Appendix 6: 2022 Annual Geotechnical Inspection Report

2022 Annual Geotechnical Inspection
Meliadine Gold Project, Rankin Inlet, Nunavut

PRESENTED TO

Agnico Eagle Mines Limited

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EXECUTIVE SUMMARY

Agnico Eagle Mines Limited (AEM) retained Tetra Tech Canada Inc. (Tetra Tech) to conduct the 2022 annual geotechnical inspection for the Meliadine Gold Mine, located approximately 25 km north of Rankin Inlet, in the Kivalliq Region of Nunavut. The Meliadine Gold Mine consists of underground development and open pits to extract gold ore.

The geotechnical inspection is pursuant to the requirements of the Type A Water Licence Permit No.2AM-MEL1631 (Nunavut Water Board 2016). Under Part I, Item 14 (page 21) and Schedule I, Item 1 (Page 39) of the Water Licence, AEM is required to undertake an annual geotechnical inspection of its facilities between the months of July and September. The inspection occurred from September 13, 2022 to September 20, 2022 and was conducted by Sarah Greenop of Tetra Tech an engineer, holding professional registration in Nunavut, and assisted by Ryan Okkema, Geotechnical Engineer-in-Training of Tetra Tech. A summary of the findings was presented to AEM in a close out meeting on September 20, 2022.

The inspection included water collection ponds (CP), dikes (D-CP), saline water collection ponds, roads, landfills, landfarms, and other geotechnical structures. The following is a summary of the general observations made during the site inspection.

CP1

CP1, Dike D-CP1, and Jetty1 are performing adequately. Some erosion has occurred on the upstream shell of Dike D-CP1. Ongoing surveying of the erosion should be performed to determine if remedial measures are required. A toe berm was constructed along the downstream side of Dike D-CP1 between approximate Stations 1+220 to 1+540 in May 2022. The berm was placed to reduce thaw subsidence of the native ground downstream of D-CP1 and to reduce snowpack against the dike. Measurements from settlement point M-6 indicated 49 mm of settlement between September 2021 and January 2022. No visual signs of deformation were noted in the area during the inspection. Further investigation should be undertaken to confirm the measured settlement at point M-6.

CP2

CP2 and its associated infrastructure were constructed in Q1 of 2022 and is performing adequately. Minor ponding was observed against the thermal berm. Additional rockfill cover should be placed to prevent ponding in the area.

CP3

CP3 and its associated infrastructure is performing adequately. Some settlement and slumping were observed on the CP3 road. This area should be clearly marked and traffic on the slump avoided. It should be monitored to determine if remediation is required.

CP4

CP4 and its associated infrastructure is performing adequately. The original ground above the pond rockfill slope protection has been covered with additional rockfill for thermal protection. The pond slopes appear to be stable.

CP5

CP5 and Dike D-CP5 are performing adequately.

CP6

CP6 and its associated infrastructure is performing adequately. The run of mine cover placed between the WRSF3 and Pond CP6 to provide thermal and erosion protection appeared to be performing adequately.

Saline Ponds

Saline Ponds 1, 3, and 4 are performing adequately. The settlement and cracking around Saline Ponds 1 and 4 should continue to be monitored. Adequate safety berms should be placed at the bottom of the access ramps in Saline Ponds 1 and 4.

Diversion Channels and Berms

The diversion channels and berms are performing adequately. It is recommended to continue to monitor the slumping and cracking adjacent to Channel 5 to ensure proper functionality of the channel. Cracking and subsidence in the native ground above Channel 3 has progressed since the 2021 annual inspection and the channel slopes should be rebuilt to maintain the channel's performance. Channel 4 where the two sections of eroded riprap had exposed the geotextile from the 2021 annual inspection has since been repaired and is performing adequately. An area of subsidence in the native ground was observed downstream of Channel 4 where the berm should be extended to maintain adequate freeboard within the channel. Berm 2 cover materials are susceptible to erosion and some minor erosion and longitudinal cracking was observed during the inspection. Erosion of the slopes should be monitored. The surface of Berm 3 towards the west abutment has localized settlement up to 0.25 m deep and should continue to be monitored. The settlement does not impact the performance of Berm 3.

Tailings Storage Facility

The Tailings Storage Facility (TSF) appeared to be functioning well at the time of the inspection. Ground temperatures should continue to be monitored in the TSF and its foundation using the ground temperature cables presently installed. Unfrozen water content testing was completed on a sample of tailings from Meliadine site in December 2022. The experimental results showed that the freezing temperature of the tailings is -1.82°C (Université Laval 2022). The TSF perimeter rockfill berm appears to be functioning well from a geotechnical perspective with no signs of distress. Cracking and erosion of the tailings along the toe of the exposed north embankment was observed. This area should be monitored, and potential measures taken to prevent further degradation of the exposed TSF embankment toe.

Site Roads

The site mine roads and culverts were generally well-maintained and in good geotechnical condition at the time of the inspection. No specific recommendations for geotechnical improvements are provided.

Landfill

It is recommended that the landfill be covered in stages with intermediate cover to avoid blowing debris. The landfill is nearing its current design capacity and is planned to be raised soon.

WRSF1 and WRSF3

Lifts of till and waste rock had been placed to the 97 m bench in the WRSF1, and the first bench of WRSF3 was observed. No waste rock or overburden was being placed at WRSF3 at the time of inspection. The placed waste rock in WRSF3 appeared to be in a well compacted state with some surface undulation observed within the newly expanded area. No specific recommendations for geotechnical improvements are provided.

All-weather Access Road

In general, the All-weather Access Road appeared to be in good geotechnical condition at the time of the inspection. It was reported by site personnel that the road performed well during the 2022 freshet, although several areas have ponded water on the side slope of the road. Additional culverts and raising sections of the road surface would reduce the risk of the road overtopping during significant freshet events.

Itivia Bypass Road

The Itivia Bypass Road was in good condition at the time of the site inspection. A low area of the road northwest of Culvert C10 flooded during the 2019 freshet. The area was raised in late 2019, but the road was overtopped again in the 2020 freshet. This section of road performed better during the 2021 and 2022 freshets, but it is recommended that additional culverts or other measures be implemented to prevent this from occurring in the future.

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ACRONYMS & ABBREVIATIONS

Acronyms/Abbreviations	Definition
AEM	Agnico Eagle Mines Limited
ATV	All-terrain Vehicle
AWAR	All-weather Access Road
CDA	Canadian Dam Association
CP	Collection Pond
EWTP	Effluent Water Treatment Plant
GTC	Ground Temperature Cable
HPDE	High Density Polyethlyene
IDF	Inflow Design Flood
km	Kilometers
masl	Metres Above Sea Level
mbgs	Metres below ground surface
OMS	Operation Management and Surveillance
ppt	Parts Per Thousand
SP	Saline Pond
SWTP	Saline Water Treatment Plant
Tetra Tech	Tetra Tech Canada Inc.
TSF	Tailings Storage Facility
WRSF	Waste Rock Storage Facility

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1.0 INTRODUCTION

Agnico Eagle Mines Limited (AEM) retained Tetra Tech Canada Inc. (Tetra Tech) to conduct the 2022 annual geotechnical inspection for the Meliadine Gold Mine, located approximately 25 km north of Rankin Inlet, in the Kivalliq Region of Nunavut. The Meliadine Gold Mine consists of underground development and open pits to extract gold ore.

The geotechnical inspection is pursuant to the requirements of the Type A Water Licence Permit No.2AM-MEL1631 (Nunavut Water Board 2016). Under Part I, Item 14 (Page 21) and Schedule I, Item 1 (Page 39) of the Water Licence, AEM is required to undertake an annual geotechnical inspection of its facilities between the months of July and September each year. The inspection occurred from September 13, 2022 to September 20, 2022 and was conducted by Sarah Greenop of Tetra Tech, an engineer, holding professional registration in Nunavut. Ryan Okkema, a Geotechnical Engineer-in-Training of Tetra Tech provided assistance during the inspection.

The following structures were inspected:

Main Site Including:

- Water collection ponds CP1, CP2, CP3, CP4, CP5, and CP6 and their associated dikes (D-CP1 and D-CP5), berms, channels, and jetties.
- Saline Pond 1 (SP1), Saline Pond 3 (SP3), and Saline Pond 4 (SP4).

Site Roads:

- Main site pad area roads, including culverts.
- Tiriganiaq Esker access road.
- Wesmeg access road, Wesmeg Borrow, and vent raise.
- Magazine storage access road.
- Main site water intake access road.
- Emulsion plant pad access road.
- CP4 access road.
- Tailings Storage Facility (TSF) area.

Pads:

- Main camp pad.
- Industrial pad.
- East ventilation raise pad.
- Cyanide storage pad.
- Effluent water treatment plant (EWTP) pad.
- Explosives (ANFO plant) pad and magazine storage.

- Emulsion plant pad.
- Crusher ramp and MSE walls.
- Paste plant ramp.
- Ore and waste rock storage areas.
- Landfarm.
- Operations landfills.
- Underground Portals No. 1 and No. 2.
- Industrial fuel storage and mine site fuel storage.

Exploration camp site including:

- Site pad and diffuser access road.
- Genset storage area.
- Freshwater intake.
- Access road.
- Fuel storage.

Waste Rock Storage Facilities WRSF1 and WRSF3.

All-weather Access Road (AWAR).

Itivia Site:

- Fuel storage.
- Bypass road.

The facilities at the main mine site and exploration camp areas are shown in Figure 1. The planned final layout of the main site, including water management structures is shown on Figure 2. It should be noted that some development for the project as shown in Figure 2, including Channel 6 are not expected to be constructed as shown.

The AWAR connecting Rankin Inlet to the Project provides one-way traffic access (with pull-outs to allow vehicles to pass). The Itivia bypass road provides a bypass around Rankin Inlet from the shipping and fuel storage area in Rankin Inlet.

Where applicable, the inspection was performed consistent with the principles set out by the CDA (2013). The inspection consisted of visually observing each of the facilities listed above; taking photographs to document the conditions at the time of the inspection, reviewing instrumentation data, inspection reports, and other relevant files and reports (listed in the reference section of this report); and communication with AEM on-site staff, Alexandre Boissonneault.

The inspection occurred when there was no snow or ice on the lakes or land, and when surface water flows were generally low. Peak surface water flows typically occur during the freshet (May and June). During the inspection, the weather was generally clear. Daily temperatures varied between 1°C and 12°C. Water levels were normal for this period of the year.

The site water management plan (AEM, 2021) provides a summary of the water management infrastructure and the overall water management approach.

This report describes the geotechnical aspects of the areas inspected and presents general observations and recommendations. In addition, a description of the geophysical and permafrost conditions for the site is provided.

1.1 Scope Limitations

The scope of the inspection is limited to the observation of geotechnical aspects of each of the facilities listed above and review of the associated instrumentation data. The inspection did not include other assessments such as structural, mechanical, or environmental.

2.0 GENERAL SITE CONDITIONS

The Project is in the Kivalliq Region of Nunavut, near the northern border of the southern Arctic terrestrial eco-zone, and within the Arctic tundra climate region. It is located within the Churchill geological province, which forms part of the northern Canadian Shield.

The landscape is dominated by features characteristic of glaciated terrain and exposed bedrock. Primarily underlain by Precambrian granitic bedrock, the terrain consists of broadly rolling uplands and lowlands. The Project is located at an approximate elevation of 60 metres above sea level (masl) with a maximum topographic relief of 20 m. There are numerous small lakes, wetlands, and creeks, indicating poorly drained conditions. The upland areas are generally well drained. A series of low relief ridges composed of glacial deposits, oriented northwest—southeast control the regional surface drainage pattern. Periodic ice blockages at outlets of small lakes and wetlands occur during the freshet, these can temporarily increase the downstream flood peak discharges and affect the flood characteristics. High flows are observed during the freshet, while low flows and dry stream channels are typical in late summer.

Glacial moraine deposits are predominant, ranging in thickness from veneers (less than 2 m) to blankets (2 m to 5 m) to hummocky deposits (5 m to 15 m). Glaciofluvial deposits are also present, with the most prominent being a network of sinuous eskers. Lacustrine deposits occur in association with the numerous lakes. Near the coast of Hudson Bay, finer textured marine sediments cover the ground surface.

The Project is in a zone of continuous permafrost and has an annual average air temperature of -10.4°C, based on climate data from Rankin Inlet. Within the permafrost there are intervening taliks (areas of unfrozen ground) and thaw bulbs induced by lakes. The permafrost in the region is "cold" (i.e., has an average annual surface temperature and zero amplitude temperature of less than -4°C. The depth of permafrost and of the active layer varies based on the proximity to lakes, soil thickness, vegetation, climate conditions, and slope direction. Based on thermal studies and measurements of ground temperatures, the depth of permafrost is generally between 285 to 430 metres below ground surface (mbgs) (AEM 2022). The depth of the active layer ranges from about 1 mbgs in areas with shallow surficial soils, up to about 3 mbgs adjacent to the lakes (AEM 2014b). Typical permafrost ground temperatures at the depths of zero annual amplitude are in the range of -5.9°C to -7.0°C in areas away from lakes and streams and are generally reached at a depth of 18 mbgs to 40 mbgs. The geothermal gradient ranges from 0.016°C/m to 0.02°C/m (AEM 2022). The ground ice content in the region is expected to be between 0% and 10% (dry permafrost) based on the regional scale compilation data and the Canada Permafrost Map published by Natural Resources

Canada (NRC 1993). However, areas of local higher ground ice content occur and are generally associated with low lying areas of poor drainage.

The formation of an open-talik, which penetrates through the permafrost, would be expected for lakes that exceed a critical depth and size. The presence and extent of each talik is influenced by the geometry (size and shape) of the lake. As the depth and size of lakes increase, the extent of the talik increase. Thermal modelling was conducted by Golder to assess the extend of lake taliks. It is anticipated that open-taliks exist below portions of Lake B4, Lake B5, Lake B7, Lake A6, Lake A8, Lake CH6, and Lake D4 (AEM 2022).

The salinity of groundwater also influences the temperature at which the groundwater freezes. Testing has indicated that the salinity of the groundwater in the Project area generally increases with depth. Test results on two deep groundwater samples collected below the base of the permafrost as part of the baseline study indicated salinity level leads to a freezing point depression of about 3.2°C (AEM 2014a, Volume 7, Appendix 7.2-A).

3.0 WATER COLLECTION PONDS, DIKES, JETTIES, BERMS, AND CHANNELS

3.1 Introduction

This section presents a summary of the water collection ponds and associated dikes, berms, and channels constructed prior to the 2022 inspection, including:

- Collection Pond CP1 and its associated Dike (D-CP1) and Jetty 1;
- Collection Pond CP2 and its associated Berm CP2, Channel 9 and Channel 10, Collection Pond CP3 and its associated Berm CP3, Berm 2, and Channel 3;
- Collection Pond CP4 and its associated Berm CP4, Berm 4, and Channel 4;
- Collection Pond CP5 and its associated Dike D-CP5, Jetty 5, and Channel 5;
- Collection Pond CP6 and its associated Berm CP6; and
- SP1, SP3, and SP4.

The following subsections provide a description of the structures, visual observations, a summary of geotechnical instrumentation (if any exists), followed by recommendations.

3.2 Pond CP1 and Dike D-CP1

3.2.1 Background

Dike D-CP1 was constructed across the outlets of former Lakes H6 and H17, which combine to form Pond CP1. Dike D-CP1 was constructed between October 2016 and July 2017. The location is shown in Figure 1. Site water around the industrial facility and various collection ponds is directed to Pond CP1. Water is retained in Pond CP1 prior to treatment and discharge to Meliadine Lake.

Dike D-CP1 is approximately 600 m long with a maximum height of 6.6 m (Tetra Tech 2017g). The CDA (2013) dam consequence classification for Dike D-CP1 is Significant (Tetra Tech 2016a). A downstream collection sump and two channels were constructed approximately 5 m downstream of the D-CP1 toe to collect surface run-off and any possible dike seepage for pump back to CP1. Selected as-built drawings are included in Appendix B.

A jetty is constructed into CP1 to pump water to the EWTP.

3.2.2 Visual Observations

The inspection involved walking along the crests and toes of the dike and examining the condition of the slopes of the dike for visual signs of deformation and instability, cracking, and uneven surfaces. A photographic record of the inspection, with annotations added where appropriate, is included in Appendix B.

At the time of the inspection of D-CP1, the following general observations were made:

- Overall, the dike appeared stable, with no significant geotechnical concerns identified.
- Erosion that primarily occurred during a high-water event between 2019 and 2020 on the upstream slope of the dike is still present, as shown in Photos 1 and 2, Appendix B. The erosion has removed the finer fraction of the rockfill, leaving the larger particles. The erosion scarp is approximately 1.2 m high.
- Minor cracking and small settlement were observed along portions of the upstream and downstream crest (e.g., Photos 6, Appendix B). The largest cracks were up to 3 cm wide. The cracking shows no significant change from previous years.
- A toe berm was constructed along the downstream side of D-CP1 in the Fall of 2021 as shown in Photos 7 and 8, Appendix B. The toe berm was placed between Stations 1+220 and 1+540 at an elevation of approximately 64.5 m. The toe berm is approximately 7 m wide.
- The seepage collection pond downstream of the dike was built up with rockfill in the Fall of 2021 as shown in Photos 8 and 10. The deformation of the fill at the southeast corner of the pond was rebuilt and rockfill cover placed on the exposed tundra.
- The water levels in the downstream collection pond and channels were relatively low (Photos 8, 10, 11, and 12, Appendix B) at the time of the site visit. Water from an adjacent pond to the southeast of the collection pond was observed flowing into the collection pond. Water from the collection pond was being pumped into CP1 as required.
- Thaw subsidence has occurred in the native ground along the slopes of the collection channels downstream of Dike D-CP1 as shown in Photos 13 and 14.
- No seepage was observed from the downstream toe.
- Jetty 1 was in good condition except for erosion on the southeast corner of the slope. The erosion coincides with historic high water levels, as show in Photos 17 and 18. The erosion is similar to that observed in 2021. The fines are being washed out leaving the coarse material. The erosion is under cutting the fill up to 0.3 m in the southeast corner and may result in a slump of the surface fill in the area. The pump house is well back from the area; however, the cables in the area should be pulled back from the slope crest.

AEM's engineering and environment team conduct weekly visual geotechnical inspections of the dike, pond, and channel. Monthly inspection reports include an assessment of ground temperatures, observations of cracking and settlement, pond elevation, pumping activities, and photographs. No seepage was observed by AEM's engineering and environmental team at Dike D-CP1 throughout the year. The observations made by AEM staff were consistent with the observations during the 2022 annual inspection.

3.2.3 Instrumentation and Monitoring

Horizontal and vertical ground temperature cables (GTCs) were installed in D-CP1 between March and July 2017, as shown in Appendix B. Five horizontal GTCs (HGTC-1 to 5) were installed in D-CP1 above the liner parallel to the key trench and five vertical GTCs (VGTC-1 to 5) installed upstream and downstream of the key trench.

The key trench temperatures are warmest in late fall (October and November) and coldest in late spring (May and June). Average key trench temperatures are summarized in Table 3-1.

Table 3-1: D-CP1 Ground Temperature Summary

Cable	Average June 5, 2019 (°C)	Average June 13, 2020 (°C)	Average June 1, 2021 (°C)	Average May 25, 2022 (°C)	Difference June 2021 to May 2022 (C°)	Average Oct 31, 2019 (°C)	Average Oct 29, 2020 (°C)	Average Oct 27, 2021	Average Sept 28, 2022 (°C)	Difference Oct 2021 to Sept 2022 (C°)
HGTC-1	-8.4	-7.9	-8.2	-8.2	0.0	-4.5	-3.6	-4.2	-5.3	-1.1
HGTC-2	-9.2	-8.0	-7.8	-7.8	0.0	-5.1	-4.8	-4.4	-4.6	-0.2
HGTC-3	-8.6	-7.5	-7.6	-7.5	0.1	-5.6	-5.2	-5.1	-5.4	-0.3
HGTC-4	-8.9	-8.1	-7.9	-8.0	-0.1	-6.0	-5.6	-5.3	-5.4	-0.1
HGTC-5	-8.7	-8.2	-6.6	-7.2	-0.6	-3.4	-3.7	-3.9	-4.0	-0.1
VGTC-1	-7.2	-6.3	-5.8	-7.1	1.0	-6.4	-5.4	-5.1	-5.4	-0.3
VGTC-2	-6.2	-5.6	-5.1	-5.5	-0.4	-6.1	-5.5	-4.8	-5.0	-0.4
VGTC-3	-7.3	-6.3	-6.2	-7.3	-1.1	-7.0	-6.0	-5.5	-5.9	-0.4
VGTC-4	-6.6	-8.1	-5.8	-6.0	-0.2	-6.7	-6.3	-5.4	-5.6	-0.2
VGTC-5	-10.3	-9.7	-9.7	-9.8	-0.1	-2.1	-2.1	-2.3	-2.4	-0.1

The following observations were made regarding the instrumentation readings collected for D-CP1:

Overall, there has been a cooling trend (average -0.3°C) over the past year. This trend opposes the average annual warming trend of 0.5°C observed from 2019 to 2021. The average decrease in temperature during the past year could be attributed to colder than average air temperatures with a below average snowpack observed at the site during the 2021/2022 winter season. The temperatures within the key trench have remained below -2°C throughout the year.

GTC data was plotted against the Thermal Performance Evaluation Model of D-CP1. The model was created in the summer of 2020 and takes a section of the dike where VGTC-03, VGTC-04, and HGTC-04 are located. The actual temperature readings from these GTCs show a slight decrease in temperatures at the key trench of Dike D-CP1 between 2021 to 2022 compared to the predicted warming trend in the foundation. The plots illustrating actual versus modelled temperatures of D-CP1 are in Appendix B.

Bead 11 of HGTC-1 warmed to 1.7°C in October 2020. The temperature dropped to -1.6°C in November 2020, but still warmer than expected. It recovered the expected temperature range in December 2020. The temperature rise was investigated by AEM at the time of occurrence. There was no ponded water near the location and no sign of infiltration. No unexpected fluctuation has been observed in Bead 11 since then.

Six settlement survey monuments were installed over the liner crest in the central area of the dike as shown in Appendix B. Survey monitoring points M-1 to M-6 indicate a range of total vertical downward displacement between 33 mm and 92 mm since they were installed on September 19, 2017. Most of the movement was in the first year after construction. Settlement recorded at point M-6 (Station 1+510) indicated a settlement of 49 mm between September 2021 and January 2022, with the other monitoring points showing less settlement between 9 mm to 15 mm. There were no visible signs of deformation during the inspection around point M-6. Average settlement between October 2021 and October 2022 is 14 mm. There is "noise" in the readings as the readings fluctuate slightly; it appears to be a systematic error that may be due to a benchmark issue. The dike operating water levels were based on a settlement of 120 mm; the measured settlement has been less than this to date.

A drone survey was carried out in the summer of 2022 to evaluate the deformation of the dike, as well as the erosion on the upstream slope. The results of the drone survey are shown in Appendix B, including a plan and cross sections that illustrate the difference in elevations between the original 2017 as-built survey and drone survey elevations. The difference in the cross sections show the biggest variations in the sharp edges of the dike (crest and slope breaks). This may be partially due to the sampling rate and modelling of the drone survey. The cross sections indicate that there is a sufficient cover of Run-of-Mine rockfill over top of the Esker Sand and Gravel. The horizontal width of the Run-of-Mine Rockfill is greater than 2 m. The cross sections show approximately 0.10 m to 0.15 m of settlement in the crush material above the liner crest location near Station 1+510 (Settlement Point M-6) where the significant liner crest settlement was measured.

3.2.4 Water Management

CP1 receives inputs from the surrounding area as well as water pumped from other areas of the site (CP3, CP4, CP5, CP6, and other sources). The design operating levels are specified in the Operation Management and Surveillance (OMS) manual (AEM 2020) as listed in Table 3-2.

Table 3-2: Design Water Elevations for D-CP1 Operation

Situation	Maximum Operating Level (m)	Requirement
End of October each year	63.7	This level is required to provide sufficient storage for: ▪ 661,500 m³ for the runoff water from an IDF event for the entire site (a total maximum catchment area of 3.675 km² during the design life of D-CP1); ▪ 38,800 m³ for the treated sewage from late October to early June (8 months); and ▪ 31,000 m³ for the treated water pumped from the SWTP to CP1 from late October to early June (8 months).
Before each spring freshet	64.1	This level is required to provide sufficient storage for: ▪ 661,500 m³ for the runoff water from an IDF event for the entire site.

Table 3-2: Design Water Elevations for D-CP1 Operation

Situation	Maximum Operating Level (m)	Requirement
During non-IDF spring freshet or short-term after each spring freshet	66.2	This water elevation is to allow CP1 to have a storage capacity of 119,000 m^3 to store the runoff water from a 1/1,000 24-hour extreme rainfall event (77 mm precipitation) for the CP1 maximum catchment area of 1.545 km^2, without exceeding the design D-CP1 maximum water elevation of 66.6 m (under the IDF).
Short-term water elevation under the IDF	66.6	This is the design maximum water elevation for D-CP1 for a short period. The water elevation should be drawn down by pumping from CP1 to the EWTP and then discharging the treated water to Meliadine Lake.

The water level in CP1 was high over the 2019/2020 winter and drawn during and following the 2020 freshet. The water level was within the normal operating range since the summer of 2020.The water level had been drawn down below the freeze up water level target of 63.7 m at the time of inspection. The maximum water level in 2022 (from May 23, 2022) was 64.1 m and was 63.4 m on September 20, 2022. The water level was below the freeze up water level requirement at the time of inspection.

3.2.5 Summary and Recommendations

CP1, Dike D-CP1, and Jetty 1 were generally performing well at the time of the inspection. The following recommendations are provided:

- The upstream slope of Dike D-CP1 experienced erosion in 2020 during a period of high-water levels. Surveys indicate there is 2 m of Run-of-Mine protecting the Esker Sand and Gravel in the upstream shell of the dike. The performance of the upstream slope should continue to be monitored.
- Consideration could be given to repair the ground subsidence along the crest of the seepage collection channel to maintain functionality of the channel.
- It is recommended to closely monitor the potential settlement near settlement point M-6 (Station 1+510) for signs of deformation and to confirm if the recorded displacement is actual or a measurement error in the prism or benchmark.
- Improvements to the survey monitoring system could be considered to reduce "noise" in the settlement monitoring data for Dike D-CP1.

3.3 Pond CP2, Associated Channels, and Berms

3.3.1 Background

Collection Pond CP2 and its associated infrastructure, Berm CP2, Channel 9, Channel 10, Channel 9 Berm, and Channel 10 Berm, collects and temporarily stores runoff water from WRSF3. CP2 was created by excavating a large depression approximately 13 m deep into overburden and bedrock. Berm CP2, located downstream of Pond CP2, provides a thermal protection to maintain the underlying permafrost downstream of CP2. Channel 9, Channel 10, and their associated berms collect and divert the runoff water from the WRSF3 catchment area. Channel 9 Berm is intended to provide sufficient freeboard to Channel 9 in a localized depression along the channel alignment. Channel 10 Berm provides diversion of runoff into Channel 10 that could otherwise potentially bypass the invert location of Channel 10.

The design of the collection pond, channels, and berms is based on the following criteria and key considerations:

- CP2 was designed to store 3/7 days of 1 in 100 wet precipitation year freshet (assume that freshet occurs in seven days and pumping from the facility begins three days after freshet begins).
- The maximum operating water elevation in CP2 under Inflow Design Flood (IDF) is set at Elevation 52.0 m which is 2.0 m lower than the original outlet elevation of the collection pond area.
- The downstream berm, Berm CP2, is designed to preserve permafrost in the original ground below the centre of the berms, which will minimize the potential seepage through its foundation into the downstream receiving environment (i.e., Meliadine Lake).
- The water collected in CP2 will be actively pumped into CP1 during the open water season. The intent is that CP2 will be nearly empty most of the time, except for several early days during the annual spring freshet for preparing the pump system or during an extreme rainfall event.
- Channel 9 was designed to pass the design inflow during an extreme intensity flow. Channel 9 Berm designed along Channel 9 to provide sufficient freeboard and to prevent the water overflowing the channel under the design IDF or other unexpected extreme conditions.
- Channel 10 was designed to pass the design inflow during an extreme intensity flow. Channel 10 Berm positioned near the beginning of Channel 10 to divert runoff from bypassing the end of Channel 10 under the design IDF or other unexpected extreme conditions. The channel was constructed approximately 25 m shorter than design to prevent relocating a partially buried water pipeline and electrical cable in the area. A diversion berm was constructed to ensure runoff does not flow around the end of the modified channel.

CP2 and its associated infrastructure was constructed from February 2022 to May 2022. The as-built drawings for CP2 are included in Appendix C.

3.3.2 Visual Observations

The inspection involved walking along the crests of CP2, Berm CP2, Channel 9, Channel 10, and associated berms to examine the structures for visual signs of deformation and instability, cracking, and uneven surfaces. Photos can be found in Appendix C.

At the time of inspection CP2 water level was within the bedrock zone. The slopes of the pond are a combination of overburden and bedrock. The overburden is covered with a layer of waste rock for erosion protection. The bedrock slopes are blocky with some fractured rock. No obvious signs of instability were observed in the bedrock or overburden slopes. Minor water flow was observed entering CP2 from the channel outlets as per its normal function shown in Photos 1 and 2, Appendix C.

Berm CP2 was constructed of overburden till and rockfill obtained from the excavation of CP2 and the open pit from mine operations. The till was partially frozen when it was placed in the berm. The till was covered with a layer of rockfill also obtained from the excavation. The slopes of the thermal berm were in good condition at the time of the inspection. The crest of Berm CP2 showed signs of minor settlement as shown in Photos 7 and 8, Appendix C. The settlement does not impact the berm function which is to insulate the original ground. Surface ponding was observed against the upstream toe of Berm CP2 where the protective layer of rockfill was not placed as shown in Photo 6 in Appendix C.

There are several areas of minor settlement at the top of the pond slopes where the rockfill cover has been placed. The settlement is as a result of initial ground disturbance from the construction of CP2 earlier in the year. The settlement areas are not impacting the slope performance.

3.3.3 Instrumentation and Monitoring

Three GTCs (GTC-01, GTC-02, and GTC-03) were installed in Berm CP2 to measure the active layer depth in the berm and subgrade ground temperatures. The ground temperatures are shown in Appendix C. The maximum active layer depth in 2022 varied from 1.0 m to 1.5 m. The ground temperature at Elevation 52.0 m ranged from -9.4°C to -9.6°C on September 25, 2022.

3.3.4 Water Management

Water was pumped out sporadically throughout the open water season through a dedicated pumping system. The water levels in Collection Pond CP2 between late-May 2022 and late-September 2022 varied between Elevations 44.8 m and 45.3 m.

The level in September 2022 was 45.3 m at the time of inspection. At this level the depth of water in CP2 is approximately 1 m with a volume of approximately 2,038 m^3. The remaining capacity in the pond to the maximum operating level of 52.0 m is 46,122 m^3.

The inflow for the pond was based on 3/7 of the 1:100 freshet (198 mm) over the catchment area of 0.43 km^2 which equates to 42,000 m^3 of water. It is understood that the pond will be empty prior to freeze up.

3.3.5 Summary and Recommendations

The newly constructed Collection Pond CP2 and its associated infrastructure is performing adequately. The geotechnical performance should continue to be monitored.

The area against the upstream side of Berm CP2 with ponded water observed should be covered with rockfill to prevent future ponding and thermal degradation of the native ground between the thermal berm and crest of CP2.

3.4 Pond CP3, Associated Channels, and Berms

3.4.1 Background

Collection Pond CP3 and its associated infrastructure; Berm CP3, Channel 3, and Berm 2, collects and temporarily stores runoff water from the dry stack TSF. CP3 was created by excavating a large depression approximately 11 m deep in overburden and bedrock. Berm CP3 downstream of Pond CP3, provides a thermal protection to maintain the underlying permafrost downstream of CP3. Channel 3 collects and diverts the runoff water from the TSF catchment areas. Berm 2 prevents non-contact water from flowing through the TSF into the Collection Pond CP3.

The design of the collection pond, channels, and berms is based on the following criteria and key considerations:

- CP3 was designed to store 3/7 days of 1 in 100 wet precipitation year freshet (assume that freshet occurs in seven days and pumping from the facility begins three days after freshet begins).
- The maximum operating water elevation in CP3 under IDF is set at Elevation 63.0 m which is 2.0 m lower than the original outlet elevation of the collection pond area.

- The downstream berm, Berm CP3, is designed to preserve permafrost in the original ground below the centre of the berms, which will minimize the potential seepage through its foundation into the downstream receiving environment (i.e., Lake B7).
- The water collected in CP3 will be actively pumped to former Lake H13, which flows into CP1 during the open water season. The intent is that CP3 will be nearly empty most of the time, except for several early days during the annual spring freshet for preparing the pump system or during an extreme rainfall event.
- Channel 3 was designed to pass the design inflow during an extreme intensity flow. A berm incorporated into the CP3 access road was designed along Channel 3 to provide sufficient freeboard and to prevent the water overflowing the channels under the design IDF or other unexpected extreme conditions.

CP3 and its associated infrastructure was constructed from August 2018 to January 2019. The as-built drawings for CP3 are included in Appendix D.

3.4.2 Visual Observations

The inspection involved walking along the crests of CP3, Berm 2, Channel 3, and Berm CP3 to examine the structures for visual signs of deformation and instability, cracking, and uneven surfaces. Photos can be found in Appendix D.

The water level in CP3 was within the bedrock zone at the time of inspection. The slopes of the pond are a combination of overburden and bedrock. The overburden is covered with a layer of waste rock. The bedrock slopes are blocky with some fractured rock. No obvious signs of instability were observed in the bedrock or overburden slopes. Portions of the slope were covered with sediment eroded from an area of disturbed ground east of CP3, Photo 10, Appendix D. Water was observed running into CP3 at several points along the north side of the pond crest, shown in Photo 2, Appendix D.

Berm CP3 was constructed of overburden till and rockfill obtained from the excavation of CP3. The till was partially frozen when it was placed in the berm. The till was covered with a layer of rockfill also obtained from the excavation. The slopes of the thermal berm were in good condition at the time of the inspection. The crest of Berm CP3 is undulating due to settlement that occurred as shown in Photos 7 and 8, Appendix D. The settlement does not impact the berms function which is to insulate the original ground.

There are several areas of settlement at the top of the pond slopes where the rockfill cover has been placed. The settlement areas are not impacting the slope performance.

A temporary channel has been excavated from the north end of Phase 1 of the TSF to the CP3 pond. The channel is not armored and will require maintenance over time. The channel results in a concentrated flow point to CP3. To date the rockfill on the slope of CP3 is performing well, but the area should be monitored.

3.4.3 Instrumentation and Monitoring

Three GTCs (GTC-01, GTC-02, and GTC-03 Berm CP3) were installed in Berm CP3 to measure the active layer depth in the berm and subgrade ground temperatures. The ground temperatures are shown in Appendix D. The maximum active layer depth in 2022 varied from 2.5 m to 3.5 m. The ground temperature at Elevation 63.0 m ranged from -4.0°C to -6.0°C on September 25, 2022.

3.4.4 Water Management

Water was pumped out sporadically throughout the open water season through a dedicated pumping system. The water levels in Collection Pond CP3 between mid-August 2021 and late-August 2022 varied between Elevations 58.0 m and 56.2 m.

The level on September 16, 2022 was 55.5 m at the time of the inspection. At this level the depth of water in CP3 is approximately 3 m with a volume of approximately 2,173 m^3. The remaining capacity in the pond to the maximum operating level of 63.0 m is 42,675 m^3.

The inflow for the pond was based on 3/7 of the 1:100 freshet (171 mm) over the catchment area of 0.383 km^2 which equates to 28,000 m^3 of water. It is understood that the pond will be pumped prior to freeze up.

3.4.5 Summary and Recommendations

Collection Pond CP3 and its associated infrastructure is performing adequately.

The operation of the pond is specified that it be completely drained prior to freeze up. The base of the pond is irregular making it difficult to completely drain. The minimum elevation of the pond is 54.0 m. AEM specified that operations targeted a minimum drawdown level of 57.47 m prior to freeze up. This would leave approximately 10,300 m^3 in the pond at this elevation. The as-built volume of CP3 provides 14,675 m^3 of contingency storage at the maximum operating level of 63.0 m, therefore the drawdown target is not expected to impact the design intent of the pond. Pond CP3 and Berm CP3 are functioning as attended. The geotechnical performance should continue to be monitored.

3.5 Collection Pond CP4, Associated Channels, and Berms

3.5.1 Background

Collection Pond CP4, and its associated infrastructure; Berm CP4, and Channel 4, collects and temporarily stores runoff water from the waste rock storage area (WRSF1). CP4 was created by excavating a large depression approximately 15 m deep in overburden and bedrock. Berm CP4 downstream of Collection Pond CP4, provides thermal protection to maintain the underlying permafrost downstream of CP4. Channel 4 collects and diverts the runoff water from the proposed WRSF1 catchment area.

The design of the collection pond, channels, and berm is based on the following criteria and key considerations:

- CP4 was designed to store 3/7 days of 1 in 100 wet precipitation year freshet (assumes that freshet occurs in seven days and pumping from the pond occurs after day three). The excess freshet water will be pumped out to partially drained Lake H13 during freshet period.
- The maximum operating water elevation in Collection Pond CP4 under IDF is set at Elevation 63.0 m which is 2.0 m lower than the original outlet elevation of the collection pond area.
- The downstream berm, Berm CP4, is designed to preserve permafrost in the original ground below the centre of the berms, which will minimize the potential seepage through its foundation into the downstream receiving environment (i.e., Lake B7).
- The water collected in CP4 will be actively pumped to former Lake H13, which flows into CP1 during the open water season. The intent is that Collection Pond CP4 will be nearly empty most of the time, except for several early days during the annual spring freshet for preparing the pump system or during an extreme rainfall event.

CP4 and its associated infrastructure was constructed from October 2018 to May 2019. The as-built drawings for CP4 are included in Appendix E.

3.5.2 Visual Observations

The inspection involved walking along the crests of CP4, Channel 4, and the CP4 Berm to examine the structures for visual signs of deformation and instability, cracking, and uneven surfaces. Photographs of CP4 and the associated infrastructure are in Appendix E.

At the time of inspection CP4 was filled with water to approximately Elevation 53.2 m (measured September 20, 2022). The slopes of the pond are a combination of overburden and bedrock. The overburden is covered with a layer of rockfill obtained from the pond excavation. No obvious signs of instability were observed in the bedrock or overburden slopes. During the 2021 inspection, thaw settlement up to 0.75 m deep was observed in the native ground above the overburden slope protection rockfill along the west and south sides of CP4. The native ground above the overburden slope has been covered with a protective layer of rockfill along the west and south sides of CP4 prior to the 2022 inspection to prevent additional thaw settlement. The rockfill cover placement is shown in Photo 13 and 14, Appendix E.

Thaw subsidence of the native ground up to 0.5 m deep was observed between the rockfill covered slope of CP4 and WRSF1 as shown in Photos 5, 6, and 7, Appendix E. the subsidence does not appear to have changed since the 2021 inspection.

Rockfill has been placed over the settlement zone observed in 2021 along the till berm at the upstream slope of Berm CP4 as shown in Photos 8 to 10, Appendix E. No ponded water or settlement of the recently placed rockfill cover was observed during the 2022 inspection.

Berm CP4 was constructed of overburden till obtained from the excavation of CP4. The till was a combination of frozen and unfrozen material when it was placed in the berm. The till was covered with a layer of rockfill also obtained from the excavation. The slopes of the berm were in good condition. The crest of the berm had undulating settlement up to 0.3 m deep throughout the surface as shown in Photo 11, Appendix E. The settlement does not impact the berms function which is to insulate the original ground.

3.5.3 Instrumentation and Monitoring

Two GTCs (GTC-01, and GTC-02 Berm CP4) were installed in Berm CP4 to measure the active layer depth in the berm and subgrade ground temperatures. The GTCs are shown in Appendix D. The maximum active layer depth in 2020 ranged from 2.0 m to 2.2 m. The thawed zone varied from 2.2 m to 2.5 m on September 25, 2022. The ground temperature at Elevation 63.0 m ranged from -6.4°C to -6.9°C on September 25, 2022.

3.5.4 Water Management

Water levels in Pond CP4 from mid November 2021 to mid September 2022 varied between Elevation 55.6 m and 53.2 m. The water level in Pond CP4 was 53.2 m at the time of inspection on September 16, 2022, resulting in approximately 1 m depth of water in the pond. Water was pumped out sporadically throughout the open water season.

As of September 16, 2022, the remaining capacity (to the maximum operating level of 63.0 m) was 47,675 m^3. The inflow for the pond was based on 3/7 of the 1:100 freshet (171 mm) over the catchment area of 0.441 km^2 which equates to 32,300 m^3 of water.

3.5.5 Summary and Recommendations

Collection Pond CP4 and its associated infrastructure is performing adequately. Thaw settlement of the native ground above the rockfill protected overburden slope of CP4 observed during the 2021 inspection has been covered with a protective layer of rockfill along the west and south sides of CP4 to reduce future thaw subsidence in the area. The till berm between CP4 and the upstream slope of CP4 Berm has also been covered with a minimum of 1.5 m Run-of-Mine layer to reduce future settlement and ponding on the surface of the till berm. These areas should continue to be monitored for settlement to confirm adequate protection is provided by the rockfill cover.

The operation of the pond specifies that it be completely drained prior to freeze up. The base of the pond is irregular making it difficult to completely drain. The minimum elevation of the pond is 52 m. AEM specified that operations targeted a minimum drawdown level of 55.28 m prior to freeze up. This would leave approximately 8,300 m^3 in the pond at this elevation which is not expected to impact the design intent of the pond. The as-built volume of the CP4 provides 15,375 m^3 of contingency storage at the maximum operating level of 63.0 m, therefore the drawdown target is not expected to impact the design intent of the pond.

3.6 Pond CP5 and Dike D-CP5

3.6.1 Background

Dike D-CP5 was constructed across the south portion of former Lake A54, to form CP5 from October 2016 to July 2017. The intent of D-CP5 is to create a contact water collection pond in the north portion of former Lake A54.

D-CP5 is approximately 300 m long with a maximum height of 3.3 m (Tetra Tech 2017f) and is located north of the Tiriganiaq 02 Open Pit as shown in Figure 1. The CDA (2013) dam consequence classification for D-CP5 is Significant (Tetra Tech 2016b). CP5 is used seasonally for temporary water storage with active pumping to CP1 to transfer the water out of CP5.

The access road to the Tiriganiaq 02 Open Pit has been constructed downstream of the dike. The area between the dike and road has been graded with crushed rock covering the seepage collection pond that was located downstream of the dike.

3.6.2 Visual Observations

The inspection involved walking along the crests and toes of the dike and examining the condition of the slopes of the dike for visual signs of deformation and instability, cracking, and uneven surfaces. Water in CP5 at the time of the site visit precluded observing upstream toes of the dike. A photographic record of the inspection is included in Appendix F.

At the time of the inspection of D-CP5, the following general observations were made:

- Overall, the dike appeared stable, with no significant geotechnical concerns identified.
- Minor cracking was observed in a few locations on the upstream and downstream sides of the dike crest. The cracking appeared consistent with that observed in 2021 and did not appear to be progressing. The dike crest is shown in Photos 2, 4, 6, and 7, Appendix F.
- There were no signs of seepage from the downstream toe.

Jetty 5 is the causeway for the pump back station for CP5. The significant erosion below the southwest corner of the pump station observed during the 2021 inspection was repaired as shown in Photo 9, Appendix F.

AEM's engineering team conduct weekly visual geotechnical inspections of the dike. Monthly inspection reports included an assessment of ground temperatures, observations of cracking and settlement, pond elevation, pumping activities, and photographs. The observations made by AEM staff were consistent with the observations during the 2022 annual inspection. Cracks and locations of settlement were marked with spray paint in the field to monitor changes.

3.6.3 Instrumentation and Monitoring

Horizontal and vertical GTCs were installed in D-CP5 between March and July 2017. Plots of the thermistor data are provided in Appendix F. Two horizontal GTCs (HGTC-1 and HGTC-2) installed in D-CP5 above the liner parallel to the key trench and three vertical GTCs (VGTC-1 to 3) installed upstream and downstream of the key trench.

Key trench temperatures are warmest in late fall (October and November) and coldest in late spring (May and June). The average temperatures over the length of the portion of the cable in the key trench parallel to the dike axis are summarized Table 3-3 at specific dates.

Table 3-3: D-CP5 Ground Temperature Summary

Cable	Average June 4, 2019 (°C)	Average May 31, 2020 (°C)	Average May 31, 2021 (°C)	Average May 25, 2022 (°C)	Difference May 2021 to May 2022 (C°)	Average Oct 31, 2019 (°C)	Average Oct 29, 2020 (°C)	Average Oct 27, 2021 (°C)	Average Sept 28, 2022 (°C)	Difference Oct 2021 to Sept 2022 (C°)
HGTC-1	-7.8	-7.7	-7.0	-8.2	-1.2	-2.2	-2.3	-2.3	-2.8	-0.5
HGTC-2	-8.0	-8.0	-7.3	-8.4	-1.1	-2.9	-2.8	-2.9	-3.3	-0.4
VGTC-01	-4.3	-4.7	-4.6	-5.8	-1.2	-3.6	-3.8	-3.3	-4.0	-0.7
VGTC-02	-4.6	-5.2	-5.0	-5.6	-0.6	-3.8	-3.9	-3.5	-4.0	-0.5
VGTC-03	-3.3	-3.5	-3.3	-6.0	-2.7	-3.3	-3.6	-3.4	-4.1	-0.7

The horizontal GTCs indicate a slight cooling trend with an average of -1.2 C° in the base of the key trench from May 31, 2021 to May 25, 2022 . The vertical GTCs indicate a slight cooling trend average of -1.5 C° in the foundation of the dike from May 31, 2021 to May 25, 2022.

Three settlement survey monuments were installed over the liner crest in the dike. CP5 survey monitoring points indicate a settlement between 24 mm and 61 mm since installation. There is "noise" in the readings as the readings fluctuate slightly but improvements have been made to stabilize the settlement readings. The settlement data is provided in Appendix F. The dike operating water levels were based on a settlement of 100 mm; the measured settlement has been less than this to date.

3.6.4 Water Management

CP5 receives inputs from the surrounding area. Water from CP5 is pumped to CP1 throughout the open water season. The design operating levels are specified in the OMS manual (AEM 2021) as listed in Table 3-4.

Table 3-4: Design Water Elevations for D-CP5 Operation

Situation	Maximum Operating Level (m)	Requirement
Before and after each spring freshet	65.5	This water elevation was determined to allow CP5 to have a sufficient storage capacity to store the estimated maximum volume of 49,500 m^3 of the runoff water from an IDF event for a total maximum CP5 catchment area of 0.643 km^2 during the design life of D-CP5, which includes the catchment areas of the P1/P2/P3 and Portal No. 1 areas.
During mean spring freshet (assumed to store 3 of 7 days of spring freshet)	66.03	This water elevation was determined to store 3/7 of the runoff water from a mean spring freshet for the total maximum CP5 catchment area of 0.643 km^2.
Under the IDF	66.32	▪ This is the design maximum water elevation for D-CP5 for a short period. The water elevation should be drawn down to 64.8 m by pumping water to CP1 after each spring freshet or rainfall event; and ▪ This water elevation is also constrained by the risk of flooding Portal No. 1, the nearby ventilation shaft, and the saline water storage pond.

The water level in CP5 varied from 65.4 m to 65.0 m from April 2022 to mid-August 2022 which is within the operating levels of the pond. On September 16, 2022 water level was at elevation 65.0 m which is below the target water elevation prior to freeze up.

3.6.5 Summary and Recommendations

Dike D-CP5 and the associated infrastructure is in good condition. The following recommendation is provided regarding D-CP5:

The GTCs and survey monitoring points should continue to be monitored following the schedule and procedures developed in the OMS Manual.

3.7 Collection Pond CP6 and Associated Berm

3.7.1 Background

Collection Pond CP6, and its associated Berm CP6 collects and temporarily stores runoff water from the waste rock storage area (WRSF3). CP6 was created by excavating a large depression approximately 7 m to 11 m deep in overburden and bedrock. Berm CP6 downstream of Collection Pond CP6, provides thermal protection to maintain the underlying permafrost downstream of CP6.

The design of the collection pond, channels, and berm is based on the following criteria and key considerations:

- CP6 was designed to store 3/7 days of 1 in 100 wet precipitation year freshet (assumes that freshet occurs in seven days and pumping from the pond occurs after day three). The excess freshet water will be pumped to CP1.
- The maximum operating water elevation in Collection Pond CP6 under IDF is set at Elevation 60.0 m which is 2.0 m lower than the original outlet elevation of the collection pond area.
- The downstream berm, Berm CP6, is designed to preserve permafrost in the original ground below the centre of the berms, which will minimize the potential seepage through its foundation into the downstream receiving environment.
- The water collected in CP6 will be actively pumped to CP1. The intent is that Collection Pond CP6 will be nearly empty most of the time, except for several early days during the annual spring freshet for preparing the pump system or during an extreme rainfall event.

CP6 and its associated infrastructure was constructed from March 2020 to April 2020. The as-built drawings for CP6 are included in Appendix G.

Significant erosion was observed in the former lakebed area between WRSF3 and CP6 in 2020. The erosion worsened following freshet in 2021. Approximately 2 m of Run-of-Mine was placed in the area to reduce the rate of erosion as shown in Photos 2 Appendix G.

3.7.2 Visual Observations

The inspection involved walking along the crests of CP6 and the CP6 Berm to examine the structures for visual signs of deformation and instability, cracking, and uneven surfaces. Photographs of CP6 and the associated infrastructure are in Appendix G. Observations are summarized below:

- At the time of inspection CP6 had water in it, below the top of the bedrock. The slopes of the pond are a combination of overburden and bedrock. The overburden is covered with a layer of rockfill obtained from the pond excavation. No obvious signs of instability were observed in the bedrock or overburden slopes. A depression was observed in the Run-of-Mine cover in the southeast corner of the pond shown in Photo 4, Appendix G. It is speculated that the depression is due to continued erosion of the lakebed sediment in the former lakebed sediments. The depression appears similar to that observed in 2021.
- Berm CP6 was constructed of overburden till obtained from the excavation of CP6. The till was a combination of frozen and unfrozen material when it was placed in the berm. The till was covered with a layer of rockfill also obtained from the excavation. The slopes of the berm were in relatively good condition. The crest of the berm had minor cracks throughout the surface. Settlement areas are shown in Photo 7, Appendix G. The cracks do not impact the berm function which is to insulate the original ground.
- Significant sedimentation was observed at the base of CP6 located near the northwest corner of the pond caused by inflowing water as shown in Photo 3, Appendix G.
- The access ramp into CP6 does not extend to the base of the pond.
- The localized settlement and subsidence areas noted on the ramp from WRSF3 to the CP6 area during the 2021 inspection have been graded as shown in Photo 10, Appendix G.

3.7.3 Instrumentation and Monitoring

Three GTCs were installed in Berm CP6 to measure the active layer depth in the berm and subgrade ground temperatures. The GTCs are shown in Appendix G. The maximum active layer depth 0n September 25, 2022 was approximately 2.2 m to 2.5 m. The ground temperature at Elevation 60.0 m ranged from -6.9°C to -7.4°C on September 25, 2022. GTC-02 has stopped reading since the last measurement was taken on May 25, 2022.

3.7.4 Water Management

Water levels in Pond CP6 from mid June 2022 to late September2022 varied between Elevation 53.6 m and 53.2 m. The water level was at approximately 53.2 m during the inspection resulting in approximately 2 m depth of water in the pond. This equates to approximately 3,200 m^3 of water within CP6. Water was pumped out sporadically throughout the open water season.

As of September 16, 2022, the remaining capacity (to the maximum operating level of 60.0 m) was 42,745 m^3. The inflow for the pond was based on 3/7 of the 1:100 freshet (171 mm) over the catchment area of 0.448 km^2 which equates to 32,696 m^3 of water.

3.7.5 Summary and Recommendations

Generally, Collection Pond CP6 and Berm CP6 are performing well.

The Run-of-Mine cap placed in 2021 between WRSF3 and CP6 is controlling erosion in the area. A small amount of subsurface erosion is persistent at the east side of the cover. It is not currently impacting the operation of the facility. The subsurface erosion could be reduced by covering the remaining portion of the former lakebed area with a granular filter layer with a minimum thickness of 0.5 m that redirects the flow away from the area of ongoing subsurface erosion. The granular filter should be covered with a minimum of 1.5 m of Run-of-Mine.

It is recommended to complete construction of the CP6 access ramp as per design to provide operations with safe access for dewatering.

GTC-02 within Berm CP6 has stopped taking measurements since May 25, 2022. The GTC should be investigated to determine the reason for the malfunction and if the cable is still operable.

4.0 SALINE PONDS

4.1 Saline Pond 1

SP1 which is located north of CP-5 was constructed during the third quarter of 2016 to manage underground saline water.

The saline pond was constructed by excavation within permafrost overburden and bedrock. A small berm approximately 1 m to 2 m high was constructed around the excavation with a till core and rockfill cover to promote permafrost development in the original ground below the berm and keep surface water from the surrounding area from draining into the pond. The pond is designed to maintain the maximum pond elevation under the IDF (1-in-100-year precipitation event) below original ground and below the level of CP5 to minimize the potential for seepage out of the saline pond.

The inspection involved walking along the crest of the saline pond perimeter berm, examining the condition of the berm for visual signs of deformation and instability, cracking, uneven surfaces, and seepage. A selection of photographs from the inspection are included in Appendix H.

At the time of the inspection of the saline pond, the following general observations were made:

- Overall, the pond and perimeter berm appeared stable.
- There was no observed seepage from the adjacent Ponds CP5 or DP3-A.
- There was water in the pond at the time of the site visit that was below the top of the bedrock excavation (Photo 1, Appendix H). The pond has been nearly drained in preparation for the freeze up.
- The thermal berm appeared to be in good condition with minimal cracking.
- No significant seepage into the saline pond was observed during the inspection.
- The southwest corner of the pond crest had significant cracks up to 100 mm wide at the crest as shown in Photos 3 and 4, Appendix H. The slopes below the cracking may be deformed. The cracks could be due thaw subsidence or movement of the overburden slope.
- A large piece of rock has fallen into pond in the northeast corner. It is not impacting the pond performance.

The following recommendations are provided regarding the saline pond:

- In general, the pond is performing adequately. The slopes around the pond should continue to be monitored and remediated as required.
- The berms located at the bottom of the access ramp into Saline Pond 1 should be improved for safety.

4.2 Saline Pond 3

SP3 was constructed during the 2018/2019 winter in the south portion of the P3 area. It is a High Density Polyethlyene (HPDE) Lined pond with a storage capacity of 5,000 m^3. It was constructed for the temporary storage of saline water from the underground.

The pond is surrounded by perimeter berms constructed with mine rockfill. A layer of bedding material was placed over the native ground and rockfill berms. A geomembrane liner was placed over the base of the perimeter berms.

The pond was filled to approximately 1.5 m below the top of the berm at the time of the inspection.

The inspection involved walking along the crest of the saline pond perimeter berm, examining the condition of the berm for visual signs of deformation and instability, cracking, uneven surfaces, and seepage. A selection of photographs, Photos 5, 6, and 7 from the inspection are included in Appendix H.

At the time of the inspection of the saline pond, the following general observations were made:

- The perimeter berms were in good condition with no significant signs of cracking or settlement.
- A small amount of erosion has occurred along the crest of the berms; but does not impact the performance of the pond.

- The HPDE liner above the water level appeared to be in good condition. It is understood a liner inspection was done in the summer 2021 by mine personnel with the pond drained. Two tears were noted in the liner on the crest of the pond. The tears were patched prior to pumping water into the pond.
- No seepage out of the pond was observed; however, the ground in the former P3 pond was covered with water making it difficult to assess seepage.

  Overall, the pond appears to be performing adequately. The pond should continue to be monitored for signs of settlement etc.

4.3 Saline Pond 4

SP4 which is located within the Tiriganiaq 01 Open Pit was constructed during the first quarter of 2020 to manage underground saline water. The pond was constructed by excavation within permafrost overburden and bedrock.

The inspection involved walking along the crest of the pond, examining the conditions for visual signs of deformation and instability, cracking, uneven surfaces, and seepage. A selection of photographs, Photos 9 to 15 from the inspection are included in Appendix H.

At the time of the inspection, the following general observations were made:

- Overall, the pond rockfill covered overburden slopes and bedrock appeared stable, with no significant geotechnical concerns identified. (Photo 12 and 15, Appendix H). Subsidence in original ground at crest of slope, behind rockfill cover. Conditions appeared like the 2021 inspection.
- There was a small volume of water in the pond at the time of the site visit that was well below the top of the bedrock excavation (Photos 8 and 13, Appendix H). The pond was almost drained in preparation for freeze up and decommissioning.
- Some thaw subsidence was in the crest of the rock fill overburden cover as shown in Photo 14, Appendix H.
- Cracking and thaw subsidence areas were observed in the original ground above the rockfill covered overburden slopes (Photos 10 and 11, Appendix G).
- No significant seepage into the saline pond was observed during the inspection.

Excavation of Saline Pond 4 is planned for 2023 as Tiriganiaq 01 Pit is expanded.

5.0 DIVERSION CHANNELS AND BERMS

5.1 Background

Diversion Channels 1, 2, 3, 4, 5, 7, 8, 9, and 10 and associated Berms 1, 2, and 3 were inspected. The channels were constructed by excavating a trench, placing non-woven geotextile to line the excavation, and then placement of riprap (coarser rocks) over the fabric to line the channels. The berms were constructed by using a combination of esker material and till.

Channel 1 is designed to move water from former Pond H13 to CP1 and extends from Culvert 2 to Pond H9 along the north and east sides of Portal No. 2. Channel 1 is approximately 493 m long with a base width of approximately 3 m.

Channel 2 is located along the northern end of the main mine site industrial pad and is approximately 270 m long with a base width of 1 m. During construction and operation, contact water from the area will flow into Channel 2, which in turn eventually flows into CP1.

Channel 3 directs seepage and run-off water from the TSF into Pond CP3. Channel 3 is located along the southwestern boundary of the TSF. Channel 3 is approximately 620 m long with a designed base width of 1 m to 2 m.

Channel 4 directs seepage and run-off water from the WRSF1 into Pond CP4. It is located along the northwestern boundary of WRSF1. Channel 4 has a designed base width of 1 m to 2 m. Channel 4 Berm was constructed downstream of Channel 4 to raise the active layer downstream of the channel.

Channel 5 and Berm 3 are located west of CP5 and are designed to divert water from the Pond A12 catchment area into CP5 so that this water does not flow into the future Tiriganiaq 01 Open Pit. Channel 5 is the main water diversion structure; Berm 3 is only required to temporarily retain water under an extreme rainfall event when the water level in CP5 is temporarily high (Tetra Tech 2016d). Channel 5 is approximately 429 m long with a base width of approximately 3 m. Berm 3 is approximately 315 m long with a maximum height of about 2.8 m. Berm 3 consists of a till core, a foundation key trench backfilled with till, and a cover layer constructed out of 600 mm minus esker material.

Channel 7 is a water collection channel that collects flow from Culvert 11 and part of the runoff from the laydown area and directs the water to Channel 1.

Channel 8 is a water collection channel located on the west side of Portal No. 2 to collect part of the surface flow of WRSF1 and facilitates flow of site drainage through Culvert 2 and Channel 1.

Channel 9 is a runoff collection channel located along the northeast boundary of WRSF3. Channel 9 collects surface flow and directs it to CP2. Channel 9 is approximately 720 m long with a designed base width of 2 m.

Channel 10 is a runoff collection channel located along the southeast boundary of WRSF3. Channel 10 collects surface flow and directs it to CP2. Channel 10 is approximately 200 m long with a base width of 2 m. The channel was constructed approximately 25 m shorter than design to prevent relocating a partially buried water pipeline and electrical cable in the area. A diversion berm was constructed to ensure runoff does not flow around the end of the modified channel.

Berm 1 is required to protect Portal No. 2 from flooding under extreme rainfall events when potential ponding in the area occurs.

Berm 2 was constructed in the fall of 2018 to reduce the amount of non-contact water entering the TSF and Collection Pond CP3 catchment areas. Berm 2 was predominately constructed of 50 mm minus screened esker material with a till zone of approximately 2 m wide.

Berm 3 was constructed to divert runoff from flowing into Saline Pond 4 and Tiriganiaq Open Pit 01 and direct it to CP5. Berm 3 was predominately constructed of screened esker material with a till zone approximately 2 m wide.

5.2 Visual Observations

Channel 1

The inspection of Channel 1 involved walking along the channel from Culvert 2, around the crusher ramp. The water level in the eastern portion of the channel is controlled by the water level in Pond H9. Channel 1 is shown in Photos 1 through 8, Appendix I.

Cracking and settlement were observed along the edges of the channel. This was also reported in previous years but does not affect the channel performance.

Channel 2

Channel 2 was inspected by walking from the channel outlet culvert, towards the top of the channel behind the accommodations complex. As noted in previous years the slope of the channel base is not consistent and some pooling of water and deposition of sediment in lower areas. No geotechnical concerns associated with Channel 2 were identified. Channel 2 is shown Photos 9 through 13, Appendix I.

Channel 2 is intended to drain into a low wet area that drains through Culvert 13, which eventually drains south towards Channel 1 and CP1.

It was recommended in 2021 that a small berm be constructed such that Channel 2 outflow is better directed to Culvert H13. This recommendation remains for the 2022 inspection.

Channel 3

Channel 3 was constructed to divert runoff from the catchment area from the TSF towards Collection Pond CP3. The side slopes range from 3.5H:1.0V to 1.8H:1.0V with the base of the channel varying from 0.8 m to 3.3 m. Channel 3 is shown in Photos 14 to 22, Appendix I.

Little water was flowing in the channel at the time of the inspection; however, there were long stretches along the western portion of the channel where there is ponded water due to an uneven base of the channel. The channel subgrade has thawed and settled over time resulting in low areas within the channel. There is also subsidence along the channels where the channel riprap ties into the native subgrade. The subsidence along the channel has increased since the 2021 inspection.

The subsidence extends from the channel to the toe of the road downslope of the channel at approximately Station 0+230 as shown in Photos 18 to 20, Appendix I. Water pools against the road in this location and the downslope side of the channel has subsided below the base elevation of the channel in the area. It is recommended that the subsided area in this location be filled, and channel be reconstructed.

The upper reach of Channel 3 has sediment infilling that appeared to originate from the TSF as shown in Photo 21, Appendix I. It is recommended to remove the infill to maintain the flow capacity of the channel.

The road adjacent to the channel has some cracking and slumping on the side slopes due to thaw subsidence under the toe of the road as shown in Photo 17, Appendix I. The settlement on the road slope and in the native ground is attributed to the thawing of permafrost due to ground disturbance. It is recommended that the cracks be graded and filled, and the channel be reconstructed along the regions with progressed thaw subsidence to ensure proper functionality of the channel.

Channel 4

Channel 4 was constructed to divert runoff from the catchment area from WRSF1 into Pond CP4. The as-built side slopes range from 3.5H:1.0V to 1.8H:1.0V with the base of the channel varying from 0.8 m to 3.3 m wide. Channel 4 is shown in Photos 23 to 30, Appendix I. No water was flowing in the channel at the time of the inspection; however, there were localized areas of shallow ponded water due to an uneven base of the channel. It appears there has been some thaw subsidence in the base of the channel. The subsidence areas observed in 2021 where the channel ties into the native subgrade east of the channel has been covered with a protective layer of rockfill to reduce further thaw subsidence and erosion between the channel and WRSF1.

The damaged riprap at station 0+720 noted in the 2021 annual inspection was repaired and the geotextile repositioned. No further action is required in this section of the channel.

The end of Channel 4 Berm at Station 0+620 does not appear to provide sufficient freeboard for Channel 4 as shown in Photo 27, Appendix I. It is recommended that the Channel 4 Berm is extended to provide sufficient freeboard for Channel 4 in this location.

Channel 5

Channel 5 was inspected by walking along its length. Channel 5 is shown in Photos 31 to 34, Appendix I. Overall Channel 5 appeared stable, with no significant geotechnical concerns identified along most of the channel. There was significant subsidence observed adjacent to a former pond at the north end of the channel, with slumping channel slopes similar to that observed in the 2021 inspection. The slumping area is not restricting flow in the channel. The riprap placed along the channel slopes in the region of the former pond has subsided below the elevation of the ponded water within the channel. Water was ponded within the portions of the channel.

Channel 7

Channel 7 was inspected by walking along its length. The channel is shown in Photos 35 to 37, Appendix I. There is ponded water in portions of the channel, due to some subsidence in the channel base. No significant geotechnical concerns were identified along the channel.

Channel 8

Channel 8 was inspected by walking along portions of its length. No significant geotechnical concerns were identified along the channel.

Channel 9

Channel 9 was inspected by walking along portions of its length. Several minor areas of thaw subsidence were observed within the native ground above the crest of the new channel. No significant geotechnical concerns were identified along the channel. The channel is shown in Photos 38 to 42, Appendix I.

Channel 10

Channel 10 was inspected by walking along portions of its length. Several minor areas of thaw subsidence were observed along the upstream slope of the new channel and the native ground above the upstream crest. No significant geotechnical concerns were identified. The diversion berm tie in located at the upper inlet of Channel 10 was not fully established. The channel is shown in Photos 43 to 46, Appendix I.

Berm 1

Berm 1 was inspected by walking along its length. A 350 mm diameter culvert has been placed in the channel for an access to the laydown area adjacent to Portal No. 1. No significant geotechnical concerns were identified along the Berm.

Berm 2

Berm 2 was constructed to reduce the amount of non-contact water entering the TSF and Collection Pond CP3 catchment areas. as shown in Photos 47 to 50, Appendix I. Berm 2 was predominately constructed of 50 mm minus screened esker material with a till zone approximately 2 m wide. At the time of the inspection Berm 2 was retaining water in a low area along the berm. The water was up to approximately 0.5 m deep. Minor surface erosion was observed along the lower slope of the berm indicating that the water may have been 0.5 m higher sometime prior to the inspection. There was minimal water on the downslope side of the berm indicating that the berm is functioning as intended. Cracking up to 150 mm wide was observed along the crest and slope of the berm, and minor erosion on the slope where water impounded.

Berm 3

Berm 3 adjacent to Channel 5 was inspected by walking along the crest and slopes and examining the condition of the berm for visual signs of deformation and instability, cracking, or uneven surfaces. A selection of photographs from the inspection are included in Appendix I (Photos 51 to 54). Minor cracking was observed in a location where ponded water was observed against the berm. Localized settlement was observed at the west abutment of Berm 3 that was approximately 0.25 m deep on the berm top surface. The settlement does not impact the functionality of the Berm. Overall, Berm 3 appeared stable with no significant geotechnical concerns identified.

5.3 Summary and Recommendations

The following recommendations are provided regarding the diversion channels and berms:

- Continue to monitor the cracking and subsidence in the native ground above Channels 3 and 5 to determine if they impact the channels' performance.
- Berms 2 and 3 cover materials are susceptible to erosion and some minor erosion was observed during the inspection. Erosion of the slopes should be monitored, and consideration should be given to placing coarser material on Berm 3 to reduce the potential for erosion if it becomes substantial.
- Channel 2 outflow during high events should be directed to Channel 3 as opposed to Lake G2. A small Berm could be constructed across the low area to facilitate this.
- The subsided sections of Channel 3 and the subsided area adjacent the CP3 access road should be repaired.
- The Channel 4 downstream berm should be extended at the south end of the berm to provide sufficient freeboard for Channel 4 where the crest of the channel has subsided near Station 0+620.
- The diversion berm located at the inlet of Channel 10 should be fully constructed to prevent runoff from bypassing the top of the channel.

6.0 TAILINGS STORAGE FACILITY

6.1 Background

A dry stack TSF is being used at the mine. Water is pressed out of the tailings in the process plant. The tailings are temporarily stored in the Tailings Dewatering Building next to the process plant known as the "Church"; where they are loaded in trucks and hauled to the TSF.

The tailings are dumped in the TSF, spread with a dozer in 0.3 m lifts with survey control, and compacted. The tailings are progressively reclaimed by placement of rockfill cover on the exterior slopes as the tailings stack rises. During the time of inspection, Cell 1 of the facility was in use for active tailings deposition as per the tailings deposition plan.

As recommended in the 2021 annual inspection report, unfrozen water content testing was completed on a sample of tails from the Meliadine site in December 2022. The experimental results show that the freezing temperature of the tails is -1.82°C (Université Laval 2022). This is slightly cooler than the assumed freezing point depression of -1.0°C to -1.4°C based on the measured salinity content of the tails. The frozen water content curve developed from the laboratory testing is included in Appendix J.

6.2 Visual Observations

In general, the tailings appear to be well compacted. Trucks can easily traffic on the compacted tailings as shown in Appendix J. There is evidence of some softer tailings with compactor tire tracks in the tailings along the edges of the exposed north slope of the TSF Cell 1.

Most of the slope at the north end of the Cell 1 was recently regraded. Portions of the slope have erosion channels up to 150 mm deep towards the bottom of the slope. Cracking and dedensification of the tails along the bottom of the exposed north slope was observed. The eroded tailings have flowed to the channel at the toe of the slope towards CP3, as shown in Photos 10 and 11, Appendix J.

Preparations were underway to extend Cell 1 of the facility into Cell 2 located north of the current facility.

6.3 Instrumentation and Monitoring

AEM's geotechnical engineer prepares weekly inspection reports and monthly analytical reports describing the tailings placement and design verification updates. The tailings have an optimum moisture content of 15.9% and are typically placed at a moisture content ranging from 12.8% to 20.9% with an average of 16.5%. The salinity of the tailings has ranged from 14.5 parts per thousand (ppt) to 15 ppt. The salinity has decreased since 2021, ranging from 10 ppt to 30 ppt. The salinity assumed during design was 15 ppt. Additional testing includes: ARD/ML sampling and testing, process water analysis including salinity testing, and quarterly off-site geotechnical verification (moisture-density testing and particle size).

Four GTCs have been installed in the placed tailings. The measured ground temperatures are presented in Appendix J. GTC-01A and GTC-02 are now located within the rockfill covered embankment of the TSF and will no longer have active tailings placement above the cable profiles. The placed tailings are below 0°C below the active layer and recently placed tailings. A warmer zone (approximately -1.0°C) persists in the Cable GTC-03 location where a zone of tailings was placed in August 2021, and in GTC-04 where tailings were placed in April 2020 to May 2021 at approximately -1.1°C. These temperatures are slightly warmer compared to the freezing point of

-1.82°C determined in the unfrozen water content testing for tails performed in December 2022. Foundation temperatures below the TSF range from -3°C to -4°C. The original ground 7 m below the TSF foundation at GTC-03A has warmed by approximately 2°C between June 2022 to October 2022.

Nuclear density tests on the in situ placed and compacted tailings indicate, for the most part, that the filter cake is achieving dry densities more than the maximum dry density from the Standard Proctor test. The placed tailings material shows very little signs of bleed water and are easily trafficable after placement and compaction.

6.4 Water Management

Water from the TSF is directed to CP3. Some runoff naturally drains to the pond, and other runoff is directed to CP3 via Channel 3. Berm 2, north of the facility was constructed to divert water away from the TSF and CP3.

6.5 Summary and Recommendations

The TSF appeared to be functioning well at the time of the inspection. The ground temperatures should continue to be monitored in the TSF and the foundation using the GTCs presently installed.

The TSF perimeter rockfill cover material appears to be functioning well from a geotechnical perspective with no signs of distress.

Sediment within Channel 3 should be removed and disposed within an appropriate area to allow proper drainage of runoff water from the facility.

Erosion and cracking along the toe of the exposed north slope of Cell 1 should continue to be monitored based on the observations made during the time of inspection. It was recommended that a plan be established to prevent further degradation of the compacted TSF along the toe of the north slope until the TSF is extended into Cell 2 towards the north. This area was highlighted during the 2022 MIRB inspection. Since the time of inspection, AEM has completed repairs to the north slope toe and began expansion of the facility into Cell 2 in December 2022. The area will be reinspected during the 2023 annual inspection.

7.0 SITE ROADS

7.1 Background

The site has numerous roads, including haul roads, service roads, as well as roads to borrow areas and other facilities. The following is a list of roads inspected. Photographs of the site roads are included in Appendix K.

- TSF and landfill access road;
- Main site pad area roads;
- Main site water intake access road;
- Emulsion plant pad access road;
- Tiriganiaq Esker access road;
- Magazine storage area and access road;

- Wesmeg access road, Wesmeg esker area, and vent raise;
- CP3 access road; and
- CP4 access road.

7.2 Visual Observations

At the time of the site visit, the site roads were generally in good condition. Select photos of the roads are included in Appendix K. The roads appeared to generally be of adequate width with pull outs where required to allow vehicles to safely pass. The heights of the road fills were such that berms were not required. Many of the roads appeared to have been constructed using a combination of sand and gravel obtained from esker borrow areas, rockfill, and crushed aggregate.

The roads surface gets muddy when wet. The roads are graded on a regular basis.

Normal maintenance of the roads should be anticipated. No geotechnical concerns were identified during the inspection.

Permanent water management culverts are in place through road fills. Culverts observed were: Culverts 1, 2, 3, 4, 7, 8, 10, 11, 13, 15, 16, 18, and 20. The culverts were generally in good condition with the exception of Culvert 18, through the TSF road, which has been crushed to half its original height.

7.3 Summary and Recommendations

The site mine roads and culverts were generally well maintained and in good geotechnical condition at the time of the inspection. No specific recommendations for geotechnical improvements are provided.

8.0 BORROW SOURCES

8.1 Background

Numerous borrow sources have been developed during the construction of the mine. Many of the borrow sources were reclaimed in 2019. The following borrow areas were observed:

- Meliadine North Esker;
- Meliadine Esker; and
- Wesmeg Esker.

Photographs of the borrow areas are in Appendix L.

8.2 Visual Observations

In general, the borrow areas were in good condition and had been reclaimed by grading to knock down various piles and ruts.

Additional material is being extracted out of the Meliadine Borrow Area.

A drainage channel is present through the reclaimed portion of the Meliadine Borrow Area. The channel is within the native sand. It is anticipated that the channel will naturally erode. Some remediation may be required to stabilize portions of the channel in future years but was performing adequately at the time of the inspection.

8.3 Summary and Recommendations

The borrow areas should be monitored for future erosion and thaw settlement; however, they appear to be performing well since they were reclaimed two years ago.

9.0 ORE STOCKPILES

9.1 Background

The ore and waste rock storage areas are located east of the crusher area. Photos of the ore stockpiles are included in Appendix M.

The pile heights should be constructed such that they are less than 2 m above the reach height of the loader removing material from the pile. The dig face should be carried out in a manner such that the slope angles are flatter than the angle of repose of the material (1.3H:1V to 1.4H:1V).

It is Meliadine policy that a maximum 7 m high bench face is to be used. A second bench can be constructed to a maximum total height of 12 m, with a 5 m offset from the first bench. In general, most of the piles in the ore and waste rock storage area are less than 7 m. The main ore pile was placed in two benches which appeared to meet the site specifications.

The piles appeared to be stable and well managed with no signs of instability.

No geotechnical concerns related to the stability of the stockpiles were identified.

10.0 OTHER MELIADINE FACILITIES

10.1 Crusher Ramp

The crusher ramp is an earth fill structure consisting of a ramp, turn around area, and loading area adjacent to the crusher. It was constructed in 2018. It was mainly constructed of Run-of-Mine rock with an MSE wall surrounding the crusher. The crusher pad is shown in Photos 1 through 8, Appendix O.

The area was visually inspected. The gabion wall appears to be performing well with no visual signs of distress. It is leaning in towards the fill materials as intended.

The fill slopes were relatively smooth with no obvious cracking, erosion, or signs of instability. There was also no cracking on the surface of the ramp, turn around area, or the loading area adjacent to the crusher.

It appears to be performing well from a geotechnical perspective.

10.2 Saline Water Treatment Plant

The Saline Water Treatment Plant (SWTP) was constructed to treat water from underground operations. It was constructed in an existing storage warehouse/shop that was extended on one end. The structure is a fabric building founded on a concrete slab.

The SWTP generates considerable heat, making the interior of the building warm. The concrete slab of both the original building and the extension has undergone a considerable amount of settlement. It is speculated the settlement is due to thawing of ice rich permafrost underneath the building. The settlement was reported to be up to 0.4 m in 2019.

The facility has not been used since March 2020, and there are no plans to operate in the future. Inside of the facility was not inspected in 2021 or 2022. If the facility is operated again, it is recommended that an assessment of the geotechnical and structural condition be carried out.

10.3 Landfill

The main landfill for the mine is located at the northeast corner of WRSF1. The landfill has perimeter berms constructed of esker material. The landfill is used for dry waste only. Kitchen and other burnable wastes are burned in the onsite incinerator. The landfill is shown in Photos 9 through 14, Appendix O.

The perimeter berms are performing well from a geotechnical perspective with no signs of instability. It is understood that the berms were raised approximately 0.6 m since 2020 to provide additional capacity in the landfill.

At the time of the site inspection the landfill debris was predominately uncovered. The landfill appeared to contain construction waste and wood not suitable for burning (painted, treated etc.) among other things.

It is recommended that the landfill be covered in stages with intermediate cover to avoid blowing debris. A program to separate burnable debris could reduce the landfill requirements.

The landfill is nearing its current design capacity. It is understood that there is a plan to raise the current landfill berm height to develop additional storage.

10.4 Emulsion Plant Pad

The emulsion plant is located at the north end of the mine. The plant was constructed on a pad constructed of esker material.

It is understood that the pad had some settlement after it was constructed but there were no reports of recent settlement issues. The north edge of the pad is experiencing erosion, with channels up to 0.4 m deep as shown in Photo 16, Appendix O. The erosion channels are similar to those observed in 2019, 2020, and 2021 and are not currently impacting the use of the pad.

It is recommended that the pad settlement and erosion continue to be monitored. Remedial action was not required at the time of the inspection.

The storage pad next to the emulsion pad is filled with shipping containers. The north end of the pad is slightly sloped resulting in shipping containers that are leaning as shown in Photo 17, Appendix O. Several shipping containers located on the south corner of the pad are at the edge of the pad as shown in Photo 18, Appendix O. It is recommended to position the shipping containers back from the crest of the pad for stability.

10.5 Landfarm

A lined landfarm was constructed southeast of the process plant. Windrows of soil 1.0 m to 1.2 m have been placed in the landfarm as shown in Photos 19 to 23, Appendix O.

The landfarm berms appear to be in a stable condition with minor cracks on the berm crest. A small amount of geomembrane liner and geotextile was exposed on the perimeter of the berm. The exposed liner will not impact the landfarm performance.

The landfarm sump contained a small volume of water at the time of the inspection. It is understood that this water is tested prior to pumping it out.

No significant geotechnical issues were noted at the time of the inspection.

10.6 Industrial Fuel Storage Tanks

The Industrial Fuel Storage Tanks are located east of the process plant as shown in Photos 24 to 30, Appendix O. Two tanks are in the facility. The facility is lined with a geomembrane liner for secondary containment.

The crest of the berm has several cracks up to 40 mm wide. A small amount of erosion has occurred on the tank pedestals; however, the erosion does not appear to generally extend under the tank bases. A grounding cable is exposed in the top of the berm. There was a small amount of water in the tank base. The cover fill over the geotextile is missing in a small area (<0.5 diameter).

Crush material underneath the pipeline cribbing going over the containment berm has been eroded away. Crush material should be placed back around the pipeline supports to remove stress on the pipeline.

The tankfarm is performing adequately from a geotechnical perspective. Its condition should continue to be monitored.

10.7 Other Facilities

The following other facilities were inspected during the site visit:

- New Cyanide Storage Pad, constructed in 2019;
- Emulsion Plant Storage;
- Freshwater Intake;
- Incinerator Pad;
- Mine Site Fuel Farm;
- Paste Plant Ramp;
- Industrial Pad; and
- Portal No. 1 and Portal No. 2.

Erosion was observed underneath the strip footings that support the corrugated steel portal entry of Portal 2. It is recommended that the voids underneath the footing foundations are backfilled, and erosion protection measures are put in place to prevent additional erosion along the base of the footing.

No other significant geotechnical issues were noted in these facilities.

11.0 EXPLORATION CAMP AND ACCESS ROAD

Portions of the exploration camp were being dismantled at the time of the annual geotechnical inspection. Some of the dorms had been removed out of the area, although other portions of the camp were still in use. Appendix N contains photographs taken during the inspection.

The freshwater inlet for the exploration camp appears not to be in use. The station support beams appear to be eroded away at one corner. The beam should be repositioned for stability.

The landfarm at the exploration camp access road was also being dismantled with portions of liner no longer providing containment.

The access road to the exploration camp was in good condition. There are several depressions in the road down to the diffuser at the east end of exploration camp area.

There are diesel generators at the east end of the camp. They were not being used at the time of inspection. The generators, and associated fuel storage are in a lined secondary containment area. There was water in the base of the containment area indicating there is some containment in the area. There are numerous tears in the crest of the liner and top of the containment slope, as shown in Photo 3, Appendix N. It is recommended the liner be further evaluated if the area is to be used in the future.

12.0 ALL-WEATHER ACCESS ROAD AND ASSOCIATED WATER MANAGEMENT STRUCTURES

The AWAR construction activities began during the winter of 2012, and construction was completed by the end of October 2013 to connect the hamlet of Rankin Inlet to the Project. Appendix P contains photographs taken during the inspection. The road is approximately 23.8 km long, with three bridge crossings and culverts installed at a total of 19 locations. The road has two-way traffic and is approximately 6.5 m wide with pull outs approximately every 400 m ±50 m to facilitate vehicles passing.

The AWAR is used by AEM and provides unrestricted all-terrain vehicle (ATV) access for the public, if it is safe to do so. The AWAR is used to transport building materials, construction/mining equipment, fuel, reagents, supplies, workers, and contractors to the mine.

The road design is based on a general sub-base composed of rockfill or sand and gravel from esker sources and crushed granular surfacing with a combined minimum thickness of 500 mm. The road design varied based on the relative susceptibility to freeze and thaw induced settlement of the foundation soils. The thickness of the road fill material was generally increased, to a minimum of 1.3 m, in areas where potentially thaw-sensitive soils were identified. Along portions of the road where thaw-sensitive soils were identified, a geotextile material was incorporated into the road design to limit damage to the road should the foundation material thaw.

12.1 Observations and Recommendations

The road and culverts were generally observed to be in good condition, at the time of the inspection with the exceptions noted below. Most culverts were unobstructed with no signs of substantial damage to the culverts. All bridges and their embankments were in good geotechnical condition at the time of the inspection, except for minor sloughing and cracking observed on the abutment of Bridge M-5. A structural and/or mechanical assessment of the bridges was not conducted and is beyond the scope of this geotechnical inspection.

The locations and a photographic record of the inspected culverts and bridges is provided in Appendix P.

Table 12-1 lists the locations of water management structures: culverts and bridges that have been installed along the AWAR. The location of the culverts and bridges are listed, based on distance from the Healing Centre in Rankin Inlet, with the gate house at Meliadine being 29 km (the distances can be several metres off the distance marker distances on the road). Size and number of culverts is provided in Table 12-1, along with specific observations and photos at the time of the inspection, and any recommendations.

It is understood that AEM has implemented a watercourse crossing inspection and maintenance program, which includes:

- A regular inspection program to identify issues relating to watercourse crossings, such as structural integrity and hydraulic function;
- An event-based inspection program to track the impacts of larger storm events on watercourse crossings; and
- Observations to confirm water is flowing through the culverts and no sediment is being transported in the water to determine if any mitigation is required.

Road maintenance and snow management are carried out, as deemed necessary. Steaming of culverts is included as a maintenance activity. AEM places additional crush on the AWAR annually and applies calcium chloride for dust control through the summer.

In general, the road appeared to be in good geotechnical condition at the time of the inspection. Recommendations for improvements to the water management structures are presented in Table 12-1. There are numerous locations where there are no culverts or where the culverts are under sized. Several additional culverts received damage to the inlets and outlets likely during snow clearing activities and are summarized in Table 12-1 with associated photos.

Five locations on the AWAR (KM 8.8, 22.4, 22.7, 22.9, and 28.7 from Friendship Centre) were identified by AEM to develop improved culvert designs. These locations will require a change in the road grade to accommodate culverts or larger culverts. Tetra Tech has provided AEM with a detailed design for the culvert modifications that is currently under review. It is understood that the culvert design report must be submitted to the regulators for water management structures.

Table 12-1: AWAR Road – Water Management Structures Summary

Station (distance from Friendship Centre)	Water Management Structure Description	Conditions, Observations, and Recommendations (at time of inspection)	Photo Page
KM 5.5	1 x 600 mm CSP	Good condition – located in the community portion of the road. AEM SW local roads downstream of culvert result in some flow restrictions. Some flow at time of inspection. Damage to culvert at the inlet and an erosion pit at the outlet.	Photo 1
KM 6.0	Char River Bridge	Good condition, stable embankments, and abutments are armoured. Small amount of textile exposed on the east abutment.	Photos 2 to 4
KM 6.2	3 CSP culverts: 2 x 1,300 mm 1 x 700 mm	The culverts are vertically offset with the 700 mm culvert elevated above the 1,300 mm culverts. Some minor erosion observed between the culverts on the downstream side. All clear and in good condition. Small flow in the lower 1,300 mm culvert. Armouring appears to be adequate. Small Crack in 700mm outlet. East side 1,300 mm culvert has deflection under the road. There is little change to the cross-sectional area.	Photo 5
KM 7.0	3 CSP culverts: 2 x 1,000 mm 1 x 700 mm	The culverts are vertically offset with the 700 mm culvert elevated above the 1,000 mm culverts. The 700 mm culvert had a dent inside. West 1,000 mm culvert contains dent at the bottom inlet. East 1,000 mm culvert has minor erosion at outlet with no armouring. Ponded water observed in the lower culvert. Small amount of water ponded upstream. Low flow at time of inspection. Sandy soil around culverts, potential for erosion, but none noted during inspection.	Photo 6
KM 7.1	3 CSP culverts: 2 x 1,000 mm 1 x 700 mm	Vertically offset. 700 mm culvert is elevated. Water ponded in the lower two culverts downstream, minor deformation of culverts under the road, no substantial reduction of cross-sectional area. The culverts and riprap appear in good condition. Low flow at time of inspection.	Photo 7
KM 7.4	3 CSP culverts: 1 x 900 mm 1 x 700 mm 1 x 1,000 mm	Vertically offset. 700 mm culvert is elevated. Damage to the inlet of the 900 mm culvert. Erosion potential due to finer grained soils around 700 mm culvert at the inlet and outlet, but no significant erosion noted. 1,000 mm clear, low flow/ponding water. AEM indicates culverts performed well during 2021 freshet. All culvert outlets are damaged. **Recommendation: Repair culvert damage.**	Photo 8
KM 8.0	Meliadine River Bridge	Right abutment, slopes upstream and downstream of bridge have exposed sand and gravel; no erosion noted.	Photos 9 to 14
KM 8.8	No Culvert	AEM SW indicates that water overflows the road. Low road profile in area. **Recommendation: Install culverts and raise the road to facilitate culverts.**	N/A
KM 9.1	2 x 1,000 mm CSP culverts	Minor deformation of both culverts under the road. No flow, water ponded below the inlets. Armoured, no obvious signs of erosion. The road has been raised since 2020 inspection.	Photo 15
KM 9.5	1 x 1,300 mm CSP culvert	Water ponded on upstream side of culvert/road with very low flow due to elevated inlet of CSP. Minimal flow during inspection. CSP in good condition. Erosion pits at the outlet with no armouring present.	Photo 16

Table 12-1: AWAR Road – Water Management Structures Summary

Station (distance from Friendship Centre)	Water Management Structure Description	Conditions, Observations, and Recommendations (at time of inspection)	Photo Page
KM 10.5	M-5 Bridge	Good condition, stable embankment, and abutments of the bridge. Exposed geotextile at base of downstream end of left abutment that could be due to erosion. Gabion damaged on downstream of left (north) abutment. Damaged gabion above water line. No obvious signs of erosion. The southeast side abutment has minor sloughing and cracking, erosion pathways, and signs of settlement. **Recommendation: Replace or repair damaged gabion. Place additional riprap on exposed geotextile. Monitor the abutment slope for additional movement.**	Photos 17 to 20
KM 12.1	4 CSP culverts: 2 x 1,300 mm 1 x 900 mm 1 x 700 mm	Vertically offset. 700 mm and 900 mm culverts are elevated. Minor small dents and bending of haunches in 700 mm and one of the 1,300 mm culverts. Minor flow through the lowest of the 1,300 mm culverts. Minimal armour; however, no obvious erosion. Some crushing (oval shape) of culvert. Embankment slope is generally in good condition. **Recommendation: Armour inlet to prevent sediment from flowing into culvert, clear sediment at inlet and place geotextile.**	Photo 21
KM 12.6	No culverts	Area of poor drainage. In good condition, no signs of water flow at time of inspection.	N/A
KM 13.5	5 CSP culverts: 3 x 1,300 mm 2 x 900 mm	Vertically offset, 900 mm culverts are elevated above 1,300 mm culverts. Good condition, no flow, minor dents, and deflection in haunch, otherwise in good condition.	Photo 22 and 23
KM 14.7	Access road to B12 quarry, 500 mm HDPE corrugated culvert	Minor flow, small amount of water ponded against AWAR and quarry access road, below inlet of culvert. Minor dents observed in culvert. Small erosion at outlet. Culvert and embankments are generally in good condition. Minor damage to the culvert inlet.	N/A
KM 16.3	3 CSP culverts: 1 x 1,300 mm 1 x 700 mm 1 x 1,000 mm	Vertically offset, 1,300 mm culvert is the lowest, then the 1,000 mm culvert, and the 700 mm culvert is the highest. Small flow in 1,300 mm and 1,000 mm culverts. Culverts in good condition. Small erosion and geotextile visible at outlet of 1,300 mm culvert. Outlets are all elevated increasing erosion potential. No signs of overflow, area armoured. AEM indicates culverts performed well during 2021 freshet.	Photo 24
KM 18.1	2 CSP culverts: 1 x 900 mm, 1 x 1,000 mm	Vertically offset culverts. The 900 mm culvert is elevated above 1,000 mm culvert. Lower culvert has some flow, minor dent on upstream end. Upper culvert is in good condition. Upper culvert is high on the embankment and has thin cover on the upstream side. Trench exists along upstream toe of road connecting the culverts at KM 18.1 to KM 18.15. Culvert appears to replace KM 18.15 culvert. No erosion noted, appears to be performing adequately.	Photo 25

Table 12-1: AWAR Road – Water Management Structures Summary

Station (distance from Friendship Centre)	Water Management Structure Description	Conditions, Observations, and Recommendations (at time of inspection)	Photo Page
KM 18.15	1 x 600 mm CSP culvert.	The culvert no longer appears to be useful as ponding is controlled by the KM 18.1 culvert.	N/A
KM 19	No culverts	Ponding on west side of road, reportedly the water ponds here year-round and can reach as high as halfway up the embankment. Water 1 m below road at time of the 2019 and 2020 Inspections. 2018 Inspection reports by AEM note straw logs were placed at KM 19, so there may have been some flow over the road in this area in 2018. No overflow reported in 2019. AEM SW reports overflow in 2020 freshet but no pumping was required during 2021 freshet.	N/A
KM 21.0 to 21.5	No culverts	Low ponded water on west side of road near KM 20.0 and KM 21.2. Water reportedly flowed over the road near KM 21.5 during the 2017 freshet. Straw logs were placed on east side of road embankment to control suspended solids in the flow in 2018. No reports of overflow in 2019. Inspection in 2019 had a "wash zone" of road embankment indicating likely high water in 2019. Pumping required in 2020.	N/A
KM 21.7	2 x 160 mm steel pipes, used as culverts	Vertically offset steel pipes, clear, no flow. Water ponded upstream in 2018, erosion mark from higher water level evident in road embankment. Water reportedly flowed over the road at this location during freshet. AEM personnel reported that the road was excavated in 2018 to allow the water to drain. Capacity of pipes may be inadequate, or pipes could have been frozen (blocked) causing water to backup. Straw logs were observed on west side of road. No reports of overflow in 2019 or 2020 or 2021. Pumping was required in 2021. High water marks in 2022 does not indicate overflow occurred.	Photo 26
KM 22.3	2 x 160 mm steel pipes, used as culverts	Ponded water observed in 2019, no armour around inlets. Culverts, vertically offset, clear, no flow. Inlets are elevated above ponded water at time of inspection. No indication of overflow. AEM SW reports overflow at the location in 2020 and no overflow in 2021 and 2022 freshet. The top culvert has been damaged. **Recommendation: Repair culvert damage.**	Photo 27
KM 22.7 to 23.0	No culverts	Water ponded on the east side of the road. Distressed vegetation indication of some ponding. Required pumping to prevent the road from breaching in 2021.	N/A
KM 25.8	1 x 600 mm HDPE corrugated culvert	No flow, minor amount of gravel in base of culvert, some dents on upstream inlet to culvert. Sandy soil around inlet and outlet, no armor. Minor erosion on slope of road. 2018 inspection reports noted ponding of water at or over the road in this area during the freshet. The culvert inlet does not extend past the toe of the road embankment. Some gravel was built up in the culvert base. **Recommendation: Clear culvert inlet of road fill material. Consider extending culvert to prevent road fill from entering culvert.**	Photo 28

Table 12-1: AWAR Road – Water Management Structures Summary

Station (distance from Friendship Centre)	Water Management Structure Description	Conditions, Observations, and Recommendations (at time of inspection)	Photo Page
KM 26.2	2 x 160 mm steel pipes, used as culverts	Vertically offset, lower pipe bent upward. The inlets are elevated close to the road surface. Some sediment deposition downstream is evident. 2018 AEM inspection reports noted ponding of water at or over the road in this area during the freshet. No reports of overflow in 2019. Ponding and overflow were reported during 2021/2022 freshet. Standing water, clear flow in lower culvert.	Photo 29
KM 26.5	3 x 700 mm CSP culverts	Equal elevation, minor sediment buildup, low flow, small dents, well armoured and covered with gravel. No signs of erosion. Outlet has exposed geotextile.	Photo 30
KM 26.8	2 x 160 mm steel pipes, used as culverts	Vertically offset, no flow. Inlet of the lower culvert was completely covered by road fill. Some erosion evident at downstream ends. Evidence of ponding about 0.5 m below road crest. AEM reports no overflow during 2021 freshet. The inlet of the lower culvert has been cleared of road fill.	Photo 31
KM 27.1	3 CSP culverts: 1 x 900 mm 1 x 700 mm 1 x 1,000 mm (southernmost)	Vertically offset, middle culvert (700 mm) elevated above adjacent culverts. Clear, minor flow in lowest culvert, some small dents in 900 mm and 1,000 mm culverts. All clear and in good condition.	Photo 32
KM 28.7	No culverts	Ponded water on east side of road. 2018 water flowed over the road at this location during freshet. No reports of water flowing over the road in 2019 or 2020. AEM reports pumping was required during 2021/2022. **Recommendation: A culvert could be installed to reduce the risk of overflow.**	Photo 33
KM 29.6	1 x 500 mm HDPE corrugated culvert	The inlet has been covered by a rockfill pad along the road and was partially crushed by approximately 100 mm just beyond the inlet during 2020 inspection. Flow is still observed at the outlet. AEM SW indicates pumps required to keep water off the road at this location. Culvert Removed, water managed by pumping from a small sump. Water in the sump is pumped to Tiri 01 pit for storage.	Photo 34

13.0 ITIVIA FUEL STORAGE SITE AND BYPASS ROAD

The Itivia bypass road is a 6.3 km gravel road that was constructed to divert traffic from the Itivia fuel storage and laydown area to the Project site around Rankin Inlet as shown in Appendix Q. The Itivia fuel farm is used to store fuel for Meliadine Mine.

The road is designed to be 6.5 m wide for most of its length with pull outs to allow two-way traffic. Two sections are designed to be 8 m to allow two-way traffic without pullouts. The road was constructed in 2017 and 2018. The eastern portion of the road was constructed using blast rock from the Itivia Quarry, but most of the road was constructed using esker materials.

The road and culvert locations were observed. The culvert locations are referenced from the southeast corner of the Itivia fuel storage facility. The observations are summarized in Table 13-1. The culvert names are referenced from the construction drawings and the 2018 inspection. Some of the culverts now have the names attached to the culverts, and do not correlate to the previous names as noted in Table 13-1.

In general, the road was in good condition. Minimal signs of cracking or settlement were noted. Some sections of the road were high enough that they required safety berms, which were constructed using large boulders along the eastern section and with esker materials along the remainder of the road. Riprap was generally placed at the inlet and outlets of culverts, per the design. Table 13-1 presents a summary of the culvert inspections completed.

Based on discussions with AEM personnel, it is understood that two areas had issues during the 2019 and 2020 freshets; the area northwest of Culvert C10 flooded, and the road at km 2 had significant flows in the upstream ditch running along the road, and across the road. The bypass road did not have any significant issues during the 2021 and 2022 freshets because of a combination of snow removal and culvert steaming by AEM personnel.

Culvert C10 handles the flow of the water from a small lake (Signet Lake) north of the road. In 2019 it appeared that most of the runoff ran along the road as opposed to flowing through the culverts. This is evidenced by the high-water mark on the shoulder of the road. The water ran to a low area of the road east of the culverts, and then across the road. This may have been partially because of icings around the culvert area in the spring. The road 200 m east of Culvert C10 was raised in 2019 to address this problem; however, the problem persisted in the spring of 2020. The AEM Surface Water Superintendent reported in 2020 that the water partially came from a discharge out of Signet Lake and the south east side. The problem could also have been partially caused by an ice/snow blockage in the C10 culverts. The culverts should be cleared prior to freshet. The issue could be rectified by placing culverts in the low area of the road east of Culvert C10. It is understood that the culverts were steamed in 2021 and 2022, and the flow came through the C10 culverts as intended. Although the area functioned well in 2021 and 2022, culverts in the low area of C10 would reduce future problems with this area.

The road along km 2.2 has been constructed as a cross slope fill. Water runs from the up-gradient slope into a ditch upslope of the road. The ditch is relatively shallow (0.5 m). The water spills out of the ditch and runs across the road and down the road slope. It is recommended that the area be rectified to control the freshet water. This could be a combination of a culvert and improving the performance of the ditch. The solution must consider the steep up-gradient slope, steep downstream erodible road fill, and shallow road fill at this location making installation of culvert difficult. The ditch should be cleared of snow and ice prior to the freshet. This section of road did not experience any issues during the 2022 freshet according to AEM personnel, but further development of the area should be done if future problems persist.

Table 13-1: Summary on Culverts on Itivia Bypass Road

Approximate Distance from SE Corner of Fuel Farm	Culvert Design Identification	Water Management Structure Description	Observations	Photographs (Appendix P)
0.35 km	C01	2 x 1,000 CSP culverts	No water flowing through culverts. Road constructed out of blast rock. Large boulders placed on south crest of road as safety berm.	N/A
0.6 km	C02	2 x 700 mm CSP culverts	No water flowing through culverts. Road constructed out of blast rock. Large boulders placed on south crest of road as safety berm.	N/A
0.8 km	C03	2 x 1,000 mm 1 x 700 mm	No water flowing through culverts. Minor erosion in tundra observed upstream of culverts. Road constructed out of blast rock. Large boulders placed on south crest of road as safety berm.	N/A
1.0 km	C04	2 x 1,000 mm	No flow in culverts. Minor amount of riprap upstream of culvert. Road constructed out of blast rock. Large boulders placed on south crest of road as safety berm.	N/A
1.2 km	C05	2 x 1,000 mm	No water flowing through culverts. Road and safety berm on south crest of road constructed out of esker materials.	N/A
1.5 km	C06	2 x 800 mm	Culvert inlets installed above surrounding natural ground. Ponded water against toe upstream side of road north of the culvert inlets, a small berm has been constructed between the ponded water and the culvert inlet location. No water flowing through the culverts. Some rockfill in front of inlets could erode into the culverts. Road constructed out of esker materials.	N/A
1.6 km	C06-1 (marked C07 on sign)	1 x 800 mm	No water flow in culverts, road constructed out of esker materials, inlet and outlet covered with riprap.	N/A
1.8 km	C07a C07b (marked C08 on sign)	2 x 800 mm	Ponded water observed at the inlets around the culverts and against the toe of the road embankment. Small flow through the east culvert. Culvert inlets installed over rockfill base raised above surrounding natural ground. Road constructed out of esker materials.	N/A
1.9 km	C07b (marked C09 on sign)	2 x 1,000 mm	No water flowing through the culverts, inlets and outlets are clear. Road constructed out of esker materials. Safety berm constructed on south crest of road. Outlet discharges on coarse (cobbly) esker. Road crush has washed onto outlet culverts. Minor damage to inlet.	N/A
2.4 km	C09 (marked C10 on sign)	2 x 1,000 mm	No water flowing through culverts. Ponded water observed around the inlets and against the toe of the road embankment to the south. Road constructed out of esker material. Small amount of erosion in armouring at inlet.	Photo 3 and Photo 4

Table 13-1: Summary on Culverts on Itivia Bypass Road

Approximate Distance from SE Corner of Fuel Farm	Culvert Design Identification	Water Management Structure Description	Observations	Photographs (Appendix P)
3.1 km	C10 (marked C11 on sign)	5 x 1,200 mm 1 x 1,000	Some damage to culvert inlets and deformation under road observed. Some water flow observed flowing into lowest culvert. Ponded water observed along the toe of the road embankment to the north of the culvert inlets. Culverts were steamed during freshet which prevented issues this year. Road constructed out of esker material. Road raised in fall 2019 north of culverts. Water raised to crest elevation of low area in the road to the northwest. Minor cracking in the road fill slopes on the south side of the road. Erosion booms placed on downstream slope of the road low point to the northwest. Armour aprons settled and silted over. Water flowing in lowest culvert. **Recommendation: The culverts should be cleared of snow and ice prior to and during freshet. Additional culverts could be installed in low road area to the northwest; alternatively, the low area in the road could be raised, but would result in a large, flooded area.**	Photo 5 and Photo 6
4.0 km	C11a (marked C12 on sign)	2 x 1,200 mm	Culverts are constructed over riprap and inverts are raised above surrounding tundra. No flow observed through both culverts. Shallow ponding of water over tundra upstream of the inlets and against the toe of the road embankment. Water mark visible along toe of road embankment, approximately 0.2 m above toe of road at culverts, higher along road to northeast. Road constructed out of esker material; minor erosion at toe of road.	N/A
4.3 km	C11b (marked C13 on sign)	2 x 1,000 mm	Culverts are constructed over riprap and inverts are raised above surrounding tundra. No flow through the north culvert. Small amount of water ponded over tundra on both sides of culverts. Road constructed out of esker material, performing adequately, no signs of erosion.	N/A
4.8 km	C11b-1	1 x 1,000 mm	Culvert is constructed over riprap and invert is raised above surrounding tundra. Small natural drainage path observed upstream and downstream of culvert. Water observed within drainage downstream of outlets. No flow in culvert. Road constructed out of esker material performing adequately.	N/A
4.9 km	C11c	2 x 1,200 mm	Culverts are constructed over riprap and inverts are raised above surrounding tundra. No flow through culverts. Shallow ponded water observed upstream and downstream of the culverts. Road constructed out of esker materials. Road fill performing adequately.	N/A

Table 13-1: Summary on Culverts on Itivia Bypass Road

Approximate Distance from SE Corner of Fuel Farm	Culvert Design Identification	Water Management Structure Description	Observations	Photographs (Appendix P)
5.0 km	C12a	2 x 1,200 mm	Culverts are constructed over riprap and upstream inverts raised above surrounding tundra. Ponded water observed over tundra upstream and downstream of the culverts. No flow through culverts. Road constructed out of esker materials. Road slopes performing adequately.	N/A
5.1 km	C12b	2 x 1,000 mm	Culverts are constructed over riprap and inverts are raised above surrounding tundra. Water ponded upstream and downstream of the culverts and along the toe of the embankment. Road constructed out of esker materials. Riprap placed in local area of culvert. No signs of erosion on roadside slopes indicating previous higher water levels.	Photo 1 and Photo 2
6.2 km	C13	2 x 800 mm	Culverts are constructed over riprap and inverts are raised above surrounding tundra. Relatively large pond of water upstream and downstream of the culverts; road constructed through natural pond. Road constructed out of esker materials. Minor dents at east outlet. West inlet is damaged. The Culvert is bent with ¼ of the area. Low water flow at time of inspection.	Photo 7 and Photo 8
6.3 km	C14	3 x 800 mm	Culverts are constructed over riprap and inverts are raised above surrounding tundra. Water ponded upstream and downstream of the culverts. No signs of subsidence due to ponded water. Road constructed out of esker materials. Left inlet culvert has a dent in the middle, underneath the road fill.	Photo 9 and Photo 10

The Itivia fuel farm consists of a 20,000,000 L and a 13,500,000 L fuel storage tanks as shown in Photos 11 through 18, Appendix Q. The fuel is hauled to the mine site on an as needed basis. The tanks are contained within a geomembrane lined containment facility. The geomembrane liner is covered with a layer of geotextile and 20 mm crushed rock. The following observations were made during the inspection.

- Some small areas on the east berm had exposed geotextile on the crest of the berm; however, these will not affect the performance of the facility.
- There was some ponded water in a portion of the facility.
- There are several pipe support bases that are sitting in the air.
- The width of the granular fill tank pedestal base beyond the tank is relatively narrow at the centre points, as the pedestals have been constructed with a square footprint.
- The edge of one tank pedestal has minor surface erosion of the granular crush.

In general, the facility appears to be in good condition from a geotechnical perspective. It is recommended that crush be placed under the suspended pipe supports. Minor erosion of the granular fill pedestals should be built up to prevent further development of erosion channels and monitored. Water in the facility should be emptied as soon as practical to reduce the risk of erosion. Coarser rockfill could be placed adjacent to the narrow point of the pedestals to reduce the risk of erosion. It is recommended that the small amount of work in the facility be done by hand, to avoid the need for heavy equipment to work in area.

14.0 WASTE ROCK STORAGE FACILITIES

Waste rock storage facilities WRSF1 and WRSF3 are used to dispose of waste rock and overburden from the Tiriganiaq open pits and the underground operations. The waste rock and till are stored in separate areas of the facilities. The design drawings for WRSF1 and WRSF 3 and photos are included in Appendix R and Appendix S, respectively. Observations of each facility are noted below.

14.1 WRSF1

Disposal in WRSF1 began in 2019; with most of the material being placed since December 2020. Benches 77, 82, 87, 92, 94.5, and a portion of the 97 m bench had been placed at the time of the 2022 inspection. As per the design, till is placed in the centre of the facility with a 40 m perimeter of waste rock around the till. Most of the till was placed in the winter.

The till placed in WRSF1 is a combination of material placed prior to the summer of 2019, and that placed during the winter of 2019/2020 and 2020/2021. The winter placed till was wet; it is speculated that it contained some ice rich material and is thawing and consolidating over the summer.

The ground temperatures in the base of the WRSF1 facility is being monitored with vertical and horizontal GTCs. The cable locations are shown on the design drawings. The measured ground temperatures are presented in Appendix R. Based on the measured ground temperatures the foundation of the waste rock pile is frozen back. Horizontal beads roughly 70 m inside from the toe of the pile have warmed by about 2.0°C between August 1, 2021 and August 1, 2022 but the temperatures within the foundation appear to be stabilizing over the past year and remain below zero.

At the time of the inspection the following was noted:

- Till placed on the 97 m bench appears to be within the till design perimeter and contained with Run-of-Mine around the perimeter.
- The settlement up to 0.6 m deep in the waste rock on the 77 m bench observed during the 2021 inspection was regraded. The area of settlement was in the vicinity of the former till borrow source. The surface of the former till borrow source between WRSF1 and the Paste Plant ramp has been backfilled with Run-of-Mine to prevent further subsidence of the area against WRSF1 as shown in Photo 2, Appendix R.

In general, the material is being placed in the pile according to the WRSF1 design. No significant geotechnical issues were observed. The performance of the facility should continue to be monitored on an ongoing basis as out lined in the OMS Manual.

14.2 WRSF3

Disposal in WRSF3 began in 2020. The pile was not being used for waste rock disposal during the time of the annual inspection. The till and waste rock placed in WRSF3 appeared to be well compacted due to dozer compaction. The expanded east boundary of WRSF3 was placed during winter of 2021/2022. The run-of-mine surface had moderate surface undulation with average settlement areas up to 0.5 m deep.

The ground temperatures in the base of the WRSF3 facility is being monitored with vertical and horizontal GTCs. The cable locations are shown on the design drawings. The measured ground temperatures are presented in Appendix S. Based on the measured ground temperatures the foundation of the waste rock pile is frozen back. The temperatures within the foundation have cooled by -1.0°C to -5.0°C from late September 2021 to late September 2022 and appears to be stabilizing over the past year.

In general, the material is being placed in the pile according to the WRSF3 design. No significant geotechnical issues were noted.

HGTC-02 within WRSF3 foundation has stopped taking measurements since July 26, 2022. The GTC should be investigated to determine the reason for the malfunction and if the cable is still operable.

15.0 SUMMARY OF RECOMMENDATIONS

Table 15-1 presents a summary of recommendations based on the observations made during the 2022 annual inspection and provided in the corresponding sections of this report.

Table 15-1: Summary of Recommendations

Section	Structure/Facility	Recommendations
3.2.5	Dike D-CP1	Repair the ground subsidence along the crests of the seepage collection channel to maintain the functionality of the channel
3.2.5	Dike D-CP1	It is recommended to closely monitor the potential settlement near settlement point M-6 (Station 1+510) for signs of deformation and to confirm if the recorded displacement of 49 mm between September 2021 and January 2022 is actual or a measurement error in the prism or benchmark.
3.2.5	Dike D-CP1	Improvements to the survey monitoring system could be considered to reduce "noise" in the settlement monitoring data for Dike D-CP1.
3.3.5	CP2	Extend the rockfill cover placed between CP2 Pond and Berm CP2 at the north end to prevent ponding in the area and potential ground thaw at the upstream toe of CP2 Berm.
3.5.5	CP4	Continue monitoring the area between CP4 and the upstream slope of CP4 Berm for settlement to confirm adequate protection is provided to the till berm.
3.7.5	CP6	It is recommended to complete construction of the CP6 access ramp as per design to provide operations with safe access for dewatering.
3.7.5	CP6	GTC-02 within Berm CP6 has stopped taking measurements since May 25, 2022. The GTC should be investigated to determine the reason for the malfunction and if the cable is still operable.
4.1	Saline Pond 1	The berms located at the bottom of the access ramp into Saline Pond 1 should be improved for safety.
5.2	Channel 2	It is recommended that a small berm be constructed such that Channel 2 outflow is better directed to Culvert H13.
5.2	Channel 3	The subsided sections of Channel 3 and the subsided area adjacent the CP3 access road should be repaired to maintain functionality of the channel.
5.2	Channel 4	It is recommended that the downstream Channel 4 Berm is extended to provide sufficient freeboard for Channel 4 at Station 0+620.
5.2	Channel 5	Continue to monitor the cracking and subsidence in the native ground above Channel 5 to determine if they impact the channel's performance.
5.2	Channel 10	The diversion berm located at the inlet of Channel 10 should be fully constructed to prevent runoff from bypassing the top of the channel.
6.5	TSF	Sediment within Channel 3 should be removed and disposed within an appropriate area for housekeeping and maintain proper drainage of the facility.
6.5	TSF	Erosion and cracking along the toe of the exposed north slope of Cell 1 should continue to be monitored. AEM has completed repairs of the north slope toe during expansion of the facility into Cell 2 in December 2023. The area will be reinspected during the 2023 inspection.
10.3	Landfill	It is recommended that the landfill be covered in stages with intermediate cover to avoid blowing debris. Continued waste separation can reduce landfill volume requirements.
10.4	Emulsion Plant Pad	It is recommended to move the shipping containers located on the south corner of the pad away from the crest of the pad for stability.

Table 15-1: Summary of Recommendations

Section	Structure/Facility	Recommendations
10.6	Industrial Fuel Storage	Crush material underneath the pipeline cribbing going over the containment berm has been eroded away. Crush material should be placed back around the pipeline supports at the top of the containment berm to remove stress on the pipeline.
10.7	Other Facilities	It is recommended that the voids underneath the footing foundations that support the corrugated steel entry of Portal No. 2 are backfilled, and erosion protection measures are put in place to prevent additional erosion along the base of the footing.
11.0	Exploration camp and Access Road	It is recommended the liner for the fuel storage and generator containment pad be further evaluated if the area is to be used in the future.
12.1	AWAR	It is recommended that the locations along the AWAR selected for culvert installations be completed as per the detailed design Issued for Review by Tetra Tech.
13.0	Itivia Fuel Storage Site	It is recommended that fill crush be placed under the unsupported suspended pipe supports.
14.2	WRSF3	HGTC-02 within WRSF3 foundation has stopped taking measurements since July 26, 2022. The GTC should be investigated to determine the reason for the malfunction and if the cable is still operable.

16.0 CLOSURE

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

Respectfully submitted,
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/jf

PERMIT TO PRACTICE
TETRA TECH CANADA INC.

Signature ______________________

Date ______________________

PERMIT NUMBER: P 018
NT/NU Association of Professional
Engineers and Geoscientists

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FIGURES

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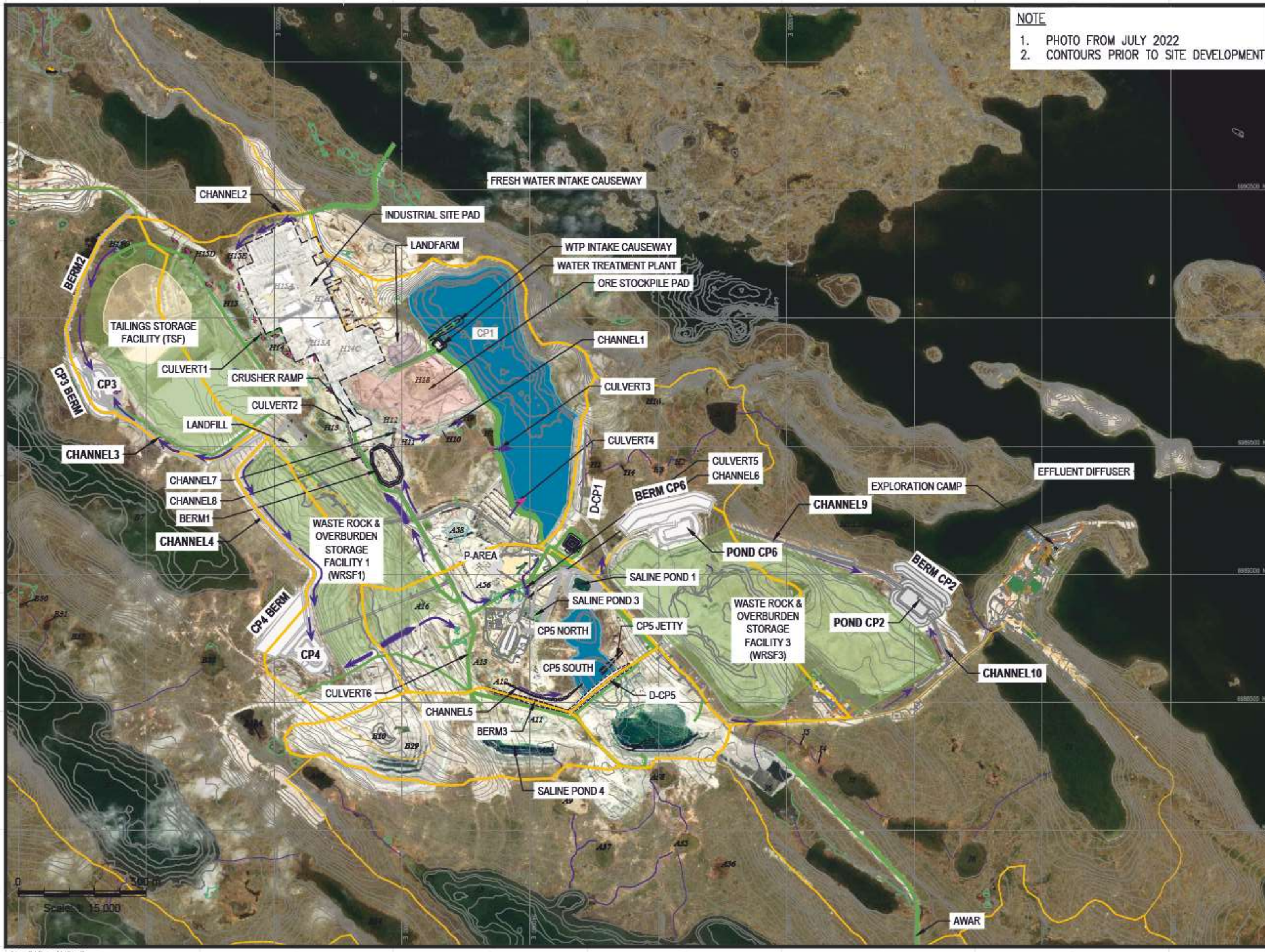

LEGEND

- CATCHMENT BOUNDARY
- SERVICE ROAD
- HAUL ROAD
- WATERBODY
- WATER COLLECTION POND
- DRAINED POND AREA
- OPEN PIT
- OVERBURDEN
- WASTE ROCK
- ORE
- TAILINGS
- INDUSTRIAL SITE PAD
- CONTACT WATER FLOW DIRECTION

AGNICO EAGLE

TETRA TECH

TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY
A	ISSUED FOR REVIEW	2019-06-03	WTH

REVISIONS

DESSINÉ PAR DRAWN BY	EL	DATE	2019-06-03
VÉRIFIÉ PAR CHECKED BY	WTH		2019-06-03
APPROUVÉ PAR APPROVED BY			
No. PROJET PROJECT NO.	6515		
DATE			

TITRE / TITLE
AGNICO EAGLE – MELIADINE GOLD PROJECT

FIGURE 1
GENERAL SITE LAYOUT

ÉCHELLE/ SCALE	1:15000	FICHIER FILE	General Site Layout Plan .DWG
No. DESSIN/ DRAWING NO.		REVISION A	FEUILLE/SHT 1 / 2

AE–CART–ANSI B

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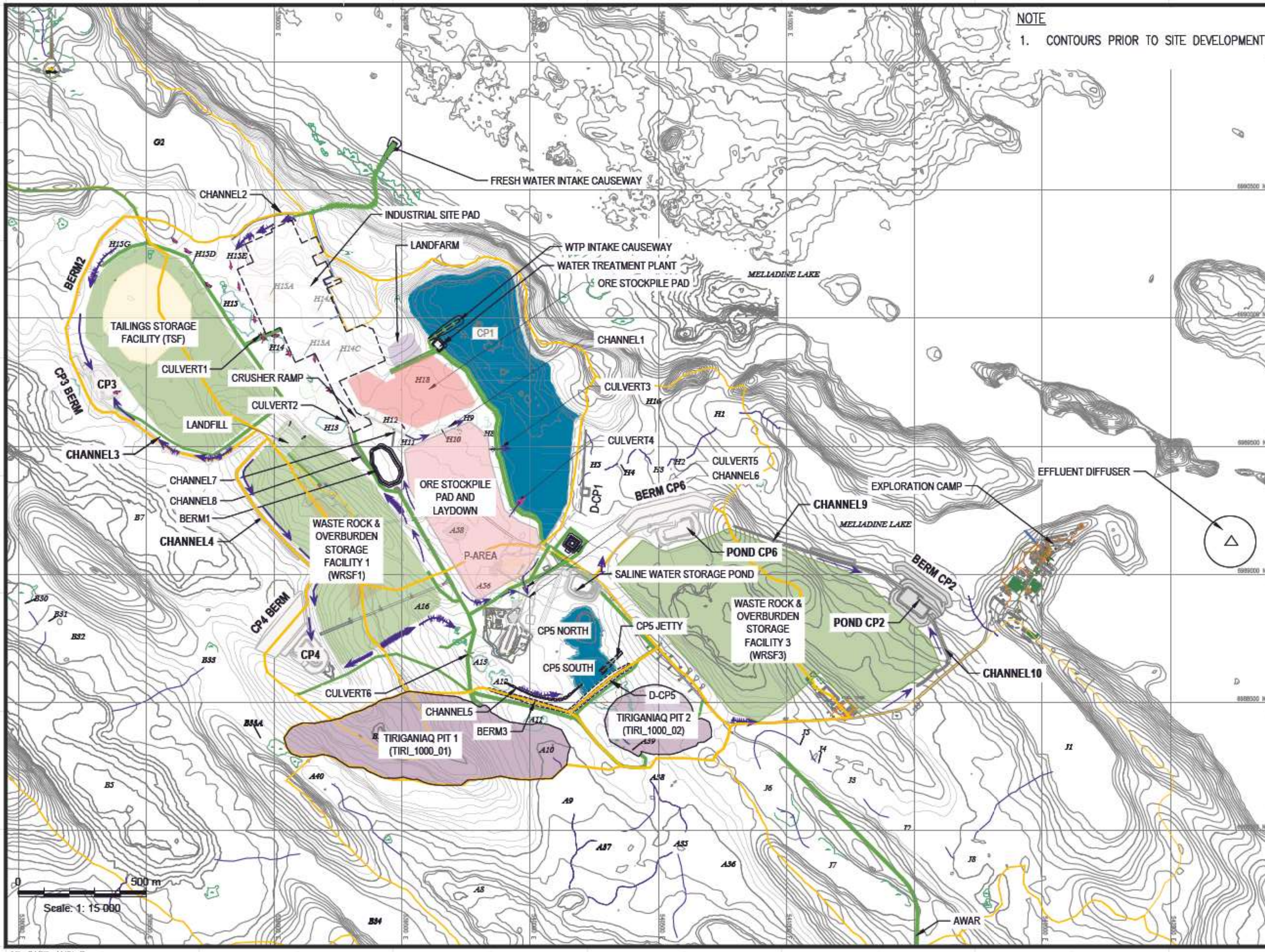

NOTE

1. CONTOURS PRIOR TO SITE DEVELOPMENT

LEGEND

- CATCHMENT BOUNDARY
- SERVICE ROAD
- HAUL ROAD
- WATERBODY
- WATER COLLECTION POND
- DRAINED POND AREA
- OPEN PIT
- OVERBURDEN
- WASTE ROCK
- ORE
- TAILINGS
- INDUSTRIAL SITE PAD
- CONTACT WATER FLOW DIRECTION

AGNICO EAGLE

TETRA TECH

TITRE / TITLE	# DWG
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DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY
A	ISSUED FOR REVIEW	2019–06–03	WTH

REVISIONS

DESSINÉ PAR / DRAWN BY	EL	DATE 2019–06–03
VÉRIFIÉ PAR / CHECKED BY	WTH	2019–06–03
APPROUVÉ PAR / APPROVED BY		
No. PROJET / PROJECT NO.	6515	
DATE		

TITRE / TITLE
AGNICO EAGLE – MELIADINE GOLD PROJECT

FIGURE 2
GENERAL SITE LAYOUT – YEAR 7

ÉCHELLE/ SCALE	1:15000	FICHIER FILE	General Site Layout Plan .DWG
No. DESSIN/ DRAWING NO.		REVISION A	FEUILLE/SHT 2 / 2

AE–CART–ANSI B

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APPENDIX A

TETRA TECH'S LIMITATIONS ON USE OF THIS DOCUMENT

LIMITATIONS ON USE OF THIS DOCUMENT

GEOTECHNICAL

1.1 USE OF DOCUMENT AND OWNERSHIP

This document pertains to a specific site, a specific development, and a specific scope of work. The document may include plans, drawings, profiles and other supporting documents that collectively constitute the document (the "Professional Document").

The Professional Document is intended for the sole use of TETRA TECH's Client (the "Client") as specifically identified in the TETRA TECH Services Agreement or other Contractual Agreement entered into with the Client (either of which is termed the "Contract" herein). TETRA TECH does not accept any responsibility for the accuracy of any of the data, analyses, recommendations or other contents of the Professional Document when it is used or relied upon by any party other than the Client, unless authorized in writing by TETRA TECH.

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The Professional Document and any other form or type of data or documents generated by TETRA TECH during the performance of the work are TETRA TECH's professional work product and shall remain the copyright property of TETRA TECH.

The Professional Document is subject to copyright and shall not be reproduced either wholly or in part without the prior, written permission of TETRA TECH. Additional copies of the Document, if required, may be obtained upon request.

1.2 ALTERNATIVE DOCUMENT FORMAT

Where TETRA TECH submits electronic file and/or hard copy versions of the Professional Document or any drawings or other project-related documents and deliverables (collectively termed TETRA TECH's "Instruments of Professional Service"), only the signed and/or sealed versions shall be considered final. The original signed and/or sealed electronic file and/or hard copy version archived by TETRA TECH shall be deemed to be the original. TETRA TECH will archive a protected digital copy of the original signed and/or sealed version for a period of 10 years.

Both electronic file and/or hard copy versions of TETRA TECH's Instruments of Professional Service shall not, under any circumstances, be altered by any party except TETRA TECH. TETRA TECH's Instruments of Professional Service will be used only and exactly as submitted by TETRA TECH.

Electronic files submitted by TETRA TECH have been prepared and submitted using specific software and hardware systems. TETRA TECH makes no representation about the compatibility of these files with the Client's current or future software and hardware systems.

1.3 STANDARD OF CARE

Services performed by TETRA TECH for the Professional Document have been conducted in accordance with the Contract, in a manner consistent with the level of skill ordinarily exercised by members of the profession currently practicing under similar conditions in the jurisdiction in which the services are provided. Professional judgment has been applied in developing the conclusions and/or recommendations provided in this Professional Document. No warranty or guarantee, express or implied, is made concerning the test results, comments, recommendations, or any other portion of the Professional Document.

If any error or omission is detected by the Client or an Authorized Party, the error or omission must be immediately brought to the attention of TETRA TECH.

1.4 DISCLOSURE OF INFORMATION BY CLIENT

The Client acknowledges that it has fully cooperated with TETRA TECH with respect to the provision of all available information on the past, present, and proposed conditions on the site, including historical information respecting the use of the site. The Client further acknowledges that in order for TETRA TECH to properly provide the services contracted for in the Contract, TETRA TECH has relied upon the Client with respect to both the full disclosure and accuracy of any such information.

1.5 INFORMATION PROVIDED TO TETRA TECH BY OTHERS

During the performance of the work and the preparation of this Professional Document, TETRA TECH may have relied on information provided by persons other than the Client.

While TETRA TECH endeavours to verify the accuracy of such information, TETRA TECH accepts no responsibility for the accuracy or the reliability of such information even where inaccurate or unreliable information impacts any recommendations, design or other deliverables and causes the Client or an Authorized Party loss or damage.

1.6 GENERAL LIMITATIONS OF DOCUMENT

This Professional Document is based solely on the conditions presented and the data available to TETRA TECH at the time the data were collected in the field or gathered from available databases.

The Client, and any Authorized Party, acknowledges that the Professional Document is based on limited data and that the conclusions, opinions, and recommendations contained in the Professional Document are the result of the application of professional judgment to such limited data.

The Professional Document is not applicable to any other sites, nor should it be relied upon for types of development other than those to which it refers. Any variation from the site conditions present, or variation in assumed conditions which might form the basis of design or recommendations as outlined in this report, at or on the development proposed as of the date of the Professional Document requires a supplementary investigation and assessment.

TETRA TECH is neither qualified to, nor is it making, any recommendations with respect to the purchase, sale, investment or development of the property, the decisions on which are the sole responsibility of the Client.

1.7 ENVIRONMENTAL AND REGULATORY ISSUES

Unless stipulated in the report, TETRA TECH has not been retained to investigate, address or consider and has not investigated, addressed or considered any environmental or regulatory issues associated with development on the subject site.

1.8 NATURE AND EXACTNESS OF SOIL AND ROCK DESCRIPTIONS

Classification and identification of soils and rocks are based upon commonly accepted systems and methods employed in professional geotechnical practice. This report contains descriptions of the systems and methods used. Where deviations from the system or method prevail, they are specifically mentioned.

Classification and identification of geological units are judgmental in nature as to both type and condition. TETRA TECH does not warrant conditions represented herein as exact, but infers accuracy only to the extent that is common in practice.

Where subsurface conditions encountered during development are different from those described in this report, qualified geotechnical personnel should revisit the site and review recommendations in light of the actual conditions encountered.

1.9 LOGS OF TESTHOLES

The testhole logs are a compilation of conditions and classification of soils and rocks as obtained from field observations and laboratory testing of selected samples. Soil and rock zones have been interpreted. Change from one geological zone to the other, indicated on the logs as a distinct line, can be, in fact, transitional. The extent of transition is interpretive. Any circumstance which requires precise definition of soil or rock zone transition elevations may require further investigation and review.

1.10 STRATIGRAPHIC AND GEOLOGICAL INFORMATION

The stratigraphic and geological information indicated on drawings contained in this report are inferred from logs of test holes and/or soil/rock exposures. Stratigraphy is known only at the locations of the test hole or exposure. Actual geology and stratigraphy between test holes and/or exposures may vary from that shown on these drawings. Natural variations in geological conditions are inherent and are a function of the historic environment. TETRA TECH does not represent the conditions illustrated as exact but recognizes that variations will exist. Where knowledge of more precise locations of geological units is necessary, additional investigation and review may be necessary.

1.11 PROTECTION OF EXPOSED GROUND

Excavation and construction operations expose geological materials to climatic elements (freeze/thaw, wet/dry) and/or mechanical disturbance which can cause severe deterioration. Unless otherwise specifically indicated in this report, the walls and floors of excavations must be protected from the elements, particularly moisture, desiccation, frost action and construction traffic.

1.12 SUPPORT OF ADJACENT GROUND AND STRUCTURES

Unless otherwise specifically advised, support of ground and structures adjacent to the anticipated construction and preservation of adjacent ground and structures from the adverse impact of construction activity is required.

1.13 INFLUENCE OF CONSTRUCTION ACTIVITY

There is a direct correlation between construction activity and structural performance of adjacent buildings and other installations. The influence of all anticipated construction activities should be considered by the contractor, owner, architect and prime engineer in consultation with a geotechnical engineer when the final design and construction techniques are known.

1.14 OBSERVATIONS DURING CONSTRUCTION

Because of the nature of geological deposits, the judgmental nature of geotechnical engineering, as well as the potential of adverse circumstances arising from construction activity, observations during site preparation, excavation and construction should be carried out by a geotechnical engineer. These observations may then serve as the basis for confirmation and/or alteration of geotechnical recommendations or design guidelines presented herein.

1.15 DRAINAGE SYSTEMS

Where temporary or permanent drainage systems are installed within or around a structure, the systems which will be installed must protect the structure from loss of ground due to internal erosion and must be designed so as to assure continued performance of the drains. Specific design detail of such systems should be developed or reviewed by the geotechnical engineer. Unless otherwise specified, it is a condition of this report that effective temporary and permanent drainage systems are required and that they must be considered in relation to project purpose and function.

1.16 BEARING CAPACITY

Design bearing capacities, loads and allowable stresses quoted in this report relate to a specific soil or rock type and condition. Construction activity and environmental circumstances can materially change the condition of soil or rock. The elevation at which a soil or rock type occurs is variable. It is a requirement of this report that structural elements be founded in and/or upon geological materials of the type and in the condition assumed. Sufficient observations should be made by qualified geotechnical personnel during construction to assure that the soil and/or rock conditions assumed in this report in fact exist at the site.

1.17 SAMPLES

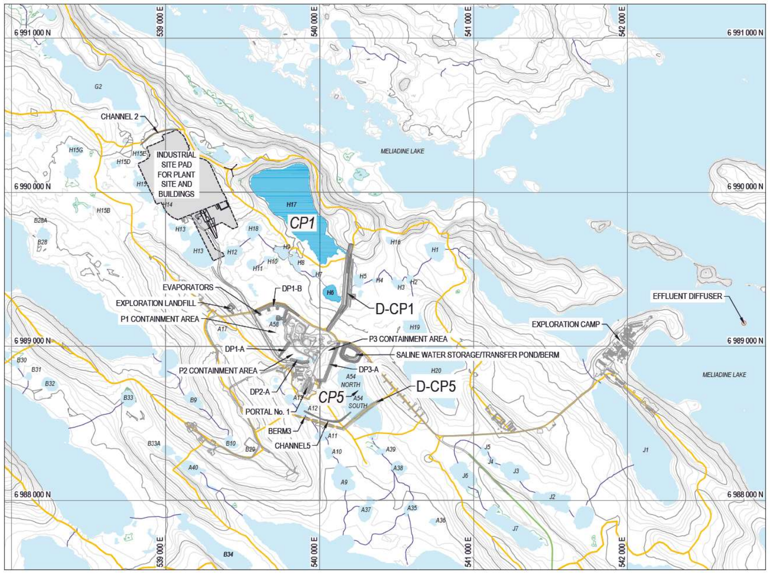
TETRA TECH will retain all soil and rock samples for 30 days after this report is issued. Further storage or transfer of samples can be made at the Client's expense upon written request, otherwise samples will be discarded.

APPENDIX B

POND CP1 AND DIKE D-CP1

NO. DESSIN DRAWING NO. 65-685-230-204_R2

FORMAT ARCHD



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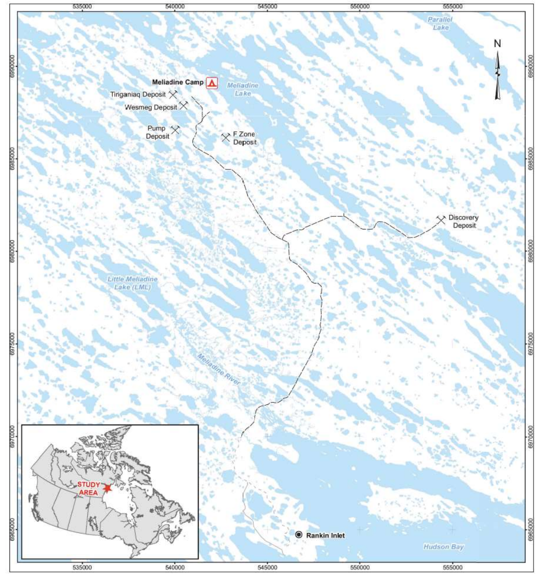

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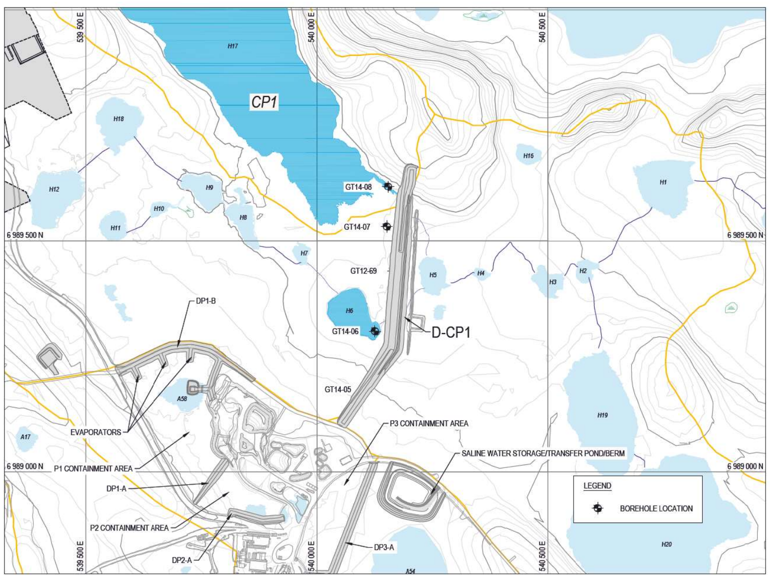

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SCALE: 1:5,000

D-CP1 CONSTRUCTION DRAWING INDEX

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65-685-230-204	2	D-CP1 AS-BUILT GENERAL LOCATION PLAN
65-685-230-205	2	D-CP1 AS-BUILT KEY TRENCH AND DIKE LAYOUT PLAN
65-685-230-206	2	D-CP1 AS-BUILT PROFILES
65-685-230-207	2	D-CP1 AS-BUILT THERMAL COVER LAYOUT PLAN AND PROFILES
65-685-230-208	2	D-CP1 AS-BUILT TYPICAL SECTIONS AND QUANTITIES
65-685-230-209-001	2	D-CP1 AS-BUILT SECTIONS STATION 0+025 TO 0+200
65-685-230-209-002	2	D-CP1 AS-BUILT SECTIONS STATION 0+225 TO 0+400
65-685-230-209-003	2	D-CP1 AS-BUILT SECTIONS STATION 0+425 TO 0+575
65-685-230-210	2	D-CP1 AS-BUILT DOWNSTREAM WATER COLLECTION CHANNEL AND SUMP LAYOUT PLAN AND PROFILES
65-685-230-211	2	D-CP1 AS-BUILT INSTRUMENTATION PLAN AND DETAILS FOR GROUND TEMPERATURE CABLES
65-685-230-212	2	D-CP1 AS-BUILT INSTRUMENTATION PLAN AND DETAILS FOR GROUND TEMPERATURE CABLES AND SETTLEMENT SURVEY MONUMENT POINTS
65-685-230-213	2	D-CP1 AS-BUILT DOWNSTREAM WATER COLLECTION CHANNEL AND SUMP PROFILES AND INSTRUMENTATION DETAILS

TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

PERMIT TO PRACTICE
TETRA TECH CANADA INC.
Signature
Date Oct 19, 2017
PERMIT NUMBER: P 018
NT/NU Association of Professional Engineers and Geoscientists

TEL QUE CONSTRUIT
AS BUILT
DATE : 2017-10-19

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
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0	2016-08-15	ISSUED FOR CONSTRUCTION	GZ	KJ	
B	2016-08-11	ISSUED FOR REVIEW	GZ	KJ	
A	2016-08-05	ISSUED FOR REVIEW	GZ	KJ	

REVISIONS

REGISTERED PROFESSIONAL ENGINEER W.T. HORNE LICENSEE N.W.T. Oct 19 2017
REGISTERED PROFESSIONAL ENGINEER G. ZHANG LICENSEE NWT/NU Oct.19 2017

TITRE / TITLE
AGNICO EAGLE MELIADINE GOLD PROJECT

D-CP1 AS-BUILT
GENERAL LOCATION PLAN

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VERIFIÉ PAR / CHECKED BY	WTH	2017-10-06
APPROUVÉ PAR / APPROVED BY	NG	2017-10-06
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NO. PROJET / PROJECT NO. 6515	REVISION 2	FEUILLE / SHT 1 / 12

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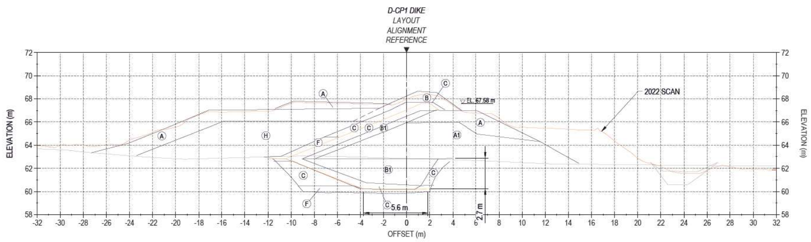

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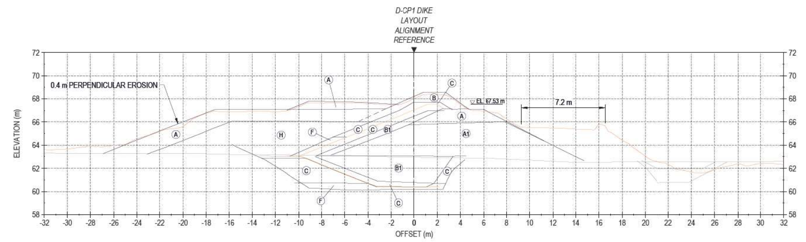

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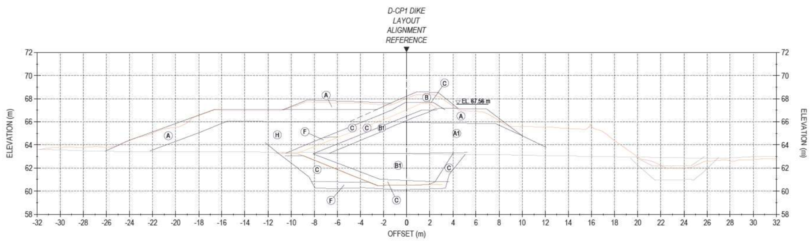

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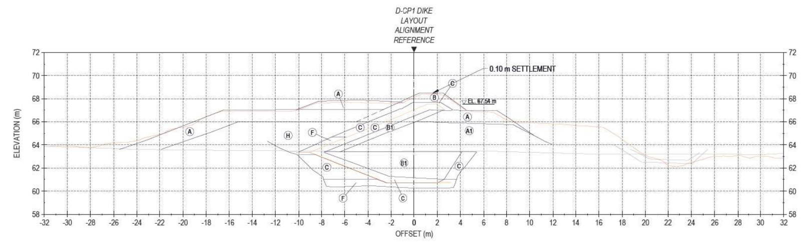

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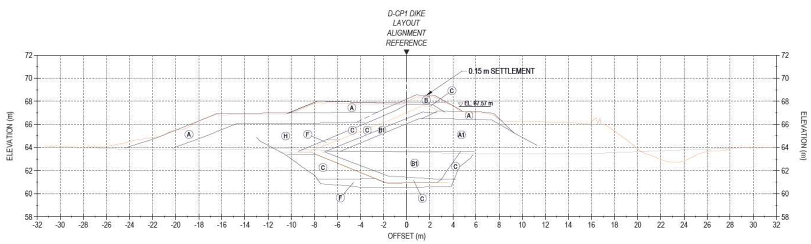

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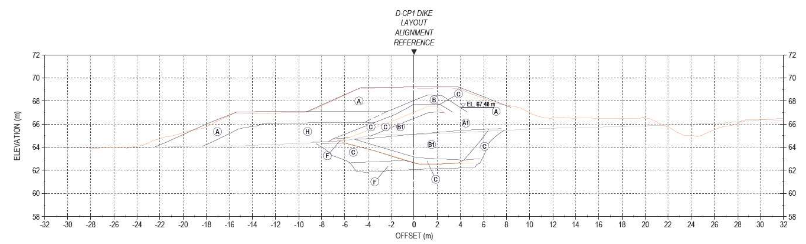

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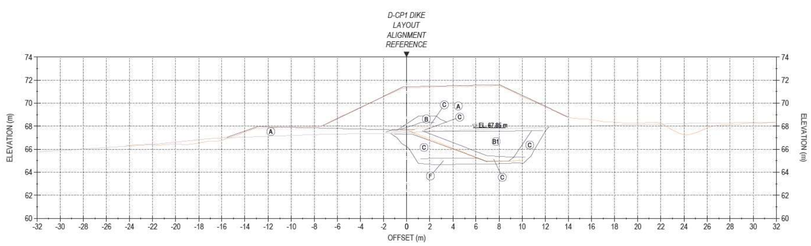

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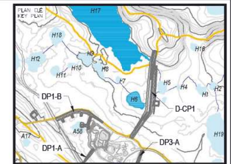
PLAN CLÉ / KEY PLAN



TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

LEGEND

- (A) RUN-OF-MINE ROCKFILL (600 mm MINUS) IN DIKE UPSTREAM AND FOR THERMAL COVER
- (A1) RUN-OF-MINE ROCKFILL (600 mm MINUS) IN DIKE DOWNSTREAM
- (B) TRANSITION ROCKFILL (150 mm MINUS)
- (B1) TRANSITION ROCKFILL (150 mm MINUS)
- (C) GRANULAR FILL OR ESKER SAND (20 mm MINUS)
- (F) BENTONITE-AUGMENTED MATERIAL (MIXTURE OF BENTONITE AND TYPE C MATERIAL)
- (H) ESKER SAND AND GRAVEL (75 mm MINUS)
- (K) NEARLY-SATURATED BACKFILL (20 mm MINUS)
- DASHED LINES REFER TO NO AS-BUILT DATA BUT ESTIMATED BASED ON FIELD VISUAL OBSERVATION
- (BR) BEDROCK

TEL QUE CONSTRUIT
AS BUILT
AGNICO EAGLE DATE : 2017-10-19

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
2	2017-10-19	ISSUED FOR RECORD	WTH	NG	
1	2016-09-26	ISSUED FOR CONSTRUCTION	GZ	KJ	
0	2016-08-15	ISSUED FOR CONSTRUCTION	GZ	KJ	
B	2016-08-11	ISSUED FOR REVIEW	GZ	KJ	
A	2016-08-05	ISSUED FOR REVIEW	GZ	KJ	

REVISIONS

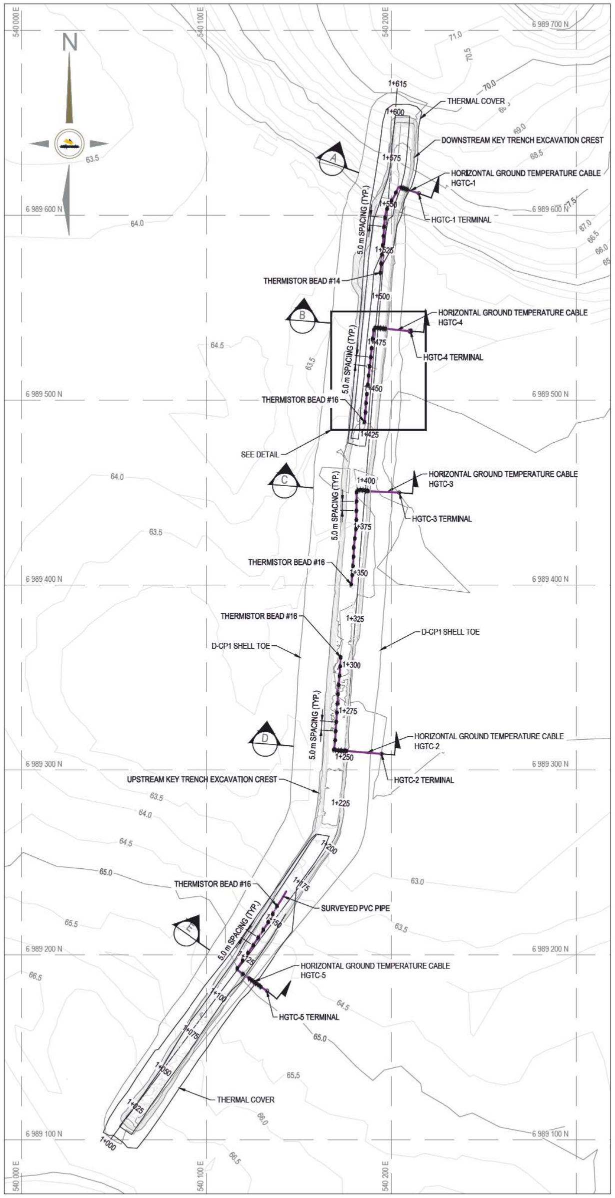
TITRE / TITLE
AGNICO EAGLE MELIADINE GOLD PROJECT

D-CP1 AS-BUILT SECTIONS
STATION 1+425 TO 1+575

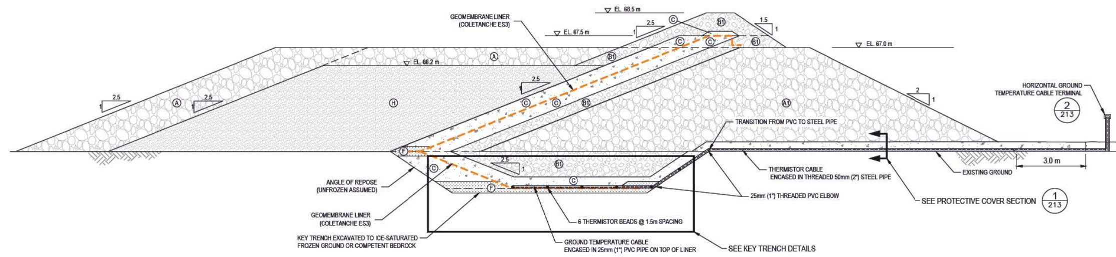
DESSINÉ PAR / DRAWN BY	EL	DATE 2017-10-06
VÉRIFIÉ PAR / CHECKED BY	WTH	2017-10-06
APPROUVÉ PAR / APPROVED BY	NG	2017-10-06
ÉCHELLE / SCALE	1:200	DATE 2017-10-06
NO. DESSIN / DRAWING NO.	65-685-230-209-003	
NO. PROJET / PROJECT NO. 6515	REVISION 2	FEUILLE / SHT 8/12

NO. DESSIN / DRAWING NO. 65-685-230-211_R2

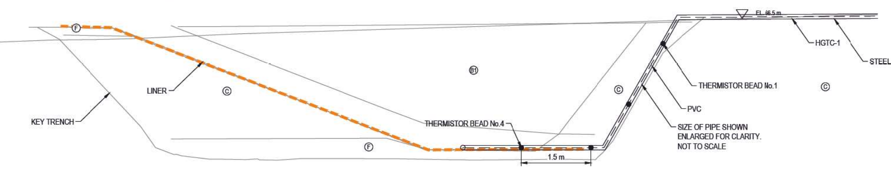
FORMAT ARCHD



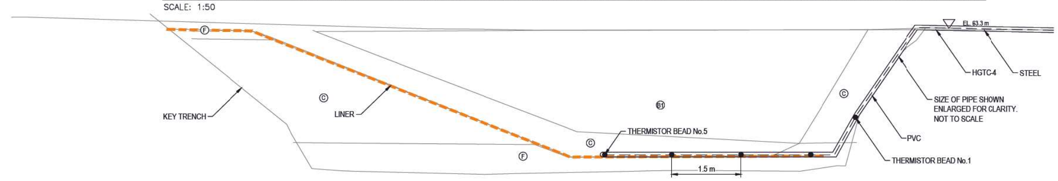
D-CP1 AS-BUILT HORIZONTAL GROUND TEMPERATURE CABLE LAYOUT
SCALE: 1:1250



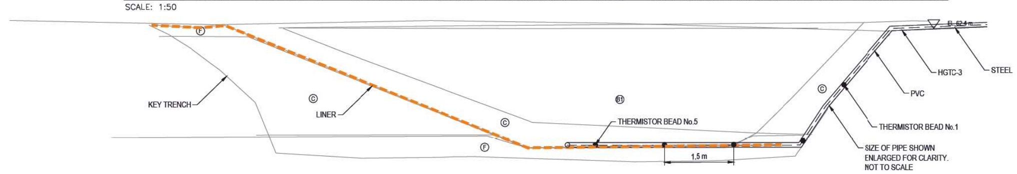
D-CP1 HORIZONTAL GROUND TEMPERATURE CABLE – DESIGN TYPICAL SECTION
SCALE: 1:100



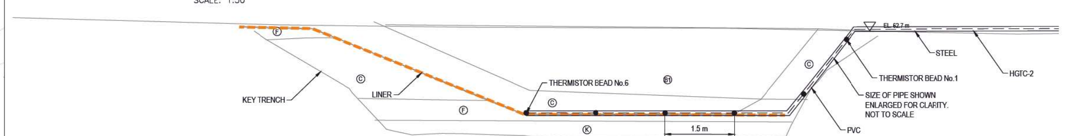
D-CP1 AS-BUILT – SECTION A – HORIZONTAL GROUND TEMPERATURE CABLE – KEY TRENCH DETAIL THROUGH STATION 1+562
SCALE: 1:50



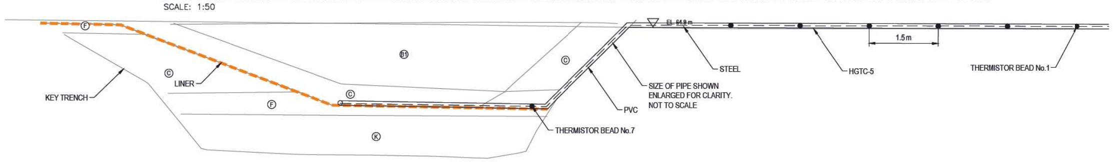
D-CP1 AS-BUILT – SECTION B – HORIZONTAL GROUND TEMPERATURE CABLE – KEY TRENCH DETAIL THROUGH STATION 1+482
SCALE: 1:50



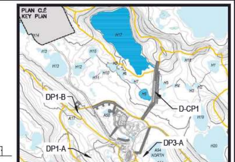
D-CP1 AS-BUILT – SECTION C – HORIZONTAL GROUND TEMPERATURE CABLE – KEY TRENCH DETAIL THROUGH STATION 1+394
SCALE: 1:50



D-CP1 AS-BUILT – SECTION D – HORIZONTAL GROUND TEMPERATURE CABLE – KEY TRENCH DETAIL THROUGH STATION 1+254
SCALE: 1:50



D-CP1 AS-BUILT – SECTION E – HORIZONTAL GROUND TEMPERATURE CABLE – KEY TRENCH DETAIL THROUGH STATION 1+117
SCALE: 1:50



TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

LEGEND

- (A) RUN-OF-MINE ROCKFILL (600 mm MINUS) IN DIKE UPSTREAM AND FOR THERMAL COVER
- (A1) RUN-OF-MINE ROCKFILL (600 mm MINUS) IN DIKE DOWNSTREAM
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- (H) ESKER SAND AND GRAVEL (75 mm MINUS)
- (K) NEARLY-SATURATED BACKFILL (20 mm MINUS)

PERMIT TO PRACTICE
TETRA TECH CANADA INC.
Signature
Date 2017
PERMIT NUMBER: P 018
NT/NU Association of Professional Engineers and Geoscientists

TEL QUE CONSTRUIT
AS BUILT
DATE : 2017-10-19

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
2	2017-10-19	ISSUED FOR RECORD	WTH	NO	
1	2016-09-26	ISSUED FOR CONSTRUCTION	GZ	KJ	
0	2016-08-15	ISSUED FOR CONSTRUCTION	GZ	KJ	
B	2016-08-11	ISSUED FOR REVIEW	GZ	KJ	
A	2016-08-05	ISSUED FOR REVIEW	GZ	KJ	

REVISIONS

W. T. HORNE LICENSEE N.W.T.
G. ZHANG LICENSEE NWT/NU

TITRE / TITLE
AGNICO EAGLE MELIADINE GOLD PROJECT

D-CP1 AS-BUILT
INSTRUMENTATION PLAN AND DETAILS
FOR GROUND TEMPERATURE CABLES

		DATE
DESSINÉ PAR / DRAWN BY	DRG	2017-10-06
VÉRIFIÉ PAR / CHECKED BY	GZ	2017-10-06
APPROUVÉ PAR / APPROVED BY	KJ	2017-10-06
ÉCHELLE / SCALE	AS SHOWN	2017-10-06

NO. DESSIN / DRAWING NO. 65-685-230-211

NO. PROJET / PROJECT NO.	RÉVISION	FEUILLE / SHT
6515	2	10/12

AE-CART-ARCH D

G:\Edmonton\Engineering\E141\Projects_MELIADINE\As-Built D-CP1\65-685-230-211 R2.dwg-2017-10-19 15:45:17

FILE NO. 65 685 230 211_R2.dwg

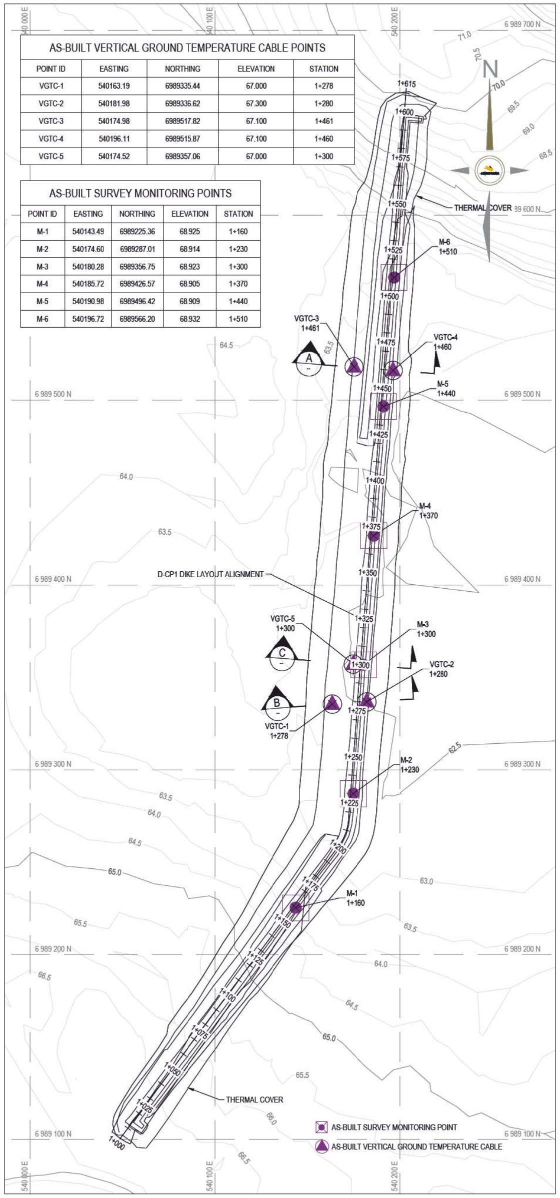
NO. DESSIN DRAWING NO. 65-685-230-212_R2

AS-BUILT VERTICAL GROUND TEMPERATURE CABLE POINTS

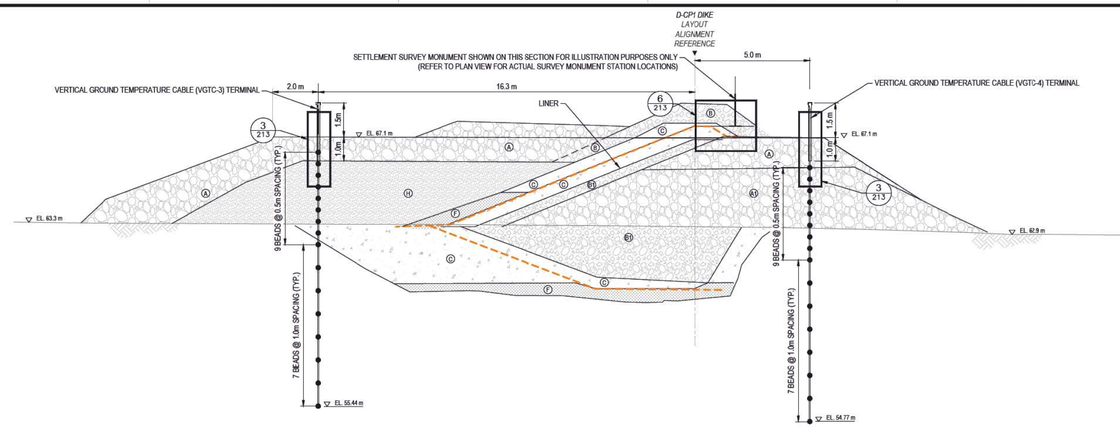
POINT ID	EASTING	NORTHING	ELEVATION	STATION
VGTC-1	540163.19	6989335.44	67.000	1+278
VGTC-2	540181.98	6989336.62	67.300	1+280
VGTC-3	540174.98	6989517.82	67.100	1+461
VGTC-4	540196.11	6989515.87	67.100	1+460
VGTC-5	540174.52	6989357.06	67.000	1+300

AS-BUILT SURVEY MONITORING POINTS

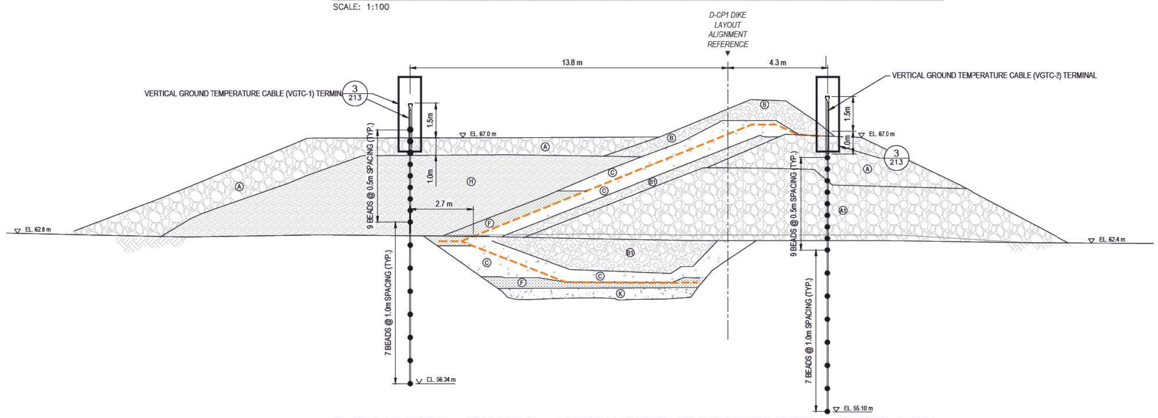
POINT ID	EASTING	NORTHING	ELEVATION	STATION
M-1	540143.49	6989225.36	68.925	1+160
M-2	540174.60	6989287.01	68.914	1+230
M-3	540180.28	6989356.75	68.923	1+300
M-4	540185.72	6989426.57	68.905	1+370
M-5	540190.98	6989496.42	68.909	1+440
M-6	540196.72	6989566.20	68.932	1+510



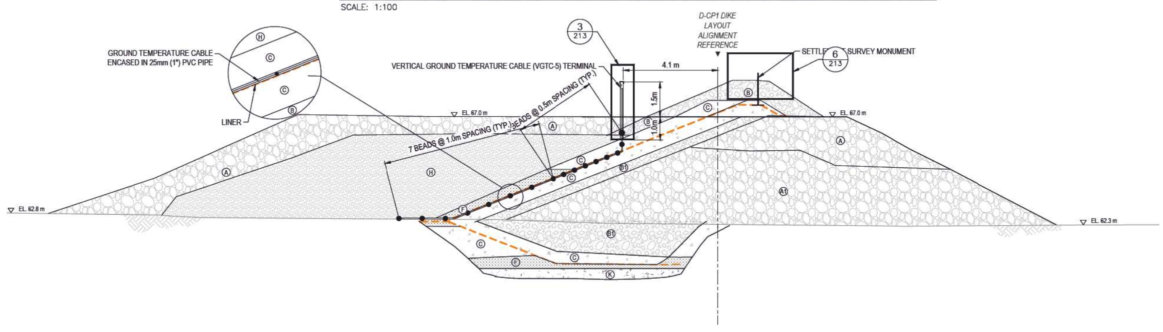
D-CP1 AS-BUILT SURVEY MONUMENT AND VERTICAL GROUND TEMPERATURE CABLE LAYOUT
SCALE: 1:1250



D-CP1 - AS-BUILT - SECTION A - VERTICAL GROUND TEMPERATURE CABLE - STATION 1+460
SCALE: 1:100

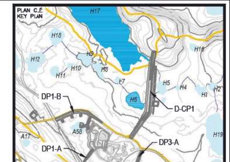


D-CP1 AS-BUILT - SECTION B - VERTICAL GROUND TEMPERATURE CABLE - STATION 1+279
SCALE: 1:100



D-CP1 - AS-BUILT - SECTION C - VERTICAL GROUND TEMPERATURE CABLE - STATION 1+300
SCALE: 1:100

PLAN C.E. KEY PLAN



TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

LEGEND

- (A) RUN-OF-MINE ROCKFILL (600 mm MINUS) IN DIKE UPSTREAM AND FOR THERMAL COVER
- (A1) RUN-OF-MINE ROCKFILL (600 mm MINUS) IN DIKE DOWNSTREAM
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- (H) ESKER SAND AND GRAVEL (75 mm MINUS)
- (K) NEARLY-SATURATED BACKFILL (20 mm MINUS)

PERMIT TO PRACTICE
TETRA TECH CANADA INC.
Signature [signature]
Date Oct 19, 2017
PERMIT NUMBER: P 018
NT/NU Association of Professional Engineers and Geoscientists

TEL QUE CONSTRUIT
AS BUILT
DATE : 2017-10-19

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
2	2017-10-19	ISSUED FOR RECORD	WTH	NG	
1	2016-08-26	ISSUED FOR CONSTRUCTION	GZ	KJ	
0	2016-08-15	ISSUED FOR CONSTRUCTION	GZ	KJ	
B	2016-08-11	ISSUED FOR REVIEW	GZ	KJ	
A	2016-08-05	ISSUED FOR REVIEW	GZ	KJ	

REVISIONS

REGISTERED PROFESSIONAL ENGINEER W.T. HORNE LICENSEE N.W.T. Oct 19 2017
REGISTERED PROFESSIONAL ENGINEER G. ZHANG LICENSEE NWT/NU Oct 19 2017

TITRE / TITLE
AGNICO EAGLE MELIADINE GOLD PROJECT

D-CP1 AS-BUILT INSTRUMENTATION PLAN AND DETAILS FOR GROUND TEMPERATURE CABLES AND SETTLEMENT SURVEY MONUMENT POINTS

DESSINÉ PAR DRAWN BY	DRG	DATE 2017-10-06
VÉRIFIÉ PAR CHECKED BY	GZ	2017-10-06
APPROUVÉ PAR APPROVED BY	GZ	2017-10-06
ÉCHELLE SCALE	AS SHOWN	DATE 2017-10-06

NO. DESSIN DRAWING NO. 65-685-230-212

NO. PROJET PROJECT NO. 6515 — REVISION 2 — FEUILLE / SHT 11 / 12

FORMAT ARCHD

AE-CART-ARCH D

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FILE NO. 65 685 230 212_R2.dwg

Photo 1: Dike D-CP1 - Upstream face—some wave erosion evident from 2019 event.

Photo 2: Dike D-CP1—Upstream face—some wave erosion evident, scarp approximately 1 m high. Erosion also evident on lower portion of slope. Slope is self armouring with larger particles in ROM fill.

Photo 3: Dike D-CP1 - Upstream area of CP1, water levels well managed.

Photo 4: Dike D-CP1 - Crest. Upstream on right, downstream on left.

Photo 5: Dike D-CP1 - Crest—Center and downstream. GTC housing and datalogger.

Photo 6: Dike D-CP1 - Downstream crest, minor cracking, no change from previous year.

Photo 7: Dike D-CP1 - Downstream crest of toe berm constructed in fall of 2021.

Photo 8: Dike D-CP1 - Downstream crest and sump built up with rockfill.

Photo 9: Dike D-CP1 - Upstream crest in good condition.

Photo 10: Dike D-CP1 - Seepage collection pond downstream of dike. Deformation of fill at southeast corner of pond has been rebuilt and rockfill cover placed on exposed tundra.

Photo 11: Dike D-CP1 - Water collection pond, east side, rockfill embankments restored.

Photo 12: Dike D-CP1 - ground between the dike toe and water collection channel covered with rockfill toe berm.

Photo 13: Dike D-CP1 - Seepage collection channel. Subsidence in base of channel.

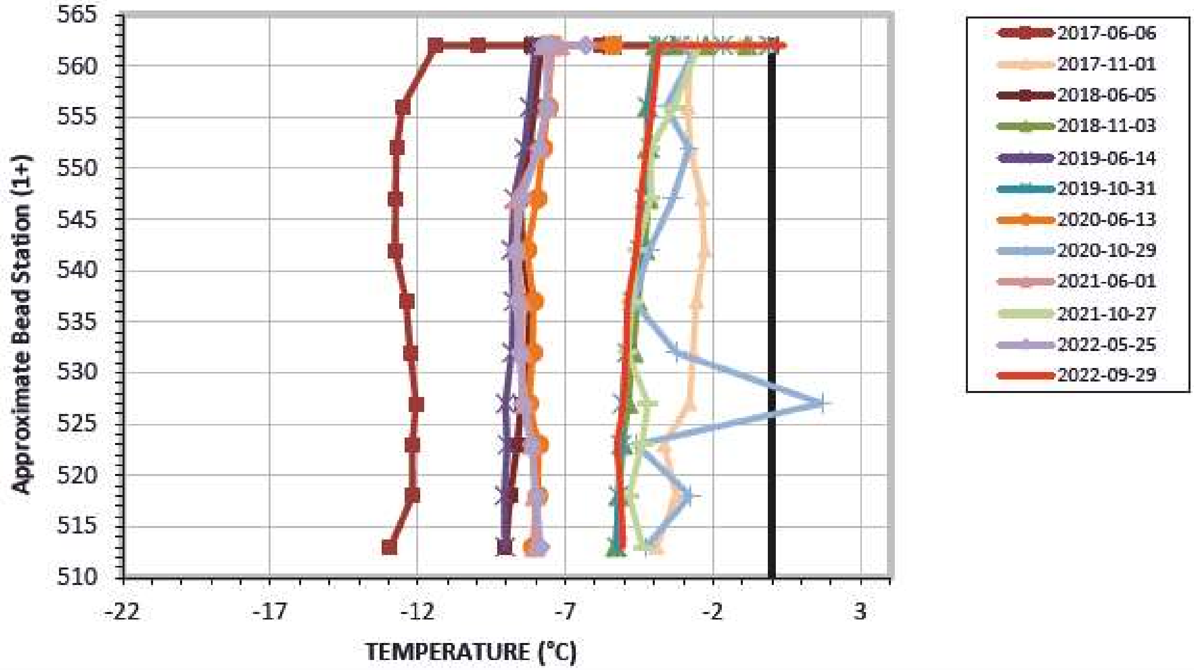
Photo 14: Dike D-CP1 - North end of disturbed ground between dike toe and seepage collection channel.

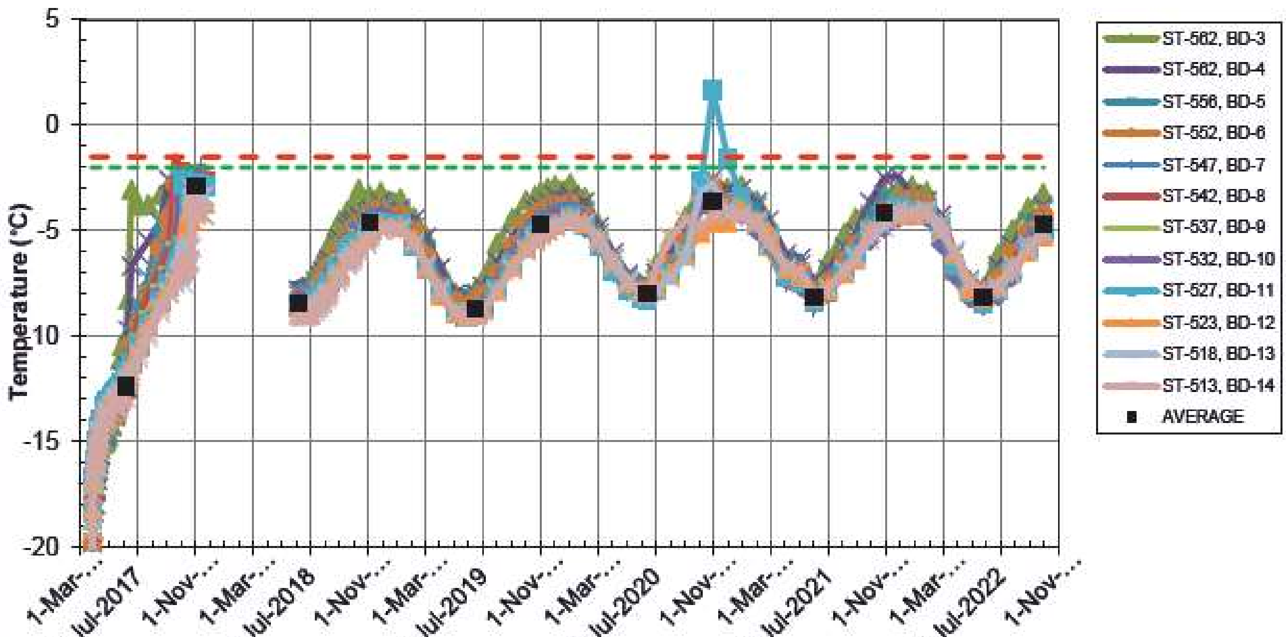
Photo 15: Dike D-CP1 - Buried line along downstream crest of dike for dewatering seepage collection pond.

Photo 16: Dike D-CP1 - Multiple pipelines crossing D-CP1 at west abutment.

Photo 17: Dike D-CP1 Jetty 1 - Erosion at south east side of Jetty 1. No change from previous years.

Photo 18: Dike D-CP1 Jetty 1—Erosion at southeast corner—under cutting top portion of fill. No change from previous years.



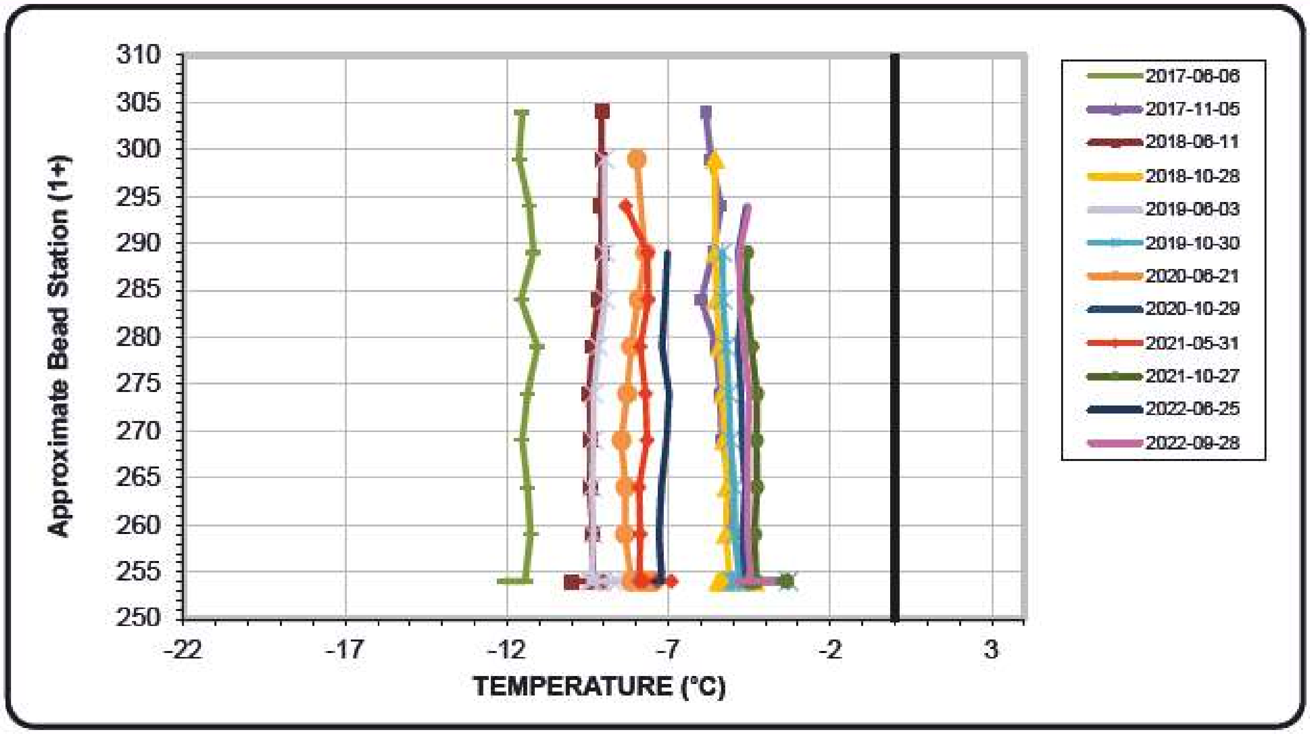


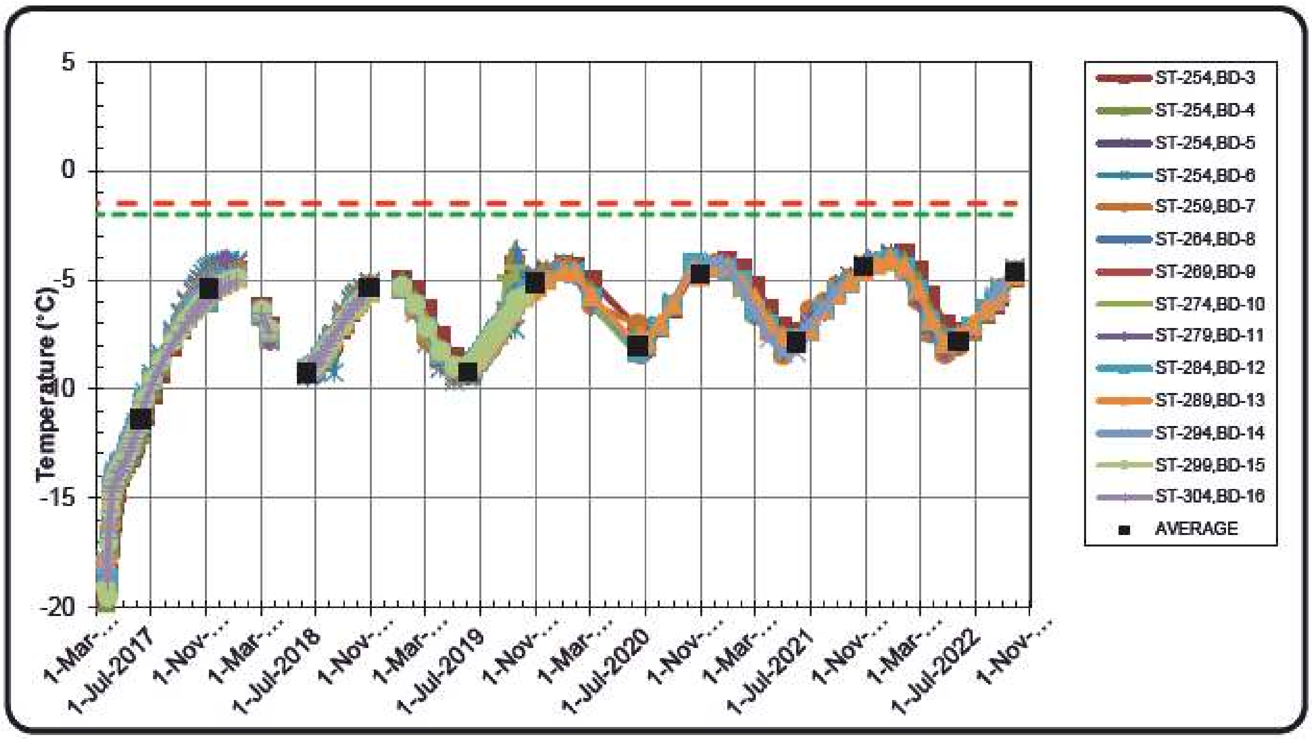
Serial No.: 2595
Date Installed: March 24, 2017

EBA File No: E14103230.01-023

Horizontal Ground Temperature Profile for Cable HGTC-01
Dike D-CP1

TETRA TECH



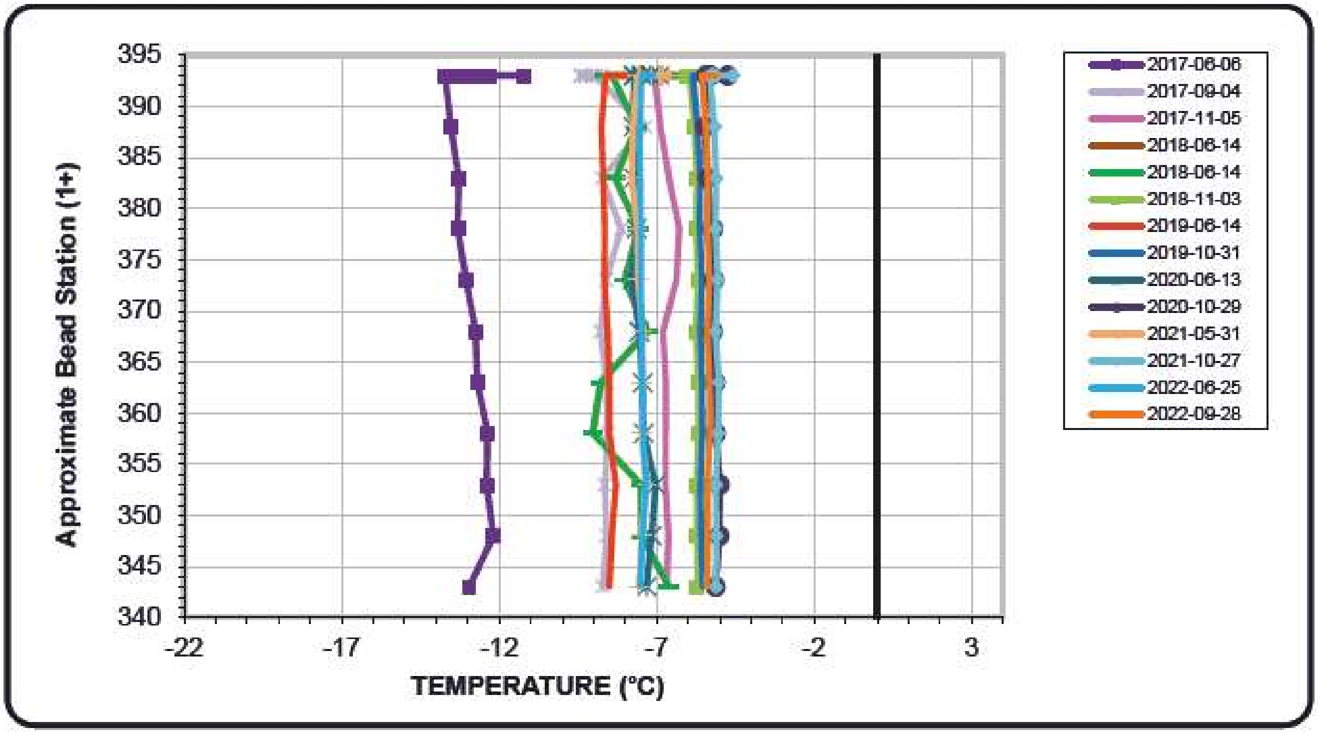


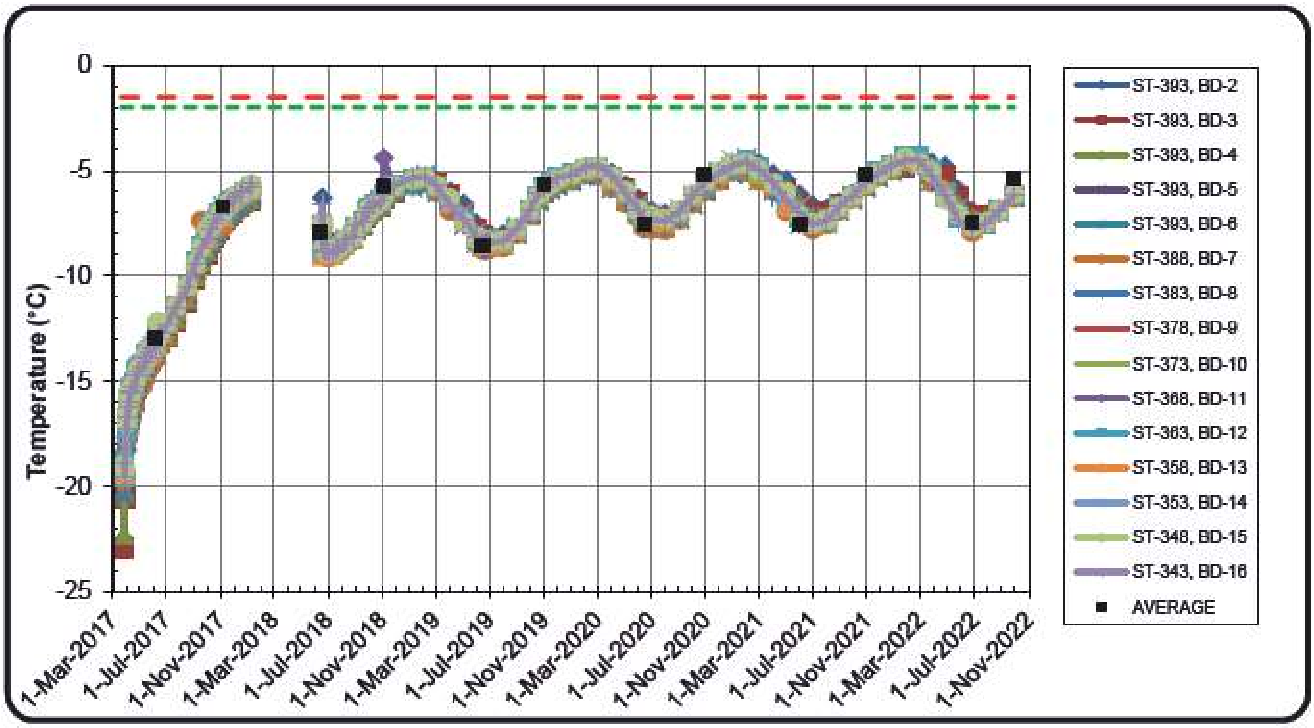
Serial No.: 2596
Date Installed: March 3, 2017

EBA File No: E14103230.01-023

Horizontal Ground Temperature Profile for Cable HGTC-02
Dike D-CP1

TETRA TECH



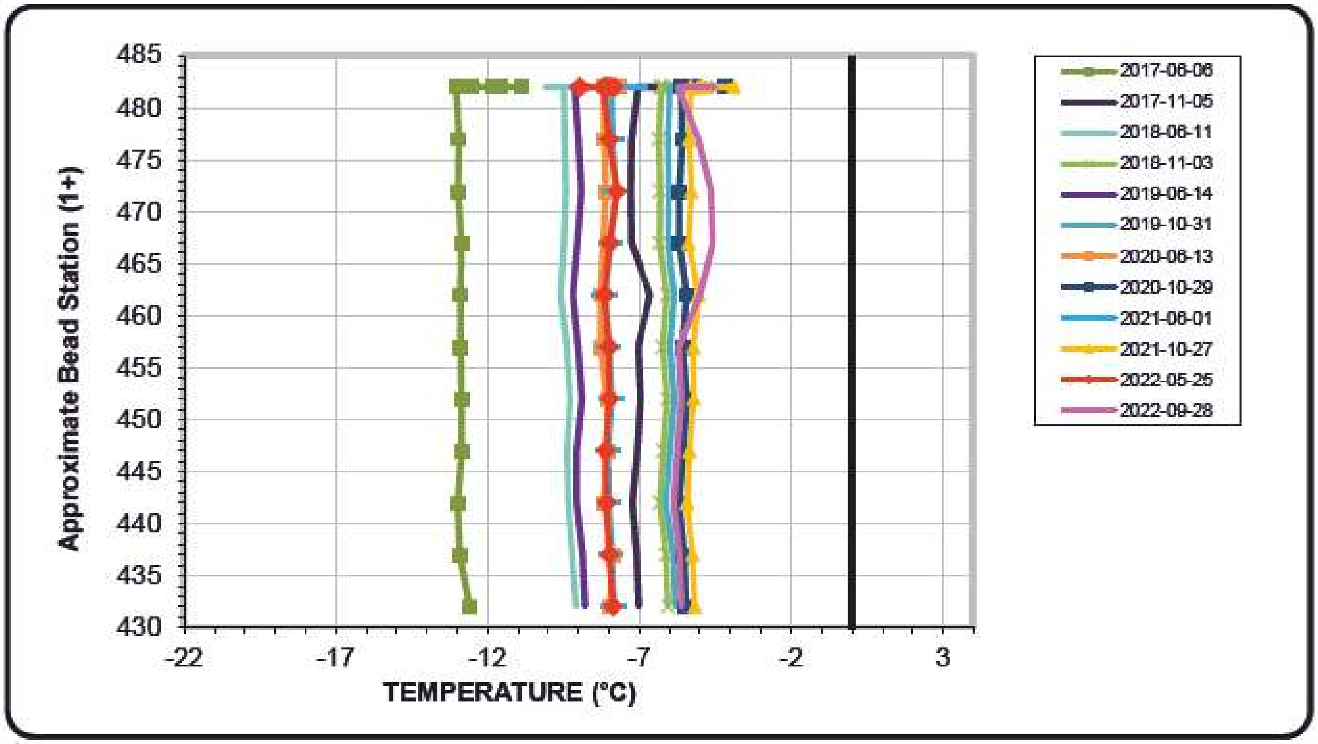


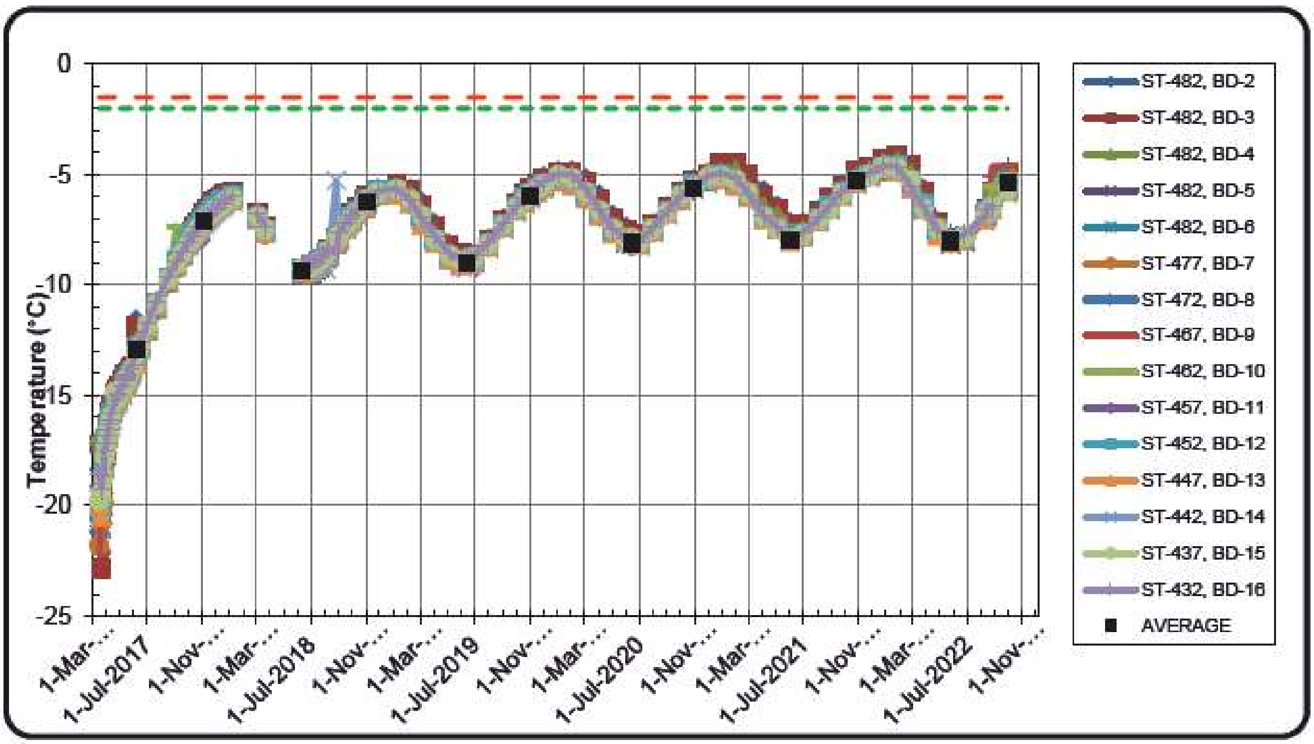
Serial No.: 2597
Date Installed: March 14, 2017

EBA File No: E14103230.01-023

TETRA TECH

Horizontal Ground Temperature Profile for Cable HGTC-03
Dike D-CP1



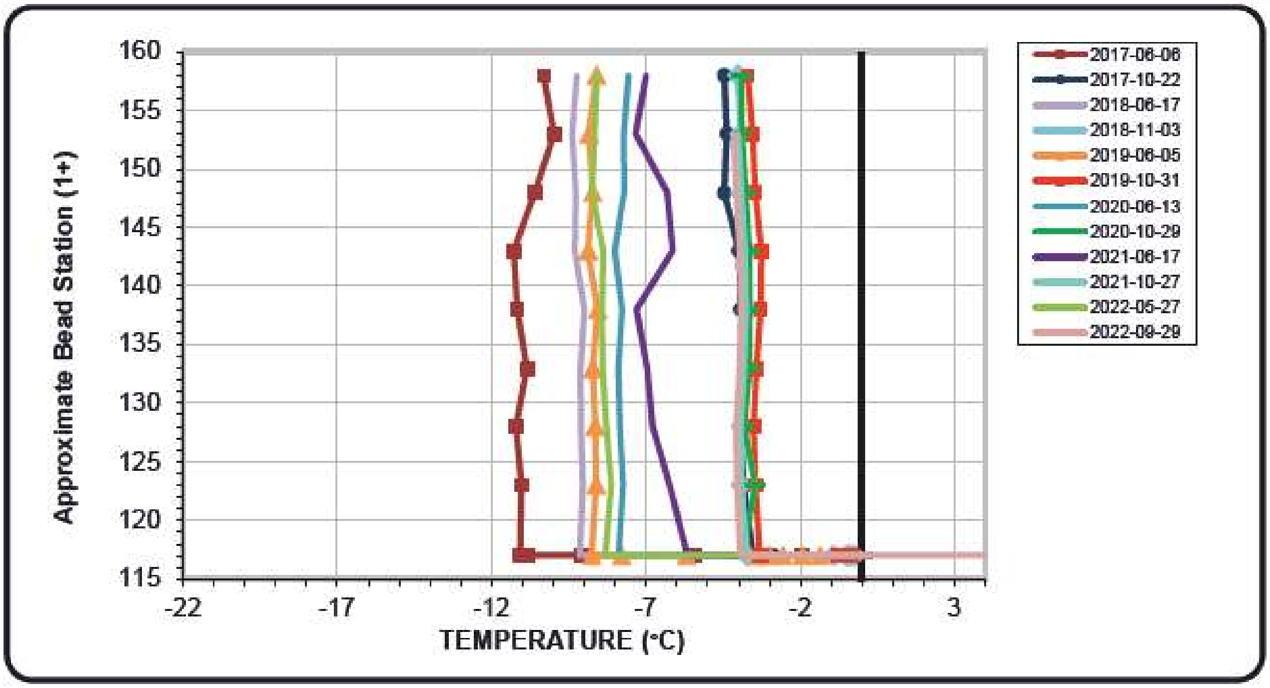


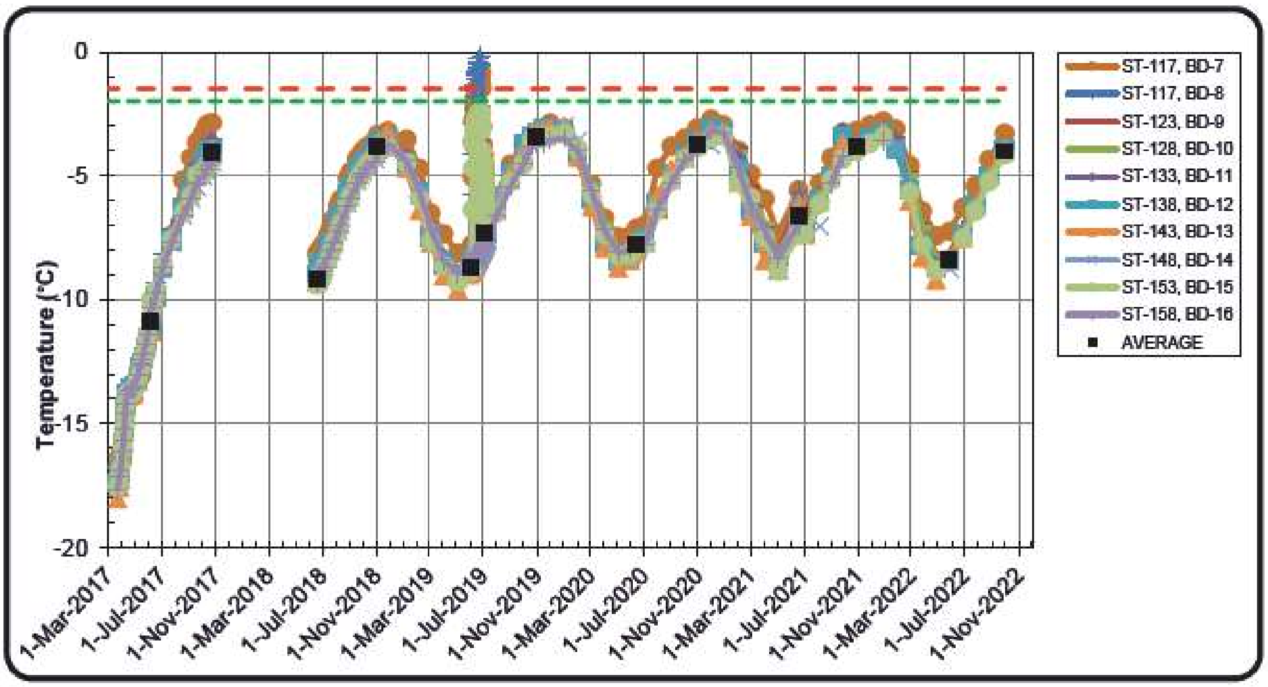
Serial No.: 2598
Date Installed: March 16, 2017

EBA File No: E14103230.01-023

TETRA TECH

Horizontal Ground Temperature Profile for Cable HGTC-04
Dike D-CP1

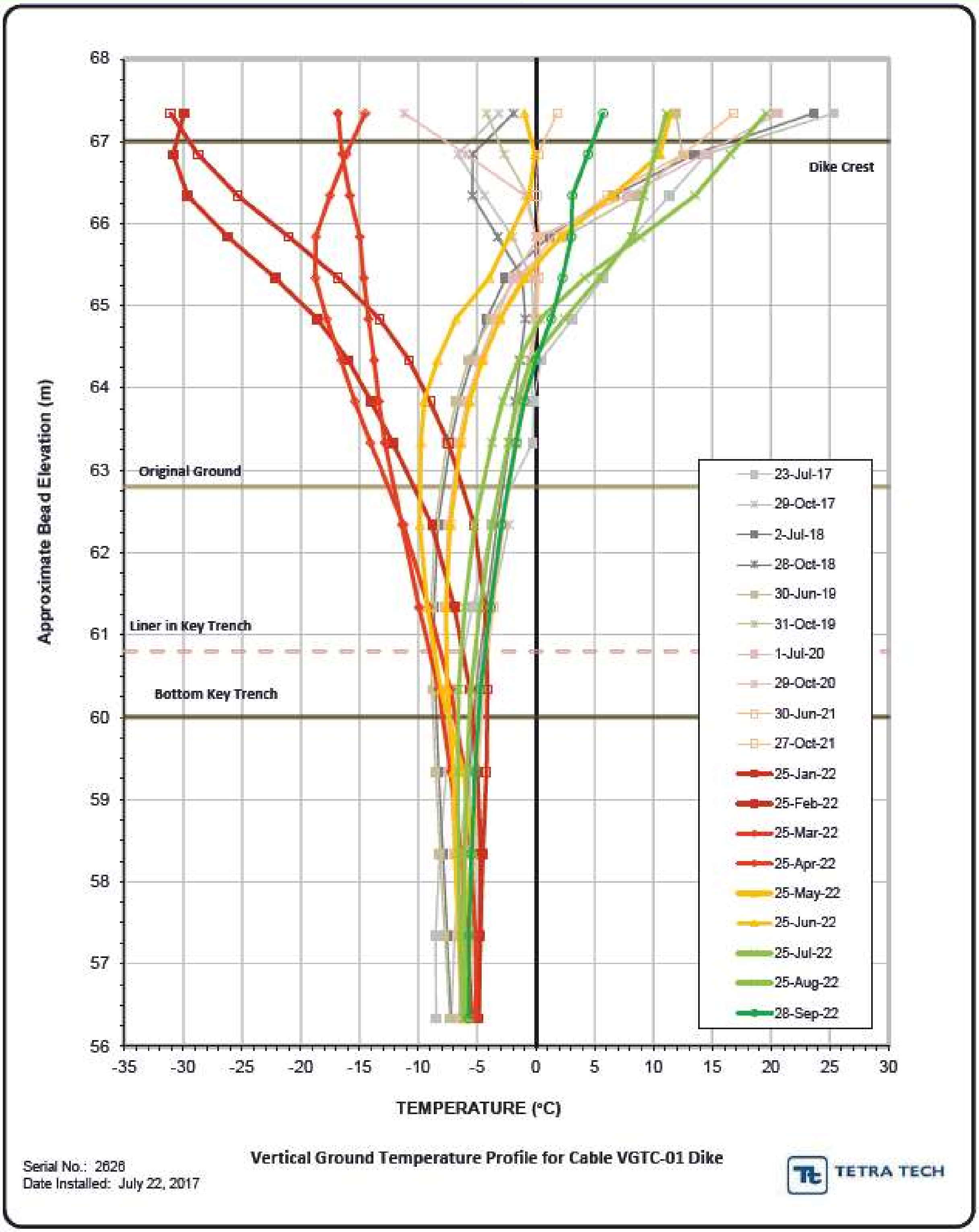




EBA File No: E14103230.01-023

Serial No.: 2599
Date Installed: March 2, 2017

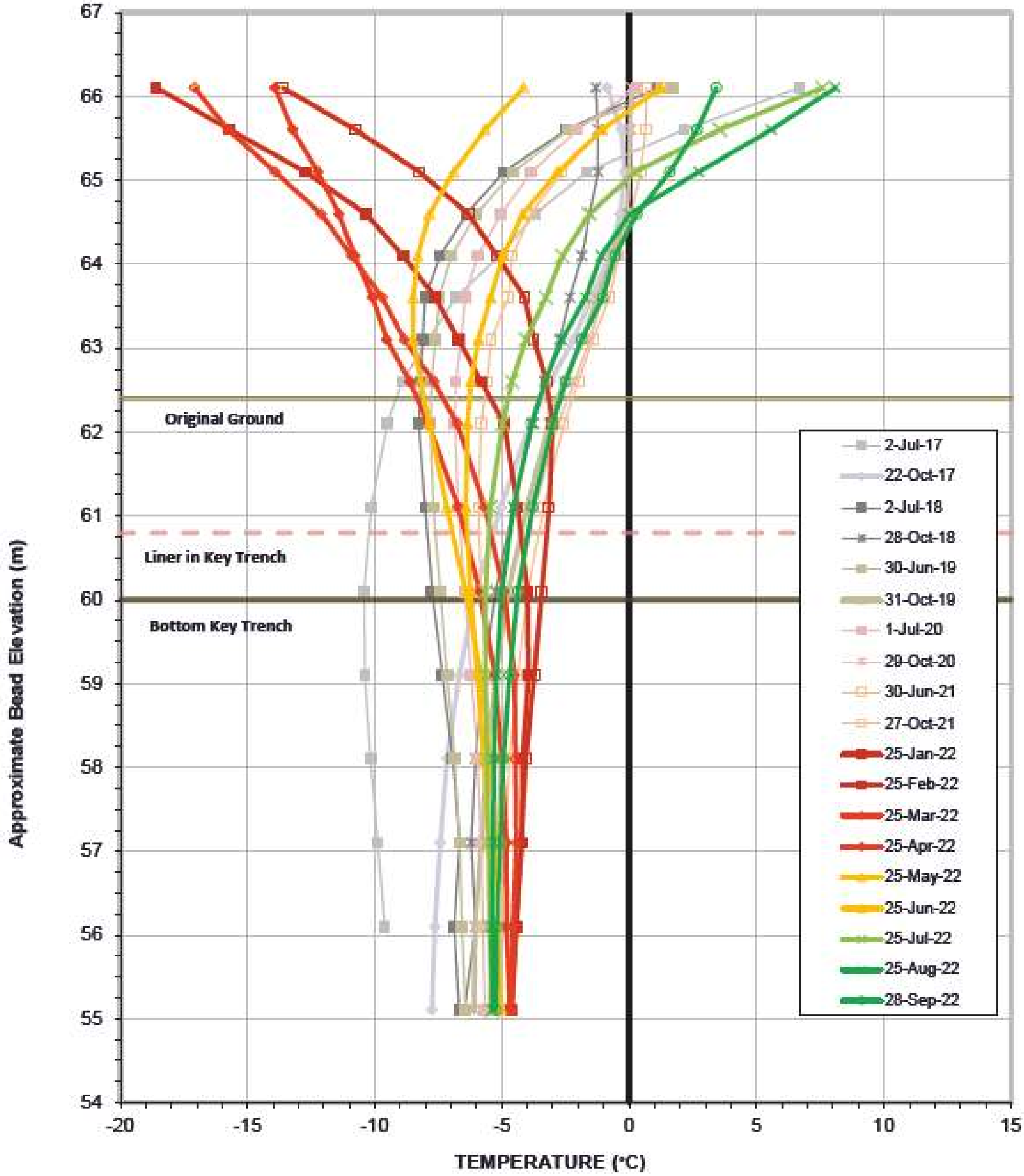
Horizontal Ground Temperature Profile for Cable HGTC-05
Dike D-CP1



Vertical Ground Temperature Profile for Cable VGTC-01 Dike

Average Annual Temperature at Various Elevations

Location	November 2017 - November 2018	November 2018 - November 2019	November 2019 - November 2020	November 2020 - November 2021
Bottom of Cable	-7.0	-6.8	-6.0	-5.7
Liner Base Elevation	-6.8	-7.5	-6.1	-6.0



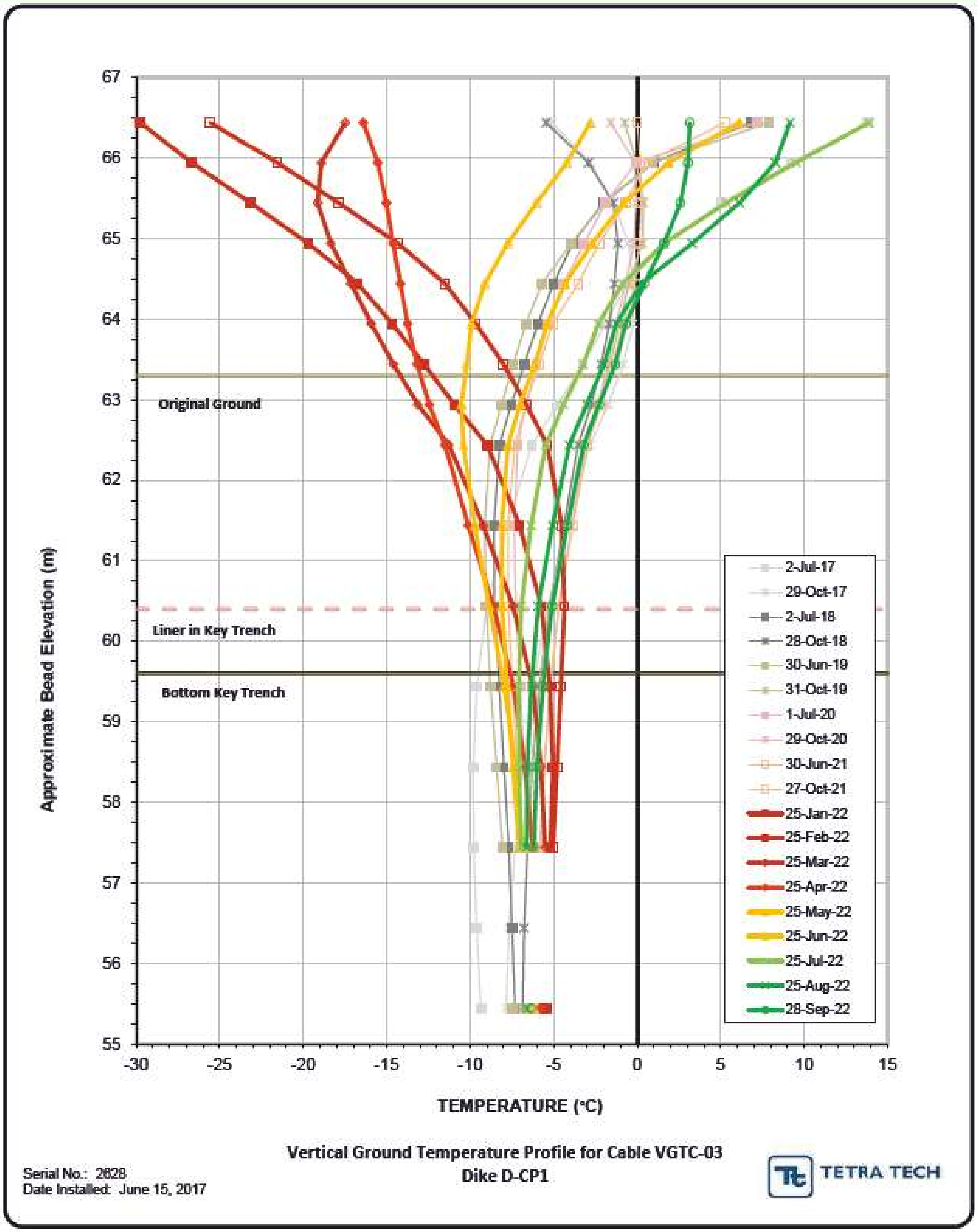
Serial No.: 2827
Date Installed: June 16, 2017

Vertical Ground Temperature Profile for Cable VGTC-02 Dike D-CP1

TETRA TECH

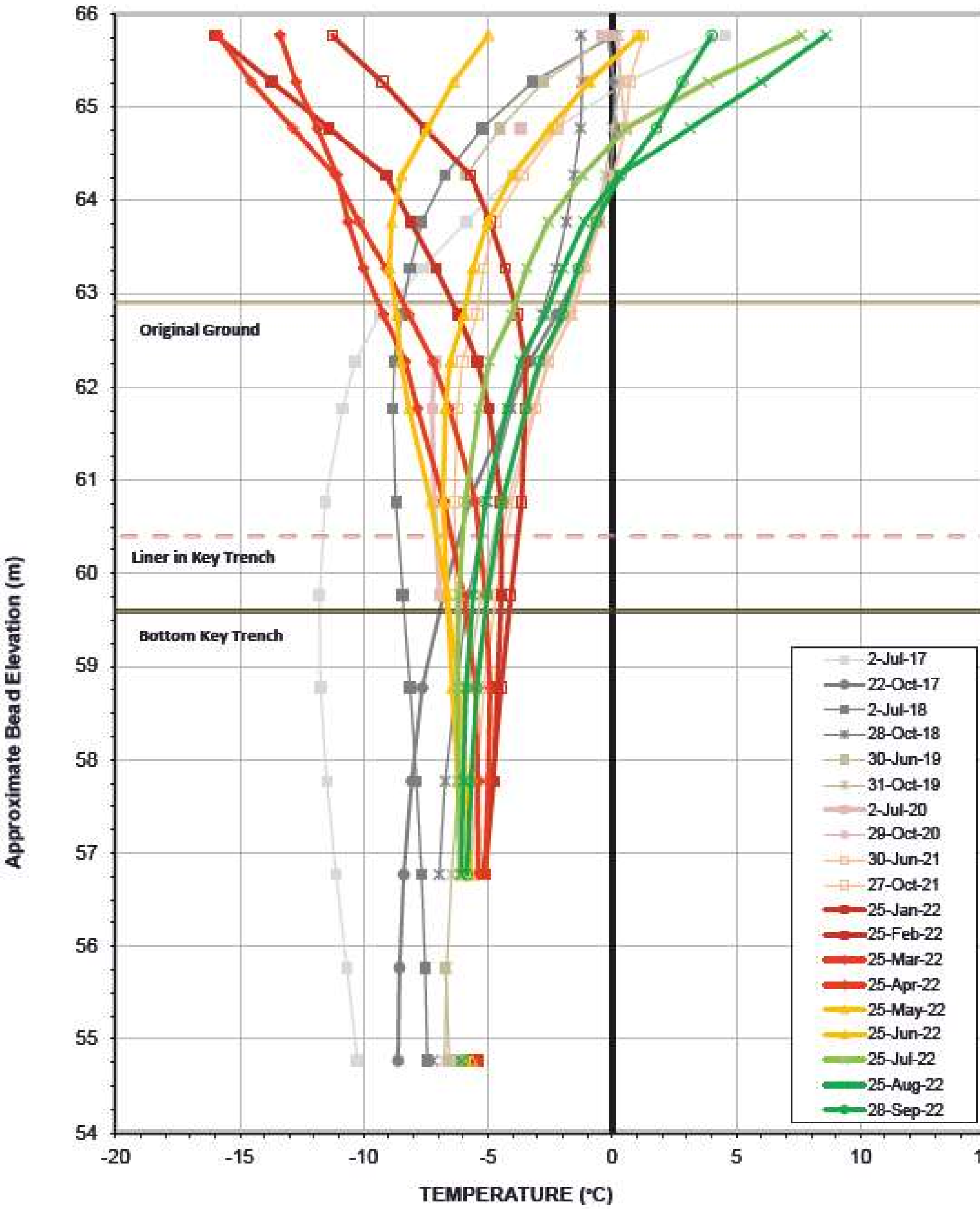
Average Annual Temperature at Various Elevations

Location	November 2017 - November 2018	November 2018 - November 2019	November 2019 - November 2020	November 2020 - November 2021
Bottom of Cable	-6.9	-6.2	-5.6	-5.2
Liner Base Elevation	-6.9	-6.3	-5.3	-4.8



Average Annual Temperature at Various Elevations

Location	November 2017 - November 2018	November 2018 - November 2019	November 2019 - November 2020	November 2020 - November 2021
Bottom of Cable	-7.2	-7.0	-6.3	-6.0
Liner Base Elevation	-6.9	-7.2	-5.9	-6.1



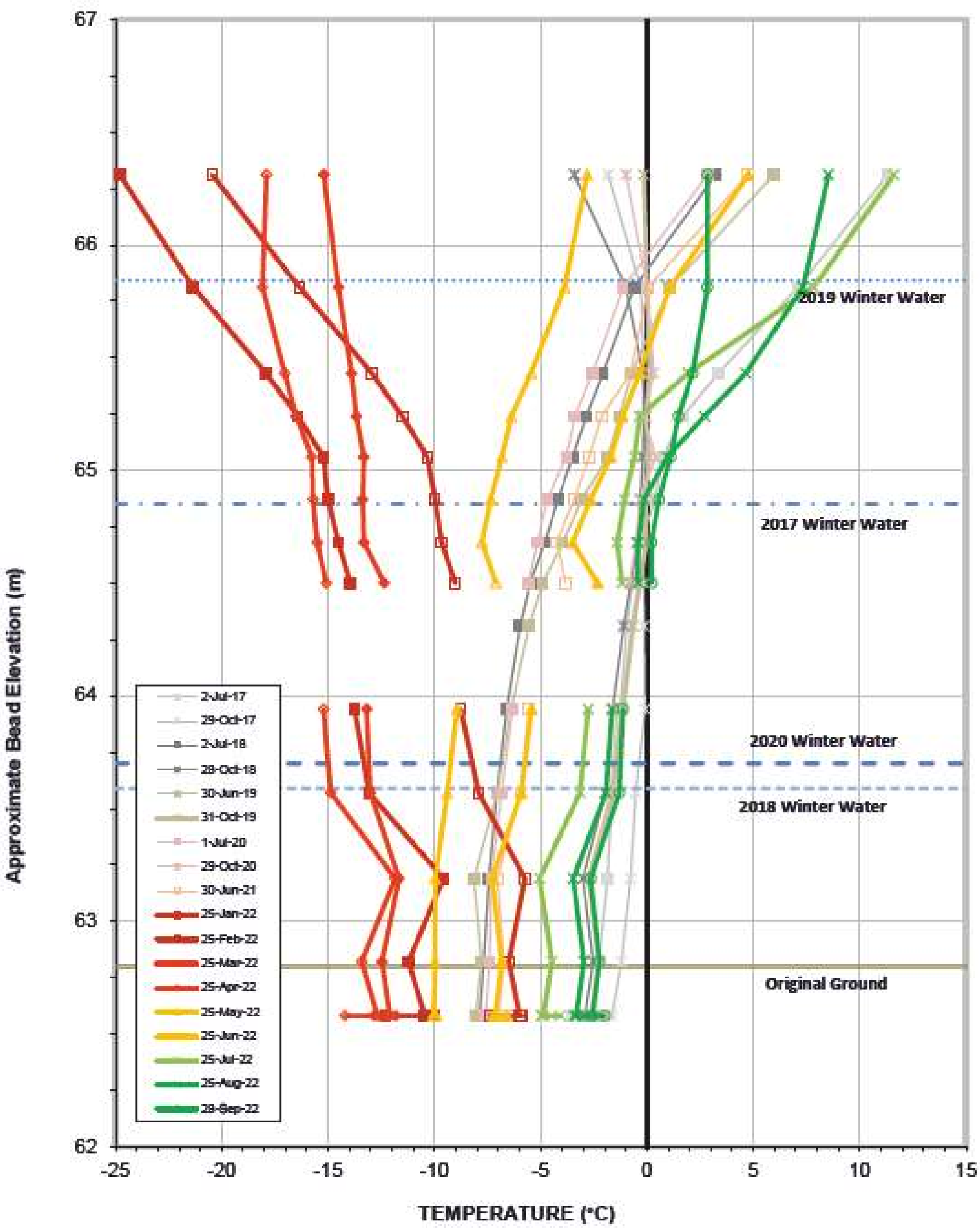
Vertical Ground Temperature Profile for Cable VGTC-04
Dike D-CP1

Serial No.: 2629
Date Installed: June 15, 2017

TETRA TECH

Average Annual Temperature at Various Elevations

Location	November 2017 - November 2018	November 2018 - November 2019	November 2019 - November 2020	November 2020 - November 2021
Bottom of Cable	-7.3	-6.7	-6.4	-5.9
Liner Base Elevation	-7.0	-6.3	-5.7	-5.2



Vertical Ground Temperature Profile for Cable VGTC-05
Dike D-CP1

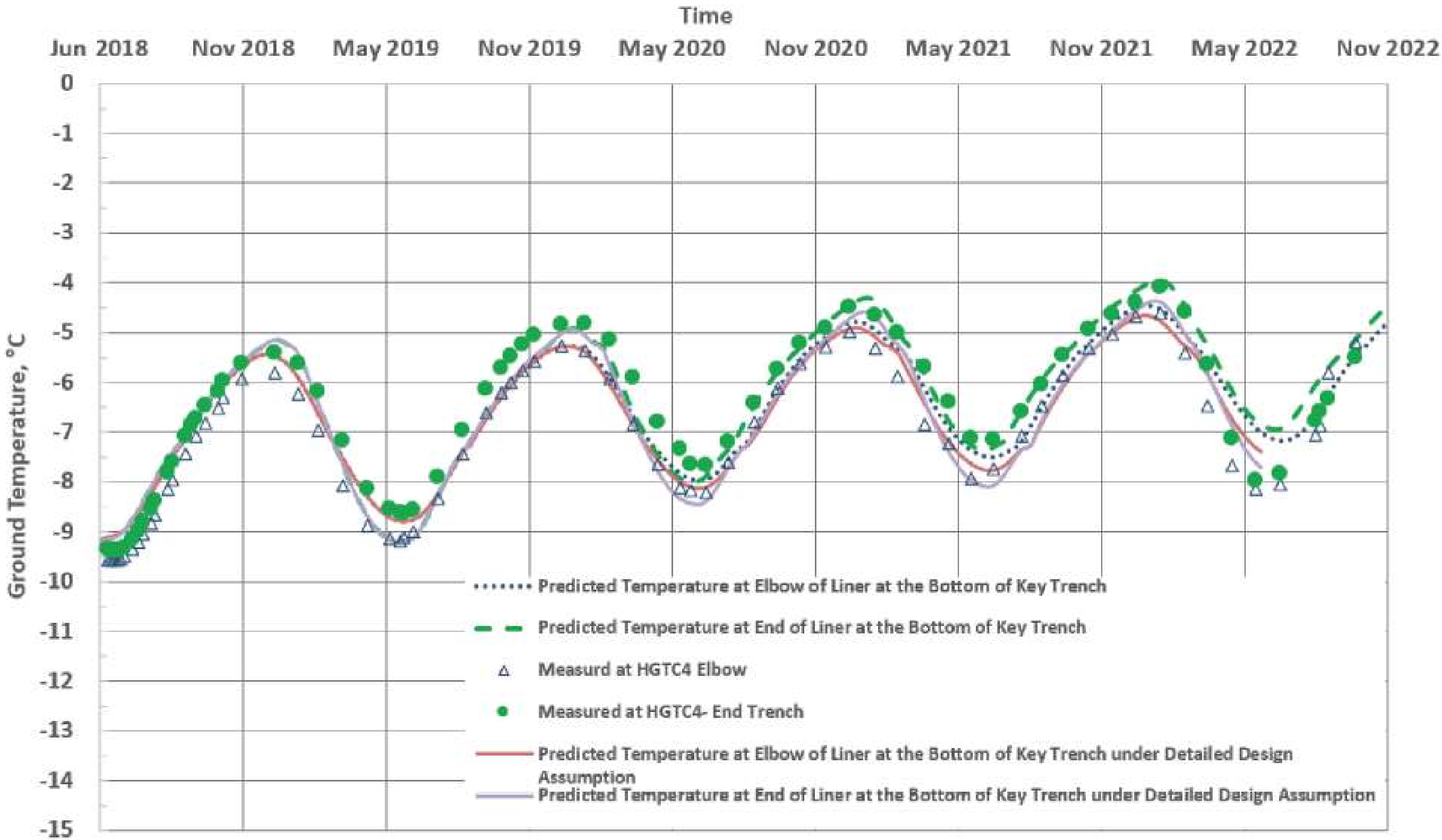
Serial No.: 2630
Date Installed: May 16, 2017

TETRA TECH

Average Annual Temperature at Bottom of Cable

Location	November 2017 - November 2018	November 2018 - November 2019	November 2019 - November 2020	November 2020 - November 2021
Temperature (°C)	-6.1	-6.6	-6.3	-6.3

Q:\Edmonton\Engineering\E141\Projects_MELIADINE\ENG.EARC03140-31 2022 Annual Inspection\D-CP1 GTC Plots.dwg [FIGURE 1] December 20, 2022 - 11:49:47 pm (BY: LALLI, JASMINE)



NOTES

STATUS
ISSUED FOR REVIEW

CLIENT

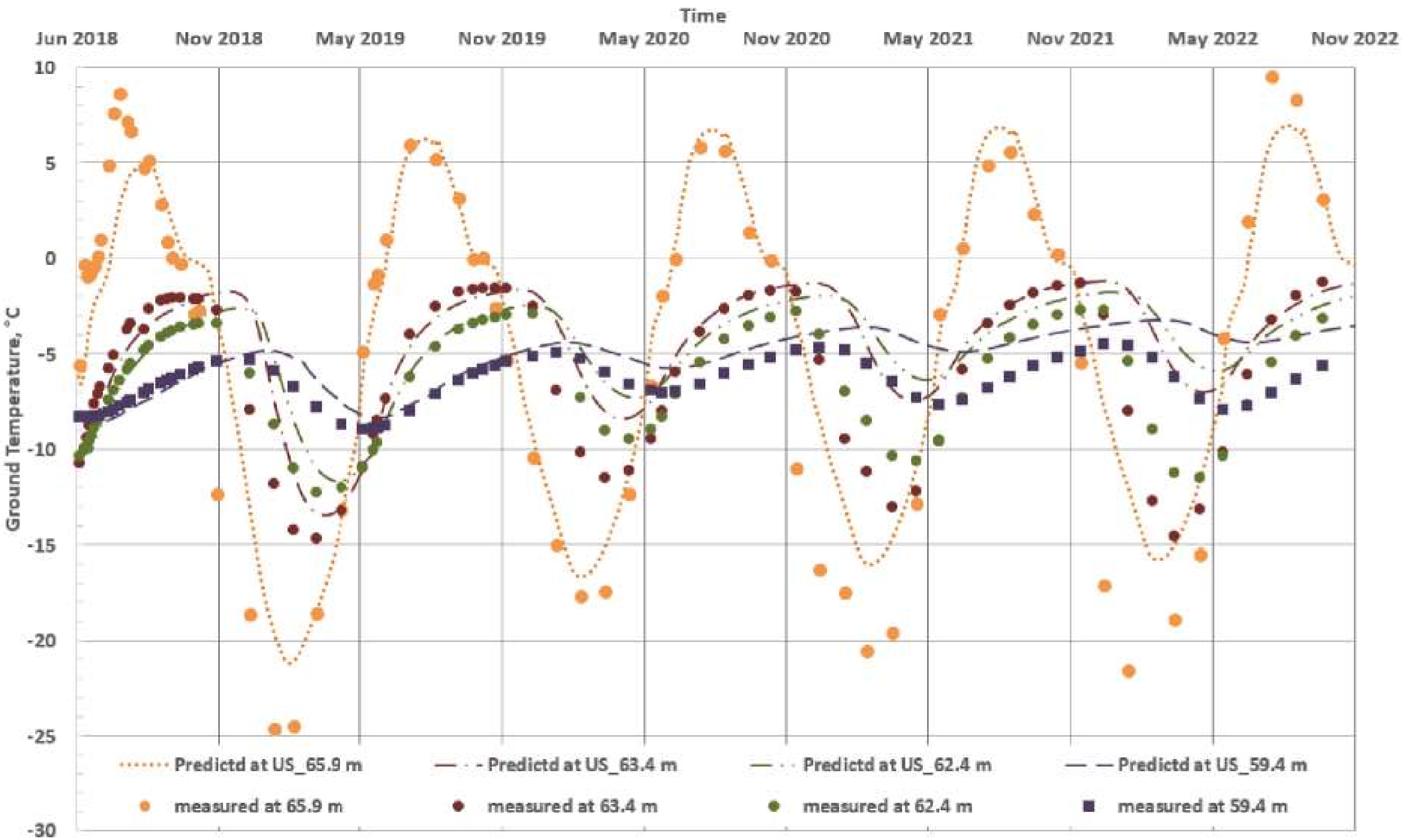
AGNICO EAGLE

TETRA TECH

ANNUAL GEOTECHNICAL INSPECTION 2022
MELIANDINE PROJECT, NU

D-CP1 Predicted and Actual Temperature with Time at the Elbow and End of the Liner at the Bottom of Key Trench for Thermal Update and Detailed Design Condition

PROJECT NO.	DWN	CKD	REV	
EARC03140-31	JL	WTH	0	Figure 1
OFFICE	DATE			
EDM	December 2022			



NOTES

STATUS
ISSUED FOR REVIEW

CLIENT
AGNICO EAGLE

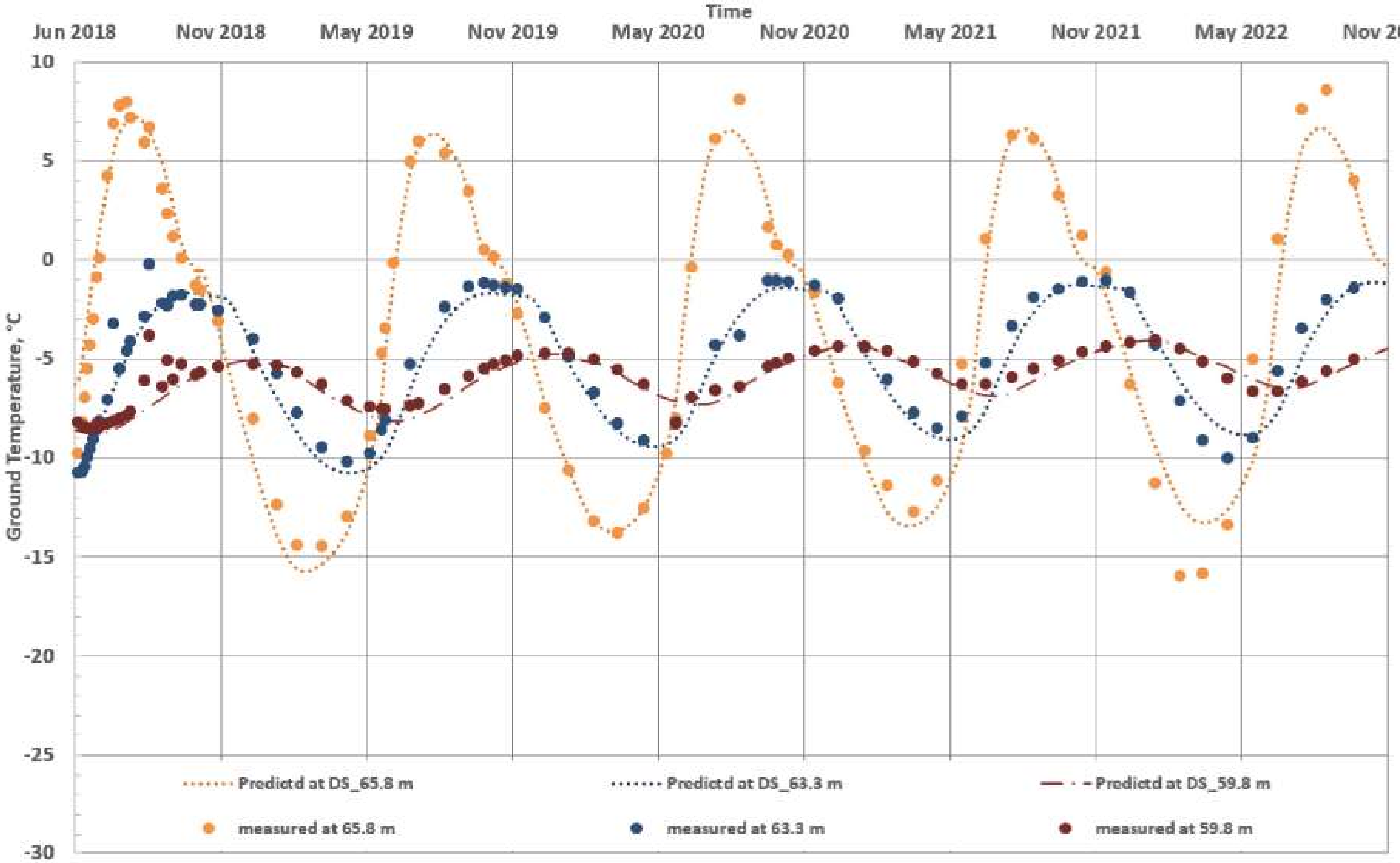
TETRA TECH

ANNUAL GEOTECHNICAL INSPECTION 2022
MELIANDINE PROJECT, NU

D-CP1 Temperature Comparison at VGTC3 (Upstream Side)

PROJECT NO.	DWN	CKD	REV
EARC03140-31	JL	WTH	0
OFFICE	DATE		
EDM	December 2022		

Figure 2



NOTES

STATUS
ISSUED FOR REVIEW

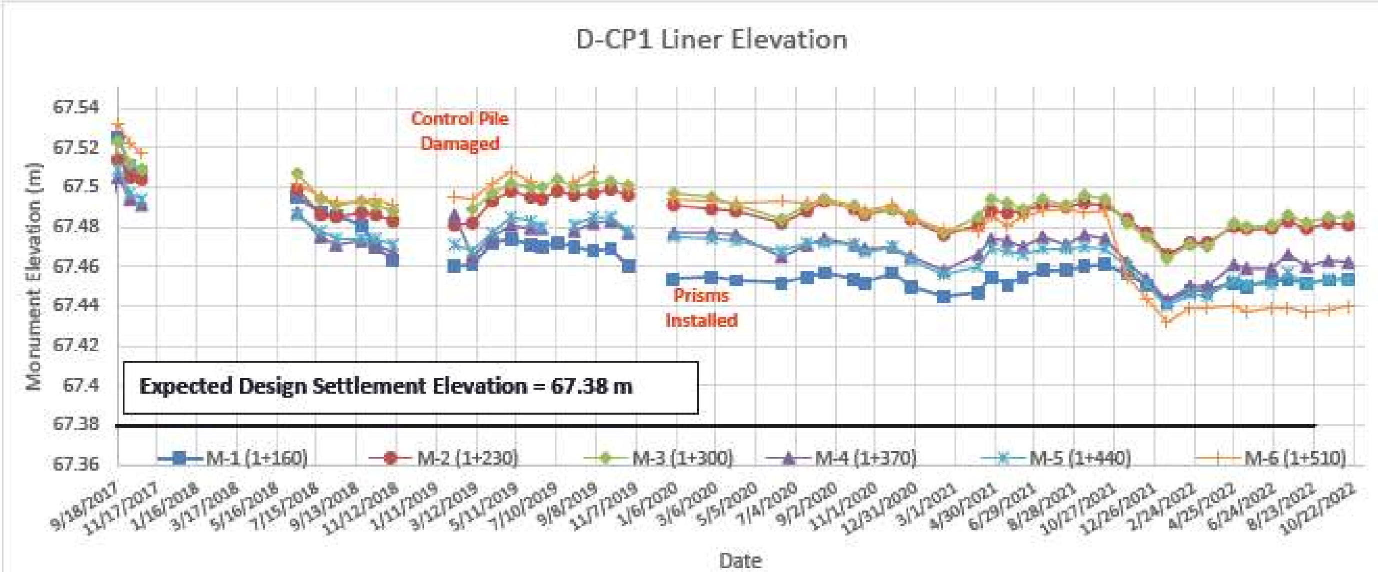
CLIENT
AGNICO EAGLE

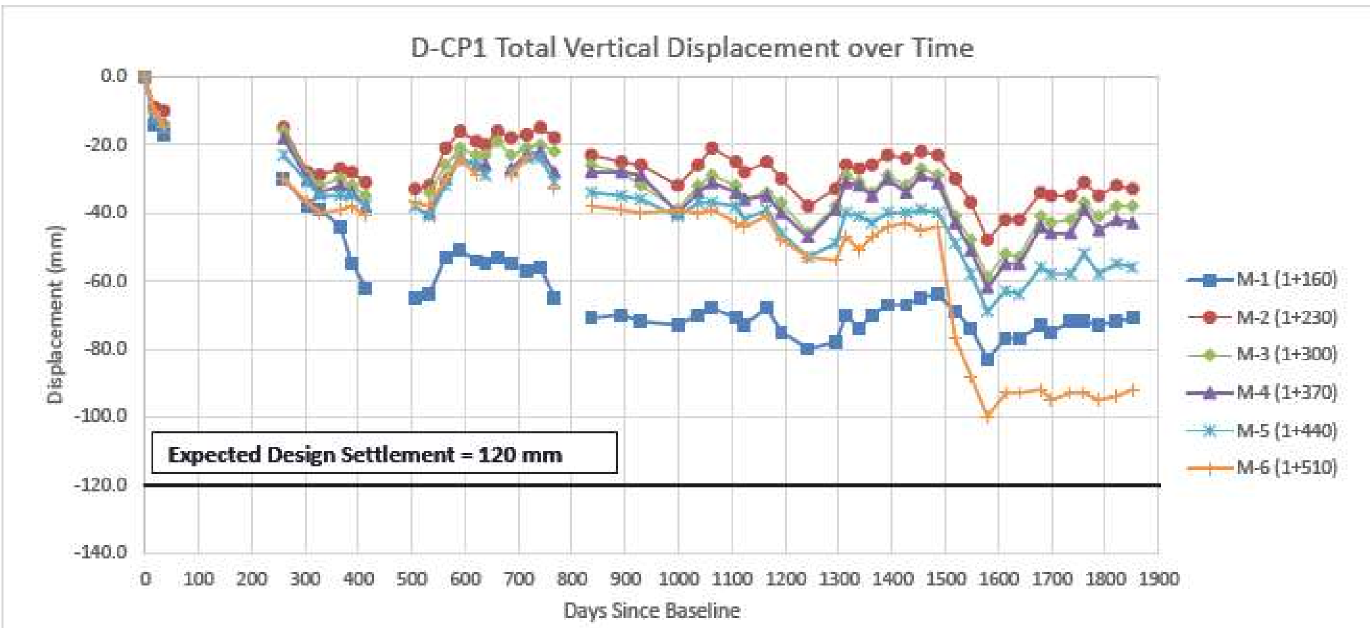
TETRA TECH

ANNUAL GEOTECHNICAL INSPECTION 2022
MELIANDINE PROJECT, NU

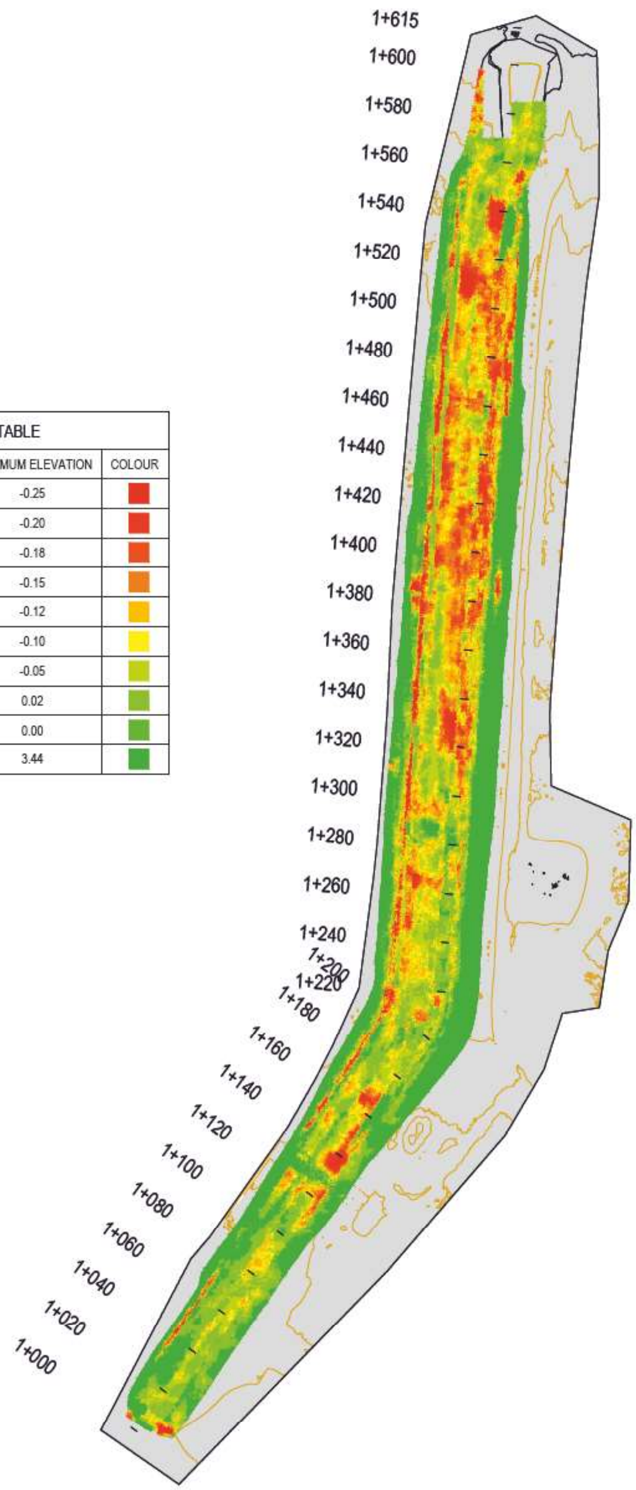
D-CP1 Temperature Comparison at VGTC4
(Downstream Side)

PROJECT NO.	DWN	CKD	REV	
EARC03140-31	JL	WTH	0	Figure 3
OFFICE	DATE			
EDM	December 2022			





Note: Elevations from Baseline Total Station Readings Only



ELEVATION TABLE			
NUM	MINIMUM ELEVATION	MAXIMUM ELEVATION	COLOUR
1	-0.58	-0.25	
2	-0.25	-0.20	
3	-0.20	-0.18	
4	-0.18	-0.15	
5	-0.15	-0.12	
6	-0.12	-0.10	
7	-0.10	-0.05	
8	-0.05	0.02	
9	-0.02	0.00	
10	0.00	3.44	

0 100 m
Scale: 1: 2 000

NOTES
COMPARISON OF D-CP1 ORIGINAL AS-BUILD SHELL AND 2022-11-09 SCAN PROVIDED BY CLIENT.

STATUS
ISSUED FOR REVIEW

CLIENT
AGNICO EAGLE
TETRA TECH

2022 ANNUAL GEOTECHNICAL INSPECTION
MELIADINE MINE, NT

D-CP1 Elevation Map
Plan View

PROJECT NO.	DWN	CKD	REV
EARC03140-31	RO	-	0

OFFICE: EDM
DATE: December 23, 2022

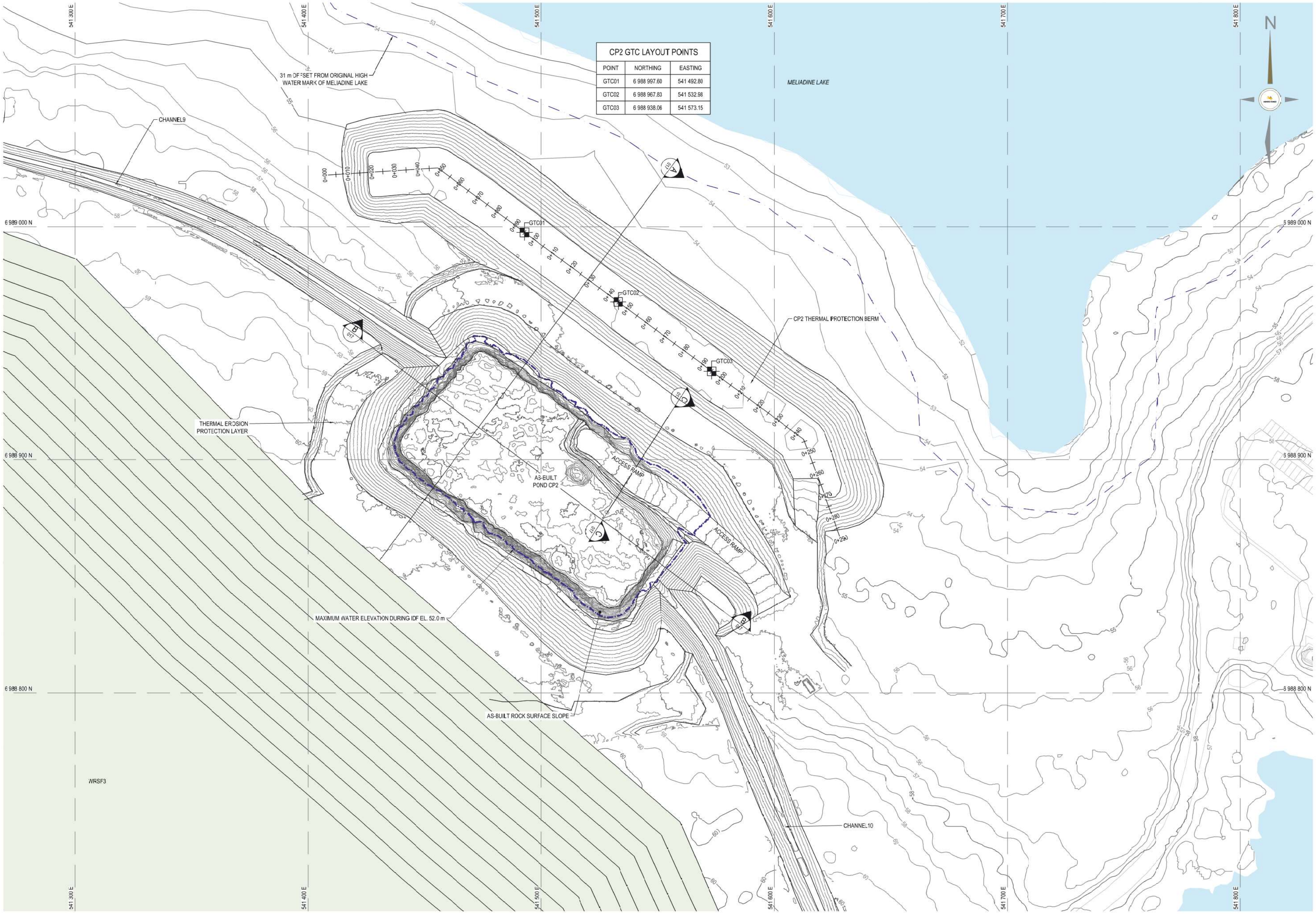
Figure 1

APPENDIX C

POND CP2, CHANNELS, AND BERMS

NO. DESSIN
DRAWING NO. 65-695-230-013

FORMAT ARCHD



CP2 GTC LAYOUT POINTS

POINT	NORTHING	EASTING
GTC01	6 988 997.60	541 492.80
GTC02	6 988 967.83	541 532.98
GTC03	6 988 938.06	541 573.15

PLAN CLÉ
KEY PLAN

TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

1. ASSUMED CONSTRUCTION SCHEDULE WINTER 2021/2022.
2. ASSUMED OPERATION SCHEDULE STARTING TO STORE WATER FROM FRESHET OF 2022.
3. POND DESIGN CAPACITY IS BASED ON STORING 3/7 OF FRESHET WATER UNDER 1:100 WET YEAR CONDITION.
4. THE MAXIMUM ALLOWABLE OPERATING WATER LEVEL IS ELEVATION 52.7 m. THE MAXIMUM WATER LEVEL IS ELEVATION 52.0 m UNDER THE DESIGN IDF CONDITION.
5. MATERIAL PLACEMENT AND FOUNDATION PREPARATION SHOULD BE IN ACCORDANCE WITH THE REQUIREMENTS OF CP2, CP2 THERMAL BERM, CHANNEL9 AND CHANNEL10 GEOTECHNICAL CONSTRUCTION / MATERIAL SPECIFICATIONS (TETRA TECH 2021).
6. THE SINGLE-LANE RAMP HAS A MINIMUM ROAD WIDTH OF 7.0 m (FOR VOLVO A40F OR CAT 745 HAUL TRUCKS OR SMALLER EQUIPMENT).

TEL QUE CONSTRUIT
AS BUILT
DATE : 2022-07-29
AGNICO EAGLE

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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–	–
–	–

AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
1	2022-07-29	RECORD DRAWINGS	EL	HX	
0	2021-10-18	ISSUED FOR CONSTRUCTION	RO	WTH	
A	2021-09-27	ISSUED FOR REVIEW	RO	WTH	

REVISIONS

TITRE / TITLE
AS-BUILT REPORT FOR CHANNEL9, CHANNEL10, POND CP2, AND BERM CP2

CP2 AND CP2 THERMAL BERM LAYOUT PLAN

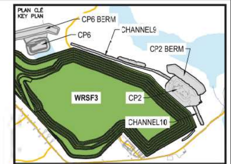
DESSINÉ PAR / DRAWN BY	EL	DATE 2021-09-27
VERIFIÉ PAR / CHECKED BY	RO	2021-09-27
APPROUVÉ PAR / APPROVED BY	WTH	2021-09-27
ÉCHELLE / SCALE	1:750	DATE 2021-09-27
NO. DESSIN / DRAWING NO.	65-695-230-013	
NO. PROJET / PROJECT NO. 6526	REVISION 0	FEUILLE / SHT 1/9

AE-CART-ARCH D

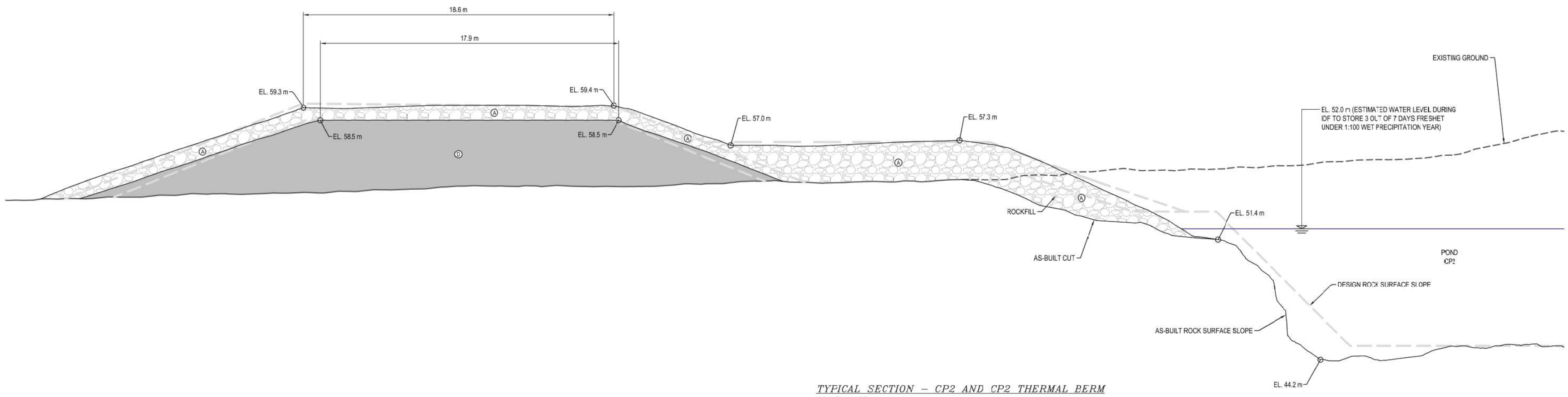
C:\Users\elvin.lee\OneDrive - Tetra Tech, Inc\Project Data\ENG.EARC03140-28 CP2 As-built\Production Drawings\65-695-230-013.dwg-2013-02-19 14:03:29

FILE NO. 65-695-230-013.dwg

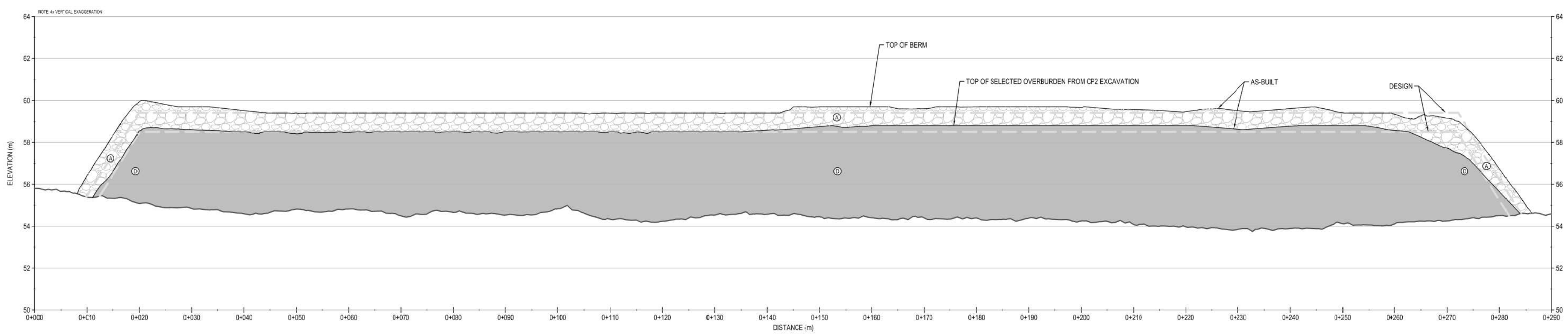
NO. DESSIN DRAWING NO. 65-695-230-014



TETRA TECH



TYPICAL SECTION – CP2 AND CP2 THERMAL BERM
SCALE: 1:125



CP2 – THERMAL BERM PROFILE
SCALE: H-1:400 V-1:100

NOTES GÉNÉRALES / GENERAL NOTES

1. ASSUMED CONSTRUCTION SCHEDULE WINTER 2021 /2022
2. ASSUMED OPERATION SCHEDULE STARTING TO STORE WATER FROM FRESHET OF 2022.
3. POND DESIGN CAPACITY IS BASED ON STORING 3 OUT OF 7 FRESHET WATER UNDER 1:100 WET YEAR CONDITION.
4. THE MAXIMUM ALLOWABLE OPERATING WATER LEVEL IS ELEVATION 52.7 m. THE MAXIMUM WATER LEVEL IS ELEVATION 52.0 m UNDER THE DESIGN IDF CONDITION.
5. MATERIAL PLACEMENT AND FOUNDATION PREPARATION SHOULD BE IN ACCORDANCE WITH THE REQUIREMENTS OF CP2, CP2 THERMAL BERM, CHANNEL9 AND CHANNEL10 GEOTECHNICAL CONSTRUCTION / MATERIAL SPECIFICATIONS (TETRA TECH 2021).

LEGEND

Ⓐ CLEAN ROCKFILL FROM EXCAVATION (600 mm MINUS)
Ⓓ OVERBURDEN FROM EXCAVATION (300 mm MINUS)

TEL QUE CONSTRUIT
AS BUILT
AGNICO EAGLE DATE : 2022-07-29

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
–	–
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
1	2022-07-29	RECORD DRAWINGS	EL	HX	
0	2021-10-18	ISSUED FOR CONSTRUCTION	RO	WTH	
A	2021-09-27	ISSUED FOR REVIEW	RO	WTH	

REVISIONS

TITRE / TITLE
AS-BUILT REPORT FOR CHANNEL9, CHANNEL10, POND CP2, AND BERM CP2

CP2 TYPICAL SECTION AND CP2 THERMAL PROTECTION BERM PROFILE

DESSINÉ PAR / DRAWN BY	EL	DATE 2021-09-27
VERIFIÉ PAR / CHECKED BY	RO	2021-09-27
APPROUVÉ PAR / APPROVED BY	WTH	2021-09-27
ÉCHELLE / SCALE	AS SHOWN	DATE 2021-09-27

NO. DESSIN DRAWING NO. 65-695-230-014

NO. PROJET / PROJECT NO.	REVISION	FEUILLE / SHT
6526	0	2 / 9

AE-CART-ARCH D
FORMAT ARCHD

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FILE NO. 65-695-230-014.dwg

Photo 1: Pond CP2—Looking southwest, WRSF3 in background. Water running into CP2 from Channel 10.

Photo 2: Pond CP2—Looking west, water running into CP2 from Channel 9 on north side.

Photo 3: Pond CP2—Looking south, rockfill covered overburden along east side of CP2.

Photo 4: Pond CP2—Looking south, rockfill covered overburden along west side of CP2.

Photo 5: Pond CP2—Rockfill covering original ground between CP2 and berm.

Photo 6: Pond CP2—Ponding against upstream of CP2 berm on original ground.

Photo 7: Berm CP2—Surface of berm looking north. GTC instrumentation installed on berm.

Photo 8: Berm CP2—Downstream crest of berm looking north.

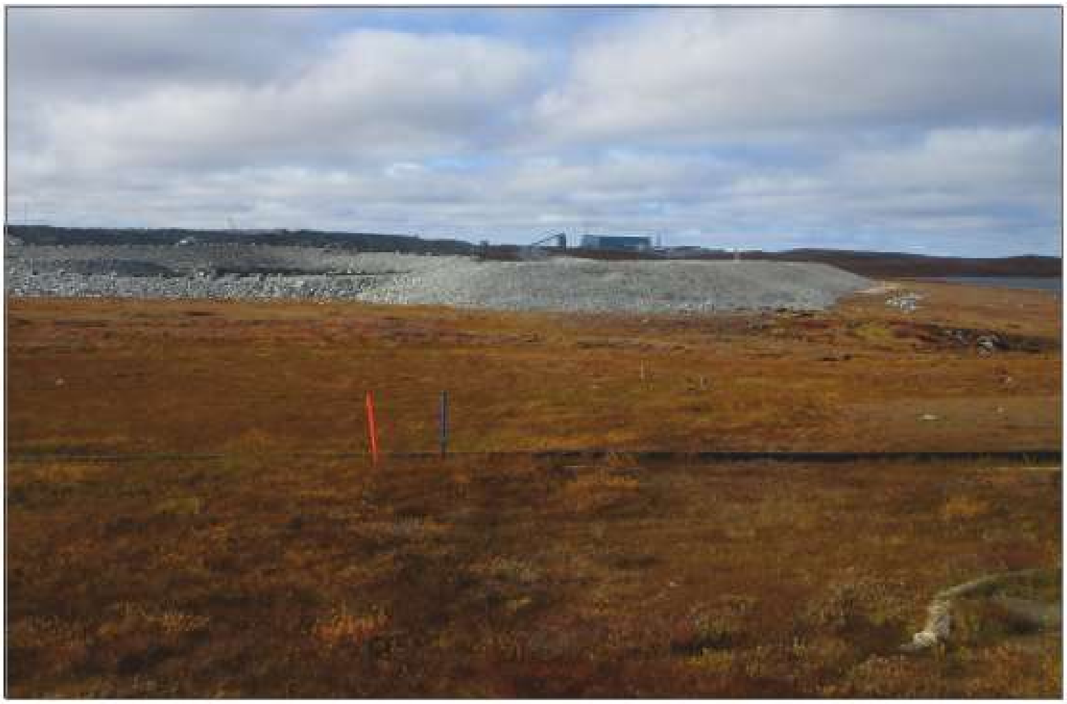
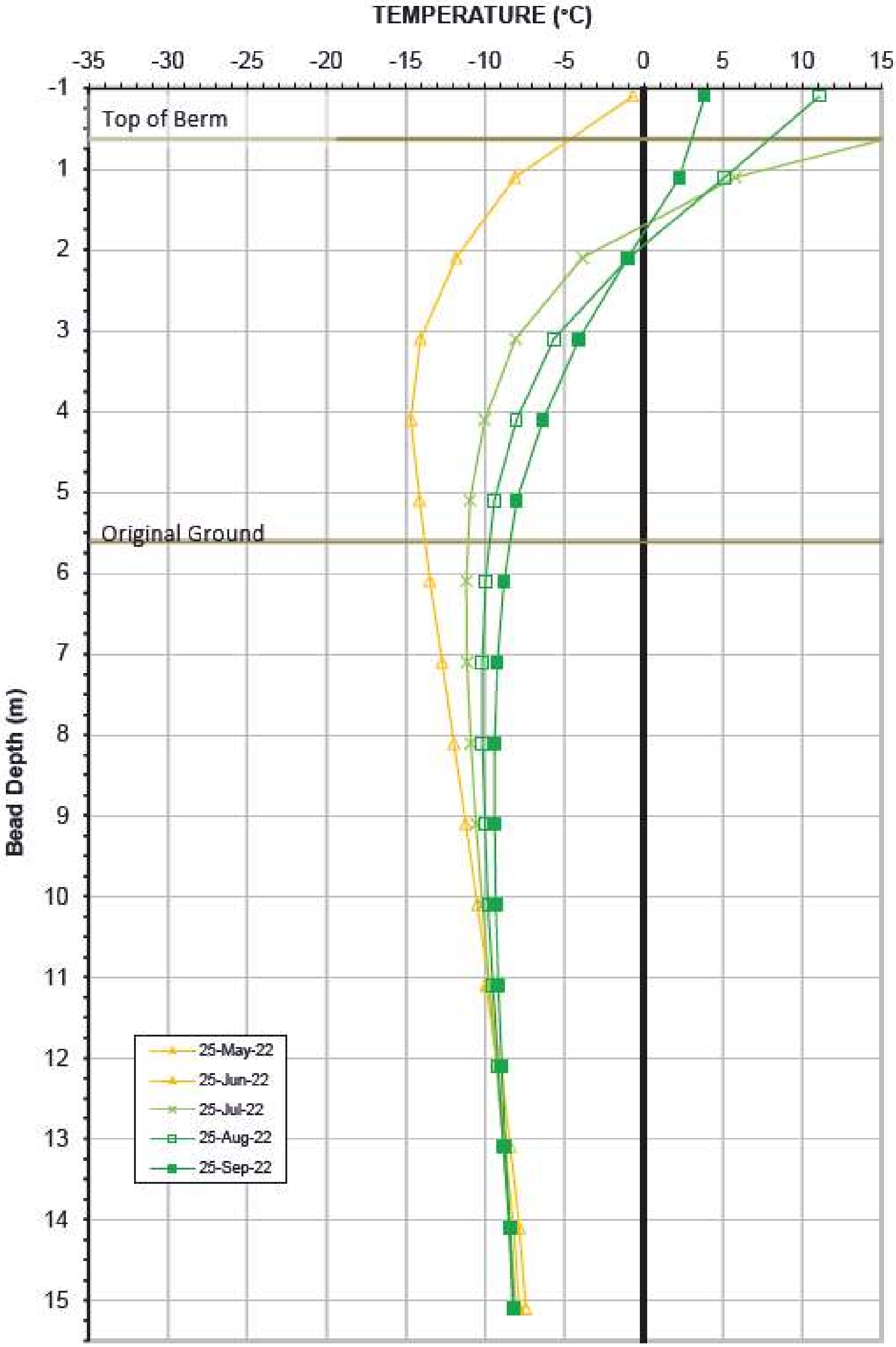


Photo 9: Berm CP2—Overview of berm and downstream area, looking north.

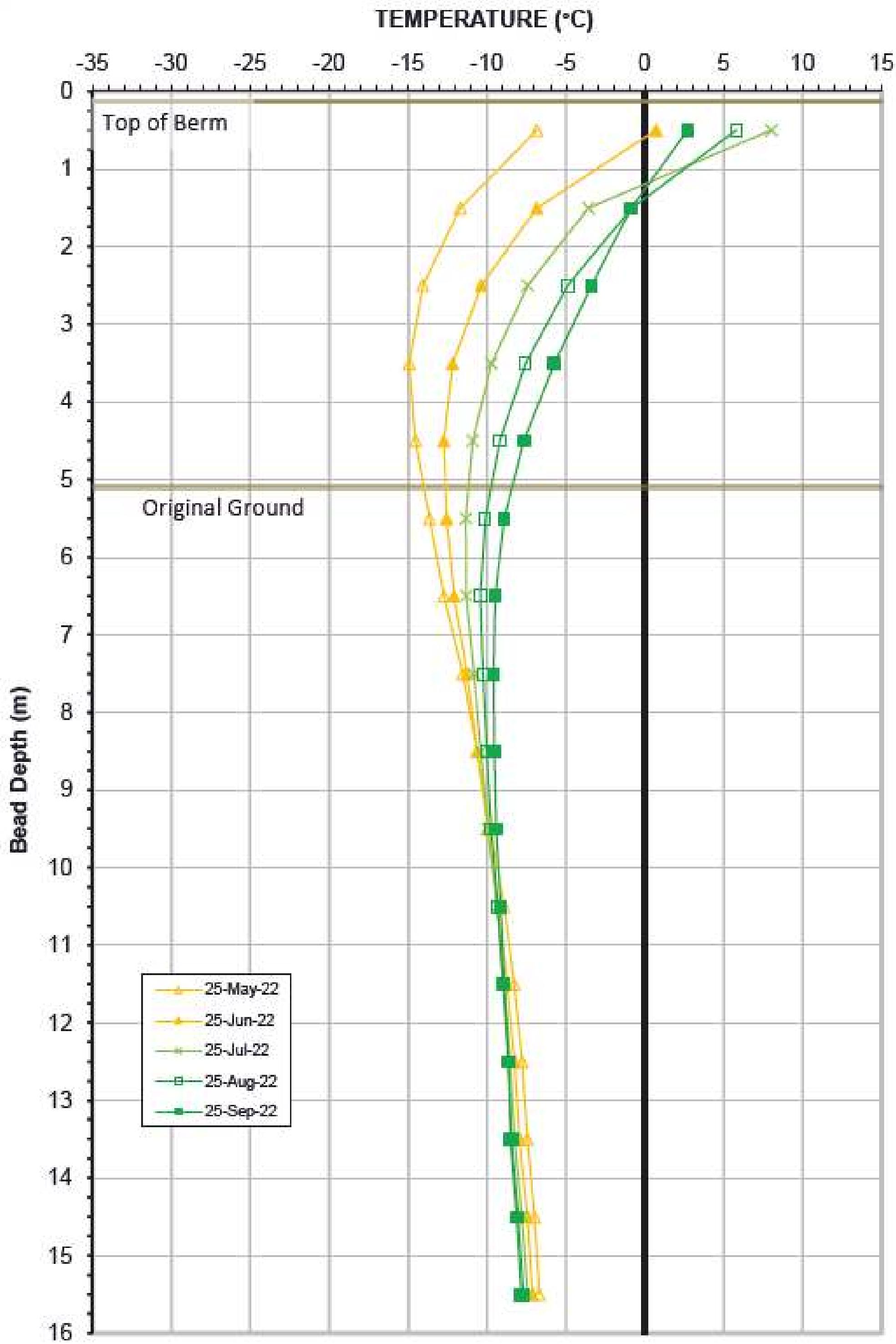
Photo 10: Pond CP2—Settlement underneath rockfill cover near ramp entry, looking south.

Photo 11: Pond CP2 - Access ramp, looking north.



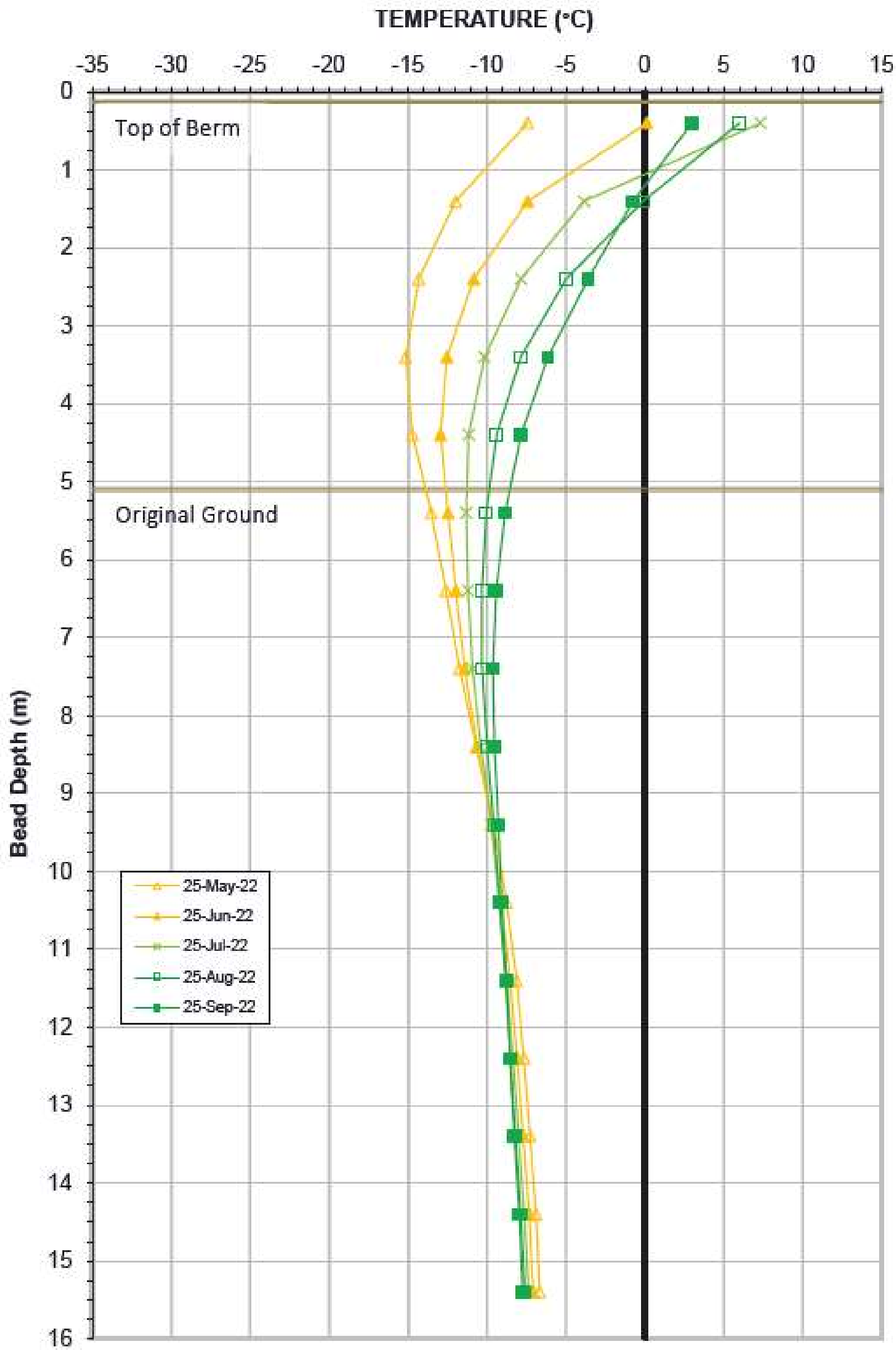
Ground Temperature Profile for Cable GTC-01
Berm CP2

CP2-GTC-01
Date Installed: May 13, 2022



Ground Temperature Profile for Cable GTC-02
Berm CP2

CP2-GTC-02
Date Installed: May 13, 2022



Ground Temperature Profile for Cable GTC-03
Berm CP2

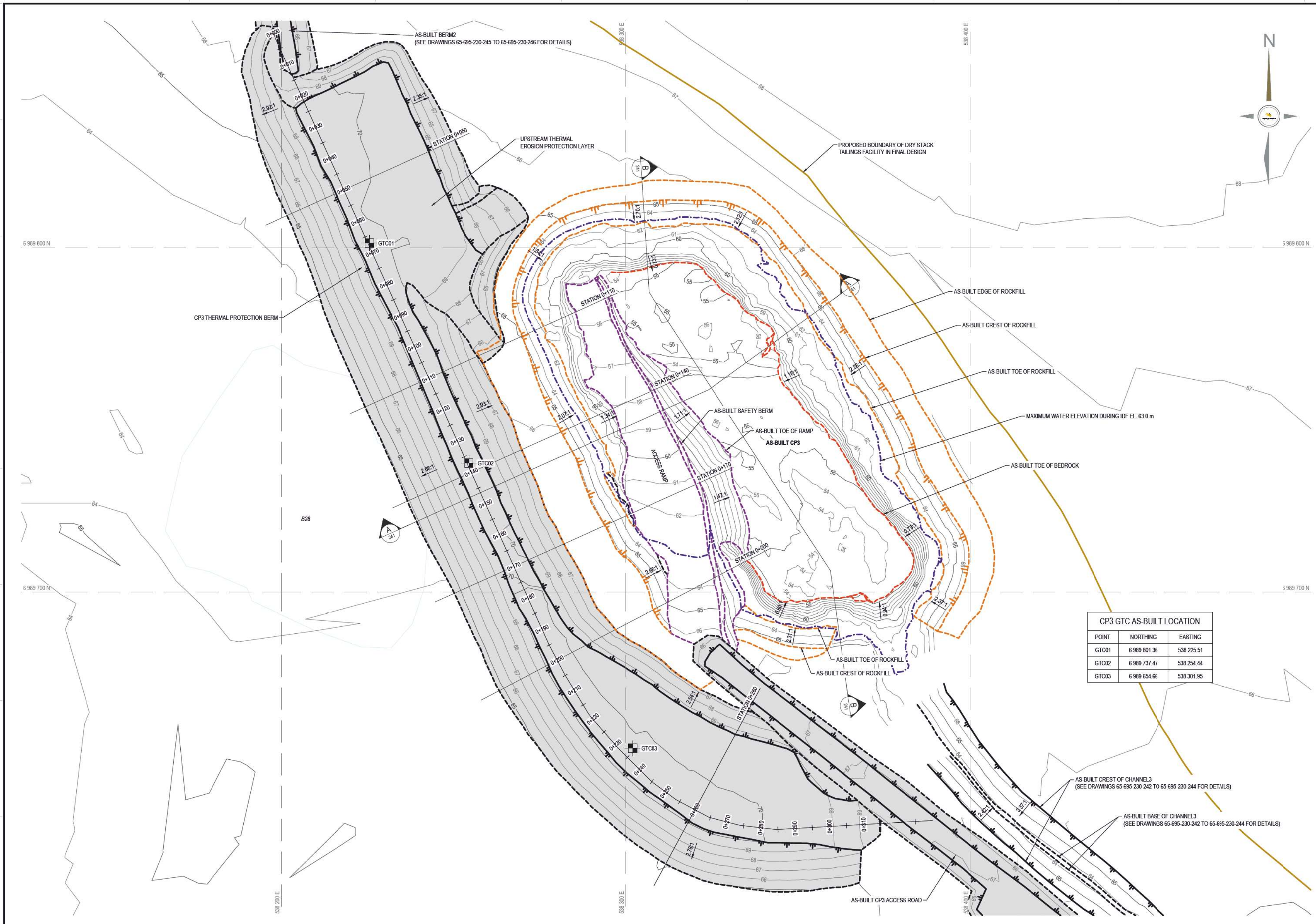
CP2-GTC-03
Date Installed: May 13, 2022

APPENDIX D

POND CP3, CHANNELS, AND BERMS

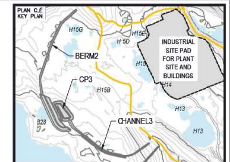
NO. DESSIN DRAWING NO. 65-695-230-238

FORMAT ARCHD



CP3 GTC AS-BUILT LOCATION

POINT	NORTHING	EASTING
GTC01	6 989 801.36	538 225.51
GTC02	6 989 737.47	538 254.44
GTC03	6 989 654.66	538 301.95



TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

1. ASSUMED CONSTRUCTION SCHEDULE WINTER 2018 / 2019
2. ASSUMED OPERATION SCHEDULE STARTING TO STORE WATER FROM FRESHET OF 2019.
3. POND DESIGN CAPACITY IS BASED ON STORING 3 OUT OF 7 FRESHET WATER UNDER 1:100 WET YEAR CONDITION.
4. THE MAXIMUM ALLOWABLE OPERATING WATER LEVEL IS AT ELEVATION 63.0 m UNDER THE DESIGN IDF CONDITION.
5. MATERIAL PLACEMENT AND FOUNDATION PREPARATION SHOULD BE IN ACCORDANCE WITH THE REQUIREMENTS OF GEOTECHNICAL CONSTRUCTION / MATERIAL SPECIFICATIONS (TETRA TECH 2018).

TEL QUE CONSTRUIT
AS BUILT
AGNICO EAGLE DATE : 2019-09-27

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
1	2019-09-27	RECORD DRAWINGS	EL	WTH	
0	2018-06-21	ISSUED FOR CONSTRUCTION	HX	WTH	
A	2018-05-29	ISSUED FOR REVIEW	HX	WTH	

REVISIONS

REGISTERED PROFESSIONAL ENGINEER W.T. HORNE LICENSEE N.W.T. Sept 27, 2019

PERMIT TO PRACTICE
TETRA TECH CANADA INC.
Signature
Date Sept. 27, 2019
PERMIT NUMBER: P 018
NT/NU Association of Professional Engineers and Geoscientists

TITRE / TITLE
AGNICO EAGLE MELIADINE GOLD PROJECT

CP3 AND CP3 THERMAL PROTECTION BERM LAYOUT PLAN

DESSINÉ PAR DRAWN BY	EL	DATE 2019-06-12
VERIFIÉ PAR CHECKED BY	HX	2019-06-12
APPROUVÉ PAR APPROVED BY	WTH	2019-06-12
ÉCHELLE SCALE	1:500	DATE 2019-06-12

NO. DESSIN DRAWING NO. 65-695-230-238

NO. PROJET PROJECT NO.	REVISION	FEUILLE / SHT
6515	1	1 / 13

AE-CART-ARCH D

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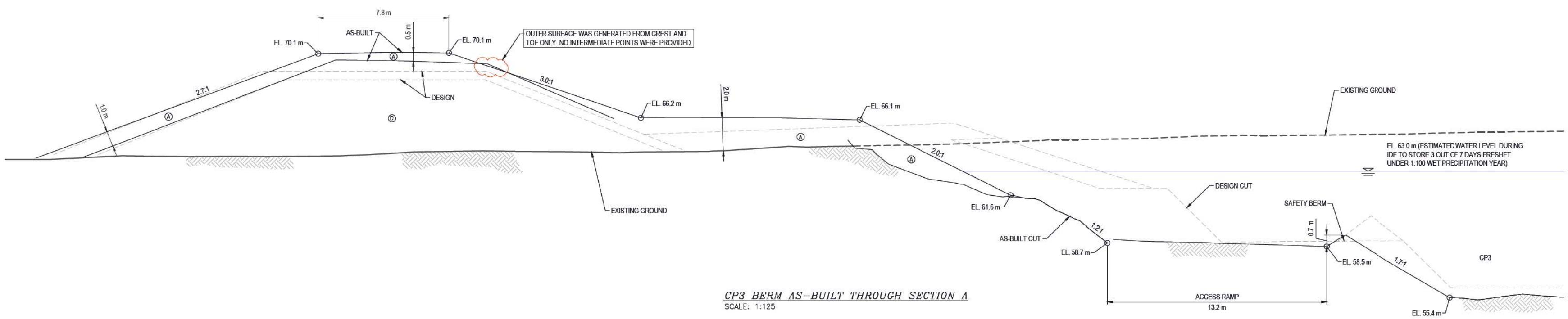
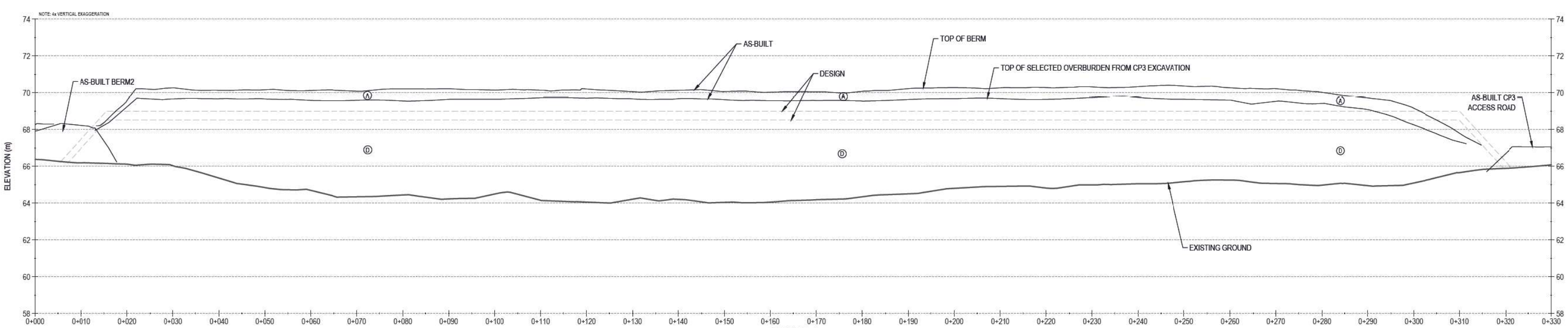
FILE NO. 65 695 230 238.dwg

NO. DESSIN DRAWING NO. 65-695-230-239

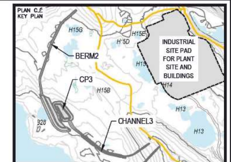


CP3 BERM AS-BUILT THROUGH SECTION A
SCALE: 1:125



CP3 – BERM PROFILE
SCALE: H–1:500 V–1:125

PLAN CLÉ KEY PLAN



TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

1. ASSUMED CONSTRUCTION SCHEDULE WINTER 2018 / 2019
2. ASSUMED OPERATION SCHEDULE STARTING TO STORE WATER FROM FRESHET OF 2019.
3. POND DESIGN CAPACITY IS BASED ON STORING 3 OUT OF 7 FRESHET WATER UNDER 1:100 WET YEAR CONDITION.
4. THE MAXIMUM ALLOWABLE OPERATING WATER LEVEL IS AT ELEVATION 63.0 m UNDER THE DESIGN IDF CONDITION.
5. MATERIAL PLACEMENT AND FOUNDATION PREPARATION SHOULD BE IN ACCORDANCE WITH THE REQUIREMENTS OF GEOTECHNICAL CONSTRUCTION / MATERIAL SPECIFICATIONS (TETRA TECH 2018).

LEGEND

Ⓐ CLEAN ROCKFILL FROM EXCAVATION (600 mm MINUS)
Ⓓ OVERBURDEN FROM EXCAVATION (300 mm MINUS)

TEL QUE CONSTRUIT
AS BUILT
DATE : 2019-09-27

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
1	2019-09-27	RECORD DRAWINGS	EL	WTH	
0	2018-06-21	ISSUED FOR CONSTRUCTION	HX	WTH	
A	2018-05-29	ISSUED FOR REVIEW	HX	WTH	

REVISIONS

PERMIT TO PRACTICE
TETRA TECH CANADA INC.
Signature
Date
PERMIT NUMBER: P 018
NT/NU Association of Professional Engineers and Geoscientists

TITRE / TITLE
AGNICO EAGLE MELIADINE GOLD PROJECT

CP3 TYPICAL SECTION AND
CP3 THERMAL PROTECTION BERM PROFILE

DESSINÉ PAR DRAWN BY	EL	2019-06-12
VÉRIFIÉ PAR CHECKED BY	HX	2019-06-12
APPROUVÉ PAR APPROVED BY	WTH	2019-06-12
ÉCHELLE SCALE	AS SHOWN	DATE 2019-06-12

NO. DESSIN DRAWING NO. 65-695-230-239

NO. PROJET PROJECT NO.	RÉVISION	FEUILLE / SHT
6515	1	2 / 13

FORMAT ARCHD

AE-CART-ARCH D

FILE NO. 65 695 230 239.dwg

Photo 1: Pond CP3 - Looking southwest, bedrock overburden contact, access ramp into pond.

Photo 2: Pond CP3—Looking northeast, water running into CP3 along several points on north side.

Photo 3: Pond CP3 - Looking south, rockfill covered overburden in foreground. Settlement along the overburden between CP3 and berm.

Photo 4: Pond CP3 - Looking south, water level within bedrock.

Photo 5: Pond CP3 - Runoff/erosion channels into pond from north end of TSF drainage, located on north side of pond.

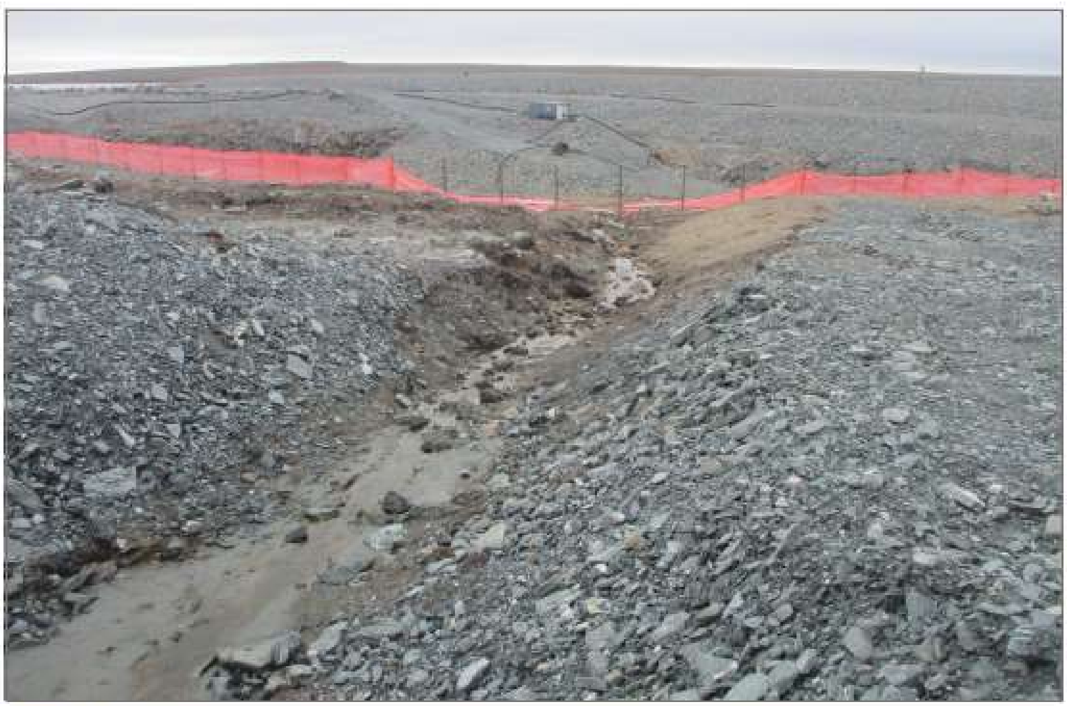


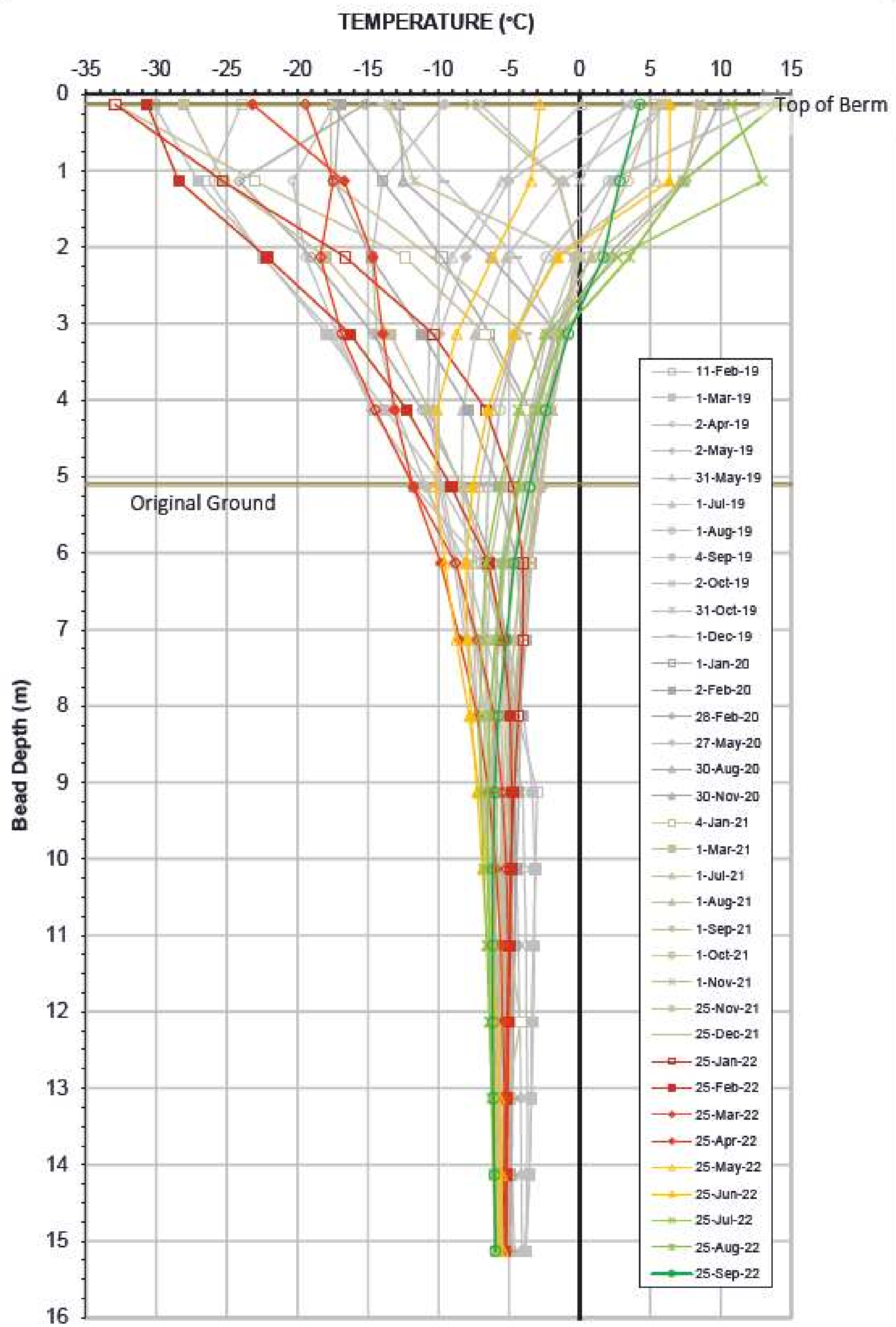
Photo 6: Pond CP3 - Constructed runoff channel into pond from north end off TSF drainage , located on east side of pond.

Photo 7: Berm CP3 - GTC instrumentation loggers installed on berm.

Photo 8: Berm CP3 - Looking south, surface of berm. Undulating settlement and subsidence.

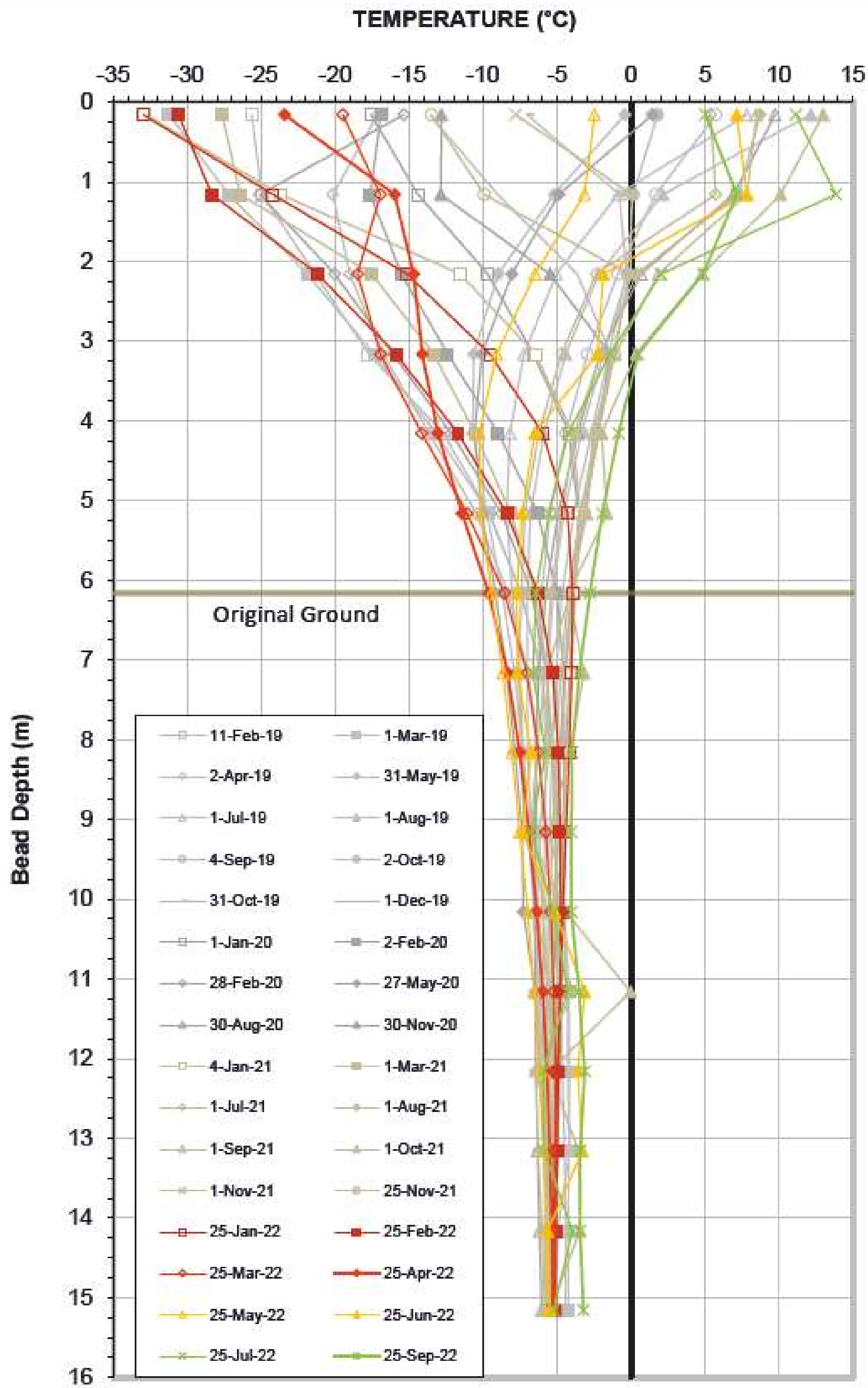
Photo 9: Berm CP3 - Berm downstream crest, looking North.

Photo 10: Pond CP3 - Looking north, settlement and erosion at overburden crest.



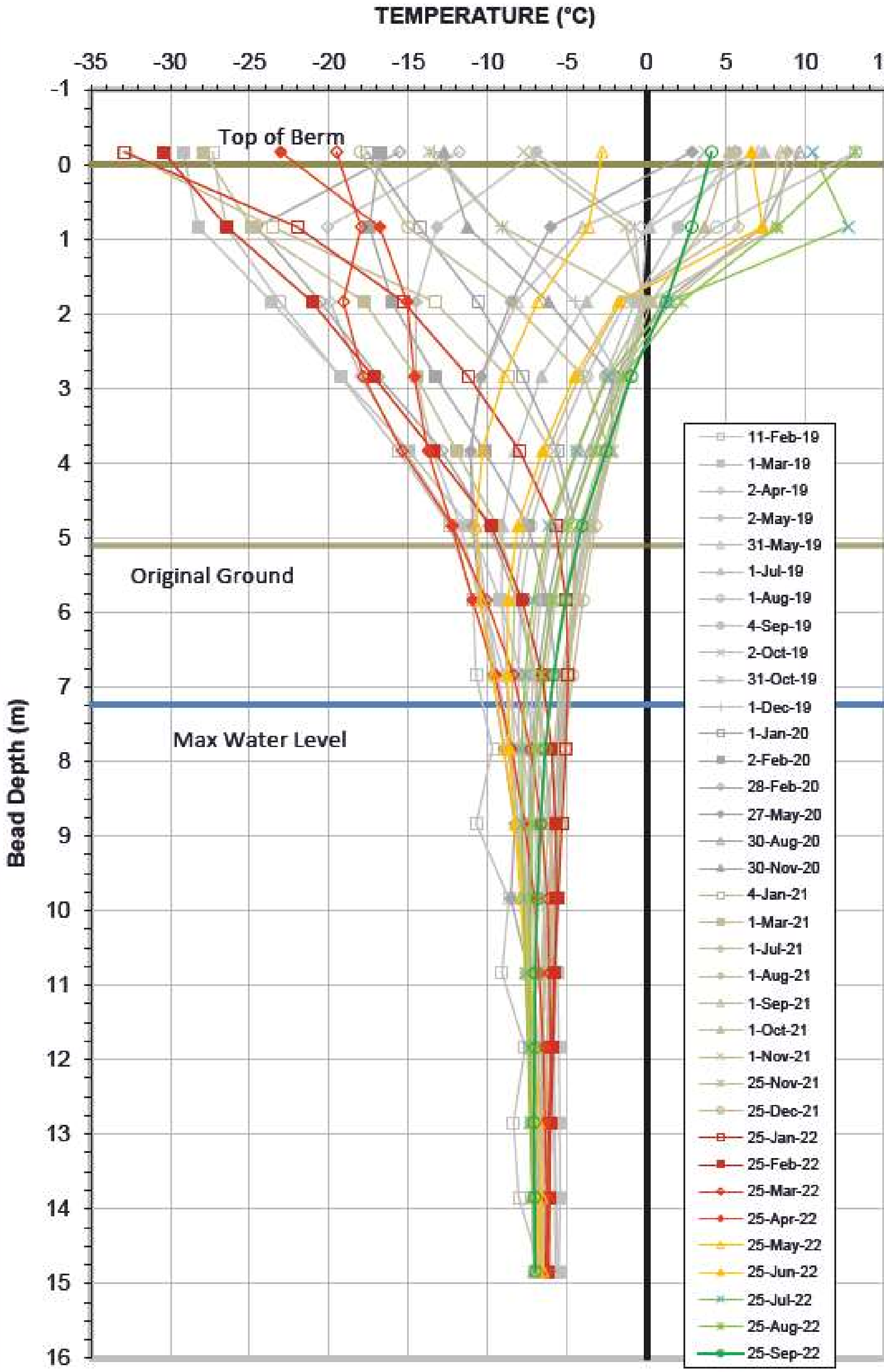
Ground Temperature Profile for Cable GTC-01
Berm CP3

Serial No.: 2644
Date Installed: February 11, 2019



Ground Temperature Profile for Cable GTC-02
Berm CP3

Serial No.: 2645
Date Installed: February 11, 2019



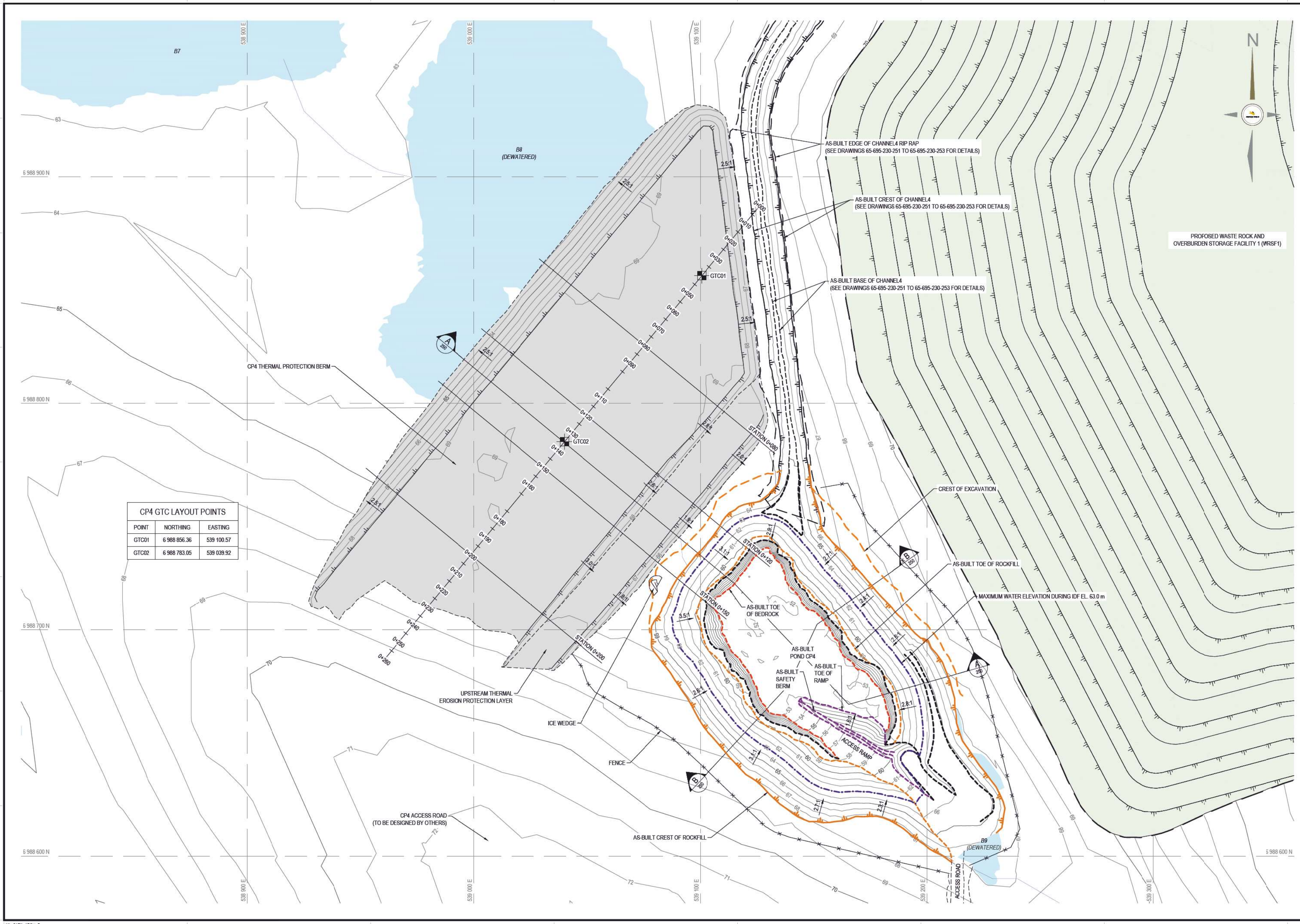
Ground Temperature Profile for Cable GTC-03
Berm CP3

Serial No.: 2644
Date Installed: February 11, 2019

APPENDIX E

POND CP4, CHANNELS, AND BERMS

NO. DESSIN DRAWING NO. 65-695-230-247



CP4 GTC LAYOUT POINTS

POINT	NORTHING	EASTING
GTC01	6 988 856.36	539 100.57
GTC02	6 988 783.05	539 039.92

PLAN CLÉ KEY PLAN

TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

1. ASSUMED CONSTRUCTION SCHEDULE WINTER 2018 / 2019
2. ASSUMED OPERATION SCHEDULE STARTING TO STORE WATER FROM FRESHET OF 2019.
3. POND DESIGN CAPACITY IS BASED ON STORING 3 OUT OF 7 FRESHET WATER UNDER 1:100 WET YEAR CONDITION.
4. THE MAXIMUM ALLOWABLE OPERATING WATER LEVEL IS AT ELEVATION 63.0 m UNDER THE DESIGN IDF CONDITION.
5. MATERIAL PLACEMENT AND FOUNDATION PREPARATION SHOULD BE IN ACCORDANCE WITH THE REQUIREMENTS OF GEOTECHNICAL CONSTRUCTION / MATERIAL SPECIFICATIONS (TETRA TECH 2018).

TEL QUE CONSTRUIT
AS BUILT
DATE : 2019-12-04

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG

AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
1	2019-12-04	RECORD DRAWINGS	EL	WTH	
0	2018-06-21	ISSUED FOR CONSTRUCTION	HX	WTH	
A	2018-05-29	ISSUED FOR REVIEW	HX	WTH	

REVISIONS

REGISTERED PROFESSIONAL ENGINEER — W.T. HORNE — LICENSEE — N.W.T.

PERMIT TO PRACTICE TETRA TECH CANADA INC.
Signature
Date
PERMIT NUMBER: P 018
NT/NU Association of Professional Engineers and Geoscientists

TITRE / TITLE
AS-BUILT REPORT FOR CHANNEL4, POND CP4, AND BERM CP4

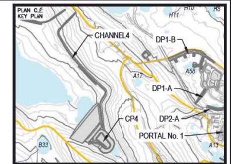
CP4 AND CP4 THERMAL PROTECTION BERM LAYOUT PLAN

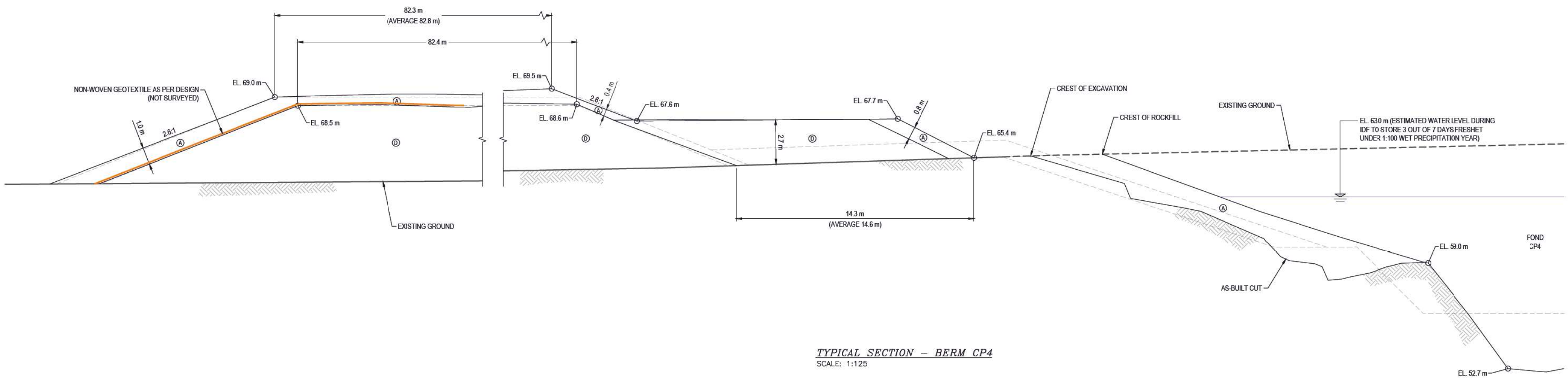
DESSINÉ PAR / DRAWN BY	EL	DATE 2019-07-31
VERIFIÉ PAR / CHECKED BY	HX	2019-07-31
APPROUVÉ PAR / APPROVED BY	WTH	2019-07-31
ÉCHELLE / SCALE	1:750	DATE 2019-07-31
NO. DESSIN / DRAWING NO.	65-695-230-247	
NO. PROJET / PROJECT NO. 6515	REVISION 1	FEUILLE / SHT 1 / 9

FILE NO. 65 695 230 247.dwg

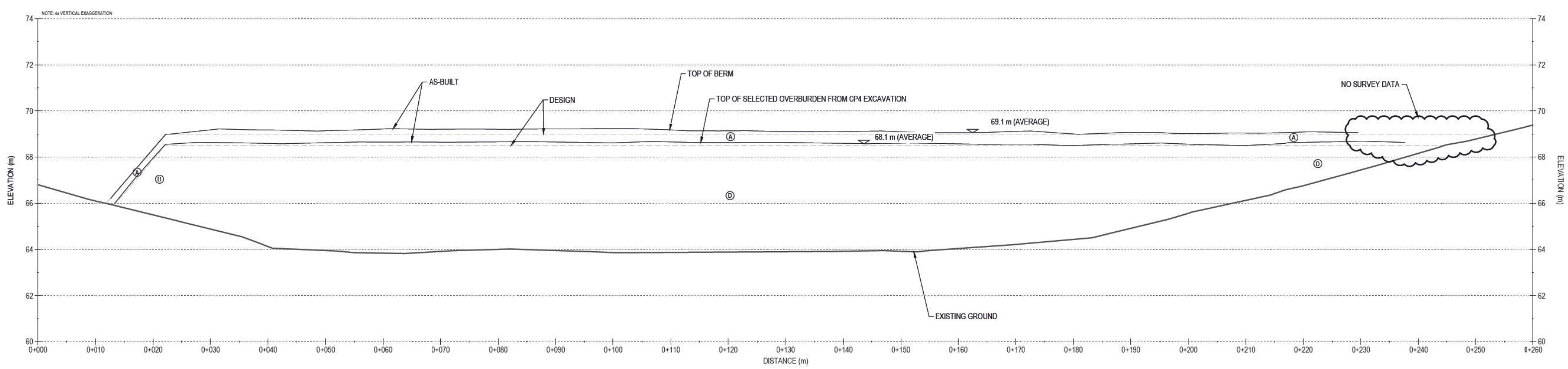
NO. DESSIN DRAWING NO. 65-695-230-248

PLAN CLÉ KEY PLAN





TYPICAL SECTION – BERM CP4
SCALE: 1:125



BERM CP4 – PROFILE
SCALE: H-1:400 V-1:100

TEL QUE CONSTRUIT
AS BUILT
DATE : 2019-12-04

NOTES GÉNÉRALES / GENERAL NOTES

1. ASSUMED CONSTRUCTION SCHEDULE WINTER 2018 / 2019
2. ASSUMED OPERATION SCHEDULE STARTING TO STORE WATER FROM FRESHET OF 2019.
3. POND DESIGN CAPACITY IS BASED ON STORING 3 OUT OF 7 FRESHET WATER UNDER 1:100 WET YEAR CONDITION.
4. THE MAXIMUM ALLOWABLE OPERATING WATER LEVEL IS AT ELEVATION 63.0 m UNDER THE DESIGN IDF CONDITION.
5. MATERIAL PLACEMENT AND FOUNDATION PREPARATION SHOULD BE IN ACCORDANCE WITH THE REQUIREMENTS OF GEOTECHNICAL CONSTRUCTION / MATERIAL SPECIFICATIONS (TETRA TECH 2018).

LEGEND

Ⓐ CLEAN ROCKFILL FROM EXCAVATION (600 mm MINUS)
Ⓓ OVERBURDEN FROM EXCAVATION (300 mm MINUS)

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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–	–
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–	–

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
1	2019-12-04	RECORD DRAWINGS	EL	WTH	
0	2018-06-21	ISSUED FOR CONSTRUCTION	HX	WTH	
A	2018-05-29	ISSUED FOR REVIEW	HX	WTH	

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
W.T. HORNE
LICENSEE
N.W.T.

PERMIT TO PRACTICE
TETRA TECH CANADA INC.
Signature
Date December 4, 2019
PERMIT NUMBER: P 018
NT/NU Association of Professional Engineers and Geoscientists

TITRE / TITLE
AS-BUILT REPORT FOR CHANNEL4, POND CP4, AND BERM CP4

CP4 TYPICAL SECTION AND CP4 THERMAL PROTECTION BERM PROFILE

DESSINÉ PAR DRAWN BY	EL	DATE 2019-07-31
VÉRIFIÉ PAR CHECKED BY	HX	2019-07-31
APPROUVÉ PAR APPROVED BY	WTH	2019-07-31
ÉCHELLE SCALE	AS SHOWN	DATE 2019-07-31

NO. DESSIN DRAWING NO. 65-695-230-248

NO. PROJET PROJECT NO.	REVISION	FEUILLE / SHT
6515	1	2 / 9

FILE NO. 65 695 230 248.dwg

FORMAT ARCHD

Photo 1: Pond CP4 - Looking northwest, Berm CP4 in the background.

Photo 2: Pond CP4—Looking southeast, WRSF1 in the background.

Photo 3: Pond CP4 - Looking north at the ramp into the pond.

Photo 4: Pond CP4 - South slope—rockfill covered slope, no obvious signs of distress.

Photo 5: Pond CP4 - Settlement and cracking above east slope.

Photo 6: Pond CP4 - Northeast slope, settlement in area between rockfill covered slope on original ground.

Photo 7: Pond CP4 - Ground above rockfill covered overburden slope. Settlement and sub-sidence in the area.

Photo 8: Pond CP4 - North slope, Rockfill placed in area between rockfill covered slope and thermal berm in 2022.

Photo 9: Pond CP4 - Rockfill placed between CP4 slope and berm to reduce thaw subsidence observed in 2021 inspection.

Photo 10: Berm CP4 - Upstream slope, thermal cover above Pond CP4

Photo 11: Berm CP4 - Undulating settlement up to 0.3 m throughout surface of berm.

Photo 12: Berm CP4 - Downstream embankment of CP4 berm against lake B8.

Photo 13: Pond CP4 - Rockfill cover placed over native ground above slopes of CP4.

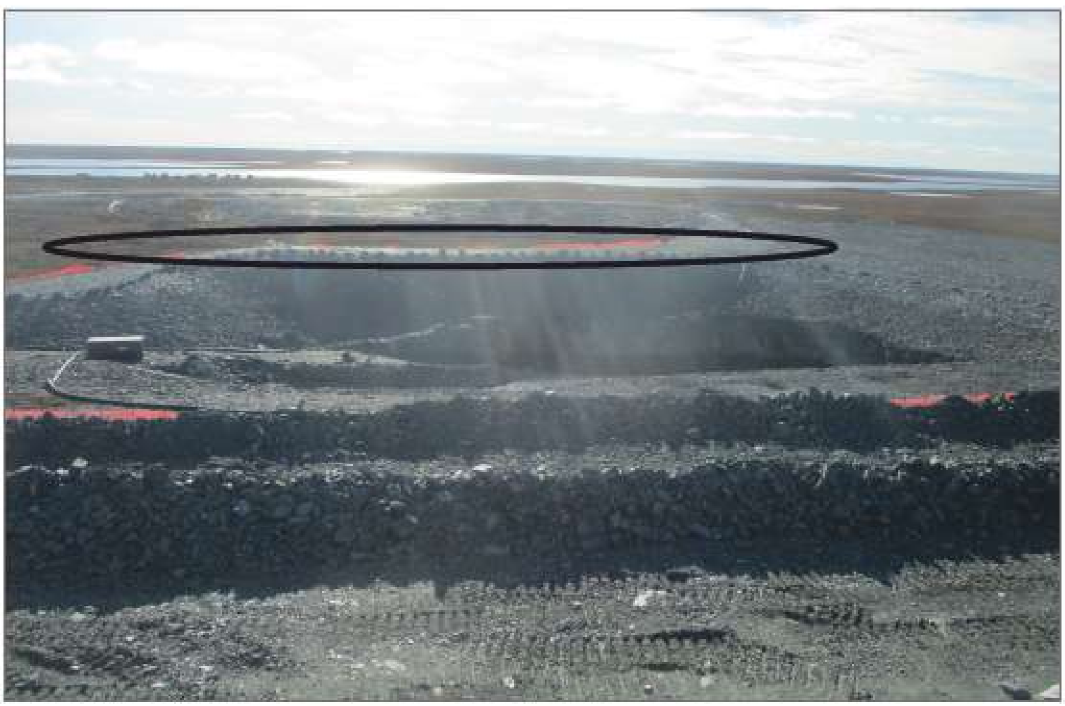
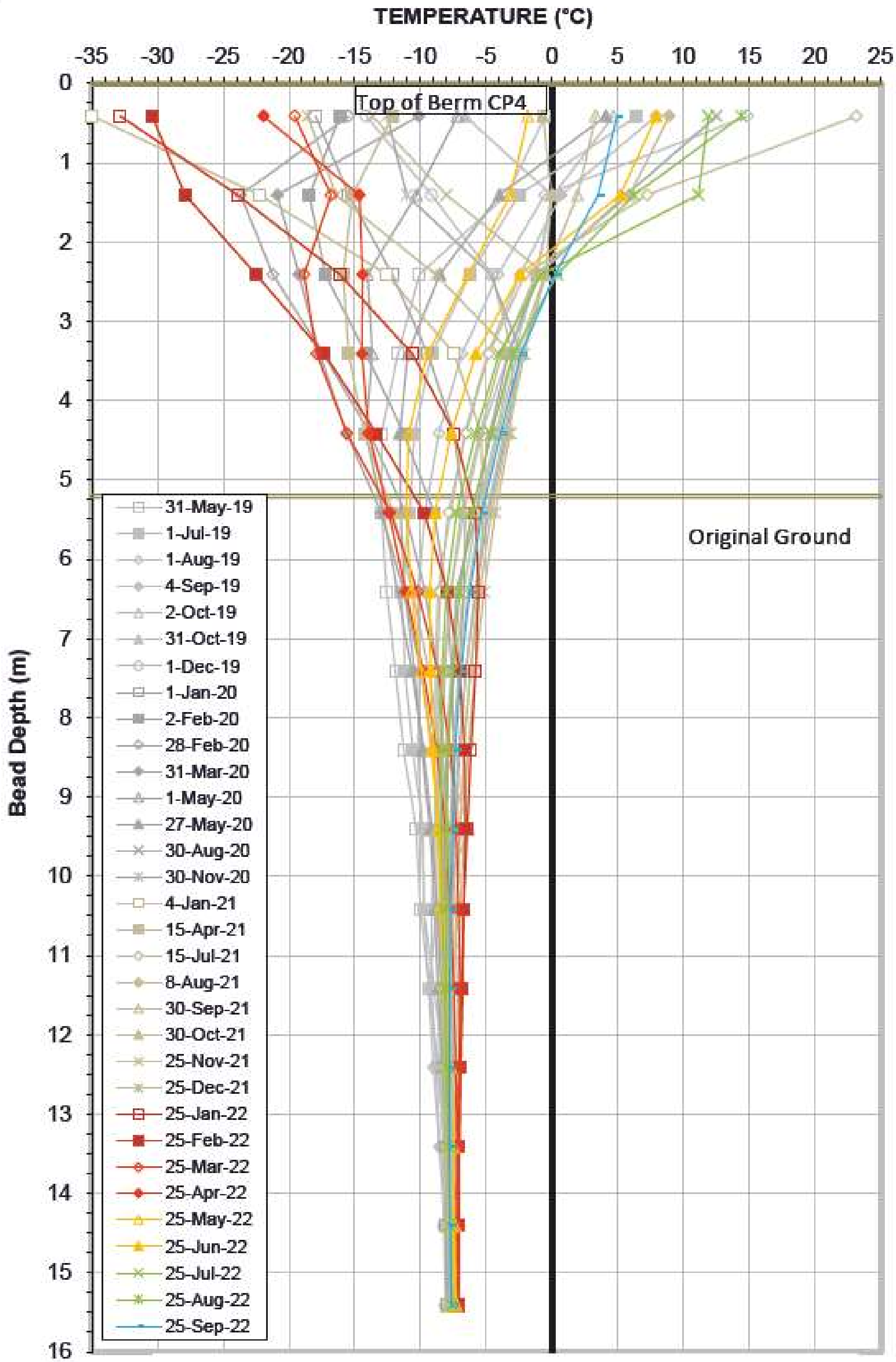
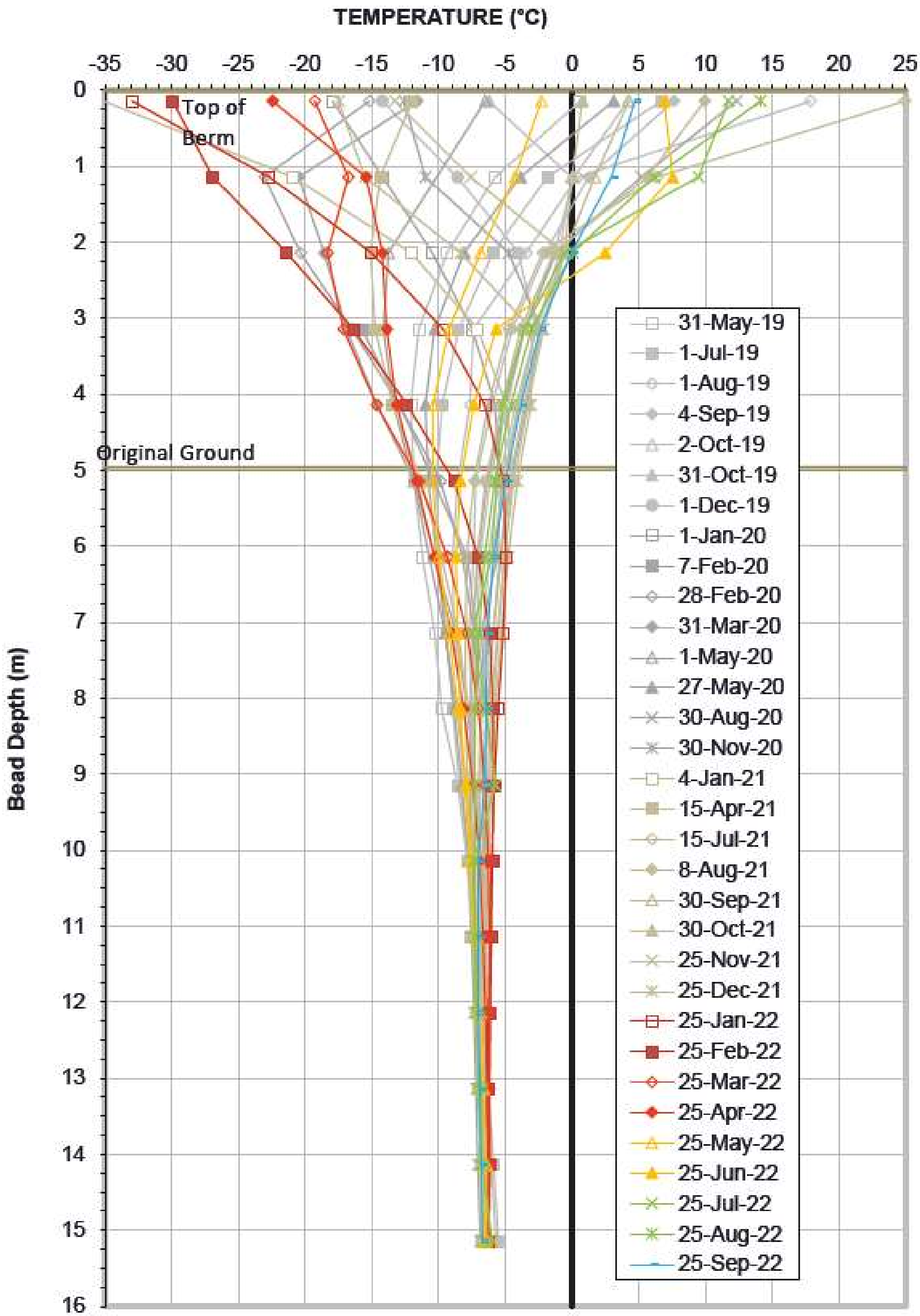


Photo 14: Pond CP4 - Rockfill cover placed over native ground above slopes of CP4.



Ground Temperature Profile for Cable GTC-01

Serial No.: 2685
Date Installed: May 18, 2019



Ground Temperature Profile for Cable GTC-02
Berm CP4

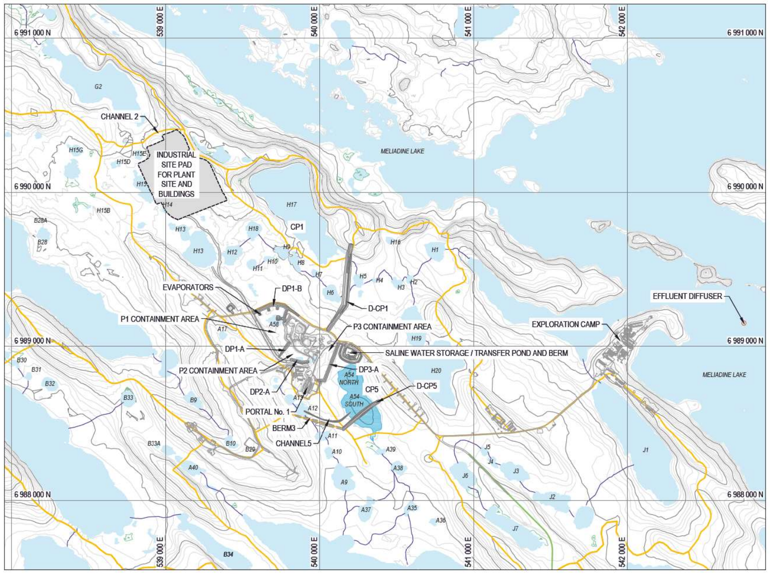
Serial No.: 2686
Date Installed: May 18, 2019

APPENDIX F

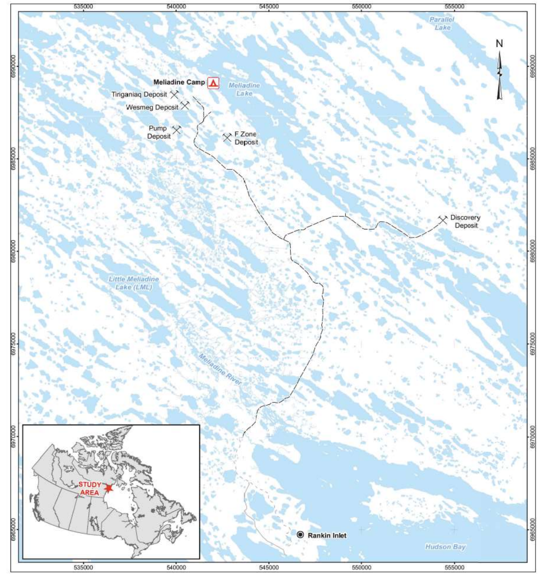
POND CP5 AND D-CP5

NO. DESSIN DRAWING NO. 65-685-230-214_R1

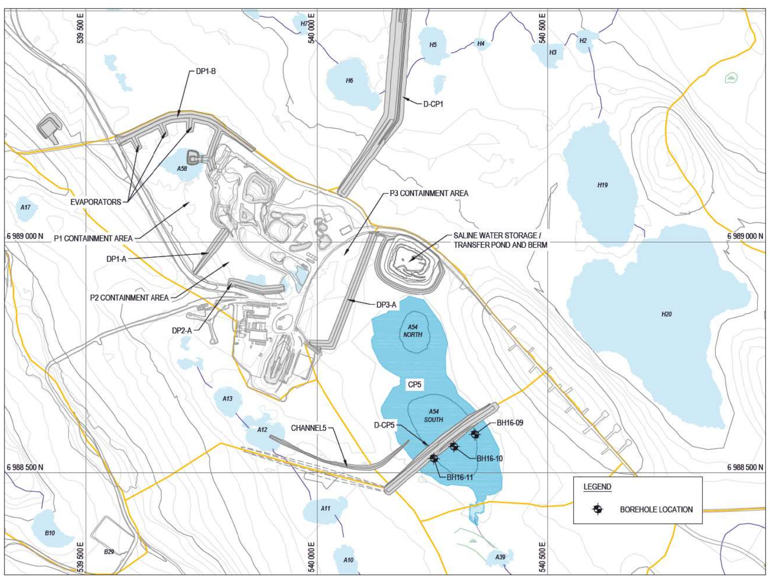
FORMAT ARCHD



GENERAL SITE LOCATION
SCALE: 1:15,000



LOCATION MAP
SCALE: N.T.S.



D-CP5 SITE LOCATION
SCALE: 1:5,000

D-CP5 AS-BUILT DRAWING INDEX

DRAWING NUMBER	DRAWING TITLE
65-685-230-214	D-CP5 AS-BUILT GENERAL LOCATION PLAN
65-685-230-215	D-CP5 AS-BUILT KEY TRENCH AND DIKE LAYOUT PLAN
65-685-230-216	D-CP5 AS-BUILT PROFILES
65-685-230-217	D-CP5 AS-BUILT THERMAL COVER LAYOUT PLAN AND PROFILES
65-685-230-218	D-CP5 AS-BUILT TYPICAL SECTIONS AND QUANTITIES
65-685-230-219-001	D-CP5 AS-BUILT SECTIONS STATION 0+030 TO 0+170
65-685-230-219-002	D-CP5 AS-BUILT SECTIONS STATION 0+180 TO 0+310
65-685-230-220	D-CP5 AS-BUILT INSTRUMENTATION PLAN AND DETAILS FOR GROUND TEMPERATURE CABLES
65-685-230-221	D-CP5 AS-BUILT INSTRUMENTATION PLAN AND DETAILS FOR GROUND TEMPERATURE CABLES AND SETTLEMENT SURVEY MONUMENT POINTS

TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

- LAKE A54 WAS PARTIALLY DEWATERED PRIOR TO D-CP5 CONSTRUCTION

PERMIT TO PRACTICE
TETRA TECH CANADA INC.
Signature
Date Oct 19, 2017
PERMIT NUMBER: P 018
NT/NU Association of Professional Engineers and Geoscientists

TEL QUE CONSTRUIT
AS BUILT
DATE : 2017-10-19

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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–	–
–	–
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–	–
–	–

AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
1	2017-10-19	ISSUED FOR RECORD	WTH	NG	
0	2016-08-15	ISSUED FOR CONSTRUCTION	GZ	KJ	
A	2016-08-10	ISSUED FOR REVIEW	GZ	KJ	

REVISIONS

REGISTERED PROFESSIONAL ENGINEER W.T. HORNE LICENSEE N.W.T. Oct 19 2017
REGISTERED PROFESSIONAL ENGINEER G. ZHANG LICENSEE NWT/NU Oct.19 2017

TITRE / TITLE
AGNICO EAGLE MELIADINE GOLD PROJECT

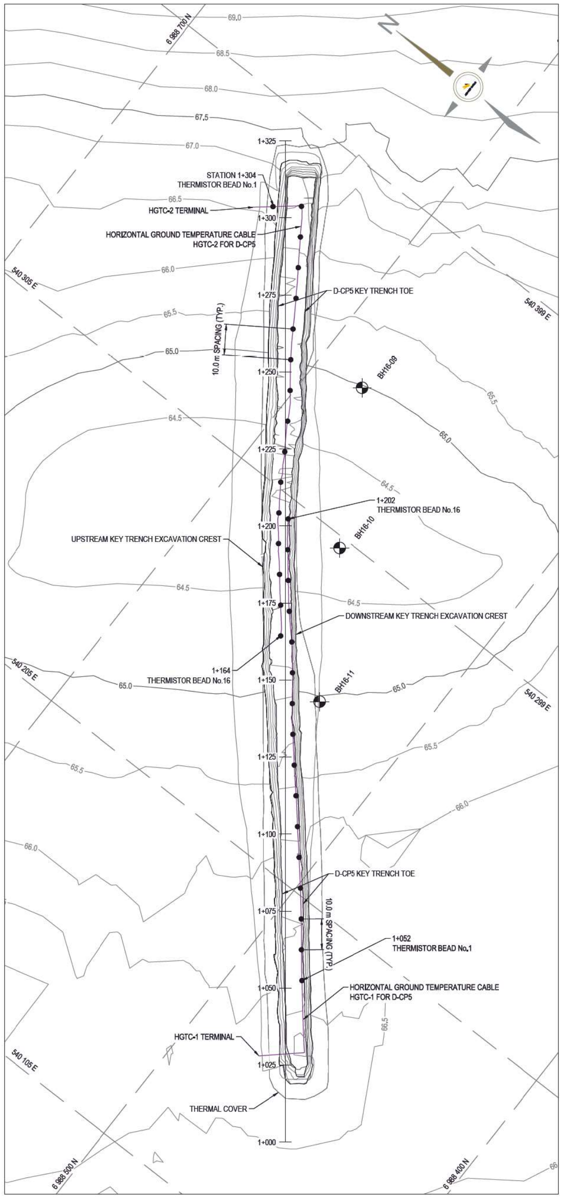
D-CP5 AS-BUILT
GENERAL LOCATION PLAN

DESSINÉ PAR DRAWN BY	EL	DATE 2016-08-15
VERIFIÉ PAR CHECKED BY	GZ	2016-08-15
APPROUVÉ PAR APPROVED BY	GZ	2016-08-15
ÉCHELLE SCALE	AS SHOWN	DATE 2016-08-15
NO. DESSIN DRAWING NO.	65-685-230-214	
NO. PROJET PROJECT NO. 6515	REVISION 1	FEUILLE / SHT 1 / 9

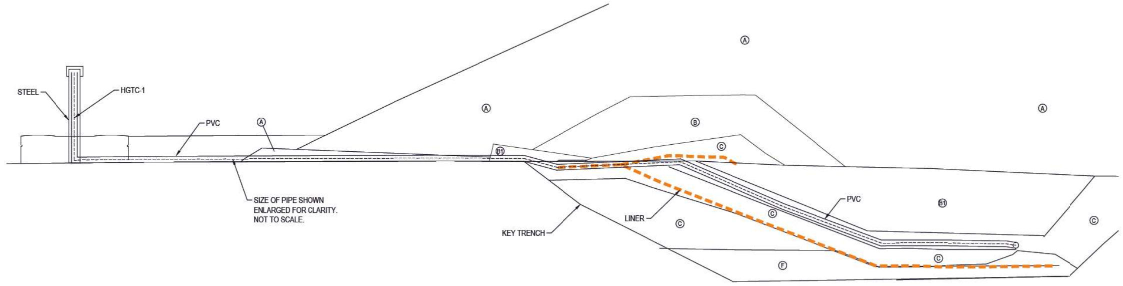
AE-CART-ARCH D

FILE NO. 65 685 230 214_R1.dwg

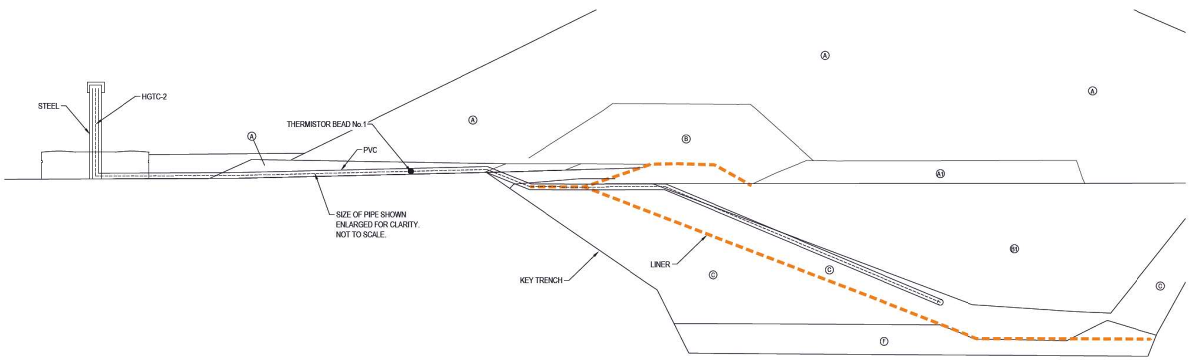
NO. DESSIN DRAWING NO. 65-685-230-220_R1



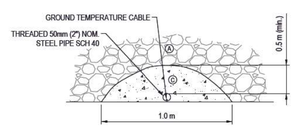
D-CP5 AS-BUILT HORIZONTAL GROUND TEMPERATURE CABLE LAYOUT
SCALE: 1:750



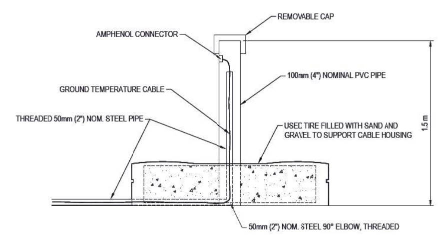
D-CP5 AS-BUILT HORIZONTAL GROUND TEMPERATURE CABLE – SOUTH TERMINAL SECTION THROUGH STATION 1+028
SCALE: 1:100



D-CP5 AS-BUILT HORIZONTAL GROUND TEMPERATURE CABLE – NORTH TERMINAL SECTION THROUGH STATION 1+304
SCALE: 1:100

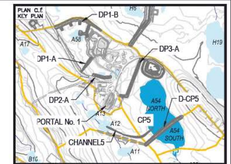


TEMPERATURE CABLE – PROTECTIVE COVER SECTION
SCALE: NTS



TEMPERATURE CABLE – TERMINAL SUPPORT DETAIL
SCALE: NTS

PLAN CLÉ KEY PLAN



TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

PERMIT TO PRACTICE
TETRA TECH CANADA INC.
Signature
Date Oct 19, 2017
PERMIT NUMBER: P 018
NT/NU Association of Professional Engineers and Geoscientists

TEL QUE CONSTRUIT
AS BUILT
DATE : 2017-10-19

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG

AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
1	2017-10-19	ISSUED FOR RECORD	WTH	NG	
0	2016-08-15	ISSUED FOR CONSTRUCTION	GZ	KJ	
A	2016-08-10	ISSUED FOR REVIEW	GZ	KJ	

REVISIONS

REGISTERED PROFESSIONAL ENGINEER W.T. HORNE LICENSEE N.W.T. Oct 19 2017
REGISTERED PROFESSIONAL ENGINEER G. ZHANG LICENSEE NWT/NU Oct. 19 2017

TITRE / TITLE
AGNICO EAGLE MELIADINE GOLD PROJECT

D-CP5 AS-BUILT
INSTRUMENTATION PLAN AND DETAILS
FOR GROUND TEMPERATURE CABLES

DESSINÉ PAR DRAWN BY	DRG	DATE 2016-08-08
VERIFIÉ PAR CHECKED BY	GZ	2016-08-15
APPROUVÉ PAR APPROVED BY	KJ	2016-08-15
ÉCHELLE SCALE	AS SHOWN	DATE 2016-08-08
NO. DESSIN DRAWING NO.	65-685-230-220	
NO. PROJET PROJECT NO. 6515	REVISION 1	FEUILLE / SHT 8 / 9

FORMAT ARCHD

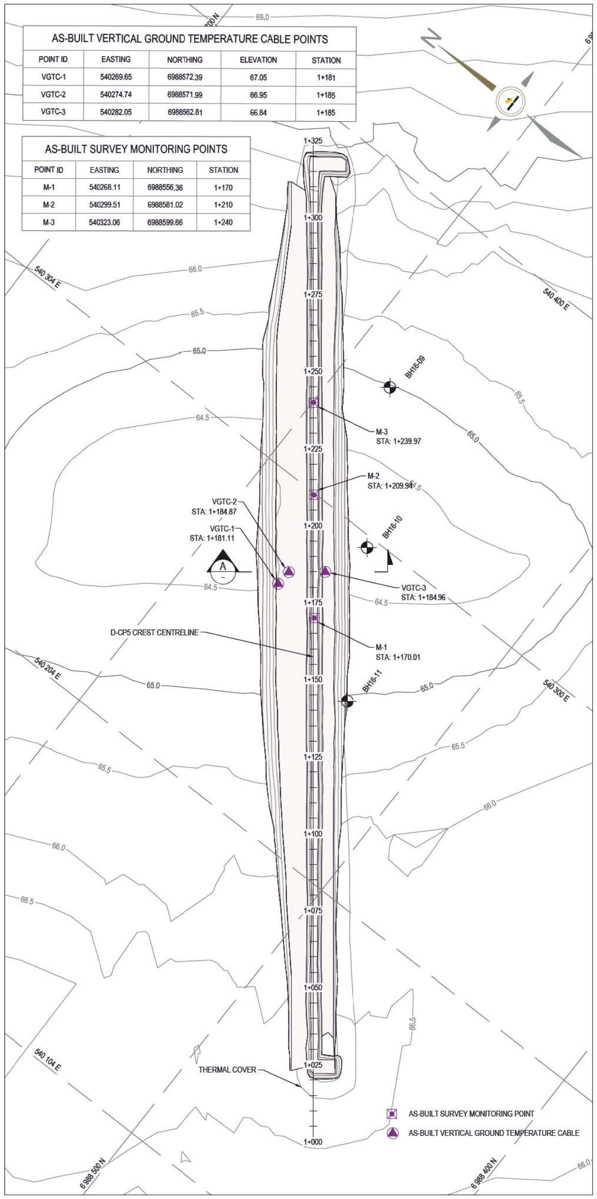
AE-CART-ARCH D

Q:\Edmonton\Engineering\E141\Projects_MELIADINE\As-Built D-CP5\65-685-230-220_R1.dwg-2017-10-19 12:47:12

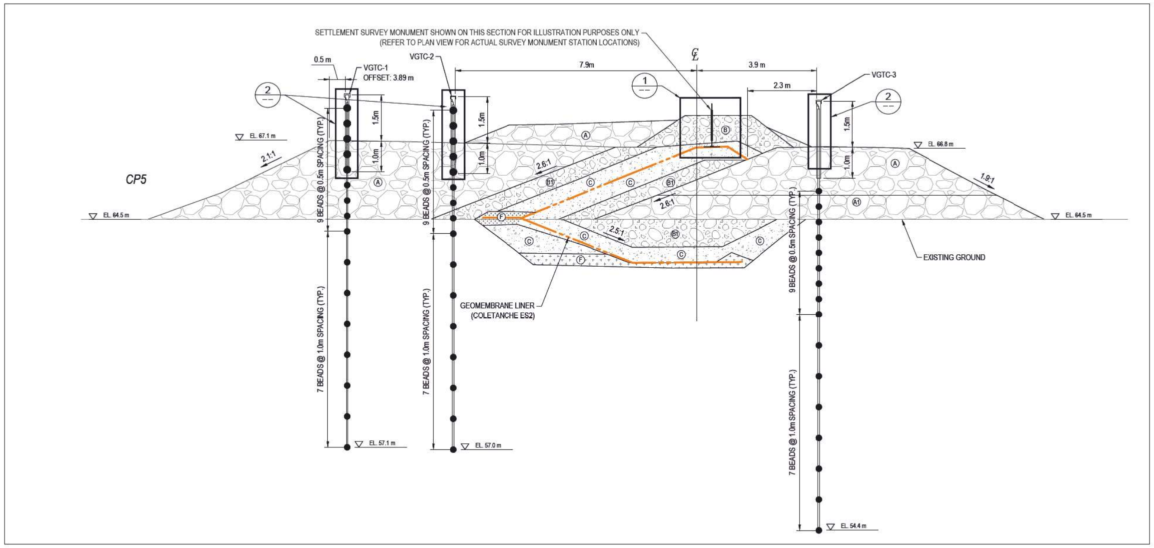
FILE NO. 65-685-230-220_R1.dwg

AS-BUILT VERTICAL GROUND TEMPERATURE CABLE POINTS				
POINT ID	EASTING	NORTHING	ELEVATION	STATION
VGTC-1	540269.65	6988572.39	67.05	1+181
VGTC-2	540274.74	6988571.99	66.95	1+185
VGTC-3	540282.05	6988562.81	66.84	1+185

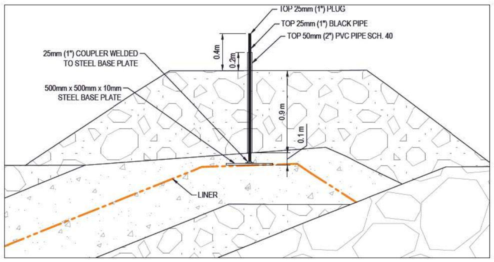
AS-BUILT SURVEY MONITORING POINTS			
POINT ID	EASTING	NORTHING	STATION
M-1	540268.11	6988556.36	1+170
M-2	540299.51	6988581.02	1+210
M-3	540323.06	6988599.66	1+240



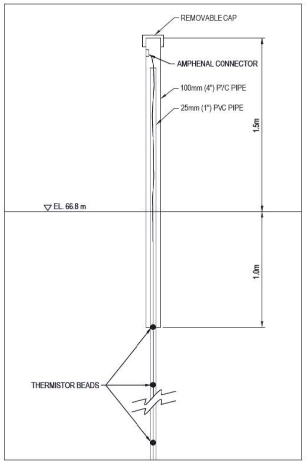
D–CP5 AS–BUILT SURVEY MONUMENT AND VERTICAL GROUND TEMPERATURE CABLE LAYOUT
SCALE: 1:750



D–CP5 AS–BUILT SECTION A – VERTICAL GROUND TEMPERATURE CABLE – STATION 1+185
SCALE: 1:75

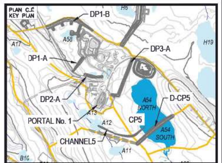


D–CP1 TYPICAL SETTLEMENT SURVEY MONUMENT DETAIL (1)
SCALE: 1:25



D–CP1 TYPICAL VERTICAL GROUND TEMPERATURE CABLE TERMINAL DETAIL (2)
SCALE: 1:20

PLAN CLÉ KEY PLAN



TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

PERMIT TO PRACTICE
TETRA TECH CANADA INC.
Signature
Date Oct 19, 2017
PERMIT NUMBER: P 018
NT/NU Association of Professional Engineers and Geoscientists

TEL QUE CONSTRUIT
AS BUILT
DATE : 2017–10–19
AGNICO EAGLE

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
1	2017–10–19	ISSUED FOR RECORD	WTH	NG	
0	2016–08–15	ISSUED FOR CONSTRUCTION	GZ	KJ	
A	2016–08–10	ISSUED FOR REVIEW	GZ	KJ	

REVISIONS

REGISTERED PROFESSIONAL ENGINEER W.T. HORNE LICENSEE N.W.T. Oct 19 2017
REGISTERED PROFESSIONAL ENGINEER G. ZHANG LICENSEE NWT/NU Oct.19 2017

TITRE / TITLE
AGNICO EAGLE MELIADINE GOLD PROJECT

D–CP5 AS–BUILT – INSTRUMENTATION PLAN AND DETAILS FOR GROUND TEMPERATURE CABLES AND SETTLEMENT SURVEY MONUMENT POINTS

DESSINÉ PAR DRAWN BY	DRG	DATE 2016–08–08
VÉRIFIÉ PAR CHECKED BY	GZ	2016–08–15
APPROUVÉ PAR APPROVED BY	KJ	2016–08–15
ÉCHELLE SCALE	AS SHOWN	DATE 2016–08–08
NO. DESSIN DRAWING NO.	65–685–230–221	
NO. PROJET PROJECT NO. 6515	REVISION 1	FEUILLE / SHT 9 / 9

Photo 1: D-CP5 Dike - looking towards the northeast, upstream.

Photo 2: D-CP5 Dike - looking towards the southwest, upstream.

Photo 3: D-CP5 Dike - Looking towards upstream embankment from Jetty.

Photo 4: D-CP5 Dike - looking towards the southwest, centerline and downstream.

Photo 5: D-CP5 Dike - upstream, data logger, and GTC housings.

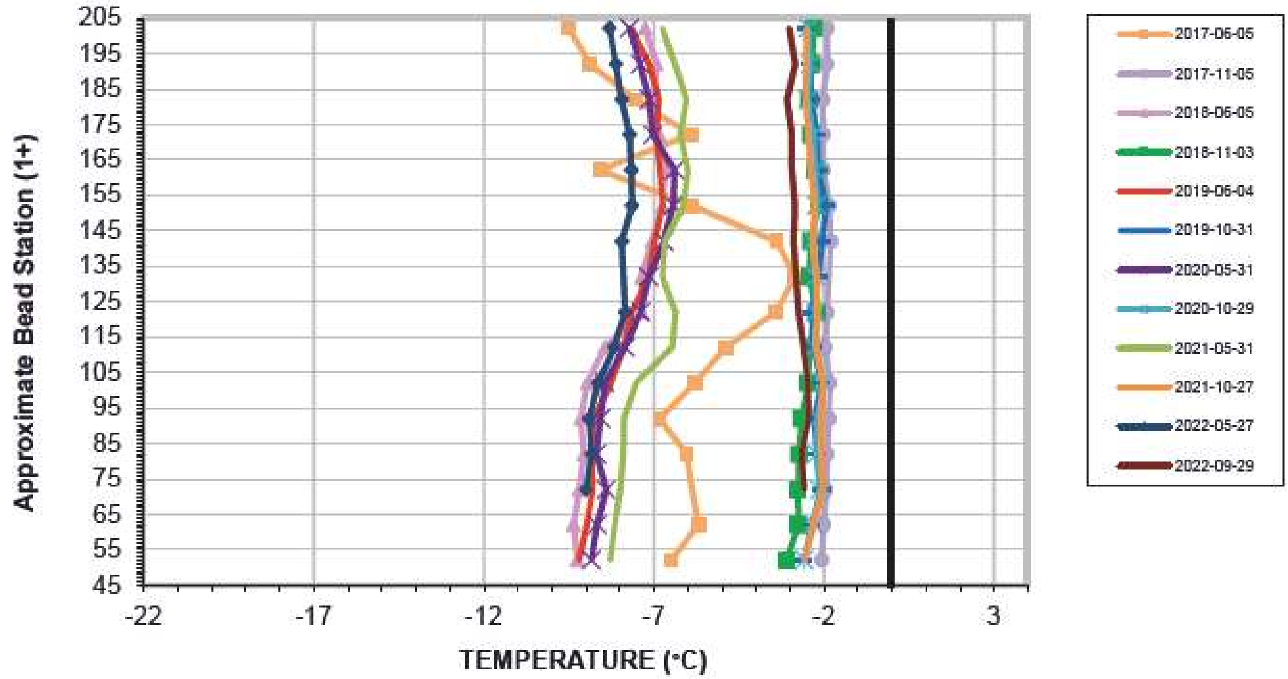
Photo 6: D-CP5 Dike - Crest of dike, looking northeast.

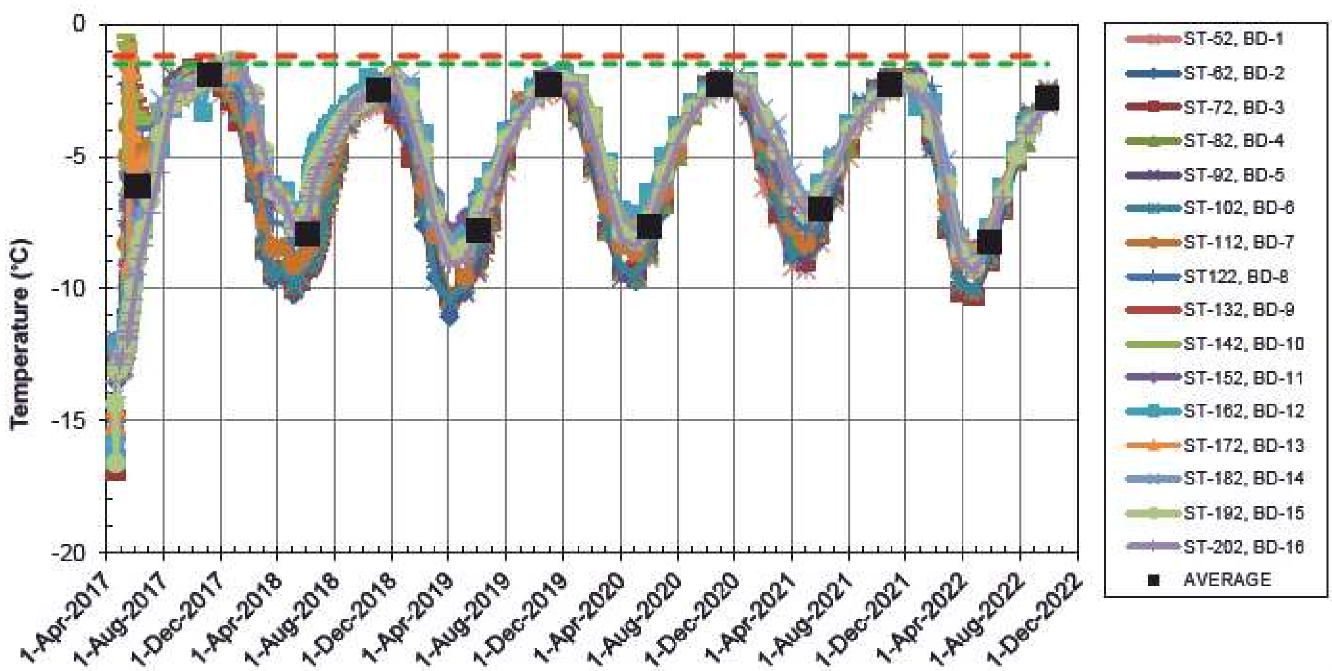
Photo 7: D-CP5 downstream crest, looking northeast.

Photo 8: CP5 Jetty 5—Diesel Pumping into Jetty 5 pump well.

Photo 9: CP5 Jetty 5 - Repaired footing erosion from 2021.

Photo 10: CP5 Jetty 5 - Exposed jetty pump intake in CP5



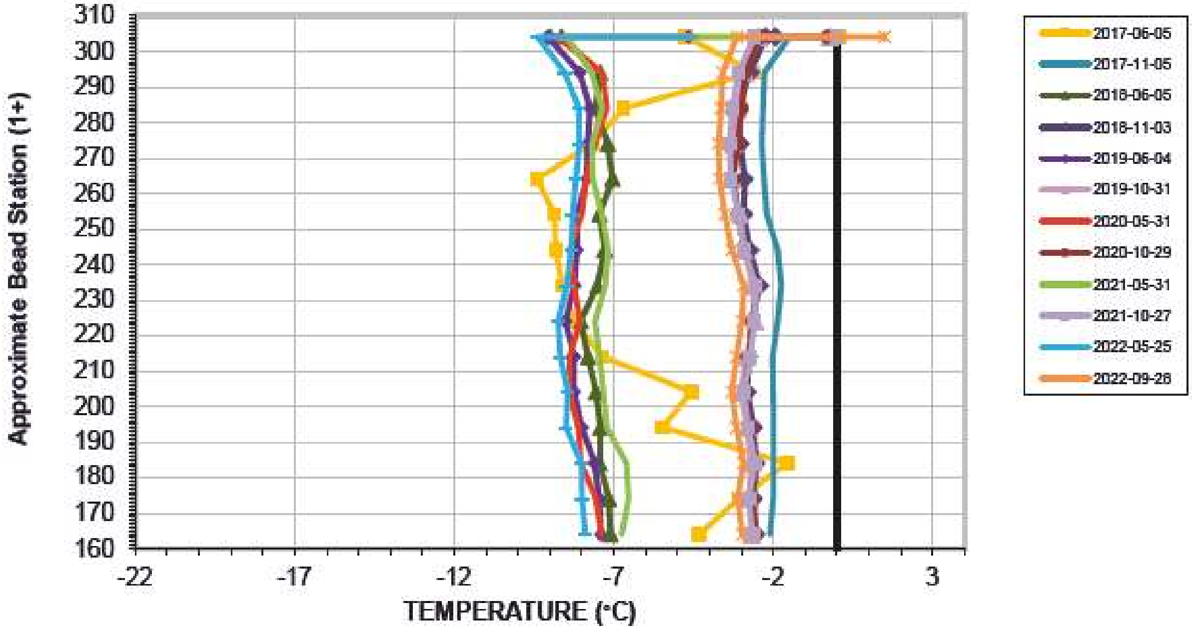


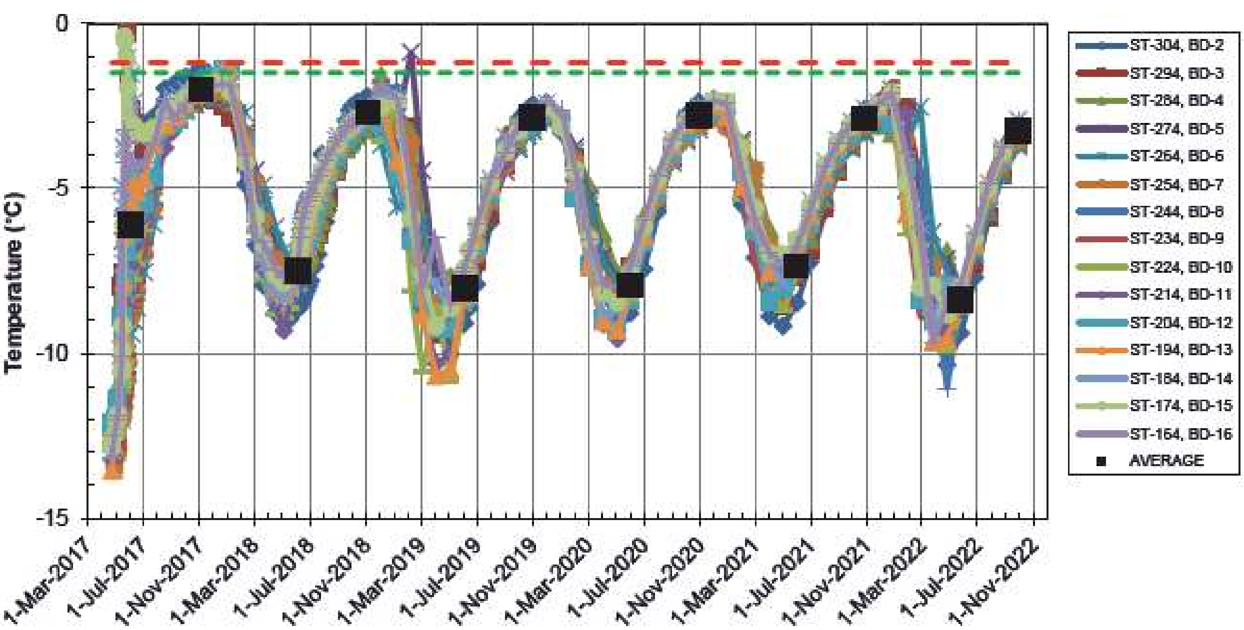
Serial No.: 2600
Date Installed: April 15, 2017

EBA File No: E14103230.01-023

Horizontal Ground Temperature Profile for Cable #1 (HGTC-01)
Dike D-CP5

TETRA TECH



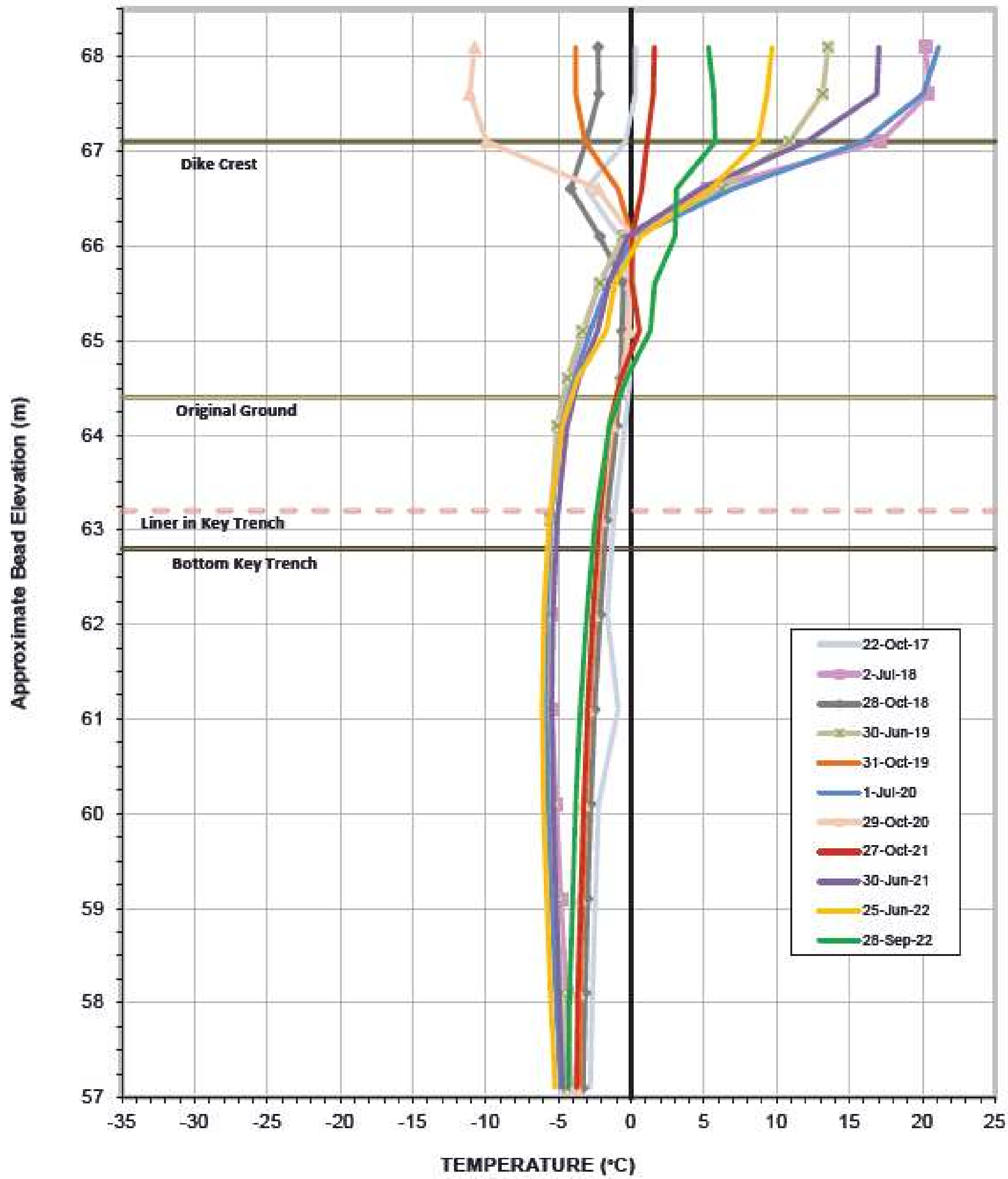


Serial No.: 2601
Date Installed: April 20, 2017

EBA File No: E14103230.01-023

Horizontal Ground Temperature Profile for Cable #2 (HGTC-02)
Dike D-CP5

TETRA TECH



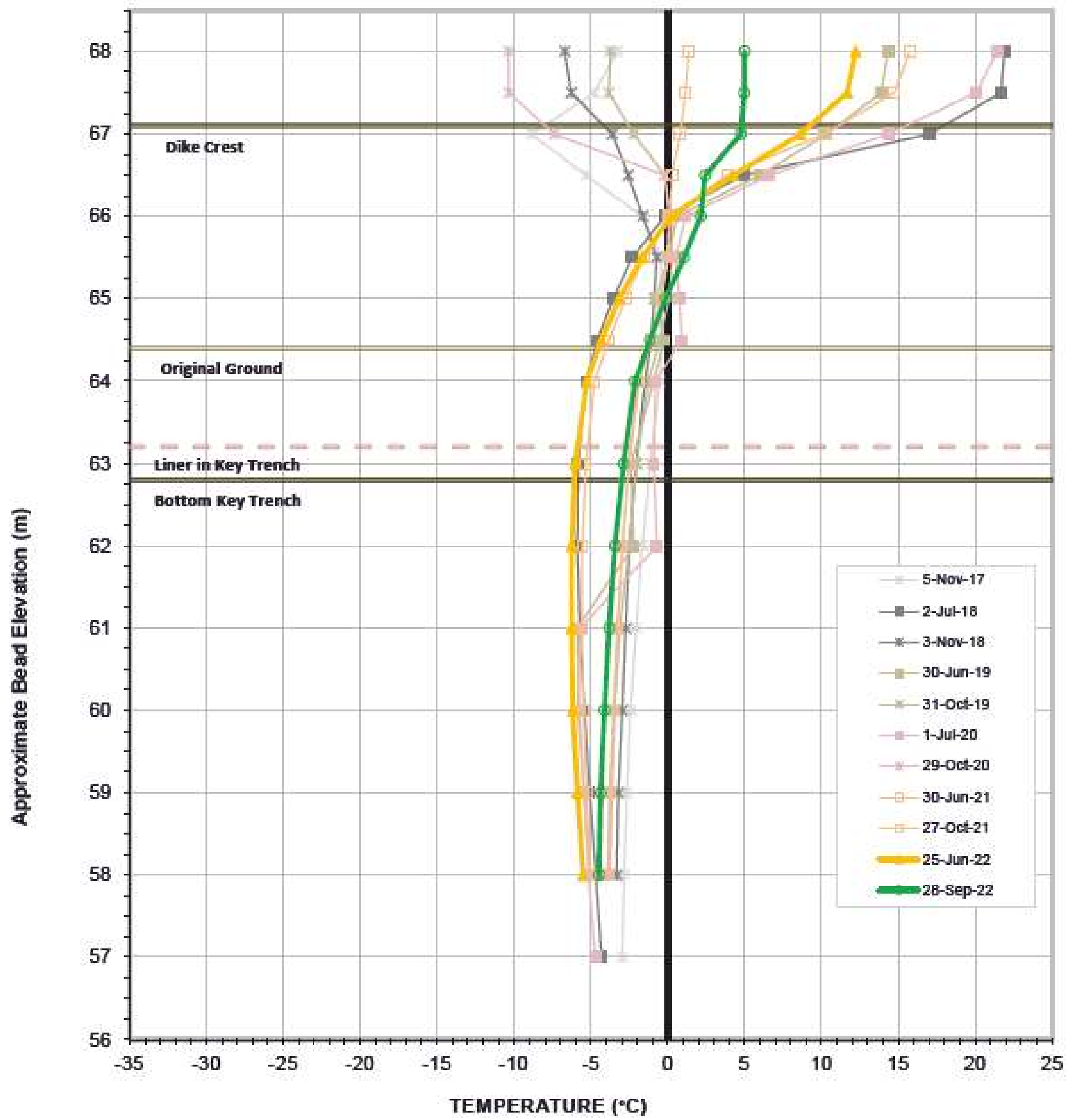
Vertical Ground Temperature Profile for Cable VGTC-01

Serial No.: 2631
Date Installed: July 24, 2017

TETRA TECH

Average Annual Temperature at Various Elevations

	November 2017 - November 2018	November 2018 - November 2019	November 2019 - November 2020	November 2020 - November 2021
Bottom of Cable	-3.4	-3.6	-3.9	-3.9
Liner Base Elevation	-4.2	-4.2	-4.6	-4.3



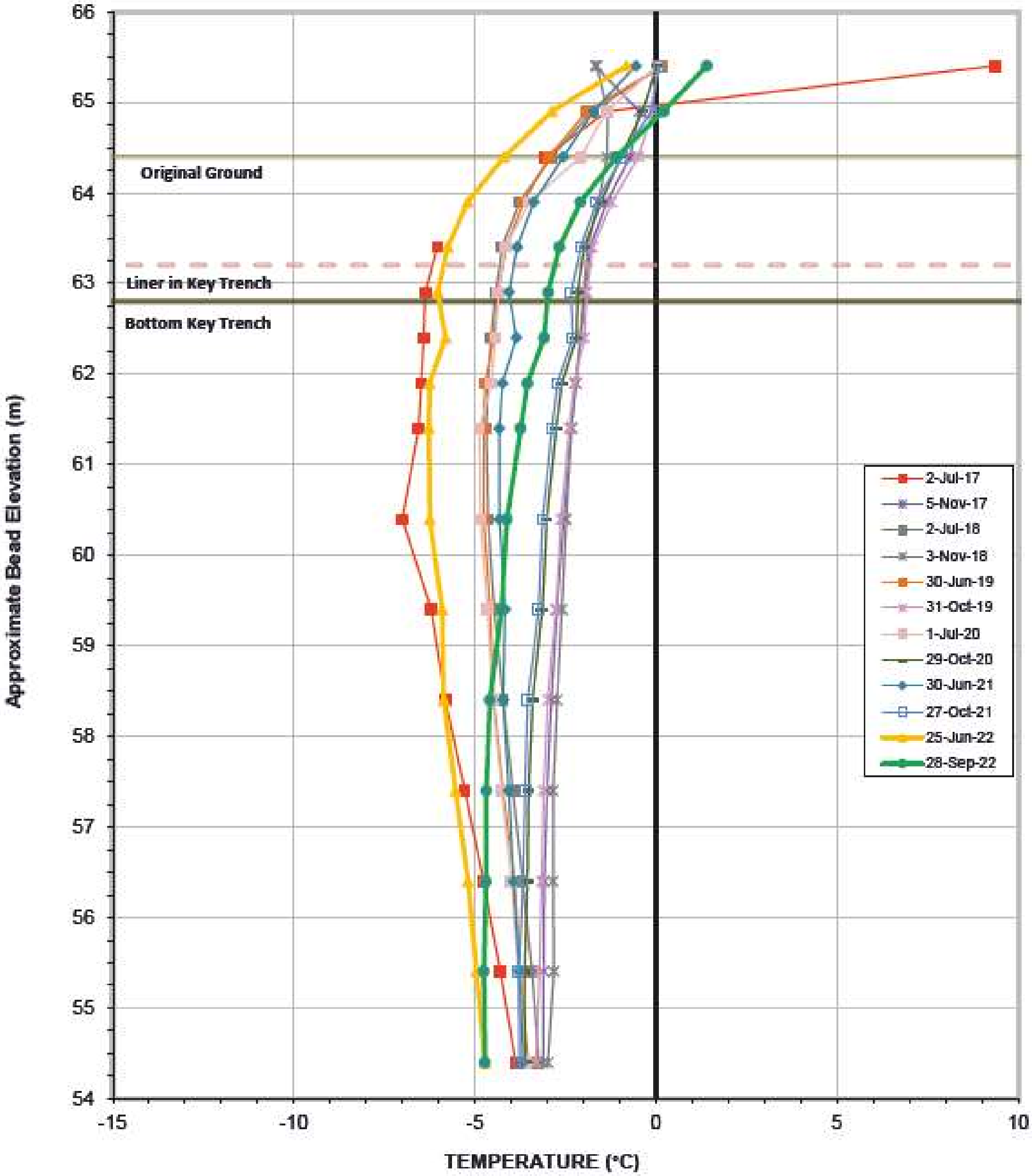
Serial No.: 2632
Date Installed: July 24, 2017

Vertical Ground Temperature Profile for Cable VGTC-02
Dike D-CP5

TETRA TECH

Average Annual Temperature at Various Elevations

	November 2017 - November 2018	November 2018 - November 2019	November 2019 - November 2020	November 2020 - November 2021
Bottom of Cable	-3.9	-4.1	-4.2	-4.1
Liner Base Elevation	-4.7	-3.5	-4.3	-4.8



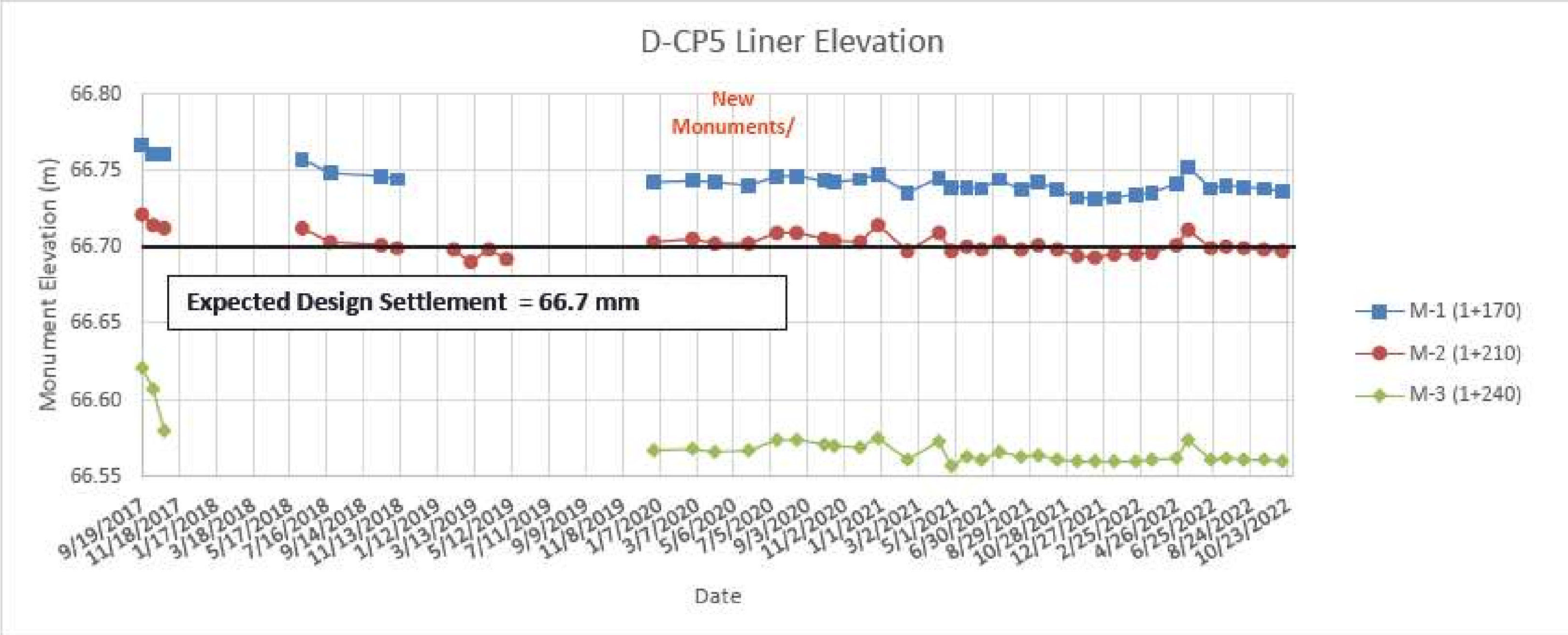
Vertical Ground Temperature Profile for Cable VGTC-03
Dike D-CP5

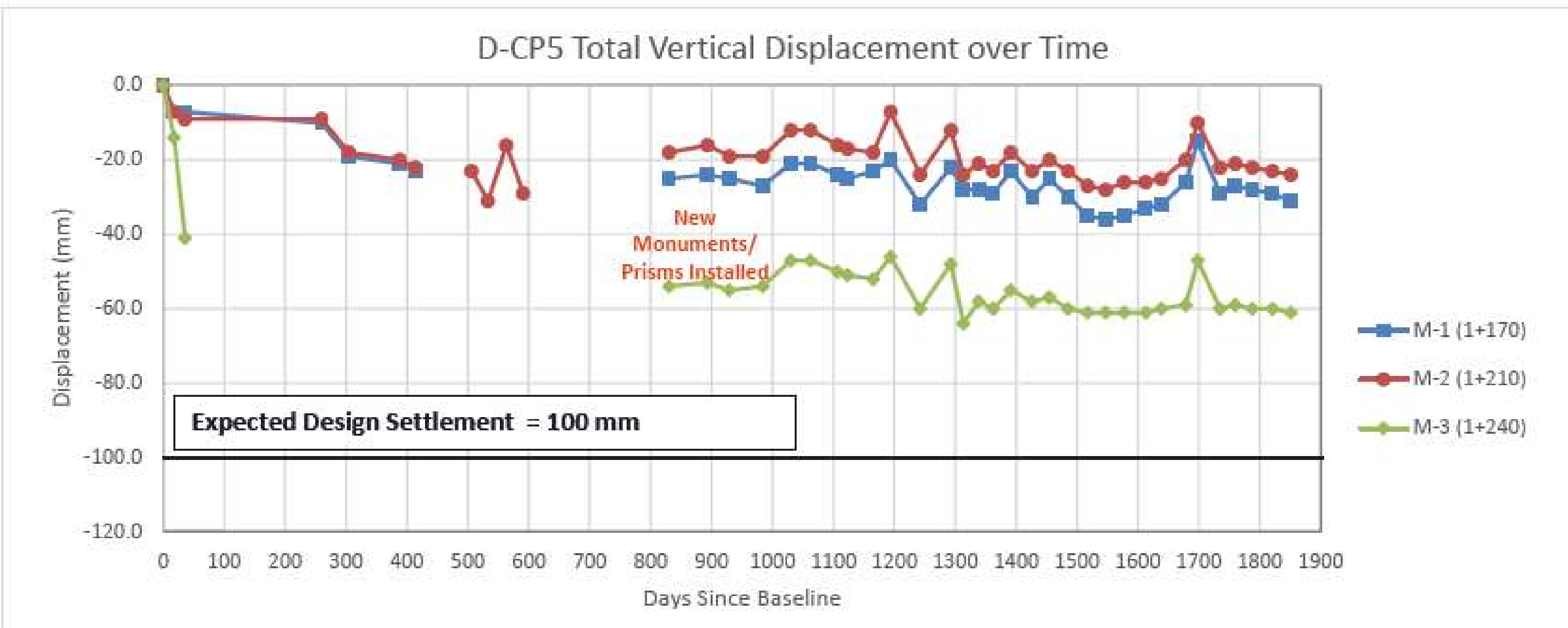
Serial No.: 2633
Date Installed: June 15, 2017

TETRA TECH

Average Annual Temperature at Various Elevations

	November 2017 - November 2018	November 2018 - November 2019	November 2019 - November 2020	November 2020 - November 2021
Bottom of Cable	-3.1	-3.2	-3.3	-3.5
Liner Base Elevation	-3.9	-3.8	-3.6	-3.3


D-CP5 Liner Elevation
New
Monuments/
Expected Design Settlement = 66.7 mm
Monument Elevation (m)
66.80
66.75
66.70
66.65
66.60
66.55
Date
M-1 (1+170)
M-2 (1+210)
M-3 (1+240)


D-CP5 Total Vertical Displacement over Time
New
Monuments/
Prisms Installed
Expected Design Settlement = 100 mm
Displacement (mm)
Days Since Baseline
M-1 (1+170)
M-2 (1+210)
M-3 (1+240)

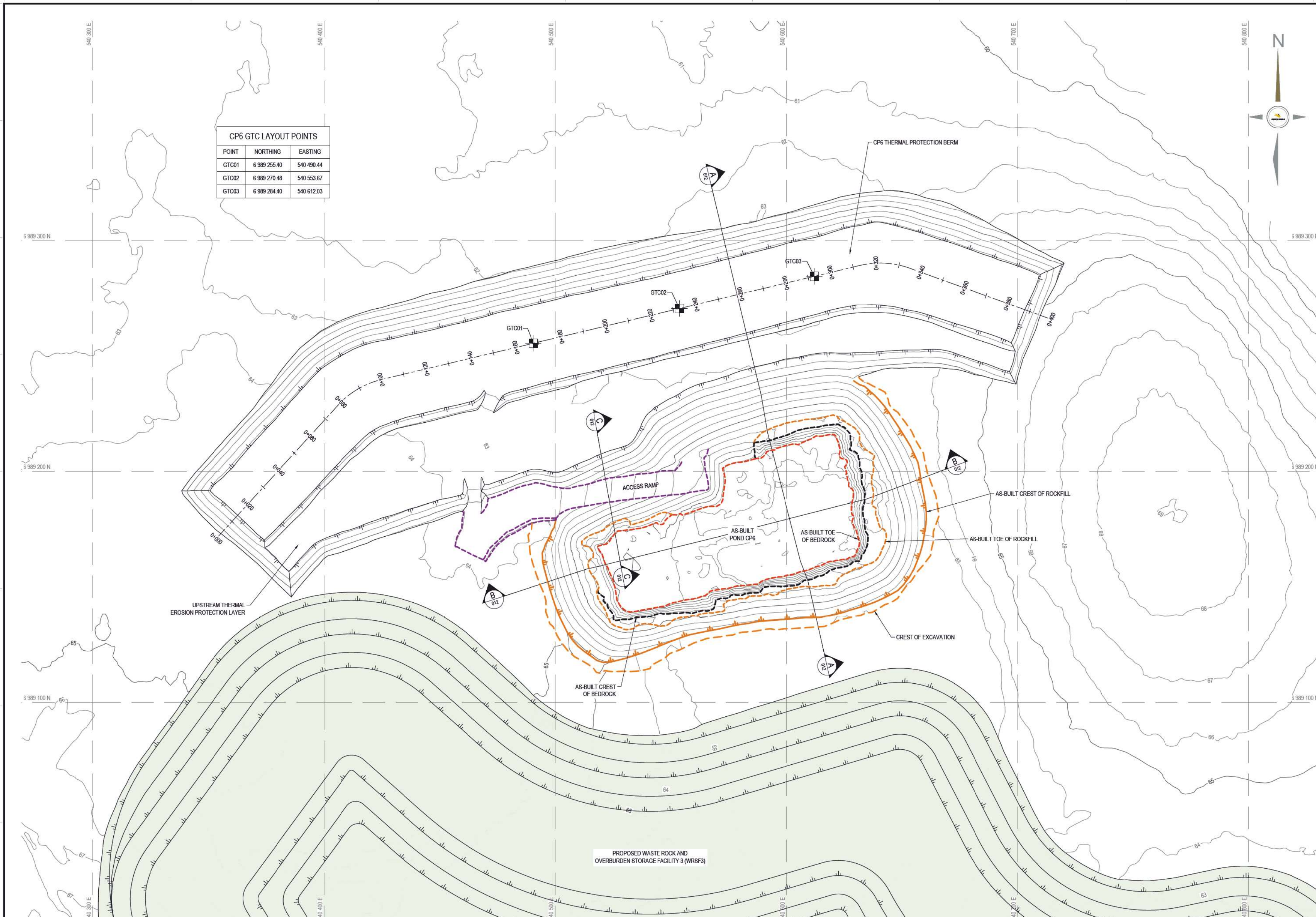
APPENDIX G

POND CP6 AND BERM

NO. DESSIN DRAWING NO. 65-695-230-009

FORMAT ARCHD

CP6 GTC LAYOUT POINTS		
POINT	NORTHING	EASTING
GTC01	6 989 255.40	540 490.44
GTC02	6 989 270.48	540 553.67
GTC03	6 989 284.40	540 612.03



TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

1. ASSUMED CONSTRUCTION SCHEDULE MARCH 2020
2. ASSUMED OPERATION SCHEDULE STARTING TO STORE WATER FROM FRESHET OF 2020.
3. POND DESIGN CAPACITY IS BASED ON STORING 3/7 OF FRESHET WATER UNDER 1:100 WET YEAR CONDITION.
4. THE MAXIMUM ALLOWABLE OPERATING WATER LEVEL IS AT ELEVATION 60.0 m UNDER THE DESIGN IDF CONDITION.
5. MATERIAL PLACEMENT AND FOUNDATION PREPARATION SHOULD BE IN ACCORDANCE WITH THE REQUIREMENTS OF GEOTECHNICAL CONSTRUCTION / MATERIAL SPECIFICATIONS (TETRA TECH 2020).
6. THE SINGLE-LANE RAMP HAS A MINIMUM ROAD WIDTH OF 7.0 m (FOR VOLVO A40F OR CAT 745 HAUL TRUCKS OR SMALLER EQUIPMENT).

TEL QUE CONSTRUIT
AS BUILT
DATE : 2020-07-31

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG

AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
1	2020-07-31	RECORD DRAWINGS	EL	WTH	
0	2020-01-22	ISSUED FOR CONSTRUCTION	GZ	WTH	
A	2020-01-17	ISSUED FOR REVIEW	GZ	WTH	

REVISIONS

TITRE / TITLE

AS-BUILT REPORT FOR POND CP6 AND BERM CP6

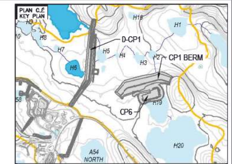
CP6 AND CP6 THERMAL PROTECTION BERM LAYOUT PLAN

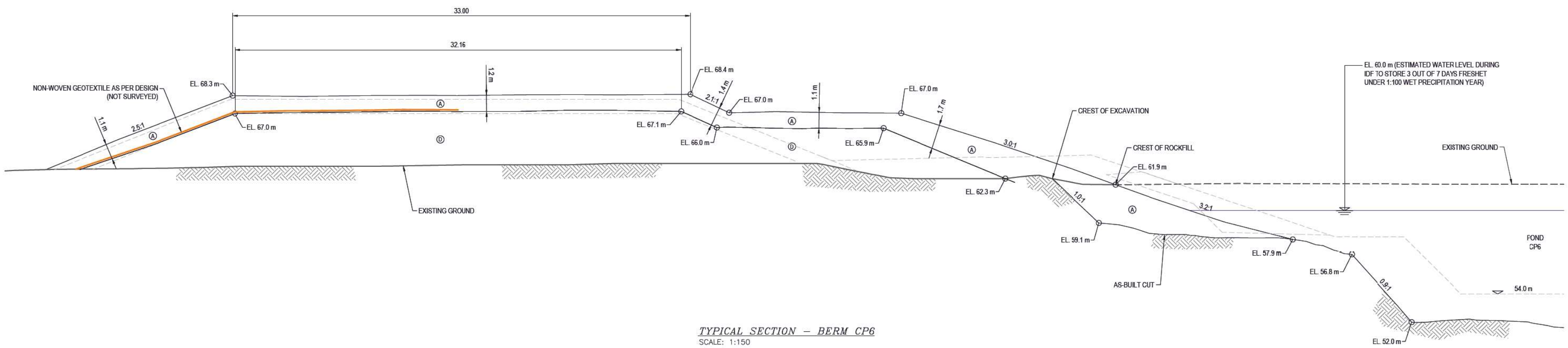
DESSINÉ PAR DRAWN BY	EL	DATE 2020-07-31
VERIFIÉ PAR CHECKED BY	FN	2020-07-31
APPROUVÉ PAR APPROVED BY	WTH	2020-07-31
ÉCHELLE SCALE	1:750	DATE 2020-07-31
NO. DESSIN DRAWING NO.	65-695-230-009	
NO. PROJET PROJECT NO. 6526	REVISION 1	FEUILLE / SHT 1/4

FILE NO. 65 695 230 009.dwg

NO. DESSIN / DRAWING NO. 65-695-230-010

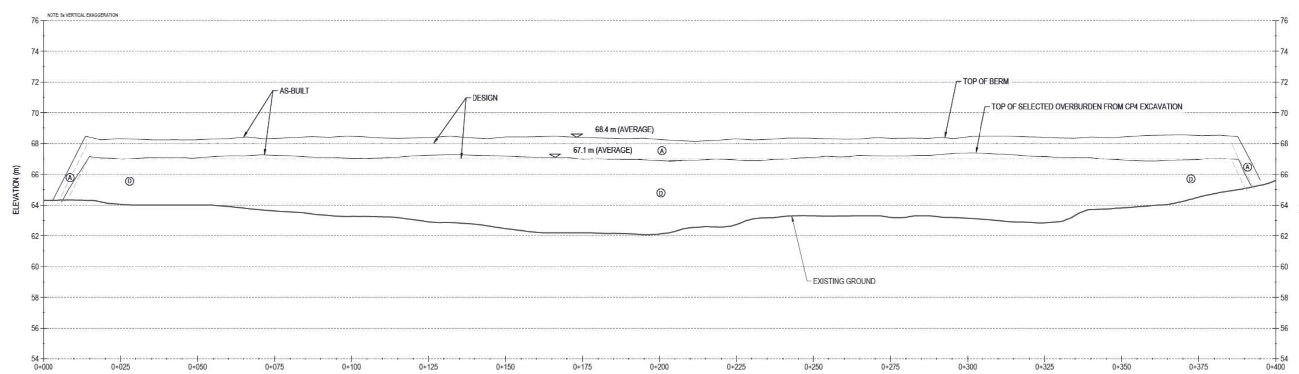
FORMAT ARCHD





TYPICAL SECTION – BERM CP6

SCALE: 1:150



BERM CP6 – PROFILE

SCALE: H–1:750 V–1:150

TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

1. ASSUMED CONSTRUCTION SCHEDULE MARCH 2020
2. ASSUMED OPERATION SCHEDULE STARTING TO STORE WATER FROM FRESHET OF 2020.
3. POND DESIGN CAPACITY IS BASED ON STORING 3/7 OF FRESHET WATER UNDER 1:100 WET YEAR CONDITION
4. THE MAXIMUM ALLOWABLE OPERATING WATER LEVEL IS AT ELEVATION 60.0 m UNDER THE DESIGN IDF CONDITION.
5. MATERIAL PLACEMENT AND FOUNDATION PREPARATION SHOULD BE IN ACCORDANCE WITH THE REQUIREMENTS OF GEOTECHNICAL CONSTRUCTION / MATERIAL SPECIFICATIONS (TETRA TECH 2020).

LEGEND

Ⓐ CLEAN ROCKFILL FROM EXCAVATION (600 mm MINUS)

Ⓓ OVERBURDEN FROM EXCAVATION (300 mm MINUS)

TEL QUE CONSTRUIT
AS BUILT
AGNICO EAGLE
DATE : 2020-07-31

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
–	–
–	–
–	–
–	–
–	–

AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
1	2020-07-31	RECORD DRAWINGS	EL	WTH	
0	2020-01-22	ISSUED FOR CONSTRUCTION	GZ	WTH	
A	2020-01-17	ISSUED FOR REVIEW	GZ	WTH	

REVISIONS

TITRE / TITLE

AS-BUILT REPORT FOR POND CP6 AND BERM CP6

CP6 TYPICAL SECTION AND CP6 THERMAL PROTECTION BERM PROFILE

		DATE
DESSINÉ PAR / DRAWN BY	EL	2020-07-31
VÉRIFIÉ PAR / CHECKED BY	FN	2020-07-31
APPROUVÉ PAR / APPROVED BY	WTH	2020-07-31
ÉCHELLE / SCALE	AS SHOWN	2020-07-31

NO. DESSIN / DRAWING NO. 65-695-230-010

NO. PROJET / PROJECT NO.	REVISION	FEUILLE / SHT
6526	1	2 / 4

AE-CART-ARCH D

Q:\Edmonton\Engineering\E141\Projects\...\CP6 As-Built\65-695-230-010.dwg 2013-02-19 14:03:29

FILE NO. 65 695 230 010.dwg

Photo 1: Pond CP6 - Looking east —Rockfill covered overburden, south embankment.

Photo 2: Pond CP6—Ground between WRSF3 and CP6—filled with ROM June 2021. ROM placed to reduce erosion in former lakebed sediments.

Photo 3: Pond CP6 - Significant sedimentation from water inflow at northwest corner.

Photo 4: Pond CP6—South side of pond, WRSF3 above pond, water inflow on bedrock surface in southeast corner of pond, deformed ROM, indication of subsurface flow.

Photo 5: Pond CP6 - Remaining lakebed above CP6. WRSF3 in back ground. Inside corners of WRSF3 reported to be large snow catch areas.

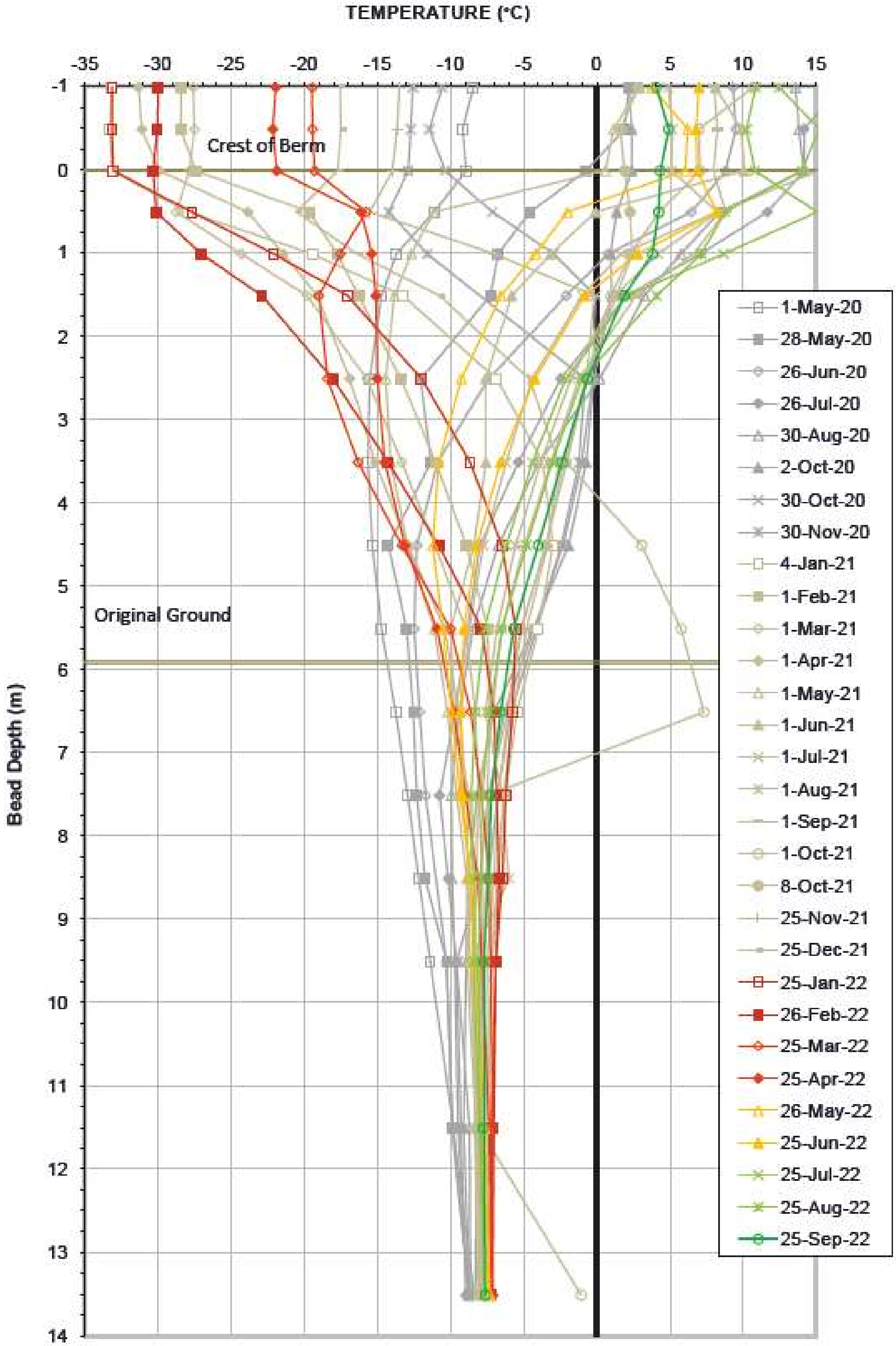
Photo 6: Pond CP6 - Overview of CP6 facing southeast.

Photo 7: Pond CP6 - Berm CP6 crest. Minimal settlement.

Photo 8: Pond CP6 - Berm CP6—downstream crest.

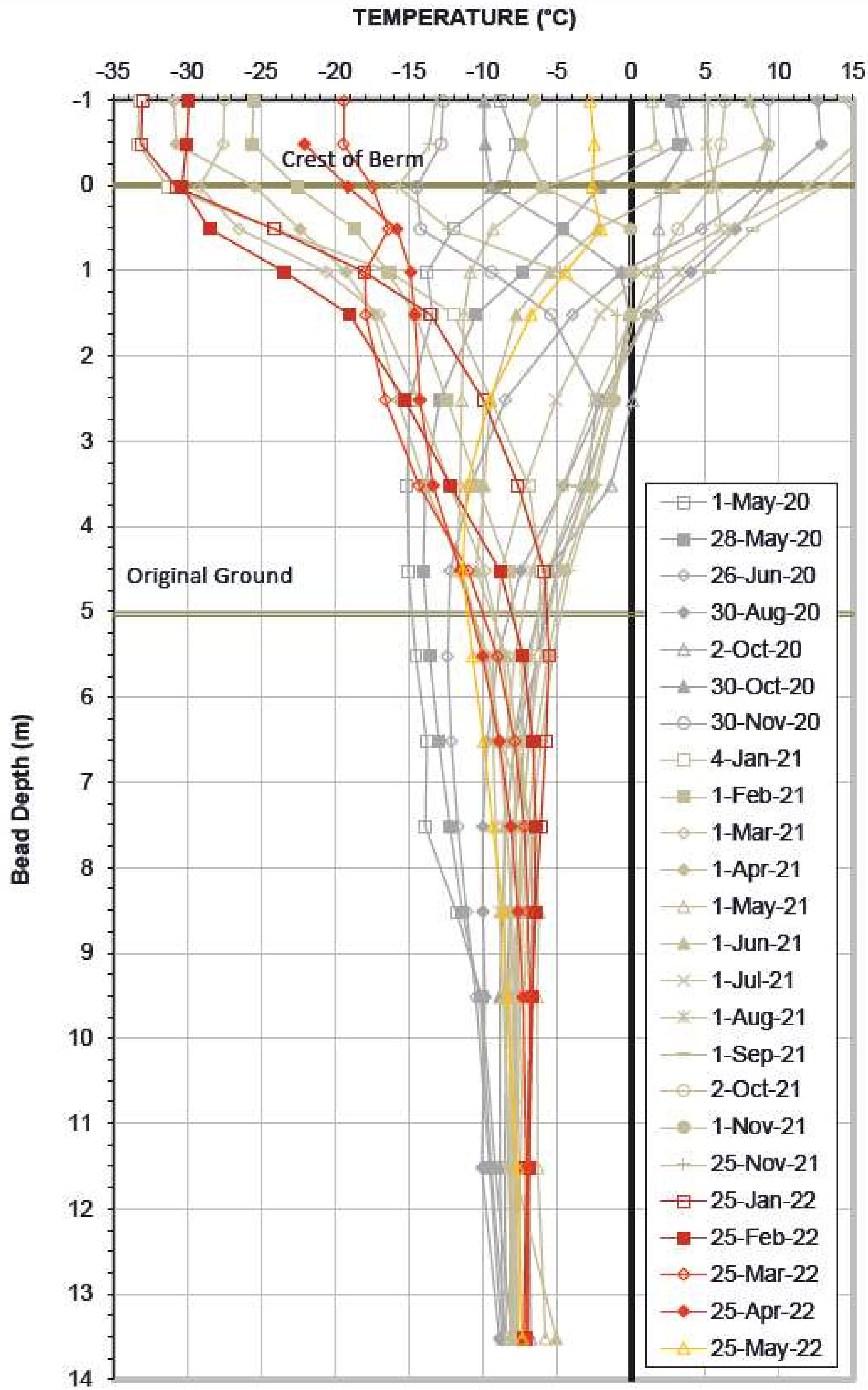
Photo 9: Pond CP6 - Embankments of CP6 showing no significant deformation.

Photo 10: Pond CP6 - Ramp from WRSF3 to CP6 area.



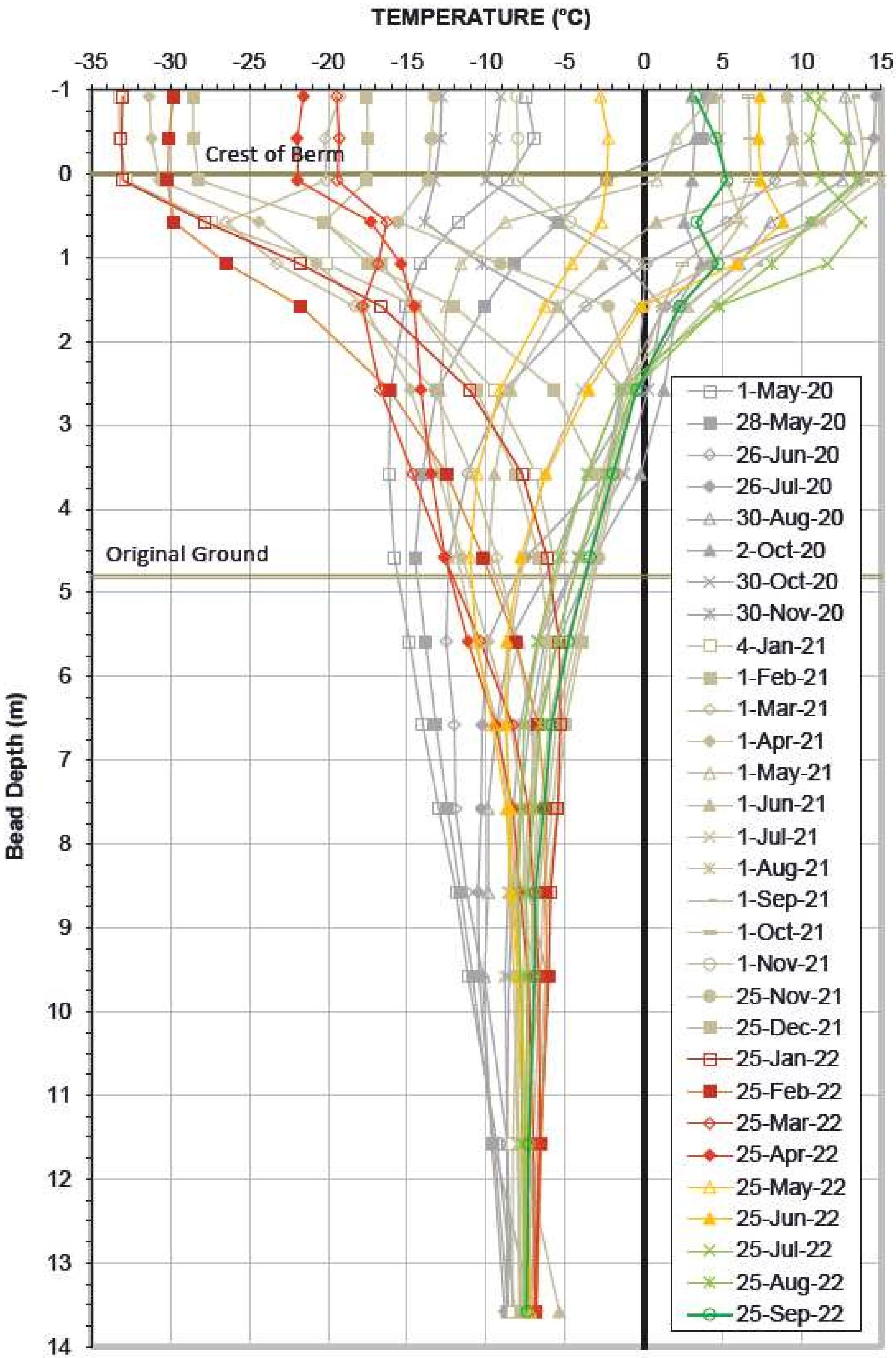
Ground Temperature Profile for Cable GTC-01
Berm CP6

Serial No.: 2728
Date Installed: April 23, 2020



Ground Temperature Profile for Cable GTC-02
Berm CP6

Serial No.: 2729
Date Installed: April 23, 2020



Ground Temperature Profile for Cable GTC-03
Berm CP6

Serial No.: 2730
Date Installed: April 23, 2020

APPENDIX H

SALINE PONDS

Photo 1: SP1 Saline Pond - looking towards the northwest. Pond in bedrock, ROM covered overburden slopes

Photo 2: SP1 Saline Pond - Access ramp into pond.

Photo 3: SP1 Saline Pond - Deformation and cracking in top of overburden protected slope, southwest corner of pond.

Photo 4: SP1 Saline Pond - Overview of deformation and cracking in top of overburden protected slope, southwest corner of pond.

Photo 5: SP3 Saline Pond - looking north.

Photo 6: SP3 Saline Pond - looking west, north berm

Photo 7: SP3 Saline Pond - looking south—east berm

Photo 8: SP4 Saline Pond - Looking west, rockfill covered slopes.

Photo 9: SP4 Saline Pond—Access ramp into pond.

Photo 10: SP4 Saline Pond—Looking west General subsidence between overburden and rock-fill cover.

Photo 11: SP4 Saline Pond—Settlement in disturbed overburden above rockfill covered slope.

Photo 12: SP4 Saline Pond - Rockfill covered slope, looking northwest.

Photo 13: SP4 Saline Pond - Overview looking east.

Photo 14: SP4 Saline Pond—Thaw subsidence underneath rockfill covered overburden slope.

Photo 15: SP4 Saline Pond—Rockfill cover, no significant deformation. Bedrock below slope.

APPENDIX I

DIVERSION CHANNELS AND BERMS

Photo 1: Channel 1—Upper reach, crusher ramp embankment to the left, looking east

Photo 2: Channel 1—Culvert under the crusher ramp, Berm 1 on the right.

Photo 3: Channel 1—Channel length between crusher ramp and ore pad access.

Photo 4: Channel 1—Downstream of crusher ramp, crest subsidence and erosion into channel.

Photo 5: Channel 1—Downstream of crusher ramp, crest subsidence and erosion into channel.

Photo 4: Channel 1—Lower reach to Lake H9, adjacent to ore stockpiles on left.

Photo 7: Channel 1—Rip settlement and cracking along crest of overburden.

Photo 8: Channel 1—Standing water adjacent to channel slope and ore pad.

Photo 9: Channel 2—Upper reach, site camp to the right, looking east.

Photo 10: Channel 2—In good condition.

Photo 11: Channel 2—Some settlement in base of channel allowing water to pool.

Photo 12: Channel 2—Lower reach, water pooling around discharge.

Photo 13: Channel 2—Discharge water potentially able to flow towards Lake G2 due to wet conditions and low lying area, looking north.

Photo 14: Channel 3—Discharge into CP3.

Photo 15: Channel 3—Lower reach, TSF adjacent on left of photo.

Photo 16: Channel 3—Undulating settlement along base of channel causing ponding.

Photo 17: Channel 3—Cracking along road side slopes adjacent to channel.

Photo 18: Channel 3—Significant subsidence across channel alignment and subsequent cracking along road side slope, looking east.

Photo 19: Channel 3—Subsidence across channel alignment, looking southeast.

Photo 20: Channel 3—Thermal degradation of ground upstream of Channel 3.

Photo 21: Channel 3—Channel base infilling with sediment, looking east.

Photo 22: Channel 3—Upper reach, looking east.

Photo 23: Channel 4 - Upper reach, below landfill.

Photo 24: Channel 4—Looking south.

Photo 25: Channel 4 - Settlement in base of channel resulting in minor ponding.

Photo 26: Channel 4 - Minor subsidence between original ground and channel rip rap.

Photo 27: Channel 4 - Subsidence in downstream slope (west slope) of channel.

Photo 28: Channel 4 - Migration of fines from un-armoured overburden berm.

Photo 29: Channel 4 - Repaired rip rap slope and rockfill capping over preferential flow area between WRSF1 and Channel 4.

Photo 30: Channel 4 - Lower reach along CP4 thermal berm.

Photo 31: Channel 5—Upper reach, south of Portal2, significant subsidence and cracking along slopes with rip rap settled below water level in channel.

Photo 32: Channel 5—Water level in channel controlled by CP5, pooling in low area against Berm3, looking west.

Photo 33: Channel 5—Upper reach looking southwest.

Photo 34: Channel 5—Lower reach, outlet into CP5, looking northeast.

Photo 35: Channel 7—Upper reach, minor subsidence and pooling at bottom of channel, looking north.

Photo 36: Channel 7—Lower reach, in good condition.

Photo 37: Channel 7—Outlet into Channel 1, ore stockpile in background.

Photo 38: Channel 9—Lower reach, east of WRSF3.

Photo 39: Channel 9—Armoured diversion berm downstream of channel.

Photo 40: Channel 9—Upper reach, east of WRSF3.

Photo 41: Channel 9—Thermal degradation of original ground upstream of channel.

Photo 42: Channel 9—Thermal subsidence between rip rap and original ground interface.

Photo 43: Channel 10—Lower reach, facing south.

Photo 44: Channel 10—Slight subsidence of upstream slope and rip rap.

Photo 45: Channel 10—Disturbance to upstream original ground and thaw subsidence.

Photo 46: Channel 10—Channel inlet diversion berms, low area in berm tie-in .

Photo 47: Berm 2—East abutment.

Photo 48: Berm 2—Longitudinal cracking along downstream slope and crest .

Photo 49: Berm 2—Impounded water against upstream side of Berm 2 with high water mark.

Photo 50: Berm 2—Longitudinal cracking and minor erosion along upstream embankment.

Photo 51: Berm 3—Ponded water against upstream embankment. Vegetation on Berm.

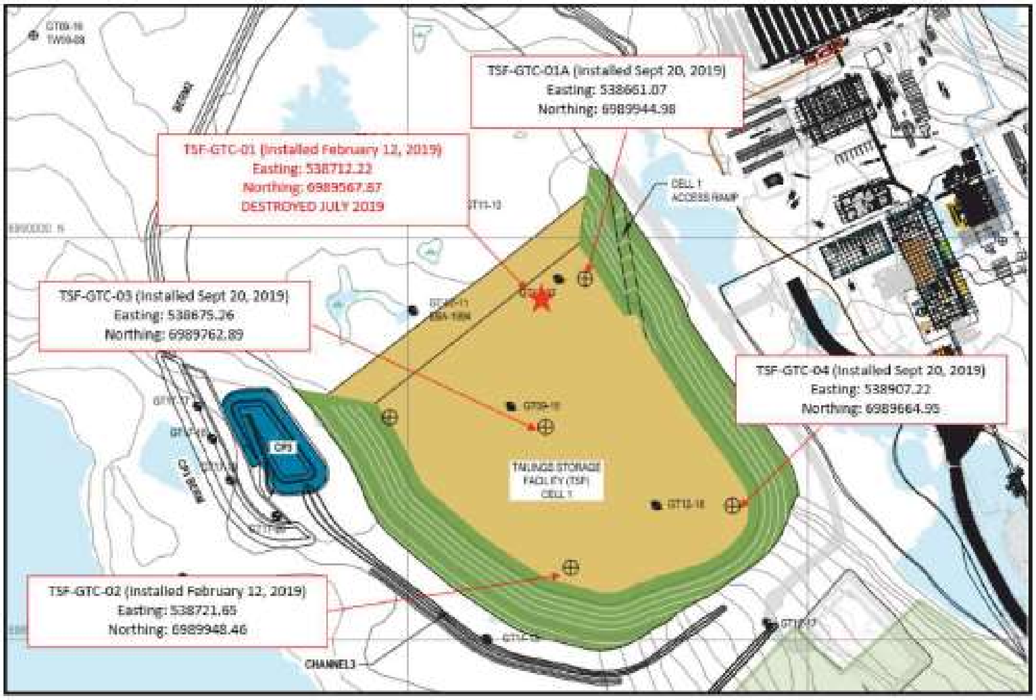
Photo 52: Berm 3—Downstream crest with vegetation growth.

Photo 53: Berm 3—Cracking along slopes and crest.

Photo 54: Berm 3—Settlement area of berm surface near west abutment.

APPENDIX J

TAILINGS STORAGE FACILITY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Northing: 6989944.98
TSF-GTC-01 (Installed February 12, 2019)
Easting: 538712.22
Northing: 6989567.87
DESTROYED JULY 2019
CELL 1
ACCESS RAMP
TSF-GTC-03 (Installed Sept 20, 2019)
Easting: 538675.26
Northing: 6989762.89
TSF-GTC-04 (Installed Sept 20, 2019)
Easting: 538907.22
Northing: 6989664.95
TAILINGS STORAGE
FACILITY (TSF)
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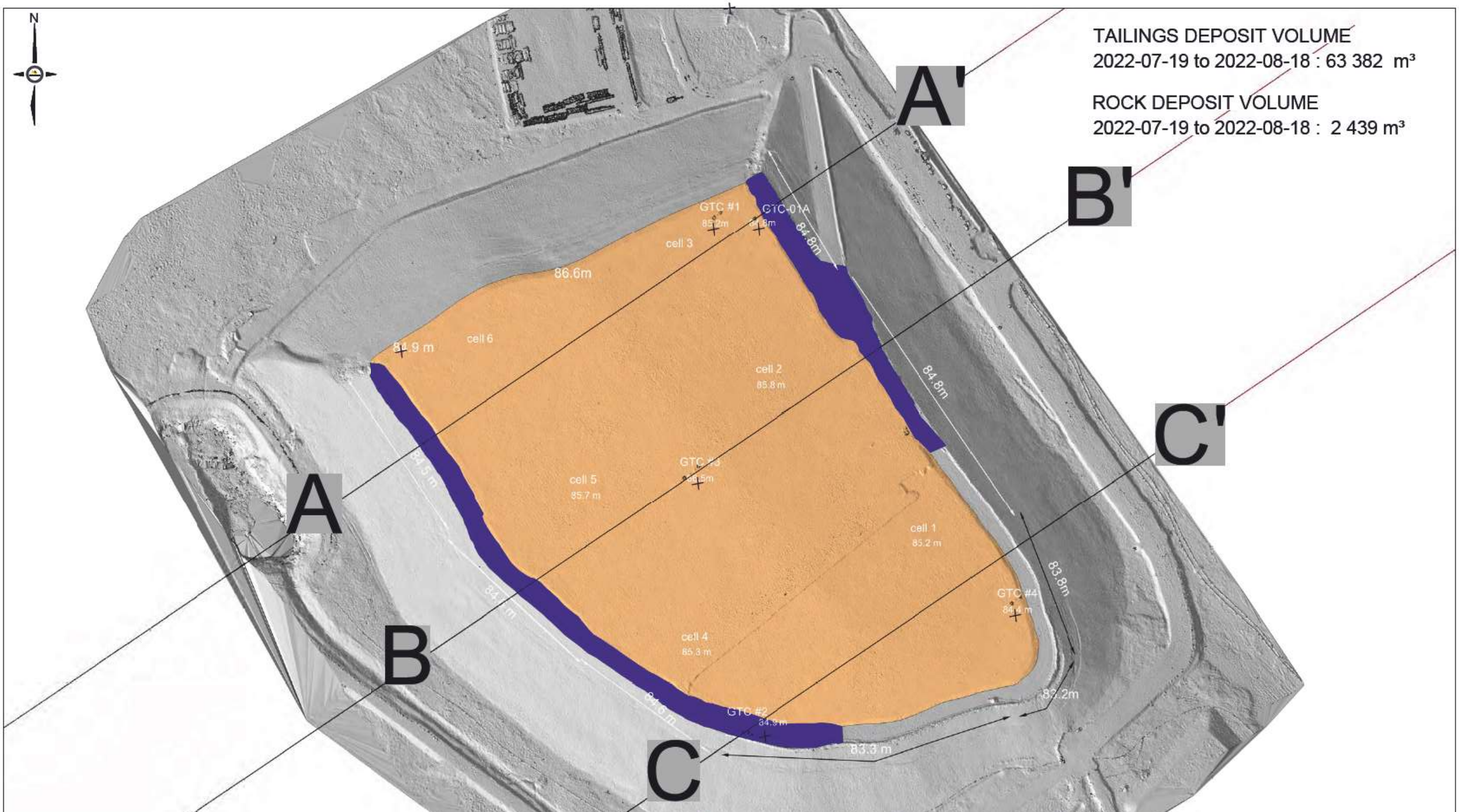
CHANNEL3



23-08-2022			
REV	DESCRIPTION	DATE	PAR/BY
REVISIONS			

AGNICO EAGLE
MELIADINE

DESSINÉ PAR/DRAWN BY	Damien Grandy	DATE	2022-08-23
VÉRIFIÉ PAR/CHECKED BY		DATE	
APPROUVÉ PAR/APPROVED BY		DATE	
ÉCHELLE/SCALE	1:2500	FEUILLE/SHT	½

TITRE / TITLE
AGNICO EAGLE - MELIADINE DIVISION
2022-08-23
TSF EOM - August 2022

No. DESSIN/DRAWING NO.
REVISION A

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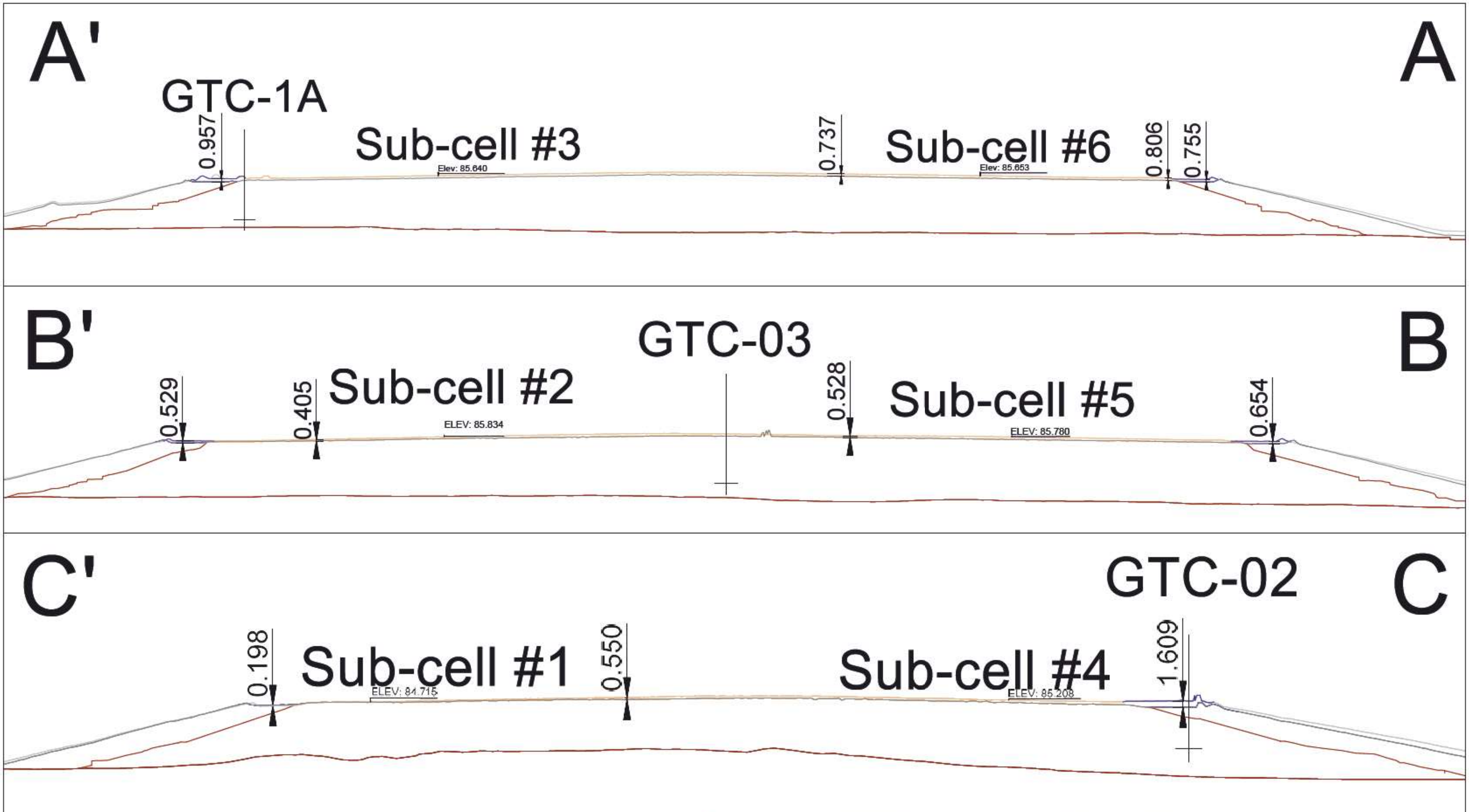

REV	DESCRIPTION	DATE	PAR/BY

REVISIONS

AGNICO EAGLE
MELIADINE

DESSINÉ PAR/DRAWN BY: Damien Grandy
DATE: 23-08-2022
VÉRIFIÉ PAR/CHECKED BY:
DATE:
APPROUVÉ PAR/APPROVED BY:
DATE:
ÉCHELLE/SCALE:
FEUILLE/SHEET: 2/2

TITRE / TITLE:
AGNICO EAGLE - MELIADINE DIVISION
TSF
Cross section - August 2022

No. DESSIN/DRAWING NO.: DRAWING-NO
REVISION: A

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Photo 1: TSF - North side of Cell 1

Photo 2: TSF—North side of Cell 1—Rockfill slope covering west side of TSF

Photo 3: TSF - East slope, access road in foreground.

Photo 4: TSF - Thermistors located on edge of TSF embankment.

Photo 5: TSF - Spreading tailings.

Photo 6: TSF - Compacting tailings.

Photo 7: TSF - Slope between Cell 1 and future Cell 2.

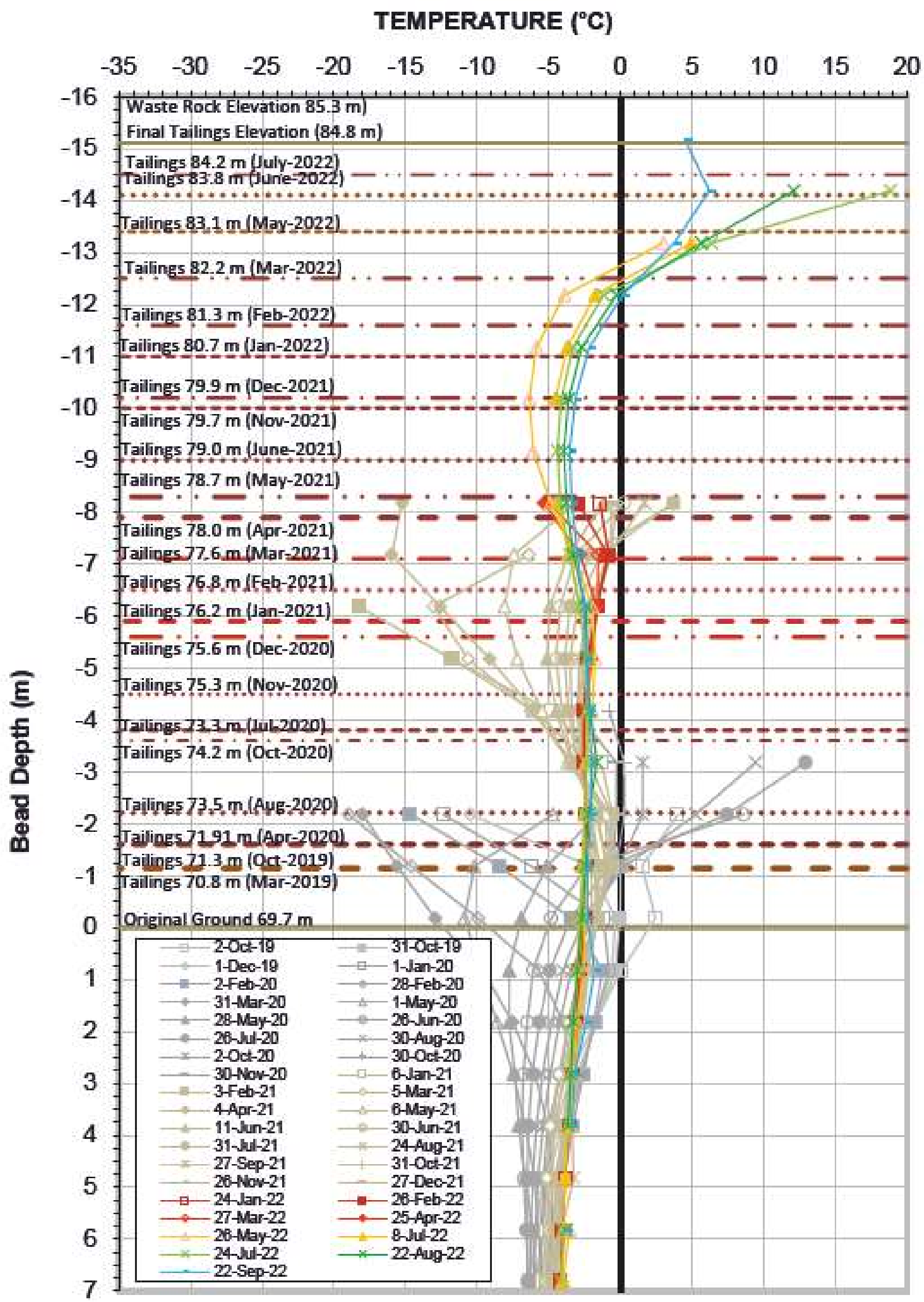
Photo 8: TSF - Placed tailings.

Photo 9: TSF - contact between rockfill cover and tailings at the northwest corner of Cell 1.

Photo 10: TSF - Erosion channels on exposed north embankment.

Photo 11: TSF - Sedimentation, cracking, and piping along north embankment toe.

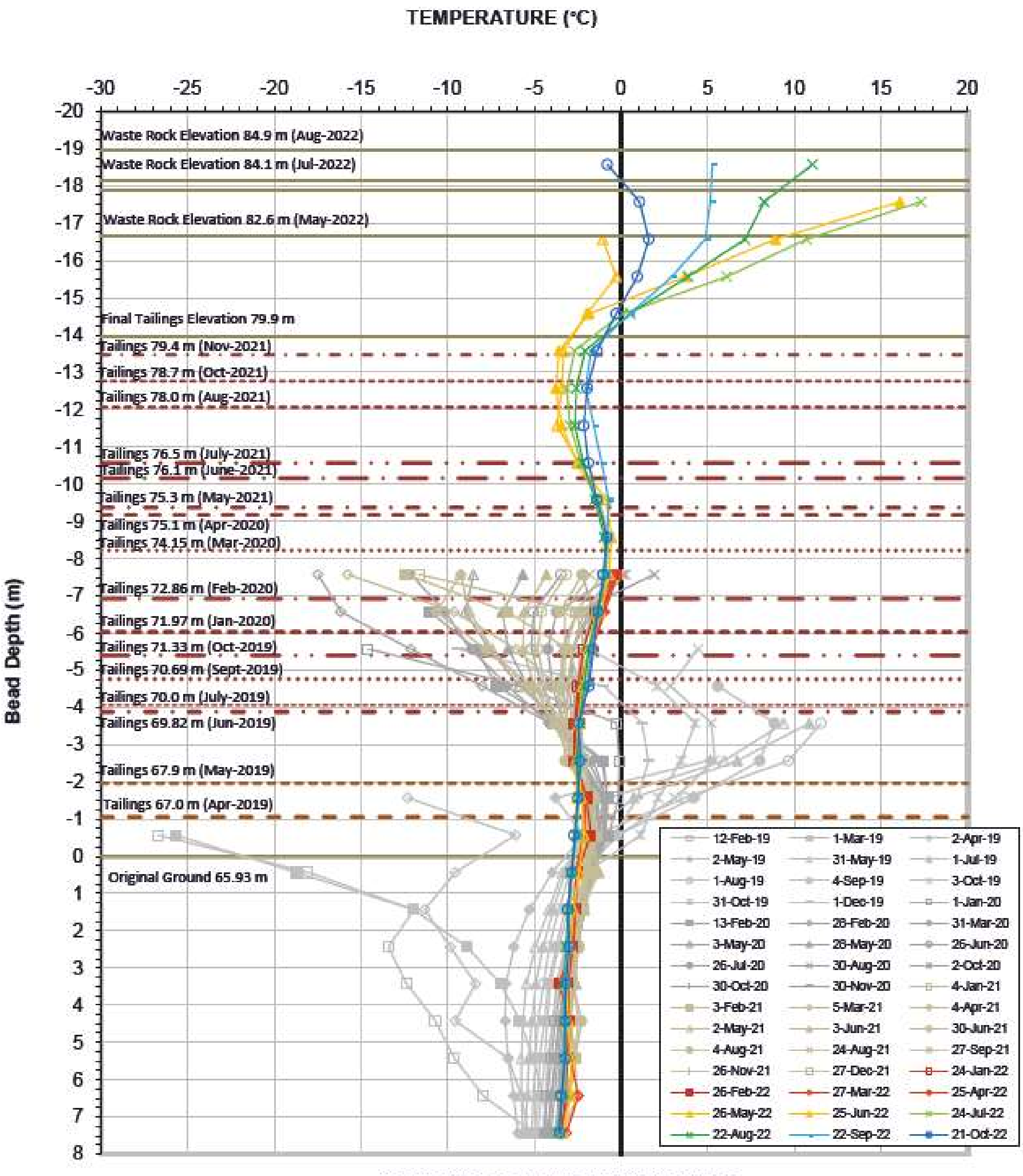
Photo 12: TSF - Swale along toe of north embankment directed to CP3.



Ground Temperature Profile for Cable TSF-GTC-01A & TSF-GTC-11
Tailings Storage Facility

TSF-GTC-01A Serial No.: 2698
Elevation: 62.9 - 77.9 m
Date Installed: September 20, 2019

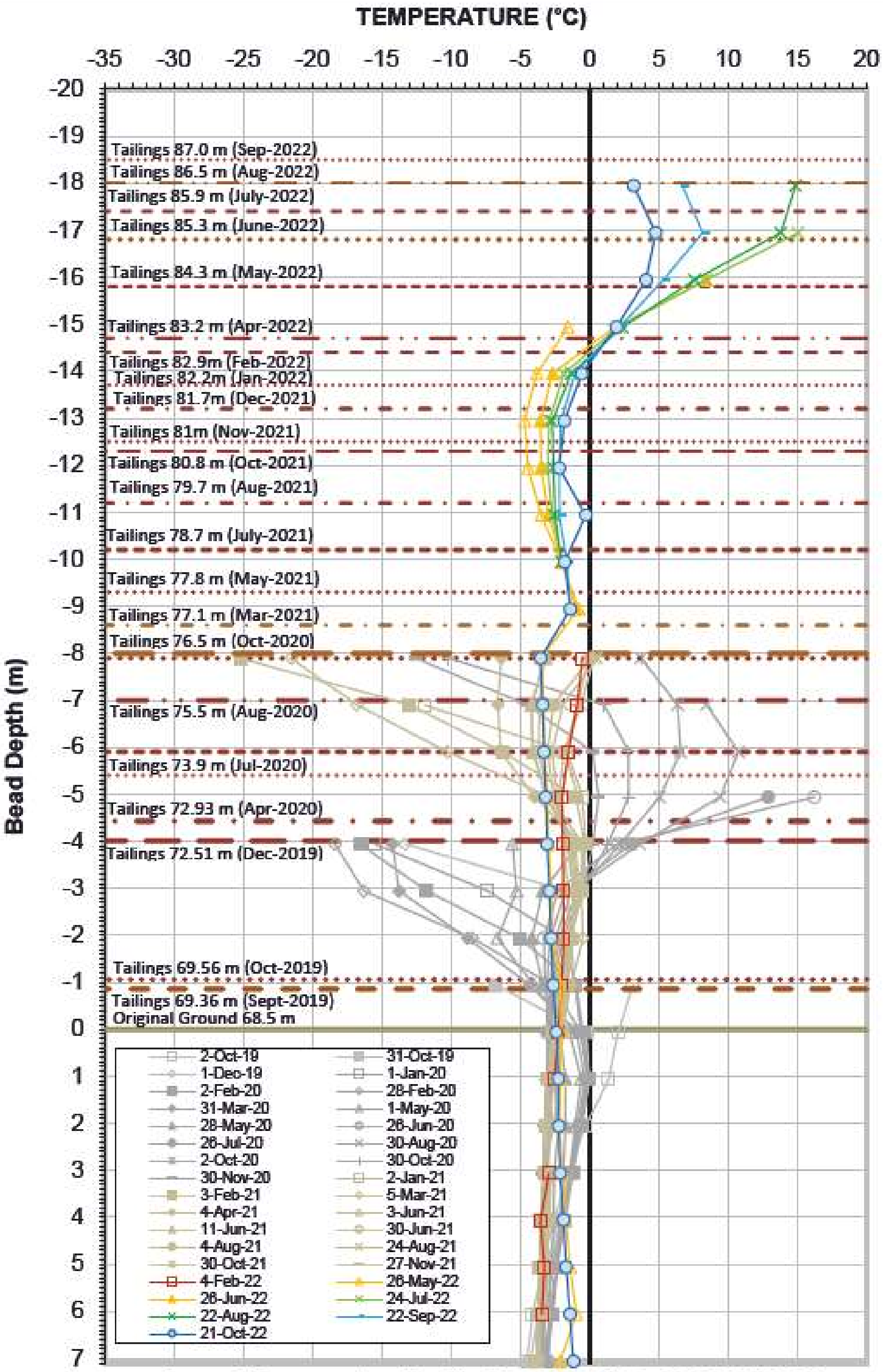
TSF-GTC-11 Serial No.: 2777
Elevation: 78.9 - 90.9 m
Date Installed: May 8, 2022



Ground Temperature Profile for Cable
GTC-02 & GTC-22
Tailings Storage Facility

TSF-GTC-02 Serial No.: 2687
Elevation: 58.5 - 73.5 m
Date Installed: February 12, 2019

TSF-GTC-22 Serial No.: 2774
Elevation: 74.5 - 84.5 m
Date Installed: May 8, 2022

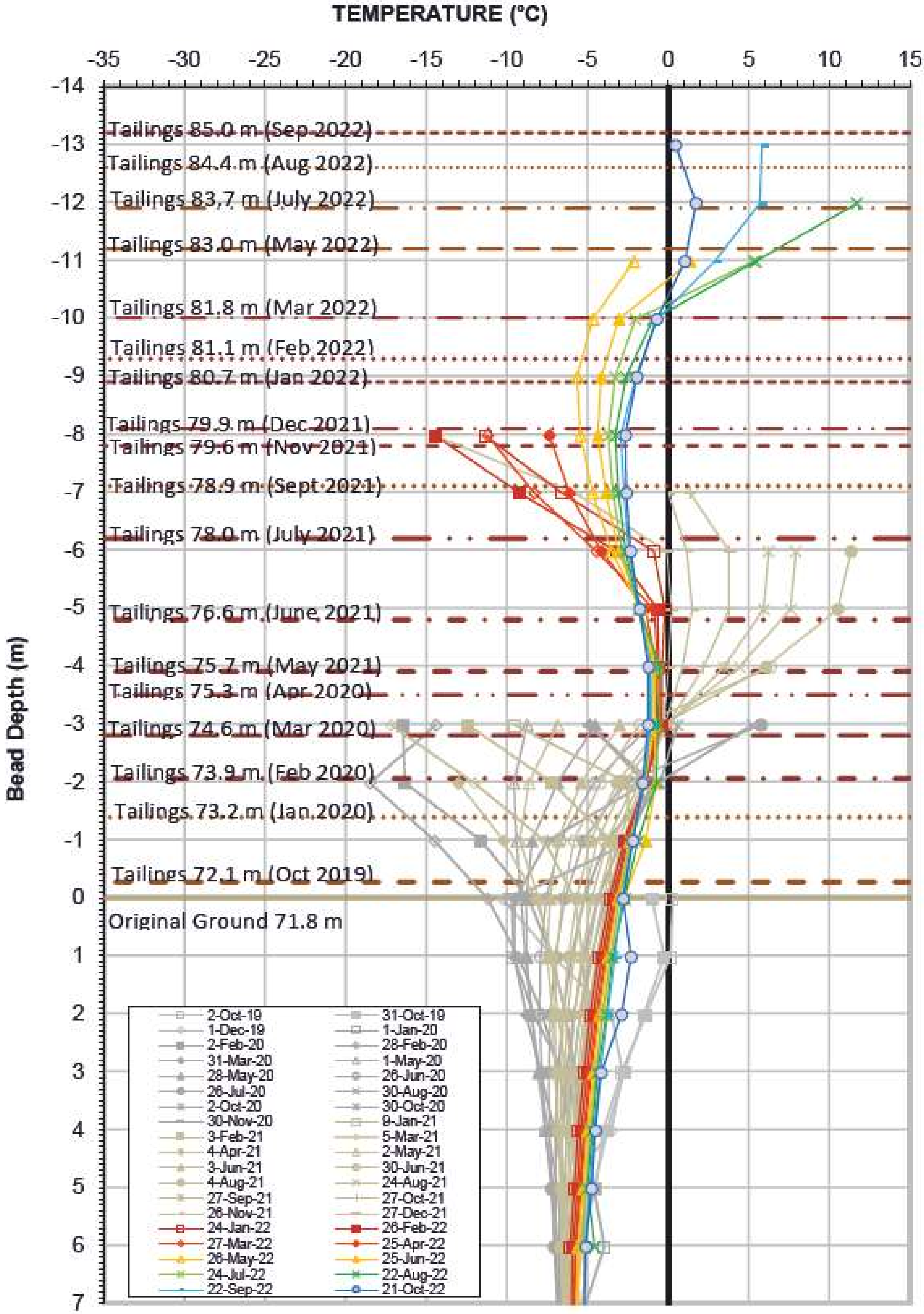


Ground Temperature Profile for Cable GTC-03A & GTC-33
Tailings Storage Facility

TSF-GTC-03 Serial No.: 2699
Elevation: 61.4 - 76.4 m
Date Installed: September 20, 2019
Date Decomissioned: May 8 2022

TSF-GTC-03A Serial No.:17-375P13
Elevation: 61.4 - 76.4 m
Date Installed: May 8, 2022

TSF-GTC-33 Serial No.: 2775
Elevation: 77.4 - 92.4 m
Date Installed: May 8, 2022

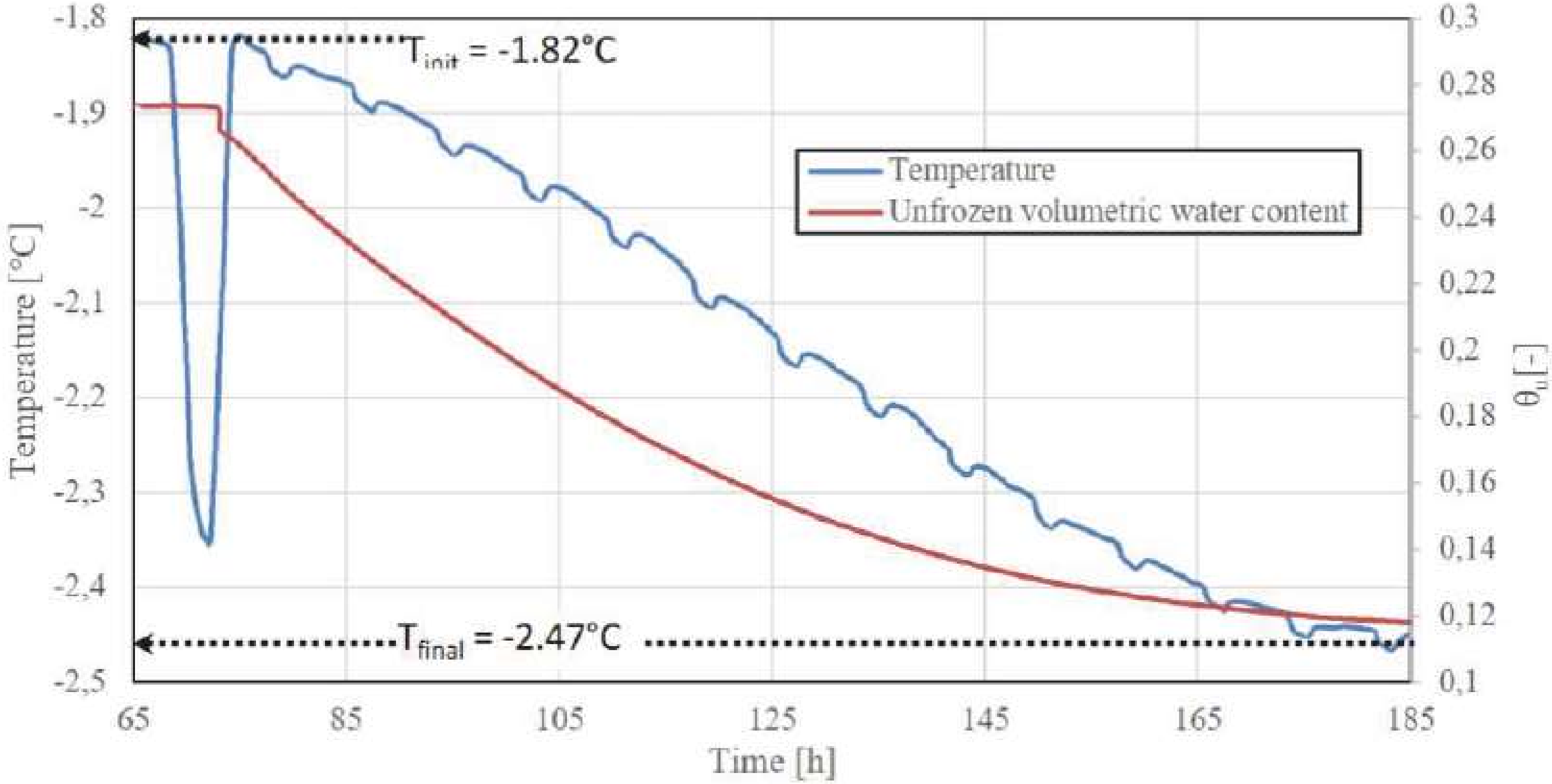


Ground Temperature Profile for Cable

TSF-GTC-04 Serial No.: 2697
Elevation: 64.8 - 79.8 m
Date Installed: September 20, 2019

TSF-GTC-44 Serial No.: 2773
Elevation: 80.8 - 92.8 m
Date Installed: May 8, 2022

Figure 6. Temperature and unfrozen moisture content (volume) evolution between temperature step -1.82 °C and step -2.47°C.



(Université Laval, 2022)

APPENDIX K

SITE ROADS

Photo 1: Site Roads—Road to landfill adjacent the TSF.

Photo 2: Site Roads—Drainage swale and road to ore stockpile.

Photo 3: Freshwater Intake Road and turnaround.

Photo 4: Site Roads—CP5 Jetty Road.

Photo 5: Emulsion Storage Pad access road.

Photo 6: CP3 access road.

Photo 7: Site Roads—WRSF1 haul road, looking north.

Photo 8: Site Roads—Service road adjacent landfarm and industrial tankfarm.

Photo 9: Site Roads—Service road adjacent CP1, looking north.

Photo 10: Site Roads—WRSF1 Haul Road, looking south.

Photo 11: Site Roads—Haul road between Tiri1 and Tiri2 Pits, adjacent D-CP1.

Photo 12: Site Roads—Haul road between Tiri1 and Tiri2 pits, adjacent Berm 3.

APPENDIX L

BORROW SOURCES

Photo 1: North Esker—Looking north.

Photo 2: North Esker—Looking south.

Photo 3: North Esker—Looking south.

Photo 4: Wesmeg Esker—Access, looking norhtwest.

APPENDIX M

ORE STOCKPILES

Photo 1: Ore Stockpile Area—Viewed from crusher ramp.

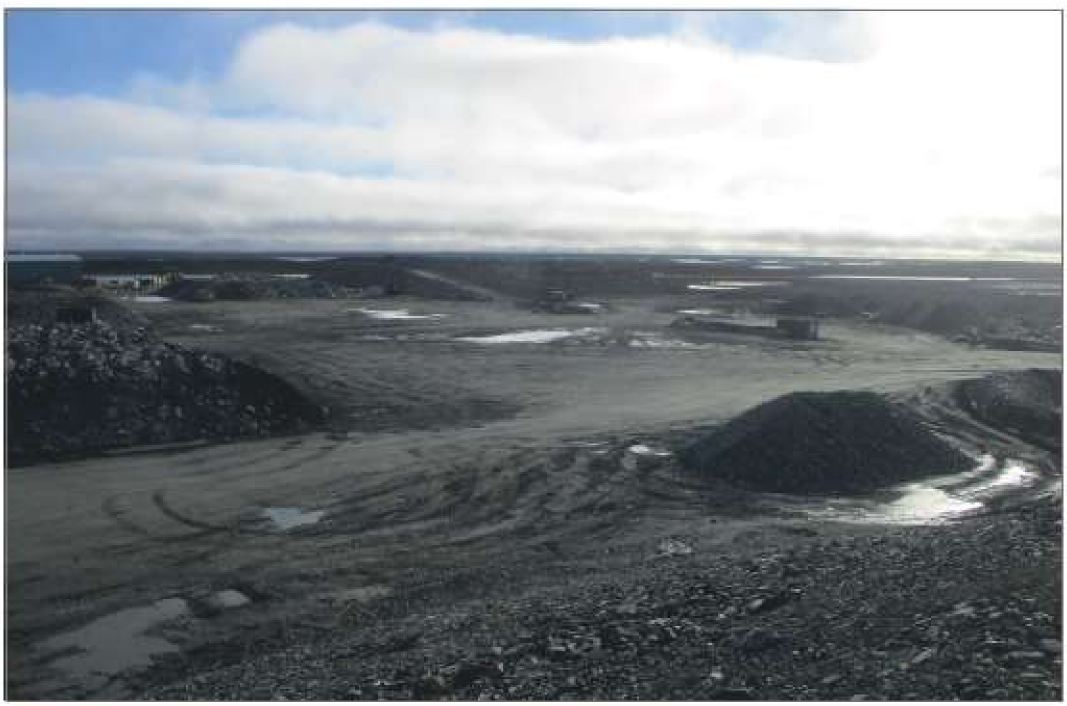


Photo 2: Ore Stockpile Area—Viewed from crusher ramp.

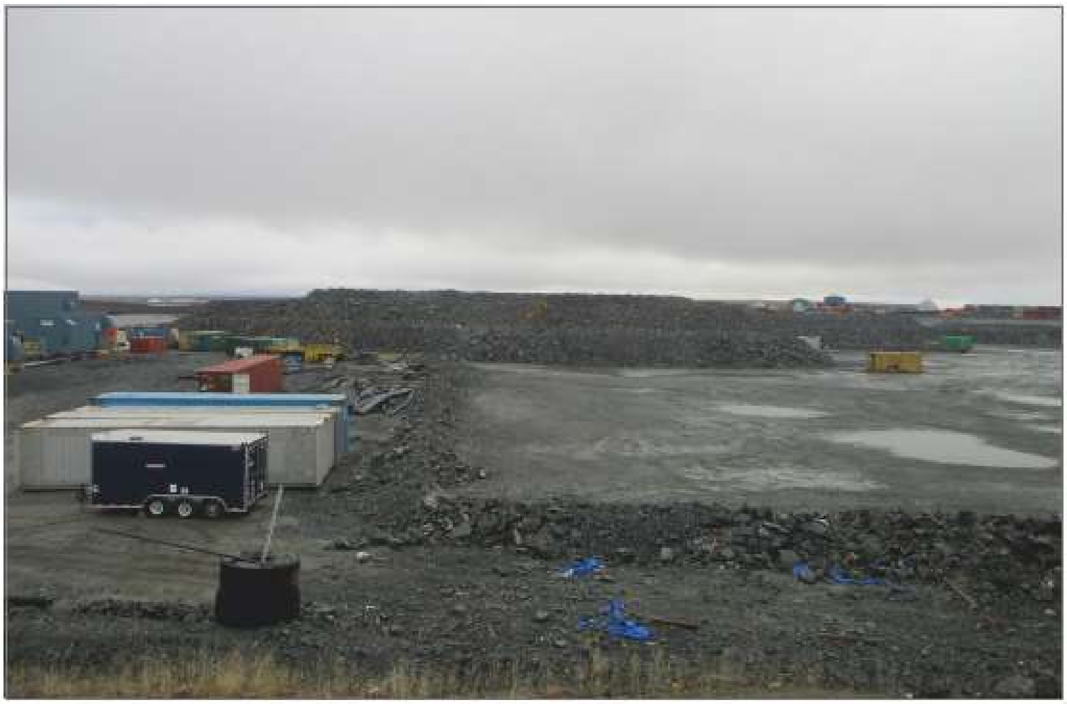


Photo 3: Ore Stockpile Area—Viewed from Landfarm.

Photo 4: Ore Stockpile—Viewed from Landfarm.

Photo 5: Ore Stockpile—South side viewed from Channel 1.

APPENDIX N

EXPLORATION CAMP

Photo 1: Exploration Camp—East side of camp pad.

Photo 2: Exploration Camp—Fuel Storage

Photo 3: Exploration Camp—Fuel Storage

Photo 4: Exploration Camp Fuel Storage

Photo 5: Exploration Camp—Diffuser line

Photo 6: Exploration Camp—Diffuser line road access

Photo 7: Exploration Camp—Freshwater Intake

APPENDIX O

OTHER MELIADINE FACILITIES

Photo 1: Crusher Pad—Overview from west direction.

Photo 2: Crusher Pad —West slope.

Photo 3: Crusher Pad—South slope.

Photo 4: Crusher Pad —Ramp access.

Photo 5: Crusher Pad—MSE Wall on the northwest corner.

Photo 6: Crusher Pad—Closeup of MSE Wall on the northwest corner.

Photo 7: Crusher Pad—MSE wall, north east side.

Photo 8: Crusher Pad—MSE wall, north east side. Slight localized bulge and distortion of gabion cage.

Photo 9: Landfill - WRSF1 Landfill overview.

Photo 10: Landfill - WRSF1 Landfill with ponded water.

Photo 11: Landfill – WRSF1 Landfill—Some wood waste observed in landfill.

Photo 12: Landfill – WRSF1 Landfill—Southwest berm.

Photo 13: Landfill - WRSF1 Landfill—Northeast berm—some revegetation.

Photo 14: Landfill - WRSF1 Landfill—Northwest berm—some revegetation.

Photo 15: Emulsion Plant—Overview from southwest direction

Photo 16: Emulsion Plant—west side of pad, erosion in pad slope.

Photo 17: Emulsion Plant—Storage Area—slope on north edge of pad, slight lean to shipping containers.

Photo 18: Emulsion Plant—Storage Area—Shipping container placed on edge of pad crest at south corner.

Photo 19: Landfarm– Windrows of contaminated soil.

Photo 20: Landfarm—Water collection pond with low ponding and sedimentation.

Photo 21: Landfarm—South berm.

Photo 22: Landfarm—West berm.

Photo 23: Landfarm—East berm.

Photo 24: Industrial Fuel Storage Tanks.

Photo 25: Industrial Fuel Storage Tanks.—Ponded water in tankfarm.

Photo 26: Industrial Fuel Storage Tanks—Cracking on top of berm. Settlement and erosion under pipe infrastructure.

Photo 27: Industrial Fuel Storage Tanks—Collapsed pipe support on berm crest.

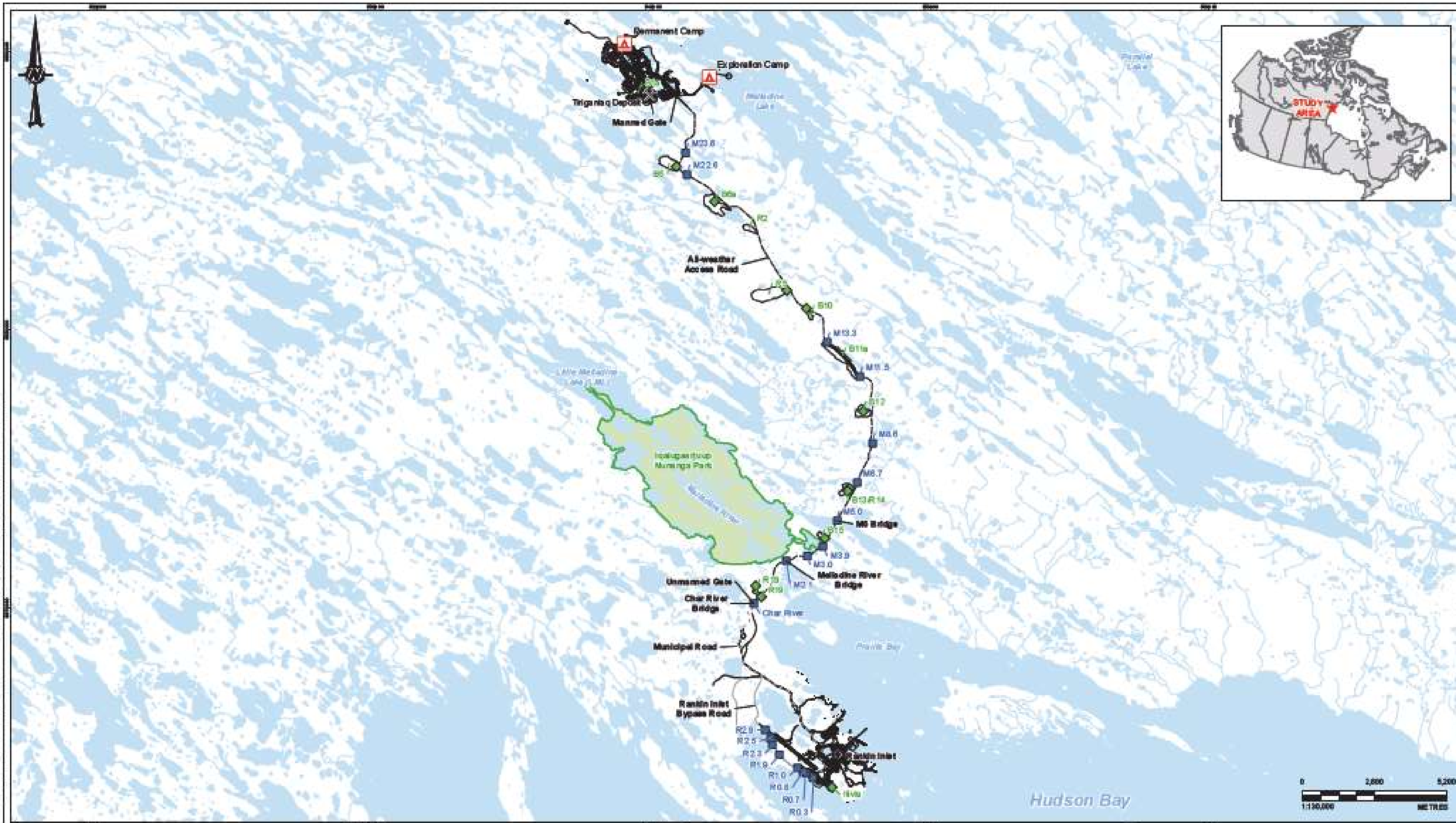
Photo 28: Industrial Fuel Storage Tanks—Exposed grounding cable on berm crest.

Photo 29: Industrial Fuel Storage Tanks—Small amount of erosion on tank pedestals.

Photo 30: Industrial Fuel Storage Tanks—Exposed geotextile along inside of berm.

APPENDIX P

ALL-WEATHER ACCESS ROAD (AWAR)



LEGEND

- CAMP
- PROPOSED MINE SITE
- QUARRY/BORROW PIT LOCATION
- WATERCOURSE CROSSING
- ALL-WEATHER ACCESS ROAD (AWAR)
- ROAD - NEW
- ROAD - EXISTING
- WATERCOURSE
- WATERBODY
- TERRITORIAL PARK

REFERENCE(S)

1. BASE DATA OBTAINED FROM AGNICO EAGLE MINES LIMITED
2. DATUM: NAD83 PROJECTION UTM ZONE 15

CLIENT	AGNICO EAGLE MINES LTD.
PROJECT	MELIADINE GOLD PROJECT
CONSULTANT	GOLDER
YYYY-MM-DD	2019-02-14
DESIGNED	FE
PREPARED	CDG
REVIEWED	FE
APPROVED	ACI
TITLE	MELIADINE ALL WEATHER ACCESS ROAD WITH QUARRIES AND WATERCOURSE CROSSINGS
PROJECT NO.	18105719
CONTROL	3000/002
REV.	0
FIGURE	5

Photo 1: Culvert km 5.5—Damage to inlet.

Photo 2: Char River Bridge

Photo 3: Char River Bridge—North abutment

Photo 4: Char River Bridge—South Abutment

Photo 5: Culvert km 6.2

Photo 6: Culvert km 7.0

Photo 7: Culvert km 7.1

Photo 8: Culvert km 7.4—Damage to culvert inlets

Photo 9: Meliadine River Bridge north abutment

Photo 10: Meliadine River Bridge South Abutment

Photo 11: Meliadine River Bridge north abutment

Photo 12: Meliadine River Bridge—Shoreline downstream of bridge

Photo 13: Meliadine River Bridge—North abutment

Photo 14: Meliadine Bridge

Photo 15: Culvert km 9.1

Photo 16: Culvert km 9.5

Photo 17: M-5 Bridge

Photo 18: M-5 Bridge—South Abutment cracks along east side.

Photo 19: M-5 Bridge—Gabion North Abutment damaged

Photo 20: M-5 Bridge—Geotextile exposed at north abutment .

Photo 21: Culvert km 12.1

Photo 22: Culvert km 13.5

Photo 23: Culvert km 13.5

Photo 24: Culvert km 16.3

Photo 25: Culvert km 18.1

Photo 26: Culvert km 21.7

Photo 27: Culvert km 22.3

Photo 28: Culvert km 25.8

Photo 29: Culvert km 26.2

Photo 30: Culvert km 26.5

Photo 31: Culvert km 26.8

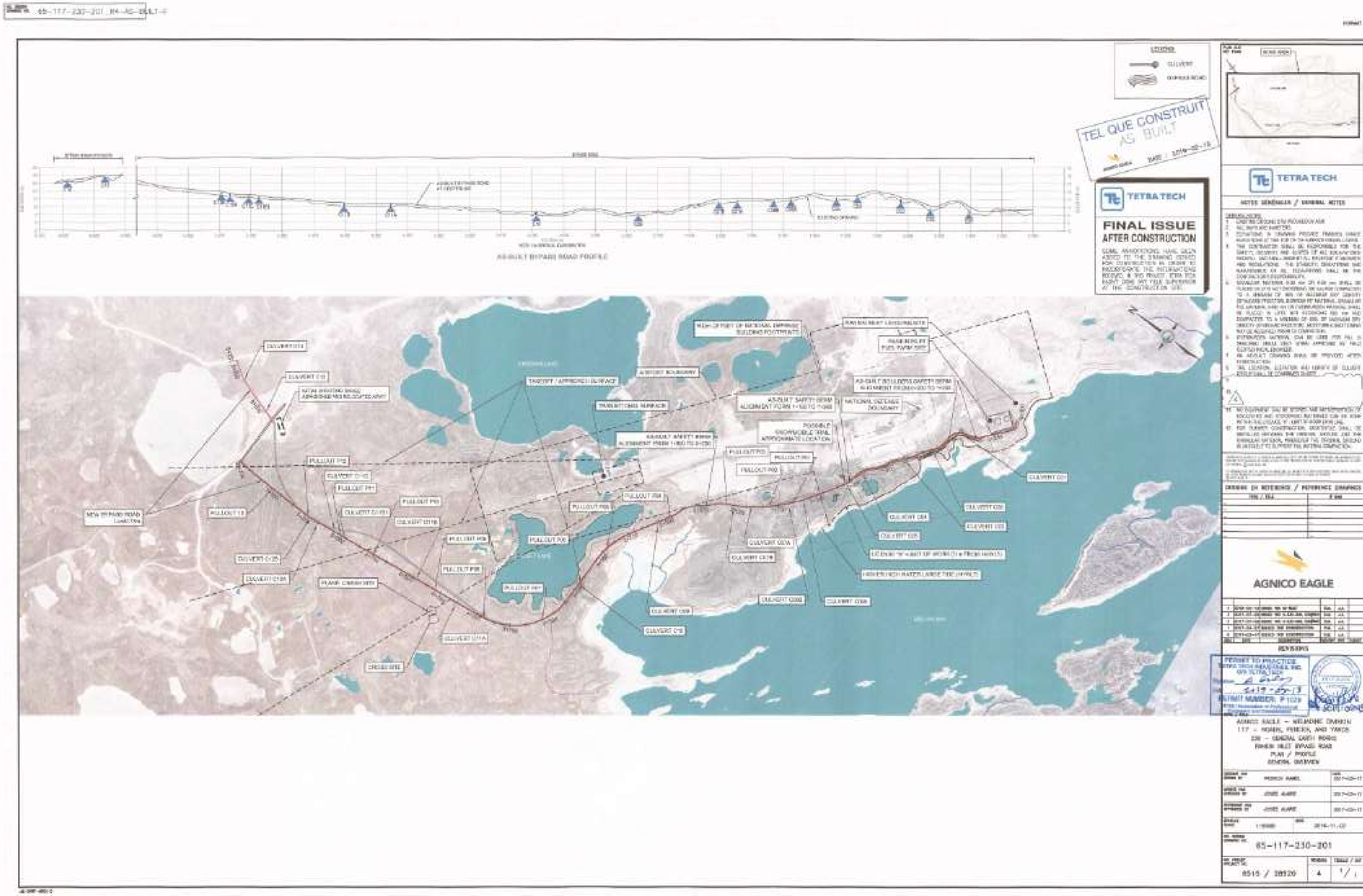
Photo 32: Culvert km 27.1

Photo 33: No culvert km 28.7

Photo 34: Culvert km 29.6 replaced with sump and pump to water storage in pit

APPENDIX Q

ITIVIA FUEL STORAGE SITE AND BYPASS ROAD


65-117-230-201_R4-AS-BUILT-4
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AS BUILT
TETRA TECH
FINAL ISSUE
AFTER CONSTRUCTION
AS-BUILT BYPASS ROAD PROFILE
CULVERT C21
CULVERT C11A
CROSS SITE
TETRA TECH
NOTES GÉNÉRALES / GENERAL NOTES
AGNICO EAGLE
REVISIONS
PERMIT TO PRACTICE
PERMIT NUMBER: P 1029
AGNICO EAGLE – MELIADINE DIVISION
117 – ROADS, FENCES, AND YARDS
230 – GENERAL EARTH WORKS
BYPASS ROAD
PLAN / PROFILE
GENERAL OVERVIEW
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6515 / 38520
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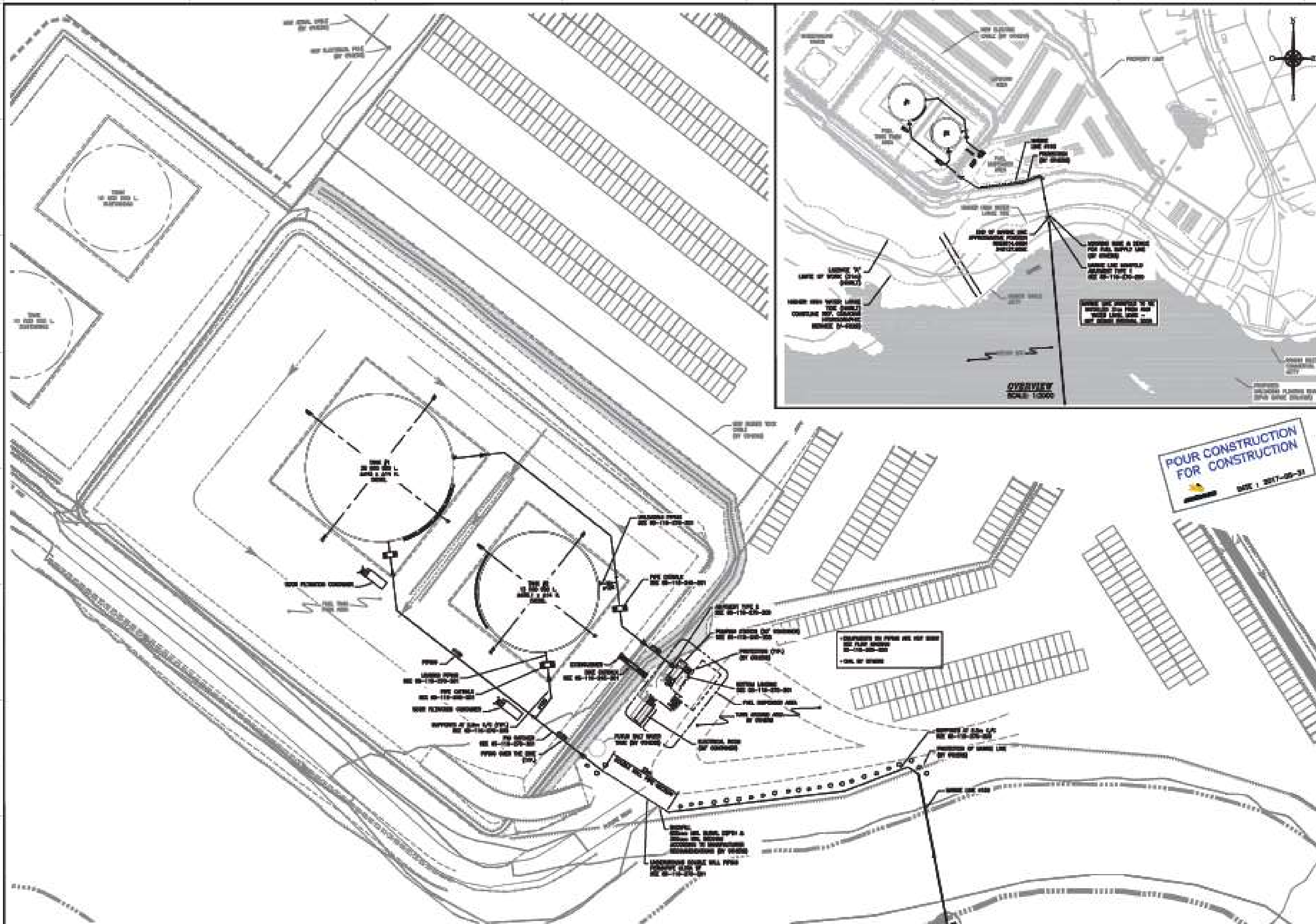
1 / 1

65-116-210-200



WSP

NOTES GÉNÉRALES / GENERAL NOTES

AGNICO EAGLE

REVISIONS

AGNICO EAGLE – MÉLIADINE DIVISION
116 – FUEL TANK FARM
210 – GENERAL ARRANGEMENT
FUEL DISTRIBUTION
PLAN VIEWS

65-116-210-200

6515 | 0 | 1/1

Photo 1: Overview of Bypass Road from KM 5.1 North

Photo 2: Overview of Bypass Road from KM 5.1 South

Photo 3: Culvert C09 (C10).

Photo 4: Culvert C09 (C10).

Photo 5: Culvert C10 (C11 on sign).

Photo 6: Culvert C10 (C11 on sign).

Photo 7: Culvert C13.

Photo 8: Culvert C13—Damage to culvert,

Photo 9: Culvert C14.

Photo 10: Culvert C14.

Photo 11: ITIVIA Tankfarm—North of tanks.

Photo 12: ITIVIA Tankfarm—Ponded water in facility.

Photo 13: ITIVIA Tankfarm— Geotextile exposed along south berm crest.

Photo 14: ITIVIA Tankfarm—Perimeter of tank base on pedestal.

Photo 15: ITIVIA Tankfarm—Fines erosion on edge of tank pedestal.

Photo 16: ITIVIA Tankfarm—Geotextile exposed in pad base.

Photo 17: ITIVIA Tankfarm—West berm of tankfarm

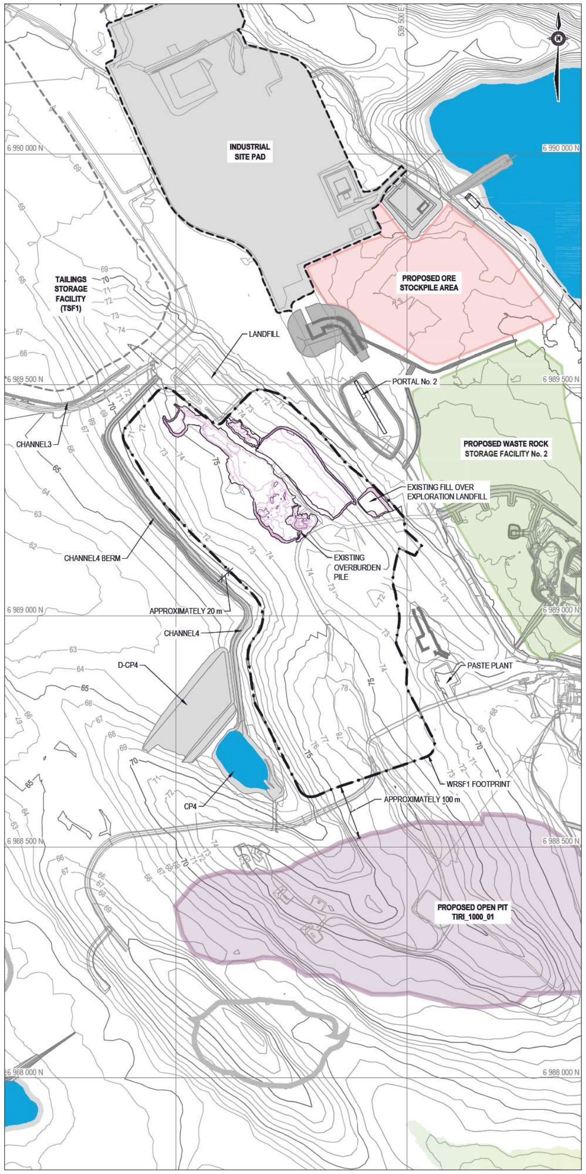
Photo 18: ITIVIA Tankfarm—Exposed geotextile on south berm embankment.

APPENDIX R

WASTE ROCK STORAGE FACILITY 1

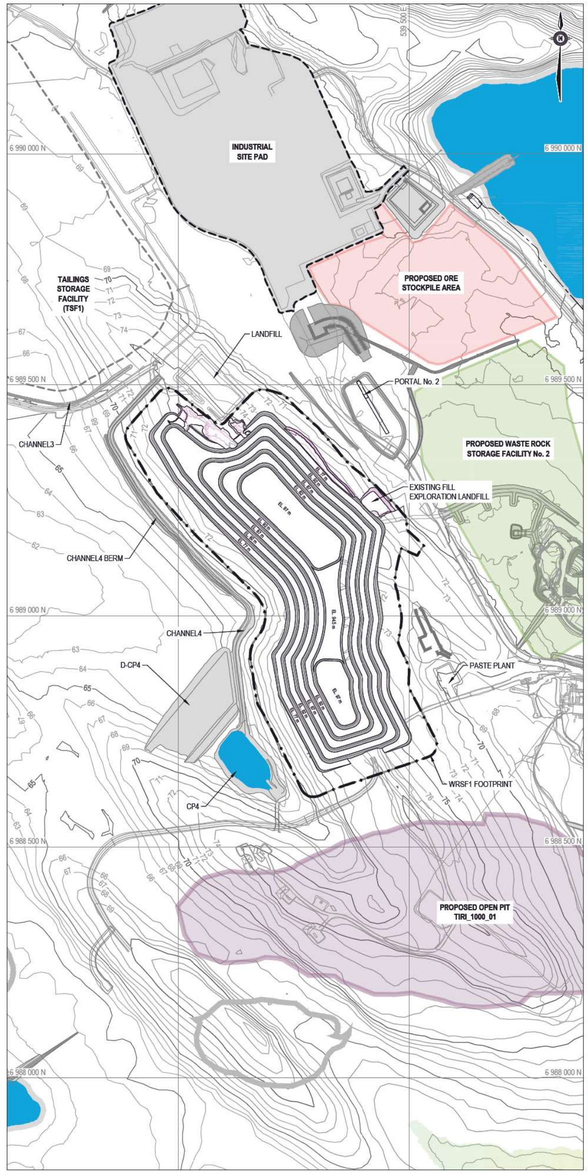
NO. DESSIN DRAWING NO. 65-686-230-200-R1

FORMAT ARCHD



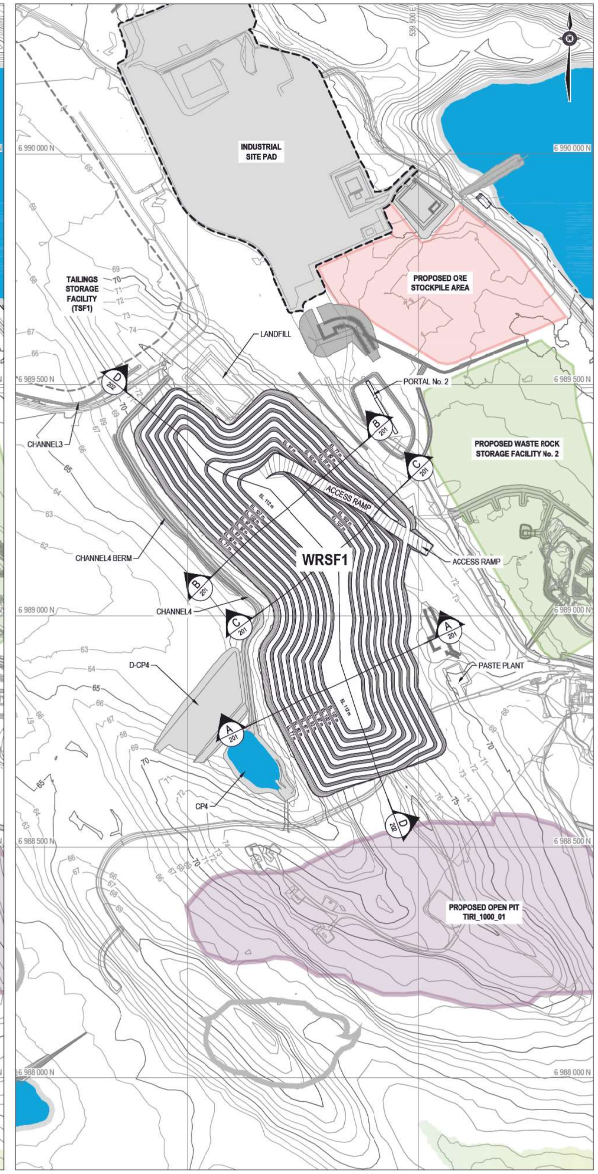
PLAN VIEW SHOWING CURRENT CONDITION

SCALE = 1:5000



PLAN VIEW SHOWING INTERNAL DESIGN GEOMETRY OF OVERBURDEN WASTE IN WRSF1

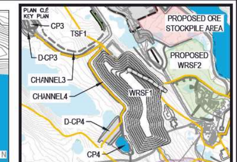
SCALE = 1:5000



PLAN VIEW SHOWING DESIGN GEOMETRY OF WASTE ROCK OUTSIDE SHELL FOR WRSF1

SCALE = 1:5000

PLAN CLÉ KEY PLAN



TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

1. THE WRSF1 DESIGN PRESENTED HEREIN HAS BEEN BASED ON THE WASTE ROCK AND OVERBURDEN PRODUCTION PLAN THAT WAS PROVIDED ON SEPTEMBER 23, 2019 AND THE CORRESPONDING PRELIMINARY WASTE ROCK AND OVERBURDEN PLACEMENT PLAN THAT WAS DEVELOPED FOR THE DESIGN OF WRSF1. THIS WRSF1 DESIGN SHOULD BE REVIEWED OR UPDATED (IF REQUIRED) IF THE FINAL WASTE ROCK AND OVERBURDEN PLACEMENT PLAN FOR WRSF1, ESPECIALLY THE PLACEMENT PLAN FOR THE INITIAL BENCHES (77 M AND 82 M) OF THE OVERBURDEN WASTE, IS DIFFERENT FROM THAT USED FOR THIS DESIGN.

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
0	2019-11-21	ISSUED FOR CONSTRUCTION	GZ	WTH	

REVISIONS

REGISTERED PROFESSIONAL ENGINEER W.T. HORNE LICENSEE N.W.T. Nov 25, 2019

PERMIT TO PRACTICE
TETRA TECH CANADA INC
Signature
Date November 26, 2019
PERMIT NUMBER: P 018
NT/NU Association of Professional Engineers and Geoscientists

TITRE / TITLE

AGNICO EAGLE MELIADINE GOLD PROJECT
WASTE ROCK STORAGE FACILITY No. 1

PLAN VIEWS FOR WRSF1

DESSINÉ PAR DRAWN BY	EL	DATE 2019-11-21
VERIFIÉ PAR CHECKED BY	GZ	2019-11-21
APPROUVÉ PAR APPROVED BY	WTH	2019-11-21
ÉCHELLE SCALE	1:2500	DATE 2019-11-21

NO. DESSIN DRAWING NO. 65-686-230-200

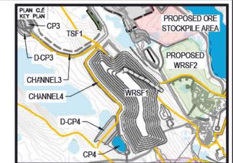
NO. PROJET PROJECT NO.	REVISION	FEUILLE / SHT
6515	0	1 / 6

AE-CART-ARCH D

FILE NO. 65 686 230 200 R1.dwg

NO. DESSIN
DRAWING NO. 65-686-230-201-R1

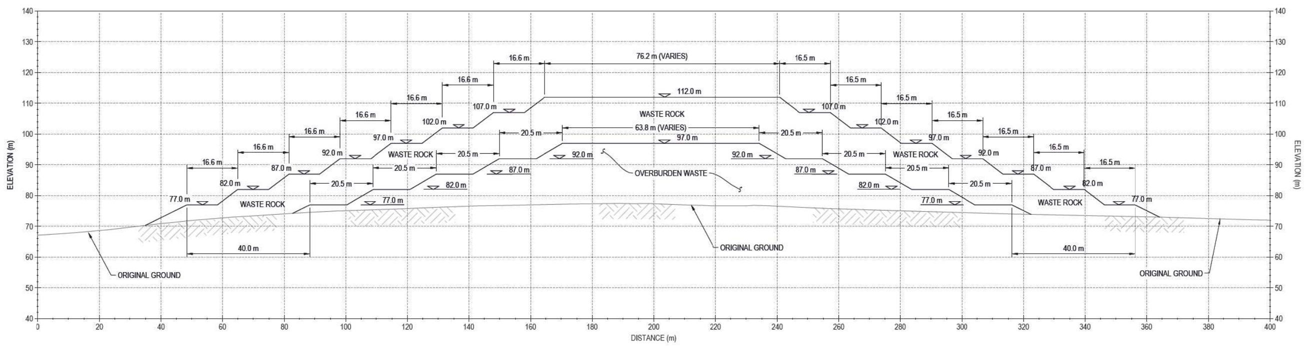
FORMAT ARCHD



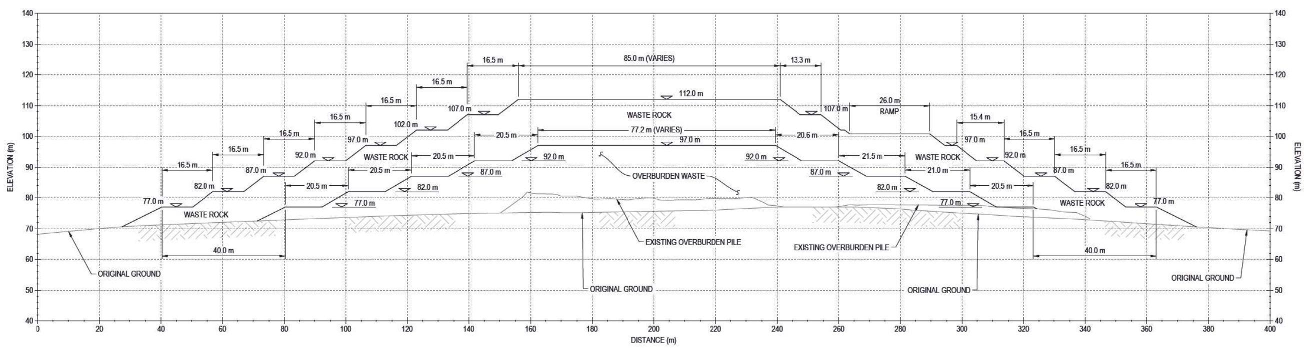
TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

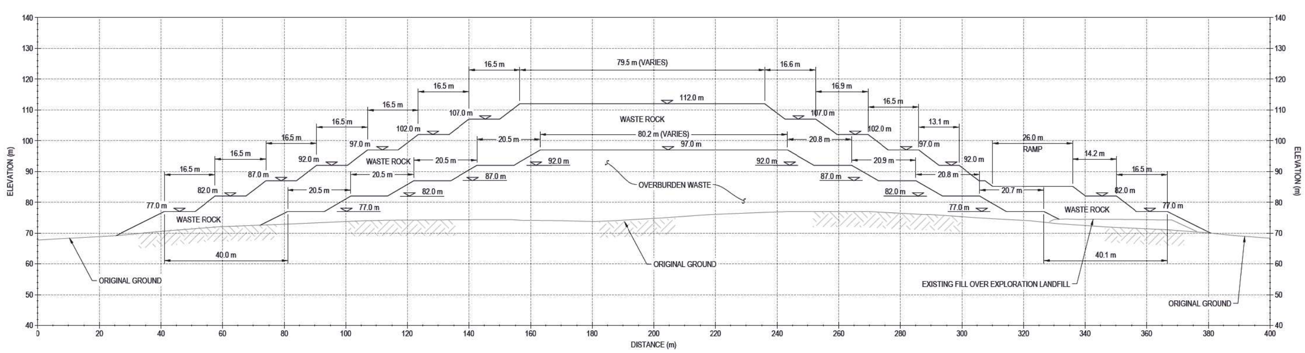
1. THE WRSF1 DESIGN PRESENTED HEREIN HAS BEEN BASED ON THE WASTE ROCK AND OVERBURDEN PRODUCTION PLAN THAT WAS PROVIDED ON SEPTEMBER 23, 2019 AND THE CORRESPONDING PRELIMINARY WASTE ROCK AND OVERBURDEN PLACEMENT PLAN THAT WAS DEVELOPED FOR THE DESIGN OF WRSF1. THIS WRSF1 DESIGN SHOULD BE REVIEWED OR UPDATED (IF REQUIRED) IF THE FINAL WASTE ROCK AND OVERBURDEN PLACEMENT PLAN FOR WRSF1, ESPECIALLY THE PLACEMENT PLAN FOR THE INITIAL BENCHES (77 M AND 82 M) OF THE OVERBURDEN WASTE, IS DIFFERENT FROM THAT USED FOR THIS DESIGN.
2. THE MAXIMUM LIFT THICKNESS DURING WASTE PLACEMENT SHOULD BE LIMITED TO 2.5 M FOR THE OVERBURDEN WASTE AND TO 5.0 M FOR THE WASTE ROCK.



A SECTION
200 SCALE: 1:750



B SECTION
200 SCALE: 1:750



C SECTION
200 SCALE: 1:750

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
0	2019-11-21	ISSUED FOR CONSTRUCTION	GZ	WTH	

REVISIONS

PERMIT TO PRACTICE
TETRA TECH CANADA INC.
PERMIT NUMBER: P 018
NT/NU Association of Professional Engineers and Geoscientists

TITRE / TITLE
AGNICO EAGLE MELIADINE GOLD PROJECT
WASTEROCK STORAGE FACILITY No. 1

SECTIONS A TO C OF WRSF1

		DATE
DESSINÉ PAR / DRAWN BY	EL	2019-11-21
VÉRIFIÉ PAR / CHECKED BY	GZ	2019-11-21
APPROUVÉ PAR / APPROVED BY	WTH	2019-11-21
ÉCHELLE / SCALE	1:2500	2019-11-21

NO. DESSIN / DRAWING NO. 65-686-230-201

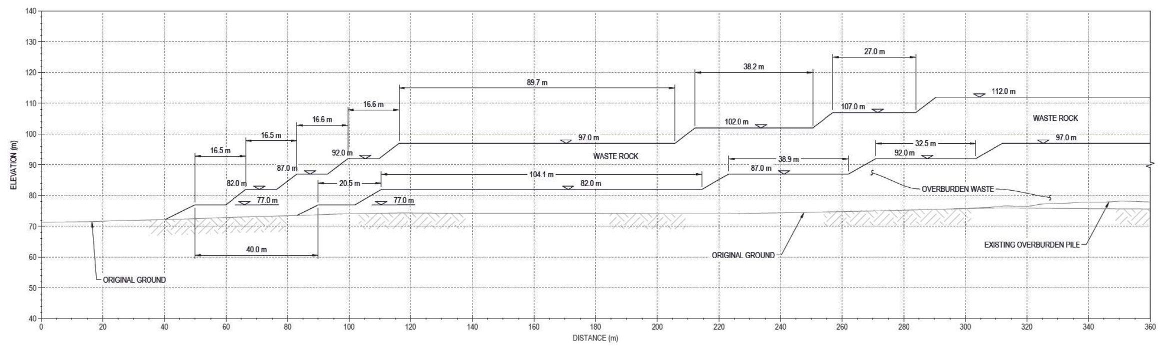
NO. PROJET / PROJECT NO.	REVISION	FEUILLE / SHT
6515	0	2 / 6

AE-CART-ARCH D

FILE NO. 65 686 230 201 R1.dwg

NO. DESSIN
DRAWING NO. 65-686-230-202-R1

FORMAT ARCHD



D
200
SECTION
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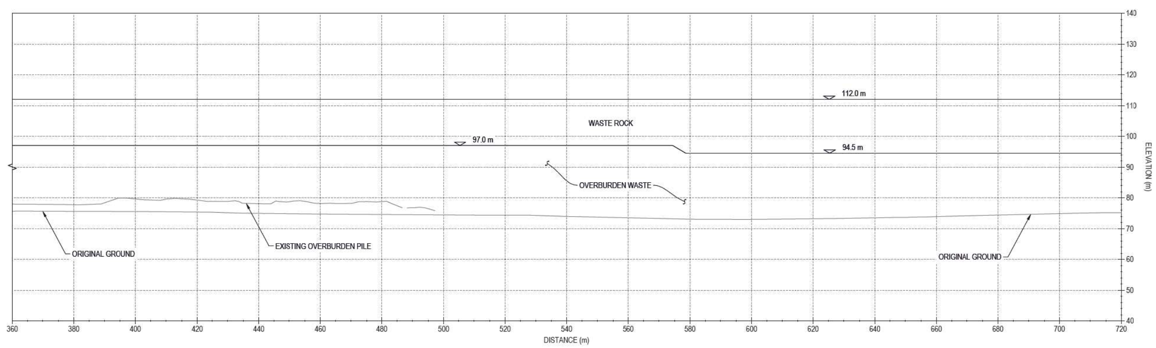
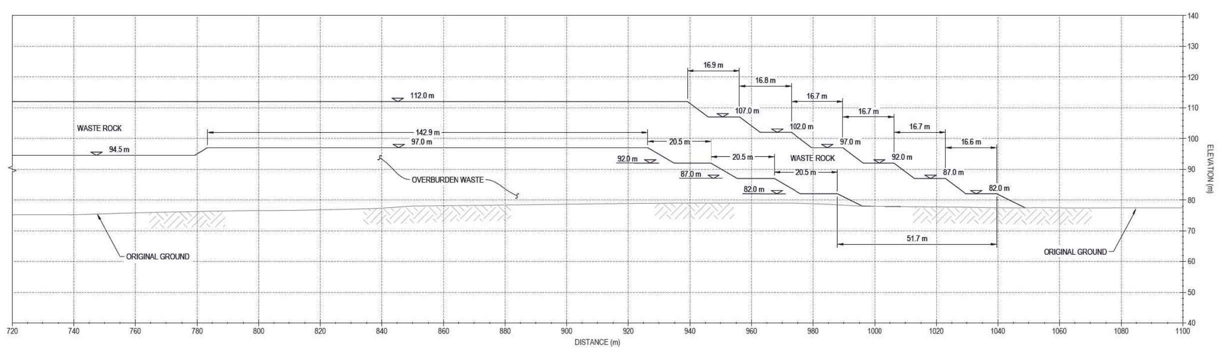
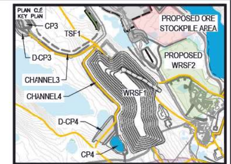


D
200
SECTION
SCALE: 1:750



D
200
SECTION
SCALE: 1:750



TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

1. THE WRSF1 DESIGN PRESENTED HEREIN HAS BEEN BASED ON THE WASTE ROCK AND OVERBURDEN PRODUCTION PLAN THAT WAS PROVIDED ON SEPTEMBER 23, 2019 AND THE CORRESPONDING PRELIMINARY WASTE ROCK AND OVERBURDEN PLACEMENT PLAN THAT WAS DEVELOPED FOR THE DESIGN OF WRSF1. THIS WRSF1 DESIGN SHOULD BE REVIEWED OR UPDATED (IF REQUIRED) IF THE FINAL WASTE ROCK AND OVERBURDEN PLACEMENT PLAN FOR WRSF1, ESPECIALLY THE PLACEMENT PLAN FOR THE INITIAL BENCHES (77 M AND 82 M) OF THE OVERBURDEN WASTE, IS DIFFERENT FROM THAT USED FOR THIS DESIGN.
2. THE MAXIMUM LIFT THICKNESS DURING WASTE PLACEMENT SHOULD BE LIMITED TO 2.5 M FOR THE OVERBURDEN WASTE AND TO 5.0 M FOR THE WASTE ROCK.

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
0	2019-11-21	ISSUED FOR CONSTRUCTION	GZ	WTH	

REVISIONS

PERMIT TO PRACTICE
TETRA TECH CANADA INC
PERMIT NUMBER: P 018
NT/NU Association of Professional Engineers and Geoscientists

TITRE / TITLE
AGNICO EAGLE MELIADINE GOLD PROJECT
WASTEROCK STORAGE FACILITY No. 1

SECTION D OF WRSF1

DESSINÉ PAR / DRAWN BY	EL	DATE	2019-11-21
VÉRIFIÉ PAR / CHECKED BY	GZ		2019-11-21
APPROUVÉ PAR / APPROVED BY	WTH		2019-11-21
ÉCHELLE / SCALE	1:2500	DATE	2019-11-21

NO. DESSIN / DRAWING NO. 65-686-230-202

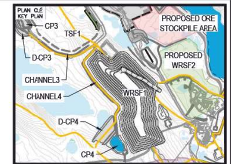
NO. PROJET / PROJECT NO.	REVISION	FEUILLE / SHT
6515	0	3 / 6

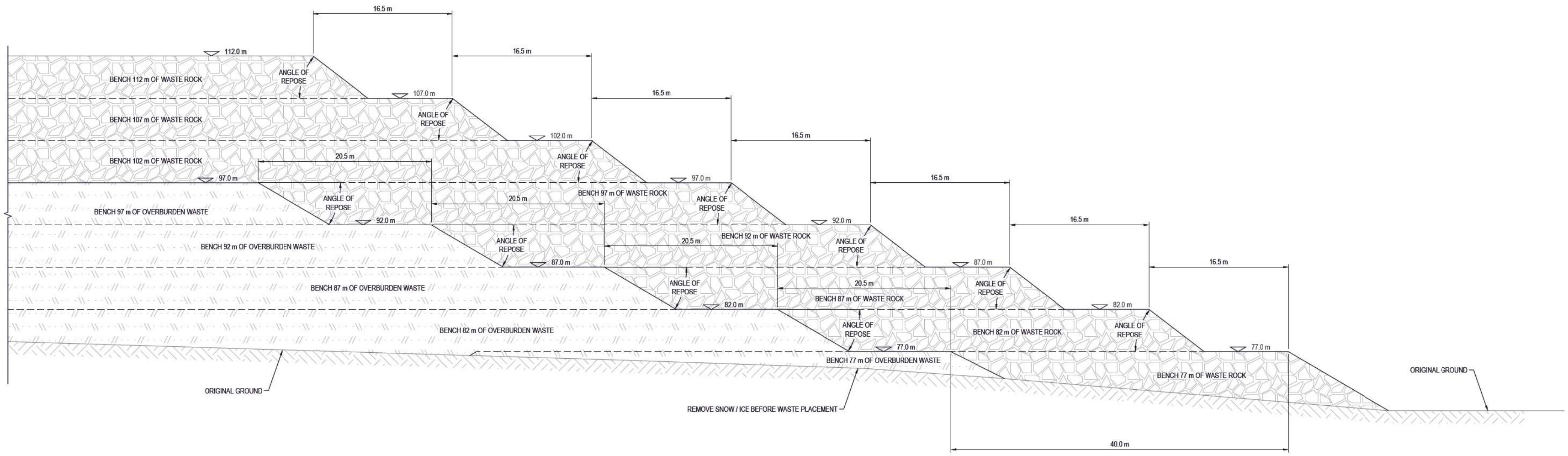
AE-CART-ARCH D

FILE NO. 65 686 230 202 R1.dwg

NO. DESSIN DRAWING NO. 65-686-230-203-R1

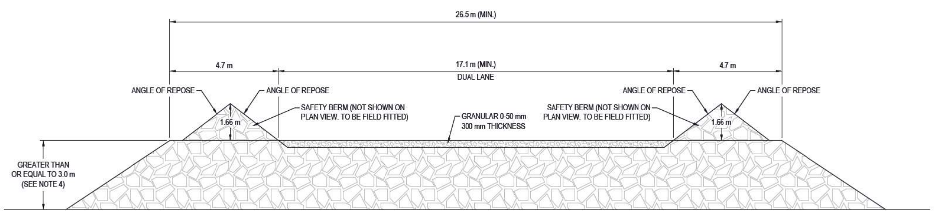
FORMAT ARCHD





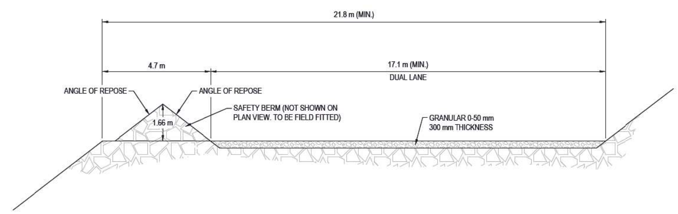
TYPICAL SECTION WITHOUT ACCESS RAMP

SCALE = 1:250



TYPICAL ACCESS RAMP FOR HAUL ROAD WITH TWO SIDE SAFETY BERMS

N.T.S.



TYPICAL ACCESS RAMP FOR HAUL ROAD WITH ONE SIDE SAFETY BERM

N.T.S.

TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

1. THE WRSF1 DESIGN PRESENTED HEREIN HAS BEEN BASED ON THE WASTE ROCK AND OVERBURDEN PRODUCTION PLAN THAT WAS PROVIDED ON SEPTEMBER 23, 2019 AND THE CORRESPONDING PRELIMINARY WASTE ROCK AND OVERBURDEN PLACEMENT PLAN THAT WAS DEVELOPED FOR THE DESIGN OF WRSF1. THIS WRSF1 DESIGN SHOULD BE REVIEWED OR UPDATED (IF REQUIRED) IF THE FINAL WASTE ROCK AND OVERBURDEN PLACEMENT PLAN FOR WRSF1, ESPECIALLY THE PLACEMENT PLAN FOR THE INITIAL BENCHES (77 M AND 82 M) OF THE OVERBURDEN WASTE, IS DIFFERENT FROM THAT USED FOR THIS DESIGN.
2. THE MAXIMUM LIFT THICKNESS DURING WASTE PLACEMENT SHOULD BE LIMITED TO 2.5 M FOR THE OVERBURDEN WASTE AND TO 5.0 M FOR THE WASTE ROCK.
3. ACCESS RAMP DESIGNED FOR HAUL TRUCK TYPE OF CAT 775G.
4. A SAFETY BERM IS REQUIRED IF A DROP OFF GREATER THAN 3 m EXISTS.

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
0	2019-11-21	ISSUED FOR CONSTRUCTION	GZ	WTH	

REVISIONS

REGISTERED PROFESSIONAL ENGINEER W.T. HORNE LICENSEE N.W.T. Nov 25, 2019

PERMIT TO PRACTICE TETRA TECH CANADA INC
Signature
Date November 26, 2019
PERMIT NUMBER: P 018
NT/NU Association of Professional Engineers and Geoscientists

TITRE / TITLE
AGNICO EAGLE MELIADINE GOLD PROJECT
WASTEROCK STORAGE FACILITY No. 1

TYPICAL SECTION AND
ACCESS RAMP DESIGN OF WRSF1

DESSINÉ PAR DRAWN BY	EL	DATE 2019-11-21
VERIFIÉ PAR CHECKED BY	GZ	2019-11-21
APPROUVÉ PAR APPROVED BY	WTH	2019-11-21
ÉCHELLE SCALE 1:2500	DATE 2019-11-21	

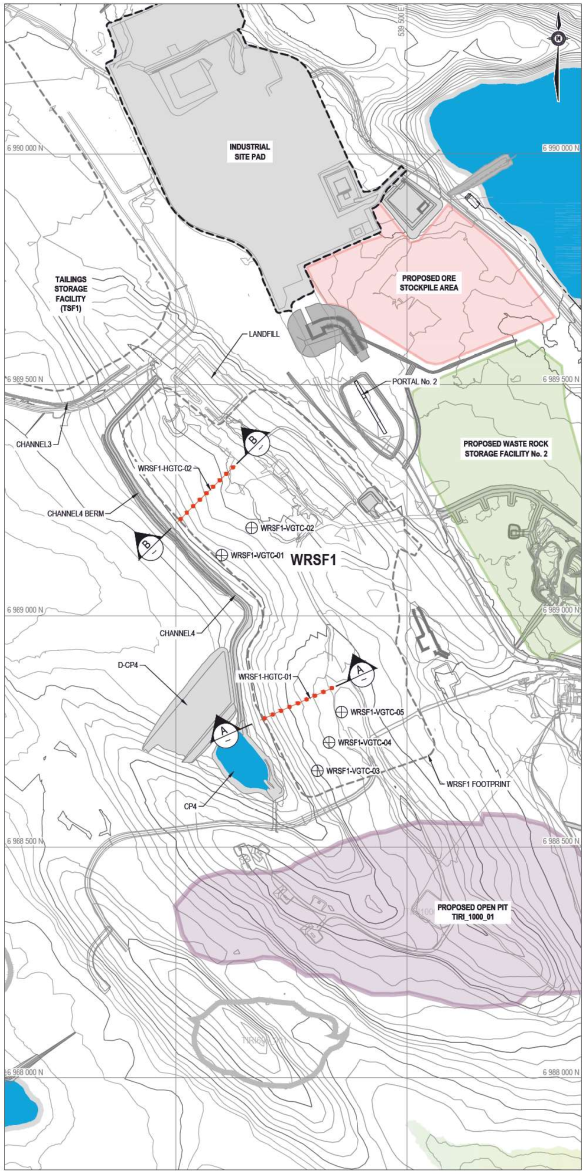
NO. DESSIN DRAWING NO. 65-686-230-203

NO. PROJET PROJECT NO.	REVISION	FEUILLE / SHT
6515	0	4 / 6

AE-CART-ARCH D

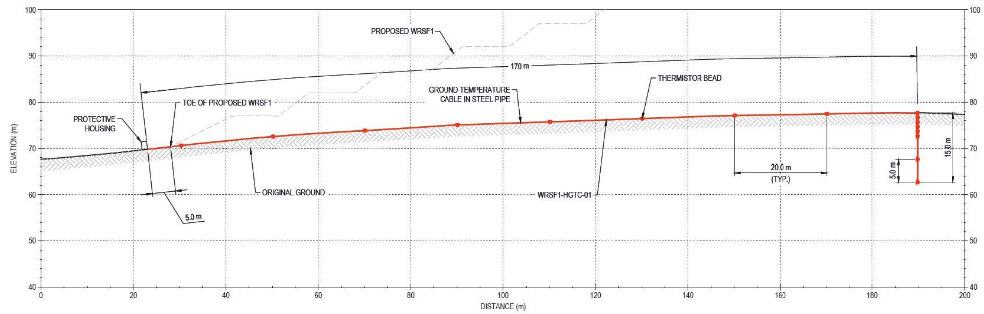
FILE NO. 65 686 230 203 R1.dwg

NO. DESSIN / DRAWING NO. 65-686-230-204-R1



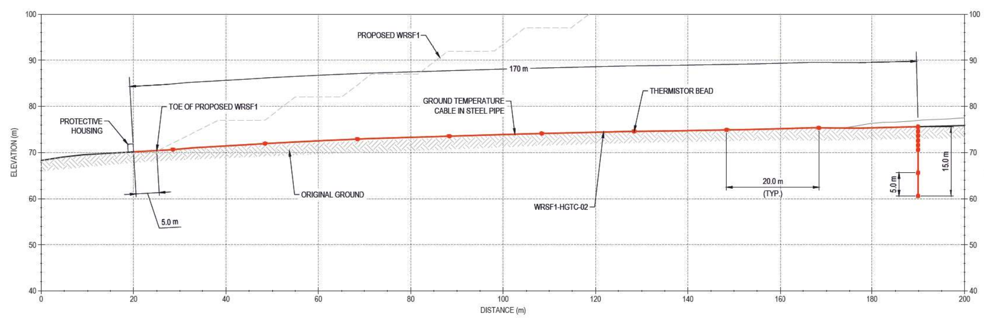
PLAN VIEW SHOWING PROPOSED LOCATIONS OF GROUND TEMPERATURE CABLES FOR WRSF1

SCALE = 1:5000



A WRSF1-HGTC-01

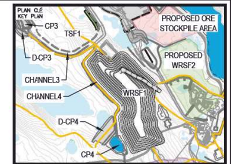
SCALE: 1:500



B WRSF1-HGTC-02

SCALE: 1:500

PLAN CLÉ / KEY PLAN



TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

1. A TOTAL OF 16 THERMISTOR BEADS FOR EACH GROUND TEMPERATURE CABLE

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG

AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
0	2019-11-21	ISSUED FOR CONSTRUCTION	GZ	WTH	

REVISIONS

PERMIT TO PRACTICE TETRA TECH CANADA INC
PERMIT NUMBER: P 018
NT/NU Association of Professional Engineers and Geoscientists

W. T. HORNE LICENSEE

TITRE / TITLE
AGNICO EAGLE MELIADINE GOLD PROJECT
WASTE ROCK STORAGE FACILITY No. 1

PROPOSED GROUND TEMPERATURE CABLE AND THERMISTOR BEAD LOCATIONS FOR WRSF1

DESSINÉ PAR / DRAWN BY	EL	2019-11-21
VÉRIFIÉ PAR / CHECKED BY	GZ	2019-11-21
APPROUVÉ PAR / APPROVED BY	WTH	2019-11-21
ÉCHELLE / SCALE	1:2500	DATE 2019-11-21

NO. DESSIN / DRAWING NO. 65-686-230-204

NO. PROJET / PROJECT NO.	RÉVISION	FEUILLE / SHT
6515	0	5 / 6

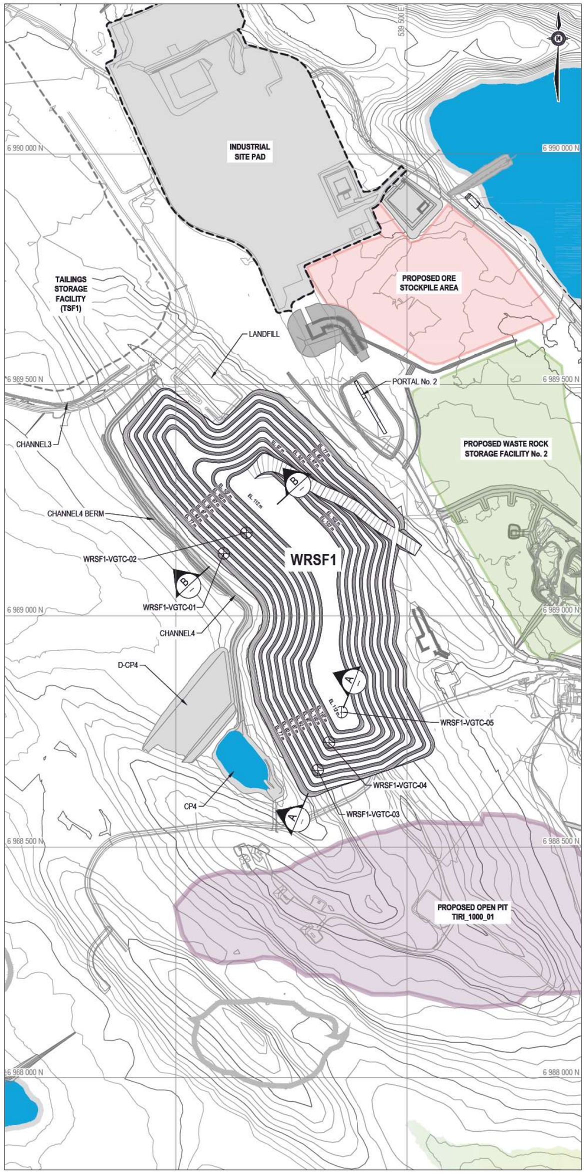
FORMAT ARCHD

AE-CART-ARCH D

FILE NO. 65 686 230 204 R1.dwg

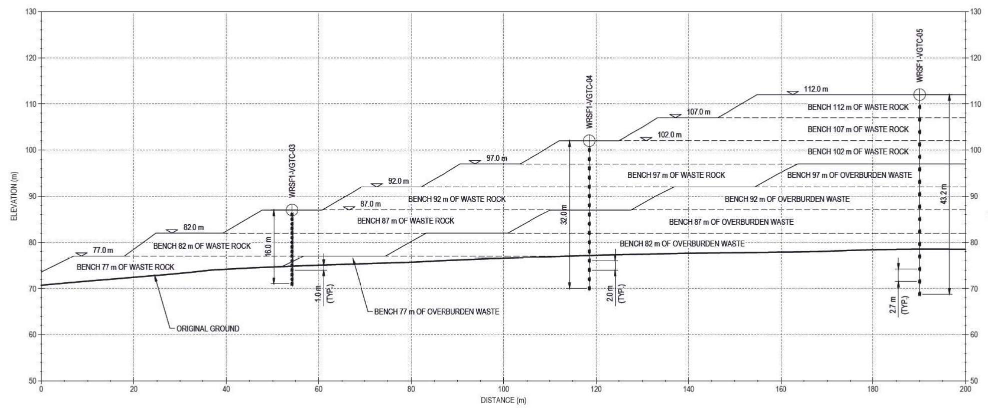
NO. DESSIN DRAWING NO. 65-686-230-205-R1

FORMAT ARCHD

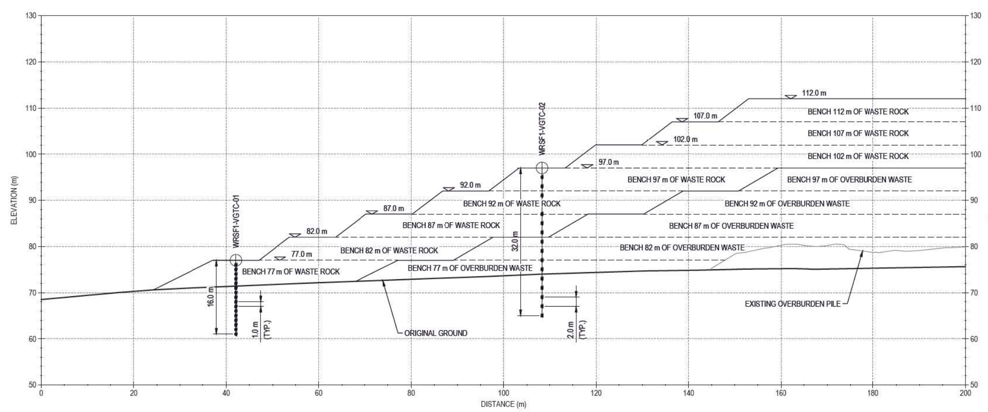


PLAN VIEW SHOWING PROPOSED LOCATIONS OF GROUND TEMPERATURE CABLES FOR WRSF1

SCALE = 1:5000

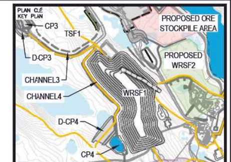


A INSTRUMENTATION
SCALE: 1:500



B INSTRUMENTATION
SCALE: 1:500

PLAN CLÉ / KEY PLAN



TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

1. A TOTAL OF 16 THERMISTOR BEADS FOR EACH GROUND TEMPERATURE CABLE

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
0	2019-11-21	ISSUED FOR CONSTRUCTION	GZ	WTH	

REVISIONS

PERMIT TO PRACTICE TETRA TECH CANADA INC
PERMIT NUMBER: P 018
NT/NU Association of Professional Engineers and Geoscientists

W.T. HORNE LICENSEE

TITRE / TITLE
AGNICO EAGLE MELIADINE GOLD PROJECT
WASTE ROCK STORAGE FACILITY No. 1

PROPOSED GROUND TEMPERATURE CABLE AND THERMISTOR BEAD LOCATIONS FOR WRSF1

		DATE
DESSINÉ PAR / DRAWN BY	EL	2019-11-21
VÉRIFIÉ PAR / CHECKED BY	GZ	2019-11-21
APPROUVÉ PAR / APPROVED BY	WTH	2019-11-21
ÉCHELLE / SCALE	1:2500	2019-11-21

NO. DESSIN / DRAWING NO. 65-686-230-205

NO. PROJET / PROJECT NO.	REVISION	FEUILLE / SHT
6515	0	6 / 6

AE-CART-ARCH D

FILE NO. 65 686 230 205 R1.dwg

Photo 1: WRSF1—Viewed from Crusher Ramp—Waste Rock in WRSF1 in distance.

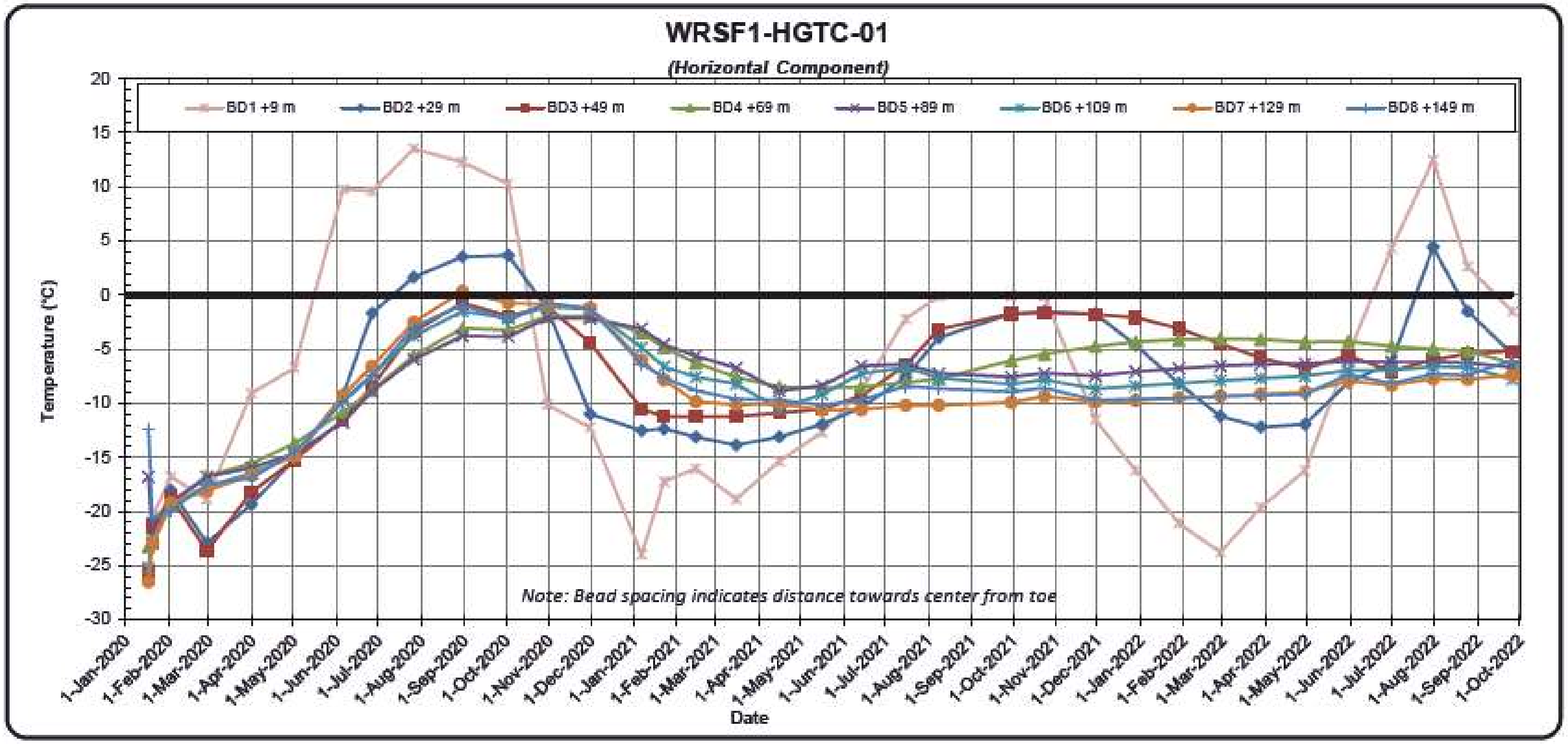
Photo 2: WRSF1—Viewed from Paste Plant Ramp— Backfilled low point along toe of WRSF.

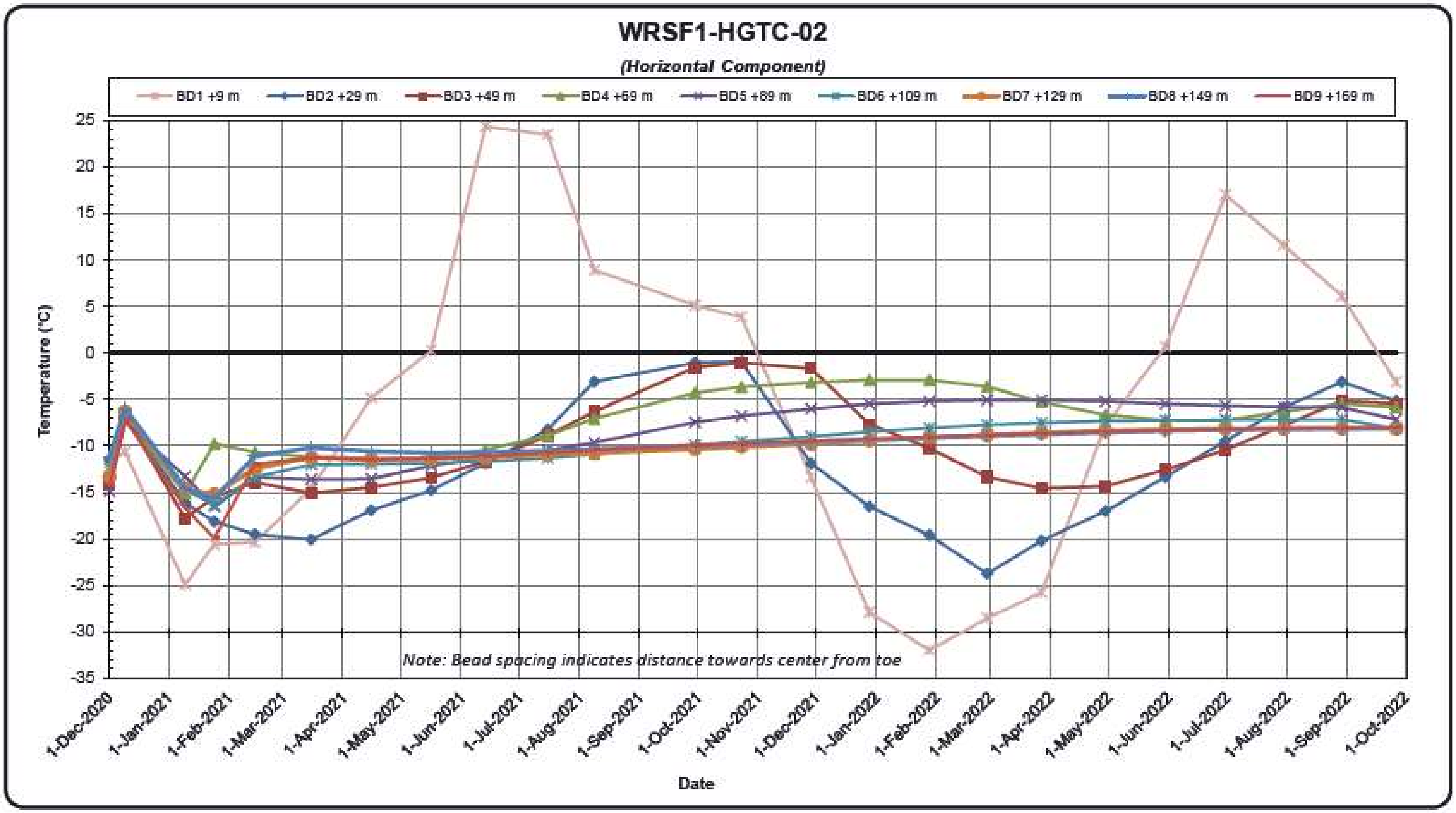
Photo 3: WRSF1—West side of WRSF, TSF in distance.

Photo 4: WRSF1—North side of WRSF, viewed from TSF.

Photo 5: WRSF1—97 m bench surface, overburden placed within limits.

Photo 6: WRSF1—West side of WRSF looking southwest, surface of bench.


WRSF1-HGTC-01
(Horizontal Component)
BD1 +9 m
BD2 +29 m
BD3 +49 m
BD4 +69 m
BD5 +89 m
BD6 +109 m
BD7 +129 m
BD8 +149 m
Temperature (°C)
Date
Note: Bead spacing indicates distance towards center from toe


WRSF1-HGTC-02
(Horizontal Component)
BD1 +9 m
BD2 +29 m
BD3 +49 m
BD4 +69 m
BD5 +89 m
BD6 +109 m
BD7 +129 m
BD8 +149 m
BD9 +169 m
Temperature (°C)
25
20
15
10
5
0
-5
-10
-15
-20
-25
-30
-35
Note: Bead spacing indicates distance towards center from toe
1-Dec-2020
1-Jan-2021
1-Feb-2021
1-Mar-2021
1-Apr-2021
1-May-2021
1-Jun-2021
1-Jul-2021
1-Aug-2021
1-Sep-2021
1-Oct-2021
1-Nov-2021
1-Dec-2021
1-Jan-2022
1-Feb-2022
1-Mar-2022
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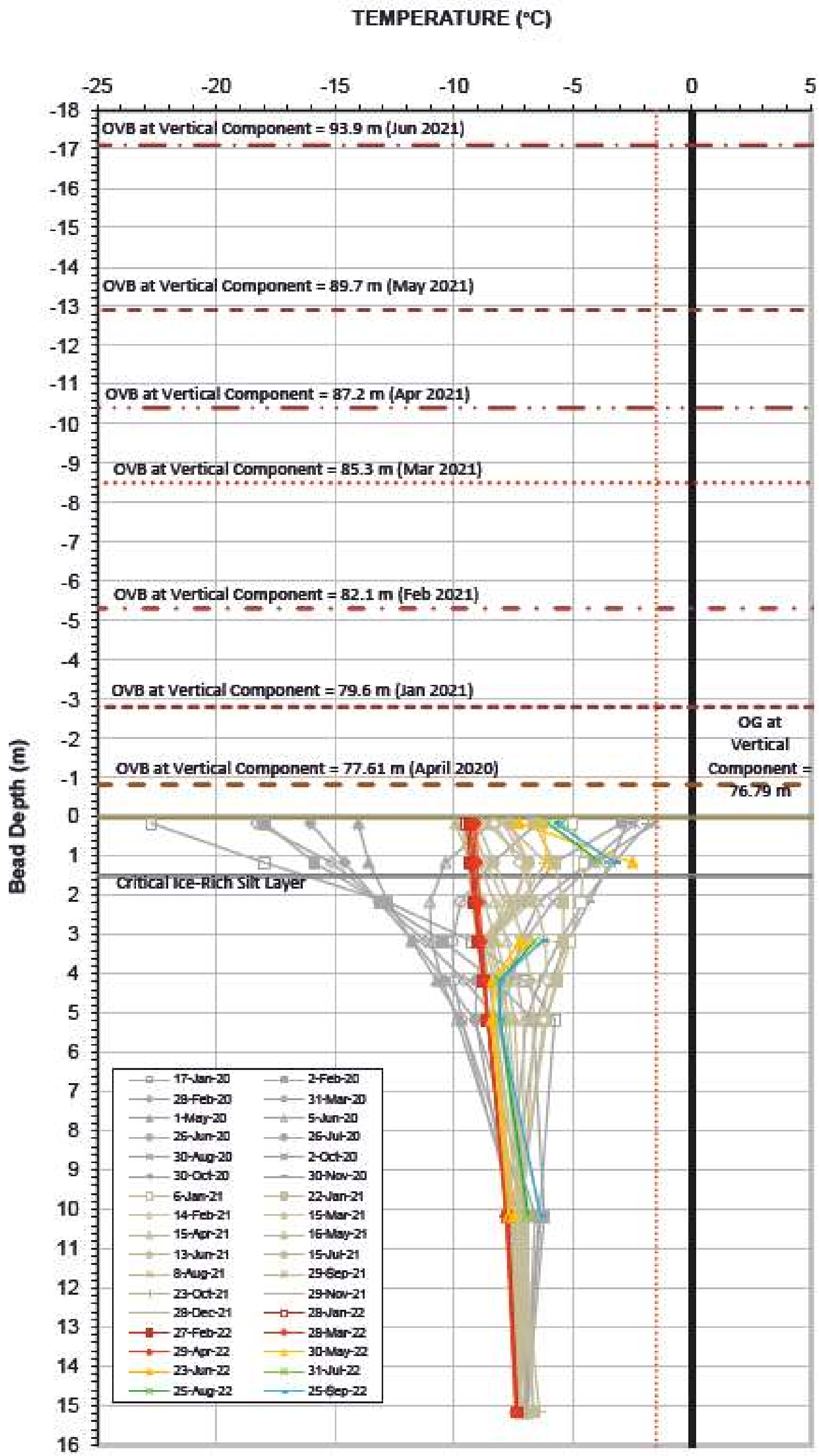
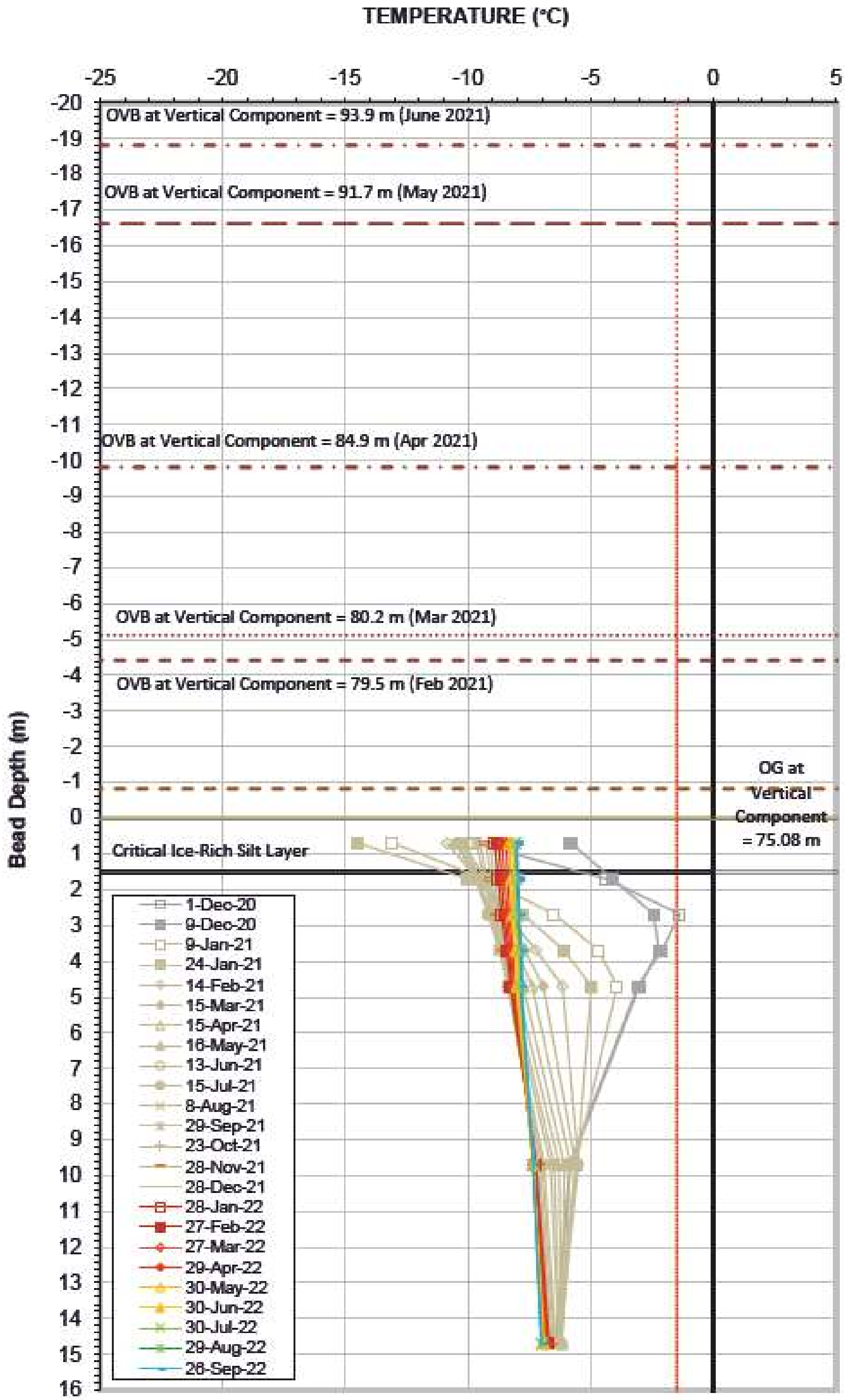
1-Oct-2022
Date



Ground Temperature Profile for Cable WRSF1-HGTC-01 (*Vertical Component*)
Waste Rock Storage Facility 1

Date Installed: January 14, 2020



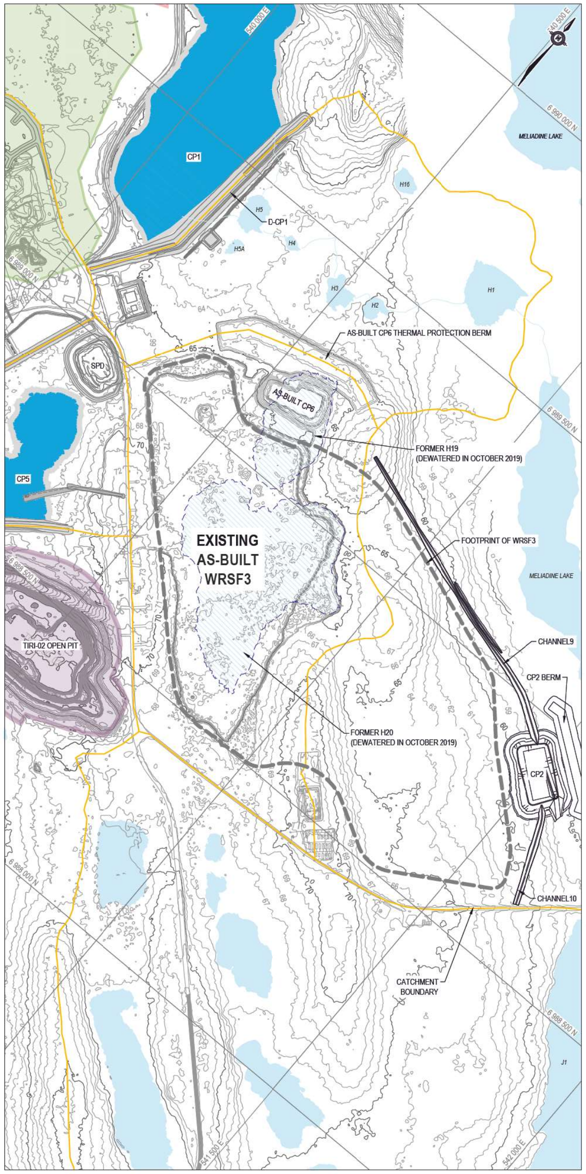
Ground Temperature Profile for Cable WRSF1-HGTC-02 (*Vertical Component*)
Waste Rock Storage Facility 1

Date Installed: December 1, 2020

APPENDIX S

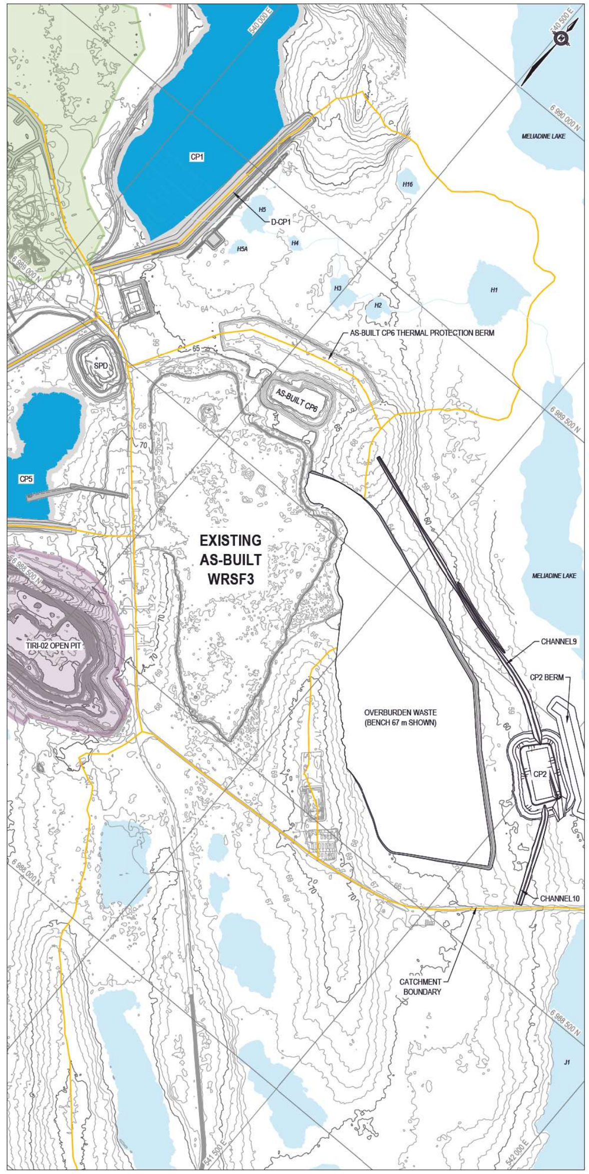
WASTE ROCK STORAGE FACILITY 3

NO. DESSIN DRAWING NO. 65-686-230-205



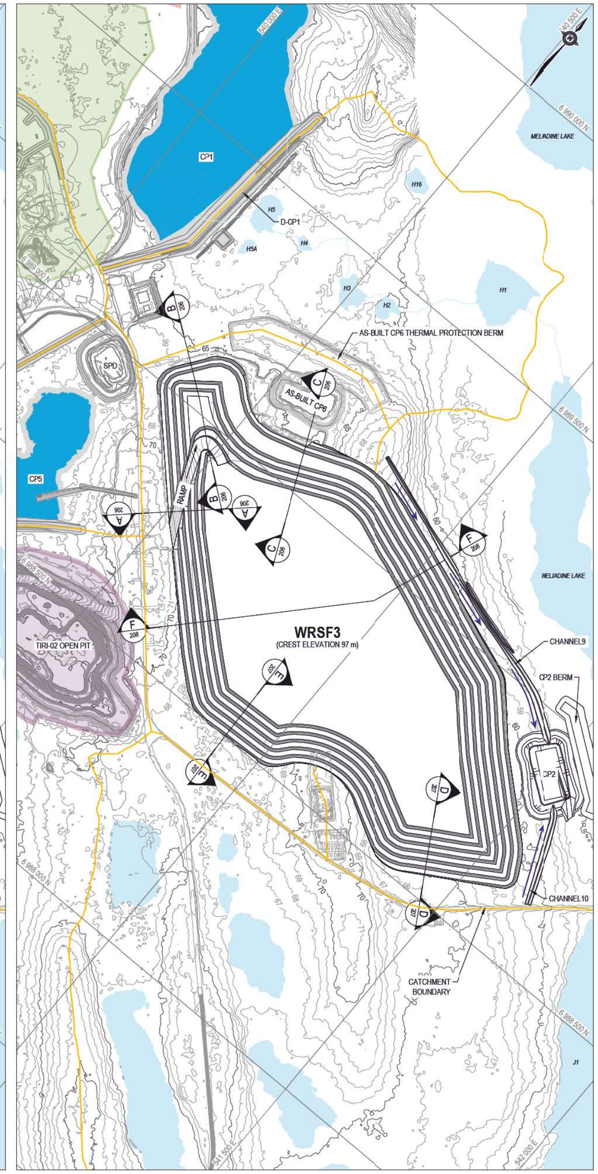
PLAN VIEW SHOWING CURRENT CONDITION

SCALE = 1:5000



PLAN VIEW SHOWING INTERNAL DESIGN GEOMETRY OF OVERBURDEN WASTE IN WRSF3

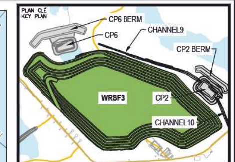
SCALE = 1:5000



PLAN VIEW SHOWING DESIGN GEOMETRY OF WASTE ROCK OUTSIDE SHELL FOR WRSF3

SCALE = 1:5000

PLAN CLÉ KEY PLAN



TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

1. THE WRSF3 DESIGN UPDATE PRESENTED HEREIN HAS BEEN BASED ON THE WASTE ROCK AND OVERBURDEN PRODUCTION PLAN THAT WAS PROVIDED ON JUNE 3, 2021 AND CURRENT AS-BUILT WRSF3 SURVEY. THIS WRSF3 DESIGN SHOULD BE REVIEWED OR UPDATED (IF REQUIRED) IF THE FINAL WASTE ROCK AND OVERBURDEN PLACEMENT PLAN FOR WRSF3, ESPECIALLY THE PLACEMENT PLAN FOR THE INITIAL BENCHES (67 m AND 72 m) OF THE WASTE ROCK AND OVERBURDEN, IS DIFFERENT FROM THAT USED IN THIS DESIGN.

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG

AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
2	2021-11-12	ISSUED FOR CONSTRUCTION	HX	WTH	
1	2021-10-24	WRSF3 EXPANSION - ISSUED FOR REVIEW	HX	WTH	
0	2020-02-21	ISSUED FOR CONSTRUCTION	GZ	WTH	
A	2020-02-14	ISSUED FOR REVIEW	GZ	WTH	

REVISIONS

PERMIT TO PRACTICE
TETRA TECH CANADA INC.
Signature ____
Date Nov 12, 2021
PERMIT NUMBER: P018
NT/NU Association of Professional Engineers and Geoscientists

REGISTERED PROFESSIONAL ENGINEER LICENSEE

TITRE / TITLE

AGNICO EAGLE MELIADINE GOLD PROJECT
WASTE ROCK STORAGE FACILITY No. 3

MELIADINE WRSF3 DETAILED DESIGN:
PLAN VIEW

DESSINÉ PAR DRAWN BY	EL	DATE 2020-02-21
VERIFIÉ PAR CHECKED BY	GZ	2020-02-21
APPROUVÉ PAR APPROVED BY	WTH	2020-02-21
ÉCHELLE SCALE 1:2000		DATE 2020-02-21
NO. DESSIN DRAWING NO.	65-686-230-205	
NO. PROJET PROJECT NO. 6515	REVISION 2	FEUILLE / SHT 1 / 7

AE-CART-ARCH D

FORMAT ARCHD

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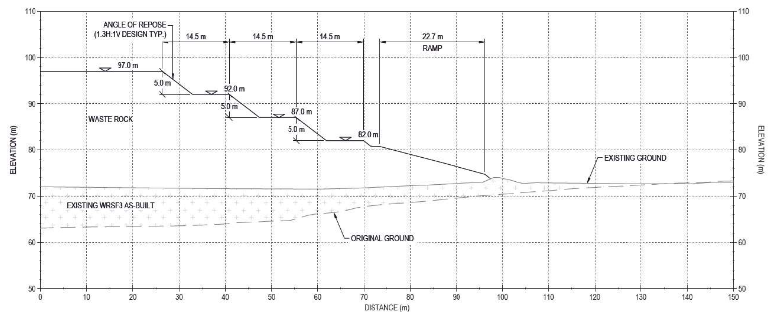
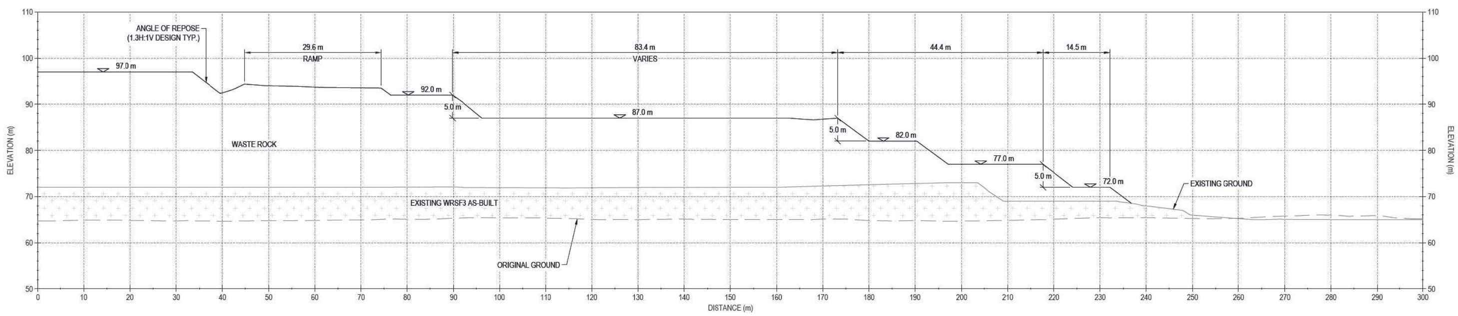
FILE NO. 65 686 230 205.dwg

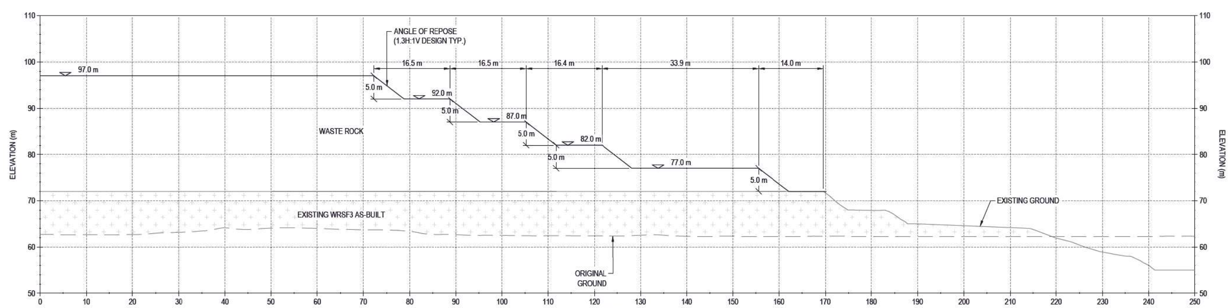
NO. DESSIN DRAWING NO. 65-686-230-206



A SECTION 206 SCALE: 1:500

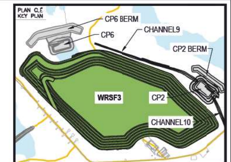


B SECTION 206 SCALE: 1:500



C SECTION 206 SCALE: 1:750

PLAN CLÉ KEY PLAN



TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

1. THE WRSF3 DESIGN UPDATE PRESENTED HEREIN HAS BEEN BASED ON THE WASTE ROCK AND OVERBURDEN PRODUCTION PLAN THAT WAS PROVIDED ON JUNE 3, 2021 AND CURRENT AS-BUILT WRSF3 SURVEY. THIS WRSF3 DESIGN SHOULD BE REVIEWED OR UPDATED (IF REQUIRED) IF THE FINAL WASTE ROCK AND OVERBURDEN PLACEMENT PLAN FOR WRSF3, ESPECIALLY THE PLACEMENT PLAN FOR THE INITIAL BENCHES (67 m AND 72 m) OF THE WASTE ROCK AND OVERBURDEN, IS DIFFERENT FROM THAT USED IN THIS DESIGN.
2. ANY SNOW/ICE WITHIN THE WRSF3 FOOTPRINT SHOULD BE COMPLETELY REMOVED BEFORE PLACING THE WASTE ROCK AND OVERBURDEN IN WRSF3.
3. THE MAXIMUM LIFT THICKNESS DURING WASTE PLACEMENT SHOULD BE LIMITED TO 2.5 m FOR THE OVERBURDEN WASTE AND TO 5.0 m FOR THE WASTE ROCK.

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
-	-
-	-
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-	-
-	-

AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
2	2021-11-12	ISSUED FOR CONSTRUCTION	HX	WTH	
1	2021-10-24	WRSF3 EXPANSION - ISSUED FOR REVIEW	HX	WTH	
0	2020-02-21	ISSUED FOR CONSTRUCTION	GZ	WTH	
A	2020-02-14	ISSUED FOR REVIEW	GZ	WTH	

REVISIONS

PERMIT TO PRACTICE
TETRA TECH CANADA INC.
Signature
Date Nov 12, 2021
PERMIT NUMBER: P018
NT/NU Association of Professional Engineers and Geoscientists

REGISTERED PROFESSIONAL ENGINEER LICENSEE

TITRE / TITLE
AGNICO EAGLE MELIADINE GOLD PROJECT
WASTE ROCK STORAGE FACILITY No. 3

MELIADINE WRSF3 DETAILED DESIGN:
SECTIONS A TO C

DESSINÉ PAR DRAWN BY	EL	DATE 2020-02-21
VÉRIFIÉ PAR CHECKED BY	GZ	2020-02-21
APPROUVÉ PAR APPROVED BY	WTH	2020-02-21
ÉCHELLE SCALE	1:2000	DATE 2020-02-21

NO. DESSIN DRAWING NO. 65-686-230-206

NO. PROJET PROJECT NO.	REVISION	FEUILLE / SHT
6515	2	2 / 7

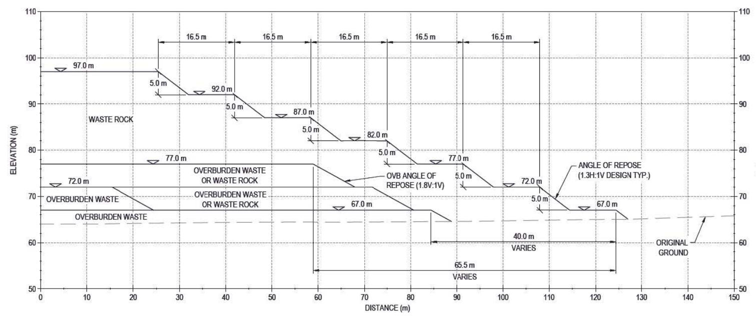
FORMAT ARCHD

AE-CART-ARCH D

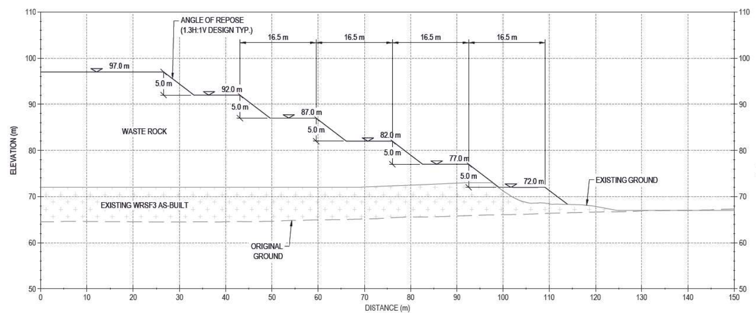
FILE NO. 65 686 230 206.dwg

NO. DESSIN DRAWING NO. 65-686-230-207

FORMAT ARCHD

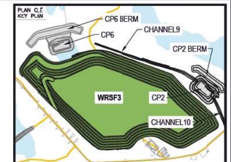


D 206 SECTION
SCALE: 1:500



E 206 SECTION
SCALE: 1:500

PLAN CLÉ KEY PLAN



TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

1. THE WRSF3 DESIGN UPDATE PRESENTED HEREIN HAS BEEN BASED ON THE WASTE ROCK AND OVERBURDEN PRODUCTION PLAN THAT WAS PROVIDED ON JUNE 3, 2021 AND CURRENT AS-BUILT WRSF3 SURVEY. THIS WRSF3 DESIGN SHOULD BE REVIEWED OR UPDATED (IF REQUIRED) IF THE FINAL WASTE ROCK AND OVERBURDEN PLACEMENT PLAN FOR WRSF3, ESPECIALLY THE PLACEMENT PLAN FOR THE INITIAL BENCHES (67 m AND 72 m) OF THE WASTE ROCK AND OVERBURDEN, IS DIFFERENT FROM THAT USED IN THIS DESIGN.
2. ANY SNOW/ICE WITHIN THE WRSF3 FOOTPRINT SHOULD BE COMPLETELY REMOVED BEFORE PLACING THE WASTE ROCK AND OVERBURDEN IN WRSF3.
3. THE MAXIMUM LIFT THICKNESS DURING WASTE PLACEMENT SHOULD BE LIMITED TO 2.5 m FOR THE OVERBURDEN WASTE AND TO 5.0 m FOR THE WASTE ROCK.

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
2	2021-11-12	ISSUED FOR CONSTRUCTION	HX	WTH	
1	2021-10-24	WRSF3 EXPANSION - ISSUED FOR REVIEW	HX	WTH	
0	2020-02-21	ISSUED FOR CONSTRUCTION	GZ	WTH	
A	2020-02-14	ISSUED FOR REVIEW	GZ	WTH	

REVISIONS

PERMIT TO PRACTICE
TETRA TECH CANADA INC.
Signature
Date Nov 12, 2021
PERMIT NUMBER: P018
NT/NU Association of Professional Engineers and Geoscientists

REGISTERED PROFESSIONAL ENGINEER LICENSEE

TITRE / TITLE
AGNICO EAGLE MELIADINE GOLD PROJECT
WASTE ROCK STORAGE FACILITY No. 3

MELIADINE WRSF3 DETAILED DESIGN:
SECTIONS D AND E

DESSINÉ PAR DRAWN BY	EL	DATE 2020-02-21
VERIFIÉ PAR CHECKED BY	GZ	2020-02-21
APPROUVÉ PAR APPROVED BY	WTH	2020-02-21
ÉCHELLE SCALE	1:2000	DATE 2020-02-21

NO. DESSIN DRAWING NO. 65-686-230-207

NO. PROJET PROJECT NO.	REVISION	FEUILLE / SHT
6515	2	3 / 7

AE-CART-ARCH D

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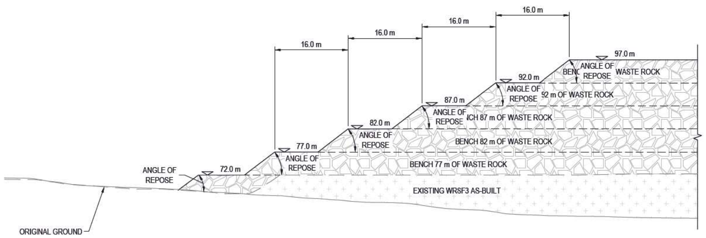
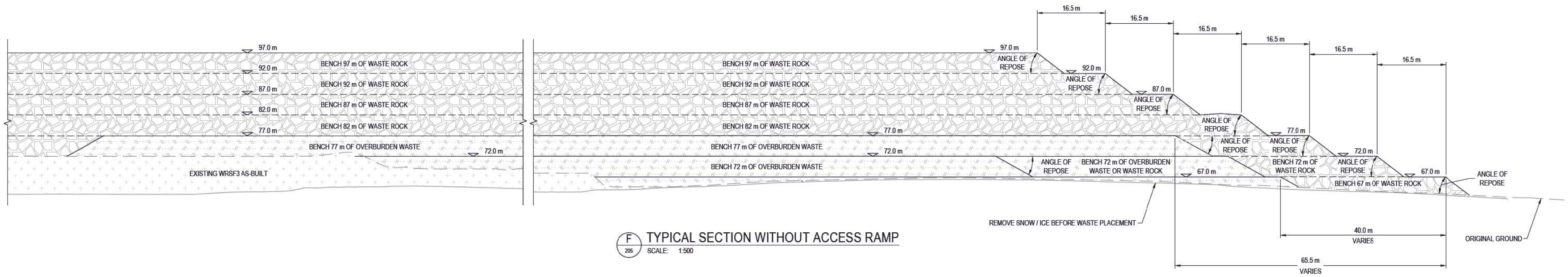
FILE NO. 65 686 230 207.dwg

NO. DESSIN DRAWING NO. 65-686-230-208

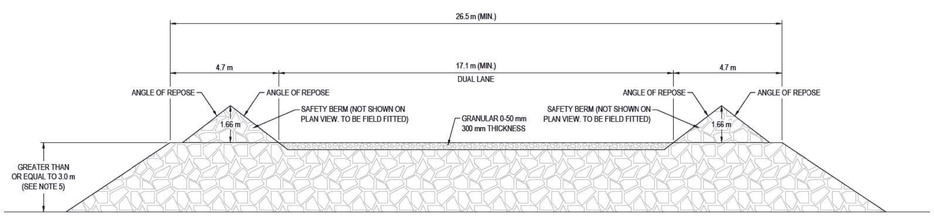
FORMAT ARCHD





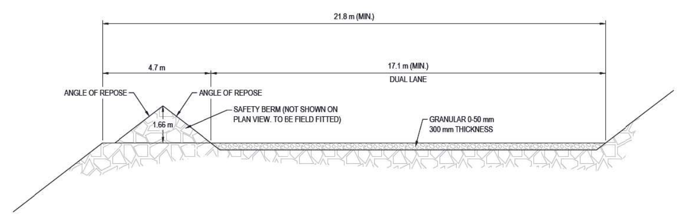
F 205 TYPICAL SECTION WITHOUT ACCESS RAMP

SCALE: 1:500



TYPICAL ACCESS RAMP FOR HAUL ROAD WITH TWO SIDE SAFETY BERMS

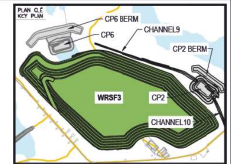
N.T.S.



TYPICAL ACCESS RAMP FOR HAUL ROAD WITH ONE SIDE SAFETY BERM

N.T.S.

PLAN CLÉ KEY PLAN



TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

1. THE WRSF3 DESIGN UPDATE PRESENTED HEREIN HAS BEEN BASED ON THE WASTE ROCK AND OVERBURDEN PRODUCTION PLAN THAT WAS PROVIDED ON JUNE 3, 2021 AND CURRENT AS-BUILT WRSF3 SURVEY. THIS WRSF3 DESIGN SHOULD BE REVIEWED OR UPDATED (IF REQUIRED) IF THE FINAL WASTE ROCK AND OVERBURDEN PLACEMENT PLAN FOR WRSF3, ESPECIALLY THE PLACEMENT PLAN FOR THE INITIAL BENCHES (67 m AND 72 m) OF THE WASTE ROCK AND OVERBURDEN, IS DIFFERENT FROM THAT USED IN THIS DESIGN.
2. ANY SNOW/ICE WITHIN THE WRSF3 FOOTPRINT SHOULD BE COMPLETELY REMOVED BEFORE PLACING THE WASTE ROCK AND OVERBURDEN IN WRSF3.
3. THE MAXIMUM LIFT THICKNESS DURING WASTE PLACEMENT SHOULD BE LIMITED TO 2.5 m FOR THE OVERBURDEN WASTE AND TO 5.0 m FOR THE WASTE ROCK.
4. ACCESS RAMP DESIGNED FOR HAUL TRUCK TYPE OF CAT 775G OR SMALL EQUIPMENT.
5. A SAFETY BERM ON THE SIDE OF A HAUL ROAD IS REQUIRED IF A DROP OFF GREATER THAN 3 m EXISTS.

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
2	2021-11-12	ISSUED FOR CONSTRUCTION	HX	WTH	
1	2021-10-24	WRSF3 EXPANSION - ISSUED FOR REVIEW	HX	WTH	
0	2020-02-21	ISSUED FOR CONSTRUCTION	GZ	WTH	
A	2020-02-14	ISSUED FOR REVIEW	GZ	WTH	

REVISIONS

PERMIT TO PRACTICE TETRA TECH CANADA INC.
Signature
Date
PERMIT NUMBER: P018
NT/NU Association of Professional Engineers and Geoscientists

TITRE / TITLE
AGNICO EAGLE MELIADINE GOLD PROJECT
WASTE ROCK STORAGE FACILITY No. 3

MELIADINE WRSF3 DETAILED DESIGN:
TYPICAL SECTION AND ACCESS RAMP

DESSINÉ PAR DRAWN BY	EL	DATE 2020-02-21
VÉRIFIÉ PAR CHECKED BY	GZ	2020-02-21
APPROUVÉ PAR APPROVED BY	WTH	2020-02-21
ÉCHELLE SCALE	1:2000	DATE 2020-02-21
NO. DESSIN DRAWING NO.	65-686-230-208	
NO. PROJET PROJECT NO. 6515	REVISION 2	FEUILLE / SHT 4 / 7

AE-CART-ARCH D

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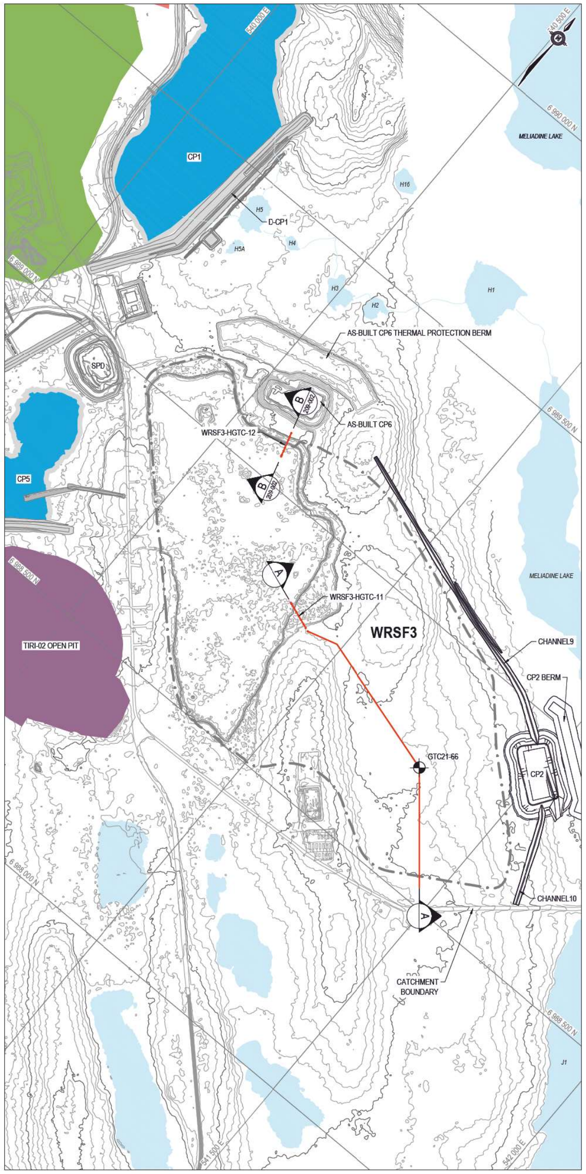
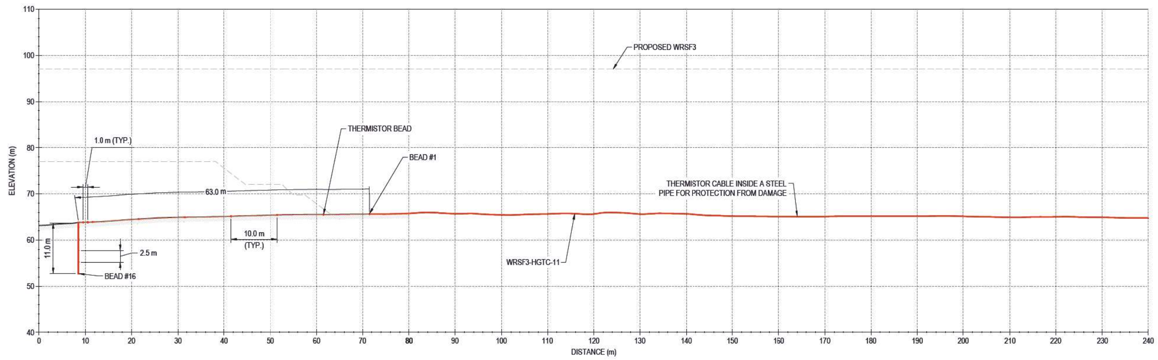
FILE NO. 65 686 230 208.dwg

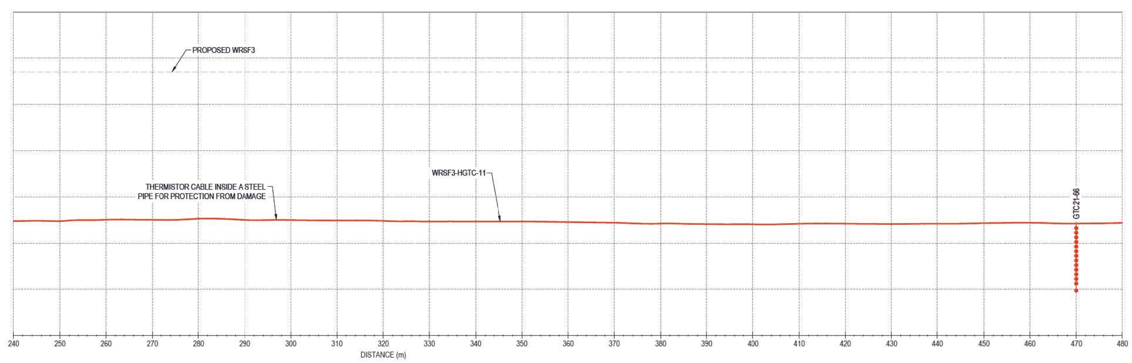
NO. DESSIN DRAWING NO. 65-686-230-209-001

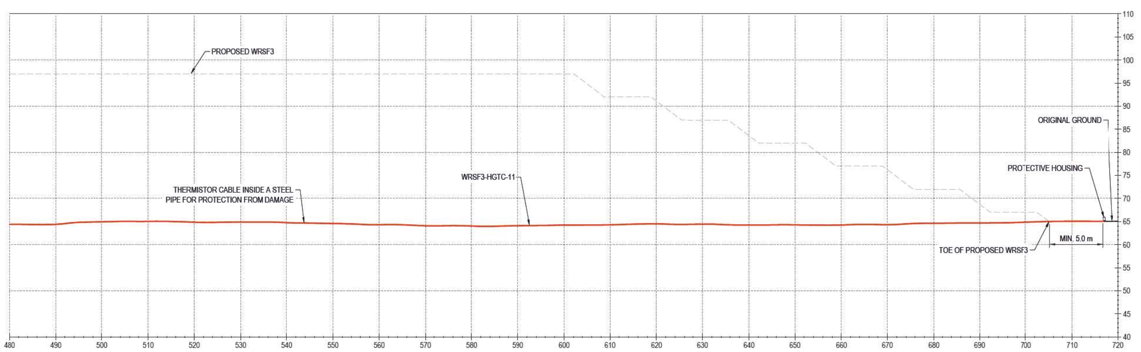


PLAN VIEW SHOWING LOCATIONS OF GROUND TEMPERATURE CABLES FOR WRSF3

SCALE = 1:5000



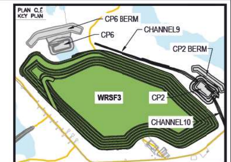




A WRSF3-HGTC-11

SCALE: 1:500

PLAN CLÉ KEY PLAN



TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

1. A TOTAL OF 16 THERMISTOR BEADS FOR EACH GROUND TEMPERATURE CABLE.
2. THE THERMISTOR CABLES FOR WRSF3-HGTC-11 AND WRSF3-HGTC-12 WERE MANUFACTURED BEFORE THE DESIGN OF WRSF3. THESE CABLES WERE INSTALLED ON JANUARY 25 AND 26, 2020 DURING THE SITE INVESTIGATION. DUE TO HOLE SLOUGHING ISSUE, THE BOTTOMS OF BOTH CABLES WERE NOT INSTALLED TO THE DESIGN DEPTH. THE AS-INSTALLED BEAD LOCATIONS INSIDE THE HOLES ARE SHOWN ON THIS DRAWING.

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
2	2021-11-12	ISSUED FOR CONSTRUCTION	HX	WTH	
1	2021-10-24	WRSF3 EXPANSION – ISSUED FOR REVIEW	HX	WTH	
0	2020-02-21	ISSUED FOR CONSTRUCTION	GZ	WTH	
A	2020-02-14	ISSUED FOR REVIEW	GZ	WTH	

REVISIONS

PERMIT TO PRACTICE
TETRA TECH CANADA INC.
Signature
Date Nov 12, 2021
PERMIT NUMBER: P018
NT/NU Association of Professional Engineers and Geoscientists

REGISTERED PROFESSIONAL LICENSEE

TITRE / TITLE
AGNICO EAGLE MELIADINE GOLD PROJECT
WASTE ROCK STORAGE FACILITY No. 3

MELIADINE WRSF3 DETAILED DESIGN:
GROUND TEMPERATURE CABLE AND
THERMISTOR BEAD LOCATIONS

DESSINÉ PAR DRAWN BY	EL	DATE 2020-02-21
VÉRIFIÉ PAR CHECKED BY	GZ	2020-02-21
APPROUVÉ PAR APPROVED BY	WTH	2020-02-21
ÉCHELLE SCALE	1:2000	DATE 2020-02-21

NO. DESSIN DRAWING NO. 65-686-230-209-001

NO. PROJET PROJECT NO.	REVISION	FEUILLE / SHT
6515	2	5 / 7

FORMAT ARCHD

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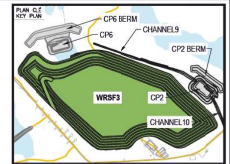
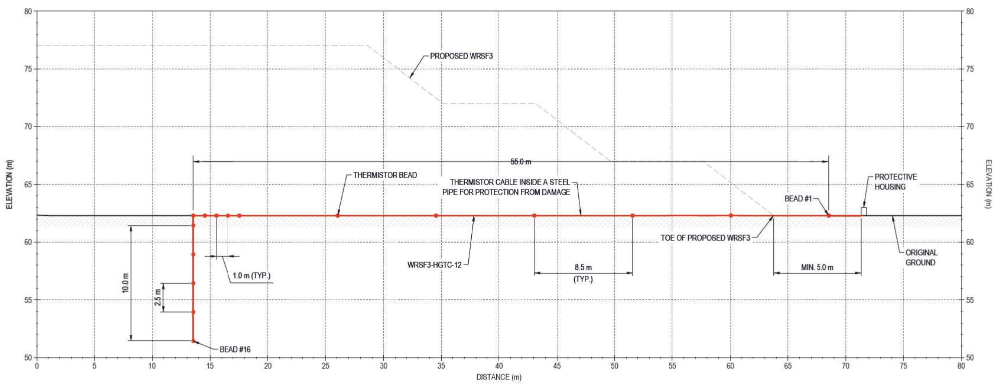
FILE NO. 65 686 230 209 001.dwg

NO. DESSIN DRAWING NO. 65-686-230-209-001





B 209-001 WRSF3-HGTC-12
SCALE: 1:200

NOTES GÉNÉRALES / GENERAL NOTES

1. A TOTAL OF 16 THERMISTOR BEADS FOR EACH GROUND TEMPERATURE CABLE.
2. THE THERMISTOR CABLES FOR WRSF3-HGTC-11 AND WRSF3-HGTC-12 WERE MANUFACTURED BEFORE THE DESIGN OF WRSF3. THESE CABLES WERE INSTALLED ON JANUARY 25 AND 26, 2020 DURING THE SITE INVESTIGATION. DUE TO HOLE SLOUGHING ISSUE, THE BOTTOMS OF BOTH CABLES WERE NOT INSTALLED TO THE DESIGN DEPTH. THE AS-INSTALLED BEAD LOCATIONS INSIDE THE HOLES ARE SHOWN ON THIS DRAWING. GT21-66 WAS INSTALLED ON APRIL 26, 2021 DURING THE SPRING 2021 GEOTECHNICAL DRILLING PROGRAM. THE GTC CABLE WILL BE EXTENDED HORIZONTALLY TO THE TOE OF THE WRSF3.

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
2	2021-11-12	ISSUED FOR CONSTRUCTION	HX	WTH	
1	2021-10-24	WRSF3 EXPANSION - ISSUED FOR REVIEW	HX	WTH	
0	2020-02-21	ISSUED FOR CONSTRUCTION	GZ	WTH	
A	2020-02-14	ISSUED FOR REVIEW	GZ	WTH	

REVISIONS

PERMIT TO PRACTICE
TETRA TECH CANADA INC.
Signature
Date Nov 12, 2021
PERMIT NUMBER: P018
NT/NU Association of Professional Engineers and Geoscientists

TITRE / TITLE
AGNICO EAGLE MELIADINE GOLD PROJECT
WASTE ROCK STORAGE FACILITY No. 3

MELIADINE WRSF3 DETAILED DESIGN:
GROUND TEMPERATURE CABLE AND
THERMISTOR BEAD LOCATIONS

DESSINÉ PAR / DRAWN BY	EL	DATE 2020-02-21
VERIFIÉ PAR / CHECKED BY	GZ	2020-02-21
APPROUVÉ PAR / APPROVED BY	WTH	2020-02-21
ÉCHELLE / SCALE	1:2000	DATE 2020-02-21

NO. DESSIN / DRAWING NO. 65-686-230-209-002

NO. PROJET / PROJECT NO.	REVISION	FEUILLE / SHT
6515	2	6 / 7

FORMAT ARCHD
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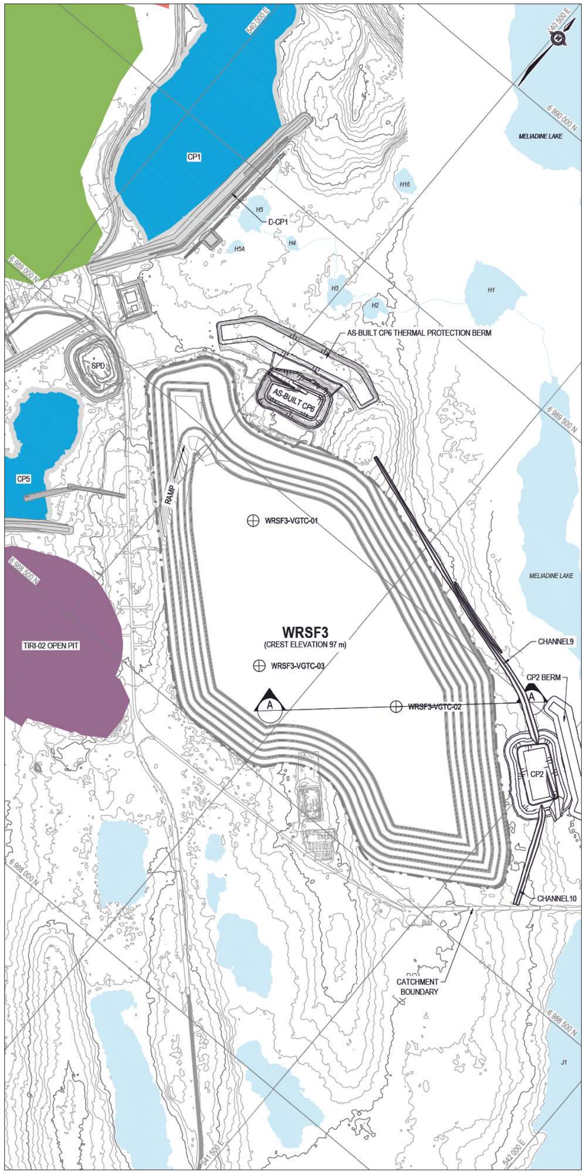
FILE NO. 65 686 230 209 001.dwg

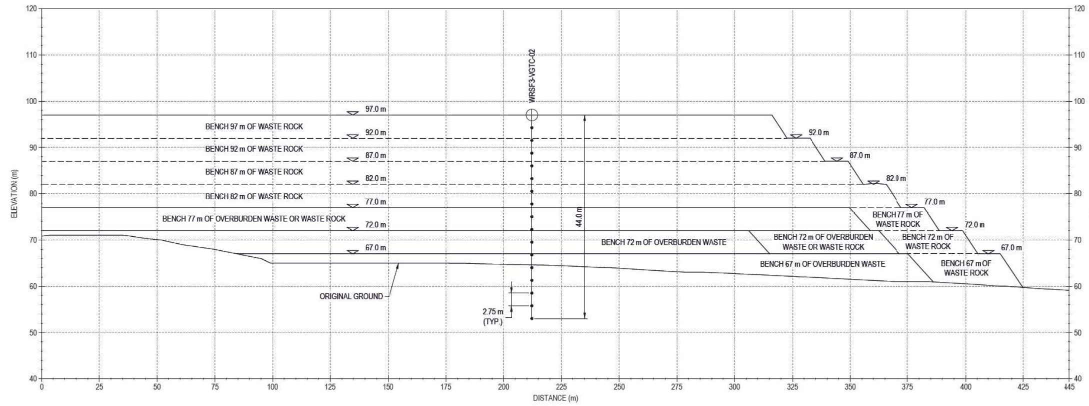
NO. DESSIN DRAWING NO. 65-686-230-209-002

FORMAT ARCHD



PLAN VIEW SHOWING LOCATIONS OF GROUND TEMPERATURE CABLES FOR WRSF3

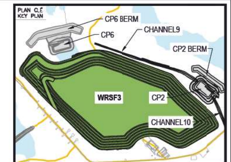
SCALE = 1:5000



A INSTRUMENTATION

SCALE: 1:500

PLAN CLÉ KEY PLAN



TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

1. A TOTAL OF 16 THERMISTOR BEADS FOR EACH GROUND TEMPERATURE CABLE.

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
2	2021-11-12	ISSUED FOR CONSTRUCTION	HX	WTH	
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A	2020-02-14	ISSUED FOR REVIEW	GZ	WTH	

REVISIONS

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TETRA TECH CANADA INC.
Signature
Date Nov 12, 2021
PERMIT NUMBER: P018
NT/NU Association of Professional Engineers and Geoscientists

REGISTERED PROFESSIONAL ENGINEER LICENSEE

TITRE / TITLE
AGNICO EAGLE MELIADINE GOLD PROJECT
WASTE ROCK STORAGE FACILITY No. 3

MELIADINE WRSF3 DETAILED DESIGN: GROUND TEMPERATURE CABLE AND THERMISTOR BEAD LOCATIONS

DESSINÉ PAR DRAWN BY	EL	DATE 2020-02-21
VERIFIÉ PAR CHECKED BY	GZ	2020-02-21
APPROUVÉ PAR APPROVED BY	WTH	2020-02-21
ÉCHELLE SCALE	1:2000	DATE 2020-02-21

NO. DESSIN DRAWING NO. 65-686-230-209-003

NO. PROJET PROJECT NO.	REVISION	FEUILLE / SHT
6515	2	7 / 7

AC-CART-ARCH D

FILE NO. 65 686 230 209 002.dwg

Photo 1: WRSF3 - Access to WRSF. Temporary crusher stockpiles and burnable waste station.

Photo 2: WRSF3 - Condition of overburden surface placed during west expansion.

Photo 3: WRSF3—Toe on east side of WRSF.

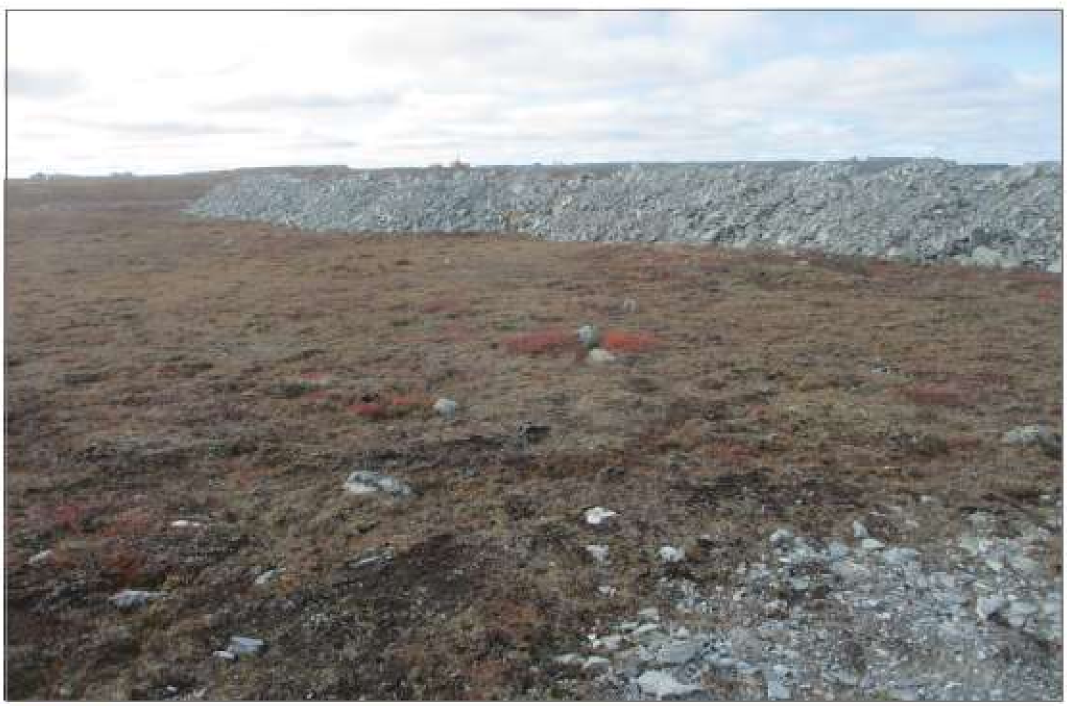
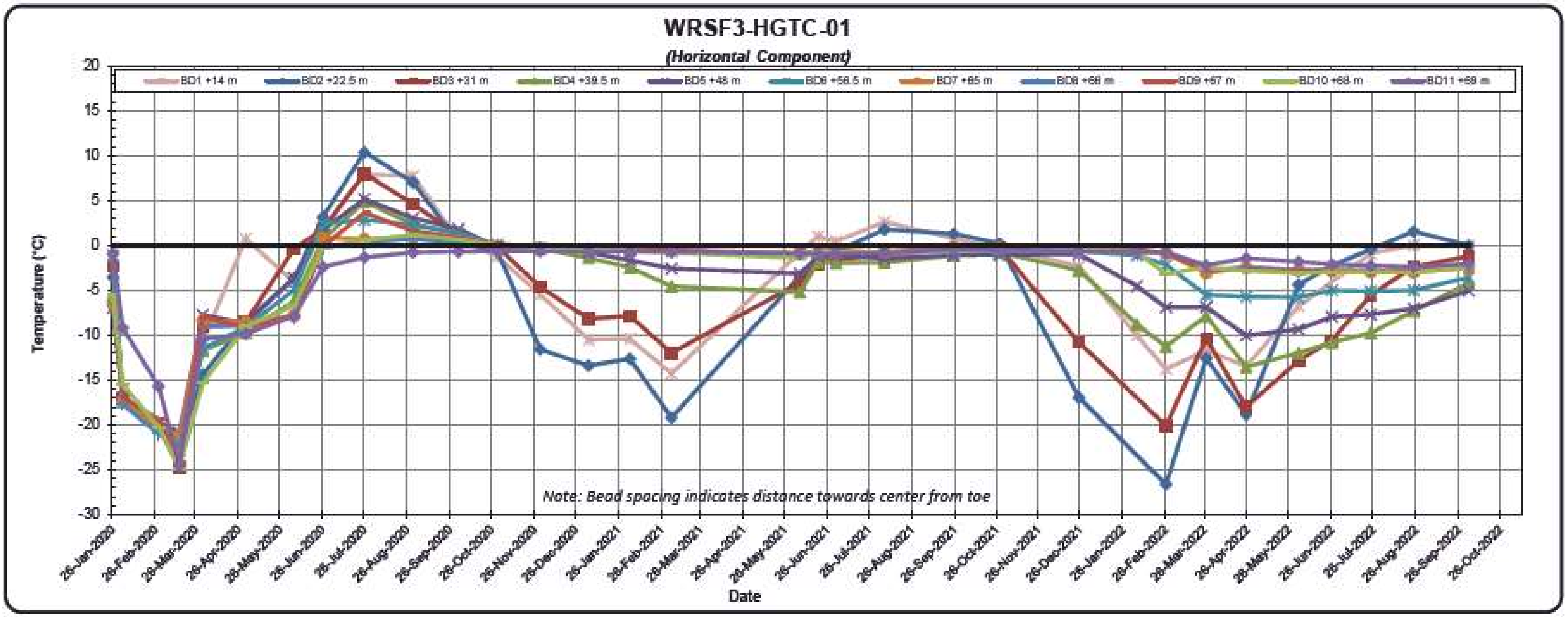


Photo 4: WRSF3—South side of WRSF expansion, roughly 20 m from design limit.

Photo 5: WRSF3—Northeast waste rock surface of expansion.

Photo 6: WRSF3—Access ramp from WRSF3 to CP6.

Photo 7: WRSF3—Flow path of former lakebed from northeast corner of WRSF to CP6.



WRSF3-HGTC-01
(Horizontal Component)
BD1 +14 m
BD2 +22.5 m
BD3 +31 m
BD4 +39.5 m
BD5 +48 m
BD6 +56.5 m
BD7 +65 m
BD8 +66 m
BD9 +67 m
BD10 +68 m
BD11 +69 m
Temperature (°C)
Date
Note: Bead spacing indicates distance towards center from toe
20
15
10
5
0
-5
-10
-15
-20
-25
-30
26-Jan-2020
26-Feb-2020
26-Mar-2020
26-Apr-2020
26-May-2020
26-Jun-2020
26-Jul-2020
26-Aug-2020
26-Sep-2020
26-Oct-2020
26-Nov-2020
26-Dec-2020
26-Jan-2021
26-Feb-2021
26-Mar-2021
26-Apr-2021
26-May-2021
26-Jun-2021
26-Jul-2021
26-Aug-2021
26-Sep-2021
26-Oct-2021
26-Nov-2021
26-Dec-2021
26-Jan-2022
26-Feb-2022
26-Mar-2022
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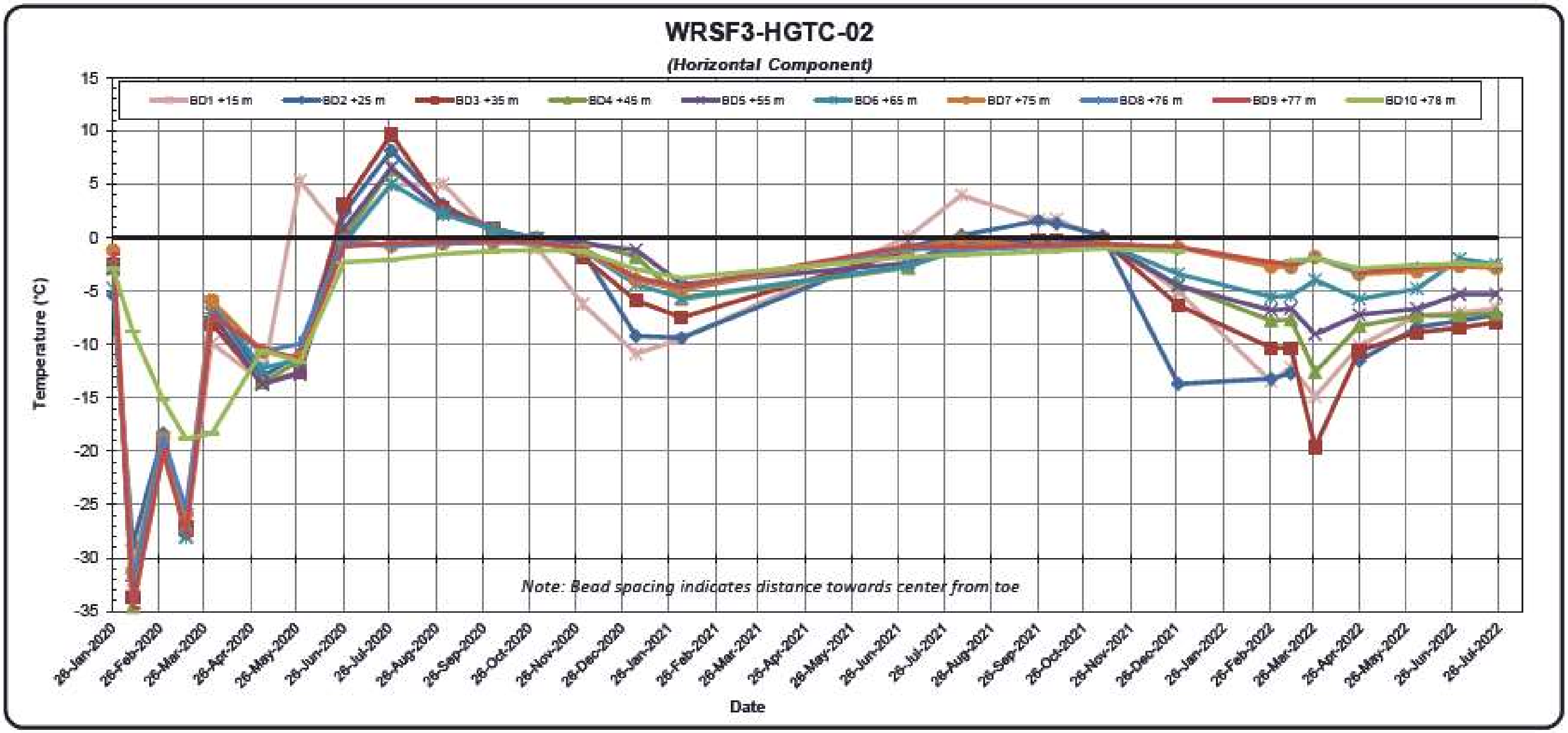
26-Sep-2022
26-Oct-2022



WRSF3-HGTC-02
(Horizontal Component)
BD1 +15 m
BD2 +25 m
BD3 +35 m
BD4 +45 m
BD5 +55 m
BD6 +65 m
BD7 +75 m
BD8 +76 m
BD9 +77 m
BD10 +78 m
Temperature (°C)
15
10
5
0
-5
-10
-15
-20
-25
-30
-35
Note: Bead spacing indicates distance towards center from toe
26-Jan-2020
26-Feb-2020
26-Mar-2020
26-Apr-2020
26-May-2020
26-Jun-2020
26-Jul-2020
26-Aug-2020
26-Sep-2020
26-Oct-2020
26-Nov-2020
26-Dec-2020
26-Jan-2021
26-Feb-2021
26-Mar-2021
26-Apr-2021
26-May-2021
26-Jun-2021
26-Jul-2021
26-Aug-2021
26-Sep-2021
26-Oct-2021
26-Nov-2021
26-Dec-2021
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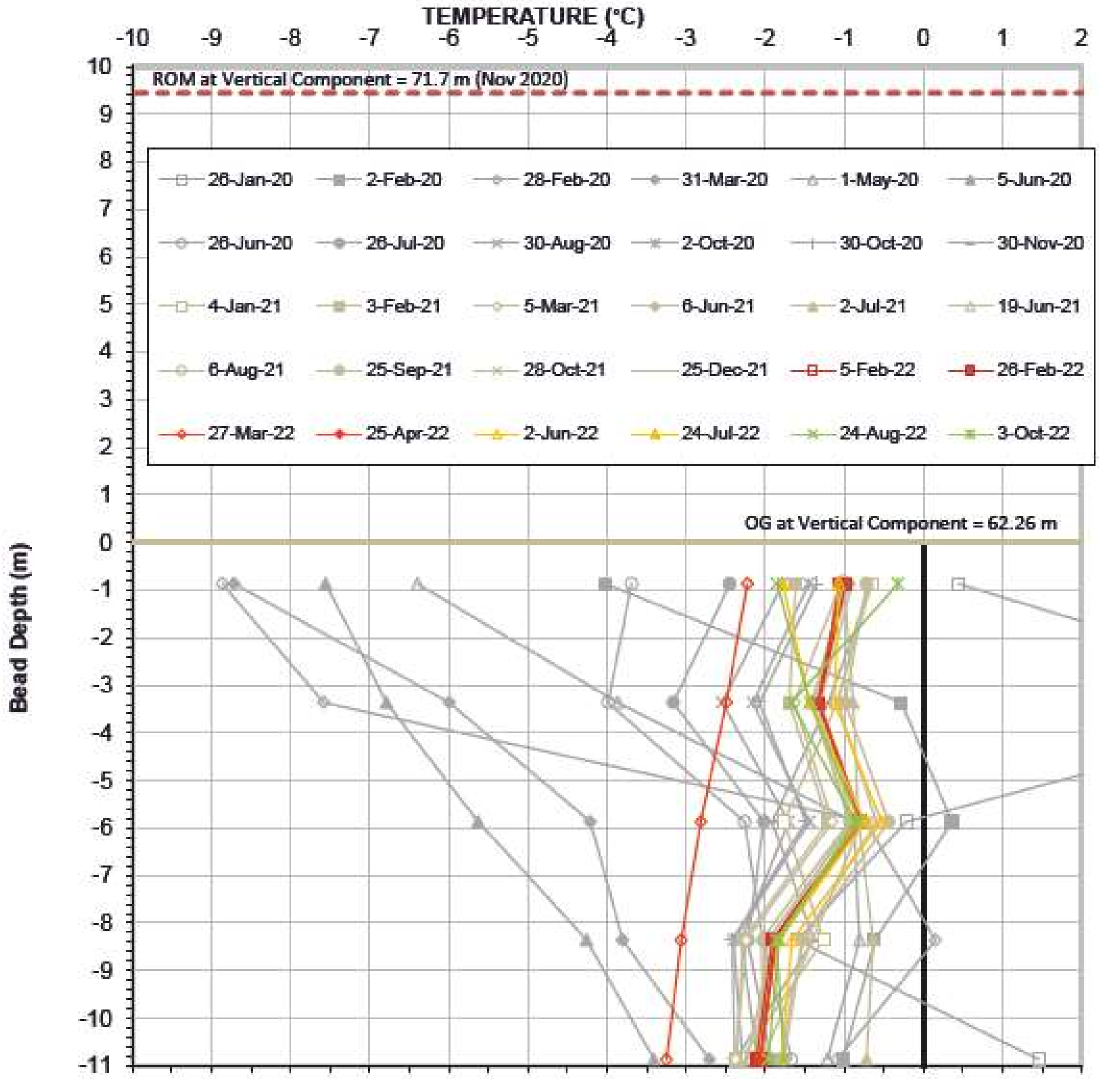
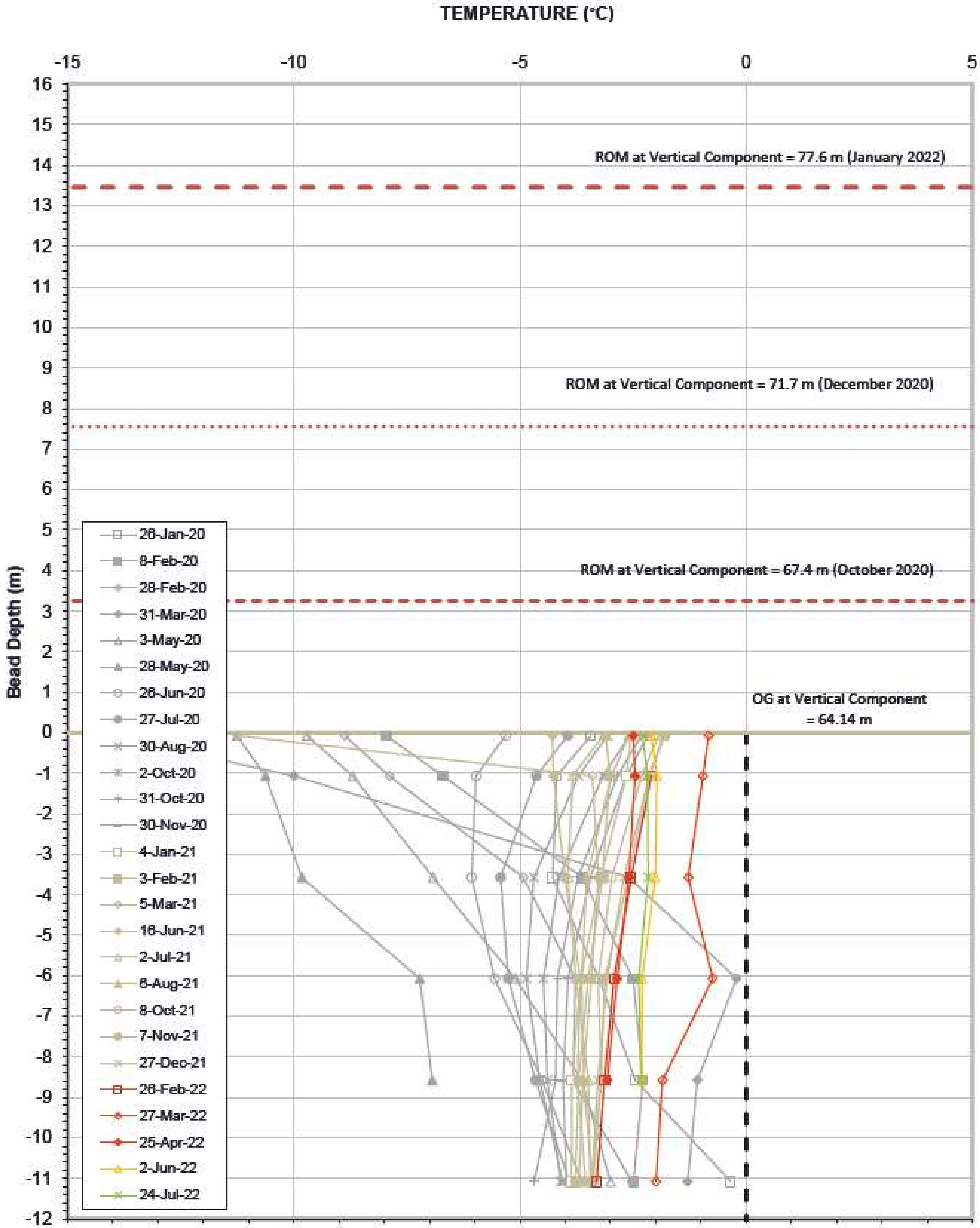
26-Jun-2022
26-Jul-2022
Date



Ground Temperature Profile for Cable WRSF3-HGTC-01
(*Vertical Component*)
Waste Rock Storage Facility 3

Serial No.: 2712
Date Installed: January 25, 2020



Ground Temperature Profile for Cable WRSF3-HGTC-02 (*Vertical Component*)
Waste Rock Storage Facility 3

Serial No.: 2711
Date Installed: January 26, 2020