
Field of Accreditation: Environmental			Matrix: Soli	ds [Soil]		
Analytical Method: FTIR			Preparation	Method: EXTRAC	CTION	
Lab Method ID(s): TO-2200						
Method ReferenceModified FromArSM 5220 CYesYes	nalytical Method	Preparation Met	hod			
Parameter Total Oil and Grease						
049 - Organic Carbon						
Field of Accreditation: Environmental			Matrix: Soli	ds [Soil]		
Analytical Method: SPECTROPHOTOME	ETRIC		Preparatior	Method: DIGEST	ION, OXIDATION	
Lab Method ID(s): INOR-401-0120, SOIL-	-0480, SOIL-110					
Method Reference	Modifi	ed From Analytic	cal Method F	Preparation Metho	d	
METHODS OF SOIL ANALYSIS (2ND EI MSA PART 3 CH 34	D., 1982) Yes Vec	Yes	N	lo lo		
Parameter Organic Carbon Organic Matter	165	165	ľ	~		
050 Ammonia						
Field of Accreditation: Environmental			Matrix: Soli	ds [Soil]		
Analytical Method: COLORIMETRIC			Preparation	Method: EXTRAC	CTION	
Lab Method ID(s): INOR-401-0120 INST-	-0340, SOIL-0110	SOIL-0630				
Method Reference SM 4500-NH3 G		Modified From A	Analytical Me Yes	thod Preparation	Method	
SOIL SAMPLING & METHODS OF ANA Parameter Ammonia-N	LISIS, CARTER	INO Y	res	INO		
	one (TPU)					
Field of Accreditation: Environmental	0113 (1711)		Matrix: Soli	ds [Soil]		
Analytical Method: GC/FID			Preparation	Method: EXTRAC	CTION	
Lab Method ID(s): TO-0570						
Method Reference BC MOE LABORATORY MANUAL			Modified Fro Yes	m Analytical Met Yes	hod Preparation Method	

Method Reference CCME CWS PETROLEUM HYDROCARBONS IN SOIL -	TIER 1 METHOD	Modified From 2	Analytical Method Yes	Preparation Method No	
Parameter Total Purgable Hydrocarbons (TPgH): (C5-C10) VH: C6-C10					
053 - Total Extractable Hydrocarbons (TEH)					
Field of Accreditation: Environmental		Matrix: Solids [Soil]		
Analytical Method: GC/FID		Preparation Me	ethod: EXTRACTIO	N	
Lab Method ID(s): TO-0510					
Method Reference	Modified From	Analytical Method	Preparation Met	hod	
AEC V92-M2 BC MOE CONTAMINATED SITES REGULATION (CSR) EPA 8015D	Yes Yes Yes	Yes Yes Yes	No No No		
Parameter Extractable Petroleum Hydrocarbons (EPH): C10-C19 Extractable Petroleum Hydrocarbons (EPH): C19-C32 SASK (C11-C22) SASK (C23-C60) Total Extractable Hydrocarbons (TEH): C10-C32					
058 - Particle Size Analysis (PSA)					
Field of Accreditation: Environmental		Matrix: Solids [Soil]		
Analytical Method: HYDROMETER		Preparation Me	ethod:		
Lab Method ID(s): SOIL-520					
Method Reference JONES J. 2001 LAB GUIDE FOR CONDUCTING SOIL T	EST & PLANT A	Modified	From Analytical Yes	Method Preparation Method No	
Parameter Percent Clay Percent Sand Percent Silt					
059 - Particle Size Analysis (PSA)					
Field of Accreditation: Environmental		Matrix: Solids [Soil]		
Analytical Method: GRAVIMETRIC		Preparation Me	ethod: SIEVE		
Lab Method ID(s): SOIL-540					
Method Reference SHELDRICK, B.H. & WANG, C, CARTER MO ED. 2007	Modified From Yes	Analytical Method Yes	Preparation Meth	nod	
Parameter Particle Size					
061 - Chemical Oxygen Demand (COD)					
Field of Accreditation: Environmental		Matrix: Water			
Analytical Method: SPECTROPHOTOMETRIC		Preparation Me	ethod:		
Lab Method ID(s): INST-0280					
Method ReferenceModified FromAnalytical MethodEPA 410.4YesYes	Preparation M No	ethod			
Parameter COD					
<u>062 - Carbon</u>					
Field of Accreditation: Environmental		Matrix: Water			
Analytical Method: INFRARED SPECTROSCOPY (IR)/CO	OMBUSTION	Preparation Me	ethod:		
Lab Method ID(s): INST-0170					
Method Reference Modified From Analytical Method SM 5310 B Yes Yes	d Preparation M No	ethod			
Parameter Inorganic Carbon Organic Carbon					
063 - Ammonia					
Field of Accreditation: Environmental		Matrix: Water			
Analytical Method: COLOR	RIMETRIC			Preparation Met	thod:
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Lab Method ID(s): INST-034	40				
Method Reference Modi SM 4500-NH3 G Yes	fied From	Analytical Met Yes	hod Preparation I No	Method	
Parameter Ammonia					
065 - Total Purgeable	Hydrocar	bons (TPH)			
Field of Accreditation: Env	ironmental			Matrix: Water	
Analytical Method: GC/FID	-PURGE AN	ND TRAP		Preparation Me	thod:
Lab Method ID(s): TO-0540)				
Method Reference BC MOE LABORATORY M EPA 5030C EPA 8260D	M IANUAL Ye Ye Ye	odified From A es es es	Analytical Method Yes Yes Yes	Preparation Method No No No	3
F1: C6-C10 Total Purgable Hydrocarbo VH: C6-C10	ns (TPgH):	(C5-C10)			
066 - Total Extractable	e Hydroca	arbons (TEH)		
Field of Accreditation: Env	ironmental			Matrix: Water	
Analytical Method: GC/FID				Preparation Me	thod: EXTRACTION
Lab Method ID(s): TO-0511					
Method Reference AEC V92-M2 BC MOE CONTAMINATEE EPA 3510) SITES RE	GULATION (CS	Modified From Yes SR) Yes Yes	n Analytical Method Yes Yes Yes	Preparation Method No No No
Extractable Petroleum Hyd Extractable Petroleum Hyd F2: C10-C16 F3: C16-C34 F4: C34-C50 Hydrocarbons: C10-C32 SASK (C11-C22) SASK (C23-C60)	Irocarbons (Irocarbons (EPH): C10-C19 EPH): C19-C32			
068 - Heterotrophic Pl	ate Coun	t (HPC)			
Field of Accreditation: Env	ironmental			Matrix: Water	
Analytical Method: SPREA	D PLATE			Preparation Me	thod:
Lab Method ID(s): MIC-030 Method Reference Modi	0 fied From	Analytical Met	hod Preparation I	Method	
SM 9215 C Yes		Yes	No		
Parameter Heterotrophic Plate Count	(HPC)				
069 - Oil and Grease					
Field of Accreditation: Env	ironmental			Matrix: Water	
Analytical Method: FTIR				Preparation Met	thod: EXTRACTION
Lab Method ID(s): TO-2200)				
Method ReferenceModiSM 5220 CYes	fied From	Analytical Met Yes	hod Preparation I No	Method	
Parameter Total Oil and Grease					
071 - Polychlorinated	Biphenyls	s (PCB)			
Field of Accreditation: Env	ironmental			Matrix: Solids [S	Soil]
Analytical Method: GC/EC	D			Preparation Met	thod: EXTRACTION
Lab Method ID(s): TO-0410)				
Method Reference Modi	fied From	Analytical Met	hod Preparation I	Method	

AEC G106.0		Analytical Metho	od Preparation Met	hod	
EPA 8082	Yes Ves	Yes	No		
	100	100	110		
Parameter Aroclor 1016					
Aroclor 1221					
Aroclor 1232					
Aroclor 1242					
Aroclor 1248					
Aroclor 1254					
Aroclor 1260 Aroclor 1262					
Aroclor 1268					
Total PCB					
073 - Mercury					
Field of Accreditation	: Environmental			Matrix: Water	
Analytical Method: C(OLD VAPOUR AT	TOMIC ABSORPT	ION (CVAA)	Preparation Method	d:
Lab Method ID(s) [.] INS	ST-0160				-
Method Reference		Modifi	ed From Analytica	Method Preparation	n Method
BC MOE LABORATO	RY MANUAL SE	CTION C Yes	Yes	No	metrou
Parameter					
Mercury					
085 - Hot Water E	xtractable Bo	oron			
Field of Accreditation	: Environmental			Matrix: Solids [Soil]	
Analytical Method: IC	P/OES			Preparation Method	I: EXTRACTION
Lab Method ID(s): INS	ST-0140, SOIL-02	270			
Method Reference			Modified F	rom Analytical Metho	od Preparation Method
SM 3120 B			Yes	Yes	No
SM 3125 B			Yes	Yes	No
086 - Conductivity	<u>,</u>				
Field of Accreditation	: Environmental			Matrix: Solids [Soil]	
Analytical Method: CO	ONDUCTIVITY N	IETER		Preparation Method	L EXTRACTION
Lab Method ID(s): INS	ST-0120, SOIL-01	40, SOIL-0260			
Method Reference		Modified From	Analytical Method	Preparation Method	
SM 2510 B	ANALYSIS 15.2	Yes	Yes	No	
SIVI 2010 D		100	100		
Parameter Conductivity (1:2 soil: Conductivity (saturate	water) ed paste)				
088 - Flashpoint					
	. Environmental			Matrix: Solids [Ash,	Soil]
Field of Accreditation					
Field of Accreditation Analytical Method: PE	ENSKY-MARTEN	IS CLOSED CUP		Preparation Method	d:
Field of Accreditation Analytical Method: PE Lab Method ID(s): TO	ENSKY-MARTEN	IS CLOSED CUP		Preparation Method	d:
Field of Accreditation Analytical Method: PE Lab Method ID(s): TO Method Reference ASTM D93-02A	ENSKY-MARTEN -2210 Modified From Yes	IS CLOSED CUP Analytical Metho Yes	od Preparation Met	Preparation Method	d:
Field of Accreditation Analytical Method: Pf Lab Method ID(s): TO Method Reference ASTM D93-02A Parameter Flashpoint	EINIGINIGINIGINA ENSKY-MARTEN -2210 Modified From Yes	IS CLOSED CUP Analytical Metho Yes	d Preparation Met No	Preparation Methoo	d:
Field of Accreditation Analytical Method: PE Lab Method ID(s): TO Method Reference ASTM D93-02A Parameter Flashpoint 091 - Hexavalent	EINIOIMARTEN ENSKY-MARTEN -2210 Modified From Yes Chromium	IS CLOSED CUP Analytical Metho Yes	od Preparation Met No	Preparation Methoo	d:
Field of Accreditation Analytical Method: Pf Lab Method ID(s): TO Method Reference ASTM D93-02A Parameter Flashpoint D91 - Hexavalent Field of Accreditation	EINIOIMARTEN ENSKY-MARTEN -2210 Modified From Yes Chromium	IS CLOSED CUP Analytical Metho Yes	od Preparation Met No	Preparation Method hod Matrix: Solids [Soil]	d:
Field of Accreditation Analytical Method: PE Lab Method ID(s): TO Method Reference ASTM D93-02A Parameter Flashpoint 091 - Hexavalent Field of Accreditation Analytical Method: SF	Environmental ENSKY-MARTEN 2210 Modified From Yes Chromium Environmental PECTROPHOTO	IS CLOSED CUP Analytical Metho Yes METRIC	od Preparation Met No	Preparation Method hod Matrix: Solids [Soil] Preparation Method	1: EXTRACTION
Field of Accreditation Analytical Method: Pf Lab Method ID(s): TO Method Reference ASTM D93-02A Parameter Flashpoint 091 - Hexavalent Field of Accreditation Analytical Method: SF Lab Method ID(s): SO	Environmental ENSKY-MARTEN -2210 Modified From Yes Chromium :: Environmental PECTROPHOTO IL-0600	IS CLOSED CUP Analytical Metho Yes METRIC	od Preparation Met No	Preparation Method hod Matrix: Solids [Soil] Preparation Method	d: EXTRACTION

Parameter Hexavalent Chromiu	ım						
092 - BTEX							
Field of Accreditatio	n : Environmental			Matr	ix: Solids [Soil]		
Analytical Method · G	C/MS-PURGE A	ND TRAP		Pren	aration Method	LEACH	
	0.0050						
Method Reference	Modified From	Analytical Method	Preparation Meth	od			
EPA 8260B	No	Yes	No				
IN-HOUSE	No	No	Yes				
Parameter Benzene Ethylbenzene m,p-Xylene o-Xylene Toluene							
093 - Percent Sa	turation						
Field of Accreditatio	n: Environmental			Matr	ix: Solids [Soil]		
Analytical Method: G	RAVIMETRIC			Prep	aration Method:	SATURATED PASTE	£
Lab Method ID(s): SC	DIL-0140						
Method Reference CURTIN, MILLER, S	OIL SAMPLING	& METHODS OF AN	ALYSIS, CARTER,	2007	Modified From Yes	Analytical Method Yes	Preparation Method No
Parameter Percent Saturation							
099 - Volatile Org	janic Compou	unds (VOC)					
Field of Accreditatio	n : Environmental			Matr	ix: Solids [Soil]		
Analvtical Method: G	C/MS-PURGE A	ND TRAP		Prep	aration Method:		
Lab Method ID(s): TO	0-0330						
Method Reference	Modified From	Analytical Mothod	Proparation Meth	bo			
EPA 5030C	Yes	Yes	No	ou			
EPA 8260D	Yes	Yes	No				
Parameter							
1,1,1,2-Tetrachloroe	thane						
1,1,1-Trichloroethan	e						
1,1,2,2-Tetrachloroe	thane						
1,1,2-Irichloroethan	e						
1 1-Dichloroethylene	2						
1,2,4-Trichlorobenze	ene						
1,2-Dichlorobenzene	e						
1,2-Dichloroethane							
1,2-Dichloropropane	•						
1,3-Dichlorobenzene	9						
2-Hexanone (Methyl	e butvl ketone MB	SK)					
Acetone (2-Propano	ne)	ыс)					
Benzene	,						
Bromodichlorometha	ane						
Bromoform							
Bromomethane							
Carbon tetrachloride	2						
Chlorodibromomethe	ane						
Chloroethane (Ethyl	chloride)						
Chloroethene (Vinvl	chloride)						
Chloroform	,						
Chloromethane (Met	thyl chloride)						
cis-1,2-Dichloroethyl	lene						
cis-1,3-Dichloroprop	ene						
Dichloromethane							
Ethylena Dibromida							
m.p-Xvlene							
Methyl ethyl ketone							

Methyl isobutyl ketone (MIBK)

Parameter Methyl t-butyl ether o-Xylene Styrene Tetrachloroethylene Toluene trans-1,2-Dichloroeth trans-1,2-Dichloroeth trans-1,3-Dichloropro Trichloroethylene Trichlorofluorometha	nylene nylene (trans-1,2- opene ne	Dichloroethene)		
103 - Phosphate				
Field of Accreditation	n: Environmental			Matrix: Water
Analytical Method: A	UTOMATED COI			Preparation Method:
Lab Method ID(s): IN	ST-0410, INST-0	530		
Method Reference SM 4500-P F	Modified From Yes	Analytical Method Yes	Preparation Methon	od
Parameter Phosphate				
105 - Sulphide				
Field of Accreditation	n : Environmental			Matrix: Water
Analytical Method: C	OLORIMETRIC			Preparation Method:
Lab Method ID(s): W	ATR-0100			-
Method Reference SM 4500-S2- D	Modified From Yes	Analytical Method Yes	Preparation Meth	od
Parameter Sulphide				
107 - Turbidity				
Field of Accreditation	n : Environmental			Matrix: Water
Analytical Method: N	EPHELOMETRIC	C		Preparation Method:
Lab Method ID(s): W/	ATR-0500			
Method Reference SM 2130 B	Modified From Yes	Analytical Method Yes	Preparation Methon	od
Parameter Turbidity				
124 - Phenols				
Field of Accreditation	n: Environmental			Matrix: Water
Analytical Method: A	UTOMATED COI			Preparation Method:
Lab Method ID(s): IN	ST-0300			
Method Reference EPA 420.2	Modified From Yes	Analytical Method Yes	Preparation Methon	od
Parameter Total Phenolics				
125 - Volatile Org	janic Compou	inds (VOC)		
Field of Accreditation	n : Environmental	. ,		Matrix: Water
Analytical Method: G	C/MS-PURGE A	ND TRAP		Preparation Method:
Lab Method ID(s): TO	0-0330			
Method Reference	Modified From	Analytical Method	Preparation Methe	od
EPA 5030C	Yes	Yes	No No	
Parameter 1,1,1,2-Tetrachloroet 1,1,1-Trichloroethand 1,1,2-Tetrachloroethand 1,1,2-Trichloroethand 1,1-Dichloroethand 1,1-Dichloroethylene 1,2,4 Trichlorobarao	thane e thane e			

1,2-Dichlorobenzene 1,2-Dichloroethane 1,2-Dichloropropane 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2-Hexanone (Methyl butyl ketone, MBK) Acetone (2-Propanone) Benzene Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Chlorodibromomethane Chloroethane (Ethyl chloride) Chloroform Chloromethane (Methyl chloride) cis-1,2-Dichloroethylene cis-1,3-Dichloropropene Dibromochloromethane Dichloromethane Ethylbenzene Ethylene Dibromide m,p-Xylene Methyl ethyl ketone Methyl isobutyl ketone (MIBK) Methyl t-butyl ether Methyl tert-butyl ether (MTBE) o-Xylene Styrene Tetrachloroethylene Toluene trans-1,2-Dichloroethylene trans-1,3-Dichloropropene Trichloroethene Trichloroethylene Trichlorofluoromethane Vinyl chloride

129 - Dissolved Metals

Field of Accreditation: Environmental

Analytical Method: ICP/MS

Lab Method ID(s): INST-0141, WATR-0200

Method Reference Modified From Analytical Method Preparation Method

No

Matrix: Water

Preparation Method:

SM 3125	Yes	Yes
Parameter		
Aluminum		
Antimony		
Arsenic		
Barium		
Beryllium		
Bismuth		
Boron		
Cadmium		
Chromium		
Cobalt		
Copper		
Lead		
Lithium		
Manganese		
Molybdenum		
Nickel		
Selenium		
Silver		
Strontium		
Thallium		
Tin		
Titanium		
Uranium		
Vanadium		
Zinc		
Zirconium		

132 - Petroleum	Hydrocarbons	S (PHC)					
Field of Accreditatio	n: Environmental			Matrix: Solids [Soil]			
Analytical Method: G	C/FID-PURGE A	ND TRAP		Preparation Method:			
Lab Method ID(s): T(0-0570						
Method Reference CCME CWS PETRC	LEUM HYDROC	CARBONS IN SOIL -	TIER 1 METHOD	Modified From No	Analytical Method Yes	Preparation Method No	
Parameter F1: C6-C10							
135 - pH							
Field of Accreditatio	n : Environmental	1		Matrix: Water			
Analytical Method: P	HMETER			Preparation M	ethod:		
Lab Method ID(s): IN	ST-0104						
Method Reference	Modified From	Analytical Method	Proparation Ma	thod			
SM 4500-H+ B	Yes	Yes	No	liiou			
Parameter pH							
136 - Petroleum I	Hydrocarbons	s (PHC)					
Field of Accreditatio	n : Environmental			Matrix: Solids	[Soil]		
Analytical Method: G	C/FID			Preparation M	ethod: COLD SHAK	E EXTRACTION	
Lab Method ID(s): TC	0-0560						
Method Reference CCME CWS PETRO	LEUM HYDROC	CARBONS IN SOIL -	TIER 1 METHOD	Modified From No	Analytical Method Yes	Preparation Method No	
Parameter F2: C10-C16 F3: C16-C34							
F4: C34-C50	Hydrocarbons						
Field of Accreditation				Matrix: Solido			
Analytical Mathedu C				Dreneration M			
				Preparation M	etnod: COLD SHAK	EEXTRACTION	
Lab Method ID(s): TO	0-0560						
				Modified From	Analytical Method	Preparation Method No	
Method Reference CCME CWS PETRO	LEUM HYDROC	CARBONS IN SOIL -	TIER I METHOD	No	ies		
Method Reference CCME CWS PETRC Parameter F4: Gravimetric	DLEUM HYDROC	CARBONS IN SOIL - ⁻	TIER 1 METHOD	Νο	ies		
Method Reference CCME CWS PETRC Parameter F4: Gravimetric 143 - Total Metals	DLEUM HYDROC	ARBONS IN SOIL - ⁻	TIER 1 METHOD	Νο	Tes		
Method Reference CCME CWS PETRC Parameter F4: Gravimetric 143 - Total Metals Field of Accreditation	DLEUM HYDROC S n: Environmental	CARBONS IN SOIL -	TIER T METHOD	No Matrix: Water			
Method Reference CCME CWS PETRC Parameter F4: Gravimetric 143 - Total Metals Field of Accreditation Analytical Method: 10	DLEUM HYDROC S n: Environmental CP/OES	CARBONS IN SOIL -		No Matrix: Water Preparation M	lethod: DIGESTION		
Method Reference CCME CWS PETRC Parameter F4: Gravimetric 143 - Total Metals Field of Accreditation Analytical Method: IC Lab Method ID(s): IN	DLEUM HYDROC S n: Environmental CP/OES ST-0140. WATR-	ARBONS IN SOIL -	TIER 1 METHOD	No Matrix: Water Preparation M	ethod: DIGESTION		
Method Reference CCME CWS PETRC Parameter F4: Gravimetric 143 - Total Metals Field of Accreditation Analytical Method: IC Lab Method ID(s): IN Method Reference SM 3120	DLEUM HYDROC S n: Environmental CP/OES ST-0140, WATR- Modified From Yes	CARBONS IN SOIL - 0200 Analytical Method Yes	Preparation Me	No Matrix: Water Preparation M thod	ethod: DIGESTION		
Method Reference CCME CWS PETRC Parameter F4: Gravimetric 143 - Total Metals Field of Accreditation Analytical Method: IC Lab Method ID(s): IN Method Reference SM 3120 Parameter	DLEUM HYDROC S n: Environmental CP/OES ST-0140, WATR- Modified From Yes	CARBONS IN SOIL - 0200 Analytical Method Yes	Preparation Mer	No Matrix: Water Preparation M thod	ethod: DIGESTION		
Method Reference CCME CWS PETRC Parameter F4: Gravimetric 143 - Total Metals Field of Accreditation Analytical Method: IC Lab Method ID(s): IN Method Reference SM 3120 Parameter Aluminum	S n: Environmental CP/OES ST-0140, WATR- Modified From Yes	CARBONS IN SOIL - 0200 Analytical Method Yes	Preparation Me No	No Matrix: Water Preparation M thod	ethod: DIGESTION		
Method Reference CCME CWS PETRC Parameter F4: Gravimetric 143 - Total Metal: Field of Accreditation Analytical Method: IC Lab Method ID(s): IN Method Reference SM 3120 Parameter Aluminum Antimony	DLEUM HYDROC <u>S</u> n: Environmental CP/OES ST-0140, WATR- Modified From Yes	CARBONS IN SOIL - 0200 Analytical Method Yes	Preparation Me No	No Matrix: Water Preparation M	lethod: DIGESTION		
Method Reference CCME CWS PETRC Parameter F4: Gravimetric 143 - Total Metal: Field of Accreditation Analytical Method: IC Lab Method ID(s): IN Method Reference SM 3120 Parameter Aluminum Antimony Arsenic	DLEUM HYDROC S n: Environmental CP/OES ST-0140, WATR- Modified From Yes	0200 Analytical Method Yes	Preparation Me No	No Matrix: Water Preparation M	lethod: DIGESTION		
Method Reference CCME CWS PETRC Parameter F4: Gravimetric 143 - Total Metals Field of Accreditation Analytical Method: IC Lab Method ID(s): IN Method Reference SM 3120 Parameter Aluminum Antimony Arsenic Barium Barulium	DLEUM HYDROC <u>5</u> n: Environmental CP/OES ST-0140, WATR- Modified From Yes	ARBONS IN SOIL - 0200 Analytical Method Yes	Preparation Me No	No Matrix: Water Preparation M	ethod: DIGESTION		
Method Reference CCME CWS PETRC Parameter F4: Gravimetric 143 - Total Metals Field of Accreditation Analytical Method: IC Lab Method ID(s): IN Method Reference SM 3120 Parameter Aluminum Antimony Arsenic Barium Beryllium Bismuth	DLEUM HYDROC <u>n</u> : Environmental CP/OES ST-0140, WATR- Modified From Yes	ARBONS IN SOIL - 0200 Analytical Method Yes	Preparation Me	No Matrix: Water Preparation M	ethod: DIGESTION		
Method Reference CCME CWS PETRC Parameter F4: Gravimetric 143 - Total Metals Field of Accreditation Analytical Method: IC Lab Method ID(s): IN Method Reference SM 3120 Parameter Aluminum Antimony Arsenic Barium Beryllium Bismuth Boron	DLEUM HYDROC <u>n</u> : Environmental CP/OES ST-0140, WATR- Modified From Yes	ARBONS IN SOIL - 0200 Analytical Method Yes	Preparation Me No	No Matrix: Water Preparation M	ethod: DIGESTION		
Method Reference CCME CWS PETRC Parameter F4: Gravimetric 143 - Total Metals Field of Accreditation Analytical Method: IC Lab Method ID(s): IN Method Reference SM 3120 Parameter Aluminum Antimony Arsenic Barium Beryllium Bismuth Boron Cadmium	S n: Environmental CP/OES ST-0140, WATR- Modified From Yes	ARBONS IN SOIL - 0200 Analytical Method Yes	Preparation Me No	No Matrix: Water Preparation M	ethod: DIGESTION		
Method Reference CCME CWS PETRC Parameter F4: Gravimetric 143 - Total Metals Field of Accreditation Analytical Method: IC Lab Method ID(s): IN Method Reference SM 3120 Parameter Aluminum Antimony Arsenic Barium Beryllium Bismuth Boron Cadmium Calcium	DLEUM HYDROC <u>n</u> : Environmental CP/OES ST-0140, WATR- Modified From Yes	ARBONS IN SOIL - 0200 Analytical Method Yes	Preparation Me No	No Matrix: Water Preparation M	ethod: DIGESTION		
Method Reference CCME CWS PETRC Parameter F4: Gravimetric 143 - Total Metals Field of Accreditation Analytical Method: IC Lab Method ID(s): IN Method Reference SM 3120 Parameter Aluminum Antimony Arsenic Barium Beryllium Bismuth Boron Cadmium Calcium Chromium	DLEUM HYDROC <u>s</u> n: Environmental CP/OES ST-0140, WATR- Modified From Yes	ARBONS IN SOIL - 0200 Analytical Method Yes	Preparation Me No	No Matrix: Water Preparation M	ethod: DIGESTION		
Method Reference CCME CWS PETRC Parameter F4: Gravimetric 143 - Total Metals Field of Accreditation Analytical Method: IC Lab Method ID(s): IN Method Reference SM 3120 Parameter Aluminum Antimony Arsenic Barium Beryllium Bismuth Boron Cadmium Calcium Chromium Cobalt	DLEUM HYDROC S n: Environmental CP/OES ST-0140, WATR- Modified From Yes	ARBONS IN SOIL - 0200 Analytical Method Yes	Preparation Me No	No Matrix: Water Preparation M	ethod: DIGESTION		
Method Reference CCME CWS PETRC Parameter F4: Gravimetric 143 - Total Metals Field of Accreditation Analytical Method: IC Lab Method ID(s): IN Method Reference SM 3120 Parameter Aluminum Antimony Arsenic Barium Beryllium Bismuth Boron Cadmium Calcium Chromium Cobalt Copper	DLEUM HYDROC S n: Environmental CP/OES ST-0140, WATR- Modified From Yes	ARBONS IN SOIL - 0200 Analytical Method Yes	Preparation Me No	No Matrix: Water Preparation M thod	ethod: DIGESTION		
Method Reference CCME CWS PETRC Parameter F4: Gravimetric 143 - Total Metals Field of Accreditation Analytical Method: IC Lab Method ID(s): IN Method Reference SM 3120 Parameter Aluminum Antimony Arsenic Barium Beryllium Bismuth Boron Cadmium Calcium Chromium Cobalt Copper Iron Lead	DLEUM HYDROC S n: Environmental CP/OES ST-0140, WATR- Modified From Yes	ARBONS IN SOIL - 0200 Analytical Method Yes	Preparation Mer No	No Matrix: Water Preparation M thod	ethod: DIGESTION		
Method Reference CCME CWS PETRC Parameter F4: Gravimetric 143 - Total Metals Field of Accreditation Analytical Method: IC Lab Method ID(s): IN Method Reference SM 3120 Parameter Aluminum Antimony Arsenic Barium Beryllium Bismuth Boron Cadmium Calcium Chromium Cobalt Copper Iron Lead Lithium	S n: Environmental CP/OES ST-0140, WATR- Modified From Yes	ARBONS IN SOIL - 0200 Analytical Method Yes	Preparation Mer No	No Matrix: Water Preparation M thod	ethod: DIGESTION		
Method Reference CCME CWS PETRC Parameter F4: Gravimetric 143 - Total Metals Field of Accreditation Analytical Method: IC Lab Method ID(s): IN Method Reference SM 3120 Parameter Aluminum Antimony Arsenic Barium Beryllium Bismuth Boron Cadmium Calcium Chromium Cobalt Copper Iron Lead Lithium Magnesium	S n: Environmental CP/OES ST-0140, WATR- Modified From Yes	ARBONS IN SOIL - 0200 Analytical Method Yes	Preparation Me No	No Matrix: Water Preparation M thod	ethod: DIGESTION		
Method Reference CCME CWS PETRC Parameter F4: Gravimetric 143 - Total Metals Field of Accreditation Analytical Method: IC Lab Method ID(s): IN Method Reference SM 3120 Parameter Aluminum Antimony Arsenic Barium Beryllium Bismuth Boron Cadmium Calcium Chromium Cobalt Copper Iron Lead Lithium Magnesium Manganese	S n: Environmental CP/OES ST-0140, WATR- Modified From Yes	ARBONS IN SOIL - 0200 Analytical Method Yes	Preparation Mer No	No Matrix: Water Preparation M thod	ethod: DIGESTION		

Parameter				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Strontium				
Sulphur (Sulfur)				
Thallium				
Tin				
litanium				
Uranium				
Zino				
Zinc				
	_			
144 - IOIAI Metals	s n: Environmental			Matrix: Water
	JP/MS	2200		Preparation Method: DIGES HON
Mothod Peference	Modified From	Analytical Method	Proparation Moth	hod
SM 3125	Yes	Yes	No	
Parameter				
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Lithium				
Magnesium				
Manganese				
Molvbdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Strontium				
i nallium Tia				
l In Titerrium				
Tungston				
Iranium				
Vanadium				
Zinc				
Zirconium				
145 - Metals				

Field of Accreditation: Environmental

Matrix: Solids [Soil]

Analytical Method: ICP/MS

Preparation Method: DIGESTION

Lab Method ID(s): INST-0141, SOIL-390

Method Reference	Modified From	Analytical Method	Preparation Method
BC MOE LABORATORY MANUAL SECTION C	Yes	Yes	No
EPA 3050B	Yes	Yes	No
SM 3125	Yes	Yes	No

- Parameter Antimony
- Arsenic

Parameter Barium Beryllium Boron Cadmium Chromium Cobalt Copper Lead Manganese Mercury Nickel Strontium Tin Titanium Uranium Vanadium Zinc	arbone (TPH					
Field of Accreditation: Environmental Matrix: Water						
Analytical Method: GC/MS-HEADS	PACE		Preparation Method:			
Lab Method ID(s): TO-0542						
Method Reference BC MOE LABORATORY MANUAL EPA 5021A EPA 8260 Parameter F1: C6-C10 Total Purnable Hydrocarbons (TPat	Modified From Yes Yes Yes	Analytical Method Yes Yes Yes	Preparation Method No No No			
VH: C6-C10						
VH: C6-C10 151 - Petroleum Hydrocarboi	ns (PHC)			_		
VH: C6-C10 <u>151 - Petroleum Hydrocarbon</u> Field of Accreditation: Environment	ns (PHC)		Matrix: Solids [Soil]	-		
151 - Petroleum Hydrocarbon Field of Accreditation: Environment Analytical Method: GC/MS-HEADSF	n <mark>s (PHC)</mark> al PACE		Matrix: Solids [Soil] Preparation Method:	-		
Item Particulation (High VH: C6-C10 Item Interview Field of Accreditation: Environment Analytical Method: GC/MS-HEADS Lab Method ID(s): TO-0543	ns (PHC) al PACE		Matrix: Solids [Soil] Preparation Method:	-		
Iotar a gabe Hydrocarbon VH: C6-C10 151 - Petroleum Hydrocarbon Field of Accreditation: Environment Analytical Method: GC/MS-HEADSF Lab Method ID(s): TO-0543 Method Reference CCME CWS PETROLEUM HYDROC	ns (PHC) al PACE CARBONS IN SI	OIL - TIER 1 METHO	Matrix: Solids [Soil] Preparation Method: Modified From Analytical Method Preparation Method D Yes Yes	-		
Iotari uguste Hydrocarbon VH: C6-C10 151 - Petroleum Hydrocarbon Field of Accreditation: Environment Analytical Method: GC/MS-HEADSi Lab Method ID(s): TO-0543 Method Reference CCME CWS PETROLEUM HYDRC Parameter F1: C6-C10	ns (PHC) al PACE CARBONS IN SI	OIL - TIER 1 METHO	Matrix: Solids [Soil] Preparation Method: Modified From Analytical Method Preparation Method D Yes Yes	-		
VH: C6-C10 151 - Petroleum Hydrocarbon Field of Accreditation: Environment Analytical Method: GC/MS-HEADS/ Lab Method ID(s): TO-0543 Method Reference CCME CWS PETROLEUM HYDRO Parameter F1: C6-C10 152 - Volatile Organic Compo	al ACE CARBONS IN SO Dunds (VOC)	DIL - TIER 1 METHO	Matrix: Solids [Soil] Preparation Method: Modified From Analytical Method Preparation Method D Yes Yes No	_		
Iotari uguste Hydrocarbon 151 - Petroleum Hydrocarbon Field of Accreditation: Environment Analytical Method: GC/MS-HEADSI Lab Method ID(s): TO-0543 Method Reference CCME CWS PETROLEUM HYDRO Parameter F1: C6-C10 152 - Volatile Organic Compo Field of Accreditation: Environment	as (PHC) al PACE CARBONS IN SI DUNDS (VOC) al	OIL - TIER 1 METHO	Matrix: Solids [Soil] Preparation Method: Modified From Analytical Method Preparation Method D Yes Yes Matrix: Solids [Soil]	-		
Iotan againe Hydrocarbon 151 - Petroleum Hydrocarbon Field of Accreditation: Environment Analytical Method: GC/MS-HEADS4 Lab Method ID(s): TO-0543 Method Reference CCME CWS PETROLEUM HYDRO Parameter F1: C6-C10 152 - Volatile Organic Compo Field of Accreditation: Environment Analytical Method: GC/MS-HEADS4	al PACE CARBONS IN SO Punds (VOC) al PACE	DIL - TIER 1 METHO	Matrix: Solids [Soil] Preparation Method: Modified From Analytical Method Preparation Method D Yes Yes No Matrix: Solids [Soil] Preparation Method:	-		
Iotari uguste Hydrocarbon 151 - Petroleum Hydrocarbon Field of Accreditation: Environment Analytical Method: GC/MS-HEADSI Lab Method ID(s): TO-0543 Method Reference CCME CWS PETROLEUM HYDRO Parameter F1: C6-C10 152 - Volatile Organic Compo Field of Accreditation: Environment Analytical Method: GC/MS-HEADSI Lab Method ID(s): TO-0332	as (PHC) al PACE CARBONS IN SI OUNDS (VOC) al PACE	OIL - TIER 1 METHO	Matrix: Solids [Soil] Preparation Method: Modified From Analytical Method Preparation Method D Yes Yes Matrix: Solids [Soil] Preparation Method:	_		
Iotan auguste Hydrocarbon VH: C6-C10 151 - Petroleum Hydrocarbon Field of Accreditation: Environment Analytical Method: GC/MS-HEADSF Lab Method ID(s): TO-0543 Method Reference CCME CWS PETROLEUM HYDRO Parameter F1: C6-C10 152 - Volatile Organic Composition Field of Accreditation: Environment Analytical Method: GC/MS-HEADSF Lab Method ID(s): TO-0332 Method Reference Modified From EPA 5021A	al PACE CARBONS IN Se punds (VOC) al PACE n Analytical Me Yes	DIL - TIER 1 METHO	Matrix: Solids [Soil] Preparation Method: Modified From Analytical Method Preparation Method P Yes Yes Matrix: Solids [Soil] Preparation Method: Matrix: Solids [Soil] Preparation Method:	_		
Iotan arguste Hydrocarbon VH: C6-C10 151 - Petroleum Hydrocarbon Field of Accreditation: Environment Analytical Method: GC/MS-HEADSF Lab Method ID(s): TO-0543 Method Reference CCME CWS PETROLEUM HYDRO Parameter F1: C6-C10 152 - Volatile Organic Composition Field of Accreditation: Environment Analytical Method: GC/MS-HEADSF Lab Method ID(s): TO-0332 Method Reference Method Reference EPA 5021A Yes EPA 8260D Parameter	al PACE CARBONS IN Se punds (VOC) al PACE n Analytical Me Yes Yes	DIL - TIER 1 METHO	Matrix: Solids [Soil] Preparation Method: Modified From Analytical Method Preparation Method D Yes Yes No Matrix: Solids [Soil] Preparation Method: Interview Nethod	-		

Chlorodibromomethane Chloroethane (Ethyl chloride) Chloroethene (Vinyl chloride) Chloroform Chloromethane (Methyl chloride) cis-1,2-Dichloroethylene cis-1,3-Dichloropropene Dichloromethane Ethylbenzene Ethylene Dibromide m,p-Xylene Methyl ethyl ketone Methyl isobutyl ketone (MIBK) Methyl t-butyl ether o-Xylene Styrene Tetrachloroethylene Toluene trans-1,2-Dichloroethylene trans-1,3-Dichloropropene Trichloroethylene Trichlorofluoromethane

153 - Volatile Organic Compounds (VOC)

Field of Accreditation: Environmental			Matrix: Water
Analytical Method: GC/MS-HEADSPACE		CE	Preparation Method:
Lab Method ID(s): TO	0-0332		
Method Reference	Modified From	Analytical Method	Preparation Method
EPA 5021A	Yes	Yes	No
EPA 8260D	Yes	Yes	No
Parameter			
1,1,1-Trichloroethan	е		
1,1,2-Trichloroethan	e		
1,1-Dichloroethane			
1,1-Dichloroethylene			
1,2,4-Trichlorobenze	ne		
1,2-Dibromoethane	Ethylene dibromi	de)	
1,2-Dichlorobenzene)		
1,2-Dichloroethane			
1,2-Dichloropropane			
1,3-Dichlorobenzene	9		
1,4-Dichlorobenzene)		
2-Hexanone (Methyl	butyl ketone, MB	SK)	
Acetone (2-Propano	ne)		
Benzene			
Bromodichlorometha	ine		
Bromoform			
Bromomethane			
Carbon tetrachioride			
Chloropenzene			
Chloroothono (Ethyl	alle chlorido)		
Chloroform	chionde)		
Chloromethane (Met	byl chloride)		
cis-1 2-Dichloroethyl	ene		
cis-1 3-Dichloroprop	ene		
Dichloromethane			
Ethvlbenzene			
Ethylene Dibromide			
m,p-Xylene			
Methyl ethyl ketone			
Methyl isobutyl ketor	ne (MIBK)		
Methyl t-butyl ether			
o-Xylene			
Styrene			
Tetrachloroethylene			
Toluene			
trans-1,2-Dichloroeth	nylene		
trans-1,3-Dichloropro	opene		
Trichloroethylene			
Trichlorofluorometha	ne		
Vinyl chloride			

160 - Polychlorinated Bip	henyls (PCB)		
Field of Accreditation: Environ	mental		Matrix: Water
Analytical Method: GC/ECD			Preparation Method:
Lab Method ID(s): TO-0400			
Method ReferenceModifiedEPA 8082Yes	From Analytical Method Yes	Preparation Meth No	od
Parameter			
Aroclor 1016 Aroclor 1221			
Aroclor 1232			
Aroclor 1242 Aroclor 1248			
Aroclor 1254			
Aroclor 1260 Aroclor 1262			
Aroclor 1268			
Total PCB			
161 - Glycols			
Field of Accreditation: Environ	mental		Matrix: Solids [Sediment, Soil]
Analytical Method: GC/FID			Preparation Method:
Lab Method ID(s): TO-1410			
Method ReferenceModifiedEPA 8015DNo	From Analytical Method Yes	Preparation Meth No	nod
Parameter			
Diethylene glycol Ethylene glycol			
Propylene glycol			
Tetraethylene glycol Triethylene glycol			
162 - Glycols			
Field of Accreditation: Environ	mental		Matrix: Water
Analytical Method: GC/FID			Preparation Method:
Lab Method ID(s): TO-1410			
Method ReferenceModifiedEPA 8015DYes	From Analytical Method Yes	Preparation Meth No	od
Parameter			
Ethylene glycol			
Propylene glycol			
Tetraethylene glycol Triethylene glycol			
, , , , , , , , , , , , , , , , , , ,			
165 - Alcohols			
Field of Accreditation: Environ	mental		Matrix: Solids [Sediment, Soil]
Analytical Method: GC/FID			Preparation Method:
Lab Method ID(s): TO-1420		_	
Method Reference Modified EPA 5021 Yes	From Analytical Method Yes	Preparation Meth	od
EPA 8015C No	Yes	No	
Parameter			
1-Butanol (n-Butanol)			
2-Butanol (sec-Butanol)			
2-Methyl-1-propanol (Isobutano	ol)		
Ethanol			
Methanol			
tert-Butanol (2-Methyl-2-propar	nol)		
166 - Alcohols			

Field of Accreditatio	n : Environmental			Matrix: Water
Analytical Method: G	GC/FID			Preparation Method:
Lab Method ID(s): TO	D-1420			
Method Reference	Modified From	Analytical Method	Preparation Meth	od
EPA 5021	Yes	Yes	No	
EFA 8015C	NU	165	NO	
1-Butanol (n-Butano	I)			
1-Propanol (Propano)			
2-Butanol (sec-Butar	nol) (Isobutanol)			
2-Propanol (Isoprop	yl alcohol)			
Allyl alcohol				
Ethanol Methanol				
Pentanol				
tert-Butanol (2-Meth	yl-2-propanol)			
169 - Glyphosate				
Field of Accreditatio	n : Environmental			Matrix: Water
Analytical Method: H	IPLC			Preparation Method:
Lab Method ID(s): TO	D-1320			
Method Reference	Modified From	Analytical Method	Preparation Meth	od
IN-HOUSE	No	Yes	No	
Parameter				
Giypnosate				
170 - Glyphosate	•			
Field of Accreditatio	n : Environmental			Matrix: Solids [Sediment, Soil]
Analytical Method: H	IPLC			Preparation Method:
Lab Method ID(s): TO	D-1320			
Method Reference IN-HOUSE	Modified From No	Analytical Method Yes	Preparation Meth No	lod
Parameter Glyphosate				
171 - Alkalinity				
Field of Accreditatio	n : Environmental			Matrix: Water
Analytical Method: T	ITRIMETRIC			Preparation Method:
Lab Method ID(s): IN	ST-0101			
Method Reference	Modified From	Analytical Method	Preparation Meth	od
SM 2320 B	Yes	Yes	No	
Parameter Alkalinity (pH 4.5)				
172 - pH				
Field of Accreditatio	n : Environmental			Matrix: Water
Analytical Method: T	ITRIMETRIC			Preparation Method:
Lab Method ID(s): IN	ST-0101			
Method Reference SM 4500-H+	Modified From Yes	Analytical Method Yes	Preparation Meth No	od
Parameter pH				
173 - Conductivit	у			
Field of Accreditatio	n: Environmental			Matrix: Water
Analytical Method: T	ITRIMETRIC			Preparation Method:
Lab Method ID(s): IN	ST-0101			
Method Reference SM 2510	Modified From Yes	Analytical Method Yes	Preparation Meth	lod
Parameter				

Parameter Conductivity (25C)					
174 - Conductivity					
Field of Accreditation: Environmental				Matrix:	Solids [Sediment, Soil]
Analytical Method: CONDUCTIVITY M	IETER			Prepara	ation Method:
Lab Method ID(s): INST-0101, SOIL-01	140				
Method Reference METHODS OF SOIL ANALYSIS 15.2 SM 2510	Modified From Yes Yes	Analytic Yes Yes	al Method	Preparat No No	tion Method
Parameter Conductivity (saturated paste)					
177 - Chloride					
Field of Accreditation: Environmental				Matrix:	Solids [Sediment, Soil]
Analytical Method: AUTOMATED COL	ORIMETRIC			Prepara	ation Method:
Lab Method ID(s): INST-0330, INST-05	500				
Method ReferenceModified FromSM 4500-CL- EYes	Analytical Meth Yes	nod Prepa No	ration Met	hod	
Parameter Chloride					
179 - Metals					
Field of Accreditation: Environmental				Matrix:	Waste
Analytical Method: ICP/OES				Prepara	ation Method:
Lab Method ID(s): INST-0140, SOIL-04	420				
Method Reference Modified From SM 3120 B Yes	Analytical Meth Yes	nod Prepa No	ration Met	hod	
Parameter					
Antimony					
Arsenic Barium					
Beryllium					
Boron					
Cadmium					
Chromium					
Cobalt					
Copper					
Iron Lead					
Mercury					
Nickel					
Selenium					
Silver					
l hallium Uranium					
Vanadium					
Zinc					
Zirconium					
180 - Mercury					
Field of Accreditation: Environmental				Matrix:	waste
Analytical Method: COLD VAPOUR AT	I UMIC ABSORP	I ION (CVA	AA)	Prepara	ation Method: LEACH
Lap Method ID(s): INS1-0160, SOIL-04	+20	6 E	• + -!		Processed in a Marthaut
Method Reference BC MOE LABORATORY MANUAL SE IN-HOUSE	Modi ECTION C Yes No	fied From	Analytica Yes No	l Method	Preparation Method No Yes
Parameter Mercury					
181 - Free Liquid					
Field of Accreditation: Environmental				Matrix:	Waste [Liquid]
Analytical Method: VISUAL				Prepara	ation Method: PAINT FILTER
Lab Method ID(s): SOIL-0580					

Method ReferenceModified FromAnalytical MethEPA 9095YesYes	od Preparation No	Method	
Parameter Free Liquids			
182 - Metals			
Field of Accreditation: Environmental		Matrix: Waste	
Analytical Method: ICP/OES		Preparation N	fethod: MODIFIED SWEP EXTRACTION
Lab Method ID(s): INST-0140, SOIL-0650			
Method Reference	Modified From	Analytical Method	Preparation Method
SCHED 4, BC HAZARDOUS WASTE REGULATIONS	Yes	Yes	No
Parameter Arsenic Barium			
Boron Cadmium Chromium			
Copper Lead Mercury			
Selenium			
Silver Uranium			
Zinc			
184 - Anions			
Field of Accreditation: Environmental		Matrix: Waste	
Analytical Method: ION CHROMATOGRAPHY (IC)		Preparation N	lethod: MODIFIED SWEP EXTRACTION
Lab Method ID(s): INST-0150, SOIL-0650			
Method Reference	Modified From	Analytical Method	Preparation Method
SCHED 4, BC HAZARDOUS WASTE REGULATIONS SM 4110 B	Yes Yes	Yes Yes	No No
Parameter			
Fluoride			
Nitrite (NO2)			
185 - Cyanide			
Field of Accreditation: Environmental		Matrix: Waste	
Analytical Method: COLORIMETRIC		Preparation N	fethod: MODIFIED SWEP EXTRACTION
Lab Method ID(s): INST-0310, SOIL-0650			
Method Reference SCHED 4, BC HAZARDOUS WASTE REGULATIONS	Modified From Yes	Analytical Method Yes	Preparation Method No
Parameter Cyanide			
186 - Oil and Grease			
Field of Accreditation: Environmental		Matrix: Waste	
Analytical Method: GRAVIMETRIC		Preparation N	flethod:
Lab Method ID(s): TO-3500			
Method ReferenceModified FromAnalytical MethIN-HOUSENoYes	od Preparation No	Method	
Parameter Total Oil and Grease			
189 - Soluble Cations			
Field of Accreditation: Environmental		Matrix: Solids	[Soil]
Analytical Method: ICP/OES		Preparation N	lethod: SATURATED PASTE
Lab Method ID(s): INST-0140, SOIL-0140			
Method Reference SM 3120 B	Modified Yes	I From Analytical M Yes	lethod Preparation Method No

Method Reference SOIL SAMPLING &	METHODS OF A	NALYSIS CHAPTER	Modified Fro	om Analytical Meth Yes	od Preparation Method
Parameter Boron Calcium Magnesium Potassium Sodium Sulphur (Sulfur)					
190 - Extractable	Barium				
Field of Accreditation	n : Environmental			Matrix: Solids [So	11]
Analytical Method: IC	CP/OES			Preparation Meth	IOD: EXTRACTION
Lab Method ID(s): IN	ST-0140, SOIL-06	610			
Method Reference ALBERTA ENVIRON BC MOE LABORATO SM 3120 B Parameter Extractable Barium (Extractable Barium (IMENT SOIL QU/ DRY MANUAL MI 0.1M CaCl2) 1.0M CaCl2)	ALITY GUIDELINES ETHOD 9	Modified From Yes Yes Yes	Analytical Method Yes Yes Yes	Preparation Method No No No
194 - Sterilant He	erbicides				
Field of Accreditation	n : Environmental			Matrix: Water	
Analytical Method: H	IPLC			Preparation Meth	lod:
Lab Method ID(s): TO	D-1315				
Method Reference IN-HOUSE	Modified From No	Analytical Method Yes	Preparation Me	thod	
Parameter Atrazine Bromacil Diuron Linuron Simazine Tebuthiuron					
<u>195 - Sterilant He</u>	erbicides				
Field of Accreditation	n : Environmental			Matrix: Solids [Se	diment, Soil]
Analytical Method: H	IPLC			Preparation Meth	lod:
Lab Method ID(s): TO	D-1315				
Method Reference	Modified From	Analytical Method	Preparation Me	thod	
Parameter Atrazine Bromacil Diuron (DCPMU) Linuron Simazine Tebuthiuron	NU	165	NU		
196 - Total Bariur	n				
Field of Accreditation	n : Environmental			Matrix: Solids [So	1]
Analytical Method: IC	CP			Preparation Meth	od: FUSION
Lab Method ID(s): IN	ST-0140, SOIL-06	620			
Method Reference ASTM D4503 SM 3120 B	Modified From Yes Yes	Analytical Method Yes Yes	Preparation Me No No	thod	
Parameter Total Barium					
197 - Phenols					

Field of Accreditatio	n : Environmental			Matrix: Solids [Soil]
Analytical Method: A	UTOMATED COI			Preparation Method:
Lab Method ID(s): IN	ST-0300			
Method Reference	Modified From	Analytical Method	Preparation Meth	nod
EPA 420.2	Yes	Yes	No	
EPA 600/4-79/20	res	res	NO	
Parameter Total Phenolics				
198 - Phenols				
Field of Accreditatio	n : Environmental			Matrix: Water [Wastewater]
Analytical Method: H	PLC/UV			Preparation Method: EXTRACTION
Lab Method ID(s): TO	0-1200			
Method Reference	Modified From No	Analytical Method Yes	Preparation Meth	nod
Parameter				
2,3,4,5-Tetrachlorop	henol			
2,3,4,6-Tetrachlorop	henol			
2,3,4-Trichloropheno	bl			
2,3,5,6- letrachlorop	nenol			
2,3,3- monoropheno	, M			
2.4.5-Trichlorophene	bl			
2,4,6-Trichlorophend	bl			
2,4-Dichlorophenol				
2,4-Dimethylphenol				
2,4-Dinitrophenol				
2,0-Dichlorophenol				
2-Methyl-4,6-dinitrop	henol (4,6-Dinitro	o-o-cresol, DNOC)		
2-Methylphenol (o-C	resol)			
2-Nitrophenol				
3,4,5-Trichloropheno	bl			
3-Methylphenol + 4-	Methylphenol (m-	Cresol + p-Cresol)		
4-Chloro-3-methylph	enol			
4-Millophenoi Dinoseb				
Pentachlorophenol				
Phenol				
199 - Phenols				
Field of Accreditatio	n : Environmental			Matrix: Solids [Sediment, Soil]
Analytical Method: H	PLC/UV			Preparation Method: EXTRACTION
Lab Method ID(s): TO	0-1200			
Method Reference	Modified From	Analytical Method	Preparation Meth	nod
EPA 8321B	Yes	Yes	No	
Parameter	hamal			
2,3,4,5- letrachlorop	nenol			
2.3.4-Trichlorophene				
2,3,5,6-Tetrachlorop	henol			
2,3,5-Trichloropheno	bl			
2,3,6-Trichlorophence	bl			
2,4,5-Trichlorophenc				
2,4,6-Trichlorophene	DI			
2.4-Dignethylphenol				
2,4-Dinitrophenol				
2,6-Dichlorophenol				
2-Chlorophenol				
2-Methyl-4,6-dinitrop	henol (4,6-Dinitro	o-o-cresol, DNOC)		
2-Methylphenol (o-C	resol)			
2-Nitrophenol	.1			
3-Methvlphenol + 4-	″ Methvlnhenol (m-	Cresol + n-Cresol)		
4-Chloro-3-methylph	enol	p 0/000/		
4-Nitrophenol				
-				

Parameter Pentachlorophenol Phenol							
202 - рН							
Field of Accreditatio	n : Environmental			Matrix: Solid	ds [Soil]		
Analytical Method: P	H METER			Preparation	Method: EXTRACT	ON	
Lab Method ID(s): IN	OR-401-0120, IN	ST-0104, SOIL-0110,	SOIL-0260				
Method Reference SM 4500-H+ SOIL SAMPLING & Parameter	METHODS OF A	NALYSIS, CARTER,	2ND EDITION	Modified From Yes Yes	Analytical Method Yes Yes	Preparation Method No No	
pH (1:1) soil:water pH (1:2) soil:CaCl2 pH (1:2) soil:water							
206 - Mercury							
Field of Accreditatio	n : Environmental			Matrix: Wate	er		
Analytical Method: C SPECTROSCOPY (C	OLD VAPOUR A VAFS)	TOMIC FLUORESCE	NCE	Preparation	Method: DIGESTIO	N	
Lab Method ID(s): IN	SI-0162	Aughal 187	D	1 - 411			
Method Reference EPA 1631	Nodified From	Analytical Method Yes	No	Nethod			
Parameter Mercury							
208 - Coliforms							
Field of Accreditatio	n : Environmental			Matrix: Wate	er		
Analytical Method: C	UANTI-TRAY (C	OLILERT)		Preparation	Method:		
Lab Method ID(s): MI	C-0205						
Method Reference SM 9223	Modified From No	Analytical Method Yes	Preparation N	Method			
Parameter Escherichia coli Fecal (Thermotolera Total Coliforms	nt) Coliforms						
209 - Ethanolami	nes						
Field of Accreditatio	n : Environmental			Matrix: Solid	ds [Soil]		
Analytical Method: H	IPLC			Preparation	Method:		
Lab Method ID(s): TO	D-2240						
Method Reference IN-HOUSE	Modified From No	Analytical Method Yes	Preparation M No	Method			
Parameter Diethanolamine (DE Diisopropanolamine Monoethanolamine (Monoisopropanolam	A) (DIPA) (MEA) iine (MIPA)						
210 - Ethanolami	nes						
Field of Accreditatio	n : Environmental			Matrix: Wate	er		
Analytical Method: H	IPLC			Preparation	Method:		
Lab Method ID(s): TO	0-2240						
Method Reference IN-HOUSE	Modified From No	Analytical Method Yes	Preparation M No	Method			
Parameter Diethanolamine (DE Diisopropanolamine Monoethanolamine (Monoisopropanolam	A) (DIPA) (MEA) iine (MIPA)						
212 - Volatile Org	anic Acids						

Field of Accreditation: Environmental				Matrix: Water				
Analytical Method: ION CHROMATOGRAPHY (IC)				Preparation	Method:			
Lab Method ID(s): TO	0-2230							
Method Reference	Modified From No	Analytical Method Yes	Preparation Met	hod				
Parameter Acetic acid Butyric acid Caproic Acid (Hexan Formic acid Isobutyric acid Isovaleric acid Propionic acid Valeric acid	ioic Acid)							
213 - Available N	utrients							
Field of Accreditation	n : Environmental			Matrix: Solid	ds [Soil]			
Analytical Method: 10	CP/OES			Preparation	Method:			
Lab Method ID(s): IN Method Reference RECOMMENDED M SM 3120 B Parameter	ST-0140, SOIL-0 [.] IETHODS FOR S	131, SOIL-0132 OIL ANALYSIS, ALE	BERTA AGRICULTU	JRE (RMSA)	Modified From Yes No	Analytical Method Yes Yes	Preparation Method No No	
Potassium Sulphur (Sulfur)								
214 - Available N	utrients							
Field of Accreditation	n : Environmental			Matrix: Solid	ds [Soil]			
Analytical Method: C	OLORIMETRIC			Preparation	Method:			
Lab Method ID(s): IN	ST-0400, SOIL-07	130						
Method Reference EPA 600/R-93/100 RECOMMENDED M Parameter	IETHODS FOR S	OIL ANALYSIS, ALE	BERTA AGRICULTU	JRE (RMSA)	Modified From Yes No	Analytical Method Yes Yes	Preparation Method No No	
Phosphate								
224 - Sulphul	n: Environmentel			Motrix: Solid				
Analytical Mathedi				Bronoration				
				Preparation	i method:			
Method Reference IN-HOUSE Parameter	Modified From No	Analytical Method Yes	Preparation Met No	hod				
Elemental Sulphur (I	Elemental Sulfur)							
227 - Total Purge	able Hydroca	rbons (TPH)						
Field of Accreditation	n: Environmental			Matrix: Solid	ds [Soil]			
Analytical Method: G	C/FID-HEADSPA	ACE		Preparation	Method:			
Lab Method ID(s): TO	D-0543-HEADSPA	ACE						
Method Reference BC MOE LABORATO CCME CWS PETRO	ORY MANUAL DLEUM HYDROC	ARBONS IN SOIL -	TIER 1 METHOD	Modified Fro Yes Yes	m Analytical M Yes Yes	ethod Preparation No No	Method	
Parameter Total Purgable Hydro VH: C6-C10	ocarbons (TPgH):	: (C5-C10)						
228 - BTEX								
Field of Accreditation	n : Environmental			Matrix: Solid	ds [Soil]			
Analytical Method: G	C/MS-HEADSPA	CE		Preparation	Method: LEACH	4		
Lab Method ID(s): TO	0-0050							
Method Reference	Modified From	Analytical Method	Preparation Met	hod				

Method Reference	Modified From	Analytical Method	Preparation Meth	lod
EPA 5021A EPA 8260D	res No	Yes	NO	
IN-HOUSE	No	No	Yes	
Parameter Benzene Ethylbenzene m,p-Xylene o-Xylene Toluene				
229 - Phosphorus	S			
Field of Accreditatio	n : Environmental			Matrix: Water
Analytical Method: A	UTOMATED COI	LORIMETRIC		Preparation Method:
Lab Method ID(s): IN	ST-0530, WATR-	0720		
Method Reference	Modified From	Analytical Method	Preparation Meth	od
SM 4500-P F	No	Yes	No	
Parameter Total Dissolved Phos Total Phosphorus	sphorus			
231 - Total Kjelda	ahl Nitrogen (TKN)		
Field of Accreditatio	n : Environmental			Matrix: Solids [Sediment, Sludge, Soil]
Analytical Method: C	OLORIMETRIC			Preparation Method:
Lab Method ID(s): IN	ST-0430, SOIL-0	500		
Method Reference EPA 351.2	Modified From Yes	Analytical Method Yes	Preparation Meth	od
Parameter Kjeldahl Nitrogen				
232 - Bulk Densit	y			
Field of Accreditatio	n : Environmental			Matrix: Solids [Bulk, Soil]
Analytical Method: G	GRAVIMETRIC			Preparation Method:
Lab Method ID(s): SC	DIL-0220			
Method Reference BLAKE, G.R., MSA	BULK DENSITY,	Modified From 1986 Yes	n Analytical Meth Yes	od Preparation Method No
Parameter Bulk Density				
233 - Specific Gra	avity			
Field of Accreditatio	n : Environmental			Matrix: Solids [Soil]
Analytical Method: M	IUD BALANCE			Preparation Method:
Lab Method ID(s): SO	DIL-0230			
Method Reference PROCEDURE FOR	USING THE BAF	ROID MUD BALANCE	Modified From No	Analytical Method Preparation Method Yes No
Parameter Specific Gravity				
<u>234 - Moisture</u>				
Field of Accreditatio	n: Environmental			Matrix: Solids [Soil]
Analytical Method: G	RAVIMETRIC			Preparation Method:
Lab Method ID(s): SO	DIL-310			
Method Reference SOIL SAMPLING &	METHODS OF A	NALYSIS, CARTER 2	Modified Fro	Analytical Method Preparation Method Yes No
Parameter Percent Moisture				
235 - Total Hexa	alent Chromi	um		
Field of Accreditatio	n : Environmental			Matrix: Water
Analytical Method: C	OLORIMETRIC			Preparation Method:
Lab Method ID(s): W	ATR-0300			

Method Reference SM 3500-CR	Modified From Yes	Analytical Method Yes	I Preparation Me No	thod	
Parameter Hexavalent Chromiur	n				
236 - Nitrate plus	Nitrite				
Field of Accreditation	: Environmental			Matrix: Solids [Se	ediment, Sludge, Soil]
Analytical Method: Al	JTOMATED COL	ORIMETRIC		Preparation Mether	hod:
Lab Method ID(s): INS	ST-0470, SOIL-01	130, SOIL-0630			
Method Reference EPA 600 SOIL SAMPLING & N	IETHODS OF AI	NALYSIS, CARTER	Modified From Yes No	Analytical Method Yes Yes	Preparation Method No No
Parameter Nitrate plus Nitrite (N Nitrite (NO2)	O3 + NO2)				
237 - Organic Ma	tter				
Field of Accreditation	: Environmental			Matrix: Solids [Se	ediment, Sludge, Soil]
Analytical Method: G	RAVIMETRIC			Preparation Meth	hod: COMBUSTION
Lab Method ID(s): SO	IL-0470				
Method Reference LOSS ON IGNITION SSSA	METHOD, 1996	Modified From A Yes Y Yes Y	Analytical Method ⁄es ⁄es	Preparation Metho No No	od
Parameter Organic Matter					
238 - Residual Ch	lorine				
Field of Accreditation	: Environmental			Matrix: Water	
Analytical Method: IO	DOMETRIC TIT	RATION		Preparation Mether	hod:
Lab Method ID(s): WA	TR-0700				
Method Reference SM 4500-CL	Modified From Yes	Analytical Method Yes	I Preparation Me No	thod	
Parameter Total Chlorine					
239 - Naphthenic	Acids				
Field of Accreditation	: Environmental			Matrix: Water	
Analytical Method: FT	ſIR			Preparation Mether	hod: EXTRACTION
Lab Method ID(s): TO	-2220				
Method Reference IN-HOUSE	Modified From No	Analytical Method Yes	I Preparation Me No	thod	
Parameter Naphthenic Acids					
240 - Sulfolane					
Field of Accreditation	: Environmental			Matrix: Water	
Analytical Method: G	C/MS			Preparation Mether	hod:
Lab Method ID(s): TO	-3501				
Method Reference IN-HOUSE	Modified From No	Analytical Method Yes	I Preparation Me No	thod	
Parameter Sulfolane					
241 - Sulfolane					
Field of Accreditation	: Environmental			Matrix: Solids [So	pil]
Analytical Method: G	C/MS			Preparation Meth	hod:
Lab Method ID(s): TO	-3501				
Method Reference	Modified From No	Analytical Method Yes	I Preparation Me No	thod	

Parameter Sulfolane							
242 - Atterberg P	lasticity Index	(
Field of Accreditation	n: Environmental			Matrix: Solids [Soil]			
Analytical Method: L	IQUID LIMIT DE\	/ICE		Preparation Method	:		
Lab Method ID(s): SO	DIL-0655						
Method Reference ASTM D4318-10E1	Modified From Yes	Analytical Method Yes	Preparation Meth	od			
Parameter Liquid Limit Plastic Limit Plasticity Index							
243 - Colour							
Field of Accreditation	n : Environmental			Matrix: Water			
Analytical Method: C	OLORIMETRIC-I	UV/VISIBLE		Preparation Method	:		
Lab Method ID(s): W/	ATR-0710						
Method Reference SM 2120 C	Modified From No	Analytical Method Yes	Preparation Meth	od			
Parameter Apparent Colour True Colour							
244 - Hydraulic C	onductivity						
Field of Accreditation	n : Environmental			Matrix: Solids [Soil]			
Analytical Method: F	ALLING HEAD			Preparation Method	:		
Lab Method ID(s): SC	DIL-0660						
Method Reference SOIL SCIENCE SOC		Modified From ICA Yes	Analytical Metho Yes	d Preparation Metho No	bd		
Parameter Hydraulic Conductivi	ty						
245 - Amines							Access Lab
Field of Accreditation	n: Environmental			Matrix: Water			
Analytical Method: H	PLC/MS			Preparation Method	:		
Lab Method ID(s): TC	0-4003						
Method Reference EPA 8321	Modified From Yes	Analytical Method Yes	Preparation Meth No	od			
Parameter Diethanolamine (DE, Diisopropanolamine MDEA (Methyldietha Monoethanolamine (Triethanolamine (TE,	A) (DIPA) inolamine) MEA) A)						
246 - Amines							Access Lab
Field of Accreditation	n : Environmental			Matrix: Solids [Soil]			
Analytical Method: H	PLC/MS			Preparation Method	:		
Lab Method ID(s): TO	0-4003						
Method Reference ALBERTA ENVIRON EPA 8321	IMENT GUIDELII	NES FOR MEA AND	DEA APP. C DEC 2	Modified From 2010 Yes Yes	Analytical Method Yes Yes	Preparation Meth No No	od
Parameter Diethanolamine (DE, Diisopropanolamine MDEA (Methyldietha Monoethanolamine (Triethanolamine (TE,	A) (DIPA) inolamine) MEA) A)						
251 - Sulfolane							Access Lab

Field of Accreditation: Environmental			Matrix: Solids [Soil]		
Analytical Method: HPLC/MS			Preparation Me	ethod:		
Lab Method ID(s): TO-4005						
Method ReferenceModified FromAnalyticaEPA 8321YesYes	al Method	Preparation Meth	nod			
Parameter Sulfolane						
252 - Sulfolane						Access Lat
Field of Accreditation: Environmental			Matrix: Water			
Analytical Method: HPLC/MS			Preparation Me	ethod:		
Lab Method ID(s): TO-4005						
Method ReferenceModified FromAnalyticalEPA 8321YesYes	al Method	Preparation Meth	nod			
Parameter Sulfolane						
255 - Available Nitrate and Nitrite						
Field of Accreditation: Environmental			Matrix: Solids [Sediment, Sludge, Soil]		
Analytical Method: ION CHROMATOGRAPHY (IC)		Preparation Me	ethod:		
Lab Method ID(s): INST-0150, SOIL-0630						
Method Reference SM 4110 B SOIL SAMPLING & METHOD OF ANALYSIS, C	HAPTER 1	5, SECTION 15.2	Modified From Yes 1 No	M Analytical Method Yes Yes	Preparation Method No Yes	
Parameter Available Nitrate						
256 - Volatile Organic Compounds (VC	DC)					
Field of Accreditation: Environmental			Matrix: Air [Soil	Vapour]		
Analytical Method: GC/MS-THERMAL DESORP	NOIT		Preparation Me	thod:		
	Maralle al		Mathead Doorse			
	Modified	From Analytical	Method Prepar	ation Method		
EPA TO-17	Yes	Yes	No			
Parameter						
1,1,1,2-Tetrachloroethane						
1,1,1-Trichloroethane						
1,1,2,2-Tetrachloroethane						
1,1,2-Trichloroethane						
1,1-Dichloroethane						
1,1-Dichloroethene (1,1-Dichloroethylene)						
1,1-Dichloropropene						
1,2,3-Trichlerenzene						
1,2,3- Trichlorobenzene						
1,2,4-Trimethylbenzene						
1,2,4- Miletrybenzene						
1,2-Dibromo-3-chloropropane (DBCP)						
1.2-Dibromoethane (Ethylene dibromide)						
1,2-Dichlorobenzene						
1,2-Dichloroethane						
1,2-Dichloroethene						
1,2-Dichloropropane						
1,3,5-Trimethylbenzene						
1,3-Butadiene						
1,3-Dichlorobenzene						
1,3-Dichloropropane						
1,4-Dichlorobenzene						
1-Chlorobutane						
1-Chlorohexane						
2,2-Dichloropropane						
2-Butanone (Methyl ethyl ketone, MEK)						
2-Chlorotoluene						
2-Nitropropane 4-Chlorotoluene (p-Chlorotoluene)						

4-Methyl-2-pentanone (MIBK) Acetone (2-Propanone) Acetonitrile Acrylonitrile Allyl chloride (3-chloropropene) Benzene Benzyl chloride (a-Chlorotoluene) Bromobenzene Bromochloromethane Bromoform Bromomethane Butylbenzene (n-Butylbenzene) Carbon disulfide Carbon tetrachloride Chlorobenzene Chlorodibromomethane Chlorodibromomethane Chloroethane (Ethyl chloride) Chloroform Chloromethane (Methyl chloride) cis-1,3-Dichloropropene cis-1,4-Dichloro-2-butene Decane (n-Decane) Dibromofluoromethane Dibromomethane Dichlorodifluoromethane (CFC-12, Freon 12) Dichloromethane Dodecane (n-Dodecane) Epichlorohydrin Ethyl acetate Ethyl ether Ethyl methacrylate (Ethyl-2-Methyl-2-Propenoate) Ethylbenzene Hexachlorobutadiene (1,1,2,3,4,4-Hexachloro-1,3-butadiene) Hexachloroethane Hexane (n-Hexane) Isobutanol (2-Methyl-1-propanol) Isopropylbenzene (Cumene) m,p-Xylene Methacrylonitrile Methyl acrylate Methyl methacrylate Methyl tert-butyl ether (MTBE) Methylcyclohexane Naphthalene © 2021 CALA Inc. Nitrobenzene n-Propylbenzene n-Tridecane o-Xylene p-Dioxane Pentachloroethane Pentafluorobenzene Propionitrile Pyridine sec-Butylbenzene ((1-Methylpropyl)benzene) Styrene tert-Butylbenzene Tetrachloroethene Toluene trans-1,2-Dichloroethylene (trans-1,2-Dichloroethene) trans-1,3-Dichloropropene trans-1,4-Dichloro-2-butene Trichloroethene Trichlorofluoromethane Vinyl chloride Volatile Hydrocarbons (VH): C6-C13

† "OSDWA" indicates the appendix is used for the analysis of Ontario drinking water samples, which is subject to the rules and related regulations under the Ontario "Safe Drinking Water Act" (2002).

The list of tests and measurement capabilities for which a laboratory is accredited can change at any time due to circumstances such as scope extensions, voluntary withdrawal of tests by the laboratory and suspension. Scopes are published by the CALA via the Internet at http://www.cala.ca/cala_directories.html

Canadian Association for Laboratory Accreditation Inc.



Certificate of Accreditation

AGAT Laboratories - Edmonton AGAT Laboratories Ltd. 6310 Roper Road Edmonton, Alberta

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. A3775 Issued On January 19, 2021 Accreditation Date October 19, 2011 Expiry Date July 20, 2023

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President & CEO



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CALA Scope of Accreditation

Laboratory Name: AGAT Laboratories (Edmonton)		Client ID: 100377	75
Parent Institution: AGAT Laboratories Ltd.		Address: 6310 R	oper Road, Edmonton, Alberta, T6B 3P9
Contact: Ms. Amie Weymes		Email: weymes@ vhill@agatlabs.co	agatlabs.com; jroberts@agatlabs.com; m; vhill@agatlabs.com
Phone: (780) 469-0106		Fax : (780) 468-28	387
Standard: Conforms with requirements of ISO/IEC 17025	5:2017	Clients Served: A	All Interested Parties
Revised On: 02/22/2023		Valid To: 07/03/20	025
001 - Anions			
Field of Accreditation: Environmental		Matrix: Solids [So	pil]
Analytical Method: ION CHROMATOGRAPHY (IC)		Preparation Meth	hod: EXTRACTION
Lab Method ID(s): INOR-171-6002, INOR-171-6200			
Method Reference SM 4110 B SOIL SAMPLING & METHODS OF ANALYSIS, CARTER	Modified From No No	Analytical Method Yes Yes	Preparation Method No No
Parameter Chloride Fluoride Nitrate-N Nitrite (NO2) Sulphate			
002 - Boron			
Field of Accreditation: Environmental		Matrix: Solids [So	sil]
Analytical Method: ICP		Preparation Mether	hod: HOT WATER EXTRACTION
Lab Method ID(s): INOR-171-6005, INOR-171-6201			
Method Reference SM 3120 B SOIL SAMPLING & METHODS OF ANALYSIS, CARTER Parameter	Modified From No No	Analytical Method Yes Yes	Preparation Method No No
Boron			
004 - Conductivity			
Field of Accreditation: Environmental		Matrix: Solids [Se	ediment, Soil]
Analytical Method: CONDUCTIVITY METER		Preparation Meth	hod:
Lab Method ID(s): INOR-171-6002, INOR-171-6208			
Method Reference CURTIN, 2007 EC SOLUBLE IONS PG 161-171 SM 2510 MILLER, J.M. Parameter Conductivity (1:2 soil:water) Conductivity (saturated paste)	Modified From No No	Analytical Method Yes Yes	Preparation Method No No
005 - Extractable Barium			
Field of Accreditation: Environmental		Matrix: Solids [So	bil]
Analytical Method: ICP/OES		Preparation Meth	- hod: EXTRACTION
-			
Lab Method ID(s): INOR-171-6007, INOR-171-6201			
Lab Method ID(s): INOR-171-6007, INOR-171-6201 Method Reference ALBERTA ENVIRONMENT SOIL QUALITY GUIDELINES	Modified 6.2.2 Yes	From Analytical Me Yes	ethod Preparation Method No
Lab Method ID(s): INOR-171-6007, INOR-171-6201 Method Reference ALBERTA ENVIRONMENT SOIL QUALITY GUIDELINES Parameter Extractable Barium (0.1M CaCl2)	Modified 6.2.2 Yes	From Analytical Me Yes	ethod Preparation Method No

Field of Accreditation: Environmental				Matrix: Solids [Soil]			
Analytical Method: SPECTROPHOTOMETRIC				Preparation Method: EXTRACTION			
Lab Method ID(s): INOR-171-6215							
Method Reference Modified Free SSSA PART 2 BY REISENAUER Yes	om Analytical Me Yes	ethod Pr No	eparation	Method			
Parameter Hexavalent Chromium							
008 - Metals							
Field of Accreditation: Environmental			Matrix:	Solids [Soil]			
Analytical Method: ICP/MS			Prepara	tion Method: DIGESTION			
Lab Method ID(s): INOR-171-6006, INOR-171-6	202						
Method Reference	Modified From	Analytic	al Method	Preparation Method			
BC MOE LABORATORY MANUAL SECTION C	Yes	Yes		No			
EPA 3050B SM 3125	Yes Yes	Yes Yes		No			
Parameter	100	100					
Antimony							
Arsenic							
Barium							
Beryllium							
Bismuth							
Boron							
Cadmium							
Chromium							
Copper							
Iron							
Lead							
Lithium							
Manganese							
Mercury							
Molybdenum							
Nickel							
Selenium							
Silver							
Strontium							
Thailum							
Tin							
Titanium							
Tungsten							
Uranium							
Vanadium							
Zinc							
Zirconium							
009 - Organic Carbon							
Field of Accreditation: Environmental			Matrix:	Solids [Soil]			
Analytical Method: CHEMICAL OXIDATION UV	VISIBLE		Prepara	tion Method:			
Lab Method ID(s): INOR-171-6216							
Method ReferenceModified FromAnalyticMSA PART 3 CH. 34YesYes	cal Method Prep No	aration M	ethod				
Parameter Organic Carbon Total Organic Carbon (TOC)							
010 - Particle Size Analysis (PSA)							
Field of Accreditation: Environmental			Matrix:	Solids [Soil]			
Analytical Method: HYDROMETER			Prepara	tion Method:			
Lab Method ID(s): INOR-171-6010							
Method Reference JONES J. 2001 LAB GUIDE FOR CONDUCTIN	G SOIL TEST & P	LANT AN	N ALYSIS N	odified From Analytical Method Preparation Method o Yes No			

Parameter Percent Clay									
Percent Sand									
Percent Silt									
011 - Particle Siz	e Analysis (P	SA)							
Field of Accreditation	n : Environmental			Matrix: Solid	ls [Soil]				
Analytical Method: G	GRAVIMETRIC			Preparation	Method: SIEVE	E			
Lab Method ID(s): IN	OR-171-6009								
Method Reference					Modifie From	d Analytical Method	Preparation Method		
SHELDRICK, B.H. & METHODS OF ANA	& WANG, C, �PA LYSIS	RTICLE SIZE DISTR	RIBUTION IN SC	DIL� SAMPLING	& Yes	Yes	No		
Parameter Particle Size (75um))								
012 - Percent Sa	turation								
Field of Accreditation	n: Environmental			Matrix: Solid	ls [Soil]				
Analytical Method: G	GRAVIMETRIC			Preparation	Method: SATUR	RATED PASTE			
Lab Method ID(s): IN	OR-171-6000, IN	IOR-171-6002, INOR	-401-0120	-					
Method Reference SOIL SAMPLING &	METHODS OF A	NALYSIS, CARTER,	2ND EDITION	Modified From Yes	Analytical Meth Yes	hod Preparation Meti No	hod		
Parameter Percent Saturation									
014 - pH									
Field of Accreditation	n : Environmental			Matrix: Solid	ls [Sediment, So	il]			
Analytical Method: 10	ON SELECTIVE I	ELECTRODE (ISE)		Preparation	Preparation Method:				
Lab Method ID(s): IN	OR-171-6002, IN	IOR-171-6205							
Method Reference SOIL SAMPLING &	METHODS OF A	NALYSIS, CARTER,	2ND EDITION	Modified From Yes	Analytical Meth Yes	hod Preparation Meth No	hod		
Parameter pH (1:2) soil:CaCl2									
016 - Total Bariur	m								
Field of Accreditation	n : Environmental			Matrix: Solid	ls [Soil]				
Analytical Method: 10	CP			Preparation	Method: FUSIC	N			
Lab Method ID(s): IN	OR-171-6008, IN	IOR-171-6201							
Method Reference ASTM D4503 SM 3120 B	Modified From Yes Yes	Analytical Method Yes Yes	Preparation M No No	Nethod					
Parameter Total Barium									
017 - Free Liauid	l								
Field of Accreditation	n : Environmental			Matrix: Solid	ls				
Analytical Method: V	/ISUAL			Preparation	Preparation Method: PAINT FILTER				
Lab Method ID(s): IN	OR-171-6012			-					
Method Reference EPA 9095	Modified From Yes	Analytical Method Yes	Preparation M	Nethod					
Parameter Free Liquids									
018 - Metals									
Field of Accreditation	n : Environmental			Matrix: Solid	ls				
Analytical Method: 10	CP/OES			Preparation	Method: LEAC	н			
Lab Method ID(s): IN	OR-171-6011, IN	OR-171-6201							
Method Reference	Modified From	Analytical Method	Preparation M	lethod					

Method Reference	Modified From	Analytical Method	Preparation Met	hod
IN-HOUSE	No	No	Yes	
Parameter				
Antimony				
Arsenic				
Bondlium				
Boron				
Cadmium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Mercury				
Nickel				
Selenium				
Silver				
Thallium				
Uranium				
vanadium				
Zinc Zirconium				
019 - Oil and Gre	ase			
Field of Accreditatio	n : Environmental			Matrix: Solids [Soil]
Analytical Method: F	TIR			Preparation Method: EXTRACTION
Lab Method ID(s): Of	RG-170-5200			
Method Reference	Modified From	Analytical Method	Preparation Met	hod
EPA 1664	Yes	Yes	No	
SM 5520 C	Yes	Yes	No	
Parameter Total Oil and Grease	9			
021 - BTEX				
Field of Accreditatio	n : Environmental			Matrix: Solids [Soil]
Analytical Method: G	GC/MS			Preparation Method: LEACH
Lab Method ID(s): Of	RG-170-5100, OF	RG-170-5430, ORG-1	170-5440	
Method Reference IN-HOUSE	Modified From No	Analytical Method No	Preparation Met Yes	hod
Parameter				
Benzene				
Ethylbenzene				
m,p-Xylene				
o-Xylene				
Toluene				
022 - Petroleum	Hydrocarbons	s (PHC)		
Field of Accreditatio	n : Environmental			Matrix: Solids [Soil]
Analytical Method: G	GC/FID			Preparation Method: COLD SHAKE EXTRACTION
Lab Method ID(s): Of	RG-170-5120, OF	RG-170-5300		
Method Reference CCME CWS PETRO	DLEUM HYDROC	ARBONS IN SOIL -	TIER 1 METHOD	Modified From Analytical Method Preparation Method No Yes No
Parameter				
F2: C10-C16				
F3: C16-C34				
F4: C34-C50				
023 - Petroleum	Hydrocarbons	s (PHC)		

Field of Accreditation: Environmental Analytical Method: GRAVIMETRIC Lab Method ID(s): ORG-170-5120

Method Reference

Matrix: Solids [Soil]

Preparation Method: COLD SHAKE EXTRACTION

Modified From Analytical Method Preparation Method

Method Reference CCME CWS PETRO		CARBONS IN SOIL -	TIER 1 METHOD	Modified From No	Analytical Method Yes	Preparation Method No
Parameter F4: Gravimetric						
024 - Petroleum	Hydrocarbons	s (PHC)				
Field of Accreditatio	n : Environmental			Matrix: Solids	[Soil]	
Analytical Method: G	GC/FID-PURGE A	ND TRAP		Preparation M	lethod:	
Lab Method ID(s): Of	RG-170-5140, OF	RG-170-5430				
Method Reference CCME CWS PETRO	DLEUM HYDROC	CARBONS IN SOIL -	TIER 1 METHOD	Modified From No	Analytical Method Yes	Preparation Method No
Parameter F1: C6-C10 Total Purgable Hydro	ocarbons (TPgH)	: (C5-C10)				
025 - Polycyclic A	Aromatic Hydi	rocarbons (PAH)	and Alkylated	Polycyclic A	romatic Hydroca	rbons (PAH)
Field of Accreditatio	n : Environmental			Matrix: Solids	[Soil]	
Analytical Method: G	GC/MS			Preparation M	lethod: EXTRACTIO	N
Lab Method ID(s): Of	RG-170-5420					
Method Reference	Modified From	Analytical Method	Preparation Me	thod		
EPA 3540C	Yes	Yes	No No			
EPA 8270E	Yes	Yes	No			
Parameter 1-Methylnaphthalend 2-Methylnaphthalend Acenaphthylene Acenaphthylene Acenaphthylene Acridine Anthracene Benzo(a)anthracene Benzo(a)pyrene C1-Benzofluoranthenes/P C1-Fluorenes C2-Naphthalenes C2-Phenanthrenes/P	e e e e he e he he hy e e e e hes Chrysenes hes Chrysenes hes Chrysenes hes chryrenes hes hes chryrenes hes hes chryrenes hes hes hes hes hes hes hes hes hes h	25				
C4-Phenanthrenes// Chrysene Dibenzo(a,h)anthrac Dibenzothiophene Fluoranthene	Anthracenes					
riuorene						

Indeno(1,2,3 - cd)pyrene Naphthalene Perylene Phenanthrene Pyrene Quinoline Retene

026 - Total Extractable Hydrocarbons (TEH)

Field of Accreditation: Environmental		Matrix	: Solids [Soil]			
Analytical Method: GC/FID		Prepa	Preparation Method: EXTRACTION			
Lab Method ID(s): ORG-170-5120, ORG-170	-5300					
Method Reference AEC V92-G108 BC MOE LABORATORY MANUAL SECTIO	Modified From Yes N D Yes	Analytical Method Yes Yes	B Preparation Method No No			
Parameter Extractable Petroleum Hydrocarbons (EPH) Extractable Petroleum Hydrocarbons (EPH) SASK (C11-C22) SASK (C23-C60) Total Extractable Hydrocarbons (TEH): C10 Total Extractable Hydrocarbons (TEH): C11-	: C10-C19 : C19-C32 C32 C30					
027 - Volatile Organic Compounds	(VOC)					
Field of Accreditation: Environmental		Matrix	Matrix: Solids [Soil]			
Analytical Method: GC/MS-PURGE AND TR	AP	Prepa	ration Method: EXTRACTION			
Lab Method ID(s): ORG-170-5170, ORG-170	-5400					
Method Reference Modified From Analy EPA 5030C Yes Yes	vtical Method Prep	aration Method				
EPA 8260C Yes Yes	No					
Parameter 1,1,1,2-Tetrachloroethane 1,1,2-Tetrachloroethane 1,1,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichlorobenzene 1,2-Dichlorobenzene 1,2-Dichloroptenzene 1,2-Dichloroptenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 2-Hexanone (Methyl butyl ketone, MBK) Acetone (2-Propanone) Benzene Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Chlorodibromomethane Chloroethane (Ethyl chloride) Chloroethene (Vinyl chloride) Chloroethane (Methyl chloride) Chloromethane Chloromethane Chloromethane Chloromethane Chloromethane Ethylbenzene Ethylbe						

Tetrachloroethylene Toluene trans-1,2-Dichloroethylene trans-1,2-Dichloroethylene (trans-1,2-Dichloroethene) trans-1,3-Dichloropropene Trichloroethylene Trichlorofluoromethane

028 - Volatile Organic Compounds (VOC)

Field of Accreditation: Environmental

Matrix: Solids [Soil]

Analytical Method: GC/MS-HEADSPACE

Preparation Method:

Lab Method ID(s): ORG-170-5160, ORG-170-5410

Method Reference	Modified From	Analytical Method	Preparation Method						
EPA 5021A	Yes	Yes	No						
EPA 8260C	Yes	Yes	No						
Parameter									
1.1.1.2-Tetrachloroe	thane								
1.1.1-Trichloroethane									
1.1.2-Trichloroethan	1 1 2-Trichloroethane								
1.1-Dichloroethane	1 1-Dichloroethane								
1.1-Dichloroethylene	9								
1,2,4-Trichlorobenze	ene								
1,2-Dichlorobenzene	e								
1,2-Dichloroethane									
1,2-Dichloropropane	•								
1,3-Dichlorobenzene	e								
1,4-Dichlorobenzene	9								
2-Hexanone (Methyl	l butyl ketone, ME	BK)							
Acetone (2-Propano	ne)								
Benzene									
Bromodichlorometha	ane								
Bromoform									
Bromomethane									
Carbon tetrachloride	•								
Chlorobenzene									
Chlorodibromometha	ane								
Chloroethane (Ethyl	chloride)								
Chloroethene (Vinyl	chloride)								
Chloroform									
Chloromethane (Met	thyl chloride)								
cis-1,2-Dichloroethyl	lene								
cis-1,3-Dichloroprop	ene								
Dichloromethane									
Ethylbenzene									
Ethylene Dibromide									
m,p-Xylene									
Methyl ethyl ketone									
Methyl isobutyl ketor	ne (MIBK)								
Methyl t-butyl ether									
o-Xylene									
Styrene									
Ietrachloroethylene									
Ioluene									
trans-1,2-Dichloroeth	hylene								
trans-1,3-Dichloropro	opene								
Irichloroethylene									
Trichlorofluorometha	ane								

029 - Flashpoint

Field of Accreditation: Environmental

Analytical Method: PENSKY-MARTENS CLOSED CUP

Matrix: Solids [Ash, Soil]

Lab Method ID(s): ORG-170-5210

Preparation Method:

Method Reference Modified From Analytical Method Preparation Method ASTM D93 Yes Yes No

Parameter Flashpoint

Field of Accreditation: Environmental	Matrix: Water
Analytical Method: TITRIMETRIC	Preparation Method:
Lab Method ID(s): INOR-171-6205	
Method ReferenceModified FromAnalytical MethodPreparation MethodSM 2320 BYesYesNo	thod
Parameter Alkalinity (pH 4.5)	
031 - Ammonia	
Field of Accreditation: Environmental	Matrix: Water
Analytical Method: COLORIMETRIC	Preparation Method:
Lab Method ID(s): INOR-171-6211	
Method ReferenceModified FromAnalytical MethodPreparation MethodSM 4500-NH3 GYesYesNo	thod
Parameter Ammonia	
032 - Anions	
Field of Accreditation: Environmental	Matrix: Water
Analytical Method: ION CHROMATOGRAPHY (IC)	Preparation Method:
Lab Method ID(s): INOR-171-6200	
Method Reference Modified From Analytical Method Preparation Me	thod
SM 4110 B Yes Yes No	
Parameter Bromide Chloride Fluoride Nitrate Nitrite Phosphate Sulfate	
034 - Chemical Oxygen Demand (COD)	
Field of Accreditation: Environmental	Matrix: Water
Analytical Method: SPECTROPHOTOMETRIC	Preparation Method:
Analytical Method: SPECTROPHOTOMETRIC Lab Method ID(s): INOR-171-6210	Preparation Method:
Analytical Method: SPECTROPHOTOMETRIC Lab Method ID(s): INOR-171-6210 Method Reference Modified From Analytical Method Preparation Method EPA 410.4 Yes Yes No	Preparation Method:
Analytical Method: SPECTROPHOTOMETRIC Lab Method ID(s): INOR-171-6210 Method Reference Modified From Analytical Method Preparation Method EPA 410.4 Yes Yes No Parameter COD Verse Verse Verse	Preparation Method: thod
Analytical Method: SPECTROPHOTOMETRIC Lab Method ID(s): INOR-171-6210 Method Reference Modified From Analytical Method Preparation Method EPA 410.4 Yes Yes No Parameter COD COD 035 - Conductivity Ves Ves	Preparation Method:
Analytical Method: SPECTROPHOTOMETRIC Lab Method ID(s): INOR-171-6210 Method Reference Modified From Analytical Method Preparation Method EPA 410.4 Yes Yes No Parameter COD Sold Sold 035 - Conductivity Freid of Accreditation: Environmental Sold	Preparation Method: thod Matrix: Water
Analytical Method: SPECTROPHOTOMETRIC Lab Method ID(s): INOR-171-6210 Method Reference Modified From Analytical Method Preparation Method EPA 410.4 Yes Yes No Parameter COD Seconductivity Field of Accreditation: Environmental Analytical Method: ION SELECTIVE ELECTRODE (ISE) Seconductivity Seconductivity	Preparation Method: thod Matrix: Water Preparation Method:
Analytical Method: SPECTROPHOTOMETRIC Lab Method ID(s): INOR-171-6210 Method Reference Modified From Analytical Method Yes Parameter Yes COD 035 - Conductivity Field of Accreditation: Environmental Analytical Method: ION SELECTIVE ELECTRODE (ISE) Lab Method ID(s): INOR-171-6205	Preparation Method: thod Matrix: Water Preparation Method:
Analytical Method: SPECTROPHOTOMETRIC Lab Method ID(s): INOR-171-6210 Method Reference Modified From Analytical Method Preparation Method Parameter Yes No Parameter COD 035 - Conductivity Field of Accreditation: Environmental Analytical Method: ION SELECTIVE ELECTRODE (ISE) Ionalytical Method: Preparation Method: Analytical Method: ION SELECTIVE ELECTRODE (ISE) Ionalytical Method: Preparation Method: Method Reference: Modified From Analytical Method: Preparation Method: SM 2510 B Yes Yes No	Preparation Method: thod Matrix: Water Preparation Method: thod
Analytical Method: SPECTROPHOTOMETRIC Lab Method ID(s): INOR-171-6210 Method Reference Modified From Yes Parameter COD O35 - Conductivity Field of Accreditation: Enalytical Method ID(s): INOR-171-6205 Method Reference Method Reference Modified From SM 2510 B Parameter Conductivity (25C)	Preparation Method: thod Matrix: Water Preparation Method: thod
Analytical Method: SPECTROPHOTOMETRIC Lab Method ID(s): INOR-171-6210 Method Reference Modified From Analytical Method Preparation Method EPA 410.4 Yes Yes No Parameter COD So So 035 - Conductivity Field of Accreditation: Environmental Field of Accreditation: Environmental Analytical Method: ION SELECTIVE ELECTRODE (ISE) Lab Method ID(s): INOR-171-6205 Method Reference Modified From Analytical Method Preparation Method SM 2510 B Yes Yes No Parameter Conductivity (25C) Yes No	Preparation Method: thod Matrix: Water Preparation Method: thod
Analytical Method: SPECTROPHOTOMETRIC Lab Method ID(s): INOR-171-6210 Method Reference Modified From Yes Analytical Method No Parameter Yes No COD 035 - Conductivity	Preparation Method: thod Matrix: Water Preparation Method: thod Matrix: Water
Analytical Method: SPECTROPHOTOMETRIC Lab Method ID(s): INOR-171-6210 Method Reference Modified From Analytical Method Preparation Method EPA 410.4 Yes Yes No Parameter COD So So So 035 - Conductivity Field of Accreditation: Environmental Field of Accreditation: Environmental Field of Accreditation: Environmental Analytical Method ID(s): INOR-171-6205 Method Reference Modified From Analytical Method Preparation Method SM 2510 B Yes Yes No So So O37 - Dissolved Metals Field of Accreditation: Environmental Field of Accreditation: Environmental So So So Analytical Method: ICP/OES Field of Accreditation: Environmental So So So So	Preparation Method: thod Matrix: Water Preparation Method: thod Matrix: Water Preparation Method:
Analytical Method: SPECTROPHOTOMETRIC Lab Method ID(s): INOR-171-6210 Method Reference Modified From Yes Analytical Method Method No Parameter Yes Yes No COD 035 - Conductivity Field of Accreditation: Environmental Field of Accreditation: Environmental Analytical Method ID(s): INOR-171-6205 Method Reference Modified From Yes Analytical Method ID(s): INOR-171-6205 Method Reference Modified From Yes Analytical Method No Preparation Method No SM 2510 B Yes Yes No Parameter Conductivity (25C) No No 037 - Dissolved Metals Sinvironmental Sinvironmental Field of Accreditation: Environmental Analytical Method: ICP/OES Lab Method ID(s): INOR-171-6100, INOR-171-6201	Preparation Method: thod Matrix: Water Preparation Method: thod Matrix: Water Preparation Method: Matrix: Water Preparation Method:
Analytical Method: SPECTROPHOTOMETRICLab Method ID(s): INOR-171-6210Method Reference EPA 410.4Modified From YesAnalytical Method YesPreparation Method NoParameter COD035 - Conductivity </td <td>Preparation Method: thod Matrix: Water Preparation Method: thod Matrix: Water Preparation Method: Matrix: Water Preparation Method:</td>	Preparation Method: thod Matrix: Water Preparation Method: thod Matrix: Water Preparation Method: Matrix: Water Preparation Method:

Parameter
Aluminum
Barium
Beryllium
Bismuth
Boron
Cadmium
Calcium
Chromium
Cobalt
Copper
Iron
Lead
Lithium
Magnesium
Manganese
Nickel
Phosphorus
Potassium
Silicon
Sodium
Strontium
Sulphur (Sulfur)
Titanium
Tungsten
Zinc
Zirconium

038 - Dissolved Metals

Field of Accreditation: Environmental

Analytical Method: ICP/MS

Lab Method ID(s): INOR-171-6100, INOR-171-6202

Method Reference	Modified From	Analytical Method	Preparation Method
SM 3125	Yes	Yes	No
Parameter			
Aluminum			
Antimony			
Arsenic			
Barium			
Beryllium			
Bismuth			
Boron			
Cadmium			
Chromium			
Cobalt			
Copper			
Iron			
Lead			
Lithium			
Manganese			
Molybdenum			
Nickel			
Phosphorus			
Selenium			
Silver			
Strontium			
To Hereiterer			

Matrix: Water
Preparation Method:

Tellurium Thallium Thorium Tin Titanium Tungsten Uranium Vanadium

Zinc 039 - Mercury

	tal		Matrix: Water		
Analytical Method: COLD VAPOUR	ATOMIC ABSORPTIC	N (CVAA)	Preparation Method:		
Lab Method ID(s): INOR-171-6204					
Method ReferenceModified FromSM 3112 BYes	m Analytical Method Yes	Preparation Met	hod		
Parameter Mercury					
040 - pH					
Field of Accreditation: Environmer	tal		Matrix: Water		
Analytical Method: PH METER			Preparation Method:		
Lab Method ID(s): INOR-171-6205					
Method Reference Modified Fro SM 4500-H+ Yes	m Analytical Method Yes	Preparation Met	hod		
Parameter pH					
042 - Solids					
Field of Accreditation: Environmer	tal		Matrix: Water		
Analytical Method: GRAVIMETRIC			Preparation Method:		
Lab Method ID(s): INOR-171-6102	INOR-171-6104				
Method Reference Modified Fro SM 2540 C No SM 2540 D No Parameter Total Dissolved Solids	m Analytical Method Yes Yes	Preparation Met No No	hod		
Total Suspended Solids					
043 - Total Metals					
Field of Accreditation: Environmer	tal		Matrix: Water		
Analytical Method: ICP/OES			Preparation Method: DIGESTION		
Lab Method ID(s): INOR-171-6100	INOR-171-6201				
Method Reference Modified Fro SM 3120 B Yes	m Analytical Method Yes	Preparation Met	hod		

044 - Total Metals

Field of Accreditation: Environmental

Analytical Method: ICP/MS

Matrix: Water

Preparation Method: DIGESTION

Lab Method ID(s): INOR-171-6100, INOR-171-6202

Method Reference	Modified From	Analytical Method	Preparation Meth	nod
SM 3125	Yes	Yes	No	
Parameter				
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Bismuth				
Codmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Manganese				
Mercury				
Molybdenum				
Nickel				
Phosphorus				
Selenium				
Silver				
Strontium				
Thailium				
Tin				
Titanium				
Tungsten				
Uranium				
Vanadium				
Zinc				
Zirconium				
045 - Turbidity				
Field of Accreditatio	n : Environmental			Matrix: Water
Analytical Method: N	EPHELOMETRI	C		Preparation Method:
Lab Method ID(s): NO	OR-171-6101			
Method Reference SM 2130 B	Modified From No	Analytical Method Yes	Preparation Meth	nod
Parameter Turbidity				
046 - Oil and Gre	ase			
Field of Accreditatio	n : Environmental			Matrix: Water
Analytical Method: F	TIR			Preparation Method: EXTRACTION
Lab Method ID(s): RO	G-170-5200			
Method Reference SM 5520 C	Modified From Yes	Analytical Method Yes	Preparation Meth	nod
Parameter Total Oil and Grease	9			
048 - Polycyclic A	Aromatic Hydr	ocarbons (PAH)	and Alkylated	Polycyclic Aromatic Hydrocarbons (PAH)
Field of Accreditatio	n : Environmental	, /		Matrix: Water
Analytical Method: G	GC/MS			Preparation Method: EXTRACTION
Lab Method ID(s): R	G-170-5421			

		Analytica	n wiethod	repa	ration Meth	ua	
EPA 3510B	Yes	Yes		No N-			
EPA 3511	res	Yes		NO No			
EPA 02/UE	res	res		INO			
Parameter							
1-Methylnaphthalene	•						
2-Methylnaphthalene	•						
Acenaphthene							
Acenaphthylene							
Acridine							
Anthracene							
Benzo(a)anthracene							
Benzo(a)pyrene	_						
Benzo(b)nuorantnene	e						
Benzo(e)pyrene							
Benzo(k)fluoranthon	, 2						
Binhenvl (1 1-Binhen							
C1-Acenanbthenes	191)						
C1-Benz(a)anthrace	nes/Chrvsenes						
C1-Benzofluoranther	nes/Benzonvrene	s					
C1-Biphenvls		-					
C1-Dibenzothiophen	es						
C1-Fluoranthenes/P	yrenes						
C1-Fluorenes	,						
C1-Phenanthrenes/A	Anthracenes						
C2-Benz(a)anthracer	nes/Chrysenes						
C2-Benzofluoranther	nes/Benzopyrene	s					
C2-Biphenyls							
C2-Dibenzothiophen	es						
C2-Fluoranthenes/Py	yrenes						
C2-Fluorenes							
C2-Naphthalenes							
C2-Phenanthrenes/A	Anthracenes						
C3-Benz(a)anthracer	nes/Chrysenes						
C3-Dibenzothiophen	es						
C3-Naphthalenes							
C3-Phenanthrenes/A	Anthracenes						
C4-Benzanthracenes	s/Chrysenes						
C4-Dibenzothiophen	es						
C4-Naphthalenes							
C4-Phenanthrenes/A	Inthracenes						
Dibenzo(a,n)anthrace	ene						
Dibenzotniopnene							
Eluorono							
	rene						
Nanhthalana	CIIC						
Pervlene							
Phenanthrene							
Pyrene							
Quinoline							
Retene							
49 - Total Extrac	table Hydroc	arbons (TEH)				
		· · · ·	/			Motrice	Watar
ieid of Accreditation	Environmental					watrix:	vvater
nalytical Method: G	C/FID					Prepara	ation Method: EXTRAC
ab Method ID(s): OF	3G-170-5120 OF	G-170-530	00			•	
Mothod Deferrer	(0-170-0120, OP		Modifier	Erom	Analutian	Mathar	Drongration Mathe
				From	Andiytical	wethod	No
BC MOE LABORATO			Ves		Ves		No
FPA 3510	JITT WANUAL OF		Yes		Yes		No
			100		100		
Parameter							
Extractable Petroleur	m Hydrocarbons	(EPH): C1	D-C19				
Extractable Petroleur	m Hydrocarbons	(EPH): C19	9-C32				
F2: C10-C16							

Hydrocarbons: C11-C30 SASK (C11-C22) SASK (C23-C60)

Total Extractable Hydrocarbons (TEH): C10-C32

050 - Total Petrol	050 - Total Petroleum Hydrocarbons (TPH)						
Field of Accreditation	n : Environmental			Matrix: Water			
Analytical Method: G	C/FID-PURGE A	ND TRAP		Preparation Method:			
Lab Method ID(s): Of	RG-170-5140, OF	RG-170-5430					
Method Reference EPA 5030B EPA 8260C	Modified From Yes Yes	Analytical Method Yes Yes	Preparation Meth No No	nod			
Parameter F1: C6-C10 Total Purgable Hydro	ocarbons (TPgH):	: (C5-C10)					
051 - Volatile Org	janic Compou	unds (VOC)					
Field of Accreditation: Environmental				Matrix: Water			
Analytical Method: G	C/MS-PURGE A	ND TRAP		Preparation Method:			
Lab Method ID(s): Of	RG-170-5170, OF	RG-170-5400					
Method Reference	Modified From	Analytical Method	Preparation Meth	nod			
EPA 5030C	Yes	Yes	No				
EPA 8260C	Yes	Yes	No				
EPA 8260C Parameter 1,1,1,2-Tetrachloroet 1,1,1-Trichloroetham 1,1,1-Trichloroetham 1,1,2-Tetrachloroetham 1,1-Dichloroethame 1,2-Trichloroethame 1,2-Dichloroethame 1,2-Dichloroethame 1,2-Dichloroethame 1,2-Dichlorobenzene 1,2-Dichlorobenzene 2-Hexanone (Methyl Acetone (2-Propano Benzene Bromodichlorometha Bromoform Bromomethane Carbon tetrachloride Chloroethame (Ethyl Chloroethame (Methyl Chloroethame (Methyl Chloroethamethyl) Chloroethamethamethamethamethamethamethametham	Yes thane e thane e e e e e e e e e e e e e e e e e e	Yes 8K)	No				
cis-1,3-Dichloroprop	ene						
Dichloromethane							
Ethylbenzene							
Ethylene Dibromide							
m,p-Xylene							
Methyl isobutyl ketor	ne (MIBK)						
Methyl t-butyl ether	· ·/						
Methyl tert-butyl ethe	er (MTBE)						
o-Xylene							
Tetrachloroethvlene							
Toluene							
trans-1,2-Dichloroeth	hylene						
trans-1,3-Dichloropro	opene						
Trichlorofluorometha	ine						

Vinyl chloride
052 - Volatile Organic Compounds (VOC)

Field of Accreditation	n: Environmental			Matrix: Water
Analytical Method: G	C/MS-HEADSPA	CE		Preparation Method:
Lab Method ID(s): OF	RG-170-5160, OF	RG-170-5410		
Method Reference	Modified From	Analytical Method	Preparation Meth	nod
EPA 5021A	Yes	Yes	No	
EPA 8260C	Yes	Yes	NO	
Parameter				
1,1,1,2-Tetrachloroet	hane			
1,1,1-Irichloroethan	B			
1,1,2-I richloroethane	Ð			
1 1-Dichloroethylene				
1,2,4-Trichlorobenze	ne			
1,2-Dibromomethane	9			
1,2-Dichlorobenzene	•			
1,2-Dichloroethane				
1,2-Dichloropropane				
1,3-Dichlorobenzene)			
2 Hovenono (Mothyl	e butyl kotopo MB	K)		
Acetone (2-Propano	ne)	nx)		
Benzene				
Bromodichlorometha	ine			
Bromoform				
Bromomethane				
Carbon tetrachloride				
Chlorobenzene				
Chloroothono (Ethyl	ane oblorido)			
	chionde)			
Chloromethane (Met	hvl chloride)			
cis-1,2-Dichloroethyl	ene			
cis-1,3-Dichloroprop	ene			
Dichloromethane				
Ethylbenzene				
Ethylene Dibromide				
m,p-Xylene				
Methyl ethyl ketone				
Methyl t-butyl ether				
o-Xvlene				
Styrene				
Tetrachloroethylene				
Toluene				
trans-1,2-Dichloroeth	nylene			
trans-1,3-Dichloropro	opene			
Trichloroethylene				
I richlorofluorometha	ne			
Viriyi chionde				
053 - Microtox				
Field of Accreditation	n: Environmental			Matrix: Water
Analytical Method: B	IOLUMINESCEN	CE		Preparation Method:
Lab Method ID(s): TO	X-171-7100			
Method Reference EPS 1/RM/24	Modified From No	Analytical Method Yes	Preparation Meth	nod
Parameter				
Microtox IC50 (15 m	in)			
056 - Cations				
Field of Accreditation	n : Environmental			Matrix: Solids [Soil]
Analytical Method: IC	CP/OES			Preparation Method: SATURATED PASTE
Lab Method ID(s): IN	OR-171-6002, IN	OR-171-6201		

Method Reference SM 3120 B
 Modified From
 Analytical Method
 Preparation Method

 Yes
 Yes
 No

Method Reference SOIL SAMPLING & I	METHODS OF A	NALYSIS C	HAPTER 15	Modified From Yes	Analyt Yes	tical Method	Preparation No	on Method	
Parameter Boron Calcium Magnesium Potassium Sodium Sulphur (Sulfur)									
057 - Chloride									
Field of Accreditation	n: Environmental				Matrix: S	Solids [Soil]			
Analytical Method: C	OLORIMETRIC				Prepara	tion Method:			
Lab Method ID(s): IN	OR-171-6002, IN	OR-171-62	12						
Method Reference SM 4500-CL- E	Modified From Yes	Analytica Yes	IMethod Pr N	reparation Meth o	od				
Parameter Chloride									
058 - pH									
Field of Accreditation	n : Environmental				Matrix: S	Solids [Sedime	ent, Soil]		
Analytical Method: P	H METER				Prepara	tion Method:			
Lab Method ID(s): IN	OR-171-6207								
Method Reference SOIL SAMPLING & I	METHODS OF A	NALYSIS, (CARTER, 2N	Mo ID EDITION Yes	dified Fr	om Analytic Yes	al Method	Preparation Method No	
Parameter pH (1:1) soil:water pH (1:2) soil:CaCl2 pH (1:2) soil:water pH (saturated paste)									
059 - Petroleum I	Hydrocarbons	(PHC)							
Field of Accreditation	n: Environmental				Matrix: S	Solids [Soil]			
Analytical Method: G	C/FID-HEADSPA	CE			Prepara	tion Method:			
Lab Method ID(s): OF	RG-170-5110, OR	G-170-544	0						
Method Reference BC MOE LABORATO EPA 5021A EPA 8260C Parameter F1: C6-C10 Total Purgable Hydro	DRY MANUAL SE	ECTION D (C5-C10)	Modified Fr Yes Yes Yes	rom Analytical Yes Yes Yes	Method	Preparation No No No	Method		
VH: C6-C10									
060 - Flashpoint									Petroleum Lab
Field of Accreditation	n: Environmental				Matrix: (Oil			
Analytical Method: P	ENSKY-MARTEN	IS CLOSE	O CUP		Prepara	tion Method:			
Lab Method ID(s): HC	2-320-22000								
Method Reference ASTM D93	Modified From Yes	Analytica Yes	IMethod P	reparation Meth o	od				
Parameter Flashpoint									
061 - Elemental S	Sulphur								Petroleum Lab
Field of Accreditation	n: Environmental				Matrix: (Dil			
Analytical Method: X	-RAY FLUORES	CENCE (XF	RF)		Prepara	tion Method:			
Lab Method ID(s): HC	2-320-22001								
Method Reference ASTM D4294	Modified From No	Analytica Yes	I Method P	reparation Meth o	od				
Parameter									

Parameter Elemental Sulphur (Elemental Sulfur) Petroleum Lab 062 - Viscosity Field of Accreditation: Environmental Matrix: Oil Analytical Method: VISCOMETER Preparation Method: Lab Method ID(s): HC-320-22002 Method Reference Modified From Analytical Method Preparation Method ASTM D7042 No Yes No Parameter Dynamic Viscosity Kinematic Viscosity 063 - Pour Point Petroleum Lab Field of Accreditation: Environmental Matrix: Oil Analytical Method: POUR POINT ANALYZER Preparation Method: Lab Method ID(s): HC-320-22003 Method Reference Modified From Analytical Method Preparation Method ASTM D5853 No Yes No ASTM D97 No Yes No Parameter Pour Point Petroleum Lab 064 - Cloud Point Field of Accreditation: Environmental Matrix: Oil Analytical Method: CLOUD POINT ANALYZER Preparation Method: Lab Method ID(s): HC-320-22004 Method Reference Modified From Analytical Method Preparation Method **ASTM D2500** No Yes No Parameter Cloud Point 065 - Density and API Petroleum Lab Field of Accreditation: Environmental Matrix: Oil Analytical Method: DIGITAL DENSITY ANALYZER Preparation Method: Lab Method ID(s): HC-320-22005 Method Reference Modified From Analytical Method Preparation Method ASTM D4052 Yes Yes No ASTM D5002 Yes Yes No Parameter **API** Gravity Density Petroleum Lab 066 - Colour Field of Accreditation: Environmental Matrix: Oil Analytical Method: VISUAL EXAMINATION Preparation Method: Lab Method ID(s): HC-320-22006 Method Reference Modified From Analytical Method Preparation Method ASTM D1500 No Yes No Parameter Colour 067 - Micro Carbon Residue Petroleum Lab Field of Accreditation: Environmental Matrix: Oil Analytical Method: MICRO METHOD Preparation Method: Lab Method ID(s): HC-320-22007 Method Reference Modified From Analytical Method Preparation Method **ASTM D4530** No Yes No

Parameter Micro Carbon Residu	ue				
068 - Salt					Petroleum Lab
Field of Accreditation	n : Environmental			Matrix: Oil	
Analytical Method: E	LECTROMETRIC	C		Preparation Method:	
Lab Method ID(s): HO	C-320-22008				
Method Reference ASTM D3230	Modified From No	Analytical Method Yes	Preparation Meth No	od	
Parameter Salt Content					
069 - Sediment					Petroleum Lab
Field of Accreditatio	n: Environmental			Matrix: Oil	
Analytical Method: M	IEMBRANE FILT	RATION		Preparation Method:	
Lab Method ID(s): HO	C-320-22009				
Method Reference ASTM D4807	Modified From Yes	Analytical Method Yes	Preparation Meth	od	
Parameter Total Solids (TS)					
070 - Basic Sedir	ment and Wat	ter (BSW)			Petroleum Lab
Field of Accreditation	n : Environmental			Matrix: Oil	
Analytical Method: C	ENTRIFUGE			Preparation Method:	
Lab Method ID(s): HO	C-320-22010				
Method Reference ASTM D4007	Modified From Yes	Analytical Method Yes	Preparation Meth No	od	
Parameter Sediment Water					
071 - Atmospheri	ic Distillation				Petroleum Lab
Field of Accreditation	n : Environmental			Matrix: Oil	
Analytical Method: T	HERMOMETER			Preparation Method: DISTILLATION	
Lab Method ID(s): HO	C-320-22011				
Method Reference ASTM D86	Modified From No	Analytical Method Yes	Preparation Meth No	od	
Parameter Atmospheric Distillat	ion				
072 - Total Acid N	Number				Petroleum Lab
Field of Accreditation	n: Environmental			Matrix: Oil	
Analytical Method: P	OTENTIOMETRI	IC TITRATION		Preparation Method:	
Lab Method ID(s): HO	C-320-22012				
Method Reference ASTM D664	Modified From Yes	Analytical Method Yes	Preparation Meth No	od	
Parameter Total Acid Number					
073 - True Vapou	ır Pressure				Petroleum Lab
Field of Accreditation	n : Environmental			Matrix: Oil	
Analytical Method: V	APOUR PRESSI	JRE ANALYZER		Preparation Method:	
Lab Method ID(s): HO	C-320-22013				
Method Reference ASTM D6377	Modified From No	Analytical Method Yes	Preparation Meth	od	
Parameter Vapour Pressure					

074 - Simulated [Distillation				Petroleum Lab
Field of Accreditatio	n: Environmental			Matrix: Oil	
Analytical Method: G	AS CHROMATO	GRAPHY		Preparation Method:	
Lab Method ID(s): HO	C-320-22014				
Method Reference ASTM D7169	Modified From Yes	Analytical Method Yes	Preparation Meth	nod	
Parameter Crude oil-Boiling Poi	int Fractions				
075 - Volatile Org	anic Phospho	orus			Petroleum Lab
Field of Accreditation	n : Environmental			Matrix: Oil	
Analytical Method: 10	CP/OES			Preparation Method:	
Lab Method ID(s): HO	C-320-22015				
Method Reference CCQTA	Modified From No	Analytical Method Yes	Preparation Meth	nod	
Parameter Phosphorus in crude	e oil 250 degrees	C cut			
076 - Metals					Petroleum Lab
Field of Accreditation	n: Environmental			Matrix: Oil	
Analytical Method: 10	CP/OES			Preparation Method:	
Lab Method ID(s): HO	C-320-22017				
Method Reference	Modified From	Analytical Method	Preparation Meth	nod	
ASTM D5708 A	No	Yes	No		
Parameter Aluminum Barium Boron Cadmium Calcium Chromium Copper Iron Lead Magnesium Manganese Molybdenum Nickel Phosphorus Silicon Silver Sodium Tin Titanium Vanadium Zinc	moundo				Patrolaum I ab
078 - Sulphur Co	mpounds				Petroleum Lab
Field of Accreditation	n : Environmental			Matrix: Oil	
Analytical Method: G	SC/SCD			Preparation Method:	
Lab Method ID(s): HO	C-320-22019				
Method Reference ASTM 5504 ASTM D5623	Modified From Yes	Analytical Method Yes	Preparation Meth No	nod	
Parameter Butyl mercaptan (1-E Carbon sulfide Cobalt Sulfide Diethyl disulfide Dimethyl disulfide Ethyl mercaptan (Ett Ethyl methyl sulfide Ethyl sulfide (Diethyl	Butanethiol) nanethiol)	165			

Parameter Hydrogen Sulfide (H Isobutyl mercaptan (Isopropyl mercaptan Methyl mercaptan (N Methyl sulfide Propyl mercaptan (1 sec-Butyl mercaptan tert-Butyl mercaptan tert-Butyl methyl me Thiophene	2S) 2-Methyl-1-propa (2-Propanethiol) Methanethiol) -Propanethiol) (2-Butanethiol) (2-Methyl-2-prop rcaptan	unethiol) panethiol)					
079 - Total Mercu	ıry						Petroleum Lab
Field of Accreditatio	n : Environmental			Matrix: Oil			
Analytical Method: A THERMAL DECOMPO	TOMIC ABSORP DSITION	TION SPECTROSCO	OPY (AAS)-	Preparation M	ethod:		
Lab Method ID(s): Ho	C-320-22021						
Method Reference UOP 938	Modified From Yes	Analytical Method Yes	Preparation Met	hod			
Parameter Total Mercury							
080 - Organic Ch	lorides						Petroleum Lab
Field of Accreditatio	n: Environmental			Matrix: Oil			
Analytical Method: P	OTENTIOMETRI	C TITRATION		Preparation M	ethod:		
Lab Method ID(s): Ho	C-320-22023			·			
Method Reference ASTM D4929 A	Modified From Yes	Analytical Method Yes	Preparation Met	hod			
Parameter Chloride from 204 de	egrees cut of cruc	de oil					
081 - Total Extra	stable Hydroc	arbons (TEH)					Mobile Lab
Field of Accreditatio	n: Environmental			Matrix: Solids			;
Analytical Method: G	GC/FID			Preparation M	ethod: EXTRACTIO	N	
Lab Method ID(s): M	D-0300			·			
Method Reference BC MOE LABORATE CCME CWS PETRO Parameter Extractable Petroleu Extractable Petroleu F2: C10-C16 F3: C16-C34 F4: C34-C50 Total Extractable Hy	ORY MANUAL DLEUM HYDROC m Hydrocarbons m Hydrocarbons drocarbons (TEH	ARBONS IN SOIL - ⁻ (EPH): C10-C19 (EPH): C19-C32): C10-C32	TIER 1 METHOD	Modified From No No	Analytical Method Yes Yes	Preparation Method No No	
082 - Total Petrol	eum Hydroca	rbons (TPH)					Mobile Lab
Field of Accreditatio	n : Environmental			Matrix: Solids	[Soil]		
Analytical Method: G	C/FID-HEADSPA	ACE		Preparation M	ethod:		
Lab Method ID(s): M	D-0500						
Method Reference BC MOE LABORATE CCME CWS PETRO Parameter	ORY MANUAL DLEUM HYDROC	ARBONS IN SOIL -	TIER 1 METHOD	Modified From No No	Analytical Method Yes Yes	Preparation Method No No	
Total Purgable Hydro VH: C6-C10	ocarbons (TPgH):	: (C5-C10)					
083 - BTEX							Mobile Lab

Field of Accreditatio	n : Environmenta	I		Matrix: Solids			
Analytical Method: G	C/PID-HEADSP	ACE		Preparation Method:			
Lab Method ID(s): Mo	O-0500						
Method Reference EPA 5021 EPA 8021B	Modified From Yes Yes	Analytical Metho Yes Yes	d Preparation M No No	l ethod			
Parameter Benzene Ethylbenzene m,p-Xylene o-Xylene Toluene							
084 - Total Purge	able Hydroca	arbons (TPH)			Mobile Lab		
Field of Accreditatio	n: Environmenta	I		Matrix: Water			
Analytical Method: G	C/FID-HEADSP	ACE		Preparation Method:			
Lab Method ID(s): M	O-0500						
Method Reference BC MOE LABORAT	I ORY MANUAL	Modified From An Yes Yes	alytical Method s	Preparation Method No			
Parameter F1: C6-C10 Total Purgable Hydro VH: C6-C10	ocarbons (TPgH)): (C5-C10)					
085 - Total Extrac	ctable Hydroc	carbons (TEH)			Mobile Lab		
Field of Accreditatio	n: Environmenta	1		Matrix: Water			
Analytical Method: G	GC/FID			Preparation Method: EXTRACTION			
Lab Method ID(s): M	O-0300						
Method Reference	I ORY MANUAL	Modified From An Yes Yes	alytical Method s	Preparation Method No			
Parameter Extractable Petroleu Extractable Petroleu F2: C10-C16 F3: C16-C34 F4: C34-C50 Total Extractable Hy	m Hydrocarbons m Hydrocarbons drocarbons (TEH	s (EPH): C10-C19 s (EPH): C19-C32 ł): C10-C32					
086 - BTEX					Mobile Lab		
Field of Accreditatio	n : Environmenta	I		Matrix: Water			
Analytical Method: G	C/PID-HEADSP	ACE		Preparation Method:			
Lab Method ID(s): M	O-0500						
Method Reference EPA 5021 EPA 8021B Parameter Benzene	Modified From Yes Yes	Analytical Metho Yes Yes	d Preparation M No No	fethod			
Ethylbenzene m,p-Xylene o-Xylene Toluene							
091 - Alcohols							
Field of Accreditatio	n : Environmenta	I		Matrix: Solids [Soil]			
Analytical Method: G	GC/FID			Preparation Method:			
Lab Method ID(s): Of	RG-170-5442						
Method Reference EPA 5021 EPA 8015C	Modified From Yes Yes	Analytical Metho Yes Yes	d Preparation N No No	l ethod			
Parameter 1-Butanol (n-Butano	I)						

Parameter 1-Propanol (Propar 2-Butanol (sec-Buta 2-Methyl-1-propanol 2-Propanol (Isoprop Ethanol Methanol Pentanol tert-Butanol (2-Meth	ol) anol) I (Isobutanol) byl alcohol) nyl-2-propanol)				
094 - Alcohols					
Field of Accreditation	on: Environmental			Matrix: Water	
Analytical Method:	GC/FID			Preparation Method:	
Lab Method ID(s): C	RG-170-5442				
Method Reference EPA 5021	Modified From Yes	Analytical Method Yes	Preparation Meth	od	
EPA 8015C	Yes	Yes	No		
Parameter 1-Butanol (n-Butano 1-Propanol (Propar 2-Butanol (sec-Buta 2-Methyl-1-propanol 2-Propanol (Isoprop Ethanol Methanol Pentanol tert-Butanol (2-Meth	ol) iol) anol) i (Isobutanol) oyl alcohol) nyl-2-propanol)				
<u>097 - Hexavalen</u>	t Chromium				
Field of Accreditation	on: Environmental			Matrix: Water	
Analytical Method:	SPECTROPHOTO	DMETRIC		Preparation Method:	
Lab Method ID(s): IN	NOR-171-6219				
Matha d Dafawaya	Modified From	Analytical Method	Proparation Moth	ad .	
SM 3500-CR B	Yes	Yes	No		
SM 3500-CR B Parameter Hexavalent Chromi	Yes um	Yes	No		
Method Reference SM 3500-CR B Parameter Hexavalent Chromi 099 - Reid Vapo	Yes um <u>r Pressure</u>	Yes	No		Petroleum Lab
Method Reference SM 3500-CR B Parameter Hexavalent Chromi 099 - Reid Vapo Field of Accreditatio	Yes um r Pressure on: Petroleum	Yes	No	Matrix: Fuel	Petroleum Lab
Method Reference SM 3500-CR B Parameter Hexavalent Chromi 099 - Reid Vapo Field of Accreditation	Yes um r Pressure on: Petroleum VAPOUR PRESSI	JRE ANALYZER	No	Matrix: Fuel Preparation Method:	Petroleum Lab
Method Reference SM 3500-CR B Parameter Hexavalent Chromi 099 - Reid Vapo Field of Accreditatio Analytical Method: 1 Lab Method ID(s): H	Yes um r Pressure on: Petroleum VAPOUR PRESSI C-320-22026	Yes	No	Matrix: Fuel Preparation Method:	Petroleum Lab
Method Reference SM 3500-CR B Parameter Hexavalent Chromi 099 - Reid Vapo Field of Accreditatio Analytical Method IV Lab Method ID(s): H Method Reference ASTM D323	Yes r Pressure on: Petroleum VAPOUR PRESSI C-320-22026 Modified From No	URE ANALYZER Analytical Method Yes	Preparation Meth No	Matrix: Fuel Preparation Method:	Petroleum Lab
Method Reference SM 3500-CR B Parameter Hexavalent Chromi 099 - Reid Vapo Field of Accreditatio Analytical Method: 1 Lab Method ID(s): H Method Reference ASTM D323 Parameter Reid Vapor Pressur	Yes r Pressure on: Petroleum VAPOUR PRESSI C-320-22026 Modified From No	Yes URE ANALYZER Analytical Method Yes	Preparation Meth No	Matrix: Fuel Preparation Method:	Petroleum Lab
Method Reference SM 3500-CR B Parameter Hexavalent Chromi 099 - Reid Vapo Field of Accreditatio Analytical Method: 1 Lab Method ID(s): H Method Reference ASTM D323 Parameter Reid Vapor Pressur 100 - Vapor Press	Yes Yes r Pressure on: Petroleum VAPOUR PRESSI C-320-22026 Modified From No e SSURE	Yes URE ANALYZER Analytical Method Yes	Preparation Meth No	Matrix: Fuel Preparation Method:	Petroleum Lab
Method Reference SM 3500-CR B Parameter Hexavalent Chromi 099 - Reid Vapo Field of Accreditatio Analytical Method: \ Lab Method ID(s): H Method Reference ASTM D323 Parameter Reid Vapor Pressur 100 - Vapor Press Field of Accreditatio	Yes Yes r Pressure on: Petroleum VAPOUR PRESSI C-320-22026 Modified From No e ssure on: Petroleum	Yes URE ANALYZER Analytical Method Yes	Preparation Meth No	Matrix: Fuel Preparation Method: nod Matrix: Fuel	Petroleum Lab
Method Reference SM 3500-CR B Parameter Hexavalent Chromi 099 - Reid Vapo Field of Accreditatio Analytical Method ID(s): H Method Reference ASTM D323 Parameter Reid Vapor Pressur 100 - Vapor Press Field of Accreditatio Analytical Method: 1	Yes Yes r Pressure on: Petroleum /APOUR PRESSI C-320-22026 Modified From No e ssure on: Petroleum /APOUR PRESSI	Yes URE ANALYZER Analytical Method Yes URE ANALYZER	Preparation Meth No	Matrix: Fuel Preparation Method: Nod Matrix: Fuel Preparation Method:	Petroleum Lab
Method Reference SM 3500-CR B Parameter Hexavalent Chromi 099 - Reid Vapo Field of Accreditatio Analytical Method: \ Lab Method ID(s): H Method Reference ASTM D323 Parameter Reid Vapor Pressur 100 - Vapor Pressur Field of Accreditatio Analytical Method: \ Lab Method ID(s): H	Yes Yes Yes Yes Yes Yes Yes Yes	Yes URE ANALYZER Analytical Method Yes URE ANALYZER	Preparation Meth No	Matrix: Fuel Preparation Method: nod Matrix: Fuel Preparation Method:	Petroleum Lab
Method Reference SM 3500-CR B Parameter Hexavalent Chromi 099 - Reid Vapo Field of Accreditatio Analytical Method ID(s): H Method Reference ASTM D323 Parameter Reid Vapor Pressur 100 - Vapor Pressur Field of Accreditatio Analytical Method ID(s): H Method Reference ASTM D4953 ASTM D5191	Yes Yes Pressure Pressure Petroleum VAPOUR PRESSI C-320-22026 Modified From No Petroleum VAPOUR PRESSI C-320-22025 Modified From No No No No	Yes URE ANALYZER Analytical Method Yes URE ANALYZER Analytical Method Yes Yes	Preparation Meth No Preparation Meth No No	Matrix: Fuel Preparation Method: nod Matrix: Fuel Preparation Method: nod	Petroleum Lab
Method Reference SM 3500-CR B Parameter Hexavalent Chromi Ogg - Reid Vapo Field of Accreditatio Analytical Method: V Lab Method ID(s): H Method Reference ASTM D323 Parameter Reid Vapor Pressur 100 - Vapor Pressur Field of Accreditatio Analytical Method: V Lab Method ID(s): H Method Reference ASTM D4953 ASTM D5191 Parameter Dry Vapor Pressure	Yes Yes Yes Petroleum VAPOUR PRESSI C-320-22026 Modified From No e SSURE On: Petroleum VAPOUR PRESSI C-320-22025 Modified From No No No	Yes URE ANALYZER Analytical Method Yes URE ANALYZER Analytical Method Yes Yes	Preparation Meth No Preparation Meth No Preparation Meth No No	Matrix: Fuel Preparation Method: nod Matrix: Fuel Preparation Method: nod	Petroleum Lab
Method Reference SM 3500-CR B Parameter Hexavalent Chromi 099 - Reid Vapo Field of Accreditatio Analytical Method ID(s): H Method Reference ASTM D323 Parameter Reid Vapor Pressur 100 - Vapor Press Field of Accreditatio Analytical Method ID(s): H Method Reference ASTM D4953 ASTM D5191 Parameter Dry Vapor Pressure 101 - Sediment	Yes Yes Pressure Pressure Petroleum VAPOUR PRESSI C-320-22026 Modified From No Petroleum VAPOUR PRESSI C-320-22025 Modified From No No No	Yes URE ANALYZER Analytical Method Yes URE ANALYZER Analytical Method Yes Yes	Preparation Meth No Preparation Meth No Preparation Meth No No	Matrix: Fuel Preparation Method: nod Matrix: Fuel Preparation Method: nod	Petroleum Lab
Method Reference SM 3500-CR B Parameter Hexavalent Chromi 099 - Reid Vapo Field of Accreditatio Analytical Method: 1 Lab Method ID(s): H Method Reference ASTM D323 Parameter Reid Vapor Pressur 100 - Vapor Pressur 100 - Vapor Pressur Field of Accreditatio Analytical Method: 1 Lab Method ID(s): H Method Reference ASTM D4953 ASTM D5191 Parameter Dry Vapor Pressure 101 - Sediment Field of Accreditatio	Yes Yes Yes r Pressure on: Petroleum VAPOUR PRESSI C-320-22026 Modified From No e SSURE On: Petroleum No No No No No No No No No No	Yes URE ANALYZER Analytical Method Yes URE ANALYZER Analytical Method Yes Yes	Preparation Meth No Preparation Meth No No No	Matrix: Fuel Preparation Method: nod Matrix: Fuel Preparation Method: nod Matrix: Oil	Petroleum Lab
Method Reference SM 3500-CR B Parameter Hexavalent Chromi 099 - Reid Vapo Field of Accreditatio Analytical Method: V Lab Method ID(s): H Method Reference ASTM D323 Parameter Reid Vapor Pressur 100 - Vapor Pressur 100 - Vapor Pressur Field of Accreditatio Analytical Method: V Lab Method ID(s): H Method Reference ASTM D4953 ASTM D5191 Parameter Dry Vapor Pressure 101 - Sediment Field of Accreditatio	Yes Yes Pressure Pressure Petroleum VAPOUR PRESSI C-320-22026 Modified From No Petroleum VAPOUR PRESSI C-320-22025 Modified From No No No Petroleum SRAVIMETRIC	Yes URE ANALYZER Analytical Method Yes URE ANALYZER Analytical Method Yes Yes	Preparation Metr No Preparation Metr No No No	Matrix: Fuel Preparation Method: nod Matrix: Fuel Preparation Method: nod Matrix: Fuel Preparation Method: Nod Matrix: Oil Preparation Method: EXTRACTION	Petroleum Lab
Method Reference SM 3500-CR B Parameter Hexavalent Chromi Ogg - Reid Vapo Field of Accreditatio Analytical Method: 1 Lab Method ID(s): H Method Reference ASTM D323 Parameter Reid Vapor Pressur 100 - Vapor Pressur 100 - Vapor Pressur Field of Accreditatio Analytical Method: 1 Lab Method ID(s): H Method Reference ASTM D4953 ASTM D5191 Parameter Dry Vapor Pressure 101 - Sediment Field of Accreditatio Analytical Method: 1 Lab Method ID(s): H	Yes Yes Yes Yes Yes Yes Yes Yes	Yes URE ANALYZER Analytical Method Yes URE ANALYZER Analytical Method Yes Yes	Preparation Meth No Preparation Meth No No	Matrix: Fuel Preparation Method: nod Matrix: Fuel Preparation Method: nod Matrix: Cil Preparation Method: EXTRACTION	Petroleum Lab Petroleum Lab

Method Reference Modified From Analytical Method Preparation Method ASTM D473 Yes Yes No	od				
Parameter Sediment					
103 - Bulk Density					
Field of Accreditation: Environmental	Matrix: Solids [Bulk, Soil]				
Analytical Method: GRAVIMETRIC	Preparation Method:				
Lab Method ID(s): INOR-171-6004					
Method ReferenceModified FromAnalytical MethodBLAKE, G.R., MSA BULK DENSITY, 1986NoYes	od Preparation Method No				
Parameter Bulk Density					
104 - Specific Gravity					
Field of Accreditation: Environmental	Matrix: Solids [Soil]				
Analytical Method: MUD BALANCE	Preparation Method:				
Lab Method ID(s): INOR-171-6003					
Method Reference Modified From Analy PROCEDURE FOR USING BAROID MUD BALANCE No Yes	ytical Method Preparation Method No				
Parameter Specific Gravity					
105 - Moisture					
Field of Accreditation: Environmental	Matrix: Solids				
Analytical Method: GRAVIMETRIC	Preparation Method:				
Lab Method ID(s): LAB-175-4002					
Method Reference Modified Fro SOIL SAMPLING & METHODS OF ANALYSIS, CARTER 2008 No	Manalytical Method Preparation Method Yes No				
Parameter Percent Moisture					
106 - Sulphide					
Field of Accreditation: Environmental	Matrix: Water				
Analytical Method: COLORIMETRIC	Preparation Method:				
Lab Method ID(s): INOR-171-6222					
Method ReferenceModified FromAnalytical MethodPreparation MethodSM 4500-S2-NoYesNo	od				
Parameter Sulphide					
107 - Atterberg Plasticity Index					
Field of Accreditation: Environmental	Matrix: Solids [Soil]				
Analytical Method: LIQUID LIMIT DEVICE	Preparation Method:				
Lab Method ID(s): INOR-171-6218					
Method Reference	Modified Analytical Preparation From Method Method				
D4318 STANDARD TEST METHOD FOR LIQUID PLASTICITY INDEX OF SC B	NLS METHOD Yes Yes No				
Parameter Liquid Limit Plastic Limit Plasticity Index					
108 - Ammonia Nitrogen					
Field of Accreditation: Environmental	Matrix: Solids [Soil]				
Analytical Method: COLORIMETRIC	Preparation Method:				
Lab Method ID(s): INOR-171-6211					

Method Reference SM 4500-NH3 G	Modified From Yes	Analytica Yes	l Method	Prepa No	ration Meth	od	
Parameter Ammonia-N							
109 - Total Purge	able Hydroca	rbons (T	PH)				
Field of Accreditation	n: Environmental					Matrix:	Water
Analytical Method: G	C/FID-HEADSPA	CE				Prepara	tion Method:
Lab Method ID(s): OF	RG-170-5110, OR	G-170-544	0				
Method Reference BC MOE LABORATO EPA 5021A EPA 8260	DRY MANUAL SE	ECTION D	Modified Yes Yes No	From	Analytical Yes Yes Yes	Method	Preparation Method No No No
Parameter F1: C6-C10 Total Purgable Hydro VH: C6-C10	ocarbons (TPgH):	(C5-C10)					
<u>110 - Polycyclic A</u>	vromatic Hydro	ocarbons	<u>s (PA</u> H)				
Field of Accreditation	n: Environmental					Matrix:	Water
Analytical Method: G	iC/MS					Prepara	tion Method: EXTRACTION
Lab Method ID(s): MO	D-0200						
Method Reference EPA 3510B EPA 3511	Modified From Yes Yes	Analytica Yes Yes	l Method	Prepa No No	ration Meth	od	
EPA 8270E	Yes	Yes		No			
Parameter 1-Methylnaphthalene 2-Methylnaphthalene Acenaphthene Acenaphthylene Acridine Anthracene Benzo(a)anthracene Benzo(a)apyrene Benzo(a)pyrene Benzo(b)fluoranthen Benzo(c)pyrene Benzo(c),hi)perylene Benzo(c),hi)perylene Benzo(c),hi)perylene Benzo(c),hi)perylene Benzo(c),hi)perylene Benzo(c),hi)perylene Benzo(c),hi)perylene Benzo(c),hi)perylene Benzo(c),hi)perylene Benzo(c),hi)perylene Benzo(c),hi)perylene Benzo(c),hi)perylene Benzo(c),hi)perylene Benzo(c),hi)perylene Pluorene Indeno(1,2,3 - cd)pyr Naphthalene Perylene Phenanthrene Pyrene Quinoline 111 - Polycyclic A	e e e ene rene	ocarbons	з (РАН)				
Field of Accreditation	n : Environmental					Matrix:	Solids [Soil]
Analytical Method: G	C/MS					Prepara	tion Method: EXTRACTION
Lab Method ID(s):							
Method Reference	Modified From	Analytica	l Method	Prepa	ration Meth	od	
Parameter 1-Methylnaphthalene 2-Methylnaphthalene Acenaphthene Acenaphthylene Acridine Anthracene Benzo(a)anthracene Benzo(b)fuergathene	2						

Parameter Benzo(e)pyrene Benzo(g,h,i)perylene Benzo(k)fluoranthene Chrysene Dibenzo(a,h)anthrac Fluoranthene Fluorene Indeno(1,2,3 - cd)pyr Naphthalene Perylene Phenanthrene Pyrene Quinoline	e e ene rene					
112 - Organic Ch	loride Conten	t				
Field of Accreditation	n: Environmental				Matrix: (Dil
Analytical Method: C	OULOMETRIC T	ITRATION			Prepara	tion Method: COMBUSTION
Lab Method ID(s): HC	2-320-22030					
Method Reference ASTM D4929 B	Modified From No	Analytical Method Yes	Prepa No	ration Meth	od	
Parameter Organic Chloride Co	ntent					
113 - Total Residu	ual Chlorine					
Field of Accreditation	n: Environmental				Matrix:	Nater
Analytical Method: S	PECTROPHOTO	METRIC			Prepara	tion Method:
Lab Method ID(s): IN	OR-171-6221					
Method Reference EPA 330.5 SM 4500-CL- G	Modified From Yes Yes	Analytical Method Yes Yes	Prepa No No	ration Meth	od	
Parameter Total Chlorine						
114 - pH						
Field of Accreditation	n : Environmental				Matrix:	Nater
Analytical Method: P	H METER				Prepara	tion Method:
Lab Method ID(s): IN	OR-171-6207					
Method Reference SM 4500 H+	Modified From No	Analytical Method Yes	Prepa No	ration Meth	od	
Parameter pH						
115 - Conductivity	ý					
Field of Accreditation	n : Environmental				Matrix:	Nater
Analytical Method: C		1ETER			Prepara	tion Method:
Lab Method ID(s): IN	OR-171-6208					
Method Reference SM 2510 B	Modified From No	Analytical Method Yes	Prepa No	ration Methe	od	
Parameter						
Conductivity				© 2021 CA	LA Inc.	
116 - Metals						
Field of Accreditation	n: Environmental				Matrix: 3	Solids
Analytical Method: IC	CP/OES				Prepara	tion Method: ACID DIGESTION
Lab Method ID(s): IN	OR-171-6201, IN	OR-171-6006				
Method Reference BC MOE LABORATO BC MOE LABORATO	DRY MANUAL SE DRY MANUAL, S	Modified ECTION C No ALM No	From	Analytical Yes No	Method	Preparation Method No Yes
Parameter						

Parameter
Aluminum
Boron
Calcium
Iron
Magnesium
Manganese
Phosphorus
Potassium
Silicon
Sodium
Strontium
Sulphur (Sulfur)

† "OSDWA" indicates the appendix is used for the analysis of Ontario drinking water samples, which is subject to the rules and related regulations under the Ontario "Safe Drinking Water Act" (2002).

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Canadian Association for Laboratory Accreditation Inc.



Certificate of Accreditation

ALS Environmental (Calgary) ALS Canada Ltd. 2559 - 29th Street NE Calgary, Alberta

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.: 1002601 Issued On: 4/25/2022 Accreditation Date: 1/3/2005 Expiry Date: 10/25/2024

Acting President and CEO



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CALA Scope of Accreditation

Taiga Environme	ntal Laboratory		Client ID: 1002635
Government of N	lorthwest Territories (GNWT)	Address: P.O. Box 1320, 4601 - 52nd Avenue, Yellowknife, Northwest Territories, X1A 2L9
Stuart			Email: bruce_stuart@gov.nt.ca; taiga@gov.nt.ca; glen_hudy@gov.nt.ca
235			Fax: (867) 920-8740
s with requiremen	nts of ISO/IEC 17025	:2017	Clients Served: All Interested Parties
2022			Valid To: 03/27/2024
l Oxygen Der	mand (BOD)		
n: Environmental			Matrix: Water
ISSOLVED OXY	GEN METER (DO)		Preparation Method:
L019			
Modified From Yes Yes	Analytical Method Yes Yes	Preparation Meth No No	od
n: Environmental			Matrix: Water
RAVIMETRIC			Preparation Method:
L008, TEL009			
Modified From	Analytical Method	Preparation Meth	od
Yes Yes	Yes Yes	NO NO	
s ids 1etals			
n: Environmental			Matrix: Water
P/MS			Preparation Method:
L035			
Modified From Yes	Analytical Method Yes	Preparation Meth No	od
	Taiga Environme Government of N Stuart 235 s with requirement 2022 I Oxygen Der 2022 I Oxygen Der 2023 I Oxygen Der 2023	Taiga Environmental Laboratory Government of Northwest Territories (Stuart 235 s with requirements of ISO/IEC 17025 2022 I Oxygen Demand (BOD) A: Environmental ISSOLVED OXYGEN METER (DO) L019 Modified From Analytical Method Yes Yes Yes Yes Analytical Method Yes Yes S s ids Ietals A: Environmental RAVIMETRIC L008, TEL009 Modified From Analytical Method Yes Yes S ids Ietals A: Environmental P/MS L035 Modified From Analytical Method Yes Yes	Taiga Environmental Laboratory Government of Northwest Territories (GNWT) Stuart 235 s with requirements of ISO/IEC 17025-2017 2022 I Oxygen Demand (BOD) 1: Environmental ISSOLVED OXYGEN METER (DO) 1019 Modified From Analytical Method Preparation Meth Yes Yes No Yes Yes No s ids No S tetals I: Environmental P/MS 1035 Modified From Analytical Method Preparation Meth Yes Yes No

Parameter						
Molybdenum						
Nickel						
Potassium						
Rubidium						
Selenium						
Silicon						
Sodium						
Strontium						
Sulphur (Sulfur)						
Tellurium						
I nallium Thorium						
Tin						
Titanium						
Tungsten						
Uranium						
Zinc						
Zirconium						
028 - Turbidity						
Field of Accreditation	n : Environmental			Matrix: Water		
Analytical Method: N	EPHELOMETRIC			Preparation M	ethod:	
Lab Method ID(s): TE	L006					
Method Reference SM 2130 B	Modified From Yes	Analytical Method Yes	Preparation Met No	thod		
Parameter Turbidity						
029 - Carbon						
Field of Accreditation	n : Environmental			Matrix: Water		
Analytical Method: IN	IFRARED SPEC	TROSCOPY (IR)		Preparation M	ethod:	
Lab Method ID(s): TE	L033					
Method Reference SM 5310 B	Modified From Yes	Analytical Method Yes	Preparation Met No	thod		
Parameter Organic Carbon						
030 - Moisture						
Field of Accreditation	n : Environmental			Matrix: Solids [Soil]	
Analytical Method: G	RAVIMETRIC			Preparation M	ethod:	
Lab Method ID(s): TE	L007					
Method Reference CCME CWS PETRC	LEUM HYDROC	ARBONS IN SOIL - T	TIER 1 METHOD	Modified From No	Analytical Method Yes	Preparation Method No
Parameter Percent Moisture						
041 - Fecal (Ther	motolerant) C	oliforms				
Field of Accreditation	n : Environmental			Matrix: Water		
Analytical Method: M	EMBRANE FILT	RATION (M-FC)		Preparation M	ethod:	
Lab Method ID(s): TE	L017					
Method Reference SM 9222 D	Modified From Yes	Analytical Method Yes	Preparation Met No	thod		
Parameter Fecal (Thermotolera	nt) Coliforms					
042 - Cations						
Field of Accreditation	n : Environmental			Matrix: Water		
Analytical Method: IC	ON CHROMATOG	GRAPHY (IC)		Preparation M	ethod:	

Lab	Method	ID(s):	: TEL055

.,			
Method ReferenceModified FromSM 4110 BYes	Analytical Method Yes	Preparation Metho	d
Parameter Calcium Magnesium Potassium Sodium			
045 - Coliforms			
Field of Accreditation: Environmental		I	Matrix: Water
Analytical Method: QUANTI-TRAY (C	OLILERT)	I	Preparation Method:
Lab Method ID(s): TEL053			
Method Reference Modified Fro IDEXX QUANTI-TRAY Yes	Manalytical Methory Yes	od Preparation Me No	thod
Parameter Escherichia coli Total Coliforms			
054 - Total Metals			
Field of Accreditation: Environmental		I	Matrix: Water
Analytical Method: ICP/MS		I	Preparation Method:
Lab Method ID(s): TEL035			
Method ReferenceModified FromEPA 200.8Yes	Analytical Method Yes	Preparation Metho No	bd
AluminumArsenicBariumBerylliumBismuthBoronCadmiumCalciumCalciumCalciumCobaltCopperGalliumIronLeadLithiumMagnesiumMagneseMercuryMolybdenumNickelPhosphorusPotassiumRubidiumSeleniumSiliconSilverSodiumStrontiumThalliumThoriumTinTitaniumTungstenUranium			

3 of 7

Zinc

I					
Field of Accreditation: Environmental	Matrix: Water				
Analytical Method: QUANTI-TRAY (COLILERT)	Preparation Method:				
Lab Method ID(s): TEL053					
Method ReferenceModified FromAnalytical MethodPreparationIDEXX QUANTI-TRAYYesYesNo	Method				
Parameter Fecal Streptococci					
059 - Anions					
Field of Accreditation: Environmental	Matrix: Water				
Analytical Method: ION CHROMATOGRAPHY (IC)	Preparation Method:				
Lab Method ID(s): TEL055					
Method ReferenceModified FromAnalytical MethodPreparation MethodSM 4110 BYesYesNo	thod				
Parameter Chloride Fluoride Nitrate Nitrite Sulfate					
060 - Oil and Grease					
Field of Accreditation: Environmental	Matrix: Water				
Analytical Method: GRAVIMETRIC	Preparation Method: EXTRACTION				
Lab Method ID(s): TEL024: HEM					
Method ReferenceModified FromAnalytical MethodPreparatEPA 1664A (REVISION A)YesYesNo	ion Method				
Parameter Total Oil and Grease					
061 - Chemical Oxygen Demand (COD)					
Field of Accreditation: Environmental	Matrix: Water				
Analytical Method: COLORIMETRIC	Preparation Method: REFLUX				
Lab Method ID(s): TEL016	Lab Method ID(s): TEL016				
Method ReferenceModified FromAnalytical MethodPreparation MethodSM 5220 DYesYesNo	thod				
Method Reference Modified From Analytical Method Preparation Method SM 5220 D Yes Yes No Parameter COD Yes Yes Yes	thod				
Method Reference Modified From Analytical Method Preparation Method SM 5220 D Yes Yes No Parameter COD Yes Yes Yes 063 - Colour	thod				
Method Reference Modified From Analytical Method Preparation Method SM 5220 D Yes Yes No Parameter COD COD Ves Ves 063 - Colour Environmental Ves Ves Ves	thod Matrix: Water				
Method Reference Modified From Analytical Method Preparation Method SM 5220 D Yes Yes No Parameter COD Ves Ves 063 - Colour Field of Accreditation: Environmental Ves Ves	thod Matrix: Water Preparation Method:				
Method Reference Modified From Yes Analytical Method Yes Preparation Method No Parameter COD Yes No 063 - Colour Image: Colour Image: Colour Field of Accreditation: Environmental Analytical Method: SPECTROPHOTOMETRIC Lab Method ID(s): TEL051	thod Matrix: Water Preparation Method:				
Method Reference SM 5220 DModified From YesAnalytical Method YesPreparation Method NoParameter COD	thod Matrix: Water Preparation Method: thod				
Method Reference SM 5220 DModified From YesAnalytical Method YesPreparation Method NoParameter COD	thod Matrix: Water Preparation Method: thod				
Method Reference SM 5220 DModified From YesAnalytical Method YesPreparation Method NoParameter COD	thod Matrix: Water Preparation Method: thod				
Method Reference SM 5220 DModified From YesAnalytical Method YesPreparation Method NoParameter COD	thod Matrix: Water Preparation Method: thod Matrix: Water				
Method Reference SM 5220 DModified From YesAnalytical Method YesPreparation Method NoParameter COD	thod Matrix: Water Preparation Method: thod Matrix: Water Preparation Method:				
Method Reference SM 5220 DModified From YesAnalytical Method YesPreparation Method NoParameter CODColour	thod Matrix: Water Preparation Method: thod Matrix: Water Preparation Method:				
Method Reference SM 5220 DModified From YesAnalytical Method YesPreparation Method NoParameter COD	thod Matrix: Water Preparation Method: thod Matrix: Water Preparation Method: thod				
Method Reference SM 5220 DModified From YesAnalytical Method YesPreparation Method NoParameter CODColour	thod Matrix: Water Preparation Method: thod Matrix: Water Preparation Method: thod				

Parameter Alkalinity (pH 4.5)						
<u>067 - pH</u>						
Field of Accreditatio	n: Environmental			Matrix: Water		
Analytical Method: A	UTOMATED PH	METER		Preparation Method:		
Lab Method ID(s): TE	EL058:PC TITRA	TE				
Method Reference SM 4500-H+ A SM 4500-H+ B	Modified From Yes Yes	Analytical Method Yes Yes	Preparation Met No No	hod		
Parameter pH						
068 - Conductivit	y					
Field of Accreditatio	n : Environmental			Matrix: Water		
Analytical Method: A	UTOMATED CO	NDUCTIVITY METER	2	Preparation M	lethod:	
Lab Method ID(s): TE	EL059:PC TITRA	TE				
Method Reference SM 2510 B Parameter	Modified From Yes	Analytical Method Yes	Preparation Met No	hod		
Conductivity (25C)						
<u>070 - BTEX</u>						
Field of Accreditatio	n: Environmental			Matrix: Water		
Analytical Method: (GC/MS-PURGE A	ND TRAP		Preparation M	lethod:	
Lab Method ID(s): TE	EL037:BTEX					
Method Reference EPA 502.2	Modified From Yes	Analytical Method Yes	Preparation Met	hod		
EPA 5030B EPA 602	Yes	Yes	No			
Parameter Benzene Ethylbenzene m,p-Xylene o-Xylene Toluene						
072 - BTEX						
Field of Accreditatio	n : Environmental			Matrix: Solids	[Soil]	
Analytical Method: (GC/MS-PURGE A	ND TRAP		Preparation Method:		
Lab Method ID(s): TE	EL038					
Method Reference	Modified From	Analytical Method	Preparation Met	hod		
EPA 5030B	Yes	Yes	No			
EPA 602	Yes	Yes	No			
Parameter Benzene Ethylbenzene m,p-Xylene o-Xylene Toluene						
074 - Purgeable	Hydrocarbons	8				
Field of Accreditatio	n : Environmental			Matrix: Solids	[Soil]	
Analytical Method: (GC/FID-PURGE A	ND TRAP		Preparation M	lethod:	
Lab Method ID(s): TE	EL056					
Method Reference CCME CWS PETRO	DLEUM HYDROC	CARBONS IN SOIL -	TIER 1 METHOD	Modified From No	Analytical Method Yes	Preparation Method No
Parameter F1: C6-C10 Withdr	awn on 3/28/2022	2				

077 - Trihalometh	nanes (THM)					
Field of Accreditation	n: Environmental			Matrix: Water		
Analytical Method: G	C/MS-PURGE A	ND TRAP		Preparation Method:		
Lab Method ID(s): TE	L039:THM					
Method Reference EPA 502.2 EPA 5030B EPA 602	Modified From Yes Yes Yes	Analytical Method Yes Yes Yes	Preparation Meth No No No	od		
Parameter Bromodichlorometha Bromoform Chlorodibromometha Chloroform	ine ane					
080 - Mercury						
Field of Accreditation	n: Environmental			Matrix: Water		
Analytical Method: A	TOMIC FLUORE	SCENCE SPECTRO	SCOPY (AFS)	Preparation Method:		
Lab Method ID(s): TEL062						
Method Reference	Modified From	Analytical Method	Preparation Meth	od		
EPA 245.7	Yes	Yes	No			
Parameter Mercury						
084 - Purgeable I	Hydrocarbons	;				
Field of Accreditation	n: Environmental			Matrix: Water		
Analytical Method: G	C/FID-PURGE A	ND TRAP		Preparation Method:		
Lab Method ID(s): TE	L044					
Method Reference	Modified From	Analytical Method	Preparation Meth	od		
EPA 5030 EPA 8000	Yes	Yes Yes	No			
EPA 8015	Yes	Yes	No			
EPA 8260B	Yes	Yes	No			
Parameter Hydrocarbons: C6-C	10					
085 - Extractable	Hydrocarbon	S				
Field of Accreditation	n: Environmental			Matrix: Water		
Analytical Method: G	iC/FID			Preparation Method: SOLID PHASE EXTRACTION (SPE)		
Lab Method ID(s): TE	L067					
Method Reference	Modified From	Analytical Method	Preparation Meth	od		
EPA 3630C	Yes	Yes	No			
SM 6010	Yes	Yes	No			
Parameter Hydrocarbons: C10-	C50					
086 - Total and D	issolved Nitro	den				
Field of Accreditation	n: Environmental	30		Matrix: Water		
Analytical Method: C	HEMILUMINESC	ENCE-PYROLYSIS		Preparation Method:		
Lab Method ID(s): TE	L066					
Method Reference	Modified From	Analytical Method	Preparation Meth	od		
ISO 11905	Yes	Yes	No			
Parameter Dissolved Nitrogen Total Nitrogen						
087 - Phosphate						

Field of Accreditation	n : Environmental			Matrix: Water
Analytical Method: C	OLORIMETRIC			Preparation Method:
Lab Method ID(s): TE	L069			
Method Reference SM 4500-P F	Modified From Yes	Analytical Method Yes	Preparation Meth	lod
Parameter Phosphate				
088 - Total and D	issolved Pho	sphorus		
Field of Accreditation	n : Environmental			Matrix: Water
Analytical Method: C	OLORIMETRIC			Preparation Method:
Lab Method ID(s): TE	L069			
Method Reference SM 4500-P F	Modified From Yes	Analytical Method Yes	Preparation Meth	lod
Parameter Dissolved Phosphore Total Phosphorus	us			
089 - Ammonia N	litrogen			
Field of Accreditation	n : Environmental			Matrix: Water
Analytical Method: C	OLORIMETRIC			Preparation Method:
Lab Method ID(s): TE	L068			
Method Reference SM 4500-NH3 G	Modified From Yes	Analytical Method Yes	Preparation Meth	lod
Parameter Ammonia				
090 - Reactive Si	lica			
Field of Accreditation	n : Environmental			Matrix: Water
Analytical Method: C	OLORIMETRIC			Preparation Method:
Lab Method ID(s): TE	EL070			
Method Reference SM 4500-SI F	Modified From Yes	Analytical Method Yes	Preparation Meth	od
Parameter				
Reactive Silica				
Reactive Silica 093 - Chlorine				
Reactive Silica 093 - Chlorine Field of Accreditation	n: Environmental			Matrix: Water
Reactive Silica 093 - Chlorine Field of Accreditation Analytical Method: C	n: Environmental			Matrix: Water Preparation Method:
Reactive Silica 093 - Chlorine Field of Accreditation Analytical Method: C Lab Method ID(s): TE	n: Environmental OLORIMETRIC :L049			Matrix: Water Preparation Method:
Reactive Silica 093 - Chlorine Field of Accreditation Analytical Method: C Lab Method ID(s): TE Method Reference SM 4500-CL G	n: Environmental OLORIMETRIC EL049 Modified From Yes	Analytical Method Yes	Preparation Meth No	Matrix: Water Preparation Method: nod
Reactive Silica 093 - Chlorine Field of Accreditation Analytical Method: C Lab Method ID(s): TE Method Reference SM 4500-CL G Parameter Free Chlorine Total Chlorine	n: Environmental OLORIMETRIC :L049 Modified From Yes	Analytical Method Yes	Preparation Meth No	Matrix: Water Preparation Method: od
Reactive Silica 093 - Chlorine Field of Accreditation Analytical Method: C Lab Method ID(s): TE Method Reference SM 4500-CL G Parameter Free Chlorine Total Chlorine	n: Environmental OLORIMETRIC EL049 Modified From Yes	Analytical Method Yes	Preparation Meth No © 2021 CA	Matrix: Water Preparation Method: Nod

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