AGNICO EAGLE

MELIADINE GOLD PROJECT

Quality Assurance/Quality Control Plan

MARCH 2019
VERSION 3
6513-QQY-01

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ᑎᑎᖅᑲᖅ ᐱᔾᔪᑎᖃᖅᑐᖅ ᑕᓯᕐᔪᐊᕐᒥᑦ ᐅᓯᕋᒃᑕᕆᐊᖅ ᖃᓄᐃᓐᓂᖓᓄᑦ ᓇᓗᓇᐃᖅᓯᓂᖅ / ᖃᓄᐃᓐᓂᖓᓂᒃ ᐊᐅᓚᑦᑎᓂᖅ (QA/QC) ᐸᕐᓇᐅᑎᒥᑦ, ᐱᔭᕆᐊᖃᖅᑐᖅ ᑕᓯᕐᔪᐊᕐᒧᑦ Type A ᐃᒪᕐᒧᑦ ᓚᐃᓴᓐᓯ ᓈᓴᐅᑎ 2AM-MEL1631-ᒥᑦ, ᐅᖃᖅᓯᒪᔪᖅ ᐊᕙᒃᑐᖅᓯᒪᔪᖅ I, ᖃᓄᐃᖓᔭᕆᐊᖃᕐᓂᖅ 16-ᒥᑦ:

> *ᓚᐃᓴᖃᖅᑐᖅ ᑲᒪᓂᐊᖅᐸᖓ ᖃᓄᐃᓐᓂᖓᓄᑦ ᓇᓗᓇᐃᖅᓯᓂᖅ / ᖃᓄᐃᓐᓂᖓᓂᒃ ᐊᐅᓚᑦᑎᓂᖅ (QA/QC) ᐸᕐᓇᐅᑎ, ᓈᒻᒪᒋᔭᐅᔪᖅ ᑲᑎᒪᔨᓄᑦ ᐃᓚᐅᓗᑎᒃ ᐱᔭᕆᐊᖃᕐᓂᐅᔪᑦ ᐃᖕᒥᒃᑯᑦ ᐊᓯᖕᖏᓐᓄᑦ ᐆᒃᑐᕋᐃᓂᖃᕐᓗᑎᒃ ᐊᒻᒪᓗ ᖃᐅᔨᓴᐃᓂᖃᕐᓗᑎᒃ. QA/QC ᐸᕐᓇᐅᑎ ᐱᓕᕆᐊᖑᓂᐊᖅᐳᑦ ᐊᒻᒪᓗ ᐅᑉᓗᒥᒨᓕᖅᑐᖅᑕᐅᓗᓂ ᐱᔭᕆᐊᖃᕐᓂᒃᑯᑦ ᒪᓕᒡᓗᒋᑦ ᐊᒻᒪᓗ ᐅᖃᖃᑎᒋᓂᒃᑯᑦ ᐃᓕᑕᕆᔭᐅᓯᒪᔪᑦ ᖃᐅᔨᓴᐃᕝᕙᒃ ᖃᐅᔨᓴᐃᓂᖃᖅᑐᑦ. ᐸᕐᓇᐅᑎᒥᑦ ᐃᓚᐅᓂᐊᖅᐳᖅ ᑎᑎᖅᑲᖅ ᐃᓕᑕᕆᔭᐅᓯᒪᔪᑦ ᖃᐅᔨᓴᐃᕝᕙᖕᒥᑦ ᓇᓗᓇᐃᖅᓯᓗᓂ ᓈᒻᒪᒋᔭᐅᓂᖓᓄᑦ ᐸᕐᓇᐅᑎ ᖃᐅᔨᓴᖅᑕᐅᓂᐊᕐᓗᓂ ᒪᓕᒡᓗᒍ ᓚᐃᓴᓐᓯ. ᑖᓐᓇ ᐸᕐᓇᐅᑎ ᐱᓕᕆᐊᖑᓂᐊᖅᐳᖅ ᒪᓕᒡᓗᒋᑦ ᒫᓐᓇᐅᔪᖅ ᐊᑐᖅᑕᐅᖃᑦᑕᖅᑐᑦ ᐋᖅᑭᐅᒪᔪᑦ ᐊᒻᒪᓗ 1996-ᒥᑦ ᖃᓄᐃᓐᓂᖓᓄᑦ ᓇᓗᓇᐃᖅᓯᓂᖅ (QA) ᖃᓄᐃᓐᓂᖓᓂᒃ ᐊᐅᓚᑦᑎᓂᖅ (QC)-ᓄᑦ ᒪᓕᒃᑕᐅᔫᓴᐃᑦ ᐊᑐᖅᑕᐅᓂᐊᕐᓗᓂ ᐃᓂᐅᔪᖅ "A" (INAC).*

EXECUTIVE SUMMARY

This document presents the Meliadine Mine Quality Assurance / Quality Control (QA/QC) Plan, a requirement of the Meliadine Type A Water License No. 2AM-MEL1631, specified under Part I, Condition 16:

> *The Licensee shall maintain a Quality Assurance / Quality Control Plan, accepted by the Board that includes requirements for independent third party sampling and analysis. The QA/QC Plan shall be prepared and updated as needed in accordance with and in consultation with the accredited laboratory conducting the analyses. The Plan shall include a cover letter from the accredited laboratory confirming approval of the Plan for analyses to be performed under this Licence. This Plan shall be developed in accordance with current Standard Methods and the 1996 Quality Assurance (QA) and Quality Control (QC) Guidelines for Use by Class "A" (INAC).*

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DOCUMENT CONTROL

Version	Date	Section	Page	Revision	Author
1	April 2015			This is the first version of this Plan, developed for the Type A Water Licence Application	Golder Associates Ltd.
2	March 2018	All	All	-Updated revision date	Meliadine Environment Department
		2.1	3	-Changed Hanna multi-meter to Eureka Manta II	
		2.2.4	6	-Laboratory name change: MultiLab to H2Lab	
		Table A-2	Appendix 12	-Updated table of analytical parameters (removed Group listing)	
		Figure A-2		-Removed figure heading for site sampling location – no figure was included with the heading	
		Figure A-1	Appendix 16	-Added General Site Plan figure to existing heading	
3	March 2019			Reviewed internally (added changes that the construction phase brought and review of the grammatical tense)	Meliadine Environment Department
		Executive Summary	Ii	Additional INAC information added to executive summary	
		Table A-1	A-2, A-3	Updated GPS Coordinates	
		Figure A-1	A-5	Updated Site Map	

ACRONYMS

CIRNAC	Crown-Indigenous Relations and Northern Affairs
Agnico Eagle	Agnico Eagle Mines Limited
AEMP	Aquatic Effects Monitoring Program
Mine	Proposed Meliadine Gold Mine
MDMER	Metal and Diamond Mining Effluent Regulations
NWB	Nunavut Water Board
Project	Meliadine Gold Project
QA/QC	Quality Assurance and Quality Control
SNP	Surveillance Network Program
CALA	Canadian Laboratory Accreditation

SECTION 1 • INTRODUCTION

Agnico Eagle Mines Limited (Agnico Eagle) developed the Meliadine Gold mine site approximately 25 kilometres north from Rankin Inlet, and 80 kilometres southwest from Chesterfield Inlet in the Kivalliq Region of Nunavut. Situated on the western shore of Hudson's Bay, the Meliadine site is located on a peninsula (the Peninsula) between the east, south, and west basins of Meliadine Lake (63°01'23.8"N, 92°13'6.42"W), on Inuit Owned Land.

This report presents the Quality Assurance/Quality Control (QA/QC) Plan for the Project. The Plan was prepared in accordance with the requirements of Type A Water Licence Application and the Supplementary Information Guidelines for Mining and Water Works, issued by Nunavut Water Board (NWB 2010a, b, c). It has been developed in accordance with the Aboriginal Affairs and Northern Development Canada (AANDC) 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.

The mine will have an open pit and underground mining methods for the development of the Tiriganiaq gold deposit, with two open pits (Tiriganiaq Pit 1 and Tiriganiaq Pit 2) and one underground mine. The mine will produce approximately 14.9 million tonnes (Mt) of ore, 31.4 Mt of waste rock, 7.1 Mt of overburden waste, and 14.9 Mt of tailings. There are four phases to the development of Tiriganiaq: 3.5 years construction (Q4 Year -5 to Q2 Year -1), 8.5 years mine operation (Q2 Year 1 to Year 8), 3 years closure (Year 9 to Year 11), and post-closure (Year 11 forwards).

A general location plan of the Mine is shown in Figure A-1.

This Plan, which is part of the Environmental Management System for the Mine, is divided into the following components:

- Procedures for field sample collection (Section 2);
- External and internal laboratory requirements (Section 3); and
- Data verification procedures and regulatory reporting requirements (Section 4).

The objective of the 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 is 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 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 Management Plan, Groundwater Management Plan, and the Aquatic Effects Monitoring Program (AEMP) Design Plan.

SECTION 2 • FIELD SAMPLING

Water quality monitoring was initiated at the pre-development stage and will continue during construction, operations, and closure. Sampling stations, frequency, and parameters are listed in Appendix A, Table A-1. Table A-2 provides supporting definitions. The stations and their requirements may be adjusted based on the requirements of the Type A Water Licence and/or any updates to the Mine management plans over the life of the Mine. Sampling stations are shown in Appendix A, Figure A-2.

There are three categories of aquatic monitoring at Meliadine:

- **Regulated monitoring** occurs at monitoring points specified in licences or regulations. It includes discharge limits that must be achieved to maintain compliance with an authorization (i.e., water licence) or regulation (i.e., Metal and Diamond Mining Effluent Regulations). Enforcement action may be taken if discharge limits are exceeded for a parameter.
- **Verification monitoring** is carried out for operational and management purposes by Agnico Eagle. This type of monitoring provides data for decision making and builds confidence in the success of processes being used. There is no obligation to report verification monitoring results, although some monitoring locations and these results can be mentioned in environmental management plans (i.e., sampling to verify soil remediation in the landfarm).
- **General monitoring** is commonly included in a water licence specifying what is to be monitored according to a schedule. It covers all types of monitoring (i.e., geotechnical, lake levels, etc.). This monitoring is subject to compliance assessment to confirm sampling was carried out using established protocols, included QA/QC provisions, and addresses identified issues. General monitoring is subject to change as directed by an Inspector, or by the Licensee, subject to approval by the Water Board.

All sampling stations are clearly identified; their GPS coordinates collected and stored. All sampling is conducted by qualified personnel, at the same location, using the same 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.

Equipment, such as the HACH test kit – 2100 Q Portal Turbidimeter (turbidity), Oakton PCS35 Meter (pH and conductivity), and Eureka Manta II (pH, dissolved oxygen and conductivity) are handheld instruments that are used to collect, as required, field parameters. The instruments are calibrated before each sample event to ensure optimal performance and record of the calibration are kept in a

Calibration log, and maintenance procedures will be 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.

To collect water samples at depth from the surrounding lake receiving environments, a pump with tubing is used. Low Density Polyethylene tubing, filter apparatus, manual or electric pump, and ashless filter paper are used to filter water for specific analyses (e.g., dissolved metals, chlorophyll *a*) and/or for depth integrated sampling (e.g., chlorophyll *a*, phytoplankton, or biological oxygen demand).

2.2 Sampling Methods and Handling

2.2.1 Sampling Identification

All samples have a unique sample identification name based on a station identifier, date, and time of collection. For duplicates and field blanks, the sample identification follows the naming convention *year* and *sampling number* by following the Environment QAQC table (e.g. 2018-0001)

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 or using a label printer and affixed to the sample bottle. Additional information (time of sampling and parameters to analyze) is included in the analysis request (Chain of Custody) that is sent to the Canadian Laboratory Accredited laboratory (CALA).

2.2.2 Surface Water Sampling

Bottles are pre-labeled with the required sample identification before going to the field. Surface grab samples are collected by submerging the sample bottle to half depth of the stream. For sumps, diversion ditches and piped discharge points, samples are collected below the surface of the water.

Samples bottles are provided by the accredited laboratory. All bottles from the lab are pre-rinsed and pre-preserved or pre-rinsed with vials of preservative to that are added in the field by qualified technicians; in the case that bottles are not pre-preserved; bottles are rinsed three times with sample water before filling. When the sampling bottles contains preservative, the bottles are 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 details on preservation. The bottles are filled properly to allow mixing, preservative addition, and thermal expansion.

Samples analyzed for dissolved metals and chlorophyll *a* are filtered through ash less filter paper at the time of collection when the delay before analyses is long. However, when the delay before analyses is short, the accredited laboratory filters the sample before analyses. In some cases, when the analysis delay is long, the sample will be frozen to prevent parameter degradation.

2.2.3 Groundwater Sampling

Water samples taken from sumps within the underground mine follow the procedures outlined in Section 2.2.2.

Samples representing non-contact groundwater are collected via Diamond Drill Holes (DDHs) intersecting the fracture network. In order to ensure samples are unaffected by substances and materials used during the drilling process, DDHs are flushed thoroughly prior to collecting. The duration of a flush is based on the length of the DDH and rate of groundwater flow measured at its collar. These values are matched to flush-duration curves provided by Golder Associates.

Groundwater samples are collected in clean 4L and 1L containers. In order to minimize the impact of potential contamination from the atmospheric conditions in the underground mine, the 4L sample is transferred to bottles of smaller volume any additional parameters to be analyzed once brought to surface. This is done in a clean laboratory environment where the risk of sample contamination is greatly decreased. Samples are processed and preserved in an appropriate timeframe after collection.

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 A-3 summarizes the minimum sample volumes, preservation, and holding times for select parameters. This information was provided by the CALA certified laboratory H2Lab (formerly MultiLab) for the Meadowbank Mine; however, they are also applicable to the Project.

Table 0-1: Summary of Sampling Requirements

Parameters	Matrix				Type of Bottle	Preservative	Volume
	Drinking Water	Waste Water	Surface Water	Ground Water (1)			
Microbiology							
Escherichia coli, total coliforms, A.A.H.B	48h	48h	48h	48h	PPS	TS, E	250ml
Enterococcus	48h	48h	48h	48h	PPS	TS, E	250ml
Thermo tolerant coliforms (fecal)	48h	48h	48h	48h	PPS	TS, E	250ml
Inorganic Chemistry							
Absorbance UV, Transmittance UV				24h	P. T. V	N	125ml
Alkalinity, Acidity, Bicarbonates, Carbonates	14d	14d	14d	14d	P, T, V	N	250ml
Ammonia nitrogen (NH_3-NH_4)	28d	28d	28d	28d	P, T, V	AS	125ml
Kjeldahl ammonia (NTK)		28d	28d	28d	P, T, V	AS	125ml
Anions (Cl, F,SO_4)	28d	28d	28d	28d	P, T, V	N	250ml
Color, Free & total Chlorine	48h	48h	48h	48h	P, T, V	N	125ml
Conductivity	28d	28d	28d	28d	P, T, V	N	250ml
Cyanides total/available, Cyanides	14d	14d	14d	14d	P, T, V	NaOH	250ml
BOD_5/Carbonated BOD_5 (2)		48h/4°	48h/4°		P, T, V	N	250ml
COD (chemical oxygen demand)		28d	28d		P, T, V	AS	125ml
Mercury (Hg)	28d	28d	28d	28d	P, T, V	AN	250ml
Total/dissolved metals (filtered on field)	180d	180d	180d	180d	P, T, V	AN	250ml
Dissolved Metals (filtered in the laboratory)	24h	24h	24h	24h	P, T, V	N	250ml
Total suspended solids & Volatile TSS		7d	7d	7d	P. T. V	N	500ml
NH_3 or NH_4		24h	24h	24h	P.T.V	N+AS	2/125ml

Nitrites (NO_2), Nitrates (NO_3), Turbidity	48h	48h	48h	48h	P, T, V	N	250ml
Nitrites-Nitrates (NO_2-NO_3)	28d	28d	28d	28d	P, T, V	AS	250ml
O-Phosphates (O-PO_4)	48h	48h	48h	48h	P, T, V	N	500ml
pH	24h	24h	24h	24h	P, T, V	N	125ml
Total Phosphorus (P-tot)	28d	28d	28d	28d	P, T, V	AS	125ml
Dissolved solids (TDS)		7d	7d	7d	P. T. V	N	250ml
Total solids		7d	7d	7d	P. T. V	N	250ml
Sulphides (H_2S) (3)	28d	28d	28d	28d	P. T. V	AcZn + NaOH	125ml
Thiosulfates	48h	48h	48h	48h	P. T. V	N	125ml
Radioactive & Organic Chemistry							
Fatty resin acids (S-T)	--	28d	28d	--	VA, VT	AS	1L
Congeners PCB (S-T)	28d	28d	28d	28d	VA, VT	N	1L
Chlorobenzene	28d	28d	28d	28d	2 Vial+1 blank	TSS	2/40ml
Total Organic Carbon (TOC)	28d	28d	28d	28d	P, T, V (B)	AC	100ml
Dissolved Organic Carbon (DOC)	48h	48h	48h	48h	P, T, V (B)	N	100ml
Total Inorganic Carbon (CIT)	48h	48h	48h	48h	P, T, V (B)	N	100ml
Phenolic compound (GC-MS)	28d	28d	28d	28d	VA, VT	AS	1L
Glyphosate (S-T)	14d	14d	14d	14d	P.T	N	500ml
PAH	28d	28d	28d	28d	VB	AS	1L
Oil & Greases (total and non-polar)	28d	28d	28d	28d	VA, VT	AS	1L
C10-C50 HP and/or Petroleum Product Identification	28d	28d	28d	28d	VA, VT	AS	1L
Phenol index	28d	28d	28d	28d	VA, VT	AS	500ml
Radium-226	180d	180d	180d	180d	P, T. V	AN	1L
VOC (MAH, CAH, THM, BTEX) (3)	28d	28d	28d	28d	2 Vial+1 blank	TSS	2/40ml

Type of bottle:
P.S.V.T.: plastic bottle, bag or glass bottle with Teflon cap
P, T: Plastic bottle or plastic bottle with Teflon cap
P.T.V.: Plastic bottle or glass bottle with plastic or Teflon cap
PPS: Sterile propyl ethylene bottle
VA: Clear or amber glass with aluminium or Teflon seal
VB: Amber glass (or clear glass covered with aluminium paper) aluminium seal of Teflon
VT: Clear or amber glass bottle with Teflon seal
Preservative:
AC: 0.1ml (100µl) of HCl per 100ml of sample
AcZn: 0.2ml zinc acetate 2N per 100ml of sample and NaOH 10N to pH >9
AN: HNO3 to pH <2
AS: H2SO4 to pH <2
E: 2.5ml EDTA 1.5% (p/v) per 100ml of sample if heavy metals are suspected
ED: 0.1ml diamine ethylene 45 mg/l per 100 ml of sample
EDTA: 1ml EDTA 0.25M per 100ml of sample
N: No preservative
NaOH: NaOH 10N to >12
TS: Sodium thiosulfate final concentration in the sample of 0.1% (p/v)

2.2.5 Field Duplicates and Blanks

One field duplicate and one field blank are collected for approximately every 10 samples as shown in Table 2.2. Field duplicates are collected and handled in the same manner as the other samples in the field. Field blanks are samples of deionized water handled concurrently and in the same manner as the other samples in the field.

Table 0-2: Quality Control Sample Frequency

Sampling Site	QA/QC Sampling Frequency
Compliance Monitoring Program	
Regulated Monitoring	1 field duplicate and 1 field blank per 10 samples
Verification Monitoring	1 field duplicate and 1 field blank per 10 samples
–General Aquatic Monitoring	1 field duplicate and 1 field blank per 10 samples
Event Monitoring Program	
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 to be shipped to the external laboratory as soon as possible via Nolinor Charter flight and dedicated ground transportation to ensure arrival in a safe and timely manner. If the sample (sediments, soil and water) cannot be shipped the same day, they are to be stored in a refrigerator at approximately 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 will be sent by email to the laboratory; an electronic copy will be kept at the Mine site for reference.

SECTION 3 • LABORATORY ANALYSIS

3.1 External Laboratory

All analytical chemistry analyses are performed by a CALA accredited laboratory.

In most cases, these analyses are performed by Maxxam, an accredited facility (see Appendix B) located in Ottawa, Ontario. All data from Maxxam undergoes a rigorous internal QA/QC process, including the use of spiked samples and duplicate samples. Toxicity tests will be performed by Aquatox in Nova Scotia. Testing will be conducted as stipulated by Environment Canada's Biological Test Methods.

Agnico Eagle may also require the services of laboratory, such as Maxxam in Edmonton, AB, SGS in Lakefield, ON and H2Lab in Val d'Or, QC. Agnico Eagle may also use the services of ALS Global for some of the AEMP water quality analysis.

3.2 Internal Laboratory

The assay lab at the Mine site is not an accredited laboratory but will be used periodically for "real-time" results for some parameters like pH, total suspended solids, and Weak Acid Dissociable Cyanide. These results are for observational purposes and do not meet the standards of an accredited laboratory.

SECTION 4 • DATA REQUIREMENTS

4.1 Data Collection

A database of all water sampling data is maintained at the Mine site. The database is designed based on the various discharge limits designated in the Water License and the MDMER. The database functionality includes event scheduling, trend analysis, and flagging out-of-compliance samples, all to enhance the effectiveness of the QA/QC program. The database information is presented to regulators in the annual report.

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

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

The sample results from the laboratory are input into the database and matched to the sample identification name. The analysis certificate for each sample from the accredited laboratory includes but is not limited to:

- Analytical methods or techniques used;
- Date of analysis;
- Detection limit
- Name of the person(s) / laboratory that approved the certificate; and
- Results of any analysis.

4.2 Data Verification

Upon receipt of analytical results, the field blank and duplicate analyses are verified for potential contamination and accuracy, respectively. Results are interpreted and recommended actions are taken if necessary.

4.3 Exceedance Reporting

Any measured concentration at a sample station exceeding a regulated discharge criterion stipulated in the Water License or the MDMER are reported to the Nunavut Water Board, Environment Canada and Climate Change, and AANDC water inspector within 30 days of the receipt of the analysis. In addition, results of the action plan, where required, is reported and, where necessary, mitigation options identified within 90 days after receipt of the analyses.

SECTION 5 • REFERENCES

AANDC (Aboriginal Affairs and Northern Development Canada). 1996. 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.

NWB (Nunavut Water Board). 2010a. Guide 4: Completing and Submitting a Water Licence Application for a New Licence. April 2010.

NWB. 2010b. Supplemental Information Guideline (SIG) for General Water Works (M1). Issued February 2010.

NWB. 2010c. Supplemental Information Guideline (SIG) for Mine Development (MM3). Issued February 2010.

APPENDIX A • TABLES AND FIGURES

Table A-1: Proposed Water Quality Regulated, General Aquatic, and Verification Monitoring for the Project during Construction, Operations, and Closure A-2

Table A-2: List of Analytical Parameters A-4

Figure A-1: General Site Plan A-5

Figure A-2: Maxxam Ottawa Lab Accreditation A-6

Table A-1: Proposed Water Quality Regulated, General Aquatic, and Verification Monitoring for the Project during Construction, Operations, and Closure

Monitoring Type	Mine Development Phase	Monitoring Station Number	Station Description	Purpose of Station	UTM Zone 11		Sampling Depth	Sample Type	Number of Samples per Station
					Easting	Northing			
Regulated	Construction	MEL-D-1 to TBD	Dewatering: Water transferred from lakes to Meliadine Lake during dewatering of lakes	Quality of intake water	TBD	TBD	Shoreline	Grab	1
Regulated	Construction, and Operations	MEL-SR-1-TBD	Surface Runoff – runoff downstream of Construction areas at Meliadine Site and Itivia Site, Seeps in contact with the roads, earthworks and any Runoff and/or discharge from borrow pits and quarries	Confirm no adverse effects from leakage/runoff	Sample Dependant	Sample Dependant	Surface water runoff (if present)	Grab	1
Aquatic	Construction, and Operations	MEL-11	Water intake from Meliadine Lake	Test quality of final effluent before release	539439	6990637	From pipe	Grab	1
Verification	Construction (prior to release), Operations, and Closure	MEL-12	Water treatment plant (pre-treatment) coming from CP1, off the pipe and not in the pond	Test quality of water before treatment (required to evaluate treatment efficiency)	539636	6989909	From pipe	Grab	1
Aquatic	Construction (prior to release), Operations, and Closure	MEL-13	Mixing zone in Meliadine Lake, Station 1; and MMER exposure stations for final discharge point	Test mixing of effluent in the receiving environment; sample at varied distances and directions from pipe; MMER exposure for final discharge point	542805.78	689105.05	Depends on presence of a vertical conductivity gradient	Discrete	1 (depth of maximum conductivity, or mid-depth if no conductivity gradient is present)
Regulated	Construction (upon effluent release), Operations, and Closure	MEL-14	Water treatment plant from CP-1 (post-treatment), end of pipe (before offsite release) in the plant before release.	Quality of intake water	539642.3	6989897.9	Depth Integrated or from Intake Pipe	Grab	1
Verification	Construction, and Operations	MEL-15	Local Lake E-3	Confirm no leakage/runoff from Emulsion Plant	537019	6990676	Shoreline	Grab	1
Verification	Construction, Operations, and Closure	MEL-16	Local Lake G2	Possible seepage or dust loadings from site infrastructure	538444	6990917	Shoreline	Grab	1
Verification	Construction, Operations, and Closure	MEL-17	Local Pond H1		540728	6989568	Shoreline	Grab	1
Verification	Construction, Operations, and Closure	MEL-18	Local Lake B5		537306	6988841	Shoreline	Grab	1
Verification	Construction, Operations, and Closure	MEL-19	CP-2 Collection of natural catchment drainage from the outer berm slopes of the Landfarm and industrial pad	Collection of natural catchment drainage from the outer berm slopes of the Landfarm and industrial pad	539575.88	6989757.49	Surface water runoff (if present)	Grab	1
Verification	Construction, and Operations	MEL-20	CP-3 Collection of drainage from dry stacked tailings	Collection of drainage from dry stacked tailings	538207.30	698723.66	TBD	Grab	1
Verification	Construction, and Operations	MEL-21	CP-4 Collection of drainage from WRSF1	Collection of drainage from WRSF1	538991.12	6988841.31	TBD	Grab	1
Verification	Construction, Operations, and Closure	MEL-22	CP-5 Collection of drainage from WRSF1 and WRSF2	Collection of drainage from WRSF1 and WRSF2	540257	6988627.4	TBD	Grab	1

Monitoring Type	Mine Development Phase	Monitoring Station Number	Station Description	Purpose of Station	UTM Zone 11		Sampling Depth	Sample Type	Number of Samples per Station
					Easting	Northing			
Verification	Construction, Operations, and Closure	MEL-23	CP-6 Collection of drainage from WRSF3	Collection of drainage from WRSF3	TBD	TBD	TBD	Grab	1
Verification	Construction, Operations, and Closure	MEL-24	Seepage from the Landfill between the landfill and Pond H3	Located between the landfill and Pond H3 to monitor seepage from the landfill	539085.44	6989561.54	Pooling Water (if present)	Grab	1
Regulated	Construction, Operations, and Closure	MEL-25	Secondary containment area at the Itivia Site Fuel Storage and Containment Facility	Located in the secondary containment area of the tankfarm at Itivia to monitor water quality prior to discharge to land	545939.8	6963675.3	Pooling Water (if present)	Grab	1

Notes: as per Metal Mining Effluent Regulations (MMER), samples for effluent characterization and receiving environment must be collected quarterly, or at least one month apart while effluent is being deposited.

Grey shading indicates that verification monitoring parameters and locations are internal for Agnico Eagle. A systematic approach will be used in communicating inspections results, likely on an annual basis. This will allow Agnico Eagle to inform government, Inuit associations, and the public of inspection outcomes.

CP = collection pond; WRSF = waste rock storage facility; TBD = to be determined

Table A-2: List of Analytical Parameters

	Parameters
Total/Dissolved Metals	Aluminum, antimony, arsenic, barium, beryllium, boron cadmium, chromium, copper, iron, lead, lithium, manganese, mercury, molybdenum, nickel, selenium, silver, strontium, thallium, tin, titanium, uranium, vanadium, zinc and mercury
Nutrients	Ammonia-nitrogen, total Kjeldahl nitrogen, nitrate-nitrogen, nitrite-nitrogen, ortho-phosphate, total phosphorus, total organic carbon, dissolved organic carbon
MDMER	Total cyanide, arsenic, copper, lead, nickel, zinc, radium-226, TSS, pH, sulphate, turbidity, and aluminum. Effluent volumes and flow rate of discharge, acute toxicity (Rainbow Trout and *Daphnia magna*) and environmental effects monitoring (EEM).
Conventional Parameters	Bicarbonate alkalinity, carbonate alkalinity, turbidity, conductivity, hardness, pH, total alkalinity, TDS, TSS, turbidity
Cyanide	Free and total cyanide
Major Ions	Calcium, magnesium, potassium, sodium, chloride and sulphate
Petroleum Hydrocarbons	F1, F2-F4 and BTEX
Other	Reactive silica, radium-226, oil & grease
Flow	Flow datalogger/meter
Field measurements	Field pH, specific conductivity, dissolved oxygen, and temperature.

MDMER = Metal and Diamond Mining Effluent Regulations.

Figure A-1: General Site Plan

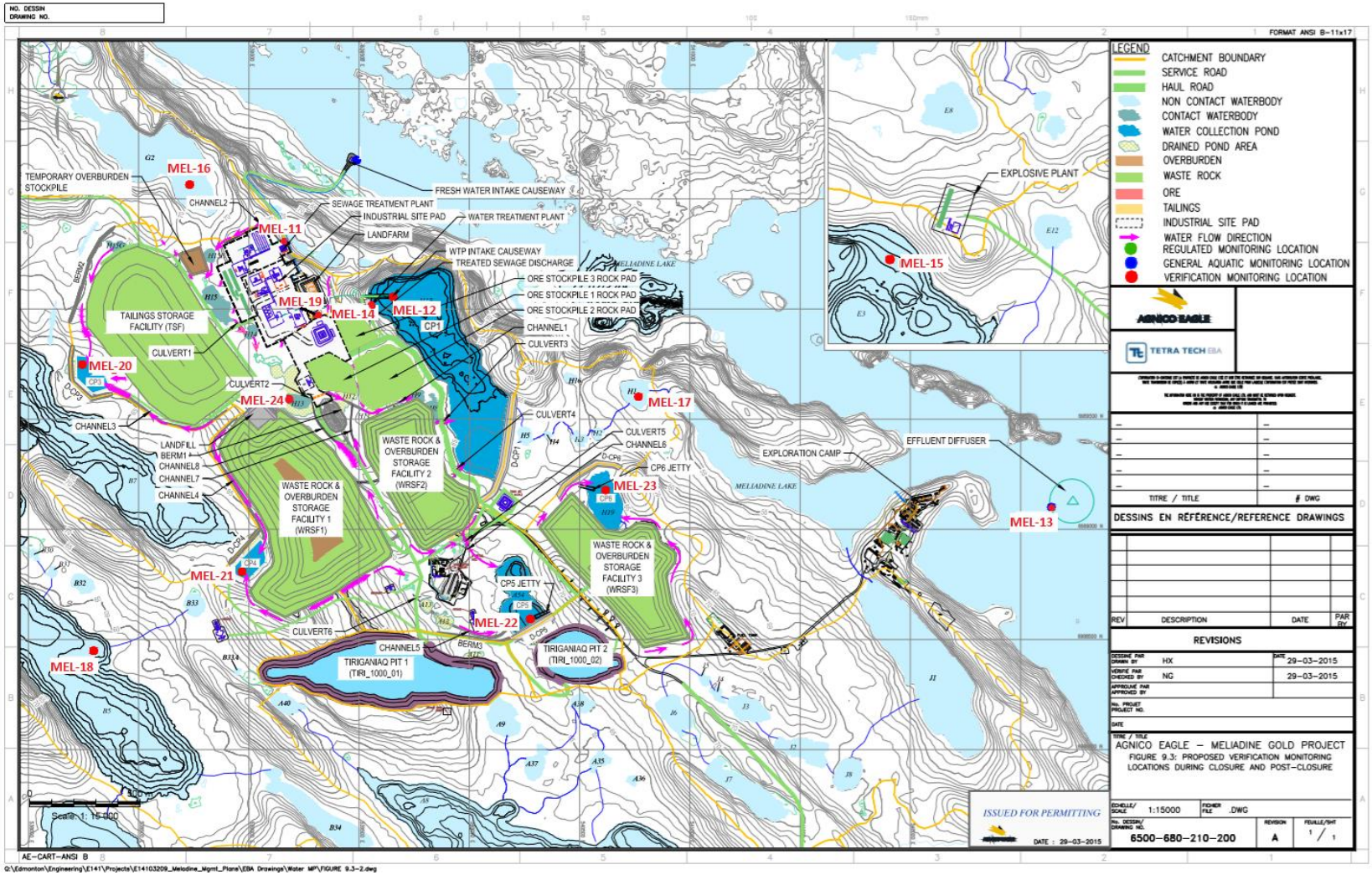

Figure A-2: Maxxam Ottawa Lab Accreditation

CERTIFICATE OF ACCREDITATION

Standards Council of Canada
Conseil canadien des normes

CERTIFICAT D'ACCRÉDITATION

Maxxam Analytics International Corporation
32 Colonnade Road North, Unit 1000, Nepean, ON K2E 7J6

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

LABORATOIRE D'ESSAIS ACCRÉDITÉ

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.

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.

Accredited laboratory number: / Numéro de laboratoire accrédité : 814

SCC file number: / Dossier du CCN n° : 151024

Initial accreditation date: / Date de la première accréditation : 2015-10-14

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

Issued on: / Délivré le : 2018-01-24

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 17025:2005. 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.

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).

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