February 20th 2017

Karén Kharatyan
Manager of Licensing
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU
X0B 1J0

Re: Water License 2AM-MEL1631 Part D, Items 1&2 - Submission of Final Design and Construction Drawings for Berm1, Culvert2 and Channel1

Mr. Kharatyan,

Agnico Eagle Mines Limited (Agnico Eagle) is developing the Meliadine Gold Project (the project). The mine is located approximately 25 km north from Rankin Inlet, and 80 km southwest from Chesterfield Inlet in the Kivalliq Region of Nunavut. A new Type "A" Water Licence (No. 2AM-MEL1631) was recently awarded to Agnico Eagle for the development of the project. Agnico Eagle is developing the mine towards proposed production in 2020.

As per Water Licence 2AM-MEL1631, several berms and channels are required to manage the site contact water during pre-production, operation, and interim mine closure. Berm1 is required to protect Portal #2 from flooding under extreme rainfall events when potential water ponding in this area occurs. Culvert2 is proposed to allow the water from Lake H13 to pass through the haul road and connect with Channel1. Channel1 is a water collection channel. Its role is to drain partially Lake H13 and allow the water flowing into H13 to naturally report to CP1.

In accordance with Water License 2AM-MEL1631, Part D, Items 1 and 2, please find enclosed with this letter, a copy of the final design and construction drawings for Berm1, Culvert2, and Channel1.

Should you have any questions regarding this submission, please contact me.

Regards,

Agnico Eagle Mines Limited – Meliadine Division

Manon Turmel
manon.turmel@agnicoeagle.com
819-759-3555 x8025
Environmental Compliance Counselor

cc: *Ian Parsons, Indigenous and Northern Affairs Canada*
Luis Manzo, Kivalliq Inuit Association

DESIGN REPORT FOR CHANNEL1, BERM1 AND CULVERT2
MELIADINE PROJECT, NUNAVUT

PRESENTED TO
Agnico Eagle Mines Ltd.

FEBRUARY 2017
ISSUED FOR USE
TETRA TECH PROJECT NUMBER: 28920
AGNICO EAGLE DOCUMENT NUMBER: 6515-C-235-007-230-REP-001

Tetra Tech
5100, Sherbrooke street east, suite 400
Montreal, QC H1V 3R9, CANADA
Tel 514.257.1112 Fax 514.257.0717

TABLE OF CONTENTS

APPENDICES

TETRA TECH

ACRONYMS & ABBREVIATIONS

Acronyms/Abbreviations	Definition
CP	Collection Pond
km	Kilometres
NAG	Non-Acid Generating
OP	Ore Stockpile
TDS	Total Dissolved Solids
TSF	Tailings Storage Facility
TSS	Total Suspended Solids
WRSF	Waste Rock Storage Facility
WTP	Water Treatment Plant

1.0 INTRODUCTION

Agnico Eagle Mines Limited (Agnico Eagle) retained the services of Tetra Tech to carry out the planning and design works associated with the Water and Environment and the Civil Works components of the Meliadine Project, a gold mine located approximately 25 km north from Rankin Inlet, and 80 km southwest from Chesterfield Inlet in the Kivalliq Region of Nunavut. The project site is located on the peninsula between the east, south, and west basins of Meliadine Lake (63°01'23.8"N, 92°13'6.42"W). A general location plan for the project is shown in Figure 1.

The project focuses on the development of the Tiriganiaq gold deposit which will be mined using conventional open-pit and underground mining operations. Proposed site facilities will include: plant site and accommodation complex buildings, ore stockpiles, waste rock storage facilities, a dry stack tailings storage facility, and water management systems including collection ponds, water retention dikes, water diversion berms, channels, culverts, an effluent water treatment plant, and many pipelines.

A new Type “A” Water Licence (No. 2AM-MEL1631) was recently awarded to Agnico Eagle for the development of the project. Agnico Eagle is now developing the mine towards proposed production in late 2019.

As part of the scope of work, Agnico Eagle asked Tetra Tech to:

- Conduct the design of Channel1, Berm1 and Culvert2;
- Produce construction drawings and specifications for Channel1, Berm1 and Culvert2;
- Prepare design and construction summary reports of these water management infrastructures, in accordance with the requirements in the Type “A” Water License (No. 2AM-MEL1631).

As required by the Water Licence A, this report summarizes the site conditions, design basis, considerations, criteria, analyses, and evaluations and presents the detailed design of Channel1, Berm1 and Culvert2.

Figure 2 illustrates the General Site Layout Plan for Proposed Infrastructure during Mine Operation (Year 7). Figure 3 presents the layout for the proposed water management infrastructures related to this report.

2.0 GENERAL SITE CONDITIONS

2.1 Climate and Meteorology

The project site lies within the Southern Arctic Climatic Region where daylight reaches a minimum of 4 hours per day in winter and a maximum of 20 hours per day in summer. The nearest weather station is Rankin Inlet A (Station 2303401), located approximately 25 km south of the project site. The closest long-term regional evaporation station operated by Environment Canada is in Churchill, Manitoba.

The monthly mean air temperature is typically above 0°C for the months of June to September, and is below 0°C between October and May. July is typically the warmest month and January the coldest. Winters are typically long and cold, while summers are short and cool. Spring and autumn are short. The mean annual temperature for the period of record from 1981 to 2009 was -10.4°C.

The annual average total precipitation at the project site is 405 mm/year and falls almost equally as snow and rainfall (Golder, 2013a). Average annual evaporation for small waterbodies in the project area is estimated to be 323 mm between June and September. The average annual loss of snowpack to sublimation and snow redistribution is estimated to vary between 46% and 52% of the total precipitation for the winter period and occurs between October and May (Golder, 2013a).

Table 2.1 presents the estimated mean monthly precipitation, evaporation, and temperature characteristics of the site (Agnico Eagle, 2015).

Table 2.1: Estimated Mine Site Mean Monthly Climate Characteristics (Agnico Eagle, 2015)

Month	Monthly Air Temperature (°C)			Mean Monthly Precipitation (mm)			Lake Evaporation (mm)
	Minimum	Average	Maximum	Rainfall	Snowfall	Total	
January	-37.2	-30.9	-19.8	0.0	12.9	11.1	0
February	-35.3	-30.1	-24	0.0	13.1	11.1	0
March	-30.8	-25.1	-18.8	0.0	18.6	16.1	0
April	-20.2	-15.7	-10.4	1.4	28.8	26.4	0
May	-10.8	-5.9	-1.2	7.7	19.2	25.2	0
June	0.1	4.1	6.7	26.4	7.1	37.0	60.4
July	6.9	10.5	14.9	43.7	0.2	51.2	124.4
August	7.7	9.7	11.2	63.7	0.3	74.6	95.6
September	1.3	3.8	6.8	45.2	5.7	57.8	42.7
October	-9.9	-4.6	1.7	15.5	36.9	50.0	0
November	-23.6	-17.2	-10.2	0.3	33.3	28.5	0
December	-33.3	-25.9	-19.4	0.0	18.9	15.8	0
Annual	**-37.2**	**-10.4**	**14.9**	**203.9**	**195.0**	**404.8**	**323.1**

The region is known for high winds, which are due in part to the broad, flat, uninterrupted expanses offered to moving air masses. The wind blows from the north and north-northwest direction more than 30% of the time. The mean values for wind speed show that the north-northwest, together with north and northwest winds, have the highest speeds and tend to be the strongest. Mean monthly wind speeds are typically between 19 km/hour and 27 km/hour.

The climate in the project region is projected to be warmer for the 2020s, 2050s, and 2080s time horizons when compared to the observed historic values (Agnico Eagle and Golder, 2014). Precipitation shows an increase compared to historical values, but the majority of projections are not significantly different from the annual recorded precipitation values.

2.2 Topography and lakes

The dominant terrain in the project area comprises glacial landforms such as drumlins (glacial till), eskers (gravel and sand), and lakes. A series of low relief ridges are composed of glacial deposits, oriented in a northwest-southeast direction, which control the regional surface drainage patterns. The property is about 60 metres above sea level (masl) in low-lying topography with numerous lakes. Surface waters are usually frozen by early October and remain frozen until early June.

The surveyed lake surface elevations in the project area range from about 51 masl at Meliadine Lake to about 74 masl for local small perched lakes. Lakes formed by glaciofluvial processes or glacial processes, are common throughout the project area. Most of the perched lakes at the project site are relatively shallow (less than 2 m water depth). Late-winter ice thicknesses on freshwater lakes in the project area range between 1.0 m and 2.3 m with an average thickness of 1.7 m. Ice cover usually appears by the end of October and is completely formed in early November. The spring freshet typically begins in mid-June and is complete by early July (Golder, 2012a).

2.3 Permafrost

The project site is located within the Southern Arctic terrestrial eco-zone, one of the coldest and driest regions of Canada, in a zone of continuous permafrost. Continuous permafrost to depths of between 360 m to 495 m is expected based on historical and recent ground temperature data from thermistors installed near Tiriganiaq, F-Zone, and Discovery deposits (Golder, 2012b). The measured ground temperature data indicates that the active layer is 1.0 m to 3.0 m in areas of shallow soils and areas away from the influence of lakes. It is anticipated that the active layer adjacent to lakes or below a body of moving water such as a stream could be deeper. The typical permafrost ground temperatures at the depths of zero annual amplitude (typically at a depth of below 15 m) are in the range of -5.0°C to -7.5°C in the areas away from lakes and streams. The geothermal gradient ranges from 0.012°C/m to 0.02°C/m (Golder, 2012b).

2.4 Groundwater

In areas of continuous permafrost, there are generally two groundwater flow regimes: a shallow groundwater flow regime located in the active layer near the ground surface, and a deep groundwater flow regime located beneath permafrost. From late spring to early autumn, when temperatures are above 0˚C, the active layer thaws. Within the active layer, the water table is expected to be a subdued replica of topography, and is expected to parallel the topographic surface. The project area groundwater in the active layer flows to local depressions and ponds that drain to larger lakes.

The permafrost in the rock in the project area would be virtually impermeable to groundwater flow. The shallow groundwater flow regime, therefore, has little to no hydraulic connection with the deep groundwater regime. A numerical hydrogeological model for the deep groundwater flow regime was developed (Golder, 2013b). The results of the hydrogeological model have indicated that the rock at the project site below the base of the permafrost or in taliks is generally of low hydraulic conductivity, on the order of 3 x 10-9 m/s (Golder, 2013c).

To a lesser degree, groundwater beneath the permafrost is influenced by density differences due to the upward diffusion of deep-seated brines (density-driven flow). In the Canadian Shield, concentrations of Total Dissolved Solids (TDS) in groundwater increase with depth, primarily in response to upward diffusion of deep-seated brines. Salinity can induce a freezing point depression, creating a cryopeg in permafrost where water can be unfrozen even though the temperature is below 0°C. At the project site, the freezing point depression was calculated to be equivalent to -3.3°C (Golder, 2012b). The portion of the permafrost, where groundwater may be partially or wholly unfrozen due to the freezing point depression, has been estimated to be at a depth of 350 m to 375 m (Golder, 2012b).

2.5 Subsurface Conditions

A number of site investigation programs were carried out at the project site in 1998, 1999, 2007, 2009, 2011, 2012, 2013, 2014, 2015, and 2016.

In general, the near surface stratigraphy comprises a veneer of organic material, underlain by non-cohesive soils (i.e. silty sand and sandy silt) with cobbles and boulders. The overburden thickness ranges between 1.5 m and 17.8 m and is underlain by greywacke, medium to strong with some fracturing and frost jacking of the upper bedrock surface. A layer of ice-rich overburden (silt or sand) has been observed in some of the boreholes drilled. Overburden soils with excess ice (Vc, Vs, Vx, and Vr) were observed in most of the boreholes. Massive icy beds up to 1.25 m thick were also encountered. The estimated percentage (by volume) of the excess visible ice ranged from 2% to more than 50% in the overburden soils. Limited soil porewater salinity tests (EBA, 2013) indicated that the overburden soils may have a porewater salinity of 4 parts per thousand (ppt) for shallow sandy soils and up to 12 ppt for deep silty soils.

2.6 Other relevant data

The raw land survey data, a 1-m contour digital map of the ground surface and 0.5 m contour lake bathymetric data for selected lakes at the project site were provided to Tetra Tech by Agnico Eagle. Survey data for selected areas were recently provided to Tetra Tech and were incorporated into the original digital map for the design of the saline water pond and berm in this study.

3.0 DESIGN BASIS

3.1 Precipitation, surface Runoff, and Lake Surface Evaporation

Various parameters for surface runoff estimation for a mean precipitation year are presented in Table 3.1. Similar parameters for a wet precipitation year runoff values are presented in Table 3.2. The values in Tables 3.1 and 3.2 were adopted from the feasibility study (Tetra Tech EBA, 2014) and also presented in Appendix B of the Water Management Plan (Agnico Eagle, 2015). Some of the parameters in these tables were used in estimating the volumes of the runoff/run-on water from natural precipitation for water balance and management.

Table 3.1: Various Parameters for Surface Runoff Estimation for a Mean Precipitation Year and 1 in 2 Return Rainfall

Item	Value	Source or Comment
Total adjusted annual precipitation for a mean precipitation year	412 mm	Golder (2013a)
Total adjusted annual rainfall for a mean precipitation year	210 mm	Golder (2013a)
Total adjusted annual water equivalent snowfall for a mean precipitation year	202 mm	Golder (2013a)
Total estimated snow sublimation	99 mm	Golder (2013a)
Estimated snow melt water equivalent in spring freshet	103 mm	Calculated based on values above
Monthly rainfall distribution	16% in June, 21.2% in July 30.8% in August, 24.5% in September 7.5% in October	Golder (2013a)
Annual net runoff on natural on-land surface fora mean precipitation year	215 mm (127 mm in June, 22 mm in July, 32 mm in August, 26 mm in September, and 8 mm in October)	Calculated based on values above
Estimated monthly lake (non-saline water) surface evaporation	60 mm in June, 125 mm in July 96 mm in August, 42 mm in September	Golder (2013a)
Annual net runoff on lake surface for a mean precipitation year	-10 mm (76 mm in June, -80 mm in July, -31 mm in August, 9 mm in September, and 16 mm in October)	Calculated based on values above
Estimated monthly natural land surface evapotranspiration	6 mm in June, 14 mm in July 11 mm in August, 5 mm in September	Golder (2013a)
Annual net runoff on disturbed land surface fora mean precipitation year	251 mm (133 mm in June, 36 mm in July, 43 mm in August, 31 mm in September, and 8 mm in October)	Calculated based on values above
Average start date for spring freshet	June 11	Based on Golder (2013a)
Average date for spring runoff peak	June 13	Based on Golder (2013a)
24-hour duration rainfall for 1 in 2 years of return period	33 mm	Golder (2013a)
5-minute duration rainfall for 1 in 2 years of return period	3.2 mm	Golder (2012d)
1-hour duration rainfall for 1 in 2 years of return period	9.8 mm	Golder (2012d)

Table 3.2: Various Parameters for Surface Runoff Estimation for a 1 in 100 Extreme Wet Year and Extreme Rainfall

Item	Value	Source or Comment
Total adjusted annual precipitation for a 1 in 100 wet precipitation year	594 mm	Golder (2013a)
Total adjusted annual rainfall for a 1 in 100 wet precipitation year	324 mm	Golder (2013a)
Total adjusted annual water equivalent snowfall for a 1 in 100 wet precipitation year	270 mm	Calculated based on values above
Total estimated snow sublimation	99 mm	Golder (2013a)
Estimated snow melt water equivalent in spring freshet for a 1 in 100 wet precipitation year	171 mm	Calculated based on values above
Assumed natural on-land runoff coefficient for the incremental net rainfall between those for a 1 in 100 wet precipitation year and a mean precipitation year	0.8 in June to October	Assumed
Monthly rainfall distribution	16% in June, 21.2% in July 30.8% in August, 24.5% in September 7.5% in October	Golder (2013a)
Annual net runoff on natural on-land surface for a 1 in 100 wet precipitation year	430 mm (213 mm in June, 55 mm in July, 80 mm in August, 63 mm in September, and 19 mm in October)	Calculated based on values above
Estimated monthly lake surface evaporation	60 mm in June, 125 mm in July 96 mm in August, 42 mm in September	Golder (2013a)
Annual net runoff on lake surface for a 1 in 100 wet precipitation year	172 mm (163 mm in June, -56 mm in July, 4 mm in August, 37 mm in September, and 24 mm in October)	Calculated based on values above
Estimated monthly natural land surface evapotranspiration	6 mm in June, 14 mm in July 11 mm in August, 5 mm in September	Golder (2013a)
Annual net runoff on disturbed land surface for a 1 in 100 wet precipitation year	466 mm (219 mm in June, 69 mm in July, 91 mm in August, 68 mm in September, and 19 mm in October)	Calculated based on values above
24-hour duration extreme rainfall with a 1 in 100 years of return period	65 mm	Golder (2013a)
24-hour duration extreme rainfall with a 1 in 1000 years of return period	77 mm	Golder (2013e)
24-hour duration PMP (probable maximum precipitation)	259 mm	Golder (2013e)
5-minute duration rainfall for 1 in 100 years of return period	9.2 mm	Golder (2012d)
1-hour duration rainfall for 1 in 100 years of return period	27.4 mm	Golder (2012d)
Runoff coefficient for extreme rainfall	1.0	Assumed

4.0 DESIGN OF BERM1

Berm1 is required to protect Portal #2 from flooding under extreme rainfall events when potential water ponding in this area occurs. Drawing 65-695-230-219 presents the profile and typical design section for Berm1. Drawing 65-695-230-220 presents a few cross-sections of the berm.

It should be noted that Berm1 will be covered by the road fill of the haul road and the cover fill of Portal #2. The table below presents the design parameters for Berm1.

Table 4.1: Design parameters for Berm1

Parameter	Berm1
Berm Maximum Height (m)	1.9
Side Slopes	2(H):1(V)
Length (m)	485
Berm top width (m)	2
Crest Minimum elevation (m)	69 m

5.0 DESIGN OF CHANNEL1

Channel1 is a water collection channel. Its role is to drain partially Lake H13 and allow the water flowing into H13 to naturally report to CP1. Drawings 65-695-230-217 and 65-695-230-218 show the layout, profile and typical design section for this channel.

The table below presents the design parameters for the channel.

Table 5.1: Design Parameters for Channel1

Item	Channel1
Approximately total length (m)	493
Channel bottom width (m)	3
Slide Slopes	3(H):1(V)
Rip-rap thickness (m)	0.3
Minimum bottom slope gradient (%)	0.28

Channel1 will primarily follow the natural drainage channel/basin from Lakes H13 to H9 and pass through several natural small lakes (H12, H11 and H10). This channel will enhance the natural drainage capacity and facilitate the natural runoff water from the upper catchment area of the main water collection pond (CP1) to flow from H13 into CP1. Channel1 is an internal channel where any water overflowing from the channel will temporarily flow over the existing natural drainage channel/basin and remain within the catchment area of CP1. Hydraulic analyses indicated that it is not feasible to design Channel1 to pass an extreme intensity flow (e.g., a 5-minute 1:100 return rainfall of 9.2 mm), without water overflowing some shallow channel sections. As a result, the channel is designed to have a reasonable bottom width of 3 meters while it is allowed to temporarily have water overflowing over some shallow sections of the channel during an extreme flood event.

6.0 DESIGN OF CULVERT2

Culvert2 is proposed to allow the water from Lake H13 to pass through the haul road and connect with Channel1. Drawing 65-695-230-221 presents the typical design sections for the culvert. The table below presents the design parameters for the culvert.

Table 6.1: Design Parameters for Culvert2

Parameter	Culvert2
Number of Culverts in Group	3
Length of Each Culvert (m)	12
Diameter of Each Culvert (m)	1 x 1 m 2 x 0.8 m
Minimum Fill Thickness over Culverts (m)	1

The culvert that is proposed will be in service for a few years, until the construction of the crusher ramp, currently scheduled in 2018. Upon the construction of the crusher ramp, the culverts arrangement will be re-assessed and replaced with another infrastructure, if required. The standard galvanized, corrugated steel pipe culvert is proposed. It is understood that the haul trucks to be used at the Project site will be Komatsu HD605-7E0 model or equivalent. The culvert2 will be a group of 3 pipes that will have a diameter ranging of 800 to 1000 mm with a corrugation profile of 68X13 mm and a minimum specified thickness of 1.3 mm. A minimum of 1 m fill cover should be placed over the culverts.

7.0 CONSTRUCTION

7.1 Construction Material Quantities

The table below present the material quantities for construction of the water management infrastructures. The quantities presented are estimated in-place quantities and do not include any extras for overlaps, excess or losses.

Table 7.1: Material In-Place Quantities for Construction

Material	Berm1	Channel 1	Culvert2
Selected Unfrozen Till Fill (m^3)	3,260	-	-
30 mm minus Granular Fill		-	130
Rip-rap Fill (m^3)	-	1,045	35
Geotextile (m^2)	-	3,935	-
Excavation (m^3)	-	2,850	-

7.2 Construction Material Specifications

The general requirements for the materials are specified below. The requirements for each of the materials can vary slightly for a specific earth structure to meet specific design intents.

7.2.1 30 mm Minus Granular Fill

30 mm Minus Granular Fill will be used as bedding fill for the culvert. This material shall consist of, hard durable particles, be free of roots, topsoil and other deleterious material and have a particle size distribution as presented in the table below. Processing will be required to achieve the specified gradation.

Table 7.2: 30 mm Minus Granular Fill – Particle Size Distribution Limits

Particle Size	% Passing
30	100
14	65 – 100
5	45 – 70
0.63	15 – 35
0.08	4 - 10

7.2.2 Selected Unfrozen Till Fill

Selected Unfrozen Till Fill represents a wide range of natural overburden materials including inorganic, non-ice-rich, till and native granular materials. The material shall be unfrozen, free of roots, organics, snow/ice and other deleterious material. The material can have a wide variation in gradation with a maximum particle size of 300 mm and a fines (less than 0.08 mm) content of less than 60%. The till material used for construction of Berm1 should have a minimum fines (<0.075 mm in size) content of 20% by weight to have a relatively low hydraulic conductivity. The selected unfrozen overburden waste from sub-excavation during construction or mine operation can be used as the till fill. The till fill should be placed in lifts no greater than 0.3 m thick and compacted to a minimum of 98% of Maximum Dry Density (ASTM D698). It is preferred that the till fill be placed in the unfrozen conditions with required moisture conditioning.

7.2.3 Rip-rap

Rip-rap shall be used as erosion protection materials for various dikes, berms, channels, culverts and ponds. Several types of rip-rap materials are planned to be used in project. The particle size specifications for the graded rip-rap materials required for Channel1 and Culvert2 are presented in the table below. The material used for Berm1 shall be free of roots, organics, and other deleterious material. Processing may be required to achieve the specified gradation. The material can be processed from hard, durable, NAG rock. Rocks used for rip-rap should generally be blocky and angular or sub angular, with sharp clean edges and relatively flat faces. It is generally recommended that rocks should be close to equi-dimensional rather than elongate, although this is not always possible. Typically, the average ratio of the long axis to the thickness should be less than 2.

Table 7.3: Particle Size Specifications for Rip-rap Materials

Rip-rap Types for Earth Structures	Minimum Particle Size (mm)	Median Particle Size (mm)	Maximum Particle Size (mm)
Rip-rap for Channel1	50	150	300

TETRA TECH

7.2.4 Geotextile

Nonwoven geotextile is proposed to be placed under the rip-rap material for Channel1 to separate the rip-rap material from the excavated overburden surface and to protect the overburden soils from potential loss into the rip-rap material. Nonwoven, needle-punched geotextile is selected for cost estimating purposes at this stage of design. The table below presents the preliminary geotextile specifications.

Table 7.4: Preliminary Specifications for Geotextile for Various Earth Structures

Earth Structure	Channel1
Nominal Thickness of Geotextile (ASTM D5199) (mm)	1.7
Typical Unit Weight (ASTM D5261) (g/m^2)	203
Puncture Resistance (ASTM D4833) (N)	400

7.3 Estimated Construction Schedule

The construction of Channel1, Berm1 and Culvert2 is scheduled to begin prior to freshet 2017 and to end in the fall of 2017.

7.4 TSS Management

The water with excess total suspended solids (TSS), generated by the construction of Channel1, Berm1 and Culvert2, will be managed within the watershed of CP1 and be treated prior to discharge to the environment.

7.5 Quality control/assurance program

A quality control/assurance program is required during construction of each of the infrastructures to ensure that construction-sensitive features of the design are achieved. The specific requirements and testing frequencies for the quality control/assurance program will be developed before the construction of the structures.

7.6 Instrumentation and Monitoring

Performance monitoring is an integral part of the operation of any water retention structure, particularly in an arctic environment. The performance of Berm1, Channel1 and Culvert2 will need to be monitored throughout their construction and operating life. The monitoring activities may include, but not be limited to, visual inspection for any deformations, surface cracks, surface erosion, and seepage.

An annual site inspection may be required to document the performance of each of the earth structures.

8.0 LIMITATIONS OF REPORT

This report and its contents are intended for the sole use of Agnico Eagle Mines Ltd. and their agents. Tetra Tech does not accept any responsibility for the accuracy of any of the data, the analysis, or the recommendations contained or referenced in the report when the report is used or relied upon by any Party other than Agnico Eagle Mines Ltd., or for any Project other than the proposed development at the subject site. Any such unauthorized use of this report is at the sole risk of the user. Use of this report is subject to the terms and conditions stated in Tetra Tech's Services Agreement.

9.0 CLOSURE

We trust this report meets your present requirements. If you have any questions or comments, please contact the undersigned.

PERMIT TO PRACTICE
TETRA TECH INDUSTRIES, INC.
O/A TETRA TECH
Signature
Date 2017-02-17
PERMIT NUMBER: P 1029
NT/NU Association of Professional Engineers and Geoscientists

Respectfully submitted,
Tetra Tech

INGÉNIEURE
Melanie Yip Woon Sun
5040799
QUÉBEC

2017/02/17

Prepared by:
Melanie Yip Woon Sun, P. Eng.
Direct Line: 514.257.2427 x3177
Melanie.Yipwoonsun@tetratech.com

REGISTERED PROFESSIONAL ENGINEER
J.M.I.F. ALARIE
LICENSEE
NT/NU

2017/02/17

Reviewed by:
Josée Alarie, P. Eng.
Direct Line: 514.257.2427 x3323
Josee.Alarie@tetratech.com

REGISTERED PROFESSIONAL ENGINEER
G. ZHANG
LICENSEE
NWT/NU

Feb 17, 2017

Reviewed by:
Guangwen (Gordon) Zhang, Ph.D., P. Eng.
Direct Line: 780.451.2130 x501
GuangwenGordon.Zhang@tetratech.com

REFERENCES

Agnico Eagle and Golder, 2014. Volume 5.0 – Atmospheric Environment and Impact Assessment, Final Environmental Impact Statement (FEIS) – Meliadine Gold Project, Nunavut (Doc. 288-1314280007 Ver 0 submitted to NIRB).

Agnico Eagle, 2015. Meliadine Gold Project Water Management Plan. April 2015, Version 1, 6513-MPS-11. CDA, 2007 (with 2013 revision). Dam Safety Guidelines. Canadian Dam Association, 2007, p.82.

EBA, 2013. Meliadine Gold Project 2013 March Geotechnical Site Investigation Data Report. Submitted to Agnico Eagle Mines Limited by EBA, A Tetra Tech Company, EBA File: E14103023-01.003, May 2013.

Golder, 2012a. Tailings Storage Facility Preliminary Design – Meliadine Gold Project, Nunavut. A Draft Report Submitted to Agnico Eagle Mines Ltd. by Golder, August 16, 2012.

Golder, 2012b. SD 6-1 Permafrost Thermal Regime Baseline Studies – Meliadine Gold Project, Nunavut, Canada. A Technical Report Submitted to Agnico Eagle Mines Ltd. by Golder Associates, September 25, 2012.

Golder 2012d. Factual Report on 2012 Geotechnical Drilling Program, Meliadine Gold Project, Technical Report Submitted to Agnico-Eagle Mines Ltd. by Golder Associates, November 29, 2012.

Golder, 2013a. SD 2-6 Surface Water Management Plan. Final Report Submitted to Agnico Eagle Mines Limited, Project No. Doc 232-1013730076, January 2013.

Golder, 2013b. Volume 7.0 Freshwater Environment and Impact Assessment, Draft Environment Impact Statement (DEIS) – Meliadine Gold Project, Nunavut. Report Number: Doc 288-1013730076. Golder Associates, January 2013.

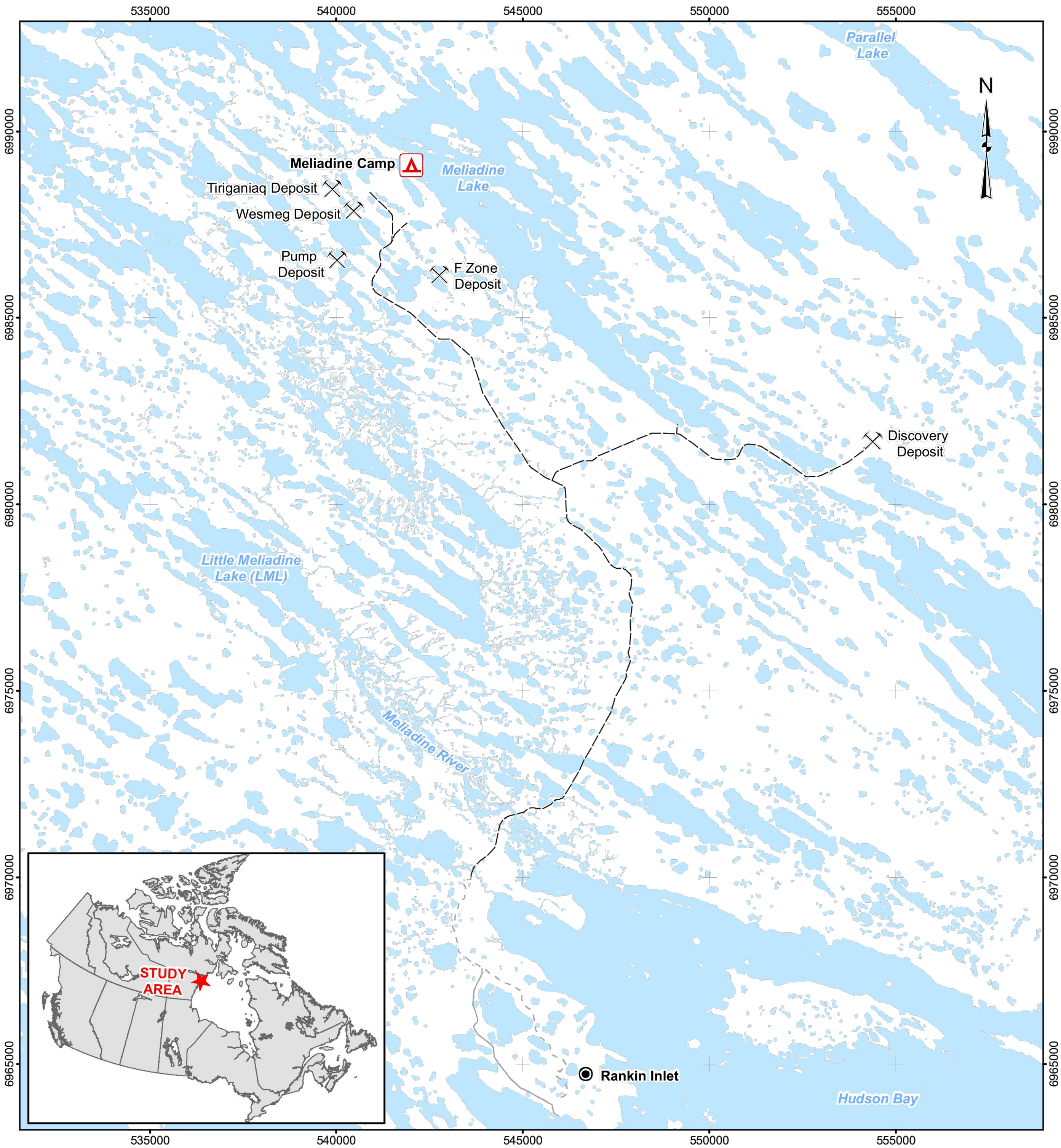
Golder, 2013c. SD 2-3 Tailings Storage Facility Preliminary Design – Meliadine Gold Project, Nunavut. Final

Golder, 2013e. Email from Dan R. Walker of Golder Associate to Agnico Eagle Mines Limited on June 11, 2013.

Tetra Tech EBA, 2014. Tailings, Waste, and Water Management for Feasibility Level Study, Meliadine Project,

APPENDIX A
Figures

FORMAT ANSI A–8.5x11



LEGEND

- Camp
- Proposed Mine Site
- All-weather Access Road (AWAR)
- Road - New
- Road - Existing
- Watercourse
- Waterbody

AGNICO EAGLE – MELIADINE DIVISION

AGNICO EAGLE

TETRA TECH EBA

AGNICO EAGLE – MELIADINE DIVISION

FIGURE 1 GENERAL PROJECT LOCATION PLAN

No. PROJET / PROJECT No.		DATE	08–03–2016
DESSINÉ PAR / DRAWN BY	EP	FEUILLE/SHT	1 / 1
APPROUVÉ PAR / APPROVED BY	GZ		
NO. DESSIN / DRAWING NO.		REVISION	A

Q:\Edmonton\Engineering\E141\Projects\E14103230_Block007_Meliadine Detail Design\Modelling\Production Drawings\D-CP1\Figures for Design Report\Figure 1.dwg FILE NO. .DWG