



## MEADOWBANK COMPLEX

# **Quality Assurance / Quality Control (QA/QC) Plan**

In Accordance with Water License 2AM-MEA1530 and 2AM-WTP1830

Prepared by:  
Agnico Eagle Mines Limited – Meadowbank Division

Version 6  
July 2020

## EXECUTIVE SUMMARY

This document presents the Meadowbank and Whale Tail Sites Quality Assurance / Quality Control (QA/QC) Plan, a requirement of the Meadowbank Type A Water License No. 2AM-MEA1530 Part I Item 16 and 2AM-WTP1830 Part I Item 17. This Plan also supports the following conditions of the Meadowbank Project Certificate No. 004 Condition 6 and 23 and the Project Certificate No.008 Condition 8, issued by the Nunavut Impact Review Board (NIRB). The plan has been developed in accordance with the current standard method and with the Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) 1996 *'Guidelines for Use by Class "A" Licensees in Meeting SNP Requirements and for Submission of a QA/QC Plan'*.

The objective of quality assurance and quality control (QA/QC) program is to assure that the chemical data collected are representative of the material being sampled, are of known quality, are properly documented, and are scientifically defensible. Data quality was assured throughout the collection and analysis of samples using specified standardized procedures, by the employment of accredited laboratories, and by staffing the program with experienced technicians.

## **IMPLEMENTATION SCHEDULE**

As required by Water License 2AM-MEA1530 and 2AM-WTP1830 Part B, Item 11, the proposed implementation schedule for this Plan is outlined below.

This Plan will be immediately implemented (July 2020) subject to any modifications proposed by the Analyst or the NWB as a result of the review and approval process.

## **DISTRIBUTION LIST**

Agnico Eagle Mines – Environment Superintendent  
Agnico Eagle Mines – Environment General Supervisor  
Agnico Eagle Mines – Environmental Coordinator  
Agnico Eagle Mines – Environmental Technician

## DOCUMENT CONTROL

Version	Date (YMD)	Section	Page	Revision
1	09/01/01			Comprehensive plan for Meadowbank Project
2	14/06/20			Comprehensive update of the plan for Meadowbank Project
3	15/09	2.2.4	4	Modify Preservation section
		2.2.5	5	Add trip blank and field blank
4	2019/03	All	All	Integration of Whale Tail Site
5_NWB	2019/05	All	All	Updated for the Expansion Project in support of the Nunavut Water Board (NWB) Type A Water License
5	2020/03	All	All	Comprehensive review
6	2020/07	All	All	Update 60 days following the approval of the Water License 2AM-WTP1830.
		Table 2-1	5	Updated to reflect requirement from BV Labs
		3.1	8	Updated to reflect current laboratories information
		4.2	9	Updated to addresses KivIA-WL-IR21 regarding RDP and contamination of blanks
		Appendix A	12	Changed for accreditation certificate from BV Lab
		Appendix B	11	New Appendix – Laboratory acceptance letter

Prepared By: Environmental Department



Approved by: \_\_\_\_\_

*Robin Allard*  
Environment General Supervisor

## TABLE OF CONTENTS

### Contents

SECTION 1. INTRODUCTION .....	1
SECTION 2. FIELD SAMPLING .....	2
2.1 SAMPLING EQUIPMENT .....	2
2.2 SAMPLING METHODS AND HANDLING .....	2
2.2.1 Sample Identification .....	2
2.2.2 Surface Water Sampling .....	3
2.2.3 Groundwater Well Sampling .....	3
2.2.4 Preservation .....	4
2.2.5 Field Duplicates, Field Blanks and Trip Blanks .....	6
2.2.6 SAMPLE TRANSPORT .....	6
SECTION 3. LABORATORY ANALYSIS .....	8
3.1 EXTERNAL LABORATORY .....	8
3.2 INTERNAL LABORATORY .....	8
SECTION 4. DATA REQUIREMENTS .....	9
4.1 DATA COLLECTION .....	9
4.2 DATA VERIFICATION .....	9
4.3 EXCEEDENCE REPORTING .....	10

### LIST OF TABLES

Table 2-1: Summary of Sampling Requirements .....	5
Table 2-2: Quality Control Sample Frequency .....	6

### LIST OF APPENDICES

Appendix A: Bureau Veritas Accreditation Certificate  
Appendix B: Bureau Veritas Letter – Acceptance of the Plan

## SECTION 1. INTRODUCTION

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The objective of quality assurance and quality control (QA/QC) program is to assure that the chemical data collected are representative of the material being sampled, are of known quality, are properly documented, and are scientifically defensible. Data quality was assured throughout the collection and analysis of samples using specified standardized procedures, by the employment of accredited laboratories, and by staffing the program with experienced technicians.

This Plan documents the QA/QC program for the Meadowbank Project required by Type A Water License 2AM-MEA1530 and 2AM-WTP1830. It has been developed in accordance with the current standard method and with the Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) 1996 '*Guidelines for Use by Class "A" Licensees in Meeting SNP Requirements and for Submission of a QA/QC Plan*', which includes the following definitions:

*Quality Assurance:* *the system of activities designed to better ensure that quality control is done effectively; and*

*Quality Control:* *the use of established procedures to achieve standards of measurement for the three principal components of quality – precision, accuracy and reliability.*

This QA/QC Plan sets out standard procedures for sample and data collection with respect to surface water and groundwater sampling in support of monitoring programs outlined in the *Water Quality and Flow Monitoring Plan*, *Groundwater Monitoring Plan* and *Core Receiving Environment Monitoring Program (CREMP)*. Specific QA/QC details are also detailed in each of these programs. The QA/QC plan will be reviewed as needed and updated as required by the Environment General Supervisor. This plan has been updated following the approval of the Water License 2AM-WTP1830.

Section 2 includes procedures for field sample collection and handling, Section 3 outlines external and internal laboratory requirements and Section 4 sets out data verification procedures and regulatory reporting requirements.

## **SECTION 2. FIELD SAMPLING**

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Sampling stations, frequency and parameters are set out in Type A Water License 2AM-MEA1530 and 2AM-WTP1830 Schedule I – Conditions Applying to General and Aquatic Effects Monitoring<sup>1</sup> and Metal and Diamond Mining Effluent Regulations (MDMER). All sampling stations have a GPS location and are landmarked. All stations are used repeatedly with the same qualified personnel and techniques to reduce operational error. The following sections outline the standard procedures for collection and handling of all surface water and groundwater samples.

### **2.1 SAMPLING EQUIPMENT**

New laboratory supplied containers are used for sample collection. The bottles are either polyethylene plastic or glass, dependent on the specific parameter being analyzed.

Different handheld instruments are used to collect, as required, field parameters such as turbidity, temperature, pH, conductivity and dissolved oxygen. Instruments are calibrated before each sample event to ensure optimal performance and calibration results are recorded for future reference, if needed. Calibration and maintenance procedures are followed as set out by the supplier's operation manual. Equipment and bottles are selected so that they do not contaminate or alter the concentrations of parameters of interest according to laboratory standards.

For the groundwater sampling, CREMP sampling and to collect water samples at depth from the surrounding lake receiving and references environments, a pump with tubing is used. Low Density Poly Ethylene (LDPE) tubing (groundwater only), filter apparatus, manual pump and tubing, ash less filter paper are used to filter water for chlorophyll and inline filter for dissolved metal and/or for depth integrated sampling (i.e. chlorophyll a, phytoplankton or biological oxygen demand).

### **2.2 SAMPLING METHODS AND HANDLING**

#### **2.2.1 Sample Identification**

All samples have a unique sample identification name based on a station identifier, date and time of collection. For duplicate, field blank and trip blank, the sample identification are still based on the station identifier, date and time but followed by DUP (duplicate), FB (field blank) or TB (trip blank).

All sample bottles are identified with the sample identification and date of collection. This information is marked on a label with a water resistant pen and affixed to the sample bottle. Additional information like time of sampling and parameters to analyses are included in the analysis request that will be sent to the accredited laboratory.

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<sup>1</sup> Refer to Meadowbank Water Quality Flow and Monitoring Plan Section 2.3 and Whale Tail Water Quality and Flow Monitoring Plan Section 2.3 for more detailed description of station locations and both Meadowbank and Whale Tail Type A License Schedule I – Tables 1 and 2. The actual location of each sampling site will be marked with a highly visible stake with appropriate signage attached that will define the exact location of the collection point

## **2.2.2 Surface Water Sampling**

The bottles are pre-labelled with the required sample identification before going on the field. Surface grab samples are collected by submerging the sample bottle to the stream/lake. For sumps, diversion ditches and piped discharge points, sample are collected below the surface of the water.

Samples bottles are provided by the accredited laboratory. Bottles are received pre-rinsed and pre-preserved or pre-rinsed with vials of preservative that are added in the field by qualified technicians or biologists. In the case that bottles are not pre-preserved, bottles are rinsed three times with sample water before filling. When sampling bottle contains preservative, the bottle is filled by using another clean bottle to avoid any release of preservative. Sometimes, a preservative is added after filling as directed by the laboratory; see Section 2.2.4 for more detail on preservation. The bottles are filled properly to allow mixing, preservative addition and thermal expansion.

Samples analyzed for dissolved metals are filtered through ash less filter paper at the time of collection when the delay before analysis will exceed the parameter holding time. However, when the delay before analyses is potentially within the holding time, the accredited laboratory will filter the sample before analyses. For chlorophyll A analysis, the sample is filtered through the ash less filter paper or send directly to the laboratory if within the holding time. If needed, samples can be frozen to prevent parameter degradation.

## **2.2.3 Groundwater Well Sampling**

### Well Preparation for Sampling

At the time of purging and sampling the heat trace cables are activated to warm the well pipe. Once the well has been thawed the well is purged.

### Well Purging

Depending on the depth of the well, purging is performed by inserting a ¾" Low Density Polyethylene (LDPE) Waterra tube to approximately 20 meters below the water surface and to use a compressor to push the water out. The wells are purged to remove standing water inside the well and to induce the flow of fresh groundwater from the rock formation. The Waterra tube is lowered to 20 meters below the remaining water and a compressor is used to completely dry the well. The quality of the purged water is monitored for pH, conductivity, temperature, water clarity and color (visual observation) during this activity. Three (3) well volumes of water between the in-well packer and bottom of screened interval) are removed prior to sampling or until the monitored parameters stabilize (values remaining within 10% for three consecutive readings).

### Groundwater Sampling

Groundwater is sampled immediately after purging by lowering the intake of the DVP tubing to 3 to 5 meters above the screened interval.

A groundwater sample is collected in clean, laboratory-supplied containers as per the instructions in the previous section. Samples analyzed for dissolved metals are filtered through a 45 µm inline filter.

Samples are collected in duplicate (see Section 2.2.5) and submitted to the analytical accredited laboratory. Duplicate samples are collected.



Measurements of groundwater temperature, pH, electrical conductivity, turbidity and salinity are obtained in the field during purging and sampling. Measurements are recorded for future reference and to check against laboratory data.

The following procedures are followed to provide data quality control on the samples:

- Measurement of field parameters at selected intervals until stable readings (within 10% of each other);
- Minimization of the exposure of the sampled water to the atmosphere;
- Use of compressed, inert gas (nitrogen) to evacuate water for sample collection;
- In-situ measurement of sensitive chemical parameters (pH, conductivity, where applicable); and
- Abiding by sample preservation methods (refrigeration and use of preservatives where needed); and specified holding times.

Bottles are labelled with required information.

#### **2.2.4 Preservation**

Preservatives, if required, are added to sample bottles by the laboratory or added by the technician after filling, as directed by the analytical laboratory. Table 2.1 summarizes the minimum sample volumes, preservation and holding times for each analysis. This information was provided by the accredited laboratory Bureau Veritas and revised with them in compliance with their protocol. It should be noted that pH, temperature, conductivity, turbidity and dissolved oxygen are parameters taken on the field.

**Table 2-1: Summary of Sampling Requirements**

Parameter	Minimum Volume (mL)	Bottle Type	Preservation	Holding Time
pH	80	250 mL, glass or plastic, filled to the top	4°C	Analyze immediately
Conductivity	80	250 mL, glass or plastic	4°C	28 days
Hardness	120	120 mL plastic, filled to the top	4°C, HNO <sub>3</sub>	6 months
Oil and Grease (total)	1000	1 L clear glass	4°C, HCl	28 days
Turbidity	80	250 mL, glass or plastic	4°C	48 hours
Total Dissolved Solids (TDS)	200	250 mL plastic	4°C	7 days
Total Suspended Solids (TSS)	200	250 mL plastic	4°C	7 days
Total Alkalinity	80	250 mL, glass or plastic, filled to the top	4°C	14 days
Bicarbonate Alkalinity	250	250 mL, glass or plastic, filled to the top	4°C	14 days
Carbonate Alkalinity	250	250 mL, glass or plastic, filled to the top	4°C	14 days
Total Cyanide	20	120 mL, glass or plastic	4°C, NaOH	14 days
Free Cyanide	40	150 mL, glass or plastic	4°C, NaOH	14 days
Benzene, Toluene, Ethylbenzene & Xylene (BTEX)	40	40 mL, glass, filled to the top	4°C, sodium bisulfate	7 days
Total Petroleum Hydrocarbons(TPH)	200	100mL amber, fill to neck	4°C, H <sub>2</sub> SO <sub>4</sub>	28 days
Total Metals (ICP-MS) (Aluminum, Antimony, Arsenic, Boron, Barium, Beryllium, Cadmium, Cobalt, Copper, Chromium, Iron, Lithium, Manganese, Mercury, Molybdenum, Nickel, Lead, Selenium, Tin, Strontium, Titanium, Thallium, Uranium, Vanadium, Zinc, Potassium, Magnesium, Sodium)	120	120 mL plastic	4°C, HNO <sub>3</sub>	6 months
Dissolved Metals (Aluminum, Antimony, Arsenic, Boron, Barium, Beryllium, Cadmium, Cobalt, Copper, Chromium, Iron, Lithium, Manganese, Mercury, Molybdenum, Nickel, Lead, Selenium, Tin, Strontium, Titanium, Thallium, Uranium, Vanadium, Zinc )	120	120 mL plastic	4°C, Filtered on-site, HNO <sub>3</sub>	6 months
Ammonia-nitrogen	14	40 mL, glass, filled to the top	4°C, H <sub>2</sub> SO <sub>4</sub>	10 days
Total kjeldahl nitrogen	20	125 mL, glass or plastic, filled to the top	4°C, H <sub>2</sub> SO <sub>4</sub>	7 days
Nitrate nitrogen	14	125 mL, glass or plastic	4°C	5 days
Nitrite nitrogen	14	125 mL, glass or plastic	4°C	5 days
Ortho-phosphate	14	125 mL, glass or plastic	4°C	7 days
Total phosphorous	30	120 mL, glass or plastic	4°C, HNO <sub>3</sub>	30 days
Total organic carbon	30	120 mL plastic	4°C, H <sub>2</sub> SO <sub>4</sub>	10 days
Dissolved organic carbon	50	120 mL plastic	4°C, H <sub>2</sub> SO <sub>4</sub>	5 days
Chloride	14	250 mL, glass or plastic	4°C	28 days
Fluoride	80	250 mL plastic	4°C	30 days
Sulphate	14	250 mL, glass or plastic	4°C	28 days
Radium 226	500	1L plastic	4°C,	1 month
Reactive Silica	30	250 mL, plastic	4°C	28 days

## 2.2.5 Field Duplicates, Field Blanks and Trip Blanks

One field duplicate, one filter blank, and one field blank are collected for a) every 10 samples (i.e. randomness duplicate samples are taken for 10% of the samples), b) each sampling event or c) once per year as shown in Table 2.2. Field duplicates and filter blanks are collected and handled in the same manner as the other samples in the field. Field blanks are samples of deionized (DI) water handled concurrently and in the same manner as the other samples in the field. Trip blank, laboratory pre-filled bottles with DI water are carried to the sampling location and are left unopened, will be collected for a total of 10% annually.

**Table 2-2: Quality Control Sample Frequency**

Sampling Site	QA/QC Sampling Frequency
<b>Compliance Monitoring Program</b>	
Attenuation and reclaim ponds	1 field duplicate and 1 field blank per 10 samples
Mine facilities - operations	1 field duplicate and 1 field blank per year
Mine facilities - closure	1 field duplicate and 1 field blank per year
Mine facilities - post-closure	1 field duplicate and 1 field blank per year
Seep water chemistry	1 field duplicate and 1 field blank per 10 samples
Groundwater chemistry	1 field duplicate per groundwater sampling event. One field blank and 1 trip blank per year
Receiving water chemistry	Blind field duplicates, laboratory and field blanks, sediment cleaning swipes, laboratory matrix spike duplicates per 10 samples (CREMP)
<b>Event Monitoring Program</b>	
Each event	1 field duplicate and 1 field blank per 10 samples

## 2.2.6 SAMPLE TRANSPORT

All water samples are stored upright in coolers with ice packs and preserved as specified by the laboratory. Samples are shipped to the external laboratory as soon as possible via chartered aircraft and dedicated ground transportation to ensure arrival in a safe and timely manner. If sample can't be shipped the same day, there are conserved in a refrigerator at 4°C until shipping.

A Chain of Custody form with the following information is completed for every shipment of samples:

- Company name and sampler's name;
- Sample identification name;
- Time and date of sampling;
- Presence and type of preservative and whether the sample was filtered or not;

- Requested analytical parameters for each bottle;
- Time and date of shipping; and
- Analytical laboratory address and contact person.

One electronic or PDF copy is send by the electronic chain of custody via portal web and one electronically copy is kept at the mine site for reference.

## **SECTION 3. LABORATORY ANALYSIS**

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### **3.1 EXTERNAL LABORATORY**

All analytical chemistry analyses are performed by an accredited laboratory.

In many cases these analyses are performed by Bureau Veritas, an accredited facility (see Appendix A) that is located in Mississauga, Ontario. This ensures that samples collected meet holding time requirements for all regulatory sampling. All data from Bureau Veritas undergoes a rigorous internal QA/QC process, including the use of spiked samples and duplicate samples. All QA/QC data passed the laboratories acceptable limits.

All toxicity tests were performed by an accredited laboratory, generally Bureau Veritas in Quebec City and/or Aquatox in Puslinch, ON. Testing was conducted as stipulated in the corresponding Environment Canada Biological Test Methods.

Agnico also require the services of laboratory as Bureau Veritas in Edmonton, Alberta, H2Lab in Val-D'Or, Quebec and SGS in Lake Field, Ontario. Agnico also uses the services of ALS for many of the CREMP and AEMP water quality analysis.

### **3.2 INTERNAL LABORATORY**

The assay lab at the Meadowbank site is not an accredited laboratory but is periodically used for “real-time” results for some parameters like TSS, copper and WAD cyanide. These results are for observational purposes and do not meet the standards of an accredited laboratory.

## SECTION 4. DATA REQUIREMENTS

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### 4.1 DATA COLLECTION

Agnico has implemented at the end of 2018 and was fully operational in 2019 a database called EQUIS.

Water sampling results from the Meadowbank and Whale Tail sites are maintained in the environmental database, including historical data.

The database has been designed based on the sampling stations in order to be compliant with the monitoring program of the Water Licenses 2AM-MEA1530 and 2AM-WTP1830 (Schedule I), the MDMER regulation and CCME guideline. To enhance the effectiveness of the QA/QC program, the database functionalities include trend analysis and flagging out in case of a non-compliance sampling parameters. All the regulated sampling results are included in the annual report.

The following data is collected for each sample in the field and will be entered into the database by the sampler for the corresponding sampling station:

- a) Sample identification name;
- b) Name of sampler;
- c) Date and time of sampling or measurement; and
- d) Physical characteristics (pH, temperature etc.), if required.

Upon receipt of sample results from the laboratory, the data will be input into the database by the sample identification name.

The analysis certificate for each sample from the accredited laboratory will include but not limited to:

- a) Analytical methods or techniques used;
- b) Date of analysis;
- c) Name of the person(s) / laboratory that approved the certificate; and
- d) Analysis results.

### 4.2 DATA VERIFICATION

Upon reception of analytical results, the field blank and duplicate analyses will be verified for potential contamination and accuracy, respectively. Results will be interpreted and recommended actions will be taken if results are not accurate.

Analytical precision is a measurement of the variability associated with duplicate analyses of the same sample in the laboratory. Duplicate results were assessed using the relative percent difference (RPD) between measurements. The equation used to calculate a RPD is:

$RPD = (A-B) / ((A+B)/2) * 100$ ; where: A = field sample; B = duplicate sample.

Large variations in RPD values are often observed between duplicate samples when the concentrations of analytes are low and approaching the detection limit. Consequently, a RPD of 20% for concentrations of field and duplicates samples that both exceed 10x the method detection limit (MDL) is considered notable and if possible, will require a parameter reanalysis of the field and duplicate samples and/or confirmation by the laboratory that the result is accurate and have pass the accredited laboratory QAQC. Results with a RDP higher than 20% will not be discarded but rather will be interpreted with precaution.

The analytical precision of one QAQC sampling event is characterized as:

- High, when less than 10% of the parameters have variations that are notable;
- Medium, when 10 to 30% of the parameters have variations that are notable;
- Low, when more than 30% of the parameters have variations that are notable.

Analyses of blank samples will follow the same RDP analyses standards as describe above. The RDP will be calculate between field blank samples results and the typical blank values provided by the laboratory.

### **4.3 EXCEEDENCE REPORTING**

Any measured concentration at a sample station exceeding a regulated discharge criteria stipulated in Water License 2AM-MEA1530, 2AM-WTP1830 or the Metal and Diamond Mining Effluent Regulations (MDMER) will be reported to the NWB, ECCC and CIRNAC water inspector as soon as the analysis result is received. In addition, results of the action plan will be reported and, where necessary, mitigation options identified within 90 days after receipt of the analyses.

## **Appendix A**

### **Bureau Veritas Accreditation Certificate**

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CERTIFICATE  
OF ACCREDITATION



Standards Council of Canada  
Conseil canadien des normes

CERTIFICAT  
D'ACCREDITATION

**Bureau Veritas Canada (2019) Inc.**

Mississauga Laboratory

6740 Campobello Road, Mississauga, Ontario, L5N 2L8, 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

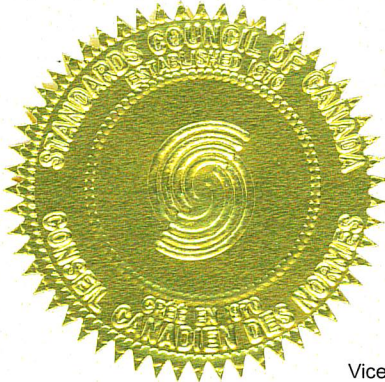
ayant fait l'objet d'une évaluation du Conseil canadien des normes (CCN), et ayant été trouvé conforme aux exigences énoncées dans ISO/IEC 17025:2017 et aux conditions d'accréditation établies par le CCN, est de ce fait reconnu comme étant un

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](http://www.scc.ca).

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](http://www.ccn.ca).



Accredited laboratory number: / Numéro de laboratoire accrédité : 97

SCC file number: / Dossier du CCN n° : 15025

Initial accreditation date: / Date de la première accréditation : 1992-10-06

  
Vice-President – Accreditation Services / Vice-président – Services d'accréditation

Issued on: / Délivré le : 2019-06-07

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](http://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](http://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 de avril 2017).

# Canadian Association for Laboratory Accreditation Inc.



## Certificate of Accreditation

Bureau Veritas Canada (2019) Inc.  
Bureau Veritas  
4606 Canada Way  
Burnaby, British Columbia

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.  
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.: A2168  
Issued On: May 28, 2018  
Accreditation Date: January 3, 2005  
Expiry Date: November 25, 2020

  
President & 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](http://www.cala.ca).



# CERTIFICATE OF ACCREDITATION



Standards Council of Canada  
Conseil canadien des normes

# CERTIFICAT D'ACCREDITATION

## Bureau Veritas Canada (2019) Inc.

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 17025:2005 and the conditions for accreditation established by SCC is hereby recognized as an

ayant fait l'objet d'une évaluation du Conseil canadien des normes (CCN), et ayant été trouvé conforme aux exigences énoncées dans ISO/IEC 17025:2005 et aux conditions d'accréditation établies par le CCN, est de ce fait reconnu comme étant un

### 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](http://www.scc.ca).



### 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](http://www.ccn.ca).

Accredited laboratory number: / Numéro de laboratoire accrédité : 836

SCC file number: / Dossier du CCN n° : 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 : 2019-06-07

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](http://www.scc.ca).

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. 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](http://www.ccn.ca).

Ce laboratoire est accrédité conformément à la Norme internationale reconnue ISO/IEC 17025:2005. 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 de avril 2017).

# CERTIFICATE OF ACCREDITATION



Standards Council of Canada  
Conseil canadien des normes

# CERTIFICAT D'ACCREDITATION

## Bureau Veritas Canada (2019) Inc.

### Petroleum Technology Center

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

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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#### 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](http://www.ccn.ca).

Accredited laboratory number: / Numéro de laboratoire accrédité : 160

SCC file number: / Dossier du CCN n° : 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 : 2019-06-07

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](http://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](http://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 de avril 2017).

# CERTIFICATE OF ACCREDITATION



Standards Council of Canada  
Conseil canadien des normes

# CERTIFICAT D'ACCREDITATION

## Bureau Veritas Canada (2019) Inc.

889 Montée de Liesse, Saint-Laurent, Québec, H4T 1P5, 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

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

### 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](http://www.scc.ca).



### 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](http://www.ccn.ca).

Accredited laboratory number: / Numéro de laboratoire accrédité : 120

SCC file number: / Dossier du CCN n° : 15198

Initial accreditation date: / Date de la première accréditation : 1993-06-08

.....  
Vice-President – Accreditation Services / Vice-président – Services d'accréditation  
Issued on: / Délivré le : 2019-06-07

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](http://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](http://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 de avril 2017).

## **Appendix B**

### **Bureau Veritas Acceptance Letter**

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July 3, 2020

TO WHOM IT MAY CONCERN

This letter provides confirmation that Bureau Veritas locations in Mississauga, Ontario; Edmonton, Alberta and Quebec City, Quebec are all accredited by the Standards Council of Canada (SCC) for specific listings included on their respective scopes of accreditation. These scope documents are accessible and available on SCC's website – below are links to the scopes of accreditation for further perusal:

- [https://www.scc.ca/en/system/files/client-scopes/ASB\\_SOA\\_151140\\_Maxxam-Scope\\_v9\\_2019-09-05-FR.pdf](https://www.scc.ca/en/system/files/client-scopes/ASB_SOA_151140_Maxxam-Scope_v9_2019-09-05-FR.pdf)
- [https://www.scc.ca/en/system/files/client-scopes/ASB\\_SOA\\_15229\\_Scope\\_v6\\_2020-03-03.pdf](https://www.scc.ca/en/system/files/client-scopes/ASB_SOA_15229_Scope_v6_2020-03-03.pdf)
- [https://www.scc.ca/en/system/files/client-scopes/ASB\\_SOA\\_15025\\_Scope\\_v29\\_2020-06-15.pdf](https://www.scc.ca/en/system/files/client-scopes/ASB_SOA_15025_Scope_v29_2020-06-15.pdf)

In addition, Bureau Veritas confirms that capability and capacity to analyse sample submissions.

Should you have additional queries, please do not hesitate to contact the undersigned.

Regards

Salima Haniff  
Quality Assurance Manager (Ontario & US Labs)  
**Bureau Veritas Laboratories**

Phone: 905 817 5703 Mobile: 647 327 4717  
[Salima.Haniff@bvlabs.com](mailto:Salima.Haniff@bvlabs.com)