

Design Report for CP8, CP8 Thermal Berm, Channel13, Channel14, B7North Thermal Berm, and B7West Thermal Berm, Meliadine Gold Mine, Nunavut



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Agnico Eagle Mines Limited

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EXECUTIVE SUMMARY

Agnico Eagle Mines Limited (Agnico Eagle) is operating the Meliadine Gold Mine (the Meliadine Mine), located approximately 25 km north of Rankin Inlet, Nunavut. The current operation consists of mining the Pump and Tiriganiaq deposits through five open pits and an underground operation under the existing Nunavut Water Board Type A Water Licence (No. 2AM-MEL1631).

In January 2024, Agnico Eagle submitted a Water Licence Amendment application, which allows Agnico Eagle to mine the Wesmeg, Wesmeg North, Pump, FZone, and Discovery deposits that were included in the 2014 Final Environmental Impact Statement and Nunavut Impact Review Board Project Certificate No.006. The amended Type A Water Licence was approved in November 2024.

Several water management infrastructure (WMI), including two water diversion channels (Channel13 and Channel14), a Collection Pond (CP) (CP8), and three thermal berms (CP8 Thermal Berm, B7North Thermal Berm, and B7West Thermal Berm) are required to support the Tailings Storage Facility (TSF) expansion at the Mine. Tetra Tech Canada Inc. was retained by Agnico Eagle to carry out the detailed design of the required WMI to facilitate the water management during operation and closure.

The purpose of Channel13 and Channel14 is to collect and divert the runoff water from the proposed TSF Expansion catchment area to CP3 and CP8, respectively. CP8 will collect and store runoff water from the TSF Expansion and temporarily store water during operation. The proposed CP8 Thermal Berm is to preserve the permafrost foundation within the CP8 Thermal Berm footprint and to prevent seepage from CP8 to Lake B7. The existing Lake B7 will be used to store non-saline contact water, the B7North Thermal Berm and the B7West Thermal Berm are required to preserve the permafrost foundation and prevent contact runoff water from flowing into the outside receiving environment at the outlets of Lake B7.

The key criteria and considerations for the design of Channel13, Channel14, CP8, CP8 Thermal Berm, B7North Thermal Berm, and B7West Thermal Berm include:

- The design of Channel13 and Channel14 that can safely pass an extreme intensity flow under a 5-minute 1:100 year return rainfall of 5 mm with a freeboard of 0.2 m. This design criterion is the same as adopted for the detailed design for the other channels (i.e., Channels 3, 4, 9, 10, and 11) currently in operation at the Meliadine Mine and exceeds the criteria specified in Agnico Eagle's Corporate Standard – RMMS Corporate Standard Water Management (Agnico Eagle 2021).
- CP8 was designed similarly to other CP's at Meliadine Mine, including CP1, CP2, CP3, CP4, CP5, CP6, and CP9. CP8 was designed to store 3/7 of a 1 in 100 wet precipitation year's freshet (assumption that freshet occurs in seven days). The excess freshet water will be pumped out to CP1 during the freshet period. The design minimum operating water pumping rate for the CP8 pumping system is 9,100 m³/day.
- The maximum operating water elevation in CP8 under Inflow Design Flood is set to be 2.0 m below the outlet of the pond (the lowest ground elevation along the perimeter of the pond).
- The design features of the CP8 Thermal Berm, the B7North Thermal Berm, and the B7West Thermal Berm, are similar to the thermal berms currently in operation at the Meliadine Mine (e.g., CP2, CP3, CP4, CP6, and CP9 Thermal Berms). The design features include a till core capped with rockfill material, and a layer of geotextile that will be applied on the downstream side towards the centre line of the berm and along the interface between the rockfill material and the overburden fill to reduce the risk of erosion.

This report summarizes the site conditions, design basis, considerations, design criteria, engineering analyses, and presents the detailed design. Issued for Construction drawings for each infrastructure and construction material specifications. This report is also intended to meet the requirements of Part D Items 1 and 2 of the Amended Type A Water Licence.

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- Appendix A Borehole Logs
- Appendix B Issued for Construction Drawings for Channel13 and Channel14
- Appendix C Issued for Construction Drawings for CP8 and CP8 Thermal Berm
- Appendix D Issued for Construction Drawings for B7North Thermal Berm and B7West Thermal Berm
- Appendix E Geotechnical Specifications for Construction of CP8, CP8 Thermal Berm, Channel13, Channel14, B7North Thermal Berm, and B7West Thermal Berm
- Appendix F Tetra Tech's Limitations on Use of this Document

ACRONYMS & ABBREVIATIONS

Acronyms/Abbreviations	Definition
AEP	Annual Exceedance Probability
Agnico Eagle	Agnico Eagle Mines Limited
ARD	Acid Rock Drainage
CDA	Canadian Dam Association
CP	Collection Pond
FEIS	Final Environmental Impact Statement
Golder	Golder Associates Ltd.
GTC	Ground Temperature Cable
H	Horizontal
IDF	Inflow Design Flood
IF	Iron Formation
Lorax	Lorax Environmental Services
km	Kilometers
masl	Metres Above Sea Level
ML	Metal Leaching
NIRB	Nunavut Impact Review Board
Non-PAG	Non-Potentially Acid Generating
NWB	Nunavut Water Board
OMS	Operation, Maintenance, and Surveillance
PAG	Potentially Acid Generating
PGA	Peak Ground Acceleration
ppt	Parts Per Thousand
QA/QC	Quality Assurance/Quality Control
TDS	Total Dissolved Solids
Tetra Tech	Tetra Tech Canada Inc.
TSF	Tailings Storage Facility
The Meliadine Mine	Meliadine Gold Mine
V	Vertical
WMI	Water Management Infrastructure
WSP	WSP Canada Inc.

LIMITATIONS OF REPORT

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1.0 INTRODUCTION

Agnico Eagle Mines Limited (Agnico Eagle) is operating the Meliadine Gold Mine (the Meliadine Mine), located approximately 25 km north of Rankin Inlet, Nunavut. Situated on the western shore of Hudson Bay, the project site is located on the peninsula between the east, south, and west basins of Meliadine Lake (63°01'23.8"N, 92°13'6.42"W). A general location plan for the project is shown in Figure 1.

Agnico Eagle obtained the initial Type A Water Licence (No. 2AM-MEL1631) from the Nunavut Water Board (NWB) for the project on April 1, 2016 and commenced mine production in early 2019. The operations consist of mining the Tiriganiaq deposits with two open pits and an underground operation under the initial Type A Water Licence. In January 2024, Agnico Eagle submitted a Water Licence Amendment application to support the completion of licensing components approved under the Nunavut Impact Review Board (NIRB) Project Certificate No. 006. The 2024 Water Licence Amendment allows Agnico Eagle to mine the Wesmeg, Wesmeg North, Pump, FZone, and Discovery deposits that were included in the 2014 Final Environmental Impact Statement (FEIS) and NIRB Project Certificate No.006. The amended Water Licence also permits Agnico Eagle to expand the existing Tailings Storage Facility (TSF) and construct additional Water Management Infrastructure (WMI) to manage runoff. The amended Type A Water Licence was approved in November 2024.

To support further mine development, an expansion of the existing TSF is required to accommodate the additional filtered tailings to be produced from the mining of the planned deposits. The required WMI to facilitate the construction and operation of the TSF expansion includes two water diversion channels (Channel13 and Channel14), a Collection Pond (CP8), and a thermal berm (CP8 Thermal Berm). Channel13 and Channel14 are designed to collect and divert the runoff water from the TSF expansion catchment area to the existing CP3 and new CP8, respectively. CP8 will temporarily store runoff water from the TSF expansion catchment area. The proposed CP8 Thermal Berm is designed to preserve the permafrost foundation within the CP8 Thermal Berm footprint and to prevent seepage from CP8 to Lake B7 through the active layer.

According to the current operational water management plan for the Meliadine Mine, the existing Lake B7 will be used to store non-saline contact runoff, providing supplemental storage to CP1. Two thermal berms (B7West and B7North) are required at the outlets of Lake B7 to maintain the permafrost foundation underneath the thermal berms and prevent the contact runoff water in Lake B7 from flowing into the outside receiving environment.

The proposed locations of Channel13, Channel14, CP8, CP8 Thermal Berm, B7North Thermal Berm, and B7West Thermal Berm are shown on Figure 2.

This report summarizes the site conditions, design basis, considerations, design criteria, engineering analyses, and presents the detailed design, Issued for Construction drawings for each infrastructure, and construction material specifications. This report is also intended to meet the requirements of Part D Items 1 and 2 of the of the Amended Type A Water Licence.

2.0 GENERAL SITE CONDITIONS

2.1 Climate and Meteorology

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

regional evaporation station operated by Environment Canada is in Churchill, Manitoba. The monthly mean air temperature is typically above 0°C from June to September and below 0°C from October to May. July is typically the warmest month, and January is typically the coldest. Winters are typically long and cold, while summers are short and cool. The mean annual temperature for the period of record, from 1994 to 2023, was -9.8°C, based on the measured air temperature data at Rankin Inlet.

The annual total precipitation at the Meliadine Mine site under mean conditions is 394 mm/year, with approximately equal amounts falling as snow and rainfall (Tetra Tech 2021a). Average annual evaporation for small waterbodies in the Meliadine Mine site is estimated to be 323 mm between June and September. The average annual loss of snowpack to sublimation and snow redistribution is estimated to vary between 46% and 52% of the total precipitation for the winter period and occurs between October and May (Golder 2013).

The region is known for its high winds, which are due in part to the broad, flat, and uninterrupted expanses offered to moving air masses. The wind generally blows from the northwest and north-northwest direction. The mean values for wind speed show that the north-northwest, together with northwest winds, have the highest speeds and tend to be the strongest. Mean monthly wind speeds are typically between 19 km/hour and 29 km/hour, with an average of 22.3 km/hour.

2.2 Topography and Lakes

The dominant terrain in the Meliadine Mine area comprises glacial landforms such as drumlins (glacial till), eskers (gravel and sand), and lakes. A series of low relief ridges are composed of glacial deposits, oriented in a northwest-southeast direction, which control the regional surface drainage patterns. The Meliadine Mine is about 60 m above sea level (masl) in low-lying topography with numerous lakes.

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

2.3 Permafrost

The Meliadine Mine site is located within the Southern Arctic terrestrial eco-zone which is one of the coldest and driest regions of Canada, in a zone of continuous permafrost. Continuous permafrost to depths of between 285 m to 430 m is expected based on ground temperature data from thermistors installed near Tiriganiaq, FZone, and Discovery deposits (WSP 2024a). The measured ground temperature data indicates that the active layer ranges from 1.0 m to 3.0 m in areas of shallow soils and areas away from the influence of lakes. It is anticipated that the active layer adjacent to lakes or below a body of moving water, such as a stream, could be deeper. The typical permafrost ground temperatures at the depths of zero annual amplitude (typically at depths below 18 m) are in the range of -5.9°C to -7.0°C in the areas away from lakes and streams. The geothermal gradient ranges from 0.015°C/m to 0.02°C/m (WSP 2024a).

Open taliks (defined by the 0-degree isotherm) are predicted to be present beneath portions of each of the following lakes near the proposed open pits: Lake B4, B5, B7, A6, A8, and CH6. Closed talik is interpreted below Lake D4 based on the 0-degree isotherm interpreted from the thermal model (WSP 2024b).

2.4 Groundwater

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

The permafrost in the rock in the Meliadine Mine area would be virtually impermeable to groundwater flow. The shallow groundwater flow regime, therefore, has little to no hydraulic connection with the deep groundwater regime. The latest hydrogeology modelling conducted in 2024 reported that the elevations of the larger lakes with taliks extending down to the deep groundwater regime (referred to as open taliks) provide the principal driving force for deep groundwater flow (WSP 2024b). Through thermal modelling, open-taliks were suggested to exist beneath Lake B4, Lake B5, Lake B7, Lake A6, Lake A8, and Lake CH6. Hydrogeological testing conducted at the Mine site indicated that the bulk bedrock is generally of low hydraulic conductivity, ranged from 1×10^{-10} m/s to 6×10^{-9} m/s (WSP 2024b). Groundwater velocities in the deep groundwater regime are very low and on the order of 0.2 m/year to 0.3 m/year.

To a lesser degree, groundwater beneath the permafrost is influenced by density differences due to the upward diffusion of deep-seated brines (density-driven flow). In the Canadian Shield, concentrations of Total Dissolved Solids (TDS) in groundwater increase with depth, primarily in response to upward diffusion of deep-seated brines. A “West Bay”-type well was installed in 2011 at the site near the proposed Tiriganiaq underground infrastructure to establish a baseline for deep groundwater quality. A second “West Bay”-type well was installed in 2020 near the Discovery deposit to collect more baseline data. Mean salinity of groundwater below the permafrost has been estimated at approximately 61,000 mg/L. Salinity can induce a freezing point depression, creating a cryopeg in permafrost where water can be unfrozen even though the temperature is below 0°C. The freezing point depression was calculated to be equivalent to -3.3°C (with salinity approximately 61,000 mg/L), suggesting the depth to the basal cryopeg is between about 350 m and 375 m below ground surface in the Mine area (Golder 2012a).

2.5 Seismic Zone

The Meliadine Mine site is in an area of low seismic risk and is classified as “Class C” based on the ground conditions. The Peak Ground Acceleration (PGA) for a reference “Class C” site under various Annual Exceedance Probability (AEP) was estimated using the 2020 National Building Code of Canada Seismic Hazard Tool. The estimated PGA is 0.0285 g for a 5% in 50-year probability of exceedance (0.001 per annum or 1 in 1,000 year return) and 0.0498 g for a 2% in 50-year probability of exceedance (0.000404 per annum or 1 in 2,475 year return) for the Meliadine Mine site.

2.6 General Subsurface Conditions

Several site investigation programs were carried out at the Project site in 1998, 1999, 2007, 2009, 2011, 2012, 2013, 2014, 2016, 2017, 2021, 2024, and 2025 (Golder 1999, SRK 2007, Golder 2010, Golder 2012b, Golder 2012c, EBA 2013, Tetra Tech 2014, Tetra Tech 2016, Tetra Tech 2018, Tetra Tech 2021b, Tetra Tech 2024a, and Tetra Tech 2025).

In general, the near surface stratigraphy comprises a veneer of organic material, underlain by non-cohesive soils (i.e., silty sand and sandy silt) with gravel, cobbles, and boulders. The overburden thickness ranges between 0.9 m

and 15.0 m and is underlain by greywacke, which is medium to strong, with some fracturing and frost jacking of the upper bedrock surface. A layer of ice-rich overburden (silt or sand) has been observed in some of the boreholes drilled. Overburden soils with excess ice (Vs, Vx, and Vr) were observed in the non-destructive boreholes. The estimated percentage (by volume) of the excess visible ice ranged from 2% to 20% in the overburden soils. Soil porewater salinity tests (EBA 2013) indicated that the overburden soils have a porewater salinity of 4 to 12 parts per thousand (ppt).

3.0 DESIGN BASIS

3.1 Meliadine Water Management Infrastructure Definition

The terminology used in this design report for the Meliadine WMI includes:

- **“Channel”** is used to refer to watercourses created by excavation or berm construction to divert or control a limited volume of runoff where overtopping would not adversely affect the performance or stability of critical infrastructure or result in an adverse environmental impact.
- **“Thermal Berm”** is used to refer to an independent earthwork structure with no water against it, and acts as a thermal protection structure to protect the permafrost underneath the structure. The construction materials for the thermal berm will primarily be sourced from the excavation of the adjacent WMI.
- **“Collection Pond”** is used to refer to a water storage area formed by excavation to temporarily store runoff from adjacent areas impacted by mining activities.

The functions of channels and collection ponds at the Meliadine Mine correspond to the definition of ditch and sump, respectively, as presented in Agnico Eagle’s Corporate Standard – RMMS Corporate Standard Water Management (Agnico Eagle 2021). However, to maintain consistency with the terminology used in the permitting applications, Type A Water Licence, and previous design reports submitted to the NWB, the terms channel and collection pond are used throughout this report.

3.2 Function of the Proposed Water Management Infrastructure

3.2.1 Channel13 and Channel14

The proposed Channel13 and Channel14 are required to collect and divert runoff water from the TSF expansion catchment area to the existing CP3 and CP8, respectively. The channels are scheduled to be constructed in Winter 2025/2026 prior to the placement of tailings at the TSF expansion area.

3.2.2 CP8 and CP8 Thermal Berm

CP8 will serve as a water collection pond to collect runoff water from the TSF expansion catchment, and a temporary water storage area. A water pumping system will be installed in CP8 to transfer the water from CP8 to CP1, the main water attenuation pond at the Meliadine Mine. Water in the existing CP3 may be transferred by a pumping system to CP8 depending on the operational requirements. The construction of CP8 is planned for Winter 2025/2026 to facilitate tailings placement into the TSF expansion.

Similar to the thermal berms currently in operation at the Meliadine Mine (e.g., CP2, CP3, CP4, and CP6 Thermal Berms), the proposed CP8 Thermal Berm will be used to preserve the existing permafrost foundation within the footprint of the berm and limit seepage from CP8 to downstream Lake B7. The CP8 Thermal Berm is scheduled to be constructed in Winter 2025/2026 with the excavation materials from the construction of CP8.

3.2.3 B7North Thermal Berm and B7West Thermal Berm

The proposed B7North Thermal Berm and B7West Thermal Berm will be used to preserve the permafrost foundation soils within the footprints of the thermal berms. The construction of B7North Thermal Berm is scheduled for Winter 2025/2026, utilizing the construction materials from the excavation of CP8. The construction of B7West Thermal Berm is scheduled for Winter 2026/2027, utilizing the construction materials from the overburden stripping of one of the open pits at the Wesmeg area. Water against the thermal berms is not expected based on the current operational water management plan at the Meliadine Mine.

3.3 Geochemical Characteristics of Overburden and Rock

Agnico Eagle conducted a comprehensive geochemical characterization program to support the FEIS (Golder 2014). In 2022, Agnico Eagle conducted another geochemical characterization program by undertaking a series of static and kinetic tests (Lorax 2022). The purpose of the geochemical characterization program conducted in 2022 was to supplement the 2014 study and to determine the acid rock drainage and metal leaching (ARD/ML) potential of the geologic materials expected to be disturbed by mining activities at the Meliadine Mine. The key findings from the geochemical characterization programs for Tiriganiaq area are summarized below:

- Waste rock that is classified as potentially acid generating (PAG) or Uncertain is mostly Iron Formation (IF) waste rock. Waste rock from Tiriganiaq area shows notably low acid rock drainage potential in IF waste rock. A majority of the Tiriganiaq IF waste rock is classified as non-potentially acid generating (non-PAG).
- Geochemical characterization of overburden for the 2014 FEIS (Golder 2014), showed that overburden was non-acid generating, and contained low metal concentrations. Salinity associated with overburden was found to be 0 in the active layer, and increased with depth below the active layer until it becomes relatively constant at a depth below 6 m. The overburden salinity rinsing test results on the samples collected at a 0 to 12.4 m depth range showed that the TDS loads range from 583 mg/kg to 962 mg/kg (Lorax 2022).

3.4 Precipitation, Surface Runoff, and Lake Surface Evaporation

Surface runoff parameters for a mean precipitation year and a 1 in 100 wet precipitation year are presented in Table 1. These parameters were derived based on the Climate Characterization Update Study (Tetra Tech 2021a) and the studies performed for the 2014 FEIS (Agnico Eagle and Golder, 2014).

Table 1: Various Parameters for Surface Runoff Estimation

Item	Value	Source or Comments
Mean Precipitation Year		
Total adjusted annual precipitation for a mean precipitation year	394 mm	Tetra Tech (2021a)
Total adjusted annual rainfall for a mean precipitation year	194 mm	Tetra Tech (2021a)
Total adjusted annual water equivalent snowfall for a mean precipitation year	200 mm	Calculated based on values above
Total estimated snow sublimation	99 mm	Golder (2013)
Estimated snow melt water equivalent in spring freshet	101 mm	Calculated based on values above
24-hour duration rainfall with a 1 in 2 years of return period	29.9 mm	Tetra Tech (2021a)
1 in 100 Wet Precipitation Year		
Total adjusted annual precipitation for a 1 in 100 wet precipitation year	636 mm	Tetra Tech (2021a)
Total adjusted annual rainfall for a 1 in 100 wet precipitation year	339 mm	Tetra Tech (2021a)
Total adjusted annual water equivalent snowfall for a 1 in 100 wet precipitation year	297 mm	Calculated based on values above
Total estimated snow sublimation	99 mm	Golder (2013)
Estimated snow melt water equivalent in spring freshet for a 1 in 100 wet precipitation year	198 mm ^(a)	Calculated based on values above
5-min duration extreme rainfall with a 1 in 100 years of return period	5.0 mm ^(b)	Computerized IDF CC Tool for the Development of Intensity-Duration-Frequency Curves under a Changing Climate: (idf-cc-uwo.ca)
30-min duration extreme rainfall with a 1 in 100 years of return period	10.6 mm	
24-hour duration extreme rainfall with a 1 in 100 years of return period	69.2 mm	
24-hour duration extreme rainfall with a 1 in 1,000 years of return period	71.1 mm	
24-hour duration PMP (probable maximum precipitation)	264 mm	Tetra Tech (2021a)
Runoff coefficient for extreme rainfall	1.0	Assumed

Note: ^(a)Used for CP8 design. ^(b)Used for Channel13 and Channel14 designs.

3.5 Geotechnical Conditions within Channel13 and Channel14 Footprints

A total of six boreholes (GT12-25, GT24-02, GT24-06, GT24-07, GT25-01, and GT25-02) were drilled within or close to the proposed footprint of Channel13 and Channel14 during the 2012, 2024, and 2025 geotechnical site investigation programs (Golder 2012b, Tetra Tech 2024a, and Tetra Tech 2025). The locations of drilled boreholes are presented in Figure 3.

Table 2 summarizes the ground conditions in the boreholes in the Channel13 and Channel14 areas. Borehole logs for GT12-25, GT24-02, GT24-06, GT24-07, GT25-01, and GT25-02 are attached in Appendix A.

Table 2: Geotechnical Ground Conditions around Channel13 and Channel14

Borehole No.	Organic Layer Thickness (m)	Major Overburden Soil Types	Ground Ice Conditions	Depth to Bedrock (m)	Bedrock Conditions
GT12-25	0.00	Boulders; Gravel; Sand; Silt and Sand	N/A	4.75	Greywacke or Siltstone; fresh; excellent quality; strong;
GT24-02	0.10	Peat; Sand; Silt and Sand	Nbe, Vc, Vs, Vx, Excess Ice Content 1% to 25%	3.70	Greywacke; fresh to slightly weathered; fair to excellent quality; very strong;
GT24-06	0.45	Peat; Cobbles and Gravel; Gravel; Sand	Nbe, Nbn, Vc, Vs, Vx, Excess Ice Content 15% to 35%	3.95	Greywacke; slightly to moderately weathered; fair to excellent quality; strong to very strong; Quartz Arenite/Quartz Wacke; moderately weathered; good quality
GT24-07	0.13	Peat; Gravel and Sand; ICE + Sand; Sand; Silt and Sand	ICE, Nbe, Nbn, Vs, Excess Ice Content 1% to 60%	2.55	Greywacke; fresh; poor to excellent quality; very strong
GT25-01	0.10	Peat; Sand	Nbn, Vc, Vr, Vx, Excess Ice Content 10% to 25%	2.85	Greywacke; poor to fair quality
GT25-02	0.10	Peat; Gravel; Sand and Gravel	Nbn, Vr	2.90	Greywacke; fresh to slightly weathered; excellent quality; very to extremely strong

The overburden thickness within the footprints of Channel13 and Channel14 range from 2.55 m to 4.75 m based on the six boreholes drilled. The overburden encountered in the boreholes consisted of a thin layer of peat (thickness ranging from 0.00 m to 0.45 m), underlain by various layers of boulders, cobbles and gravel, gravel, gravel and sand, ice + sand, sand, and silt and sand. Excess ice (Nbe, Nbn, Vc, Vr, Vs, Vx, and Ice) was observed in five boreholes. The bedrock is primarily composed of greywacke, with GT24-01 consisting of Greywacke, Quartz Arenite and Quartz Wacke. The Greywacke was moderately weathered to fresh, poor to excellent quality, and strong to extremely strong (Golder 2012b, Tetra Tech 2024a, and Tetra Tech 2025).

3.6 Geotechnical Conditions in CP8 and CP8 Thermal Berm Areas

A total of six boreholes (GT24-02, GT25-03, GT25-04, GT25-05, GT25-06, and GT25-07) were drilled within or close to the proposed footprint of CP8 and CP8 Thermal Berm during the 2024 and 2025 geotechnical site investigation program (Tetra Tech 2024a and Tetra Tech 2025). The locations of the drilled boreholes are presented in Figure 3.

Table 3 summarizes the ground conditions in the boreholes in the CP8 area. Borehole logs for GT24-02, GT25-03, GT25-04, GT25-05, GT25-06, and GT25-07 are attached in Appendix A.

Table 3: Geotechnical Ground Conditions around CP8 and CP8 Thermal Berm

Borehole No.	Organic Layer Thickness (m)	Major Overburden Soil Types	Ground Ice Conditions	Depth to Bedrock (m)	Bedrock Conditions
GT24-02	0.10	Peat; Sand; Silt and Sand	Nbe, Vc, Vs, Vx, Excess Ice Content 1% to 25%	3.70	Greywacke; fresh to slightly weathered; fair to excellent quality; very strong
GT25-03	0.00	Gravel and Cobbles; Sand; Silt and Cobbles	Nbn	3.85	Greywacke; fresh to slightly weathered; very good to poor quality; extremely strong to strong
GT25-04*	0.45	Peat; Silt	Nbn, Vc, Vs, Vx, Excess Ice Content 5% to 10%	3.20	Greywacke; fresh to moderately weathered; very poor quality; very to extremely strong
GT25-05	0.31	Peat and Cobbles, Gravel; Sand and Cobbles; Sand and Silt; Silt	Nbn, Nf, Vs, Vr, Excess Ice Content 5% to 20%	3.50	Greywacke; slightly to moderately weathered; excellent to very poor quality; very strong to strong
GT25-06	0.06	Peat; Sand; Sand and Silt	Nbn, Vr, Vs, Excess Ice Content 20% to 40%	3.10	Greywacke; fresh; good to fair quality; very to extremely strong
GT25-07	0.27	Peat; Cobbles; Gravel; Sand and Gravel	Nbn	4.47	Greywacke; fresh to highly weathered; excellent to fair quality; strong to extremely strong

*Borehole with GTC installation

The overburden thickness within the footprint of CP8 and CP8 Thermal Berm ranges from 3.10 m to 4.47 m based on the six boreholes drilled. The overburden encountered in the boreholes consisted of a thin layer of peat (thickness ranging from 0.00 m to 0.45 m), underlain by various layers of Cobbles, Gravel, Gravel and Cobbles, Sand, Sand and Cobbles, Sand and Gravel, Sand and Silt, Silt, and Silt and Cobbles. Excess ice (Nbe, Nbn, Nf, Vc, Vr, Vs, and Vx) was observed in four boreholes. The bedrock is greywacke, which is fresh to moderately weathered with very poor to excellent quality and strong to extremely strong. Eight single bead thermistors were installed in GT25-04 during the 2025 site investigation program. Readings from the installed Ground Temperature Cable (GTC) indicated that the ground temperature at depth (i.e., 1.0 m to 7.8 m below the original ground) ranged from 1.8°C to -11.6°C based on the readings collected on March 6, 2025 (Tetra Tech 2025).

3.7 Geotechnical Conditions in the B7North Thermal Berm Footprint

A total of three boreholes (GT11-01, GT13-05, and GT21-74) were drilled within or close to the proposed footprint of the B7North Thermal Berm during the 2011, 2013, and 2021 geotechnical site investigation programs (Golder 2012b, EBA 2013, and Tetra Tech 2021b). The locations of the drilled boreholes are presented in Figure 3.

Table 4 summarizes the ground conditions in the boreholes in the B7North Thermal Berm area. Borehole logs for GT1101, GT13-05, and GT21-74 are attached in Appendix A.

Table 4: Geotechnical Ground Conditions around B7North Thermal Berm

Borehole No.	Organic Layer Thickness (m)	Major Overburden Soil Types	Ground Ice Conditions	Depth to Bedrock (m)	Bedrock Conditions
GT11-01*	0.20	Peat; Boulders; Sand; Sand and Gravel; Silt and Sand	Vc, Vr, Vs, Excess Ice Content up to 4.0%	9.13	Greywacke; slightly weathered; very poor quality; medium strong
GT13-05*	0.50	Peat; Boulders; Gravel; Ice and Sand; Sand; Sand and Gravel; Silt	Nbn, Nf, Vc, Vs, Vx, Ice, Excess Ice Content 1% to 10%	9.50	Greywacke; slightly weathered; excellent quality; strong
GT21-74*	0.06	Peat; Cobbles; Gravel; Silt and Sand	Nbn, Vc, Vs, Vx, Ice Lenses; Ice Crystals less than 1 mm, Excess Ice content up to 20%	6.80	Greywacke; fresh to slightly weathered; excellent to fair quality; strong

*Borehole with GTC installation

The overburden thickness within the footprint of B7North Thermal Berm ranges from 6.80 m to 9.13 m based on the three boreholes drilled. The overburden encountered in the boreholes consisted of a thin layer of peat (thickness ranging from 0.06 m to 0.50 m), underlain by various layers of Boulders, Cobbles, Gravel, Ice and Sand, Sand, Sand and Gravel, Silt, and Silt and Sand. Excess ice (Nbn, Nf, Vc, Vr, Vs, Vx, Ice Lenses, Ice Crystals, and Ice) was observed in all three boreholes. The bedrock is greywacke, which is fresh to slightly weathered with very poor to excellent quality and medium strong to extremely strong.

Three multi-bead GTC were installed within the footprint of B7North Thermal Berm, with the last bead at depths of 14.5 m, 15.0 m, and 19.5 m below the original ground surface. Readings from the installed GTC indicated that the ground temperature at depths between 10.0 m to 19.5 m ranged from -4.5°C to -5.3°C based on the readings collected roughly one month after the installation (Golder 2012b, EBA 2013, and Tetra Tech 2021b).

3.8 Geotechnical Conditions in B7West Thermal Berm Footprint

A total of five boreholes (GT07-09, GT09-18, GT12-08, GT13-04, and GT21-73) were drilled within or close to the proposed footprint of B7West Thermal Berm during the 2007, 2009, 2012, 2013, and 2021 geotechnical site investigation programs (SRK 2007, Golder 2010, Golder 2012b, EBA 2013, and Tetra Tech 2021b). The locations of the drilled boreholes are presented on Figure 3.

Table 5 summarizes the ground conditions in the boreholes in the footprint of B7West Thermal Berm. Borehole logs for GT07-09, GT09-18, GT12-08, GT13-04, and GT21-73 are attached in Appendix A.

Table 5: Geotechnical Ground Conditions around B7West Thermal Berm

Borehole No.	Organic Layer Thickness (m)	Major Overburden Soil Types	Ground Ice Conditions	Depth to Bedrock (m)	Bedrock Conditions
GT07-09*	0.20	Organics and Silt; Sand; Silt	Nbe, Nbn, Vc, Vs, up to 30% Excess Ice Content	5.40	Siltstone; very poor to excellent quality
GT09-18*	0.45	Peat; Cobbles and Boulder; Gravel	-	5.78	Greywacke; fresh; excellent quality; strong
GT12-08	0.06	Peat; Gravel; Sand; Sand and Silt	Nbn, Nf	12.78	Greywacke or Siltstone; fresh; excellent to fair quality; very strong
GT13-04*	0.05	Peat; Boulders and Gravel; Sand; Sand and Silt	Nbn, Vs, Vx, 1 to 5 mm Thick Ice Lens, Excess Ice Content 20% to 30%	7.25	Greywacke; excellent to fair quality; strong
GT21-73	0.10	Peat; Rubble; Silt	Nbn, Vs, Vu, Vx, Ice Crystals, Ice Lenses, Ice, Excess Ice Content 1% to 60%	11.15	Greywacke; fresh; excellent quality; medium strong

*Borehole with GTC installation

The overburden thickness within the footprint of B7West Thermal Berm ranges from 5.40 m to 12.78 m based on the five boreholes drilled. The overburden encountered in the boreholes consisted of a thin layer of peat (thickness ranging from 0.06 m to 0.45 m), underlain by various layers of Boulders and Gravel, Cobbles and Boulders, Gravel, Rubble, Sand, Sand and Silt, and Silt. Excess ice (Nbe, Nbn, Nf, Vc, Vs, Vx, Ice Lenses, Ice Crystals, and Ice) was observed in three boreholes. The bedrock consists of greywacke or siltstone, which is fresh with very poor to excellent quality and medium strong to very strong.

Three multi-bead GTC were installed within the footprint of B7West Thermal Berm with the last bead at depths at 8.5 m, 15.0 m, and 20.0 m below the original ground surface. Readings from the installed GTC indicated that the ground temperature at depths between 8.5 m to 20.0 m ranged from -3.8°C to -5.0°C based on the readings collected roughly two to three months after the installation (SRK 2007, Golder 2010, and EBA 2013).

4.0 DESIGN OF CHANNEL13 AND CHANNEL14

4.1 Design Considerations

The following key items were considered for the design of Channel13 and Channel14:

- In accordance with Agnico Eagle's Corporate Standard – RMMS Corporate Standard Water Management (Agnico Eagle 2021);
- Meet the requirements in the Type A Water Licence for Meliadine;
- Maximize the use of available construction materials produced at the site;
- Minimize overall environmental footprints and effects;
- Channels will safely pass the designed precipitation intensity without overflow; and

- Optimize the design based on the monitoring performance observed from the existing channels at the Meliadine Mine site.

4.2 Channel Design Criteria

Agnico Eagle's Corporate Standard – RMMS Corporate Standard Water Management (Agnico Eagle 2021) specifies the design criteria for ditches (corresponding to channel used in this report): At a minimum, an operational ditch should be designed for a combination of the 100-year return period, 24-hour event (69.2 mm for Meliadine) and where applicable, snowmelt in 30 days (6.6 mm/day for a 1 in 100 wet precipitation year) with no concentration time and no infiltration. The design may assume that repairs and occasional maintenance can be provided.

Channel13 and Channel14 are designed to pass an extreme intensity flow under a 5-minute 1:100 year return rainfall of 5 mm with a freeboard of 0.2 m. This design criterion is the same as adopted for the detailed design for the channels (i.e., Channels 3, 4, 9, 10, and 11) currently in operation at the Meliadine Mine site, which exceed the design criteria for operational ditch specified in the RMMS Corporate Standard Water Management (Agnico Eagle 2021).

Channel13 and Channel14 will also maintain a minimum distance of at least 31 m from the original high-water marks of Lake B7 according to the amended Type A Water Licence.

4.3 Design Concept and Parameters

4.3.1 Channel13

Hydraulic analyses were carried out to determine the required geometry for Channel13. The maximum catchment area for Channel13 during mine operations is 0.116 km². The channel will be constructed by excavating the existing ground to develop channel bottoms with designed widths and gradients. Depending on the actual ground condition and drilling/blasting practice, the channel may be constructed by over excavating the existing ground beyond the design limits. Clean rockfill material from the CP8 excavation, if classified as non-PAG and with no potential for ML, will be used to backfill the over excavated zones to develop channel bottoms with designed widths and gradients. A typical cross section was used for the design of the channel, which comprised a 1.5 m wide bottom with a layer of non-woven geotextile as the erosion control measure for the channel.

The key information and design parameters for Channel13 are summarized in Table 6. The design drawings for the construction of Channel13 are presented in Appendix B.

Table 6: Key Information and Design Parameters for Channel13

Stationing	Approximate Total Length (m)	Channel Bottom Width (m)	Side Slopes	Rip-rap Thickness (m)	Clean Rockfill Thickness (m)	Minimum Bottom Slope Gradient (%)	Maximum Depth of Channel Excavation (m)
0+000 to 0+190	190	1.5	2.5(H):1.0V	0.3	0.3	1.3	3.1
0+190 to 0+342	152					0.5	3.5

4.3.2 Channel13 Side Berm

A till berm is required along a portion of Channel13 between Station 0+75 and Station 0+150 to provide additional freeboard where the topography formed a natural depression and to prevent water from overtopping the channel in this area under the design Inflow Design Flood (IDF) or other unexpected extreme conditions.

A typical design cross section used for the construction of the berm comprises a 3.0 m wide till core to a crest elevation of 67.0 m, 0.5 m rockfill cover to a crest elevation of 67.5 m, and 2.5H:1V side slopes. The Channel13 side berm is approximately 75 m long. An access road will be constructed downstream of Channel13 to facilitate the construction. The Channel13 side berm may form a portion of the access road depending on actual field conditions.

4.3.3 Channel14

Hydraulic analyses were carried out to determine the required geometry for Channel14. The maximum catchment area for Channel14 during mine operations is 0.359 km². The channel will be constructed by excavating the existing ground to develop its bottom with designed widths and gradients. Depending on the actual ground conditions and drilling/blasting practice, the channel may be constructed by over excavating the existing ground beyond the design limits. Clean rockfill material from the CP8 excavation, if classified as non-PAG and with no potential for ML, will be used to backfill the over excavated zones to develop channel bottoms with designed widths and gradients. A typical cross section was used for the design of the channel and comprised a 1.5 m wide bottom with a layer of non-woven geotextile as the erosion control measure for the channel.

The key information and design parameters for Channel14 are summarized in Table 7. The design drawings for the construction of Channel14 are presented in Appendix B.

Table 7: Key Information and Design Parameters for Channel14

Stationing	Approximate Total Length (m)	Channel Bottom Width (m)	Side Slopes	Rip-rap Thickness (m)	Clean Rockfill Thickness (m)	Minimum Bottom Slope Gradient (%)	Maximum Depth of Channel Excavation (m)
0+000 to 0+125	125	1.5	2.5(H):1.0V	0.3	0.3	1.0	1.9
0+125 to 0+375	250					0.4	2.5
0+375 to 0+565	190					0.4	2.9

5.0 DESIGN OF CP8 AND CP8 THERMAL BERM

5.1 Design Objectives and Considerations

The CP8 and CP8 Thermal Berm design criteria were adopted to meet the following overall objectives:

- Comply with the Canadian Dam Associations (CDA) Dam Safety Guidelines (CDA 2007 with 2013 revision), if applicable;
- In accordance with Agnico Eagle's Corporate Standard – RMMS Corporate Standard Water Management (Agnico Eagle 2021);

- Meet the requirements in the Type A Water Licence for Meliadine;
- Minimize seepage through the berm while optimizing the construction efficiency;
- Maximize the use of available construction materials from the pond excavation;
- Utilize permafrost as an effective seepage barrier; and
- Facilitate an effective/safe construction plan and an effective closure plan.

Besides the overall objectives stated above, the following specific design objectives are also considered for the pond and berm design:

- The maximum operating water elevation in CP8 under IDF is set to be at least 2.0 m lower than the lowest natural outlet elevation of CP8 (the lowest original ground surface elevation along the perimeter of CP8) to reduce the potential seepage from CP8 into the surrounding ground.
- The maximum operating water level in CP8 during normal operating conditions will be at or below the bedrock elevation.
- The water collected in CP8 will be actively pumped to CP1 during the open water season such that CP8 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. At the end of each fall season, the water level in CP8 will be at or below the freeze-up water level target to provide sufficient water storage for the following year freshet.
- The storage of CP8 will be designed with contingency to ensure that it has sufficient storage to store the runoff water diverted to CP8 under IDF and potential water pumping from the existing CP3.
- The thermal berm is designed to preserve permafrost in the original ground below the centre of the berm, which will limit potential seepage from the berm foundation into the downstream receiving environment.

5.2 Berm Classification and Consequence of Failure

The CP8 Thermal Berm is designed to be a thermal protection berm with no water ponding against both the berm upstream and downstream slopes. Therefore, CP8 Thermal Berm cannot be classified as a “dam” based on the definition in CDA (2007). Nevertheless, as a general design guideline, CP8 Thermal Berm is considered to have a “Low” consequence of failure based on CDA (2007). The considerations for this classification are described below:

- No or low risk of loss of life;
- Seepage from CP8 to Lake B7 is not expected even if permafrost degradation underneath the berm occurs, given the managed water level in CP8. Failure will have very minimal environmental and cultural impacts; and
- The failure of the berm will have low economic losses.

5.3 Inflow Design Flood and Earthquake Levels

The IDF for a given classification is suggested in CDA (2007). For a structure classified as “Low”, the suggested AEP is 1/100 for the IDF. A critical flood for a given water retention structure can result from extreme rainfall events at various durations, melting of extreme snowpack during spring freshet period, or even extreme annual precipitation condition. An extreme wet year spring freshet from snow melting or high intensity short-term rainfall event are most critical to the design of CP8 (and associated CP8 Thermal Berm) with a pumping system. The resulting water level

rise in the pond for the short-term events is greater than the water level rise under a longer precipitation event. The long-term event allows time for the excess water in CP8 to be pumped out by a pumping system to CP1 or other designated water storage areas.

For the design of CP8 and CP8 Thermal Berm, it has been assumed that no water would be pumped out from the CP8 pond during the first three days of the assumed seven-day spring freshet or during an extreme rainfall event. The IDF adopted for CP8 and CP8 Thermal Berm meets the most critical of the following cases:

- 3/7 of the equivalent unit runoff during spring freshet for a 1 in 100 return wet year; or
- One 1 in 100 return 24-hour extreme rainfall event.

Table 8 summarizes the IDF value for CP8 and CP8 Thermal Berm, as well as the adopted design IDF value of the equivalent unit runoff of 85 mm.

Table 8: Value for IDF Adopted for CP8 and CP8 Thermal Berm Design

Structure	Cases of IDF Considered	Value for IDF (mm)
CP8 and CP8 Thermal Berm	3/7 of equivalent unit runoff during spring freshet for 1 in 100 return wet year	85
	Equivalent unit area runoff for 1 in 100 return 24-hour extreme rainfall	69

For a structure with a “Low” classification, CDA (2007) recommends adopting an AEP of 1/500 for the design earthquake. Since the site is in a low seismic zone and the seismic loading is not a controlling factor, a conservative AEP value of 1/2,475 was considered for stability assessment. The estimated PGA is 0.0495 g for a 1 in 2,475 year return for the site area.

5.4 Design Criteria for Thermal Berm Freeboard and Crest Elevation

The CDA Dam Safety Guidelines (2007) states that the top elevation of the water containment element (e.g., the till core in the berm) should be higher than the water level during the IDF plus wind set-up plus settlement due to consolidation of foundation and embankment materials after construction. CDA (2007) also suggests that the top elevation of the berm crest should be higher than the maximum pond operating water level during the IDF plus wind set-up plus wave run-up plus settlement due to consolidation of foundation and embankment materials after berm construction. In this study, the freeboard and crest elevations for CP8 and CP8 Thermal Berm exceed the requirements as suggested in CDA (2007), given the specified maximum operating water level under normal operating conditions and IDF event.

Other factors that have been considered to determine crest elevation and the size of the thermal berm include; the understanding that the thermal berm will be fully constructed with overburden and rockfill materials excavated from CP8 with no additional material from other mining sources, and that the thermal berm will be thick enough to preserve the permafrost underneath the original ground below the centre of the thermal berm during the mine operation.

5.5 CP8 and CP8 Thermal Berm Design Concept and Parameters

The design features of the CP8 Thermal Berm, are similar to those of the thermal berms currently in operation at the Meliadine Mine site (e.g., CP2 Thermal Berm, CP6 Thermal Berm, and CP9 Thermal Berm). The design features

include a till core capped with rockfill material, and a layer of geotextile applied on the downstream side, towards the centre line of the berm between the interface of the overburden till and rockfill to reduce the risk of erosion.

CP8 is sized to store 3/7 of 1 in 100 wet year freshet and keep the maximum operating water level about 2.0 m below the outlet of the pond (the lowest ground elevation along the perimeter of the pond). Pumping is intended to control the water level in CP8 after the third day of the assumed seven-day freshet.

The design catchment area for CP8 is approximately 0.747 km², which includes 0.202 km² for the existing CP3, whose runoff will be diverted by Channel13. The catchment area for each WMI is presented on Figures 2 and 3. For an IDF of 85 mm, the required pond storage capacity for CP8 is 64,000 m³ and with a design pumping rate of 9,100 m³/day after day three. The CP8 design storage capacity is 69,823 m³, which provides 10% of the contingent storage capacity under IDF.

The key design parameters for CP8 are summarized as below:

- The pond bottom elevation: 52 m;
- The pond excavation depth from the original ground surface: approximately 10 m to 12 m;
- The maximum operating water elevation in CP8 under IDF (to store 3/7 of 1 in 100 wet year freshet): 62.0 m;
- The design maximum water elevation in CP8 under normal operating condition: 60.0 m; and
- The pond will be pumped out prior to freeze-up, leaving the pond empty for the following freshet.

The key design parameters for the CP8 Thermal Berm are summarized below:

- The crest width of the thermal berm: 26.4 m;
- The side slope of the thermal berm: 2.5H:1V;
- The maximum height above the original ground surface during construction: approximately 5.0 m;
- The total berm length: 280.0 m;
- The minimum offset distance from the original high-water marks of nearby lake (Lake B7): 31 m;
- The minimum offset distance from CP8: 9.3 m;
- The design top elevation of the till core in the thermal berm: 67.5 m; and
- The design crest elevation of rockfill capping: 68.5 m;

The design drawings for the construction of CP8 and CP8 Thermal Berm are presented in Appendix C.

A ramp with a safety berm on the outside is incorporated in the pond design to serve as a temporary haul road for the pond excavation during construction and as a service road during operation. In accordance with the Mine Safety Act, a safety berm is proposed to be constructed on the open side of the ramp to minimize the risk of people, vehicles, or equipment accidentally falling into the pond. Both the ramp and safety berms are designed for an assumed rock truck type of Komatsu HD605 or equivalent. The ramp has a minimum road width of 7.0 m and a typical longitudinal slope of approximately 10%. The height of the safety berm is 1.5 m.

5.6 Water Storage Curve for CP8

The pond's stage-storage capacity and water surface area with elevations for CP8 are summarized in Table 9.

Table 9: Stage-Storage Capacity and Pond Surface Area with Elevations for CP8

Pond Elevation (m)	Pond Storage Volume (m ³)	Pond Surface Area (m ²)
52.0	0	0
53.0	2,168	6,503
54.0	8,742	6,645
55.0	15,461	6,793
56.0	22,326	6,937
57.0	29,335	7,082
58.0	36,487	7,222
59.0	43,779	7,362
60.0	51,213	7,506
61.0	59,690	9,487
62.0	69,823	10,793
63.0	81,291	12,156
63.6	93,107	12,960

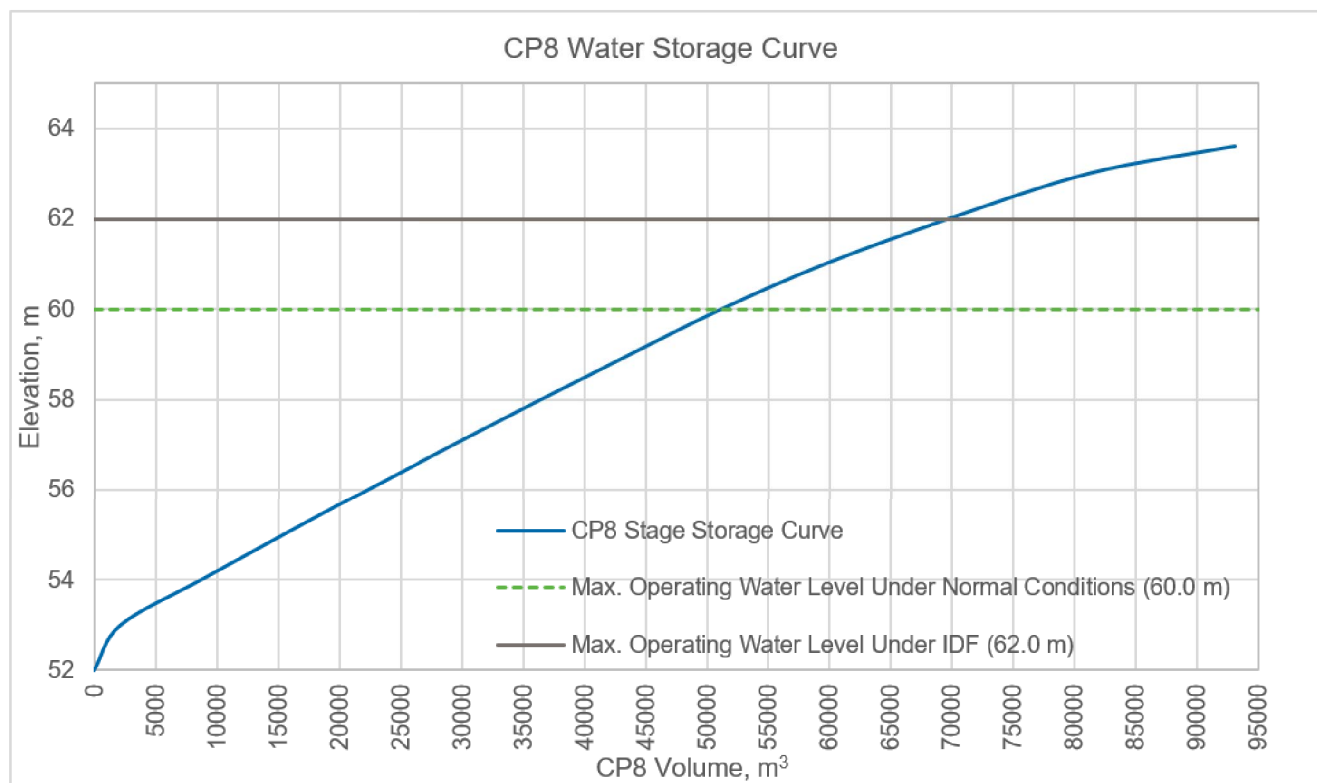


Figure A: Stage Storage Curve of CP8

5.7 Thermal Analysis

Two-dimensional thermal analyses to facilitate the design of the CP6 and CP9 Thermal Berms were carried out using Tetra Tech's proprietary finite element computer model, GEOTHERM (Tetra Tech 2020 and 2024b). The thermal analyses simulate the berms construction and operation conditions, and consider the effects of various climatic conditions, including potential extreme warm years, on the thermal performance of the thermal berm. The measured ground temperature at the GTC installed within the footprint of the CP6 Thermal Berm and other thermal berms (e.g., CP2/CP3/CP4 Thermal Berms) indicate that the active layer ranges from 2.5 m to 3.0 m and the permafrost foundation is maintained. Based on the observed performance of the existing thermal berms, the similar ground conditions, and design features, Tetra Tech concluded that the findings from the thermal analyses for the CP6 and CP9 Thermal Berms can be applied to the design of the CP8 Thermal Berm, and no additional thermal analysis was conducted.

The key findings from the thermal analyses for the CP6 and CP9 Thermal Berms include:

- The overburden and bedrock below the centre of the thermal berm will remain in a frozen condition under various air temperature conditions (mean air temperature and 1 in 100 return warm year event);
- The estimated active layer depth below the crest of the berm is 3.0 m under a 1 in 100 return event warm year condition. The thawing front stays in the till zone and is not expected to penetrate into the original ground surface; and
- The predicted permafrost ground temperature at 2.0 m below the original ground surface at the centre of the berm ranges from -1.5°C to -2.0°C under a 1 in 100 return event warm year condition.

5.8 Stability Analysis

Limit equilibrium slope stability analyses were carried out using the two-dimensional analysis software, Slope/W of GeoStudio 2023.1.0 (Version 23.1.0.520) to facilitate the design of the CP6 and CP9 Thermal Berms. The stability was evaluated under the long-term static and seismic loading conditions (after construction).

Since the overall design slopes and geometry of CP6 and CP9 Thermal Berms are comparable to that of CP8 and CP8 Thermal Berm and the performance of the other thermal berms observed on site, Tetra Tech concluded that a separate stability analysis was not required for CP8 and CP8 Thermal Berm. The design considerations for slope stability of CP8 and CP8 Thermal Berm were based on the findings from the CP6 Thermal Berm stability analysis study (Tetra Tech 2020). The analysis results indicate that the calculated minimum factors of safety for the pond and thermal berm meet or exceed the adopted minimum factors of safety (1.5 under long-term static and 1.0 under pseudo-static loading condition), as suggested by CDA (2007).

The rock slope stability assessment was not conducted during the design. The rock slope was conservatively designed to be 1H:1V. The actual rock slope will vary (1H:1V or steeper to 1H:10V) depending on the rock quality encountered during construction. It is recommended that the rock conditions and its stability be assessed during the rock excavation by a qualified geotechnical engineer to determine the final rock slope geometry. If required, the rock slope should be flattened to reduce the potential risk of local failure or rock falls.

5.9 Seepage Evaluation

The construction of CP8 Thermal Berm is proposed for the winter of 2025/2026. The ground is expected to be in a frozen condition during the construction of CP8 Thermal Berm. Therefore, the volume of seepage water expected to be present during the construction period is insignificant.

The operating water level in CP8 is expected to be limited to the bedrock zone, which is significantly lower than the water level in Lake B7. CP8 Thermal Berm is designed to preserve the permafrost underneath the thermal berm during mine operation and interim closure. Therefore, none or minimal seepage is expected.

5.10 Deformation Evaluation

The overburden material excavated from the construction of CP8 will be used for the construction of the till core of CP8 Thermal Berm. As the CP8 Thermal Berm is scheduled to be constructed in the winter, the overburden material is expected to be in a frozen condition. Based on previous experiences with winter placement and compaction of similar material, some thaw-induced ground deformation is expected to occur in CP8 Thermal Berm during the subsequent summer seasons. Depending on the height of the berm and the degree of compaction achieved during construction, the final settlement of the berm crest is expected to be in the order of 0.1 m to 0.2 m. It should be noted that potential deformation after the construction has been considered in the crest elevation determination. The deformation is acceptable for the overall design performance. If necessary, additional fill can be placed to compensate for any observed ground settlement.

6.0 DESIGN OF B7NORTH THERMAL BERM AND B7WEST THERMAL BERM

6.1 Design Objectives and Considerations

The B7North Thermal Berm and B7West Thermal Berm design criteria were adopted to meet the following overall objectives:

- Comply with the Canadian Dam Safety Guidelines (CDA 2007 with 2013 revision), if applicable;
- In accordance with Agnico Eagle's Corporate Standard – RMMS Corporate Standard Water Management (Agnico Eagle 2021);
- Meet the requirements in the Type A Water Licence for Meliadine;
- Minimize seepage through the berm while optimizing the construction efficiency;
- Utilize permafrost as an effective seepage barrier; and
- Facilitate an effective/safe construction plan and an effective closure plan.

6.2 Berm Classification and Consequence of Failure

Both the B7North Thermal Berm and B7West Thermal Berm are designed to provide thermal protection with no water ponding against both the berm upstream and downstream slopes. Therefore, these thermal berms cannot be

classified as a “dam” based on the definition in CDA (2007). Nevertheless, as a general design guideline, both the B7North Thermal Berm and B7West Thermal Berm are considered to have a “Low” consequence of failure based on CDA (2007). The considerations for this classification are described below:

- No or low risk of loss of life;
- Seepage from Lake B7 to downstream lakes is not expected even if permafrost degradation underneath the berm occurs, given the managed water level in Lake B7. Failure will have very minimal environmental and cultural impacts; and
- The failure of the berm will have low economic losses.

6.3 Earthquake Levels

For a structure with a “Low” classification, CDA (2007) suggests that AEP of 1/500 be adopted for the design earthquake. Since the site is in a low seismic zone and the seismic loading is not a controlling factor, a conservative AEP value of 1/2,475 was considered for stability assessment. The estimated PGA is 0.0495 g for a 1 in 2,475 year return for the site area.

6.4 Design Criteria for Thermal Berm Freeboard and Crest Elevation

CDA (2007) states that the top elevation of the water containment element (e.g., the till core in the berm) should be higher than the water level during the IDF plus wind set-up plus settlement due to consolidation of foundation and embankment materials after construction. CDA (2007) also suggests that the top elevation of the berm crest should be higher than the maximum pond operating water level during the IDF plus wind set-up plus wave run-up plus settlement due to consolidation of foundation and embankment materials after berm construction. In this study, the freeboards and crest elevations for B7North Thermal Berm and B7West Thermal Berm exceed the requirements as suggested in CDA (2007).

6.5 B7North Thermal Berm and B7West Thermal Berm Design Concept and Parameters

The design features of B7North Thermal Berm and B7West Thermal Berm are similar to the thermal berms currently in operation at the Meliadine Mine site (e.g., CP2/CP3/CP4/CP6/CP9 Thermal Berms). The design features include a till core capped with rockfill material, and a layer of geotextile will be applied on the downstream side, towards the centre line of the berm between the interface of the overburden till and rockfill to reduce the risk of erosion.

The key design parameters for the B7North Thermal Berm are summarized below:

- The crest width of the thermal berm: 25.4 m;
- The side slope of the thermal berm: 2.5H:1V;
- The maximum height above the original ground surface during construction: approximately 5.0 m;
- The total thermal berm length: 172 m;
- The design top elevation of the till core in the thermal berm: 66.5 m;
- The design crest elevation of rockfill capping: 67.5 m; and

- The minimum offset distance from the original high-water marks of the nearby lake (B7North Thermal Berm to Lake E11): 31 m.
- At its farthest point, the B7North Thermal Berm will extend 20 m inside the 31 m buffer of Lake B7, leaving approximately 10 m between the closest construction point and the margin of the B7 water footprint.

The key design parameters for the B7West Thermal Berm are summarized below:

- The crest width of the thermal berm: 25.4 m;
- The upstream side slope of the thermal berm: 3H:1V;
- The downstream side slope of the thermal berm: 2.5H:1V;
- The maximum height above the original ground surface during construction: approximately 5.0 m;
- The total thermal berm length: 460 m;
- The design top elevation of the till core in the thermal berm: 66.5 m; and
- The design crest elevation of rockfill capping: 67.5 m;
- The minimum offset distance from the original high-water marks of nearby lake (B7West Thermal Berm to Lake B6): 31 m.

The design drawings for the construction of B7North Thermal Berm and B7West Thermal Berm are presented in Appendix D.

6.6 Thermal Analysis

Two-dimensional thermal analyses were carried out using Tetra Tech's proprietary finite element computer model, GEOTHERM, to verify the design of B7North Thermal Berm and B7West Thermal Berm. A typical cross section from the B7West Thermal Berm was considered in the thermal model. The thermal model also considers the normal operation conditions with no water against the berm and a remote event with 0.5 m deep water against the thermal berm for seven days during each spring freshet. The thermal models under both simulation scenarios provide similar results, which indicates that the water against the thermal berm in a short period does not affect the performance of the thermal berm, given the large size of the berm. The findings from the thermal analysis for the B7West Thermal Berm are aligned with the previous thermal analyses for CP6 and CP9 Thermal Berms, which were summarized in Section 5.7.

Based on the performance of the existing thermal berms observed, the similar ground conditions, design features, and past design experience, Tetra Tech concluded that the design of B7North Thermal Berm and B7West Thermal Berm presented in this report is expected to meet overall design intents and performance objectives.

6.7 Stability Analysis

Similar to the design of CP8 Thermal Berm, no stability analysis was conducted for the design of B7North Thermal Berm and B7West Thermal Berm as the overall design slopes and geometry of CP6 and CP9 Thermal Berms are comparable to those of B7North Thermal Berm and B7West Thermal Berm. The findings from the CP6 Thermal Berm stability analysis study (Tetra Tech 2020) and the performance of the other thermal berms observed on site were adopted for the design of B7North Thermal Berm and B7West Thermal Berm. The design configurations of

both thermal berms are expected to meet or exceed the minimum factors of safety (1.5 under long-term static and 1.0 under pseudo-static loading conditions), as suggested by CDA (2007).

6.8 Seepage Evaluation

Based on the proposed construction schedule, the construction of B7North Thermal Berm will take place in the winter of 2025/2026, and B7West Thermal Berm in the winter of 2026/2027. The ground is expected to be in a frozen condition during the construction of both thermal berms. Therefore, the volume of seepage water present during the construction period is expected to be insignificant.

The projected water level in Lake B7 under mean precipitation conditions is approximately at an elevation of 61.1 m based on the water balance results provided by Agnico Eagle. The estimated water level in Lake B7 under IDF conditions is approximately at an elevation of 62.3 m, which is 0.2 m lower than the outlet of Lake B7; as a result, water against the thermal berms is not expected. Moreover, B7North Thermal Berm and B7West Thermal Berm are designed to preserve the permafrost underneath the thermal berm during mine operation and interim closure. Therefore, none or minimal seepage through the thermal berms and foundation is expected.

6.9 Deformation Evaluation

The overburden material excavated from the construction of CP8 will be used for the construction of the till core of the B7North Thermal Berm, while overburden sourced from one of the open pits in Wesmeg area will be used for the construction of the B7West Thermal Berm. As both the B7North Thermal Berm and B7West Thermal Berm are scheduled to be constructed in the winter, the overburden material is expected to be in a frozen condition. Based on previous experiences with winter placement and compaction of similar material, some thaw-induced ground deformation is expected to occur in both the B7North Thermal Berm and B7West Thermal Berm during the subsequent summer seasons. Depending on the height of the berms and the degree of compaction achieved during construction, the final settlement of the berm crests is expected to be in the order of 0.1 m to 0.2 m. It should be noted that potential deformation after the construction has been considered in the crest elevation determination. The deformation is acceptable for the overall design performance. If necessary, additional fill can be placed to compensate any observed ground settlement.

7.0 CONSTRUCTION OF COLLECTION POND, CHANNEL, AND THERMAL BERM

7.1 Construction Materials and Specifications

Four types of construction materials will be used in the construction of CP8, CP8 Thermal Berm, Channel13, Channel14, B7North Thermal Berm, and B7West Thermal Berm, including clean rockfill, excavated overburden till fill, rip-rap, and non-woven geotextile. The detailed material specifications and placement specifications for construction are provided in the Geotechnical Specifications for Construction of CP8, CP8 Thermal Berm, Channel13, Channel14, B7North Thermal Berm, and B7West Thermal Berm, attached in Appendix E. A summary of each material is presented below.

Clean Rockfill (600 mm Minus)

The clean rockfill material will be sourced from CP8 excavation or other mining areas. The clean rockfill will be free from snow, ice, frozen chunks, organic matter, and debris and can have a wide variation of gradation with a maximum particle size of 600 mm. The clean rockfill will be non-acid generating (Non-PAG) and non-metal leaching, and free of contaminants.

Overburden Till Fill

The excavated overburden material from CP8 excavation or other mining areas will be used for thermal berm construction and will serve as a low permeability fill zone and thermal protection layer. Any snow, ice, loose organic matter, and boulders shall be removed prior to the fill placement for berm construction. The material can have a wide variation in gradation with a maximum particle size of 300 mm. The excavated overburden material used for construction of the berms should have a fines (<0.075 mm in size) content of 10% to 60% by weight to have a relatively low hydraulic conductivity. The till fill should be placed in lifts no greater than 0.5 m thick and shall be subjected to at least six full passes with a smooth drum vibratory compactor weighing not less than 10 tonnes, or the compaction meets the expectations of the Design Engineer. A full pass is defined as one forward pass followed by a backward pass.

Rip-rap

Rip-rap shall be used as the erosion protection material for Channel13 and Channel14. The particle size specifications for the graded rip-rap materials are presented in Table 10. The material shall be free of roots, organics, and other deleterious material. Processing may be required to achieve the specified gradation. The material can be processed from hard, durable, non-acid-generating rock.

Table 10: Particle Size Specifications for Rip-rap Material

Rip-rap Types for Various Earth Structures	Minimum Particle Size (mm)	Median Particle Size (mm)	Maximum Particle Size (mm)
Rip-rap	20	40 to 80	100 to 200

Non-woven Geotextile

Non-woven geotextile is planned to be placed under the rip-rap material for Channel13 and Channel14 to separate the rip-rap material from the clean rockfill surface and to protect the overburden soils from potential loss into the rip-rap material. Non-woven geotextile will also be used on the downstream sides of the thermal berms as an erosion protection measure. Table 11 presents the geotextile specifications of the non-woven, needle-punched geotextile to be used for construction. Alternatives with equivalent parameters or that meet the same design intent can be used, provided approval is obtained from the Design Engineer.

Table 11: Non-woven Geotextile Construction Specifications

Parameter	Required Minimum Value
Nominal Thickness of Geotextile (ASTM D5199) (mm)	1.7
Typical Unit Weight (ASTM D5261) (g/m ²)	200
Puncture Resistance (ASTM D4833) (N)	380

7.2 Estimated Quantities of Construction Material

Tables 12 to 14 present the estimated in-place quantities of the construction materials and excavation quantities of CP8, CP8 Thermal Berm, Channel13, Channel14, and B7North Thermal Berm, and B7West Thermal Berm.

Table 12: Material Quantities for the Construction of CP8 and CP8 Thermal Berm

Item	Estimated In-Place Quantity	
	CP8	CP8 Thermal Berm
Clean Rockfill (m ³)	N/A	24,771
Overburden Till Fill (m ³)	N/A	36,824
Non-woven Geotextile (m ²)	N/A	6,990
Total Overburden Excavation Volume (m ³)	47,590	N/A
Total Rock Excavation Volume (m ³)	55,700	N/A

Note 1: The actual material quantities for construction may vary depending on actual site conditions and excavation depth.

Note 2: The geotextile quantity does not include material for overlapping or any waste during construction.

Table 13: Material Quantities for the Construction of Channel13 and Channel14

Item	Estimated In-Place Quantity	
	Channel13	Channel14
Clean Rockfill below Non-woven Geotextile (m ³)	1,380	1,945
Rip-rap above Non-woven Geotextile (m ³)	1,125	1,610
Non-woven Geotextile (m ²)	4,180	5,870
Total Overburden Excavation Volume (m ³)	5,116	5,610
Channel13 Side Berm Rockfill Cover (m ³)	280	N/A
Channel13 Side Berm Overburden Till Fill (m ³)	350	N/A

Note 1: The actual material quantities for construction may vary depending on actual site conditions and excavation depth.

Note 2: The geotextile quantity does not include material for overlapping or any waste during construction.

Table 14: Material Quantities for the Construction of B7North Thermal Berm and B7West Thermal Berm

Item	Estimated In-Place Quantity	
	B7North Thermal Berm	B7West Thermal Berm
Rockfill (m ³)	6,835	20,475
Overburden Till Fill (m ³)	13,575	38,370
Non-woven Geotextile (m ²)	3,200	8,700

Note 1: The actual material quantities for construction may vary depending on actual site conditions and construction.

Note 2: The geotextile quantity does not include material for overlapping or any waste during construction.

7.3 Key Construction Activities

The key site activities related to the construction of CP8, CP8 Thermal Berm, Channel13, Channel14, B7North Thermal Berm, and B7West Thermal Berm are summarized as follows:

CP8 and CP8 Thermal Berm Construction

- Layout and survey for the earthworks;
- Foundation preparation for berm construction – where snow/ice, loose organics, and loose material (including boulders) will be removed prior to placement of the fill material;
- Drilling and blasting overburden and bedrock material for CP8 excavation;
- Placement and compaction of excavated overburden material for berm construction;
- Installation of the non-woven geotextile on the downstream face of the compacted till zone for the thermal berm;
- Placement of clean rockfill from pond excavation to cap the till zone of the thermal berm as an erosion and thermal protection layer;
- Placement of overburden or clean rockfill around the entire perimeter of CP8 as an erosion and thermal protection layer;
- Placement of the clean rockfill on the excavation overburden slope of CP8 as an erosion protection layer; and
- Instrumentation installation at CP8 Thermal Berm as per design.

Channel13 and Channel14 Construction

- Layout and survey the earthworks;
- Drilling and blasting overburden and bedrock material for channel excavation;
- Placement of rockfill at the base of excavation to achieve the design elevation and grade if there is any over-excavation;
- Installation of the non-woven geotextile on the excavation face of the channel; and
- Placement of the rip-rap into the channel base as an erosion protection layer.

B7North Thermal Berm and B7West Thermal Berm

- Layout and survey for the earthworks;
- Foundation preparation for berm construction – where snow/ice, loose organics, and loose material (including boulders) will be removed prior to placement of the fill material;
- Placement and compaction of excavated overburden material for berm construction;
- Installation of the non-woven geotextile on the downstream face of the compacted till zone for the thermal berm;
- Placement of clean rockfill from pond excavation to cap the till zone as an erosion and thermal protection layer; and
- Instrumentation installation at B7North Thermal Berm and B7West Thermal Berm as per design.

7.4 Water Management during Construction and Erosion Control

Seepage water from overburden soils into the excavated area during the construction is expected to be none or insignificant given the construction of these WMI is planned to take place in winter season. If any, water management during construction will follow the Water Management Plan (Agnico Eagle 2024a) and the Sediment and Erosion Management Plan (Agnico Eagle 2024b).

Like the seepage, surface erosion during construction is not expected. In the event of erosion occurring during construction, sediment control measures (such as silt fences and diversion ditches) will be employed as per the Sediment and Erosion Management Plan (Agnico Eagle 2024b).

The following key mitigation measures will be employed to ensure the works will have a minimum effect on the water quality either within the construction footprint, downstream, or upstream of the construction, including:

- Implementing best practice construction methodologies at all times;
- Operators of heavy equipment will be well-trained to avoid any adverse effects;
- Avoidance of work within waterbodies;
- Cleaning of all machinery and equipment before entering the construction area;
- Any stockpiled material from excavation shall be placed at a distance of at least 31 metres from the original High Water Mark;
- Machinery is not permitted to travel up the stream bed, and fording of any Water Body is to be kept to a minimum. Machinery and equipment should be well cleaned and free of oil and grease and other pollutants and maintained free of fluid leaks;
- Ensuring that hazardous substances such as petroleum products are managed in accordance with the Hazardous Material Management Plan (Agnico Eagle 2024c) to prevent these substances from entering waterways; and
- Environmental inspections for the work site will be completed to ensure any potential impacts are mitigated.

7.5 Quality Assurance and Quality Control

A quality assurance/quality control (QA/QC) program is required during construction of CP8, CP8 Thermal Berm, Channel13, Channel14, B7North Thermal Berm, and B7West Thermal Berm to ensure that construction-sensitive features of the design are achieved. The specific requirements and testing frequencies for the QA process are outlined in the Construction Specifications attached in Appendix E of this report.

Soil testing for the construction QA/QC program and associated documentation will be carried out by either the Engineer (Tetra Tech) or a separate contractor hired by Agnico Eagle. The Contractor for the construction of the berm and channel may have their own quality control team, if required.

7.6 Survey Requirements

An as-built survey and documentation is required to verify quantities and produce as-built drawings for the CP, channels, and berms.

The Surveyor should carry out the following tasks, but not be limited to:

- During and after construction, the following tasks should be performed:
 - Survey the as-built conditions of excavations and fills, including different material boundaries as required;
 - Survey of any measurement for payment items;
 - Provide quantities of each excavation and fill material on critical stages or as required;
 - Provide the Engineer (Tetra Tech) an AutoCAD drawing showing 3D lines and surfaces of each of the excavation and fill materials at critical stages or as required; and
 - Provide the as-built AutoCAD drawing showing 3D lines and surfaces of each of the excavation and fill materials after the completion of each structure.

8.0 MONITORING AND INSPECTION

Performance monitoring is an integral part of operating any water retention structure, particularly in an arctic environment. Geotechnical instrumentation is required to monitor the behavior of the berm and its foundations during construction and operation. It is intended to provide the following information:

- Confirmation that the performance of the collection ponds, channel, berms, and foundations are consistent with the predictions made during the design, notably in terms of stability, deformation, seepage, and thermal analyses and assessments.
- Early warning of the development of potentially adverse trends such as seepage, deformation, and permafrost degradation.

The instrumentation plan, therefore, includes three GTCs at each thermal berm, installed to a minimum depth of 15 m along the centreline to verify that the foundations are frozen. The details of the GTC information are presented in Drawings 65-695-230-34, 65-695-230-049, and 65-695-230-51. Thermistor readings will be measured once a month during the first two years, and then on a quarterly basis during operation, with the measured readings analyzed and reported in the annual inspection report.

An Operation, Maintenance, and Surveillance (OMS) Manual is required for CP8. The OMS Manual will serve as a critical document to ensure the safe, efficient, and environmentally compliant operation of the CP. Details on the day-to-day operations, maintenance requirements, and monitoring protocols to mitigate risks associated with water management for CP8 should be presented in the OMS manual.

Visual inspection and monitoring can provide early warnings of many conditions that can contribute to structure failures and incidents. Monitoring and inspection during construction and operation may include, but not be limited to, settlement/movement monitoring and seepage monitoring if required. Agnico Eagle should regularly undertake a visual inspection of the collection pond, thermal berm, and channels, especially during spring and summer periods. Agnico Eagle should note any water seepage through the berm, unusual settlement/deformation, cracks and should contact Tetra Tech. Any monitoring data should be sent to Tetra Tech for review and evaluation.

An annual inspection, in accordance with Part I, Item 13 of the amended Water Licence – 2AM-MEL1631 will be conducted by a qualified Geotechnical Engineer to document the performance of each structure. These visits should take place between the months of July and September of each year. The inspection shall be conducted in accordance with the Canadian Dam Safety Guideline, if applicable. The specific tasks conducted during these visits

should include: inspection of the upstream and downstream slopes for any sign of distress, inspection of the structure crest for any sign of transverse cracking, and inspection of the abutments and downstream toe for any evidence of seepage. The inspection report will be as part of the Annual Report and submitted to the NWB as per the Water Licence requirement (Part I, Item 14).

9.0 REPORTING

During the construction of the CP, channels, and thermal berms, a daily field report will be prepared to outline the construction activities inside and outside of the work area. The daily report should be prepared by the on-site construction QA/QC team. The daily report will include, but not be limited to, the following:

- Up-to-date information on daily construction activities, including a list of equipment on-site and weather conditions;
- A summary of visual inspections and observations from inside and outside the work area;
- Records of any construction deficiencies and appropriate actions taken, if any;
- Records of QA/QC results and monitoring data; and
- Reporting on construction and design changes made during construction.


Upon completion of the construction activities, an as-built construction report will be prepared and submitted to the NWB within 90 days after the project's completion. The Construction summary report should meet the requirements of Schedule D of the amended Type A Water Licence and provide all relevant supporting documentation compiled during implementation of the QA/QC plan. The construction report will include, but not be limited to, the following:

- Construction drawings based on the as-built survey information of the surface of all material placed;
- Actual construction quantities;
- All testing records, a summary of all test sample locations, collection methods, and test results;
- Summary of the construction issues and resolution applied;
- Reporting on construction and design changes made during construction; and
- Installation details of any required instrumentation or monitoring devices, if any.

10.0 CLOSURE

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

Respectfully Submitted,
Tetra Tech Canada Inc.

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**PERMIT TO PRACTICE
TETRA TECH CANADA INC.**

Signature _____

Date _____

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NT/NU Association of Professional
Engineers and Geoscientists

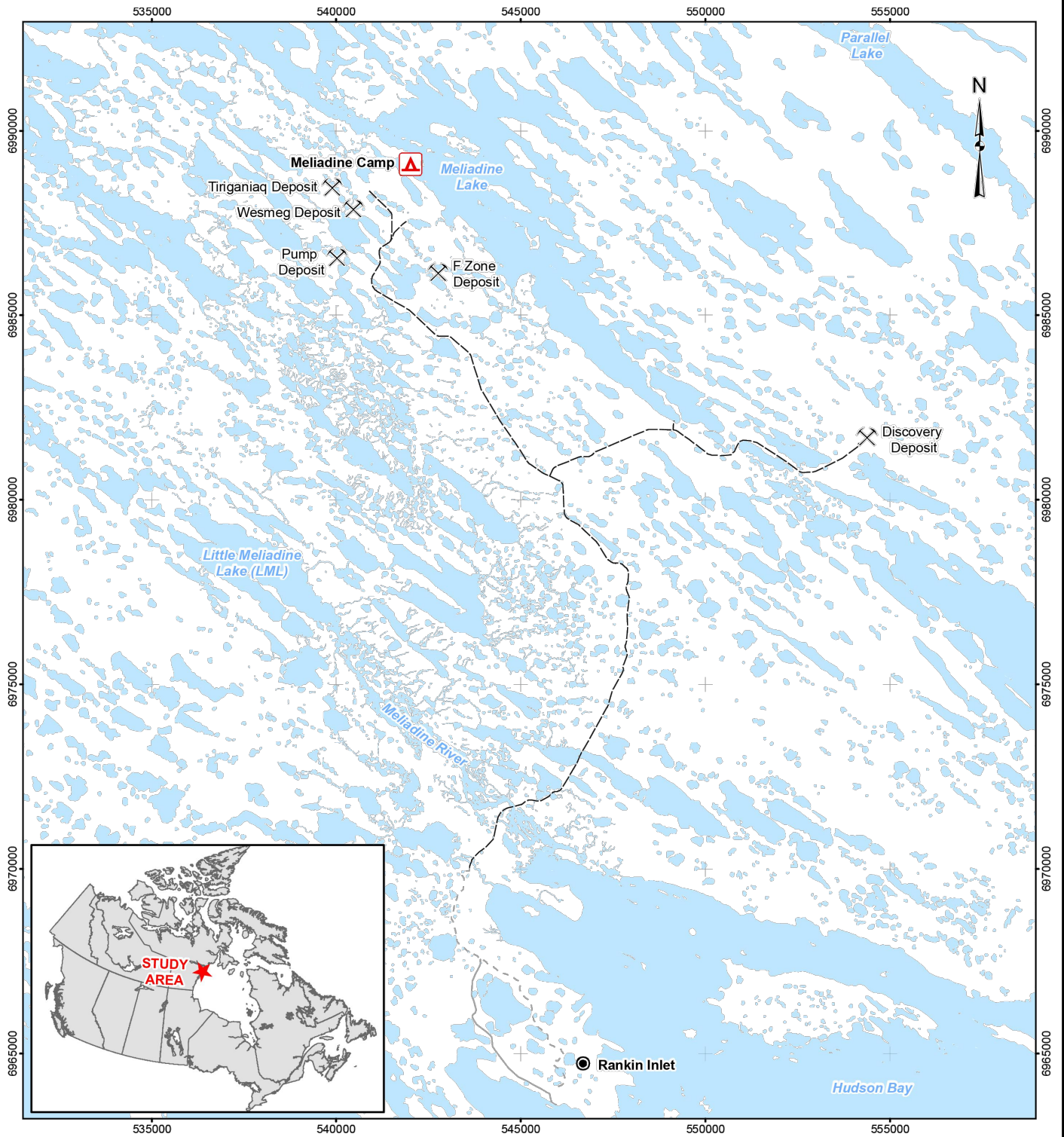
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FIGURES

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| Figure 1 | Site Location Plan |
| Figure 2 | Water Management Infrastructure Layout (CP8, CP8 Thermal Berm, Channel13 and Channel14, B7North and B7West Thermal Berm |
| Figure 3 | Proposed CP8, CP8 Thermal Berm, Channel13 and Channel14, and B7North and B7West Thermal Berm Layout with As-built Boreholes |



LEGEND

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

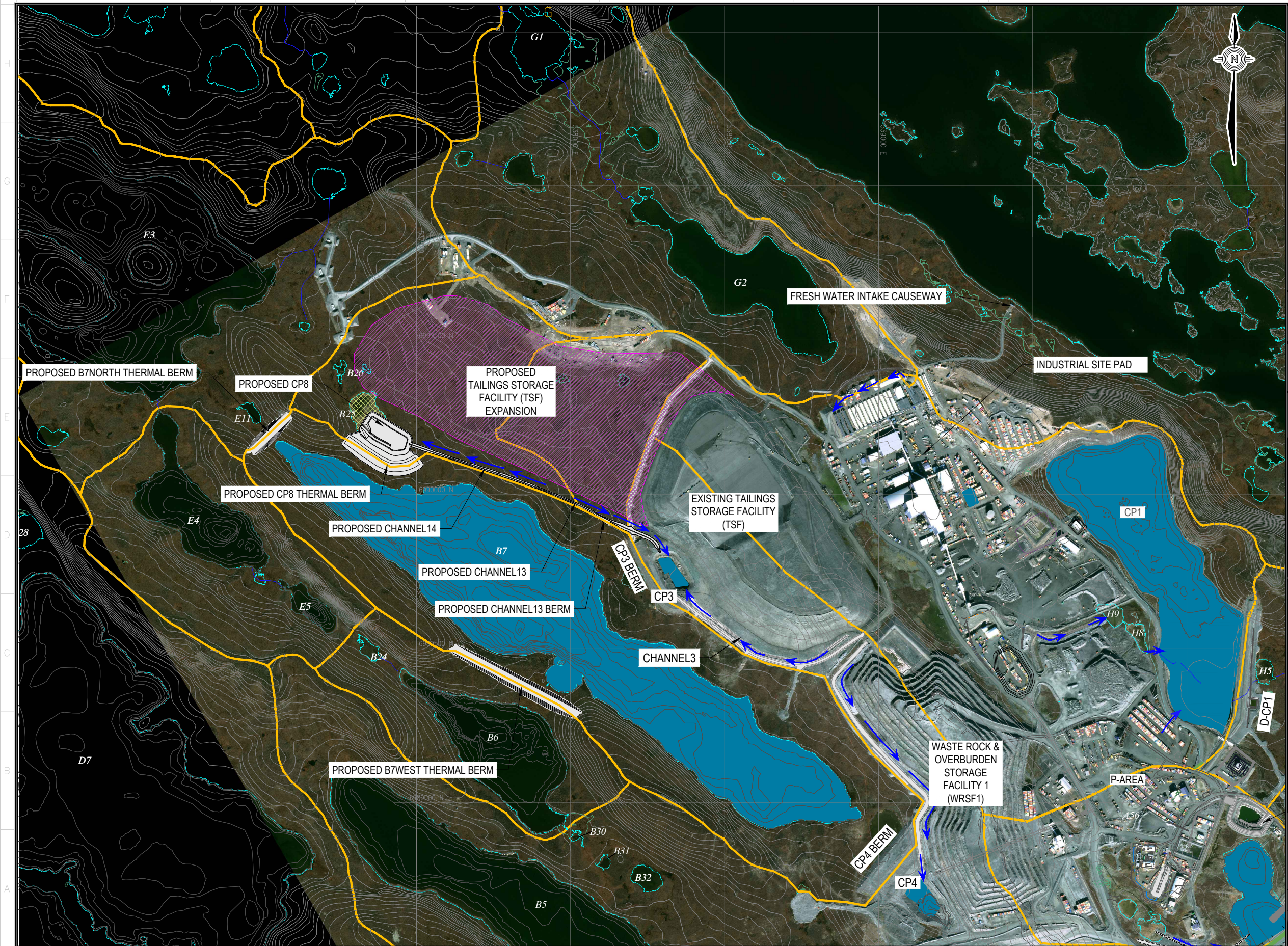
AGNICO EAGLE – MELIADINE DIVISION



AGNICO EAGLE – MELIADINE GOLD MINE

FIGURE 1 GENERAL PROJECT LOCATION PLAN

No. PROJ PROJECT No.		EARC03247-12	DATE		10-08-2025
DESSINÉ PAR DRAWN BY		DS			FEUILLE/SHT 1 / 1
APPROUVÉ PAR APPROVED BY		HX			
NO. DESSIN DRAWING NO.					REVISION 0



LEGEND

- CATCHMENT BOUNDARY
- WATER FLOW DIRECTION
- DRAINED LAKE AREA
- WATER COLLECTION POND

L'INFORMATION CI-CONTENUE EST LA PROPRIÉTÉ DE AGNICO EAGLE LTD. ET DOIT ÊTRE RETOURNÉE SUR DEMANDE, SANS AUTORISATION ÉCRITE PRÉALABLE.
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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

B	ISSUE FOR USE	12-11-2025	DS
A	ISSUED FOR REVIEW	29-10-2025	DS
REV	DESCRIPTION	DATE	PAR BY

REVISIONS			
DESSINÉ PAR DRAWN BY	DS	DATE	12-11-2025
VÉRIFIÉ PAR CHECKED BY	HX		12-11-2025
APPROUVÉ PAR APPROVED BY	HX		12-11-2025

No. PROJET PROJECT NO.	ENG.EARCO3247-12
DATE	12-11-2025

TITRE / TITLE
MELIADINE GOLD MINE

FIGURE 2-WATER MANAGEMENT INFRASTRUCTURE LAYOUT
(CP8, CP8 THERMAL BERM, CHANNEL13 AND CHANNEL14, B7NORTH AND B7WEST THERMAL BERMS)

ECHELLE/ SCALE	1:12500	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	FIGURE 2	REVISION	B
		FEUILLE/SHT	1 / 1



LEGEND

- CATCHMENT BOUNDARY
- WATER DIRECTION FLOW
- DRAINED LAKE AREA
- WATER COLLECTION POND
- AS-BUILT BOREHOLE

AGNICO EAGLE

TETRA TECH

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

B	ISSUED FOR USE	12-11-2025 DS
A	ISSUED FOR REVIEW	29-10-2025 DS
REV	DESCRIPTION	DATE PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	DS	DATE 12-11-2025
VÉRIFIÉ PAR CHECKED BY	HX	12-11-2025
APPROUVÉ PAR APPROVED BY	HX	12-11-2025

No. PROJET
PROJECT NO.

ENG.EARCO3247-12

DATE

12-11-2025

TITRE / TITLE

MELIADINE GOLD MINE

FIGURE 3-PROPOSED CP8, CP8 THERMAL BERM, CHANNEL13 AND CHANNEL14, AND B7NORTH AND B7WEST THERMAL BERMS LAYOUT WITH AS-BUILT BOREHOLES

ECHELLE/ SCALE	1:7500	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	FIGURE 3	REVISION	B
		FEUILLE/SHT	1 / 1

APPENDIX A

BOREHOLE LOGS



BOREHOLE LOG

PROJECT: Meliadine West Winter 2007 Geotechnical Field Investigation **BOREHOLE:** GT-07-09

LOCATION: Proposed Dam 1 location

PAGE: 1 OF 2

FILE No: MELIADINE (2CC003.001)

DRILL TYPE: Triple tube (HQ)

BORING DATE: 2007-05-03 TO 2007-05-04

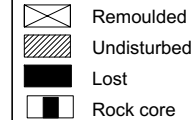
DRILL: LF-70 (No. 3)

DIP: 90.00 **AZIMUTH:**

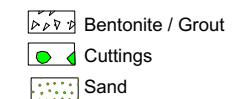
CASING: None

COORDINATES: 6989323.52 N 537952.43 E **DATUM:** M.S.L.

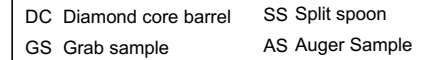
SAMPLE CONDITION



WELL PLUG MATERIALS



TYPE OF SAMPLER



GENERAL COMMENTS No mudtank was used, snow added directly in drill shack. Thermistor ID: EBA#1992 (8.5m length + 1m stickup) (Bead Depths - 0.1, 0.5, 1.0, 1.5, 2.5, 4.0, 6.0, 8.5m)

DEPTH - ft	DEPTH - m	WELL DETAILS & WATER LEVEL - m	STRATIGRAPHY		SAMPLES				SAMPLE DESCRIPTION	DEPTH - m	LABORATORY and IN SITU TESTS
			ELEVATION - m	DESCRIPTION	SYMBOL	TYPE AND NUMBER	CONDITION	RECOVERY %	RQD %		
			62.60	Natural ground surface							
			0.00	Organics	OL	DC-1a		100	0	0.00	
			62.40							OL: (100% recovery); Organic layer, dark brown SILT with fine fibrous roots. Nbn: Frozen, well bonded, no visible ice. Nbn: Well bonded, no visible ice.	
			0.20	Till		DC-1b		100	0		
						DC-1c		100	0	0.20	
						DC-1d		100	0	OL: (100% recovery); Sandy SILT with gravel (20% Gr, 30% Sa, 40% Si, 10% Org.). Organic silt, the same material as above, with gravel and sand. Contains 2 small boulders with max dia. 8cm, angular. Nbn: well bonded, no visible ice.	
						DC-1e		100	0	0.54	
						DC-2a		100	0	SM: (100% recovery); Light brown, frozen, silty SAND. (10% Gr, 50% Sa, 40% Si). Gravel mostly granitic, subangular to subrounded. Vc: Well bonded, some thin ice coatings on gravel particles.	
						DC-2b		100	0	0.54	
										1.02	
						DC-3a		100	0	SM: (100% recovery); Same material as above, but with more gravel content (25% Gr, 40% Sa, 35% Si). Vc: well bonded, some thin ice coatings on gravel particles.	
										1.02	
										1.34	
						DC-3b		100	0	SM: (100% recovery); Light brown, frozen, sandy SILT with gravel. (20% Gr, 35% Sa, 45% Si). Gravel mostly granitic, subangular to subrounded. Nbn: well bonded, no visible ice.	
										1.50	
										ML: (100% recovery); Light brown, frozen, sandy SILT with gravel (20% Gr, 35% Sa, 45% Si). Large poorly graded gravel, 2cm max dia, angular, mostly siltstone. Silt has minor dry strength, and no plasticity. Nbe: well bonded with some excess ice (<1%).	
										1.60	
						DC-4		10	0	1.60	
										ML: (100% recovery); Material same as above with stratified ice. 1 large siltstone boulder from 1.9-2.2m. VS: 30% ice. Stratified ice with irregular spacing (avg. 1.5mm) and thickness (avg. 1mm).	
										2.20	

X:\06 REFERENCE MATERIALS\geotec\log\tem\ates\log\PMWell-Strat.RQD-Samp-Lab.slv PLOTTED: 2007-10-16 18:34hrs



BOREHOLE LOG

PROJECT: Meliadine West Winter 2007 Geotechnical Field Investigation **BOREHOLE:** GT-07-09

LOCATION: Proposed Dam 1 location

PAGE: 2 **OF** 2

FILE No: MELIADINE (2CC003.001)

DRILL TYPE: Triple tube (HQ)

BORING DATE: 2007-05-03 **TO** 2007-05-04

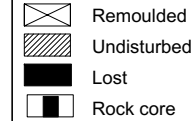
DRILL: LF-70 (No. 3)

DIP: 90.00 **AZIMUTH:**

CASING: None

COORDINATES: 6989323.52 N 537952.43 E **DATUM:** M.S.L.

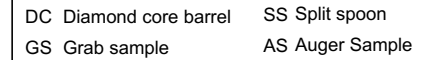
SAMPLE CONDITION



WELL PLUG MATERIALS



TYPE OF SAMPLER



GENERAL COMMENTS No mudtank was used, snow added directly in drill shack. Thermistor ID: EBA#1992 (8.5m length + 1m stickup) (Bead Depths - 0.1, 0.5, 1.0, 1.5, 2.5, 4.0, 6.0, 8.5m)

DEPTH - ft	DEPTH - m	WELL DETAILS & WATER LEVEL - m	STRATIGRAPHY		SAMPLES					SAMPLE DESCRIPTION	DEPTH - m	LABORATORY and IN SITU TESTS
			ELEVATION - m DEPTH - m	DESCRIPTION	SYMBOL	TYPE AND NUMBER	CONDITION	RECOVERY %	RQD %			
20 												

X:\06 REFERENCE MATERIALS\geotec\log\templates\log\PMWell-Strat-RQD-Samp-Lab.slv PLOTTED: 2007-10-16 18:34hrs

PROJECT No.: 09-1426-0015

RECORD OF BOREHOLE: GT09-18SHEET 1 OF 3
DATUM: GeodeticLOCATION: Meliadine Gold Project, Nunavut
N: 6989363 E: 537875 UTM NAD83 Zone: 15N
Survey Provided by: Comaplex Minerals Corp., Dated August 24, 2009

DRILLING DATE: September 5, 2009

DRILLING CONTRACTOR: Boart Longyear

SAMPLER HAMMER, 64kg; DROP, 762mm

DEPTH SCALE METRES	BORING RECORD	SOIL PROFILE			SAMPLES			CORE			GRADATION %			HYDRAULIC CONDUCTIVITY, k, cm/s				ADDITIONAL LAB. TESTING	PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION		
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE (mm) TYPE	BLOWS/0.3m	RUN No.	RECOVERY %				GRAVEL	SAND	FINES	10 ⁻⁶ 10 ⁻⁵ 10 ⁻⁴ 10 ⁻³					
									WATER CONTENT PERCENT							10 ⁻⁶ 10 ⁻⁵ 10 ⁻⁴ 10 ⁻³					
									Wp — W — Wi							10 20 30 40					
0		Ground Surface		62.08																	
	Boat Longyear LF 70 PW	Compact, wet to free water, dark brown FIBROUS PEAT. Stone in tip of spoon.		0.00	1	DO	11	1	80	60	40	20									
		Compact, moist, pink grey GRAVEL. Granite.		61.63	2	DO	13	2					100	0	0	○			368		
1		Compact, wet to free water, brown grey, sandy GRAVEL, little silt. @ 1.66m refusal. [Frozen from 1.35m to 1.66m Vr, approaching soil limit, clear crystals]		61.18	3	DO	15	3								○			M		
				60.42	4	DO	25	4				62	23	15	○			MH			
				1.66																	
2			COBBLES (80mm, 105mm, 108mm) and BOULDER (450mm, pink granite). Greywacke, granite, gneiss. (TILL) From 1.66m to 2.8m casing sank during drilling, driller reports little to no water return. From 2.8m to 3.5m pink granite boulder @ 4.66m refusal.						5												
3																					
4									6												
5									7												
				56.30																	
6		Bedrock Encountered. Refer to Record of Drillhole log for continuation of rock description.		5.78																	
7																					
8																					
9																					
10																					

Node 1

Node 2

Node 3

Node 4

Node 5

Node 6

Node 7

TW09-04

Node 1

Node 2

Node 3

Node 4

Node 5

Node 6

Node 7

DEPTH SCALE

1 : 50



LOGGED: AE/SG

CHECKED: AE/CJC

File:O:\ACTIVE_2009\1426-0015_COMAPLEX_ENGINEERING_MELIADINE\GINT\09-1426-0015 (3200_6000) UPDATED.GPJ Output Form: BOREHOLE CUSTOM 3 (AUTO) Template: BC REGION TEMPLATE BETA 1.GDT Library: BC REGION LIBRARY GLB KCapes 17/2/10

PROJECT No.: 09-1426-0015

RECORD OF DRILLHOLE: GT09-18SHEET 2 OF 3
DATUM: GeodeticLOCATION: Meliadine Gold Project, Nunavut
N: 6989363 E: 537875 UTM NAD83 Zone: 15N
Survey Provided by: Comaplex Minerals Corp., Dated August 24, 2009DRILLING DATE: September 5, 2009
DRILLING CONTRACTOR: Boart Longyear

INCLINATION: -90° AZIMUTH: n/a

DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. DEPTH (m)	RUN No.	Refer to "Lithological and Geotechnical Soil and Rock Description Terminology" for accompanying legend and notes.															DISCONTINUITY DATA	J _{CON}	J _r	J _a	Fault/Breccia/Gauge Lost Broken Cased	PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION				
						ROCK STRENGTH INDEX			WEATH- ERING INDEX				RECOVERY				FRACTURE INDEX PER RUN	J _n	DIP/WALL CORE AXIS (alpha) 0-90 0-90	TYPE AND SURFACE DESCRIPTION										
						R ₅	R ₄	R ₃	R ₂	R ₁	W ₁	W ₂	W ₃	W ₄	TOTAL CORE %	R.Q.D. %											80	60	40	20
						80	60	40	20	80	60	40	20	80	60	40											20			
6	Boart Longyear LF 70 HQ3 Diamond core with water	Cont'd from Record of Borehole.		56.30 5.78	1												1	2	•	VNO, PL, RO, IN, Qz; Pyr, 1.5mm	6	1.5	4							
7		2															1	2	•	FOL, PL, RO	20	1.5	1							
8		3															6	6	•	FOL, PL, RO	20	1.5	1							
9																			•	JN, CU, RO, DC, M, 0.1mm	12	3	2							
																			•	FOL, PL, RO, DC, Ca, 0.1mm	20	1.5	2							
																			•	FOL, PL, RO, DC, Ca, 0.1mm	20	1.5	2							
10		4																2	3	•	JN, PL, RO	20	1.5	1						
																			•	FOL, PL, RO	20	1.5	1				Node 8			
11	5																1	2												
12																			•	FOL, CU, RO, DC, Ca, 1.5mm	12	3	2							
13	6																1	2												
																			•	FOL, PL, RO	20	1.5	1							
14	7																2	2	•	FOL, CU, RO	20	3	1							
																			•	FOL, CU, RO	20	3	1							
15																			•	JN, IR, RO	20	3	1				Node 9			
					8												5													
		CONTINUED NEXT PAGE																												

CONTINUED NEXT PAGE

DEPTH SCALE

1 : 50



LOGGED: AE/SG

CHECKED: AE/CJC

File: O:\ACTIVE_2009\1426-0015_COMAPLEX_ENGINEERING_MELIADINE\GINT\09-1426-0015 (3200_6000) UPDATED.GPJ Output Form: DRILLHOLE (CUSTOM 5), Template: BC REGION TEMPLATE BETA 1.GDT Library: BC REGION LIBRARY.GLB KCapes 17/2/10

SHEET 3 OF 3
DATUM: Geodetic

DRILLING DATE: September 5, 2009
DRILLING CONTRACTOR: Boart Longyear

PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION

[illegible]

**Golder
Associates**

CHECKED: AE/CJC

1 : 50

PROJECT No.: 11-1428-0011

RECORD OF BOREHOLE: GT11-01

SHEET 1 OF 3

LOCATION: TSF DYKE B7

N: 6990206 E: 537031 UTM Zone: 15

DRILLING DATE: September 5th, 2011

DATUM: NAD 83 ZONE 15

DRILLING CONTRACTOR: Boart Longyear

DEPTH SCALE METRES	DRILLING RIG DRILLING METHOD	SOIL PROFILE		SAMPLES			RUN				GRADATION %			SHEAR STRENGTH Cu, kPa				nat V. + rem V. ⊕				ADDITIONAL LAB. TESTING	PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	RUN No.	RECOVERY %				GRAVEL	SAND	FINES	WATER CONTENT %							
									80	60	40	20				field est. -							
																Wp	W	WI	ice est. -				
																20	40	60	80	⊕	⊖	⊙	⊗
																10	20	30	40	⊕	⊖	⊙	⊗
0	(Drill #5 LF70) (HQ3) ROTARY DRILLING	Ground Surface		62.89																			
		Loose, massive, dark brown to black, SILTY PEAT, some gravel.		62.69																			
		BOULDER.		0.20																			
				62.33				1															
		Loose, massive, grey, silty gravelly SAND, trace clay, contains angular to sub-angular cobbles and boulders.		0.56		SC																	
1			Loose, black, SAND and GRAVEL, some silt, contains angular to sub-angular cobbles and boulders.		61.89																		
					1.00																		
2			Becoming frozen (Vs), strong organic odour, contains shells.		60.89																		
					2.00																		
					60.05																		
3			Frozen (Vs), black, strong organic odour, silty SAND, some gravel, contains angular to sub-angular cobbles, boulders and shells.		2.84																		
		Frozen (Vs), black, strong organic odour, SILT and SAND, some clay, trace gravel, contains shells.		59.60																			
				3.29																			
4					5	SC					10	38	52										
		Chloride: 151mg/kg ; Sodium: 98.5mg/kg		58.71																			
		Frozen (Vs), black, strong organic odour, silty SAND, some gravel, contains shells.		4.18																			
				58.45																			
		Frozen (Vr), grey, silty gravelly SAND, contains angular to sub-angular cobbles and boulders.		4.44																			
					6	SC																	
5																							
6		Inferred ice content: 4.0%				9	SC				33	38	29										
7						10	SC																
8		Frozen (Vc), grey, SAND and GRAVEL, contains angular to sub-angular cobbles and boulders, grey CLAYEY SILT infills voids.		55.45																			
				7.44																			
9																							
				53.76																			
				9.13																			
		Bedrock Encountered. Refer to Record of Drillhole log for continuation of rock description.																					
10																							

DEPTH SCALE

1 : 50

LOGGED: E.S./J.B.

CHECKED: P.G./C.C.

PROJECT No.: 11-1428-0011

RECORD OF BOREHOLE: GT11-01

SHEET 2 OF 3

LOCATION: TSF DYKE B7

N: 6990206 E: 537031 UTM Zone: 15

DRILLING DATE: September 5th, 2011

DATUM: NAD 83 ZONE 15

INCLINATION: -90°

AZIMUTH: n/a

DRILLING CONTRACTOR: Boart Longyear

DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. DEPTH (m)	No.	Refer to "Lithological and Geotechnical Soil and Rock Description Terminology" for accompanying legend and notes.															PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
						INDEXES				RECOVERY				FRACTURE INDEX PER	DISCONTINUITY DATA							J CON	Jr	Ja	Fault/Breccia/Gouge Lost Core Broken Core																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
						■ ROCK STRENGTH	WEATHERING			TOTAL CORE %	R.Q.D. %	DIP w.r.t. CORE AXIS (alpha) °	TYPE AND SURFACE DESCRIPTION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
							W1	W2	W3						W4	W5	W6	W7	W8	W9						W10	W11	W12	W13	W14	W15	W16	W17	W18	W19	W20																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					

DEPTH SCALE

1 : 50

LOGGED: E.S./J.B.

CHECKED: P.G./C.C.

PROJECT No.: 11-1428-0011

RECORD OF BOREHOLE: GT11-01

SHEET 3 OF 3

LOCATION: TSF DYKE B7
N: 6990206 E: 537031 UTM Zone: 15

DRILLING DATE: September 5th, 2011

DATUM: NAD 83 ZONE 15

INCLINATION: -90° AZIMUTH: n/a

DRILLING CONTRACTOR: Boart Longyear

DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. DEPTH (m)	No.	Refer to "Lithological and Geotechnical Soil and Rock Description Terminology" for accompanying legend and notes.																				PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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DEPTH SCALE

1 : 50

LOGGED: E.S./J.B.

CHECKED: P.G./C.C.

SHEET 1 OF 3
DATUM: Ground Surface

DRILLING CONTRACTOR: Boart Longyear

[illegible]

CHECKED: **DRAFT**

PROJECT No.: 11-1428-0011

RECORD OF BOREHOLE: GT12-08SHEET 2 OF 3
DATUM: Ground Surface

LOCATION: TSF Dike

N: ~6989424 E: ~537740 UTM Zone: 15

Note: Northing and Easting Coordinates have been determined by
GPS in the field and are approximate only.

DRILLING DATE: 6/10/2012

DRILLING CONTRACTOR: Boart Longyear

DEPTH SCALE METRES	DRILLING RIG METHOD	SOIL PROFILE		SAMPLES			RUN			ICE DESCRIPTION	GRADATION %			SHEAR STRENGTH Cu, kPa				WATER CONTENT %				ADDITIONAL LAB. TESTING	PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	RUN No.	RECOVERY %		GRAVEL	SAND	FINES	20 40 60 80		nat V. + Q - rem V. ⊕ U -		field est. - lab - ice est. -					
														Wp	W	WI	Wp	W	WI	Wp	W		
10	LF-70 (HQ3) Diamond Drilling	(SM) gravelly SILTY SAND, fine to coarse sand, fine to coarse gravel, non-cohesive, grey (continued)																					
6				SC	8						17	60	23										
11.80																							
12		(SP/ML) SAND and SILT, some gravel, fine to coarse sand and gravel, non-cohesive, grey, frozen																					
12.78																							
13		Bedrock Encountered. Refer to Record of Drillhole log for continuation of rock description.																					
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DEPTH SCALE

1 : 50



LOGGED: CA/CH

CHECKED: **DRAFT**

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PROJECT No.: 11-1428-0011

RECORD OF BOREHOLE: GT12-08SHEET 3 OF 3
DATUM: Ground Surface

LOCATION: TSF Dike

N: ~6989424 E: ~537740 UTM Zone: 15

Note: Northing and Easting Coordinates have been determined by
GPS in the field and are approximate only.

INCLINATION: -90° AZIMUTH: n/a

DRILLING DATE: 6/10/2012

DRILLING CONTRACTOR: Boart Longyear

DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. DEPTH (m)	Refer to "Lithological and Geotechnical Soil and Rock Description Terminology" for accompanying legend and notes.															PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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DEPTH SCALE

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LOGGED: CA/CH

CHECKED: **DRAFT**

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PROJECT No.: 11-1428-0011

RECORD OF BOREHOLE: GT12-25SHEET 1 OF 3
DATUM: Ground Surface

LOCATION: B7 lake, TSF Dike

N: ~6990080 E: ~537665 UTM Zone: 15

Note: Northing and Easting Coordinates have been determined by
GPS in the field and are approximate only.

DRILLING DATE: 7/25/2012

DRILLING CONTRACTOR: Boart Longear

DEPTH SCALE METRES	DRILLING RIG DRILLING METHOD	SOIL PROFILE		SAMPLES			RUN			ICE DESCRIPTION	GRADATION %			SHEAR STRENGTH Cu, kPa		nat V. + Q - ● rem V. ⊕ U - ○		ADDITIONAL LAB. TESTING	PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	RUN No.	RECOVERY %		GRAVEL	SAND	FINES	20		40				
														60		80				
														WATER CONTENT %		field est. - lab - ice est. -				
													Wp	W	WI					
														10	20	30	40			
0	LF-70 (HQ3) Diamond Drilling	Ground Surface		0.00																
		(GW) sandy GRAVEL, some silt, coarse to fine sand, coarse to fine and subrounded to rounded gravel, brown, contains shells and cobbles about 130 mm to 300 mm, moist																		
1					1	SC		1												
					1+2	Combined					65	24	11							
2																				
3		BOULDERS,		2.83																
		(SM/GW) SILTY SAND and GRAVEL, coarse to fine sand, coarse to fine and subrounded to rounded gravel, brown, contains shells and cobbles about 130 mm to 300 mm, moist to frozen		3.30	2	SC		2												
4		(ML/SP) gravelly SILT and SAND, coarse to medium and subrounded to subangular gravel, grey, frozen, contains cobbles about 100 mm, non-cohesive		3.75	3	SC				26	36	38								
		(GM) sandy SILTY GRAVEL, coarse to medium and subangular gravel, grey, frozen		4.30	4	SC		3		55	24	21								
5				4.75																
		Bedrock Encountered. Refer to Record of Drillhole log for continuation of rock description.																		
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DEPTH SCALE

1 : 50



LOGGED: AS/FA

CHECKED: **DRAFT**

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PROJECT No.: 11-1428-0011

RECORD OF BOREHOLE: GT12-25

SHEET 2 OF 3

LOCATION: B7 lake, TSF Dike

N: ~6990080 E: ~537665 UTM Zone: 15

Note: Northing and Easting Coordinates have been determined by
GPS in the field and are approximate only.

INCLINATION: -90°

AZIMUTH: n/a

DRILLING DATE: 6/25/2012

DRILLING CONTRACTOR: Boart Longyear

DATUM: Ground Surface

DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. DEPTH (m)	RUN No.	Refer to "Lithological and Geotechnical Soil and Rock Description Terminology" for accompanying legend and notes.																	PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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5		Cont'd from Record of Borehole. Fresh, non-porous, thickly foliated, strong, grey, fine grained, GREYWACKE or SILTSTONE, with calicte veining		4.75	3																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						

CONTINUED NEXT PAGE

DEPTH SCALE

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LOGGED: AS/FA

CHECKED: **DRAFT**

File: C:\ACTIVE_2011\14281-1428-0011_AEMMELADINETAL\INGS3200_2012\DRILLING PROGRAM\GINT\MASTERFILE_14UG2012\MASTERFILE_22AUGUST2012.GPJ Output Form BC, DRILLHOLE (MINING STD), Template BC REGION, TEMPLATE BETA 2 GDT Library BC REGION, LIBRARY GLB, facenob, 9/25/12

SHEET 3 OF 3
DATUM: Ground Surface

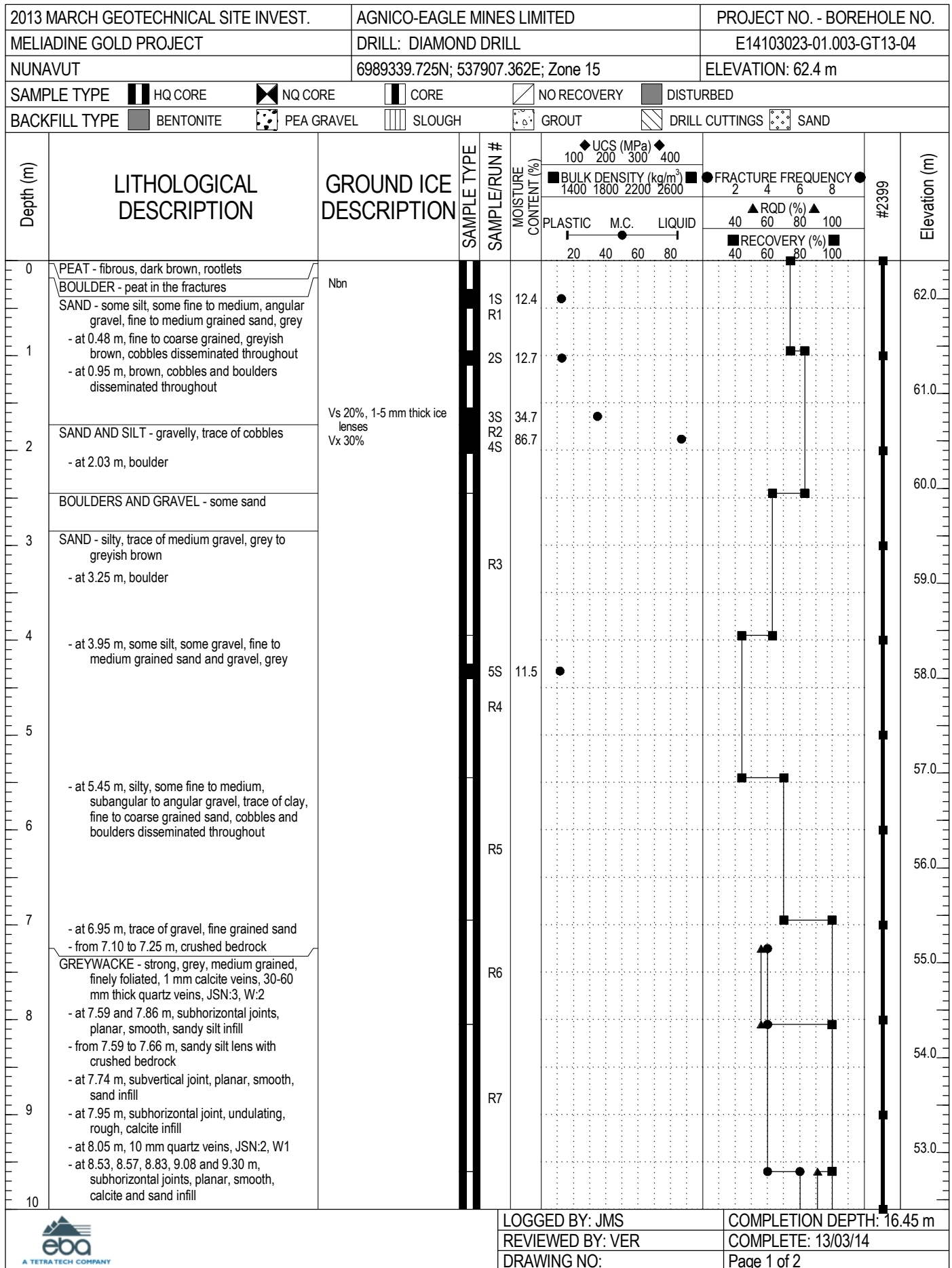
DRILLING CONTRACTOR: Boart Longyear












AZIMUTH: n/a

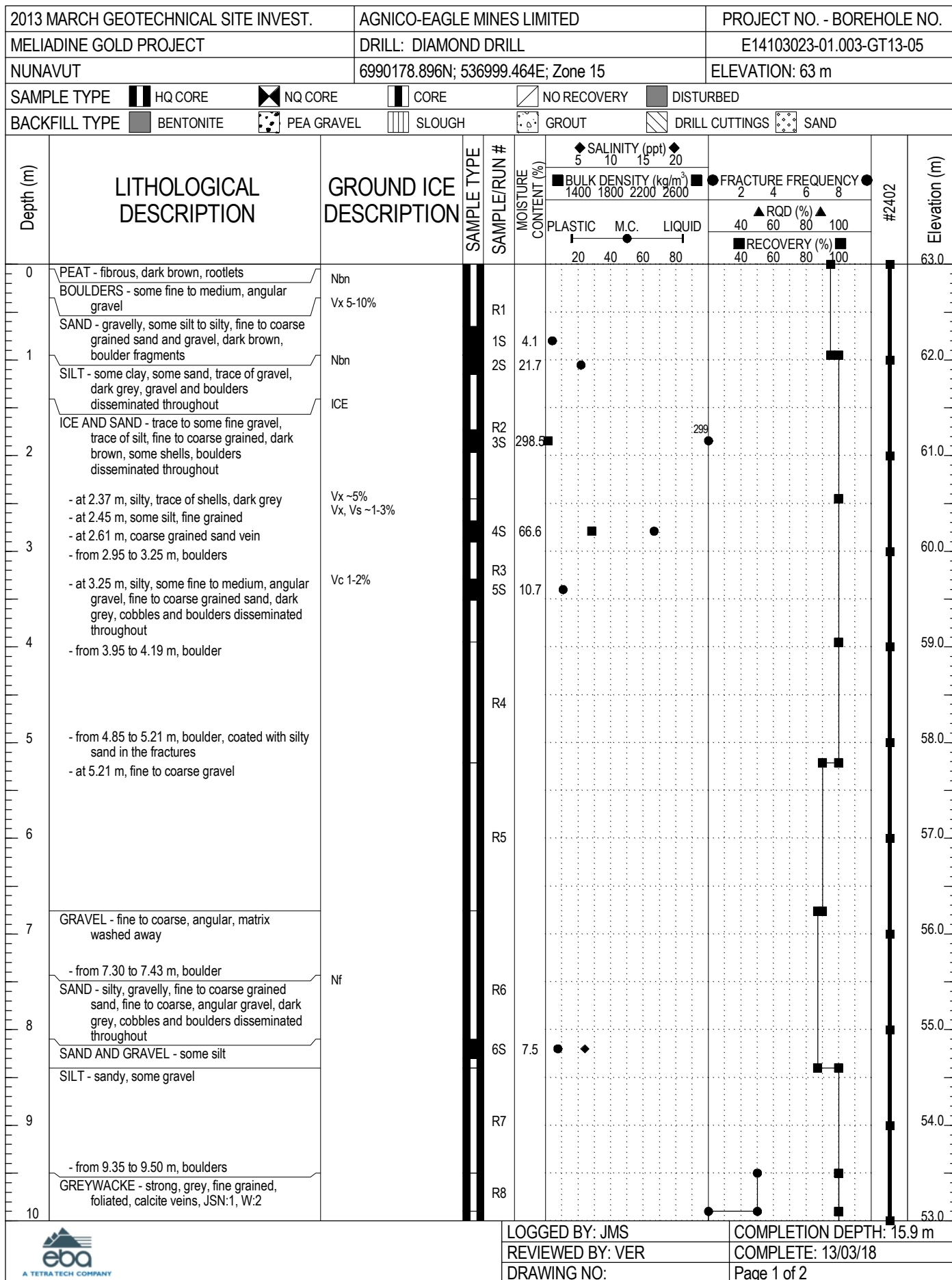
1 : 50

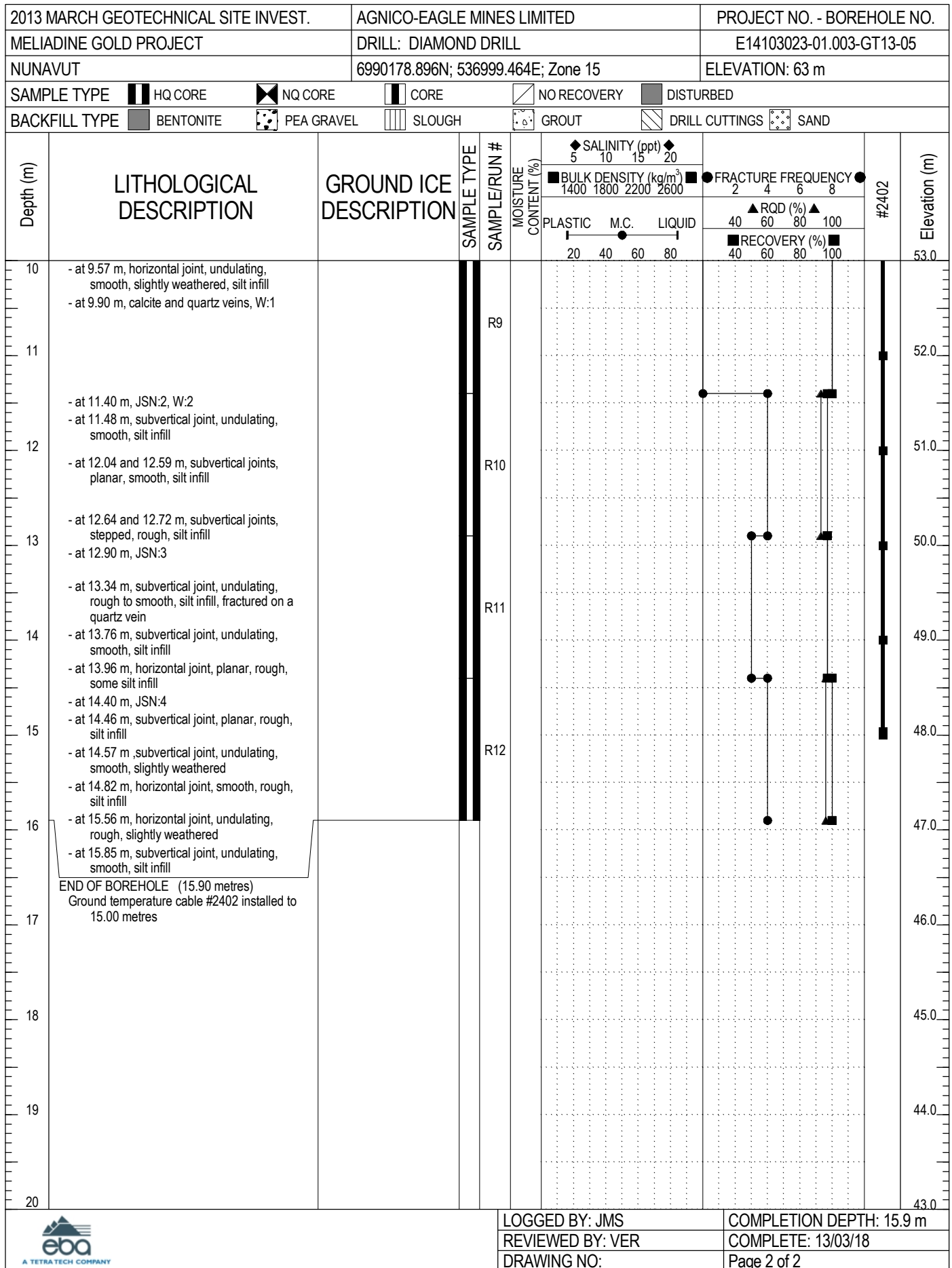


CHECKED: **DRAFT**



2013 MARCH GEOTECHNICAL SITE INVEST.				AGNICO-EAGLE MINES LIMITED				PROJECT NO. - BOREHOLE NO.					
MELIADINE GOLD PROJECT				DRILL: DIAMOND DRILL				E14103023-01.003-GT13-04					
NUNAVUT				6989339.725N; 537907.362E; Zone 15				ELEVATION: 62.4 m					
SAMPLE TYPE		 HQ CORE	 NQ CORE	 CORE	 NO RECOVERY	 DISTURBED							
BACKFILL TYPE		 BENTONITE	 PEA GRAVEL	 SLOUGH	 GROUT	 DRILL CUTTINGS	 SAND						
Depth (m)	LITHOLOGICAL DESCRIPTION	GROUND ICE DESCRIPTION	SAMPLE TYPE	SAMPLE/RUN #	MOISTURE CONTENT (%)	◆ UCS (MPa) ◆ 100 200 300 400				● FRACTURE FREQUENCY ● 2 4 6 8	#2399	Elevation (m)	
						■ BULK DENSITY (kg/m³) ■ 1400 1800 2200 2600							
						PLASTIC M.C. LIQUID 20 40 60 80				▲ RQD (%) ▲ 40 60 80 100			
						■ RECOVERY (%) ■ 40 60 80 100							
10	- at 8.60 m, horizontal joint, planar, smooth to rough, calcite and sand infill			R8								52.0	
11	- at 9.60 m, JSN:4, W:2												
	- at 9.60 and 10.83 m, subvertical joint, planar, rough, slight weathered, calcite infill												
	- at 10.07 m, subhorizontal joint, planar, smooth, calcite infill			R9								51.0	
	- at 10.11 m, subhorizontal joint, planar, rough, sand infill												
	- at 10.31 m, subhorizontal joint, stepped, rough, sand infill												
12	- at 10.48 m, subhorizontal joint, planar, rough, slightly weathered, sand infill			R10								50.0	
	- at 10.73 m, subvertical joint, planar, smooth to rough, slightly weathered, sand infill												
	- at 11.10 m, subhorizontal joint, undulating, rough, calcite infill												
13	- at 11.15 m, JSN:1, W1											49.0	
	- from 11.15 to 11.45 m, vertical joint, planar, smooth, trace of sand infill												
	- at 11.45 m, JSN:2, W:2			R11								48.0	
14	- at 12.35, 12.42 and 12.48 m, subvertical joint, undulating, rough, silt infill												
	- at 12.54 m, subvertical joint, planar, smooth, silt infill												
	- at 12.98 m, vertical joint, undulating, smooth, silt infill												
15	- at 13.00 m, JSN:6, W:2			R12								47.0	
	- from 13.00 to 13.26 m, vertical joint, undulating, rough, silt infill												
	- at 13.55 m, subvertical joint, undulating, rough, calcite infill												
16	- at 13.81 m, subvertical joint, undulating, rough, silt infill											46.0	
	- at 13.84 and 13.93 m, subhorizontal joints, stepped, smooth, silt infill			R13									
	- at 13.88 m, subhorizontal joint, planar, smooth, silt infill												
17	- at 13.99 m, subvertical joint, planar, smooth, silt infill											45.0	
	- at 14.03 m, subvertical joint, planar, smooth, silty organics, black												
	- at 14.50 m, JSN:4												
18	- at 14.93 m, subhorizontal joint, planar, smooth, slightly weathered											44.0	
	- at 15.03 m, subvertical joint, undulating, smooth, silt infill												
	- at 15.17 m, subhorizontal, stepped, smooth to rough, silt infill												
19	- at 15.73 m, subvertical joint, stepped, smooth, silt infill											43.0	
	- at 15.84 m, subvertical joint, planar, smooth, chlorite, pyrite												
20	END OF BOREHOLE (16.45 metres) Ground temperature cable #2399 installed to 15.00 metres												
					LOGGED BY: JMS				COMPLETION DEPTH: 16.45 m				
					REVIEWED BY: VER				COMPLETE: 13/03/14				
					DRAWING NO:				Page 2 of 2				





Agnico Eagle Mines Limited

Borehole No: GT21-73

Project: Spring 2021 Geotechnical Investigation

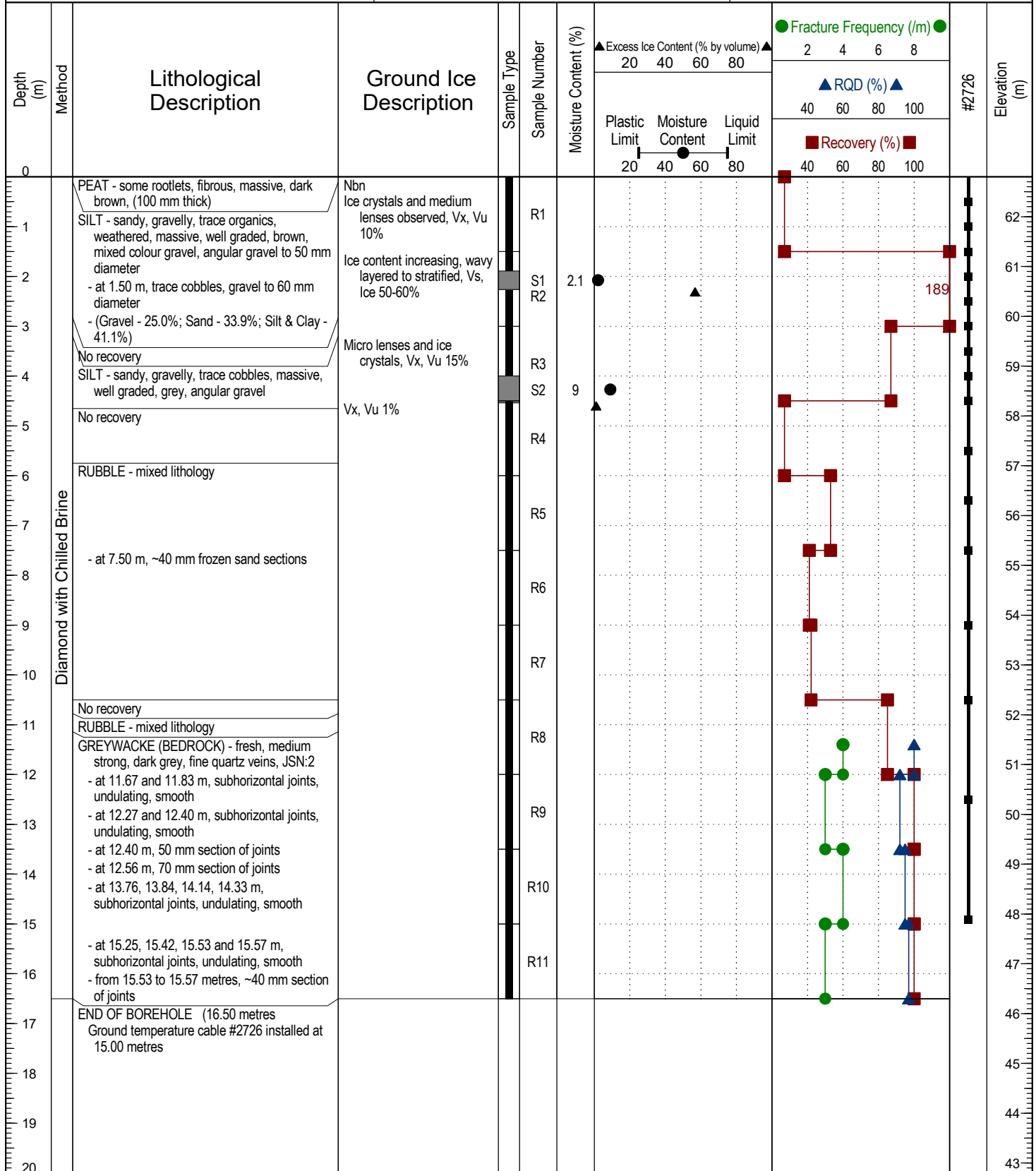
Project No: ENG.EARC03193-02

Location: D-B7 West

Ground Elev: 62.8 m

Meliadine Gold Project, Nunavut

UTM: 537818 E; 6989381 N; Z 15



TETRA TECH

Contractor: Orbit Garant Drilling inc.

Completion Depth: 16.5 m

Drilling Rig Type: Diamond Drill Rig

Start Date: 2021 April 24

Logged By: EP/LM

Completion Date: 2021 April 24

Reviewed By: HX

Page 1 of 1

Agnico Eagle Mines Limited

Borehole No: GT21-74

Project: Spring 2021 Geotechnical Investigation

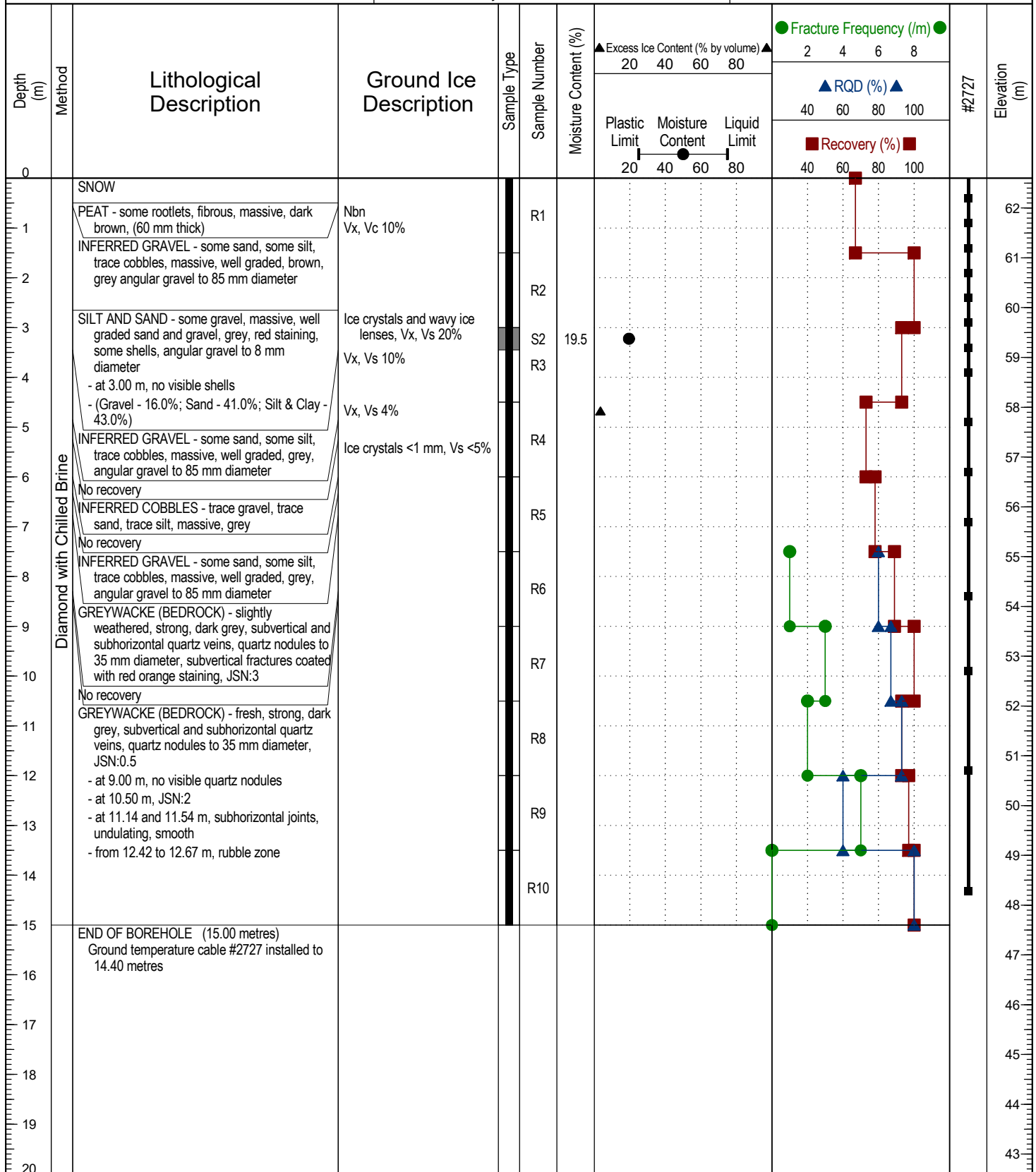
Project No: ENG.EARC03193-02

Location: D-B7 North

Ground Elev: 62.6 m

Meliadine Gold Project, Nunavut

UTM: 537018 E; 6990225 N; Z 15



TETRA TECH

Contractor: Orbit Garant Drilling inc.

Completion Depth: 15 m

Drilling Rig Type: Diamond Drill Rig

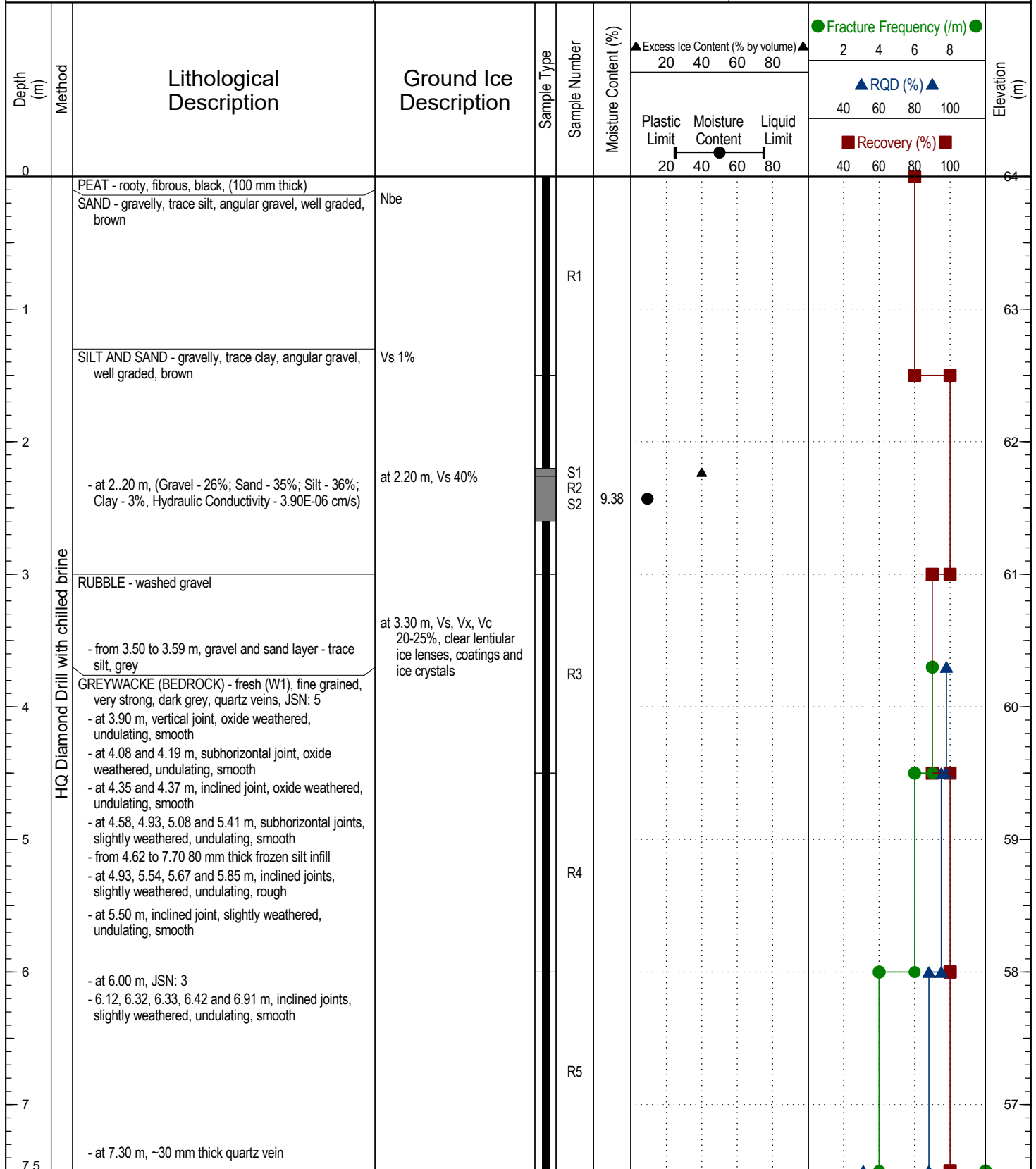
Start Date: 2021 April 25

Logged By: LM

Completion Date: 2021 April 25

Reviewed By: HX

Page 1 of 1



Borehole No: GT24-06

Project: Geotechnical Investigation for TSF Expansion

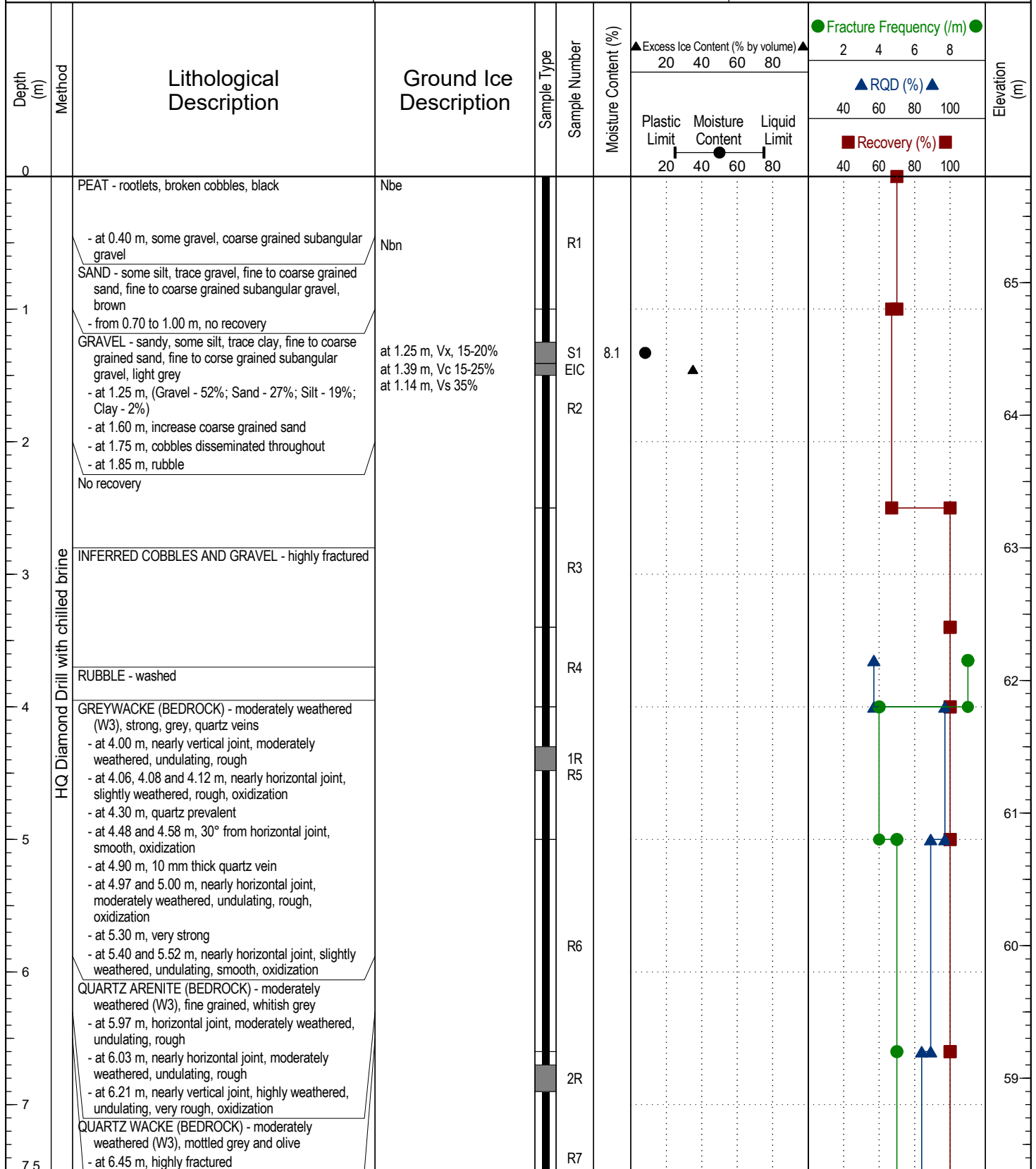
Project No: ENG.EARC03140-36

Location:

Ground Elev: 65.8 m

Meliadine, Nunavut

UTM: 537863 E; 6990049 N; Z 15



Borehole No: GT24-06

Project: Geotechnical Investigation for TSF Expansion

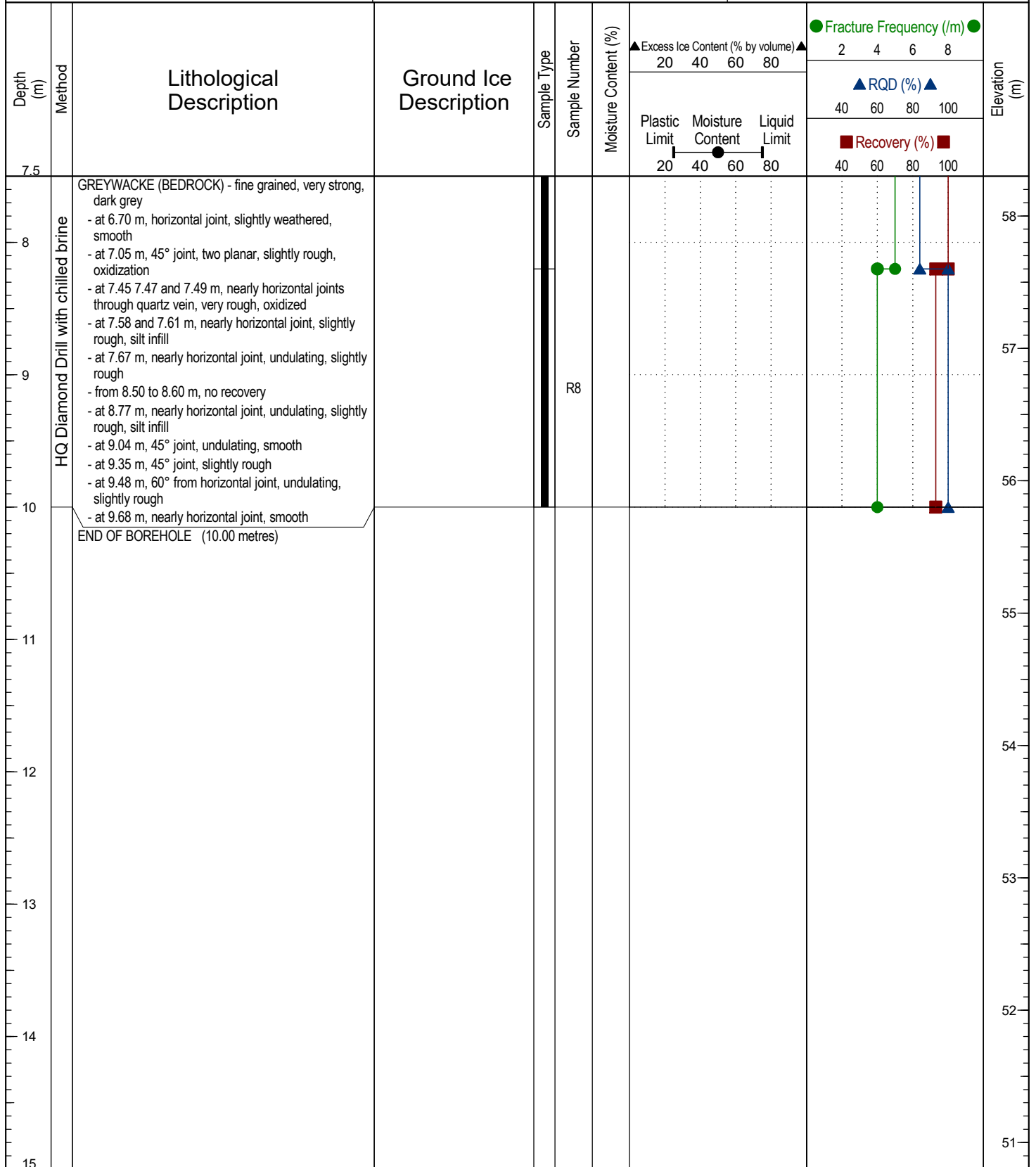
Project No: ENG.EARC03140-36

Location:

Ground Elev: 65.8 m

Meliadine, Nunavut

UTM: 537863 E; 6990049 N; Z 15



END OF BOREHOLE (10.00 metres)

Contractor: Orbit Garant Drilling Inc.

Completion Depth: 10 m

Equipment Type: Skid mounted

Start Date: 2024 January 24

Logged By: DA

Completion Date: 2024 January 24

Reviewed By: FN

Page 2 of 2

Borehole No: GT24-07

Project: Geotechnical Investigation for TSF Expansion

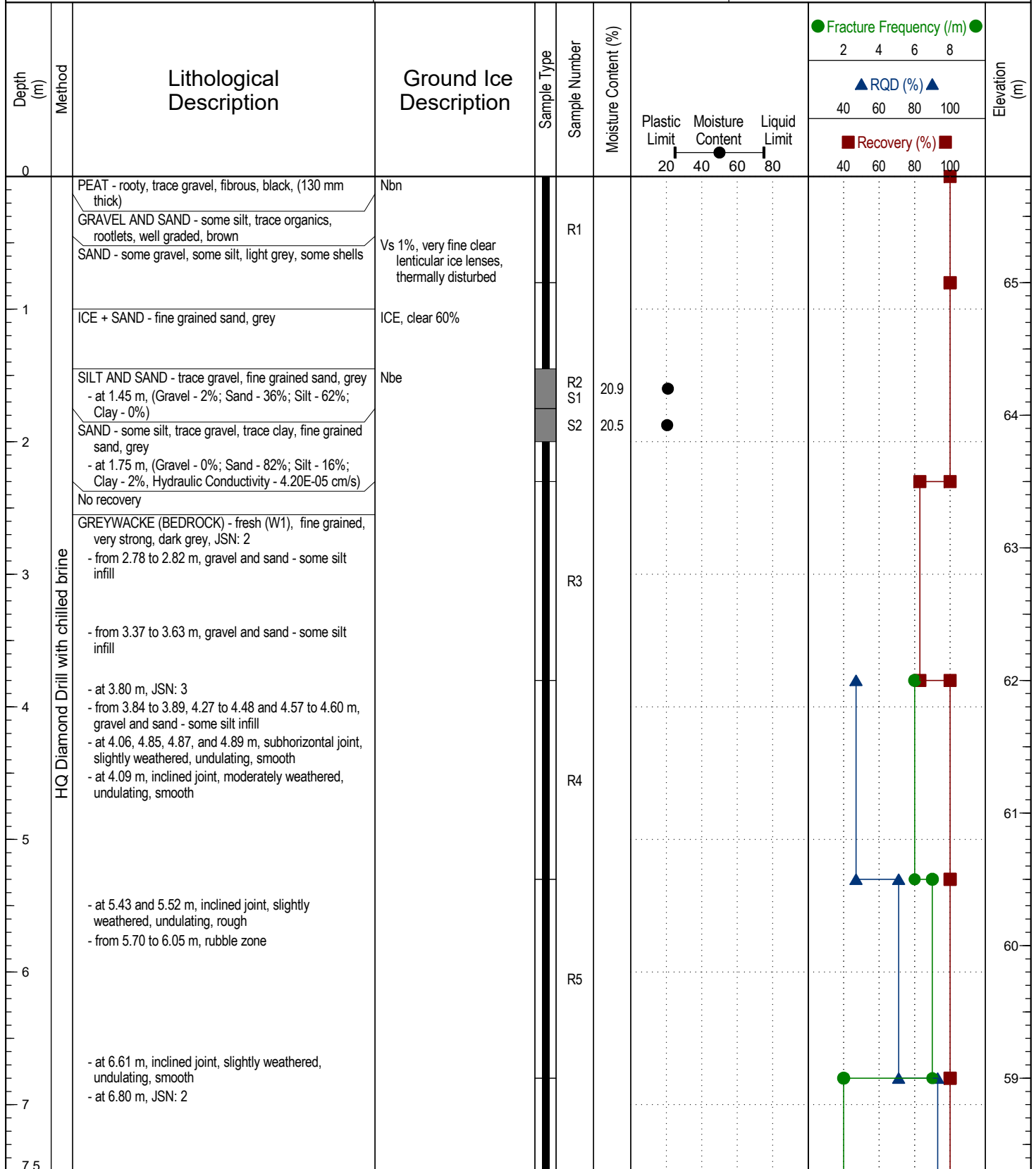
Project No: ENG.EARC03140-36

Location:

Ground Elev: 65.8 m

Meliadine, Nunavut

UTM: 538102 E; 6989913 N; Z 15





Borehole No: GT24-07

Project: Geotechnical Investigation for TSF Expansion

Project No: ENG.EARC03140-36

Location:

Ground Elev: 65.8 m

Meliadine, Nunavut

UTM: 538102 E; 6989913 N; Z 15

Depth (m)	Method	Lithological Description	Ground Ice Description	Sample Type	Sample Number	Moisture Content (%)				Elevation (m)
							● Fracture Frequency (/m) ●			
							▲ RQD (%) ▲			
							■ Recovery (%) ■			
7.5						Plastic Limit Moisture Content Liquid Limit 20 40 60 80	2 4 6 8 40 60 80 100	40 60 80 100		
8		- at 8.27 and 8.30 m, inclined joint, slightly weathered, undulating, rough END OF BOREHOLE (8.30 metres)			R6					58
9										57
10										56
11										55
12										54
13										53
14										52
15										51



Contractor: Orbit Garant Drilling Inc.

Completion Depth: 8.3 m

Equipment Type: Skid mounted

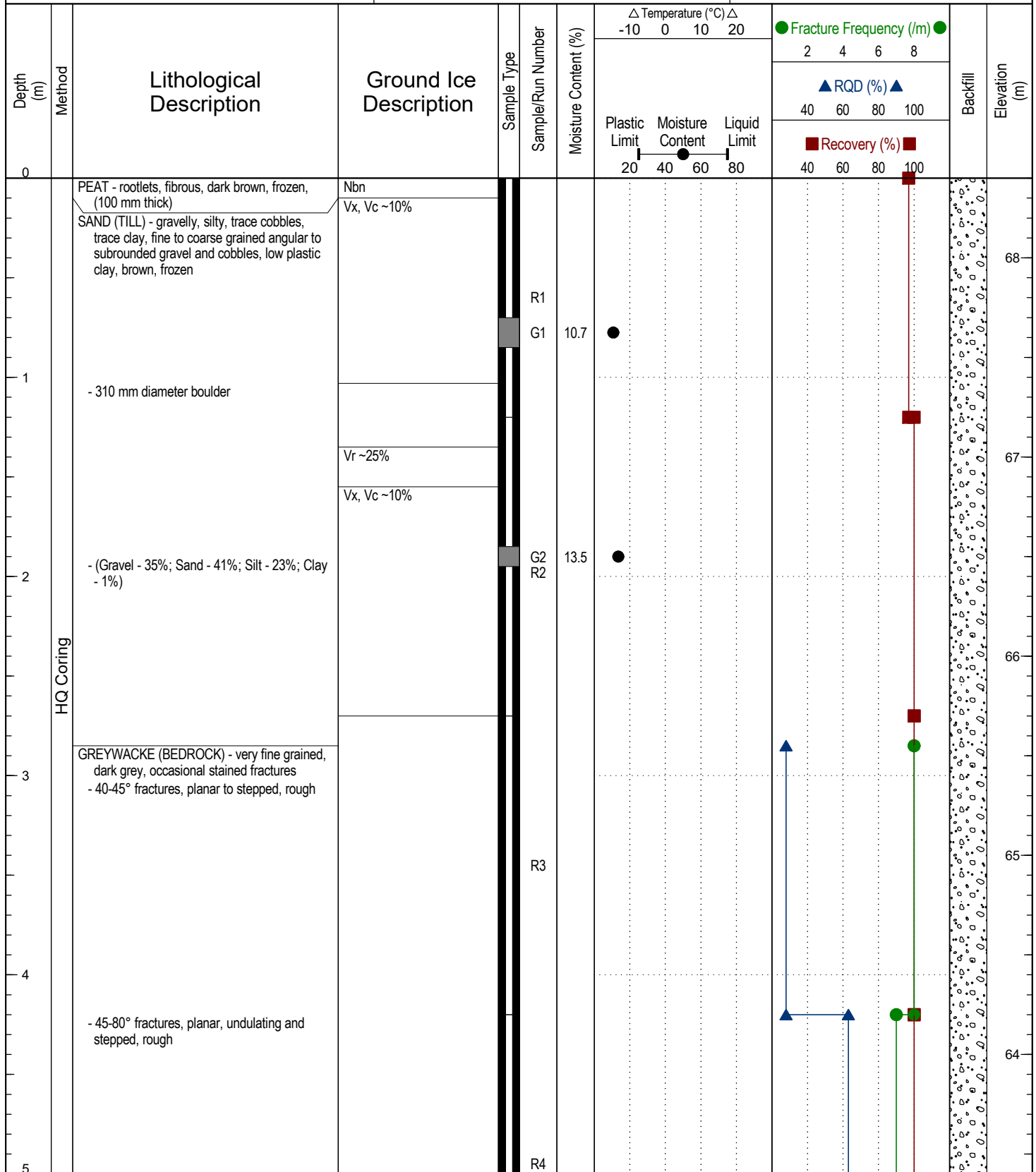
Start Date: 2024 January 26

Logged By: EP

Completion Date: 2024 January 26

Reviewed By: FN

Page 2 of 2





Borehole No: GT25-01

Project: 2025 Winter Site Investigation

Project No: ENG.EARC03140-42

Location: Meliadine Gold Mine

Ground Elev: 68.4 masl

Nunavut

UTM: 538034 E; 6989975 N; Z 15

Depth (m)	Method	Lithological Description	Ground Ice Description	Sample Type	Sample/Run Number	Moisture Content (%)	Δ Temperature (°C) Δ			● Fracture Frequency (/m) ●		Backfill	Elevation (m)				
							-10	0	10	20	2			4	6	8	
											▲ RQD (%) ▲						
							Plastic Limit	Moisture Content	Liquid Limit	40	60			80	100		
5							20	40	60	80	40	60	80	100			
	HQ Coring																
		END OF BOREHOLE (5.7 metres) Note: Backfilled at completion															
6																	
7																	
8																	
9																	
10																	



TETRA TECH

Contractor: Orbit Garant Drilling Inc.

Completion Depth: 5.7 m

Equipment Type: Skid mounted

Start Date: 2025 January 20

Logged By: CNH

Completion Date: 2025 January 20

Reviewed By: HX

Page 2 of 2

Borehole No: GT25-02

Project: 2025 Winter Site Investigation

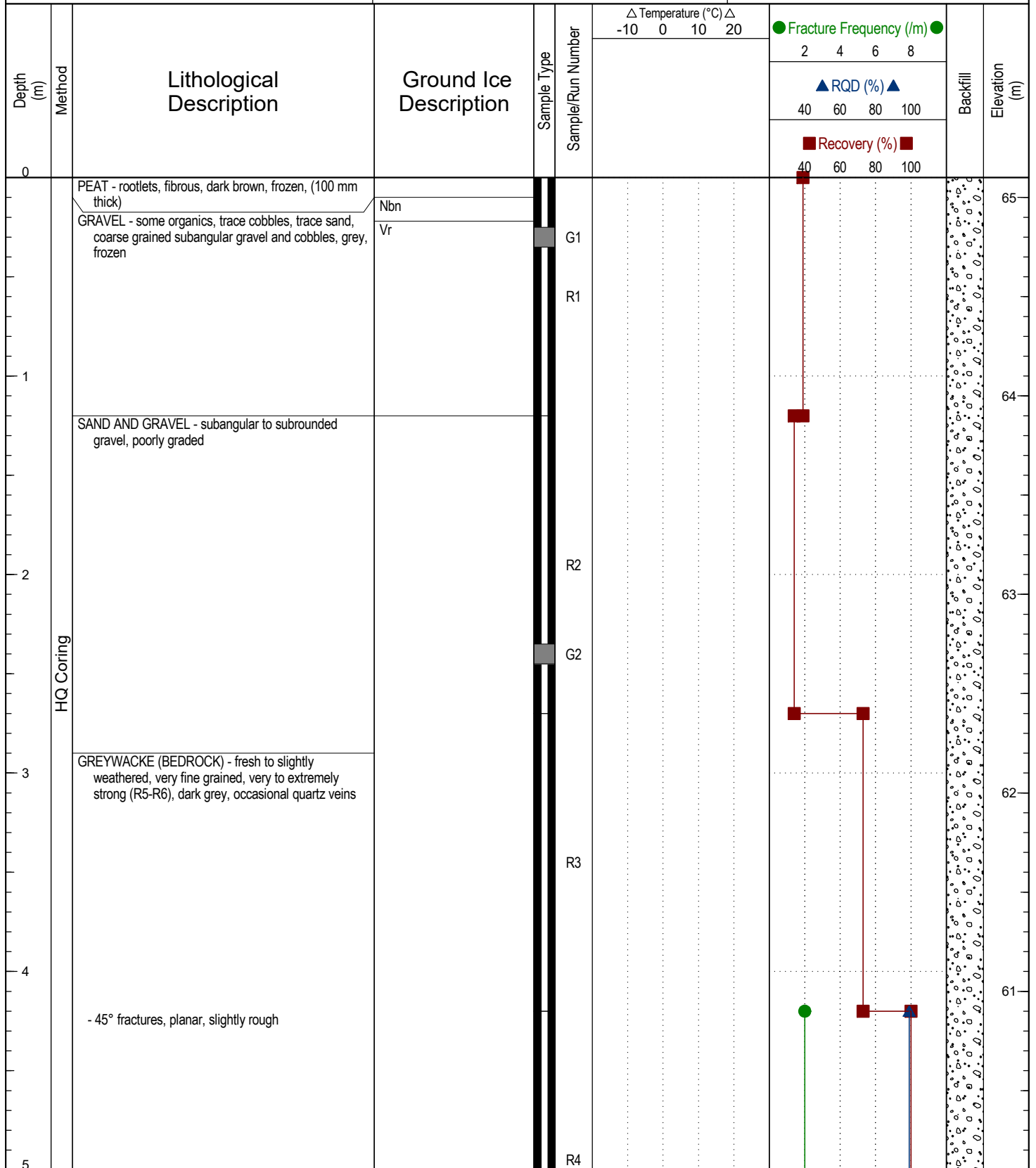
Project No: ENG.EARC03140-42

Location: Meliadine Gold Mine

Ground Elev: 65.1 masl

Nunavut

UTM: 537686 E; 6990127 N; Z 15





Borehole No: GT25-02

Project: 2025 Winter Site Investigation

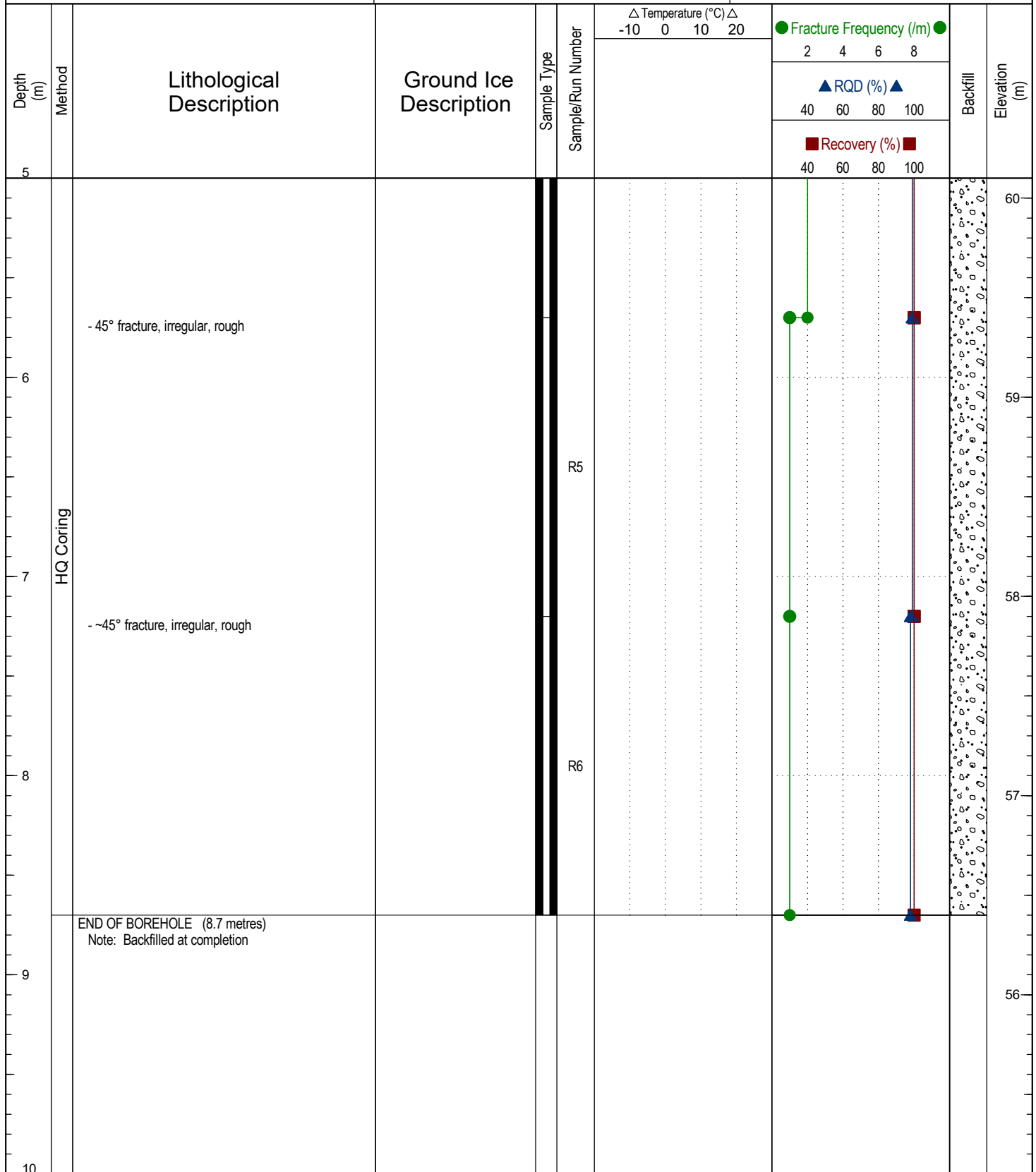
Project No: ENG.EARC03140-42

Location: Meliadine Gold Mine

Ground Elev: 65.1 masl

Nunavut

UTM: 537686 E; 6990127 N; Z 15



Contractor: Orbit Garant Drilling Inc.

Completion Depth: 8.7 m

Equipment Type: Skid mounted

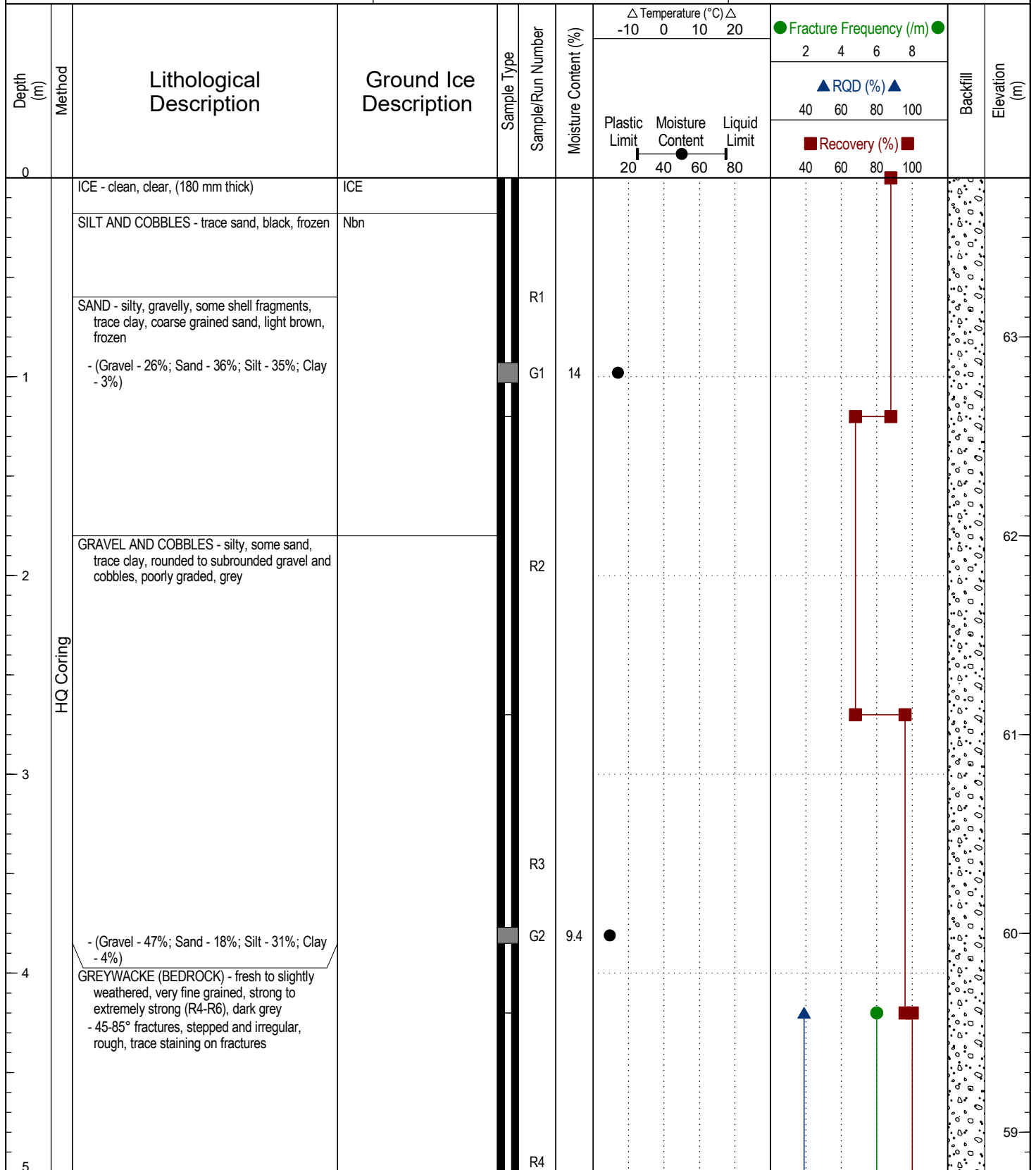
Start Date: 2025 January 24

Logged By: CNH

Completion Date: 2025 January 24

Reviewed By: HX

Page 2 of 2



Borehole No: GT25-03

Project: 2025 Winter Site Investigation

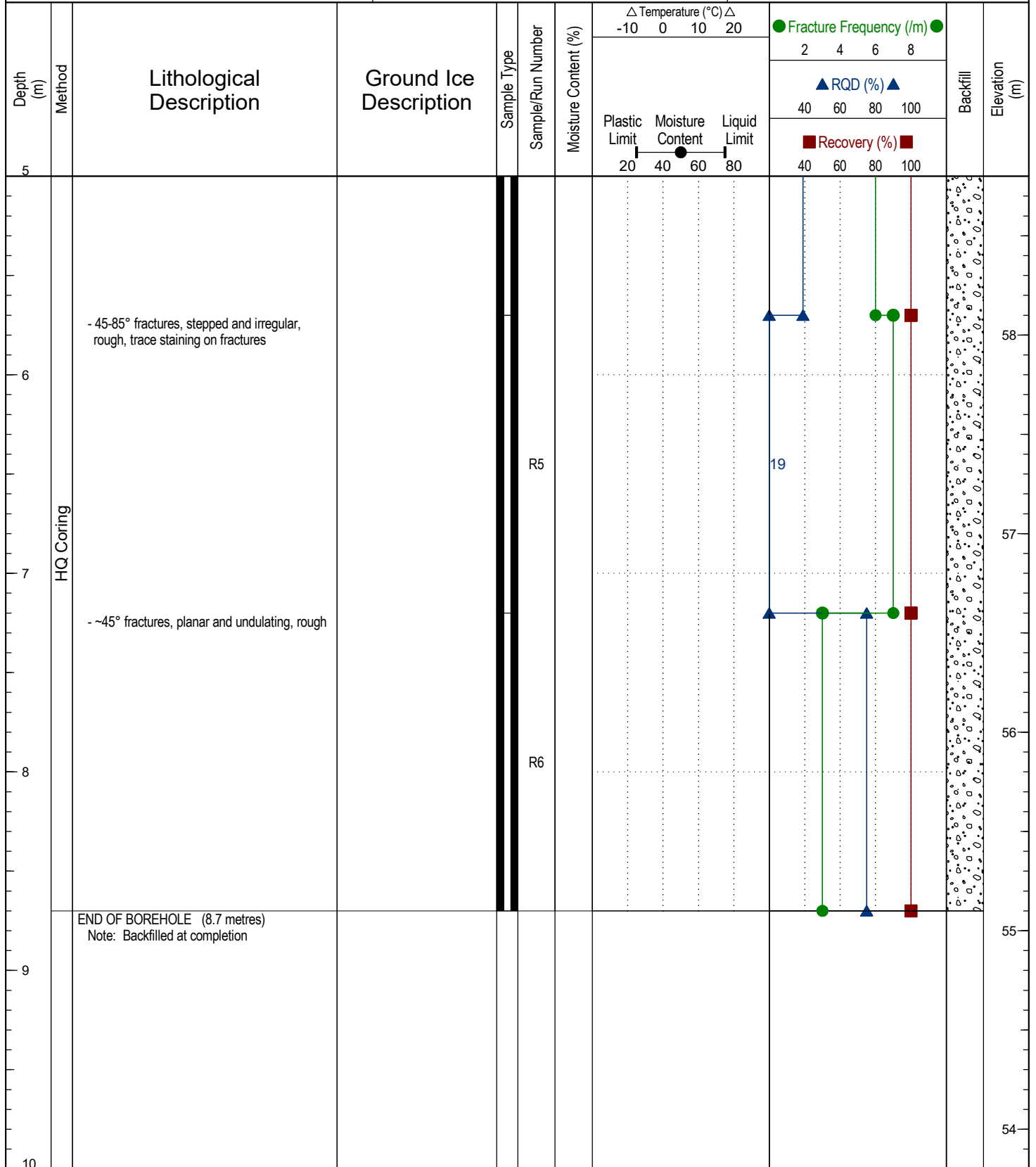
Project No: ENG.EARC03140-42

Location: Meliadine Gold Mine

Ground Elev: 63.8 masl

Nunavut

UTM: 537336 E; 6990200 N; Z 15



TETRA TECH

Contractor: Orbit Garant Drilling Inc.

Completion Depth: 8.7 m

Equipment Type: Skid mounted

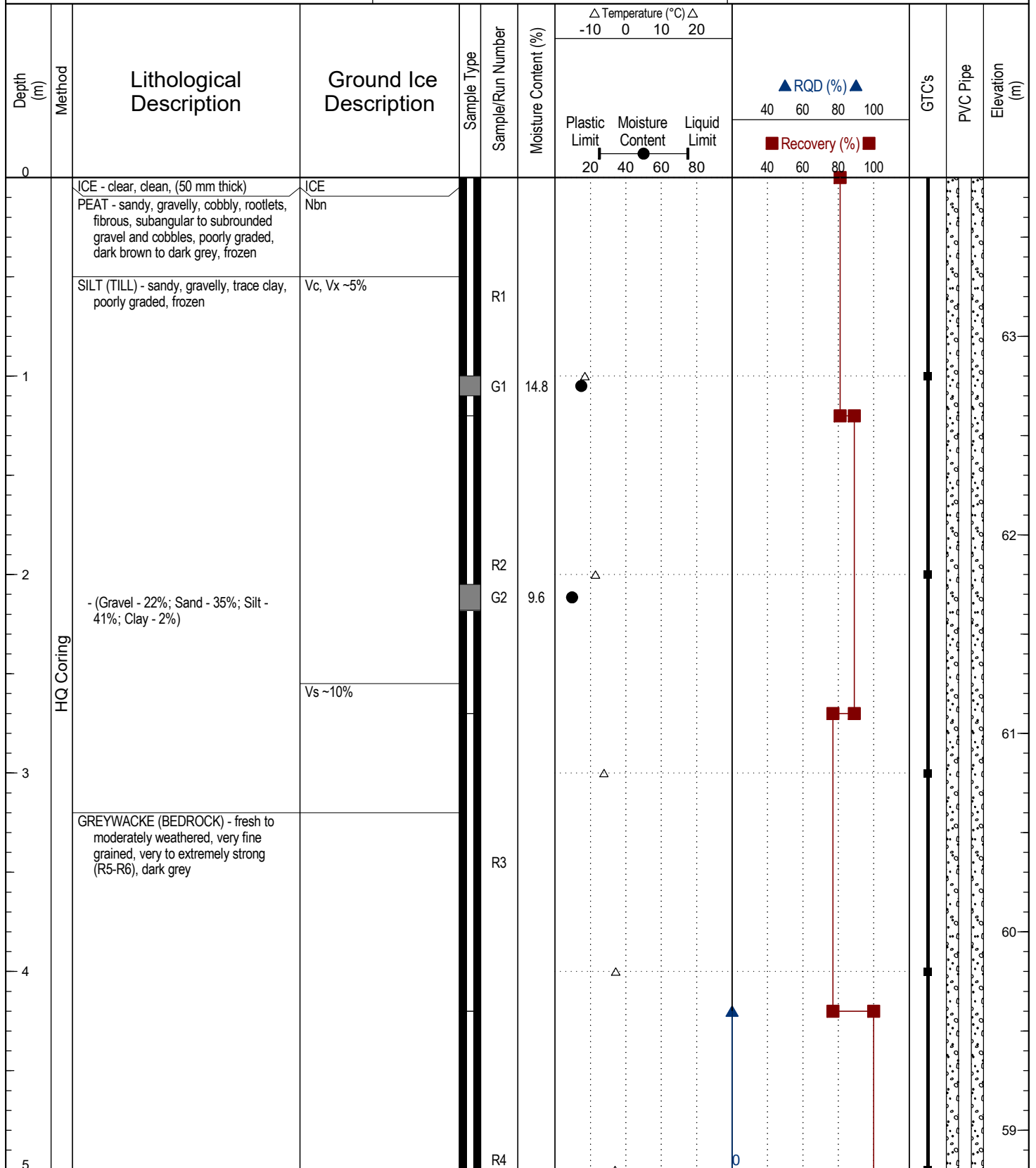
Start Date: 2025 January 22

Logged By: CNH

Completion Date: 2025 January 22

Reviewed By: HX

Page 2 of 2



Borehole No: GT25-04

Project: 2025 Winter Site Investigation

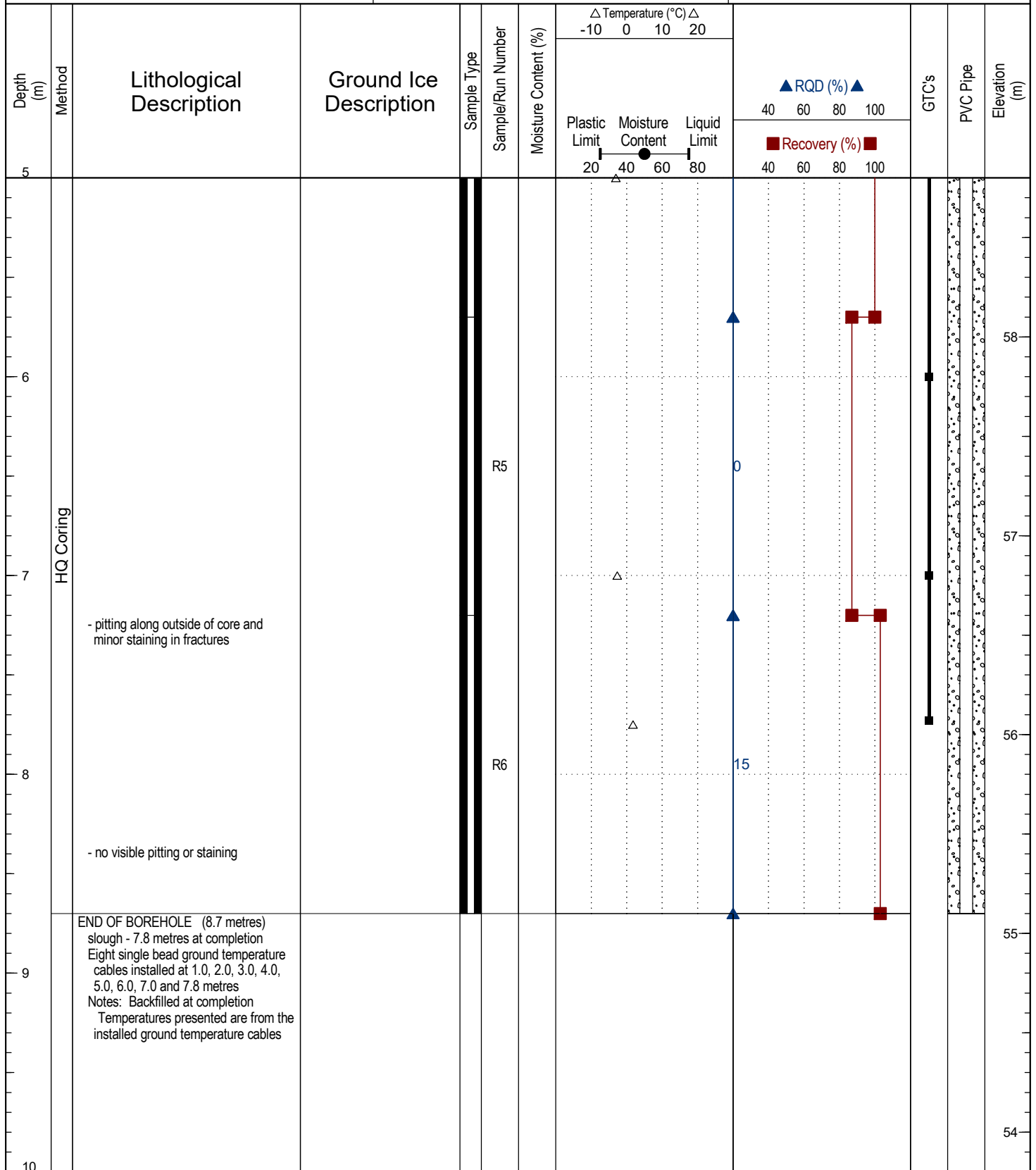
Project No: ENG.EARC03140-42

Location: Meliadine Gold Mine

Ground Elev: 63.8 masl

Nunavut

UTM: 537384 E; 6990252 N; Z 15



TETRA TECH

Contractor: Orbit Garant Drilling Inc.

Completion Depth: 8.7 m

Equipment Type: Skid mounted

Start Date: 2025 January 24

Logged By: CNH/DS

Completion Date: 2025 January 24

Reviewed By: HX

Page 2 of 2

Borehole No: GT25-05

Project: 2025 Winter Site Investigation

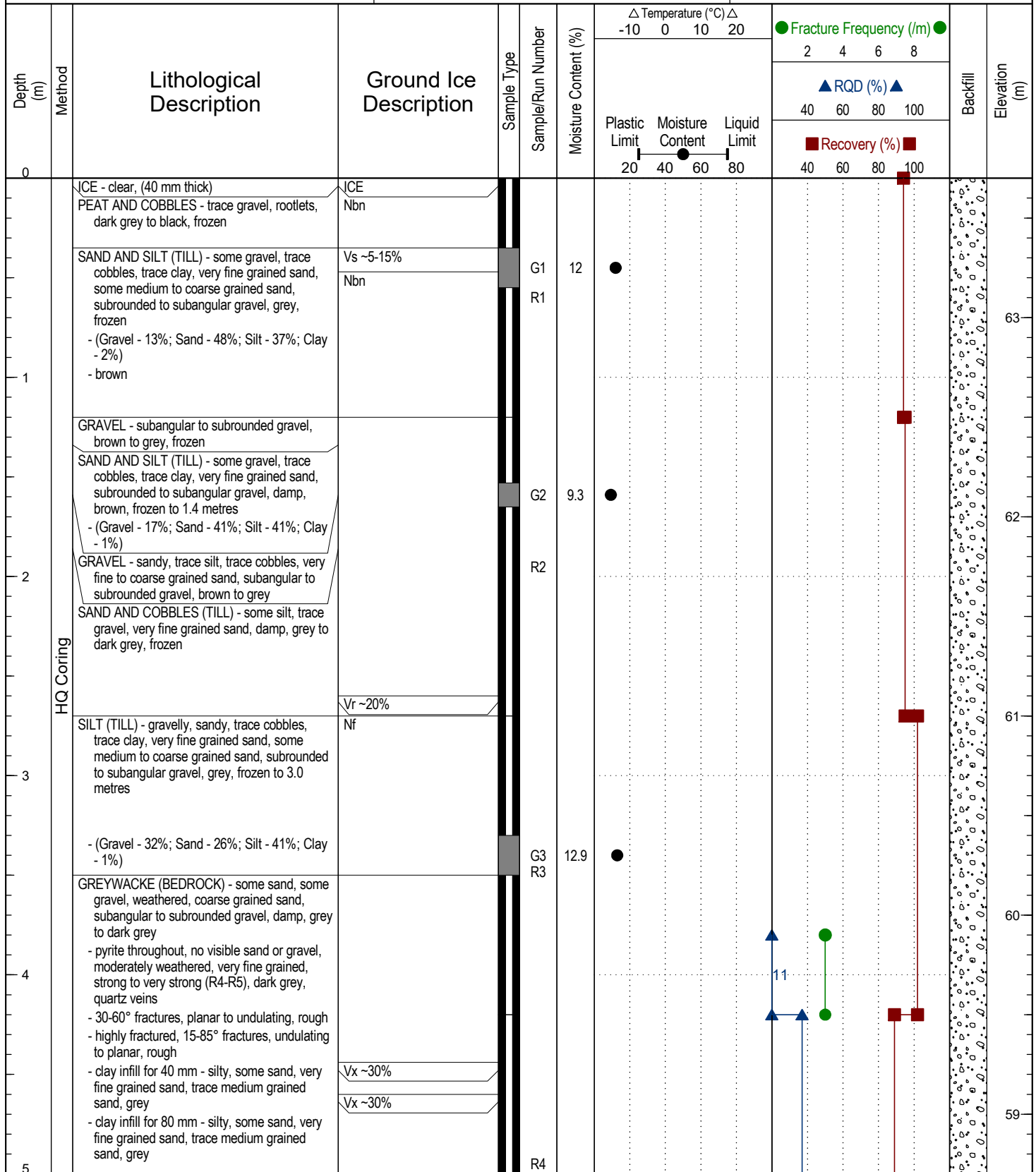
Project No: ENG.EARC03140-42

Location: Meliadine Gold Mine

Ground Elev: 63.7 masl

Nunavut

UTM: 537331 E; 6990280 N; Z 15



TETRA TECH

Contractor: Orbit Garant Drilling Inc.

Completion Depth: 8.7 m

Equipment Type: Skid mounted

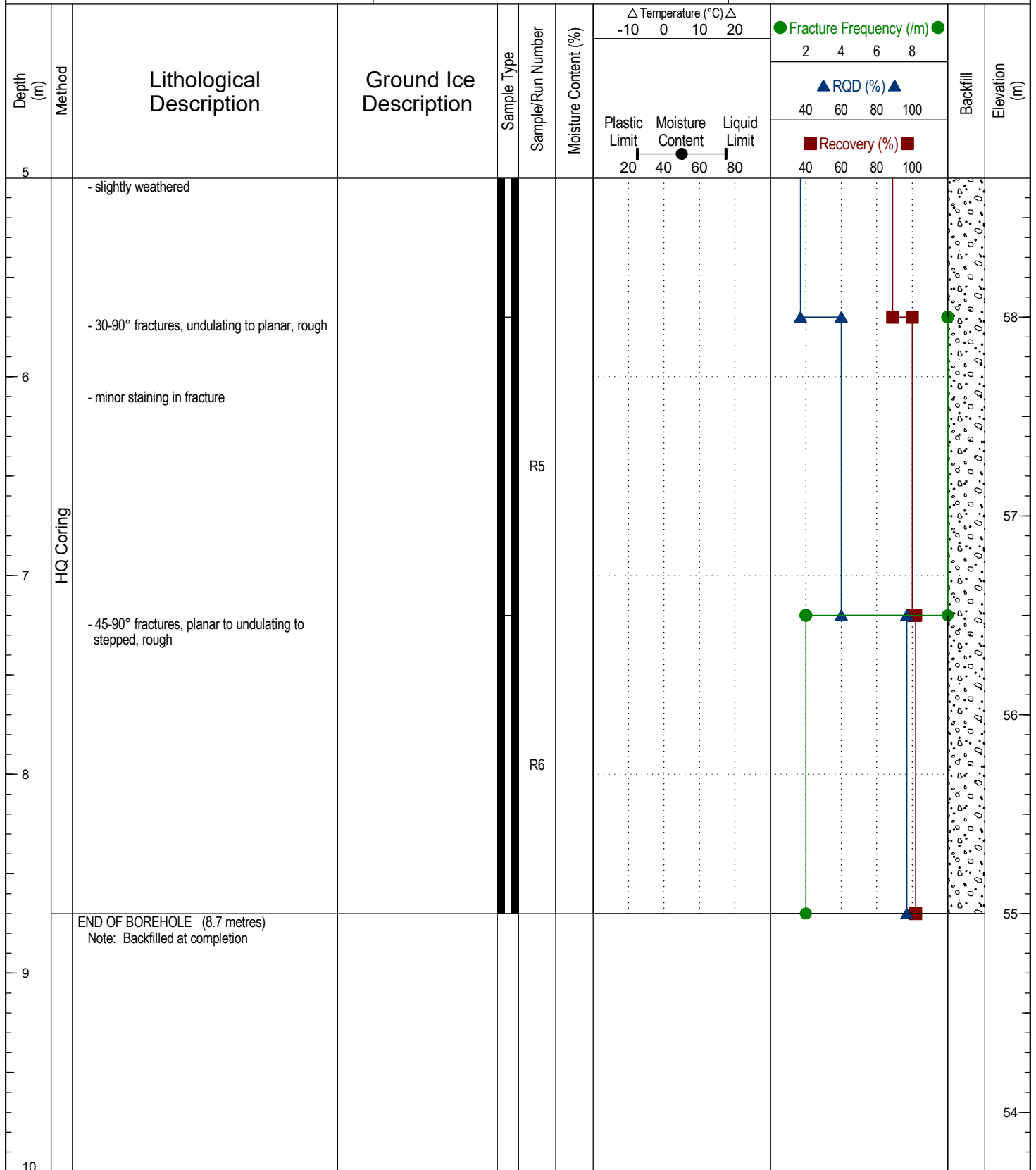
Start Date: 2025 January 24

Logged By: DS

Completion Date: 2025 January 24

Reviewed By: HX

Page 1 of 2



TETRA TECH

Contractor: Orbit Garant Drilling Inc.

Completion Depth: 8.7 m

Equipment Type: Skid mounted

Start Date: 2025 January 24

Logged By: DS

Completion Date: 2025 January 24

Reviewed By: HX

Page 2 of 2

Borehole No: GT25-06

Project: 2025 Winter Site Investigation

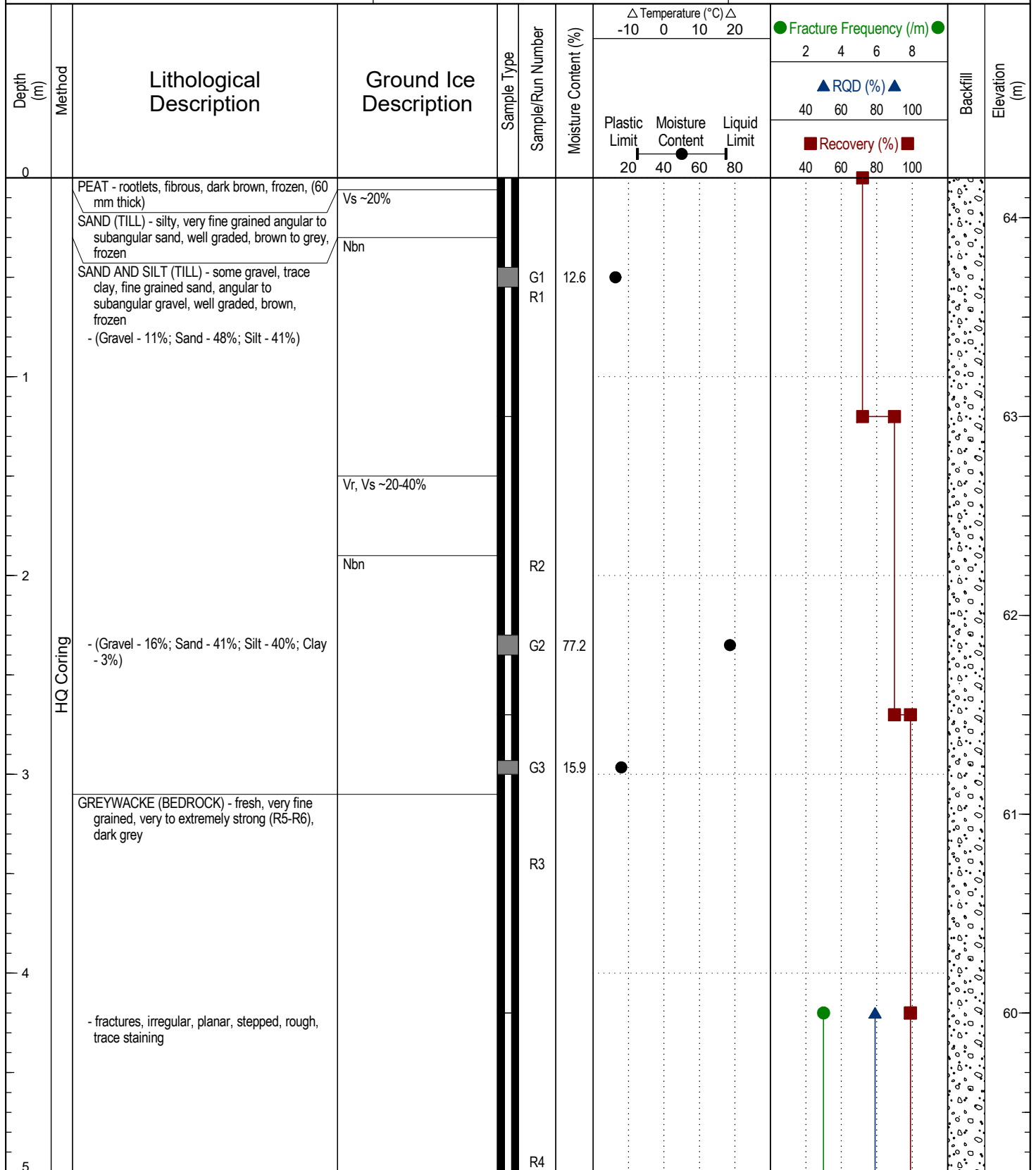
Project No: ENG.EARC03140-42

Location: Meliadine Gold Mine

Ground Elev: 64.2 masl

Nunavut

UTM: 537426 E; 6990230 N; Z 15



TETRA TECH

Contractor: Orbit Garant Drilling Inc.

Completion Depth: 7.2 m

Equipment Type: Skid mounted

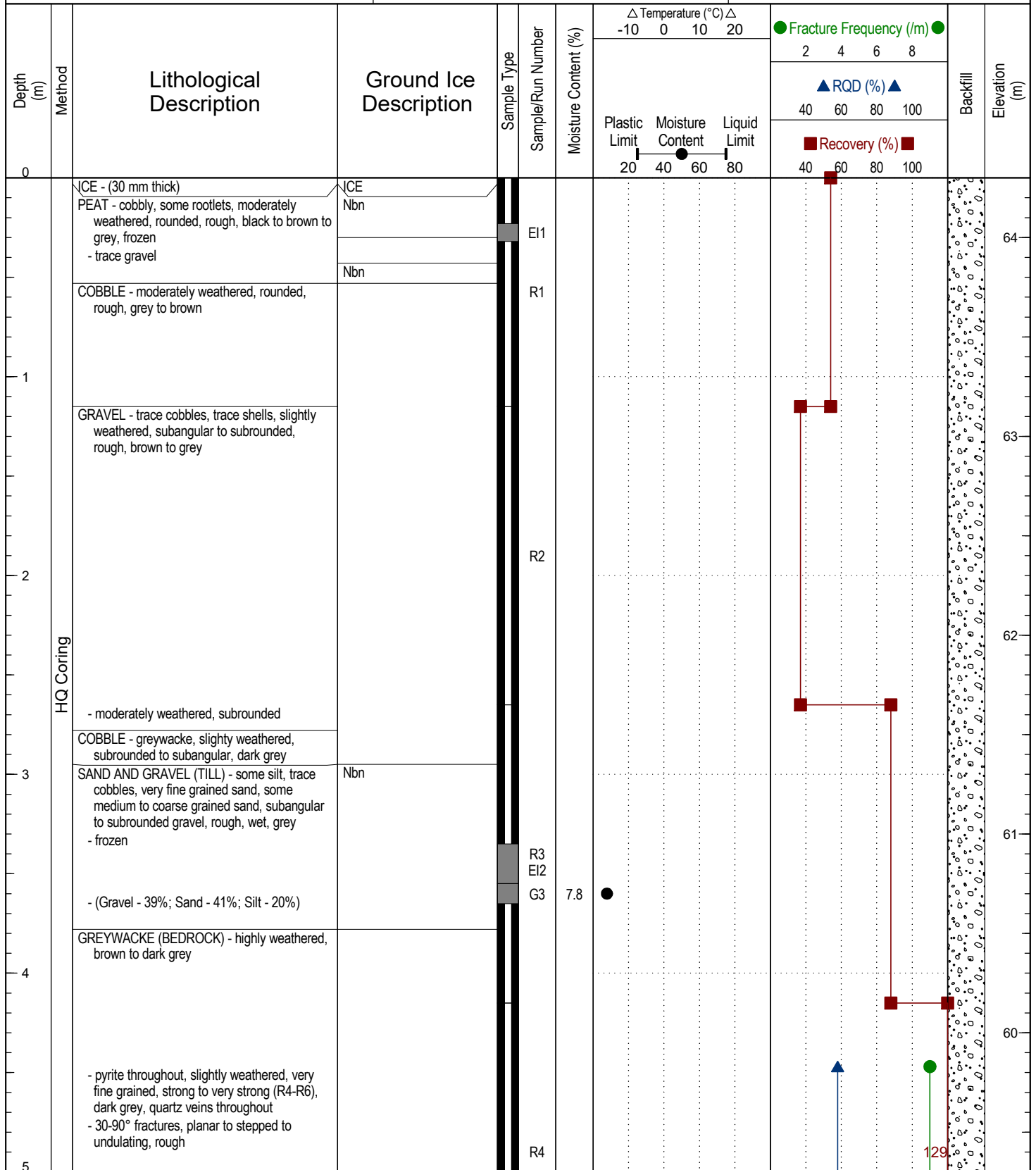
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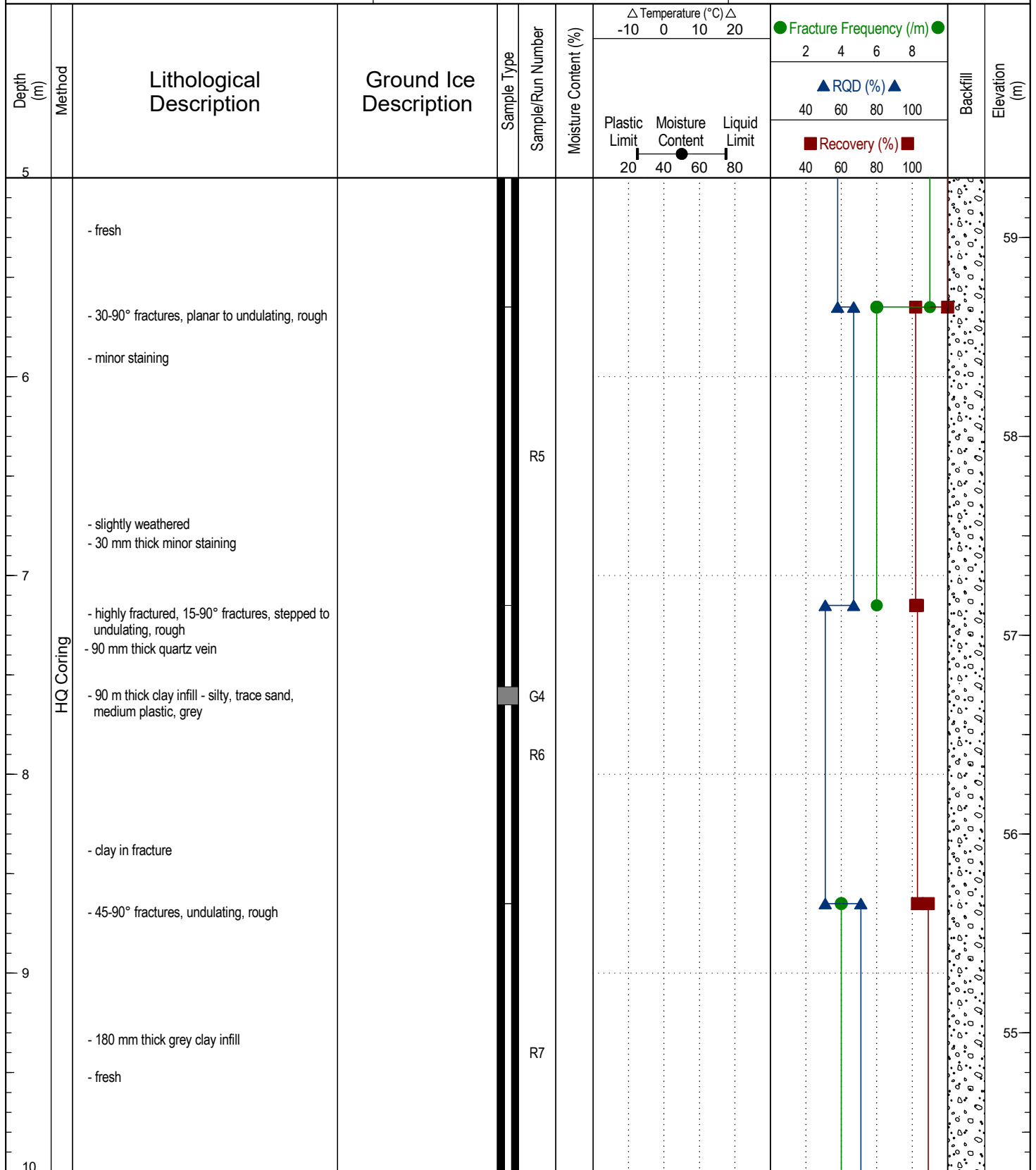
Logged By: CNH

Completion Date: 2025 January 22

Reviewed By: HX

Page 1 of 2







Borehole No: GT25-07

Project: 2025 Winter Site Investigation

Project No: ENG.EARC03140-42

Location: Meliadine Gold Mine

Ground Elev: 64.3 masl

Nunavut

UTM: 537387 E; 6990325 N; Z 15

Depth (m)	Method	Lithological Description	Ground Ice Description	Sample Type	Sample/Run Number	Moisture Content (%)	Δ Temperature (°C) Δ		Fracture Frequency (/m)		Backfill	Elevation (m)				
							-10	0	10	20			2	4	6	8
													RQD (%)			
				Plastic Limit Moisture Content Liquid Limit				Recovery (%)								
				20 40 60 80				40 60 80 100								
10																
11	HQ Coring	- 15-90° fractures, planar to undulating, rough			R8							54				
12		END OF BOREHOLE (11.7 metres) Note: Backfilled at completion										52				
13												51				
14												50				
15																



Contractor: Orbit Garant Drilling Inc.

Completion Depth: 11.7 m

Equipment Type: Skid mounted

Start Date: 2025 January 23

Logged By: DS

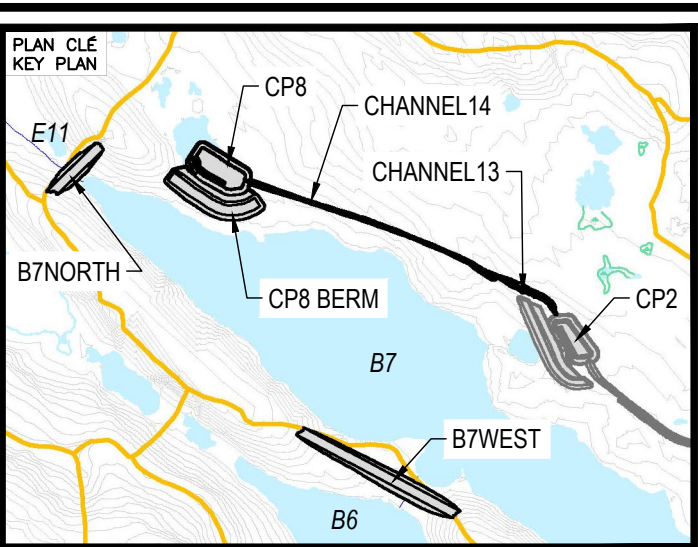
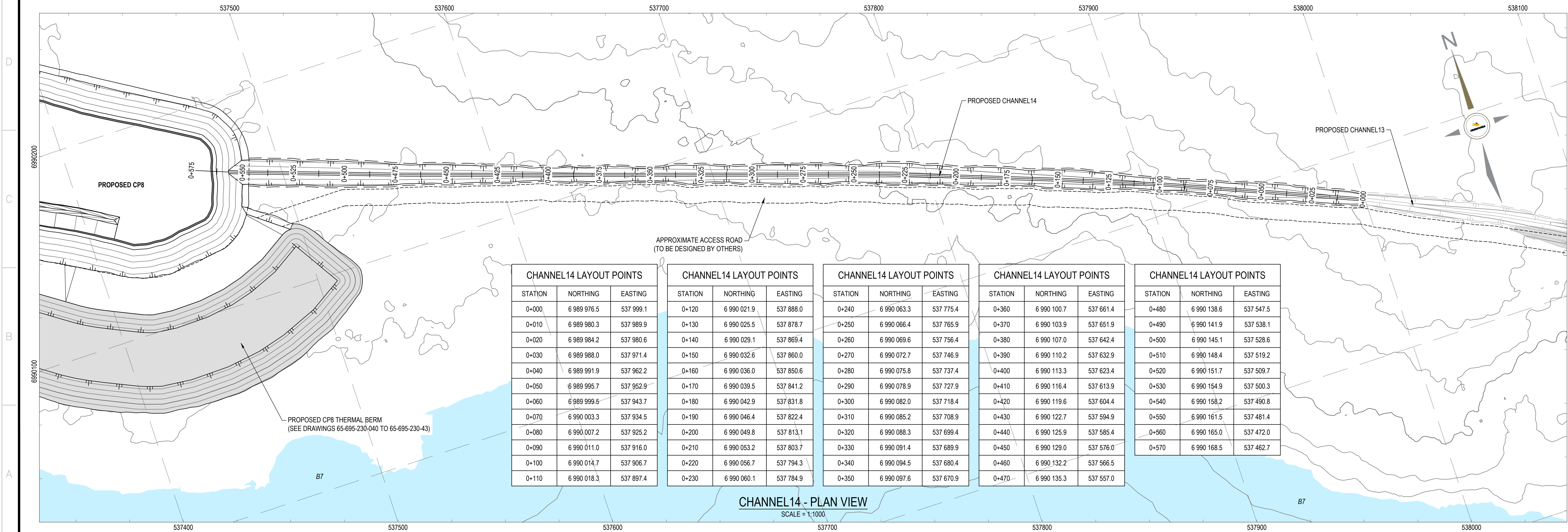
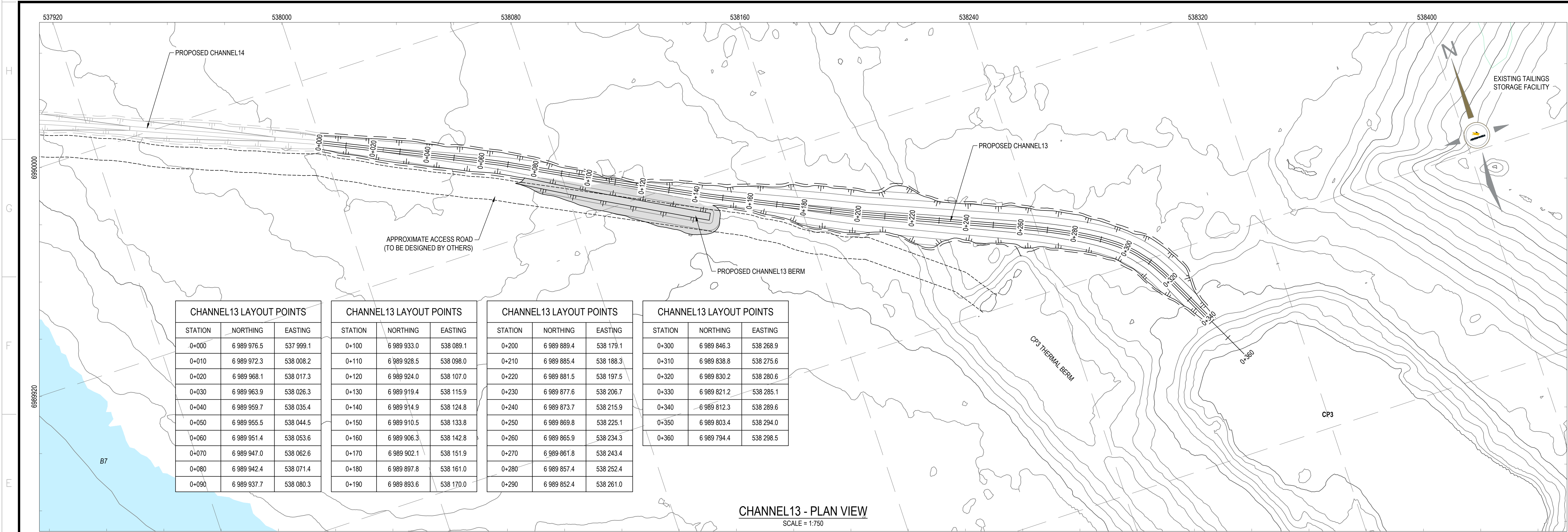
Completion Date: 2025 January 23

Reviewed By: HX

Page 3 of 3

APPENDIX B

ISSUED FOR CONSTRUCTION DRAWINGS FOR CHANNEL13 AND CHANNEL14



NOTES GÉNÉRALES / GENERAL NOTES

1. ASSUMED CONSTRUCTION SCHEDULE WINTER 2025 / 2026
2. ASSUMED GEOTEXTILE THAT MEETS MATERIAL SPECIFICATION WILL BE AVAILABLE AT SITE FOR CHANNEL CONSTRUCTION.
3. MATERIAL PLACEMENT AND FOUNDATION PREPARATION SHOULD BE IN ACCORDANCE WITH THE REQUIREMENTS OF GEOTECHNICAL CONSTRUCTION / MATERIAL SPECIFICATIONS (TETRA TECH 2025).
4. EXISTING GROUND CONTOUR BASED ON THE SURVEY TAKEN BY AGNICO EAGLE ON JULY 19, 2021.

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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DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITLE / TITRE	# DWG



REV.	DATE	ISSUED FOR CONSTRUCTION	DS	HX

REV.	DATE	DESCRIPTION	PAR/REV	APP.	CLIENT

REVISIONS

TITLE / TITRE	DATE
AGNICO EAGLE MELIADINE GOLD MINE	2025-11-14

TITLE / TITRE	DATE
CHANNEL 13 AND CHANNEL 14 LAYOUT PLAN	2025-11-14

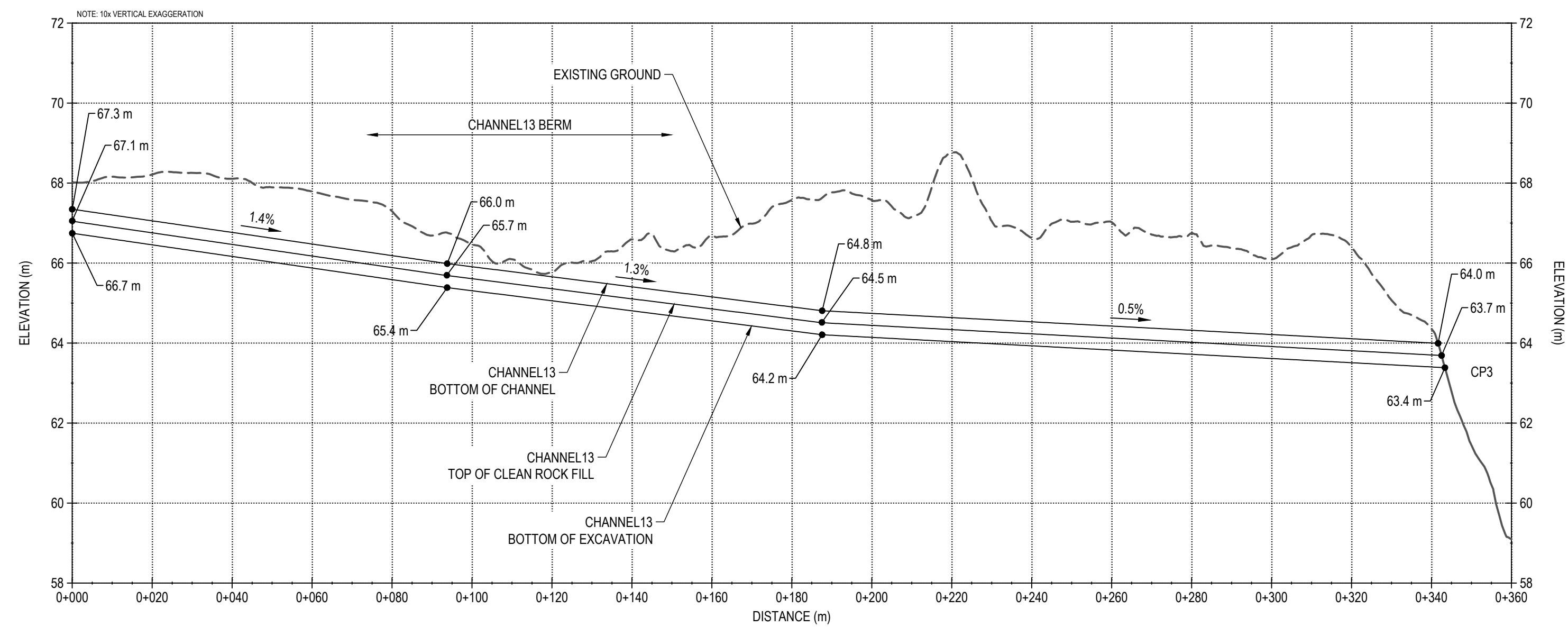
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VERIFIÉ PAR CHECKED BY	DS	2025-11-14
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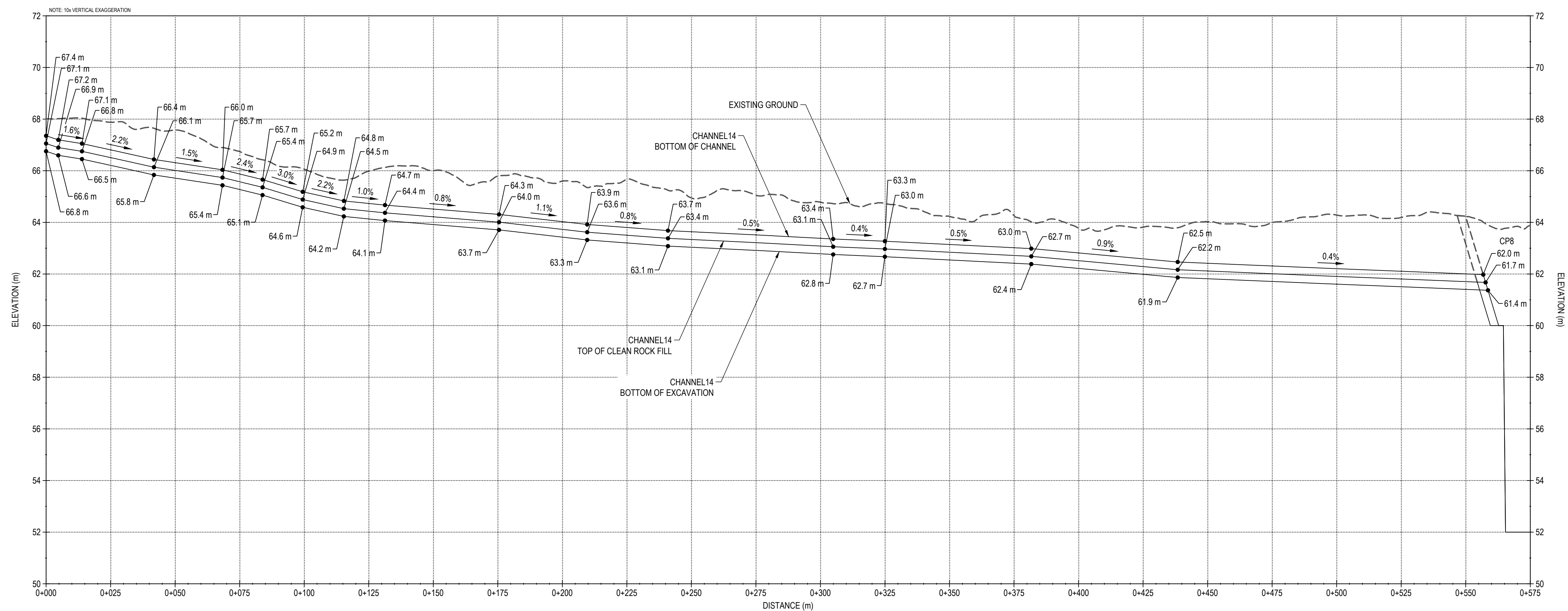
APPROUVE PAR APPROVED BY	HX	2025-11-14
ÉCHELLE	DATE	

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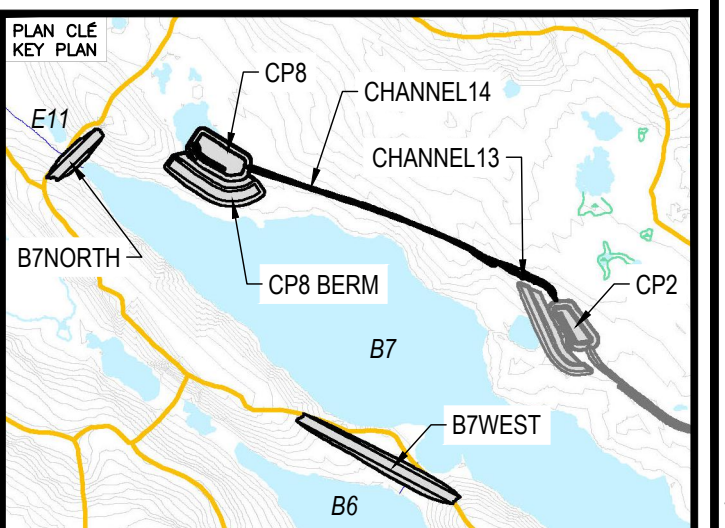
NO. PROJET	65	FEUILLE / SH	6 / 15
NO. PROJET	65	FEUILLE / SH	6 / 15



CHANNEL 13 PROFILE
SCALE: H-1:1000 V-1:100



CHANNEL 14 PROFILE
SCALE: H-1:1000 V-1:100



NOTES GÉNÉRALES / GENERAL NOTES

1. ASSUMED CONSTRUCTION SCHEDULE WINTER 2025 / 2026
2. ASSUMED GEOTEXTILE THAT MEETS MATERIAL SPECIFICATION WILL BE AVAILABLE AT SITE FOR CHANNEL CONSTRUCTION.
3. MATERIAL PLACEMENT AND FOUNDATION PREPARATION SHOULD BE IN ACCORDANCE WITH THE REQUIREMENTS OF GEOTECHNICAL CONSTRUCTION / MATERIAL SPECIFICATIONS (TETRA TECH 2025).
4. EXISTING GROUND SURFACE BASED ON THE SURVEY TAKEN BY AGNICO EAGLE ON JULY 19, 2021.

LEGEND

- ① CLEAN ROCKFILL FROM EXCAVATION (600 mm MINUS)
② RIP RAP

**PERMIT TO PRACTICE
TETRA TECH CANADA INC.**

Signature _____

Date _____

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

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DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

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REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT	

REVISIONS

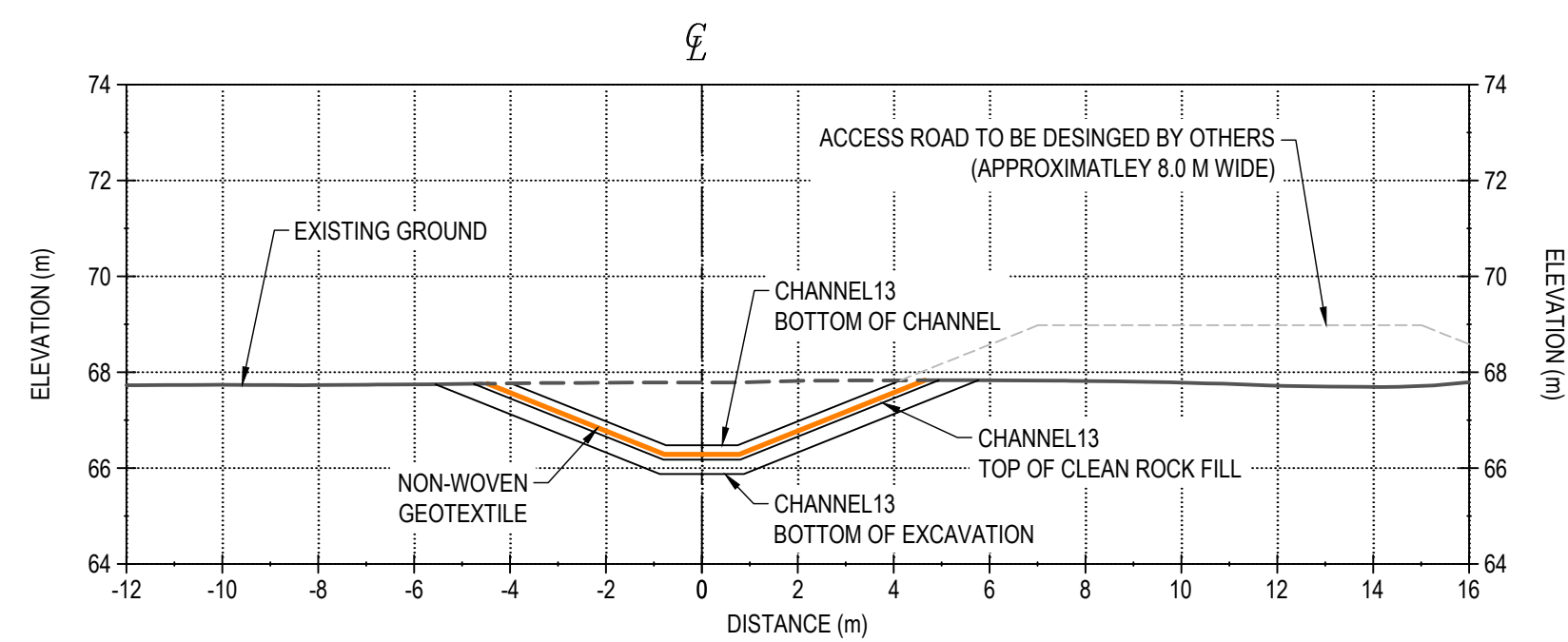
TITLE / TITRE
AGNICO EAGLE MELIADINE GOLD MINE

CHANNEL13 AND CHANNEL14
PROFILES

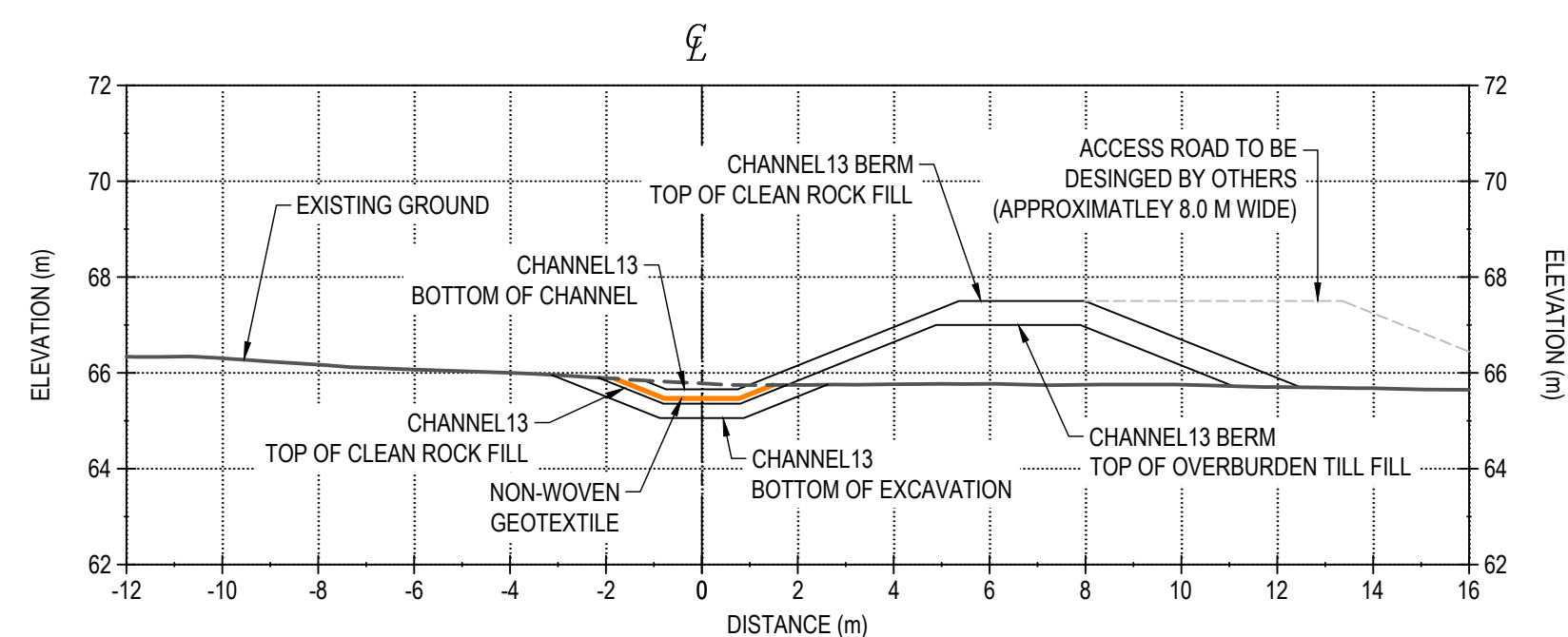
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VÉRIFIÉ PAR CHECKED BY	DS	2025-11-14
APPROUVÉ PAR APPROVED BY	HX	2025-11-14

ÉCHELLE SCALE	AS SHOWN	DATE	2025-11-14
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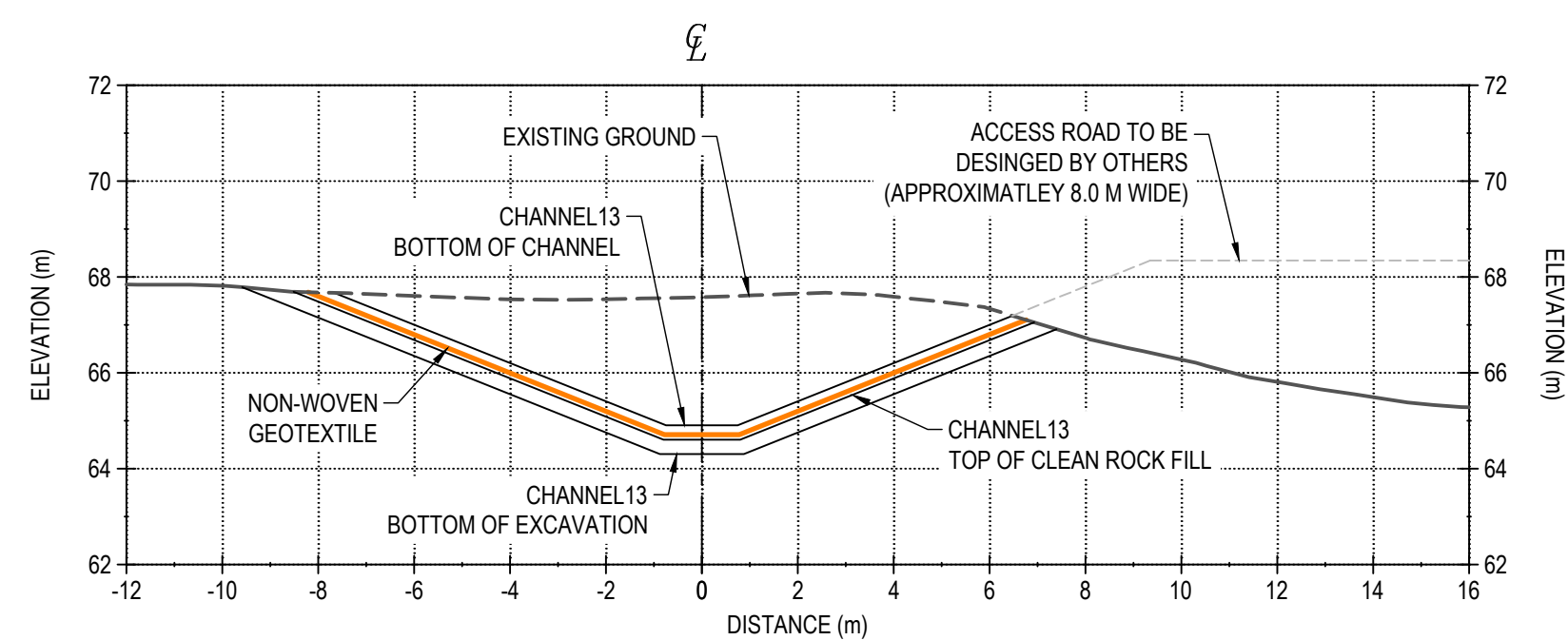
NO. PROJ. PROJECT NO. 65	REVISION	FEUILLE / SHT
	0	7 / 15



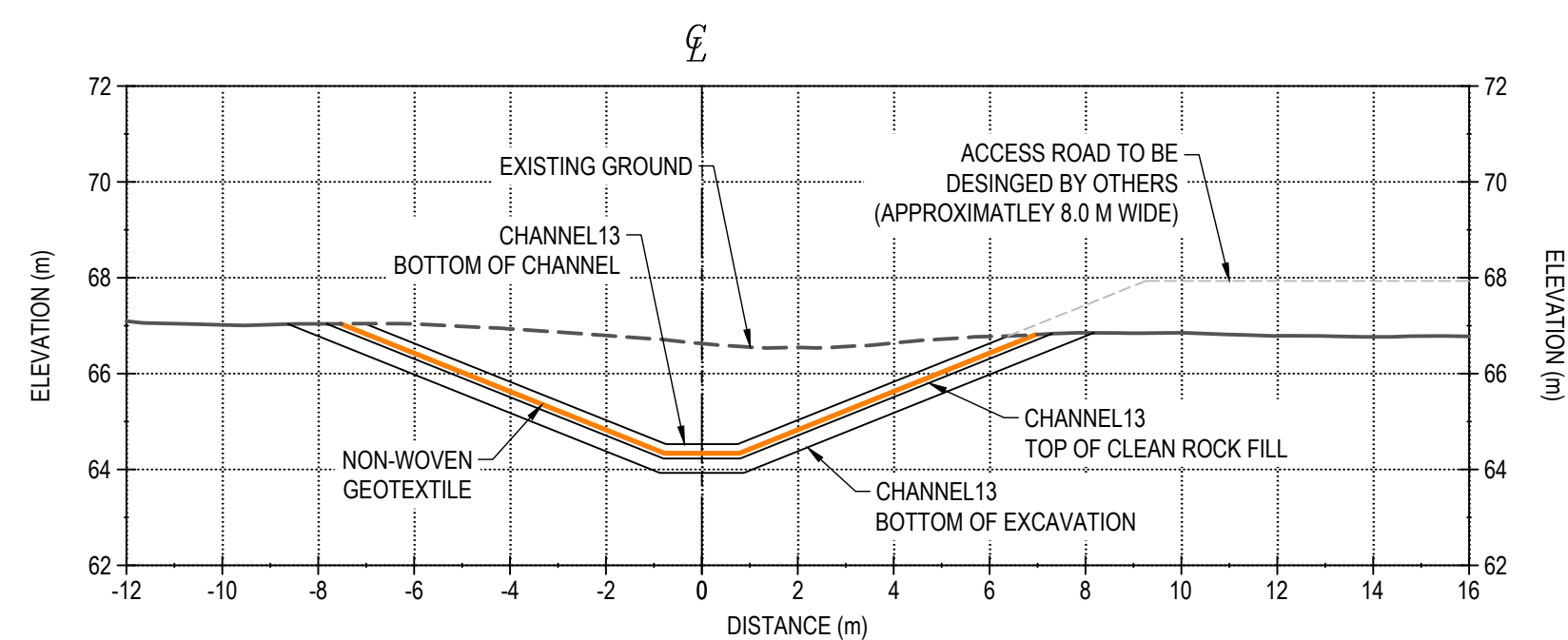
CHANNEL 13 - STATION 0+060



CHANNEL13 - STATION 0+120



CHANNEL 13 - STATION 0+180



CHANNEL13 - STATION 0+240



1. ASSUMED CONSTRUCTION SCHEDULE WINTER 2025 / 2026
2. ASSUMED GEOTEXTILE THAT MEETS MATERIAL SPECIFICATION WILL BE AVAILABLE AT SITE FOR CHANNEL CONSTRUCTION.
3. MATERIAL PLACEMENT AND FOUNDATION PREPARATION SHOULD BE IN ACCORDANCE WITH THE REQUIREMENTS OF GEOTECHNICAL CONSTRUCTION / MATERIAL SPECIFICATIONS (TETRA TECH 2025).
4. EXISTING GROUND SURFACE BASED ON THE SURVEY TAKEN BY AGNICO EAGLE ON JULY 19, 2021.

Engineers and Geoscientists

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REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT

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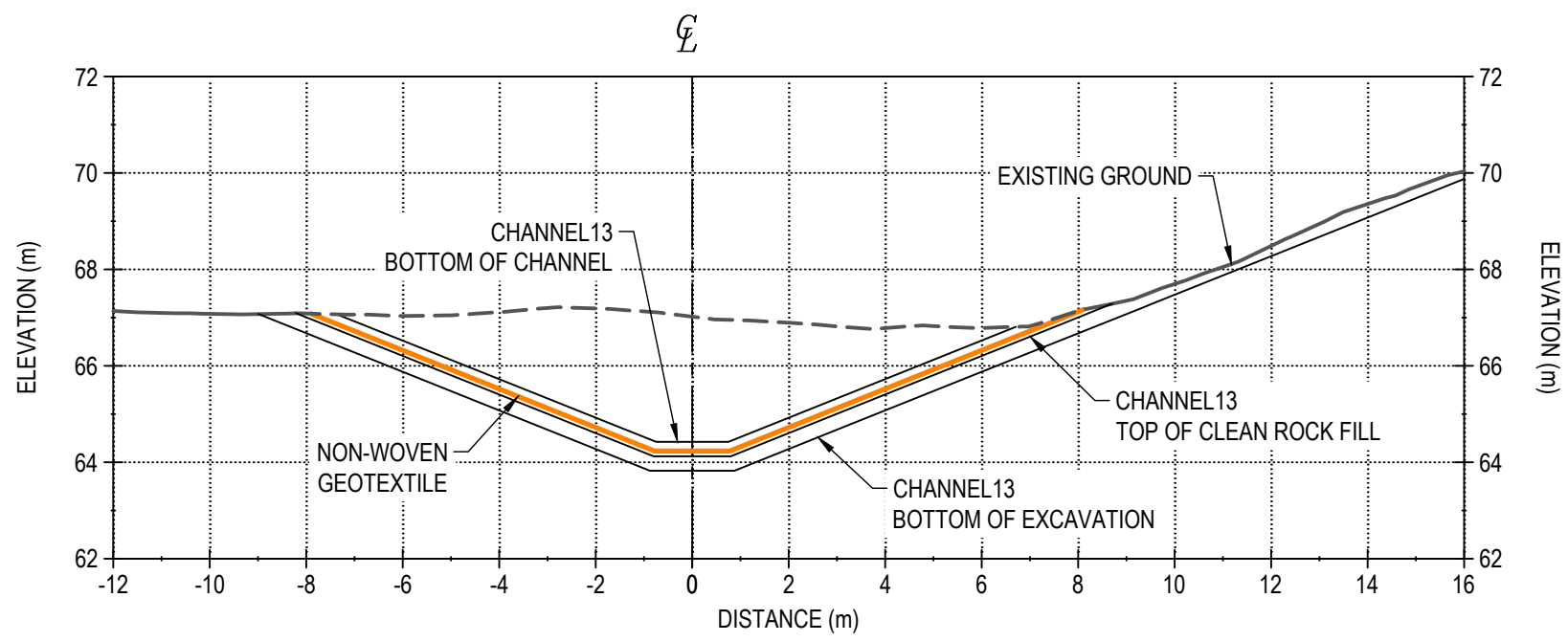
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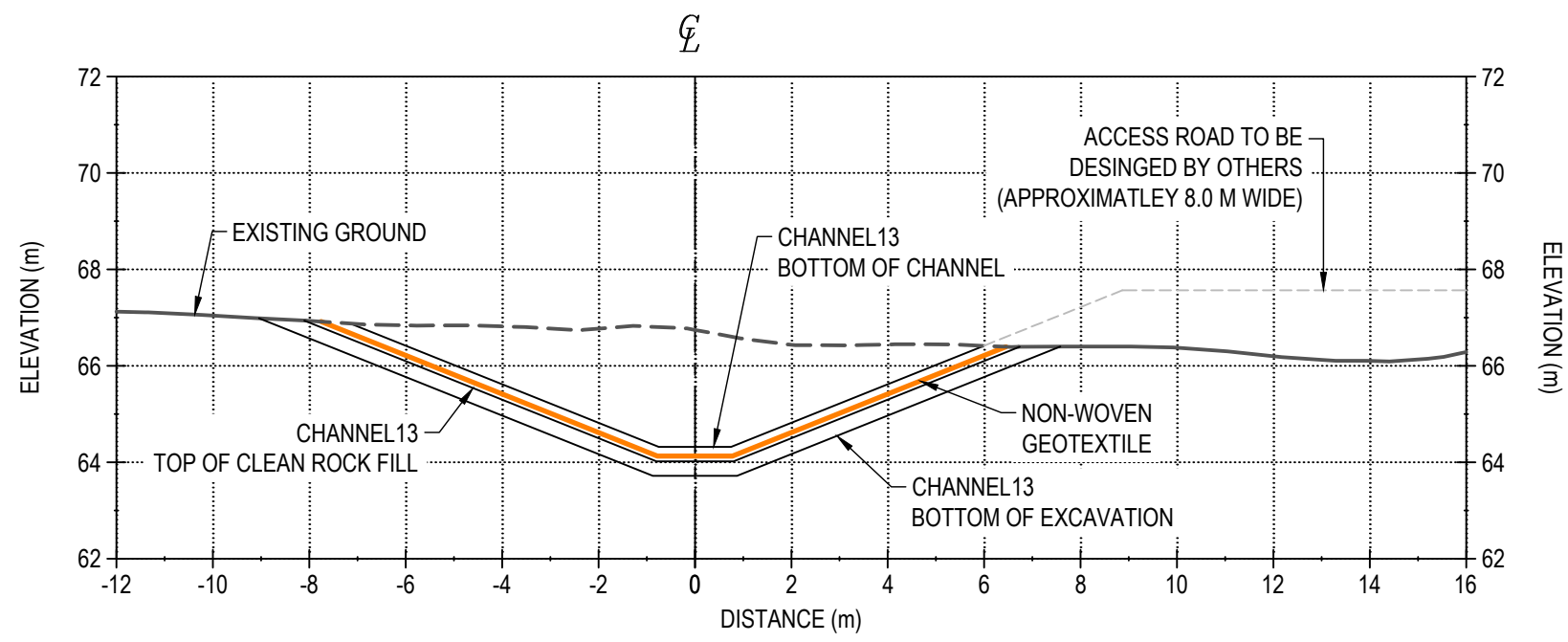
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DRAWING NO. 65-695-230-047-1

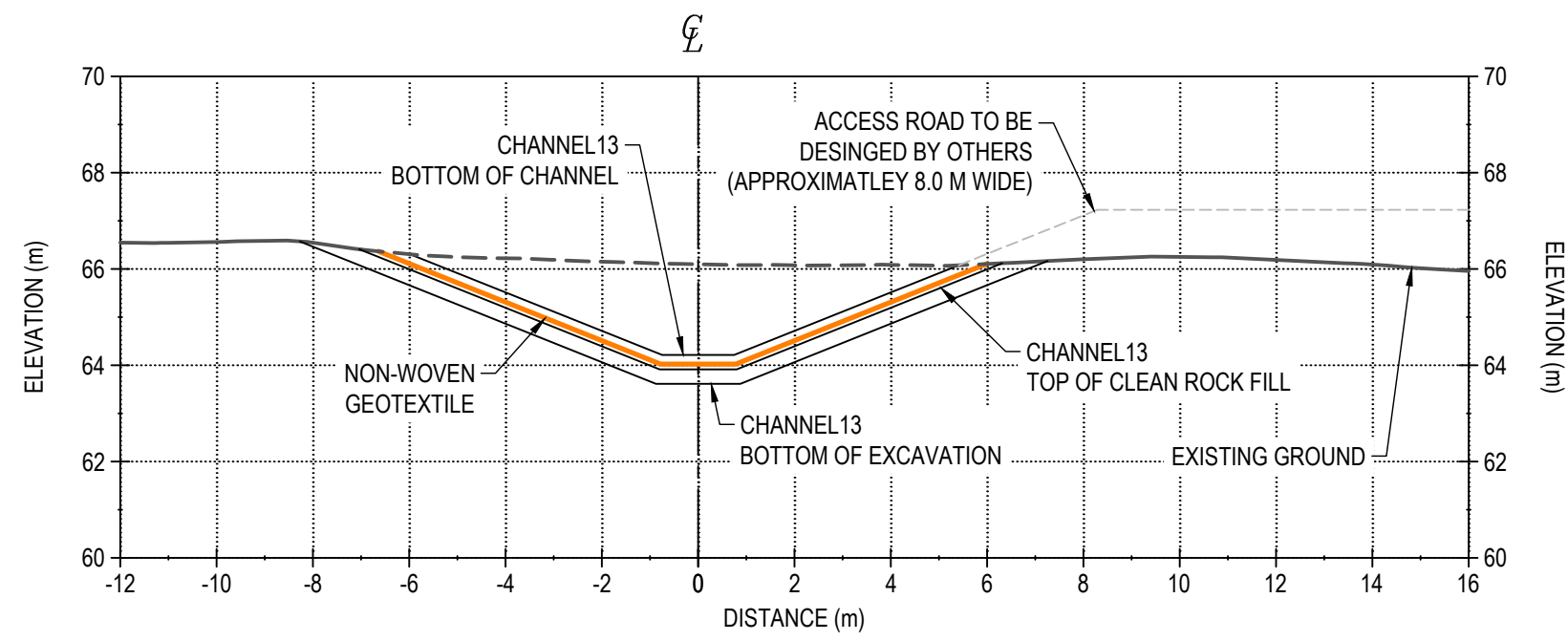
NO. PROJ PROJECT NO.	REVISION	FEUILLE / SHT
65	0	8 / 15



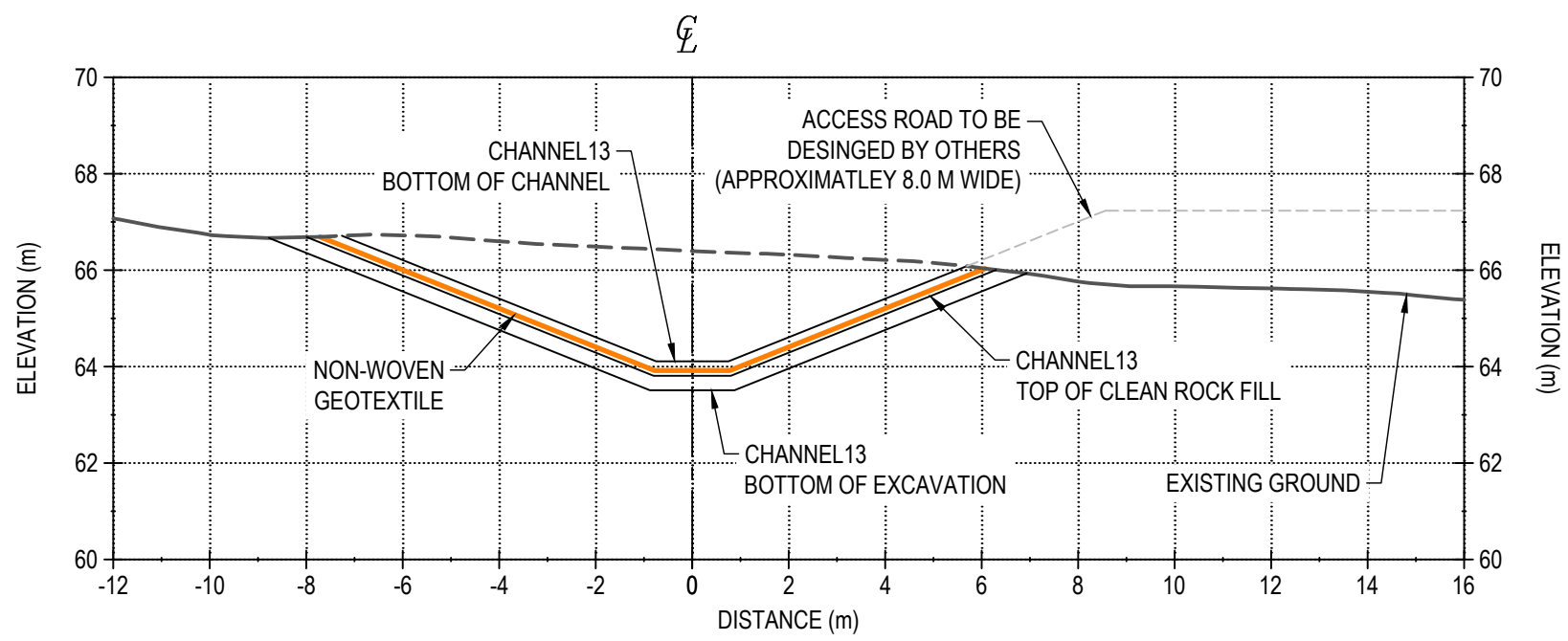
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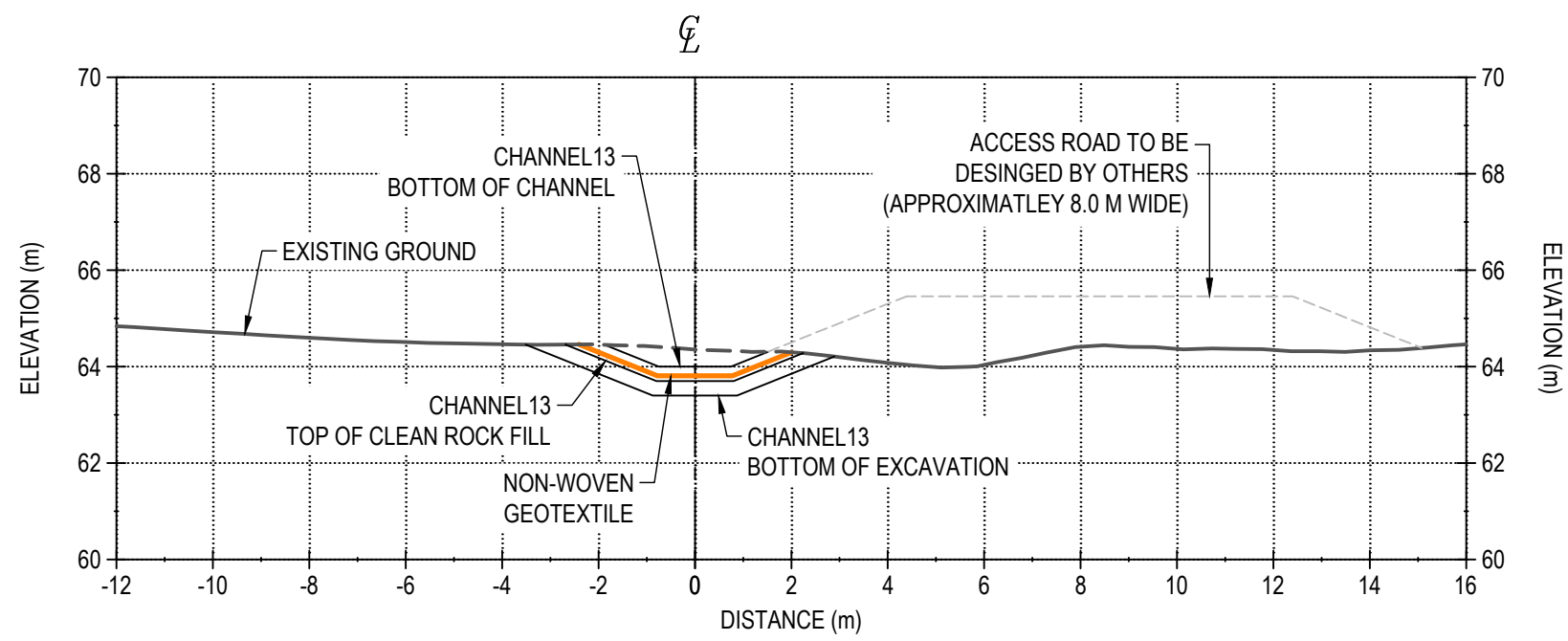
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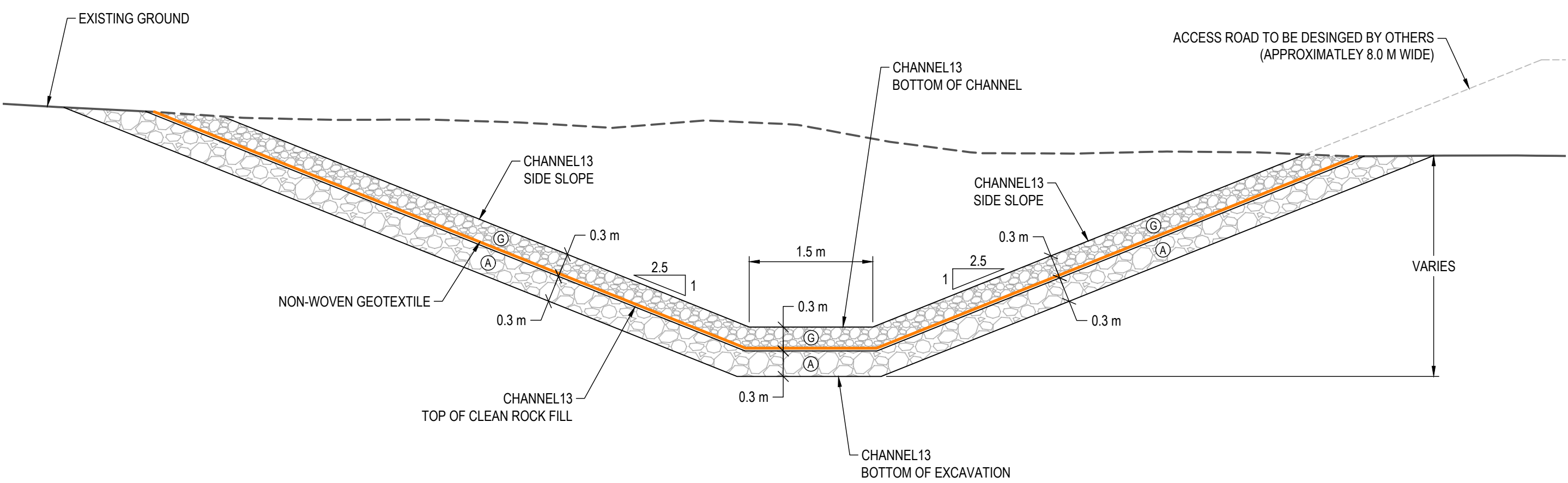
CHANNEL13 - STATION 0+300



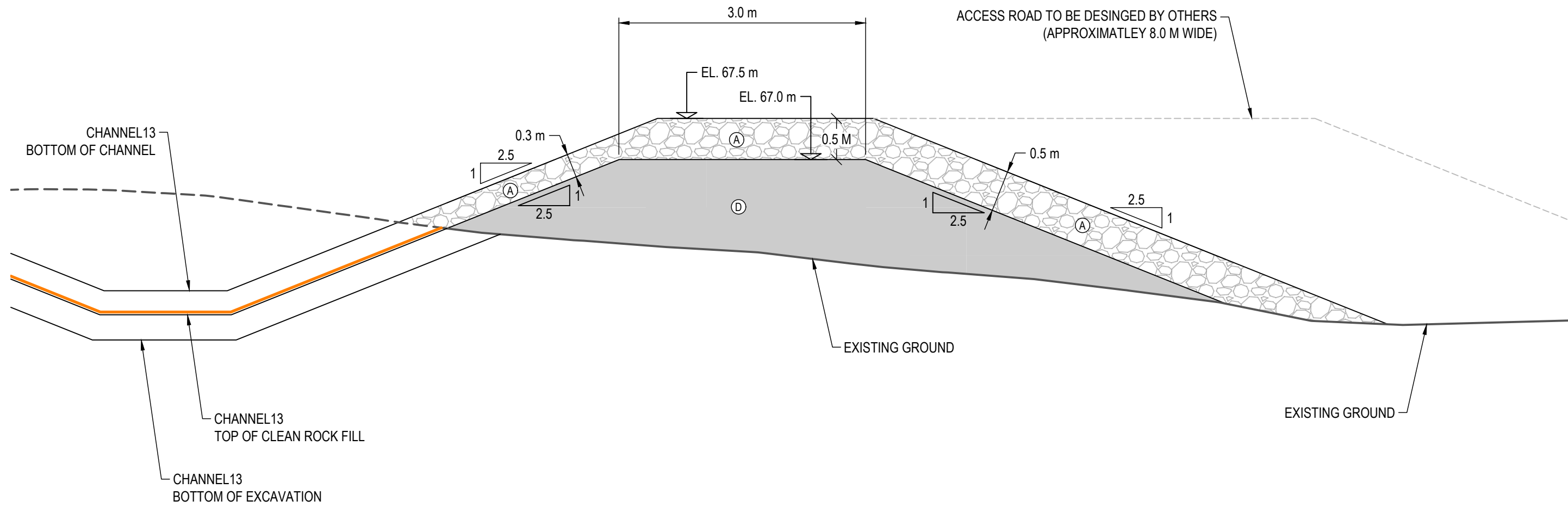
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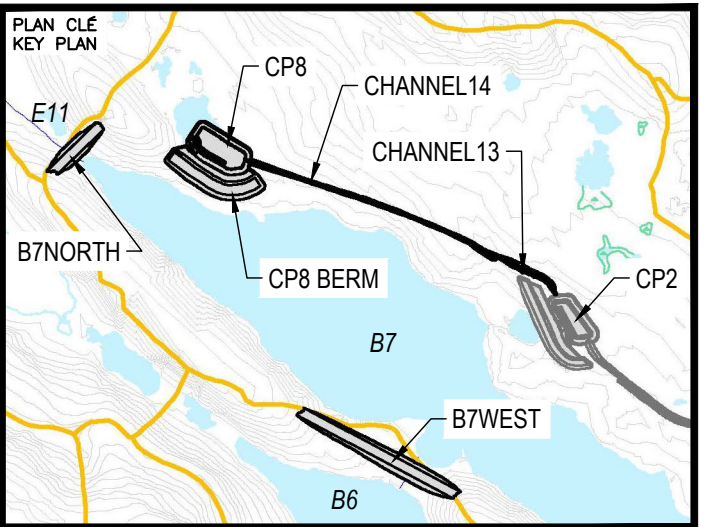
CHANNEL13 - STATION 0+340



TYPICAL CHANNEL13 SECTION
SCALE: 1:50



TYPICAL CHANNEL13 BERM SECTION
SCALE: 1:50



NOTES GÉNÉRALES / GENERAL NOTES

1. ASSUMED CONSTRUCTION SCHEDULE WINTER 2025 / 2026
2. ASSUMED GEOTEXTILE THAT MEETS MATERIAL SPECIFICATION WILL BE AVAILABLE AT SITE FOR CHANNEL CONSTRUCTION.
3. MATERIAL PLACEMENT AND FOUNDATION PREPARATION SHOULD BE IN ACCORDANCE WITH THE REQUIREMENTS OF GEOTECHNICAL CONSTRUCTION / MATERIAL SPECIFICATIONS (TETRA TECH 2025).
4. EXISTING GROUND SURFACE BASED ON THE SURVEY TAKEN BY AGNICO EAGLE ON JULY 19, 2021.

LEGEND

- ④ CLEAN ROCKFILL FROM EXCAVATION (600 mm MINUS)
- ⑤ OVERBURDEN FROM EXCAVATION (300 mm MINUS)
- ⑥ RIP RAP

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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DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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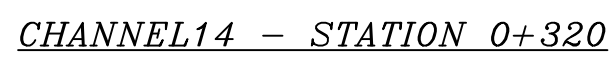
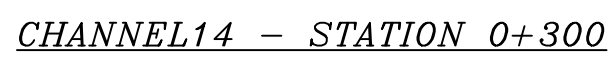
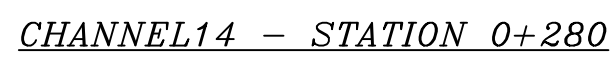
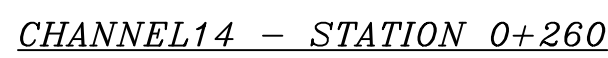
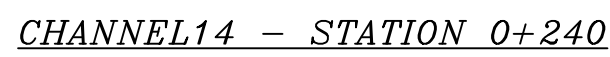
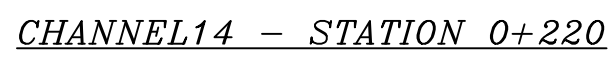
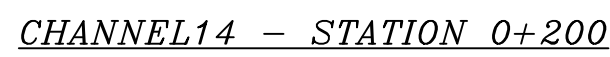
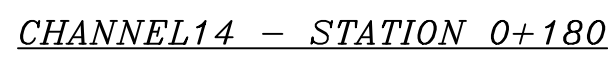
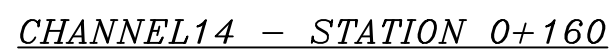
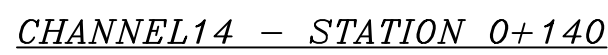
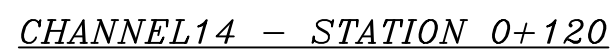
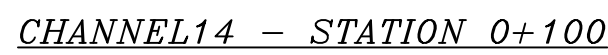
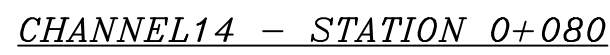
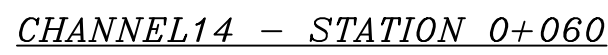
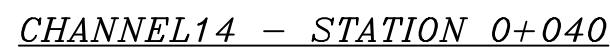
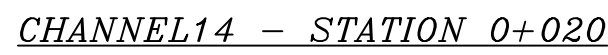
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0	2025-11-14	ISSUED FOR CONSTRUCTION	DS	HX	

REVISIONS

TITRE / TITLE
AGNICO EAGLE MELIADINE GOLD MINE

CHANNEL13 DESIGN SECTIONS
(2 of 2)

DESSINÉ PAR DRAWN BY EL	DATE 2025-11-14
VÉRIFIÉ PAR CHECKED BY DS	2025-11-14
APPROUVÉ PAR APPROVED BY HX	2025-11-14
ÉCHELLE SCALE 1:150	DATE 2025-11-14
NO. DESSIN DRAWING NO. 65-695-230-047-2	
NO. PROJET PROJECT NO. 65	REVISION 0 FEUILLE / SHÉ 9 / 15



NOTES GÉNÉRALES / GENERAL NOTES

1. ASSUMED CONSTRUCTION SCHEDULE WINTER 2025 / 2026
2. ASSUMED GEOTEXTILE THAT MEETS MATERIAL SPECIFICATION WILL BE AVAILABLE AT SITE FOR CHANNEL CONSTRUCTION.
3. MATERIAL PLACEMENT AND FOUNDATION PREPARATION SHOULD BE IN ACCORDANCE WITH THE REQUIREMENTS OF GEOTECHNICAL CONSTRUCTION / MATERIAL SPECIFICATIONS (TETRA TECH 2025).
4. EXISTING GROUND SURFACE BASED ON THE SURVEY TAKEN BY AGNICO EAGLE ON JULY 19, 2021.

PERMIT TO PRACTICE
TETRA TECH CANADA INC.

Signature

Date _____

PERMIT NUMBER: P 018

NT/NU Association of Professors
Engineers and Geoscientists

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[illegible]

AGNICO EAGLE

0	2025-11-14	ISSUED FOR CONSTRUCTION	DS	HX		
REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT	

REVISIONS

TITRE / TITLE

CHANNEL 14 DESIGN SECTIONS
(1 of 2)

DESSINÉ PAR DRAWN BY	EL	DATE 2025-11-14
VÉRIFIÉ PAR CHECKED BY	DS	2025-11-14
APPROUVÉ PAR APPROVED BY	HX	2025-11-14

ÉCHELLE
SCALE 1-150

DATE 2025-11-14

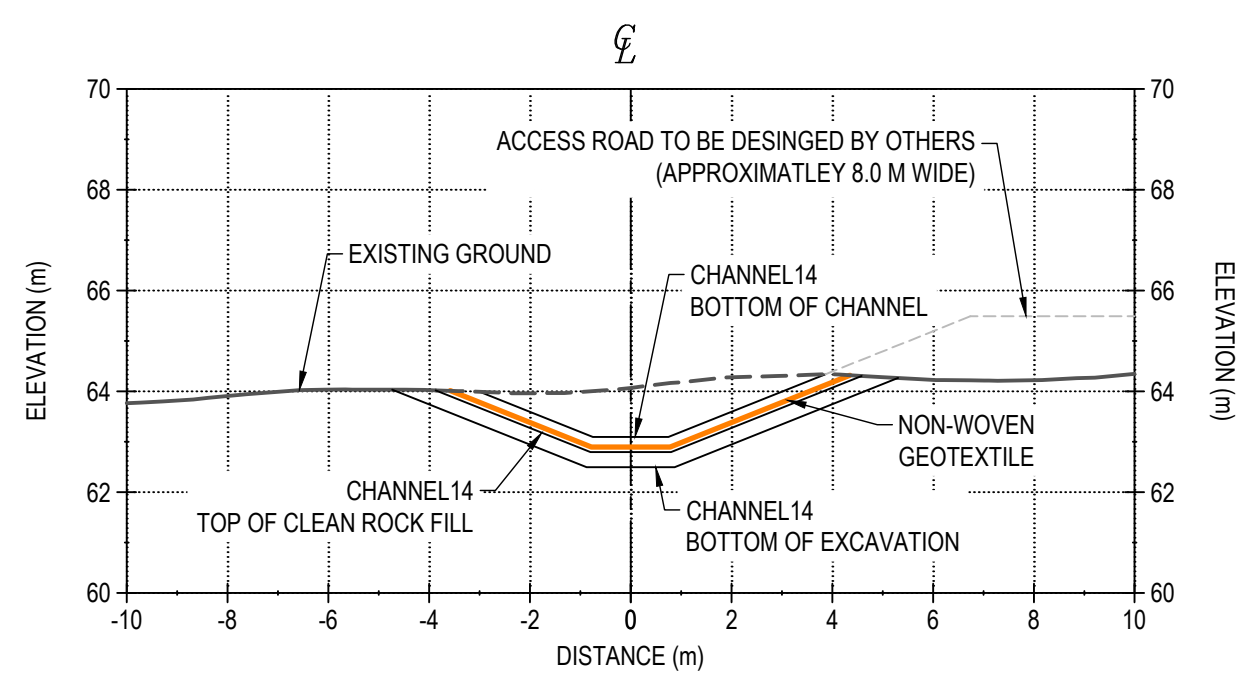
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65-695-230-048-1

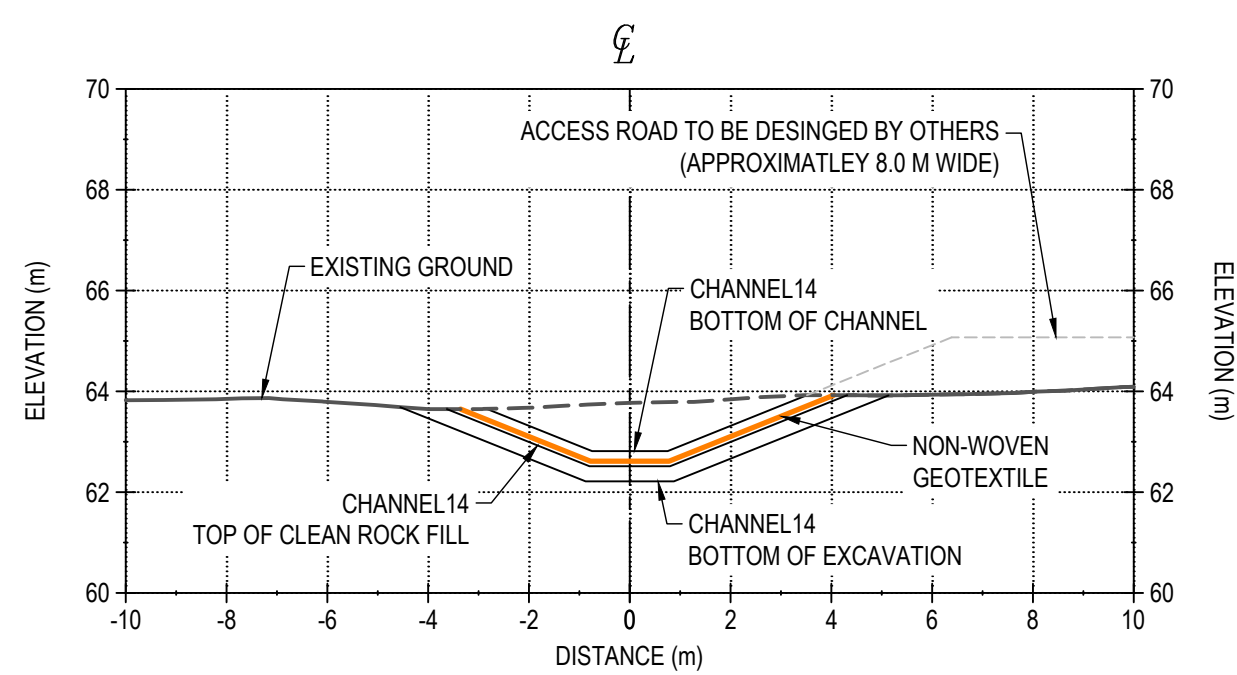
NO. PROJ
PROJECT NO.

REVISION	
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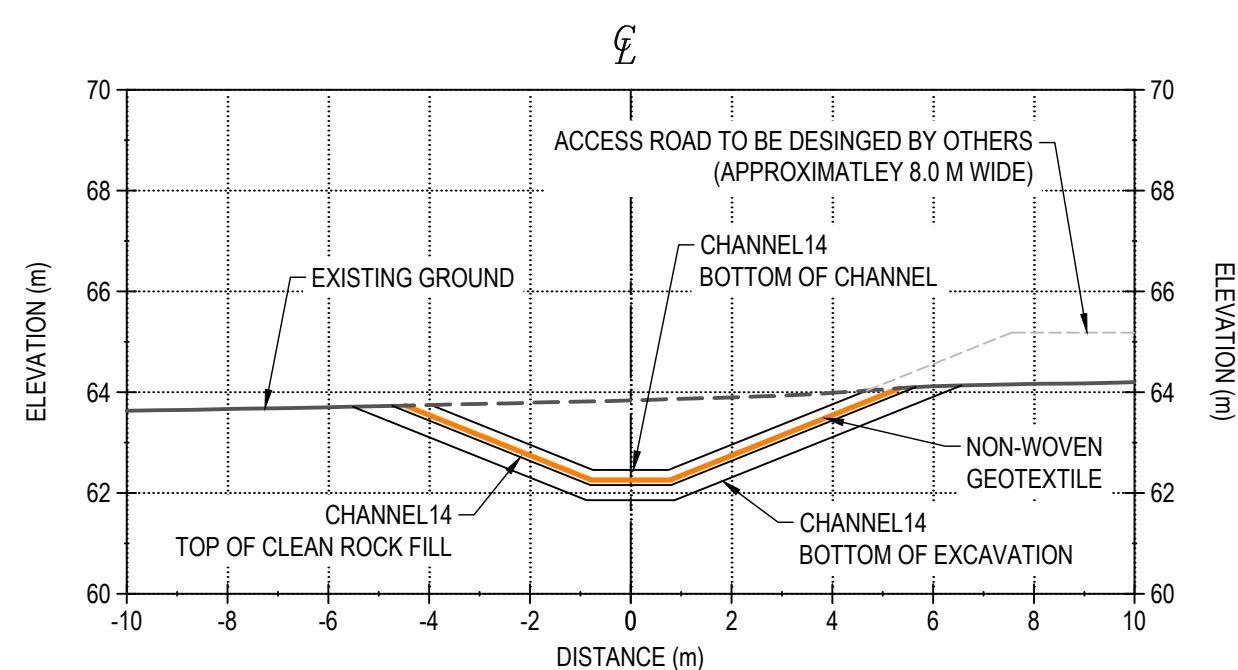
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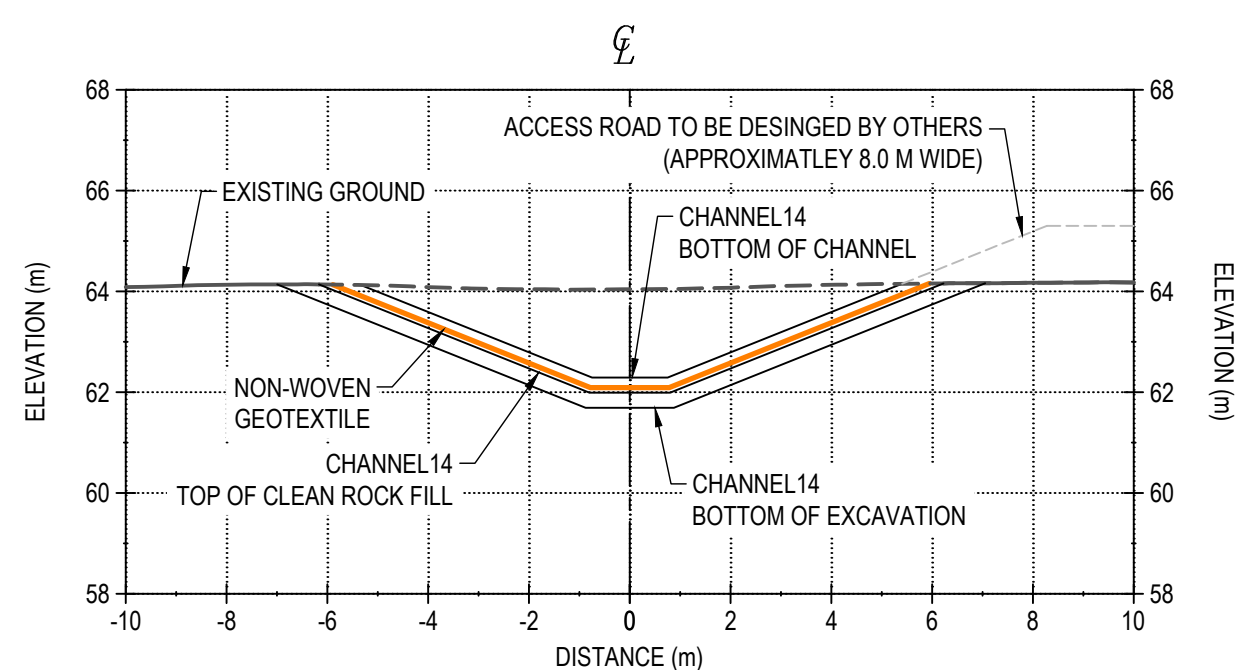
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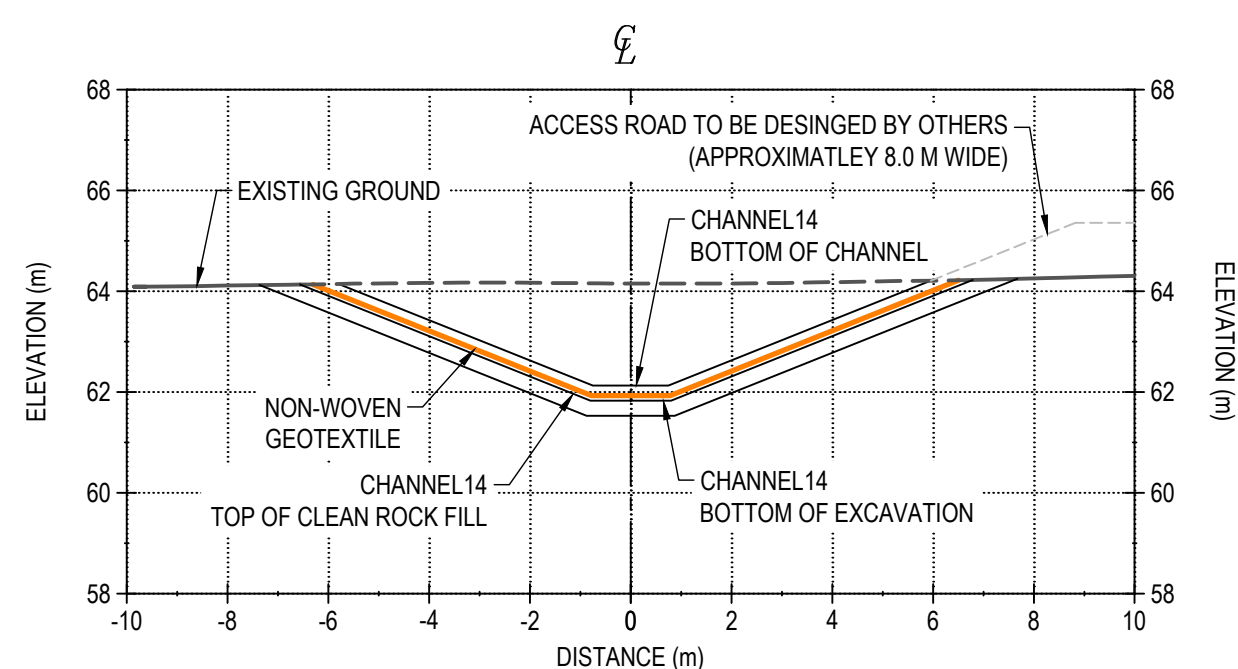
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CHANNEL 14 - STATION 0+440



CHANNEL 14 - STATION 0+480



CHANNEL 14 - STATION 0+520



PLAN CLE
KEY PLAN

E11

B7NORTH

CP8

CHANNEL 14

CHANNEL 13

CP8 BERM

B7

CP2

B7WEST

B6



NOTES GÉNÉRALES / GENERAL NOTES

1. ASSUMED CONSTRUCTION SCHEDULE WINTER 2025 / 2026
2. ASSUMED GEOTEXTILE THAT MEETS MATERIAL SPECIFICATION WILL BE AVAILABLE AT SITE FOR CHANNEL CONSTRUCTION.
3. MATERIAL PLACEMENT AND FOUNDATION PREPARATION SHOULD BE IN ACCORDANCE WITH THE REQUIREMENTS OF GEOTECHNICAL CONSTRUCTION / MATERIAL SPECIFICATIONS (TETRA TECH 2025).
4. EXISTING GROUND SURFACE BASED ON THE SURVEY TAKEN BY AGNICO EAGLE ON JULY 19, 2021.

LEGEND

- ⑧ RIP RAP

PERMIT TO PRACTICE
TETRA TECH CANADA INC.

Signature _____

Date _____

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**AGNICO EAGLE**

0	2025-11-14	ISSUED FOR CONSTRUCTION	DS	HX	
REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT

REVISIONS

TITRE / TITLE	AGNICO EAGLE MELIADINE GOLD MINE
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CHANNEL 14 DESIGN SECTIONS
(2 of 2)

DESSINÉ PAR DRAWN BY	EL	DATE 2025-11-1
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VERIFIÉ PAR CHECKED BY	DS	2025-11-1
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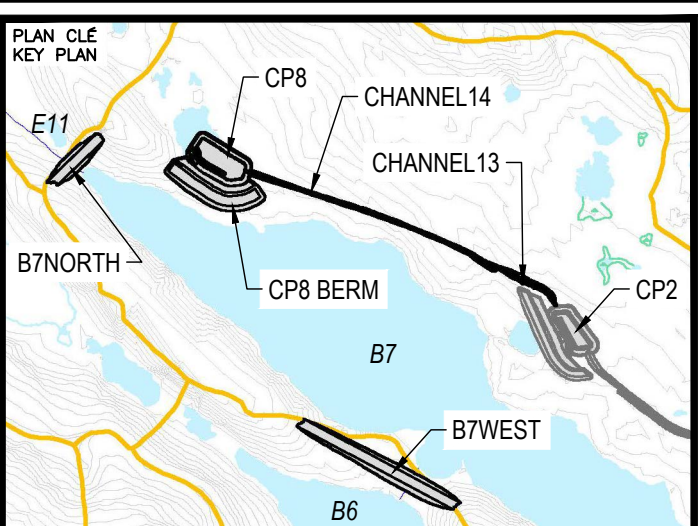
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Drawing No. 65-695-230-048-2

NO. PROJ PROJECT NO.	REVISION	FEUILLE / SHT
65	0	11 / 15

APPENDIX C

ISSUED FOR CONSTRUCTION DRAWINGS FOR CP8 AND CP8 THERMAL BERM



NOTES GÉNÉRALES / GENERAL NOTES

1. ASSUMED CONSTRUCTION SCHEDULE WINTER 2025 / 2026
2. ASSUMED OPERATION SCHEDULE STARTING TO STORE WATER FROM FREESHET OF 2026.
3. POND DESIGN CAPACITY IS BASED ON STORING 3 OUT OF 7 FRESHET WATER IN 100 wet year condition.
4. THE MAXIMUM ALLOWABLE WATER LEVEL RISE DURING A FRESHET UNDER THE DESIGN OF CONDITION
5. MATERIAL PLACEMENT AND FOUNDATION PREPARATION SHOULD BE IN ACCORDANCE WITH THE REQUIREMENTS OF GEOTECHNICAL CONSTRUCTION / MATERIAL SPECIFICATIONS (TETRA TECH 2025).
6. GROUND TEMPERATURE CABLES SHOULD BE INSTALLED AFTER CONSTRUCTION TO BEER DESIGN TO MONITOR THE PERFORMANCE OF THE BEER.
7. EXISTING GROUND CONTOUR BASED ON THE SURVEY TAKEN BY AGNICO EAGLE ON JULY 19, 2021.

PERMIT TO PRACTICE
TETRA TECH CANADA INC.

Signature

PERMIT NUMBER: P 018

Engineers and Geoscientists

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AGNICO EAGLE

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REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT

REVISIONS

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TITRE / TITLE

AGNICO EAGLE MELIADINE GOLD MINE

CP8 AND CP8 THERMAL BERM
LAYOUT PLAN

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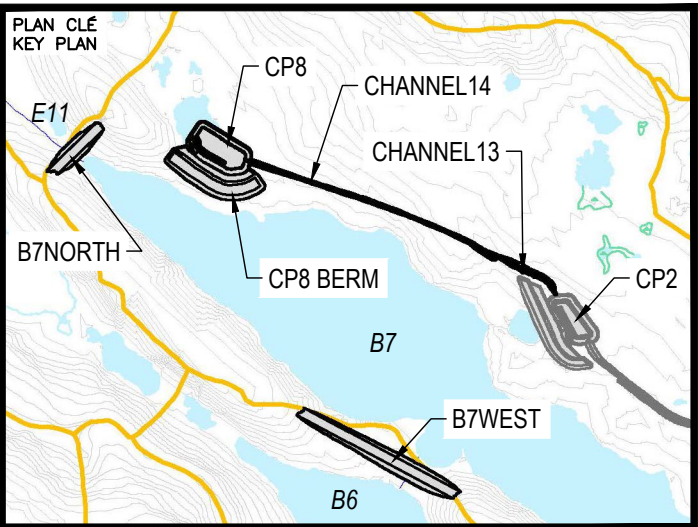
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APPROUVE PAR APPROVED BY	HX	2025-11-1
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ECHELLE SCALE	1:500	DATE	2025-11-14
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DRAWING NO. 65-695-230-040

NO. PROJÉ PROJECT NO.	REVISION	FEUILLE / SHT
65	0	1 / 15



1. ASSUMED CONSTRUCTION SCHEDULE WINTER 2025 / 2026
2. ASSUMED OPERATION SCHEDULE STARTING TO STORE WATER FROM FRESHET OF 2026
3. POND DESIGN CAPACITY IS BASED ON STORING 3 OUT OF 7 FRESHET WATER UNDER 1100 MET YEAR CONDITION.
4. DESIGN ALLOWED MAXIMUM OPERATING WATER LEVEL IS AT ELEVATION 621.00 UNDER THE DESIGN OF CONDITION.
5. MATERIAL PLACEMENT AND FOUNDATION PREPARATION SHOULD BE IN ACCORDANCE WITH THE REQUIREMENTS OF GEOTECHNICAL CONSTRUCTION / MATERIAL SPECIFICATIONS (TETRA TECH 2025).
6. GROUND TEMPERATURE CABLES SHOULD BE INSTALLED AFTER THE CONSTRUCTION OF THE DESIGN TO MONITOR THE PERFORMANCE OF THE BERM.
7. EXISTING GROUND SURFACE BASED ON THE SURVEY TAKEN BY AGNICO EAGLE ON JULY 19, 2021.

LEGEND

- ④ CLEAN ROCKFILL FROM EXCAVATION (600 mm MINUS)
- ⑤ OVERBURDEN FROM EXCAVATION (300 mm MINUS)

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

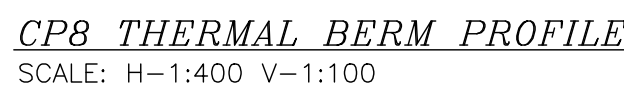
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AGNICO EAGLE MELIADINE GOLD MINE

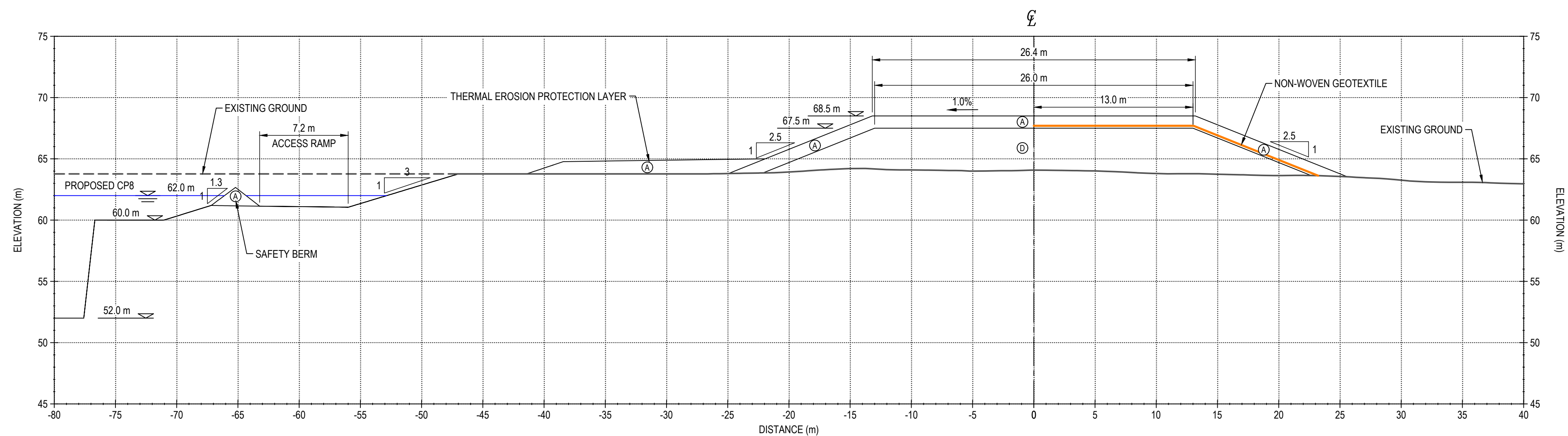
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CP8 THERMAL BERM PROFILE

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VÉRIFIÉ PAR CHECKED BY	DS	2025-11-14
APPROUVÉ PAR APPROVED BY	HX	2025-11-14

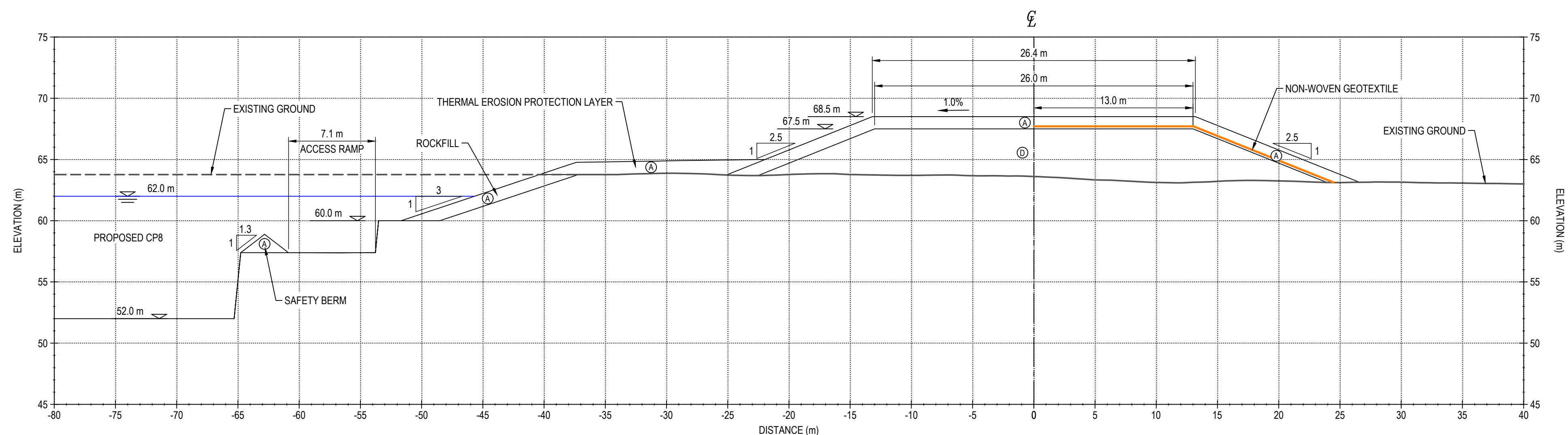
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NO. PROJ. PROJECT NO.	REVISION	FEUILLE / SHT
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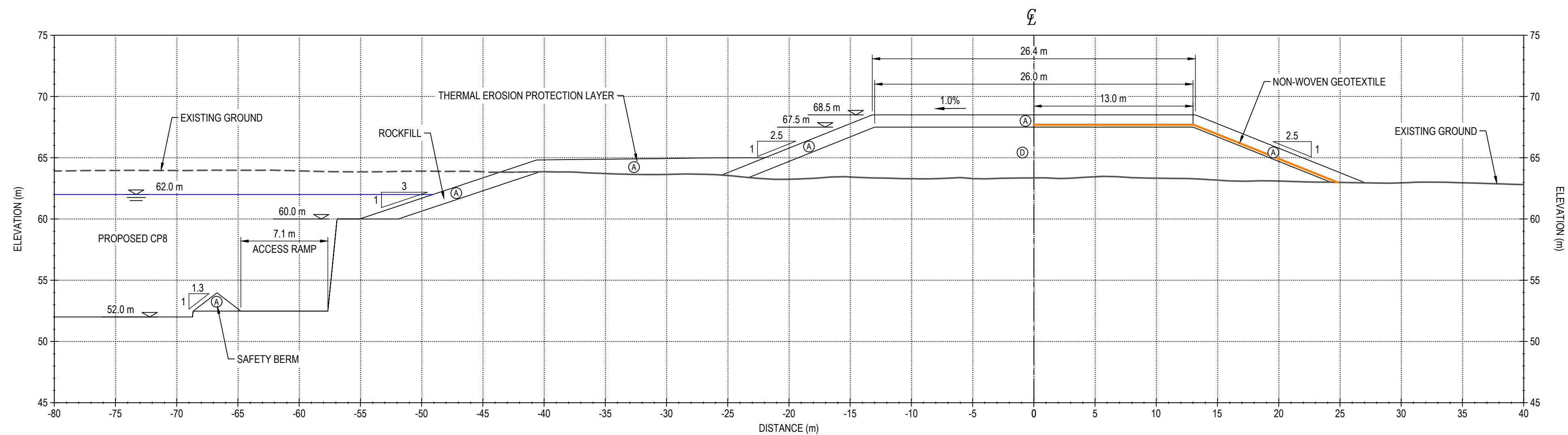




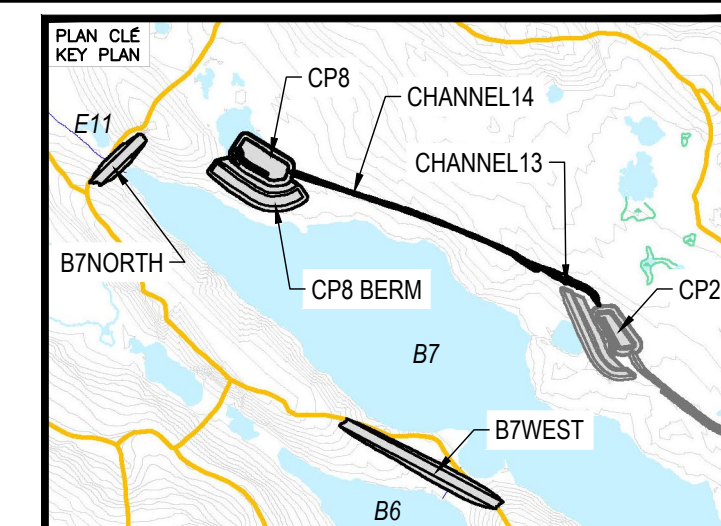
STATION 0+050



STATION 0+090



STATION 0+140



NOTES GÉNÉRALES / GENERAL NOTES

1. ASSUMED CONSTRUCTION SCHEDULE WATER STORED / 2026
2. ASSUMED OPERATION SCHEDULE STARTING TO STORE WATER FROM FRESHET OF 2026.
3. POND DESIGN CAPACITY IS BASED ON STORING 3 OUT OF 7 FRESHET WATER UNDER 1100 WET YEAR CONDITION .
4. THE MAXIMUM ALLOWABLE OPERATING WATER LEVEL IS 10.5 METERS ABOVE 2026 DESIGN FLOOD CONDITION
5. MATERIAL PLACEMENT AND FOUNDATION PREPARATION SHOULD BE IN ACCORDANCE WITH THE REQUIREMENTS OF GEOTECHNICAL CONSTRUCTION / MATERIAL SPECIFICATIONS (TETRA TECH 2025).
6. GROUND TEMPERATURE CABLES SHOULD BE INSTALLED AFTER CONSTRUCTION AS PER DESIGN TO MONITOR THE PERFORMANCE OF THE FOUNDATION
7. EXISTING GROUND SURFACE BASED ON THE SURVEY TAKEN BY AGNICO EAGLE ON JULY 19, 2021.

LEGEND

- ④ CLEAN ROCKFILL FROM EXCAVATION (600 mm MINUS)
- ⑤ OVERBURDEN FROM EXCAVATION (300 mm MINUS)

PERMIT TO PRACTICE
TETRA TECH CANADA INC.

Signature _____

Da

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

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REV.	DATE	DESCRIPTION	PAR/BY	APP.	CUSTOMER

REVISIONS

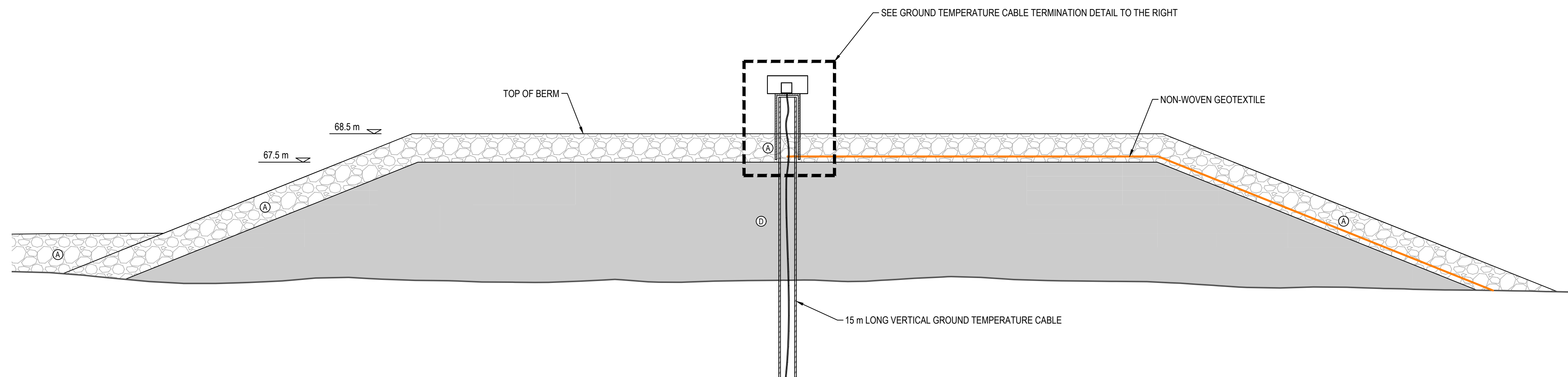
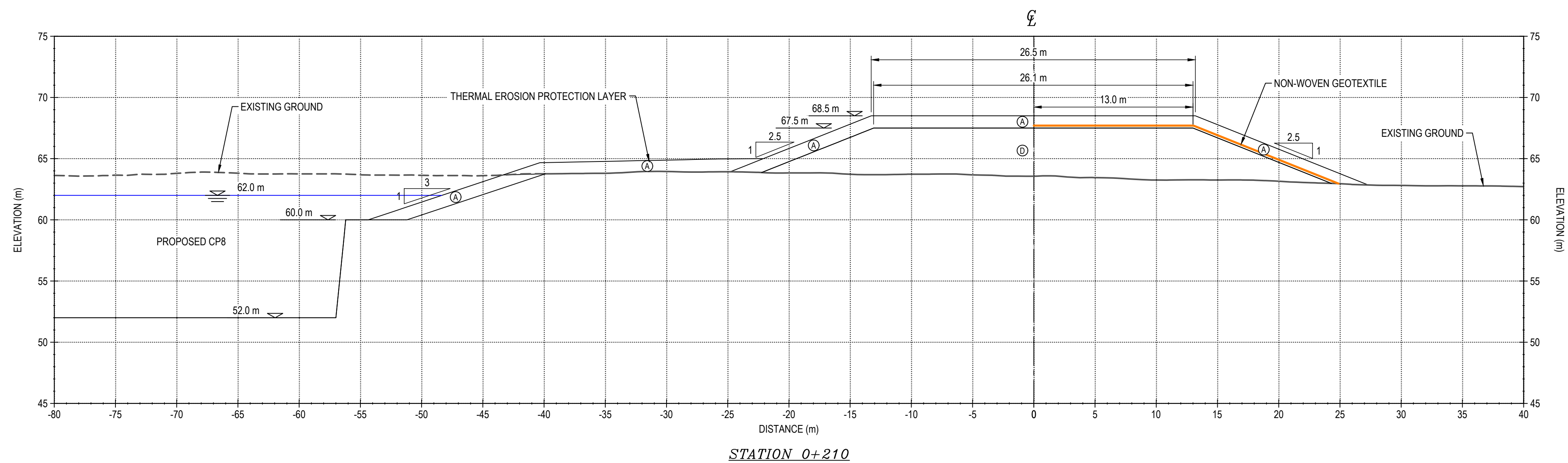
TITRE / TITLE
AGNICO EAGLE MELIADINE GOLD MINE

CP8 AND CP8 THERMAL BERM
SECTIONS

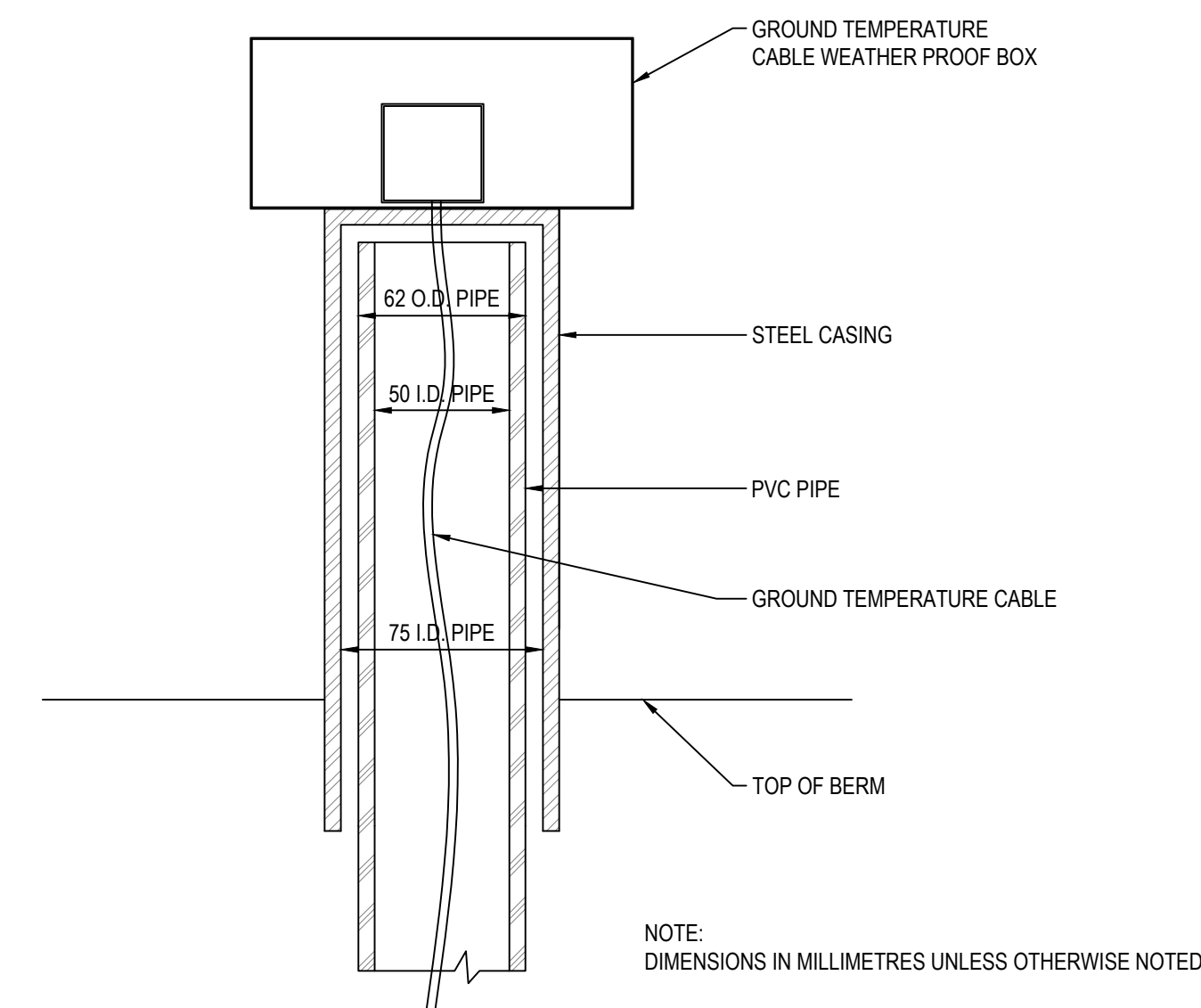
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VÉRIFIÉ PAR CHECKED BY	DS	2025-11-1
APPROUVÉ PAR APPROVED BY	HX	2025-11-1

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DRAWING NO. 65-695-230-042

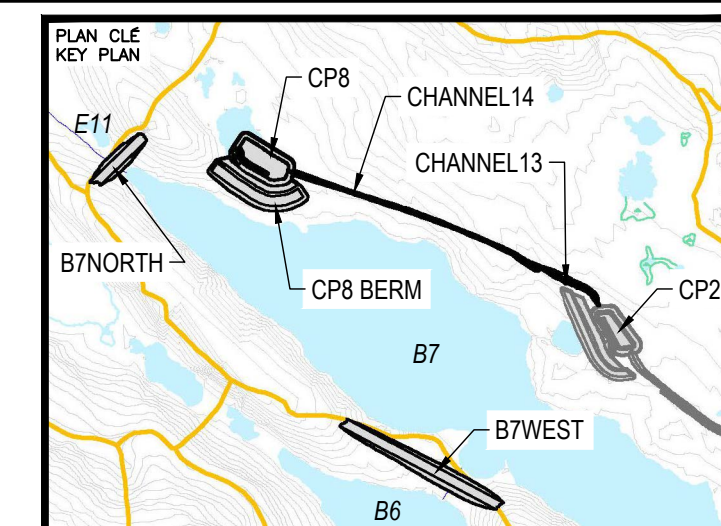
NO. PROJ PROJECT NO.	REVISION	FEUILLE / SHT
65	0	3 / 15



TYPICAL SECTION – CP8 THERMAL BERM GROUND TEMPERATURE CABLE INSTALLATION



DETAIL - GROUND TEMPERATURE CABLE TERMINATION
SCALE: N.T.S.



NOTES GÉNÉRALES / GENERAL NOTES

1. ASSUMED CONSTRUCTION SCHEDULE WINTER 2020 / 2026
2. ASSUMED OPERATION SCHEDULE STARTING TO STORE WATER FROM FRESHET OF 2026.
3. POND DESIGN CAPACITY IS BASED ON STORING 3 OUT OF 7 FRESHET WATER UNDER 1.100 MET YEAR CONDITION .
4. THE MAXIMUM ALLOWABLE OPERATING WATER LEVEL IS AT 1000 METERS (3280 FEET) DESIGN (IF CONDITION MATERIAL, PLACEMENT AND FOUNDATION PREPARATION SHOULD BE IN ACCORDANCE WITH THE REQUIREMENTS OF GEOTECHNICAL CONSTRUCTION / MATERIAL SPECIFICATIONS (TETRA TECH 2025).
5. GROUND TEMPERATURE CABLES SHOULD BE INSTALLED AFTER CONSTRUCTION AS PER DESIGN TO MONITOR THE PERFORMANCE OF THE CABLES.
7. EXISTING GROUND SURFACE BASED ON THE SURVEY TAKEN BY AGNICO EAGLE ON JULY 19, 2021.

LEGEND

- ④ CLEAN ROCKFILL FROM EXCAVATION (600 mm MINUS)

PERMIT TO PRACTICE
TETRA TECH CANADA INC.

Signature _____

Date _____

PERMIT NUMBER: P 018
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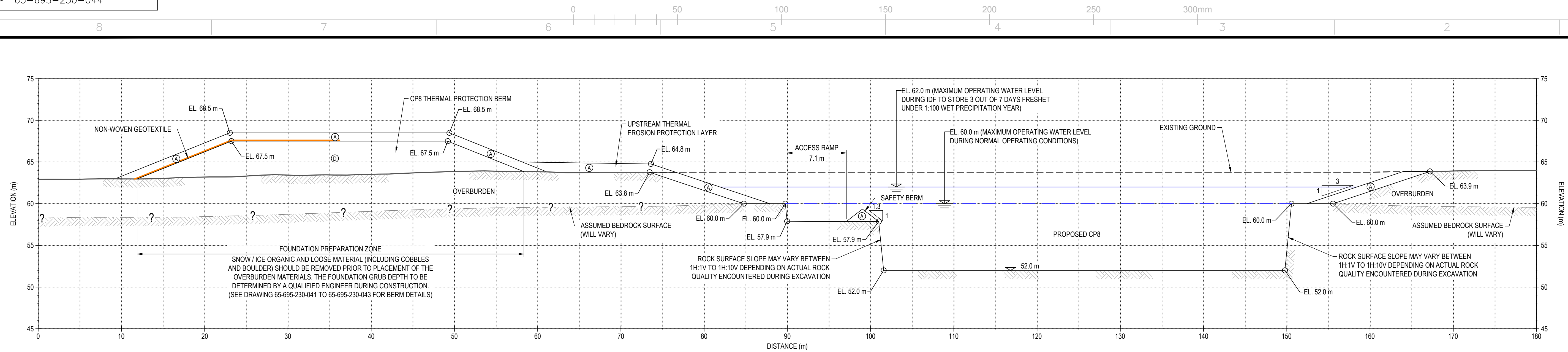
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TITLE / TITRE	AGNICO EAGLE MELIADINE GOLD MINE
	CP8 AND CP8 THERMAL BERM SECTIONS AND GROUND TEMPERATURE CABLE INSTALLATION DETAIL

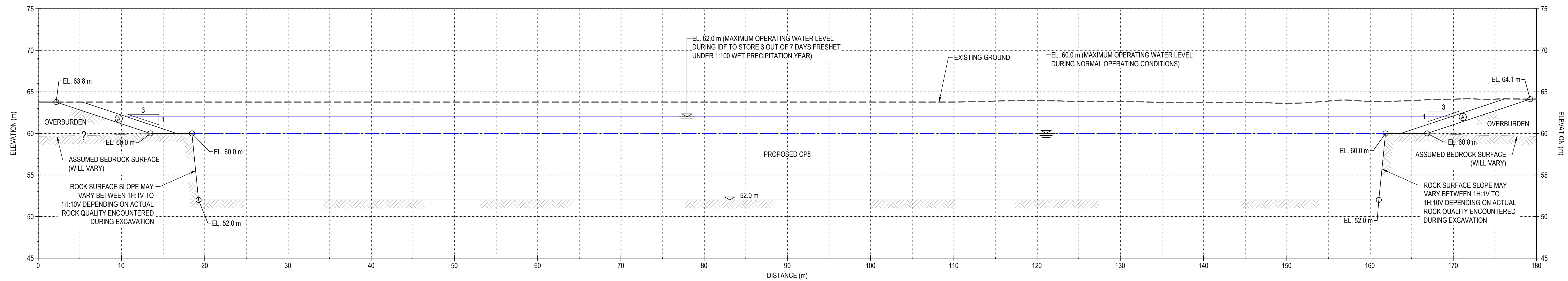
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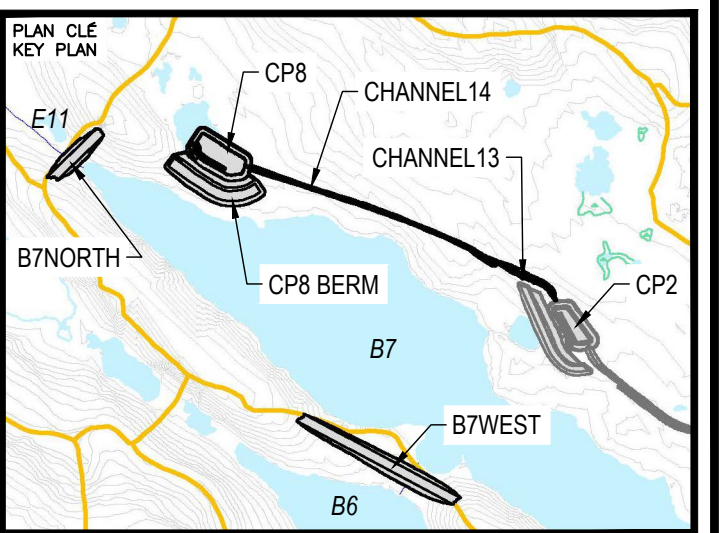
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SECTION A
SCALE: 1:250
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SECTION B
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NOTES GÉNÉRALES / GENERAL NOTES

1. ASSUMED CONSTRUCTION SCHEDULE WINTER 2023 / 2026
2. ASSUMED OPERATION SCHEDULE STARTING TO STORE WATER FROM FRESHET OF 2026.
3. POND DESIGN CAPACITY IS BASED ON STORING 3 OUT OF 7 FRESHET WATER DURING 1-100 WET YEAR CONDITION.
4. POND DESIGN ALLOWED TO EXCEED WATER LEVEL AT ELEVATION 62.0 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 2025).
6. GROUND TEMPERATURE CABLES SHOULD BE INSTALLED TO MONITOR CONSTRUCTION AND DESIGN TO MONITOR THE PERFORMANCE OF THE BERM.
7. EXISTING GROUND SURFACE BASED ON THE SURVEY TAKEN BY AGNICO EAGLE ON JULY 19, 2021.

LEGEND

- ④ CLEAN ROCKFILL FROM EXCAVATION (600 mm MINUS)
- ⑤ OVERBURDEN FROM EXCAVATION (300 mm MINUS)

PERMIT TO PRACTICE
TETRA TECH CANADA INC.

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Date _____

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TITRE / TITLE

CP8
CROSS-SECTIONS

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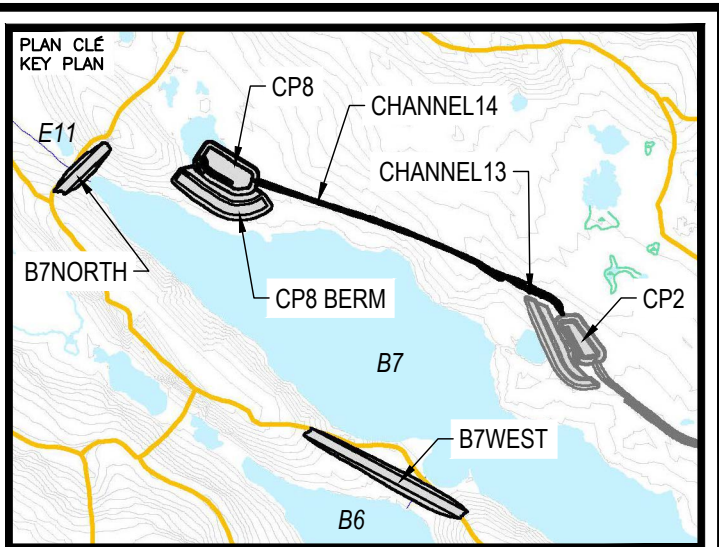
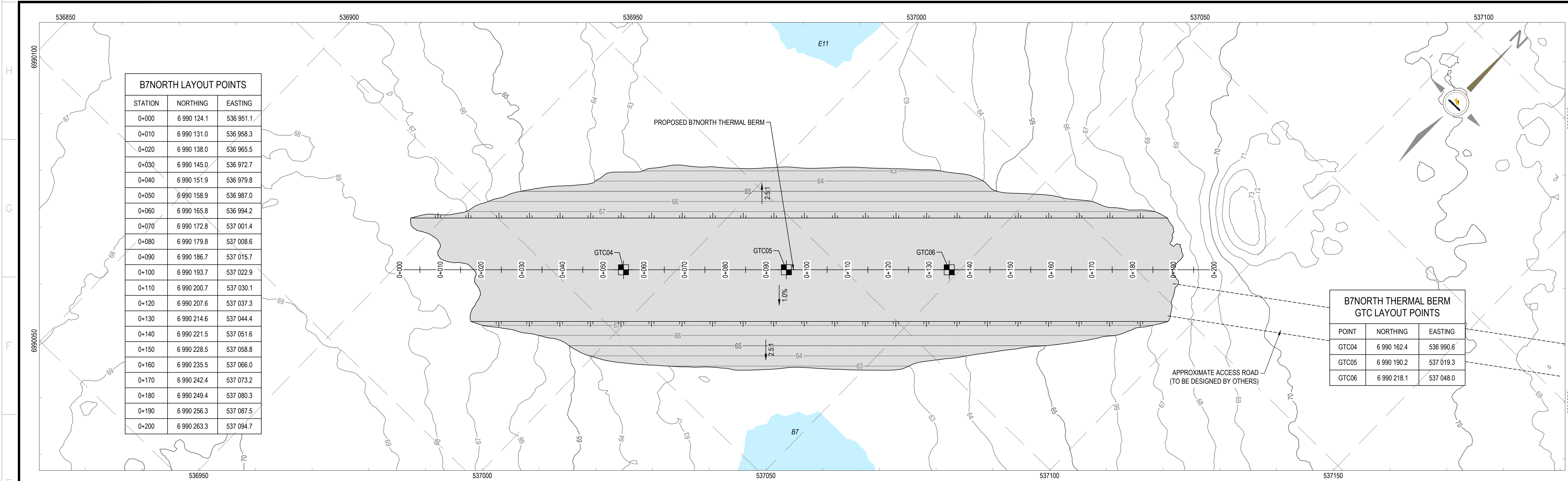
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65	0	5 / 15

APPENDIX D

ISSUED FOR CONSTRUCTION DRAWINGS FOR B7NORTH THERMAL BERM AND B7WEST THERMAL BERM



NOTES GÉNÉRALES / GENERAL NOTES

1. ASSUMED CONSTRUCTION SCHEDULE WINTER 2025 / 2026
2. ASSUMED GEOTEXTILE THAT MEETS MATERIAL SPECIFICATION WILL BE AVAILABLE AT SITE FOR BERM CONSTRUCTION.
3. MATERIAL PLACEMENT AND FOUNDATION PREPARATION SHOULD BE IN ACCORDANCE WITH THE REQUIREMENTS OF GEOTECHNICAL CONSTRUCTION / MATERIAL SPECIFICATIONS (TETRA TECH 2025).
4. GROUND TEMPERATURE CABLES SHOULD BE INSTALLED AFTER CONSTRUCTION AS PER DESIGN TO MONITOR THE PERFORMANCE OF THE BERM.
5. EXISTING GROUND CONTOUR BASED ON THE SURVEY TAKEN BY AGNICO EAGLE ON JULY 19, 2021.

LEGEND

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

PERMIT TO PRACTICE
TETRA TECH CANADA INC.
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Date _____
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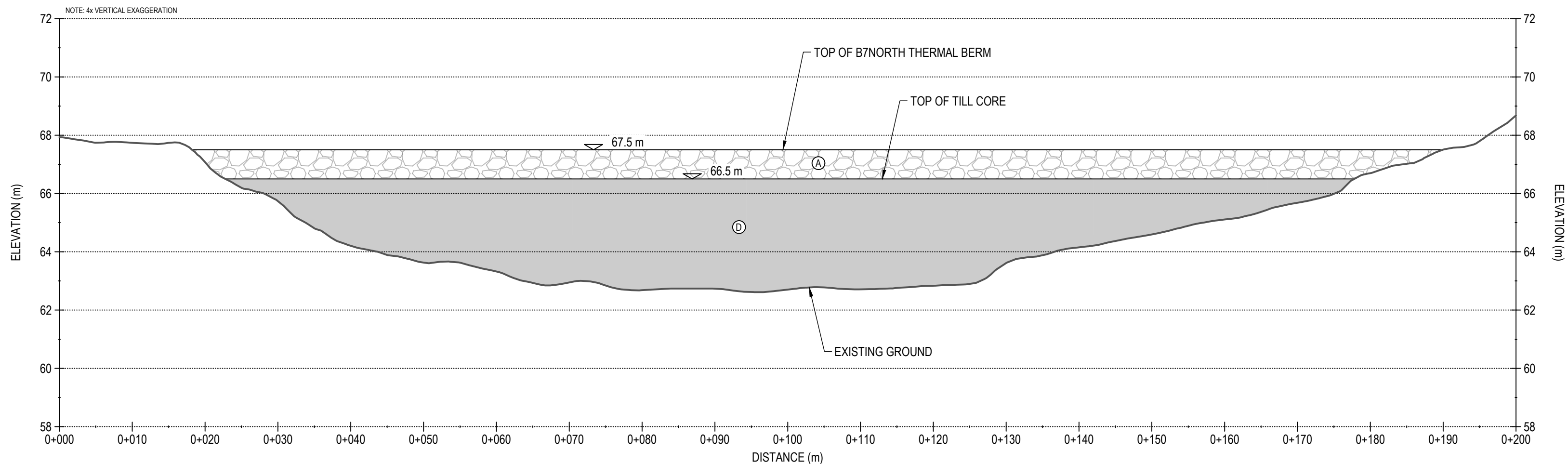
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REVISIONS

TITRE / TITLE
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B7NORTH THERMAL BERM LAYOUT
PLAN AND PROFILE
AND TYPICAL SECTION

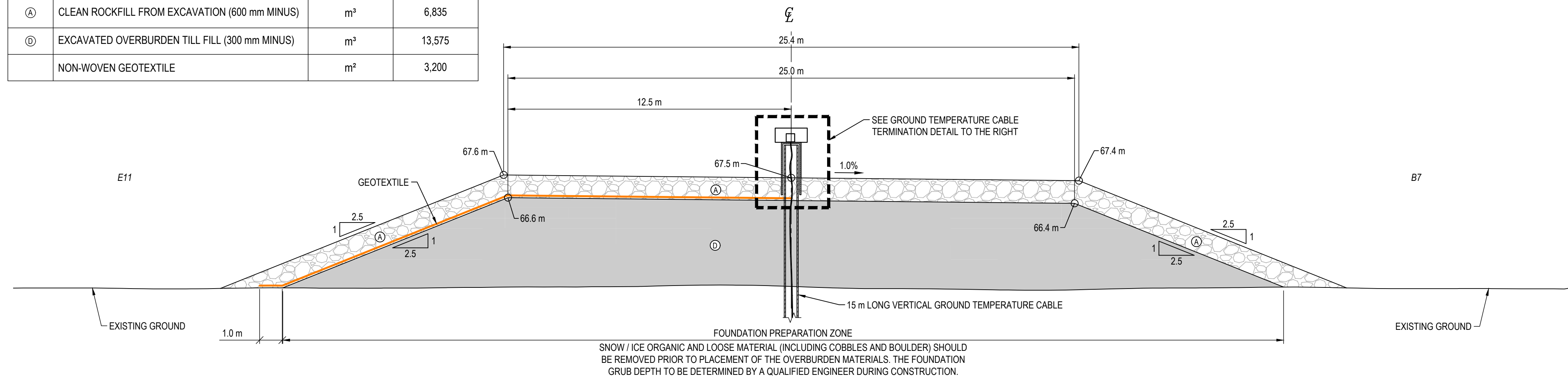
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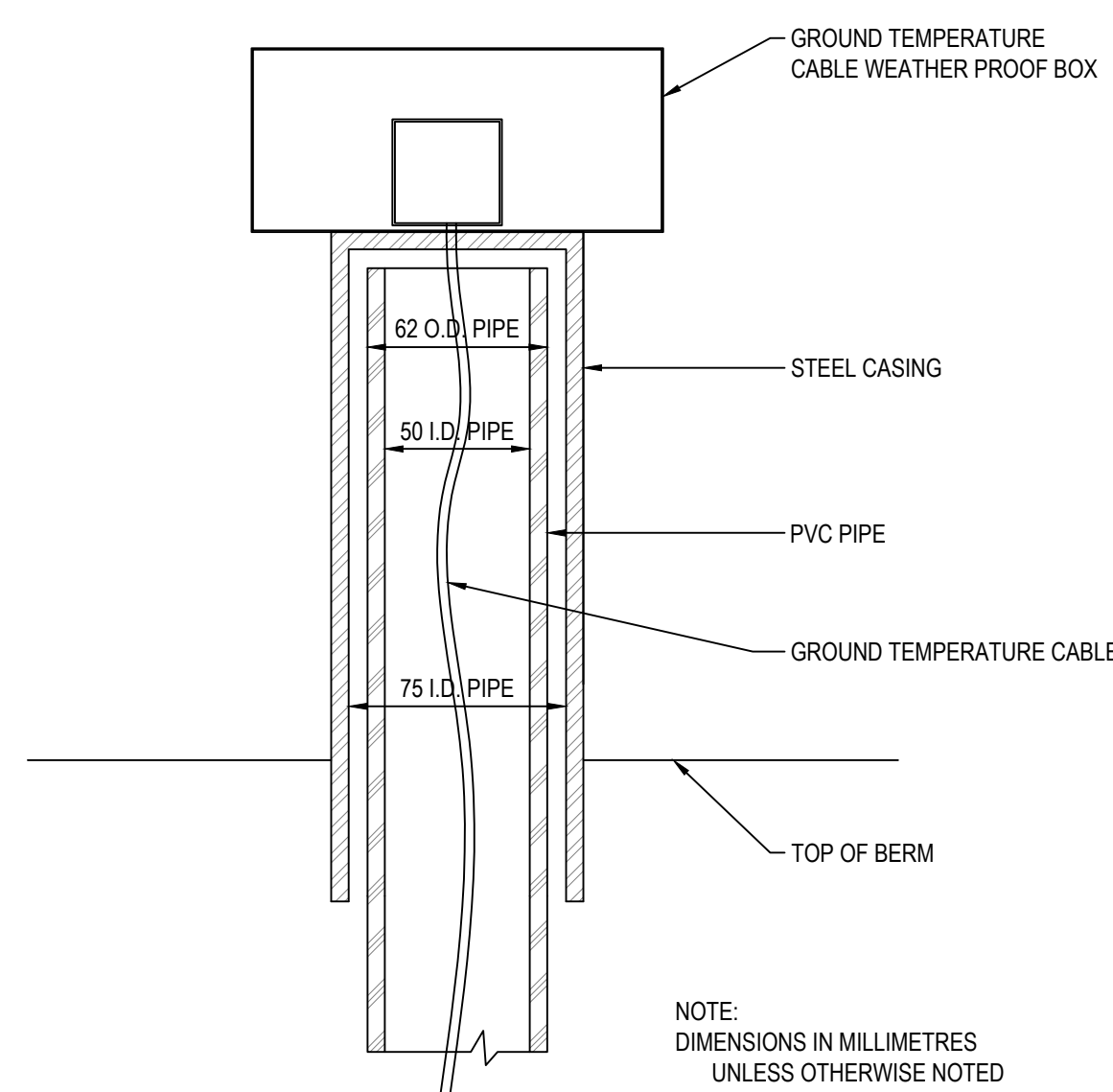


B7NORTH THERMAL BERM PROFILE
SCALE: H-1:500 V-1:125

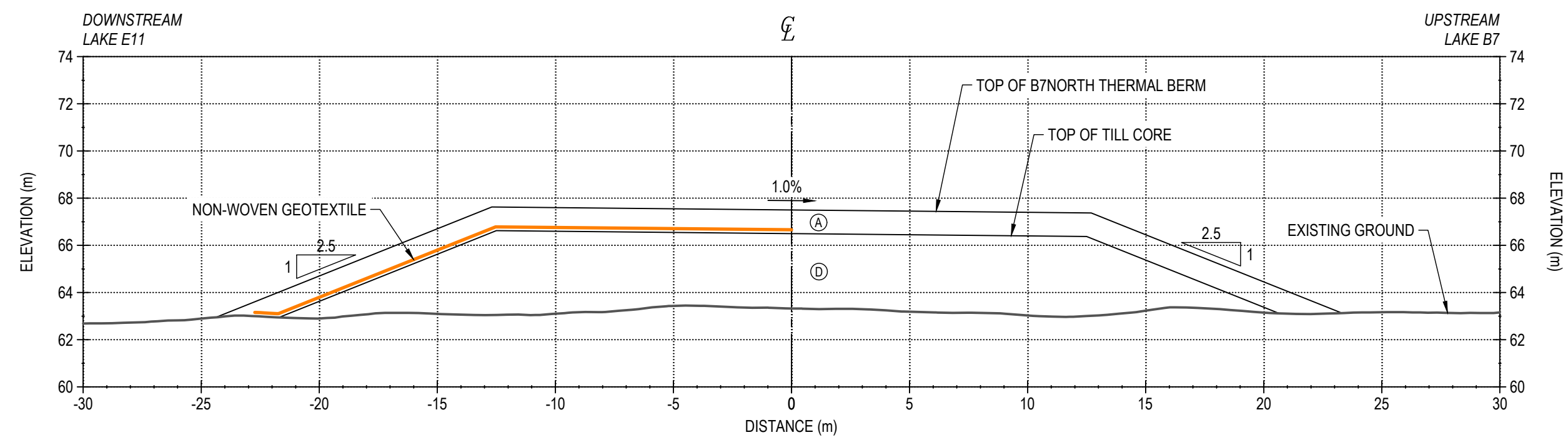
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Ⓐ CLEAN ROCKFILL FROM EXCAVATION (600 mm MINUS)	m³	6,835
Ⓣ EXCAVATED OVERBURDEN TILL FILL (300 mm MINUS)	m³	13,575
NON-WOVEN GEOTEXTILE	m²	3,200



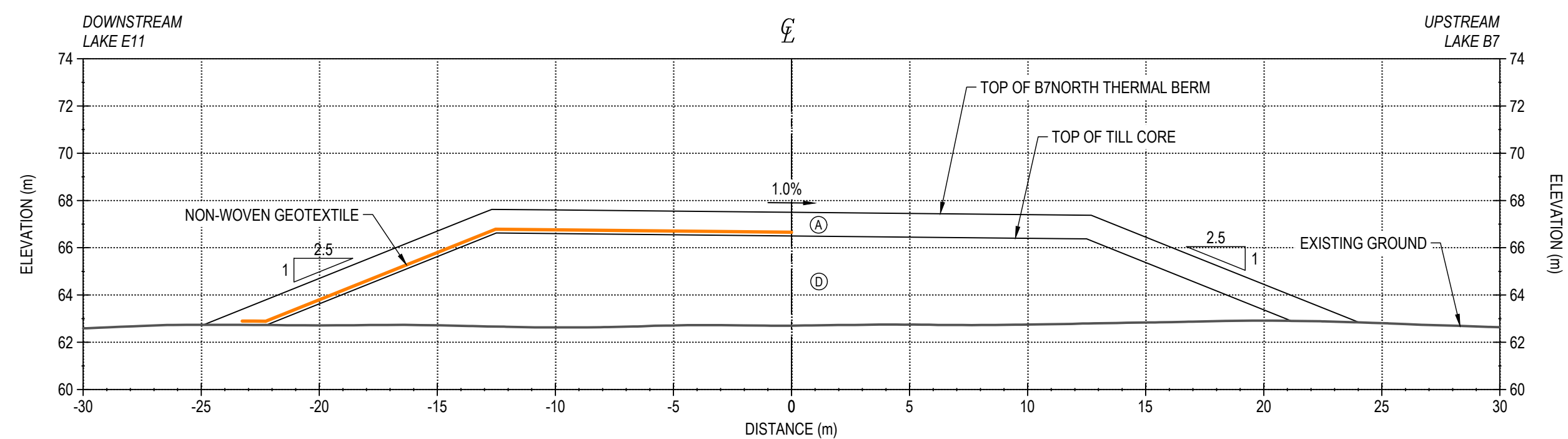
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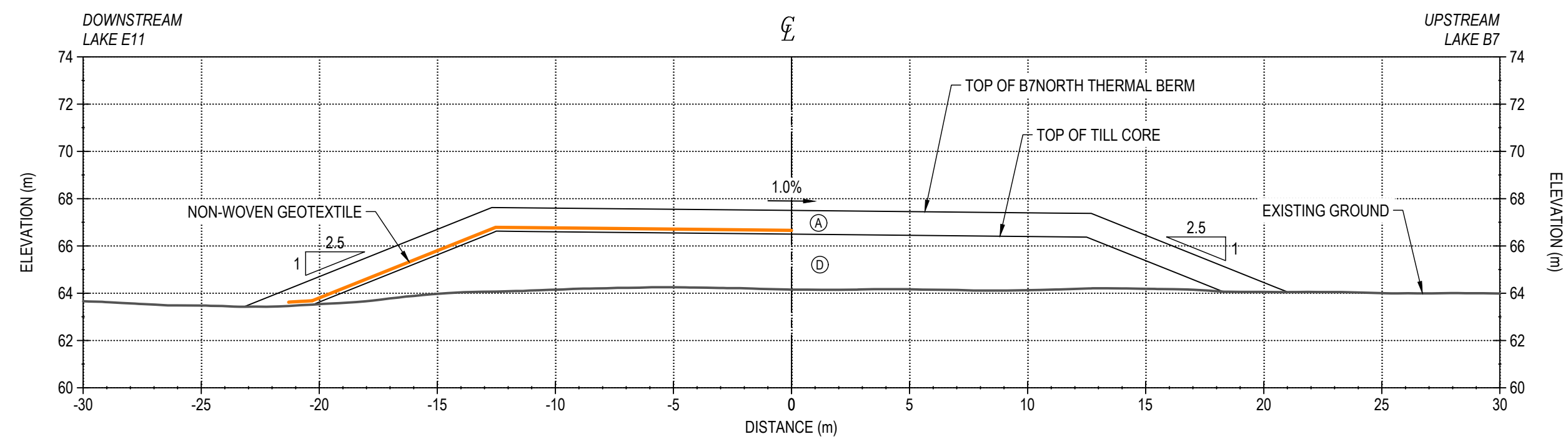
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STATION 0+060



STATION 0+100



STATION 0+140



1. ASSUMED CONSTRUCTION SCHEDULE WINTER 2025 / 2026
2. ASSUMED GEOTEXTILE THAT MEETS MATERIAL SPECIFICATION WILL BE AVAILABLE AT SITE FOR BERM CONSTRUCTION.
3. MATERIAL PLACEMENT AND FOUNDATION PREPARATION SHOULD BE IN ACCORDANCE WITH THE REQUIREMENTS OF GEOTECHNICAL CONSTRUCTION / MATERIAL SPECIFICATIONS (TETRA TECH 2025).
4. GROUND TEMPERATURE CABLES SHOULD BE INSTALLED AFTER CONSTRUCTION AS PER DESIGN TO MONITOR THE PERFORMANCE OF THE BERM.
5. EXISTING GROUND CONTOUR BASED ON THE SURVEY TAKEN BY AGNICO EAGLE ON JULY 19, 2021.

④ CLEAN ROCKFILL FROM EXCAVATION (600 mm MINUS)

Signature _____
Date _____
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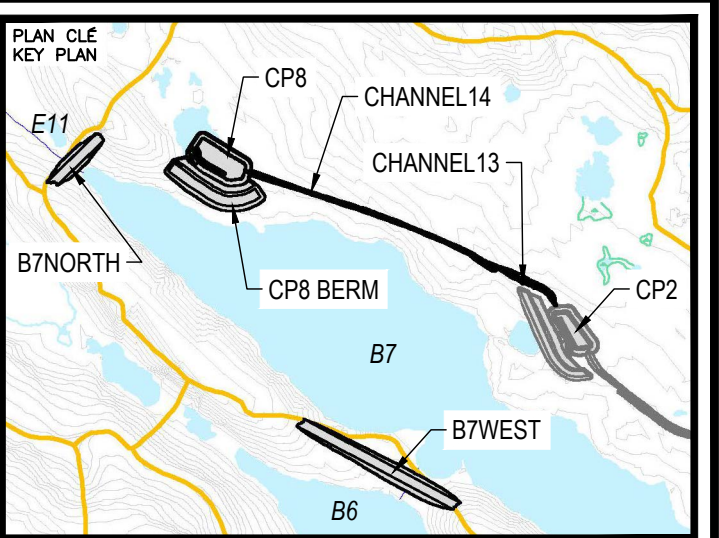
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REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT	

B7NORTH THERMAL BERM
DESIGN SECTIONS

DESSINÉ PAR DRAWN BY	EL	DATE 2025-11-1
VÉRIFIÉ PAR CHECKED BY	DS	2025-11-1
APPROUVÉ PAR APPROVED BY	HX	2025-11-1

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- ### LEGEND

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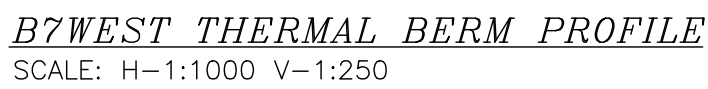
AGNICO EAGLE

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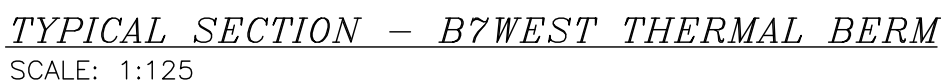
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AGNICO EAGLE MELIADINE GOLD MINE
B7WEST THERMAL BERM LAYOUT
PLAN AND PROFILE
AND TYPICAL SECTION

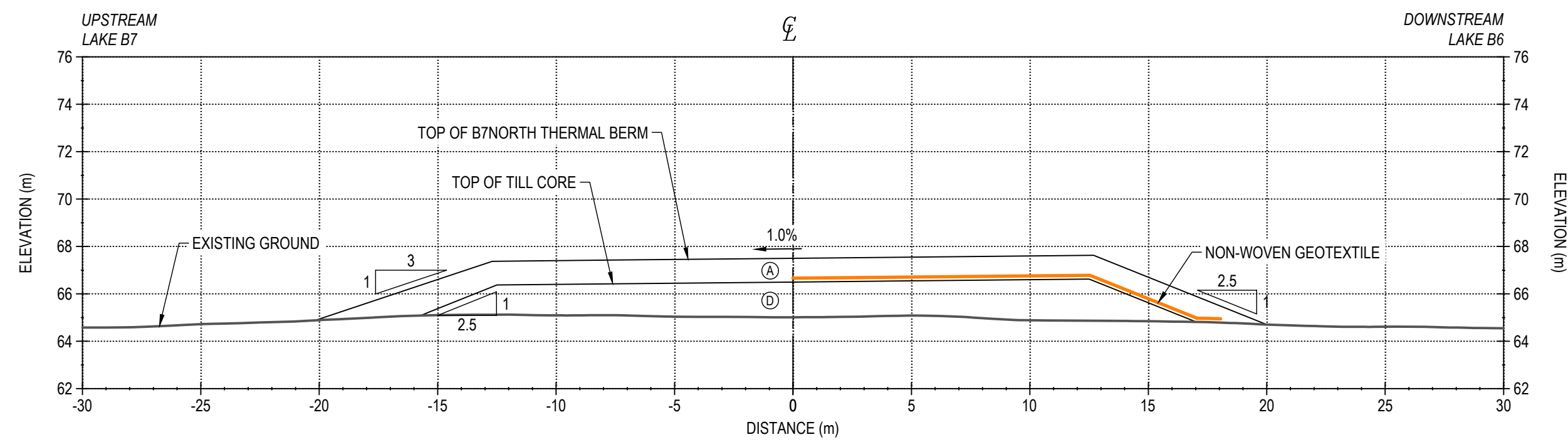
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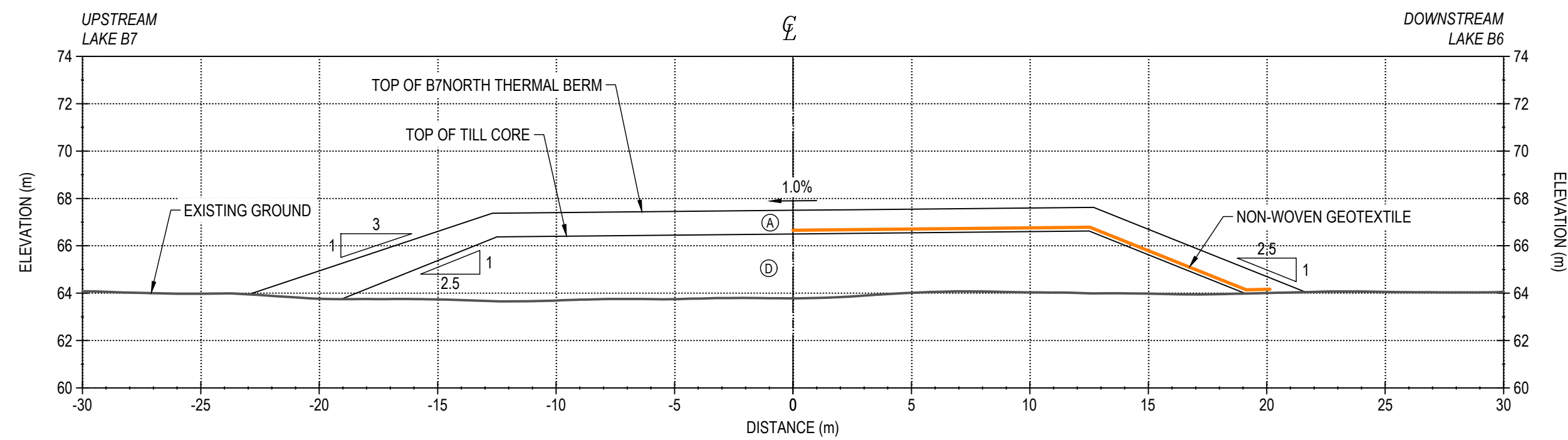


(A)	CLEAN ROCKFILL FROM EXCAVATION (600 mm MINUS)	m³	20,220
(D)	EXCAVATED OVERBURDEN TILL FILL (300 mm MINUS)	m³	38,370
	NON-WOVEN GEOTEXTILE	m²	8,700

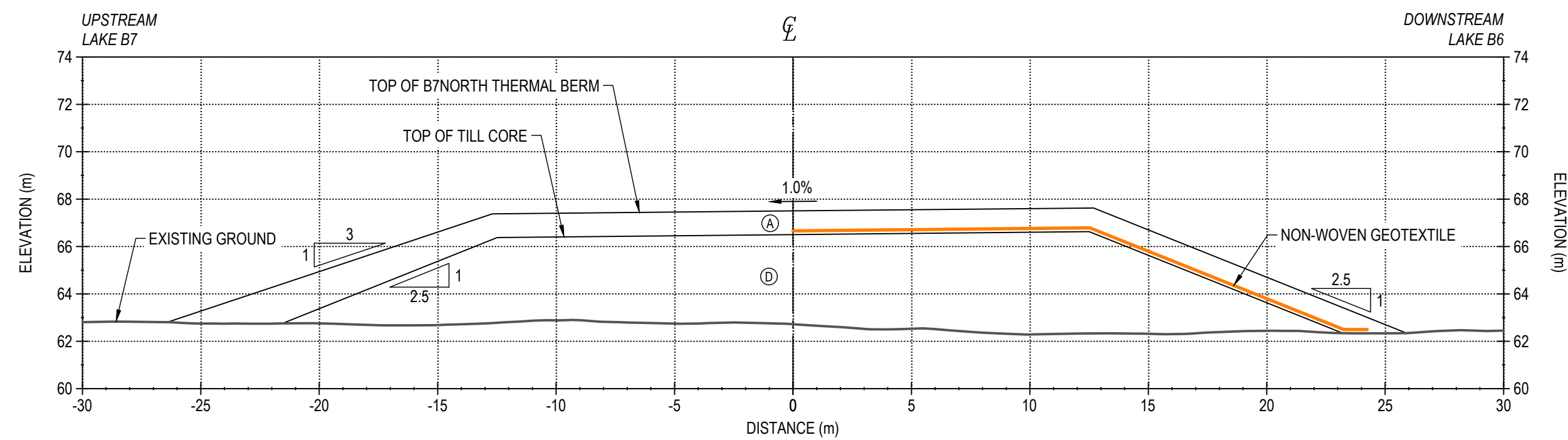
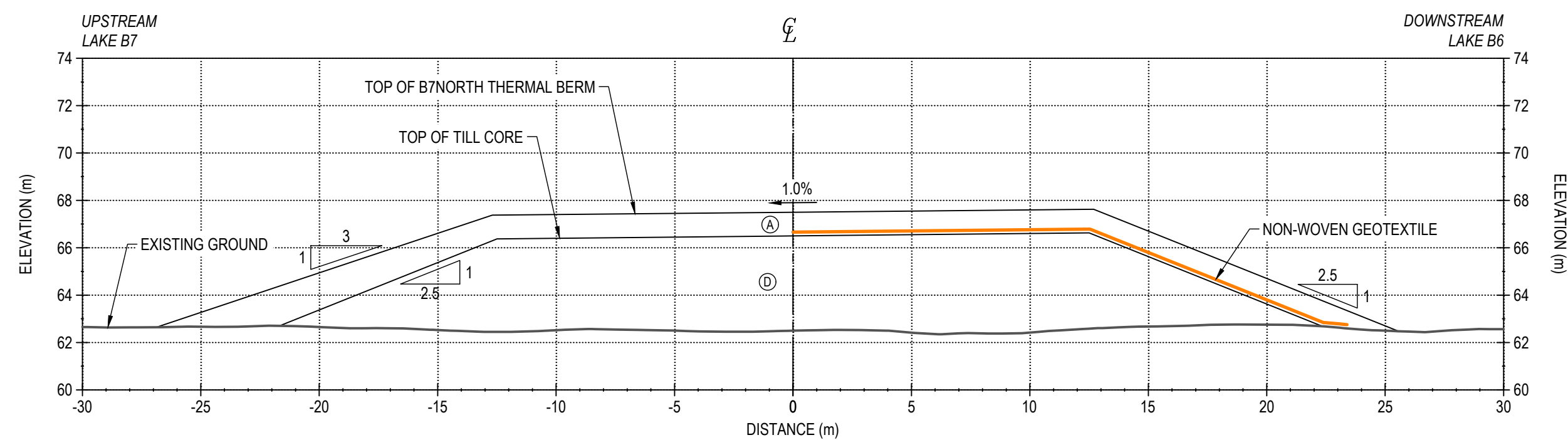




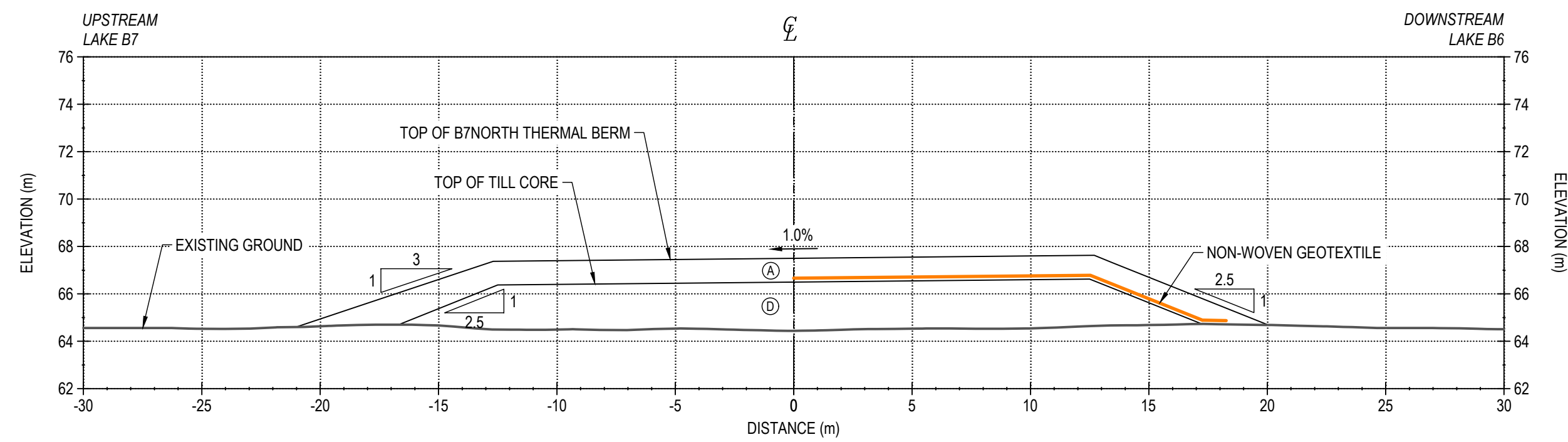
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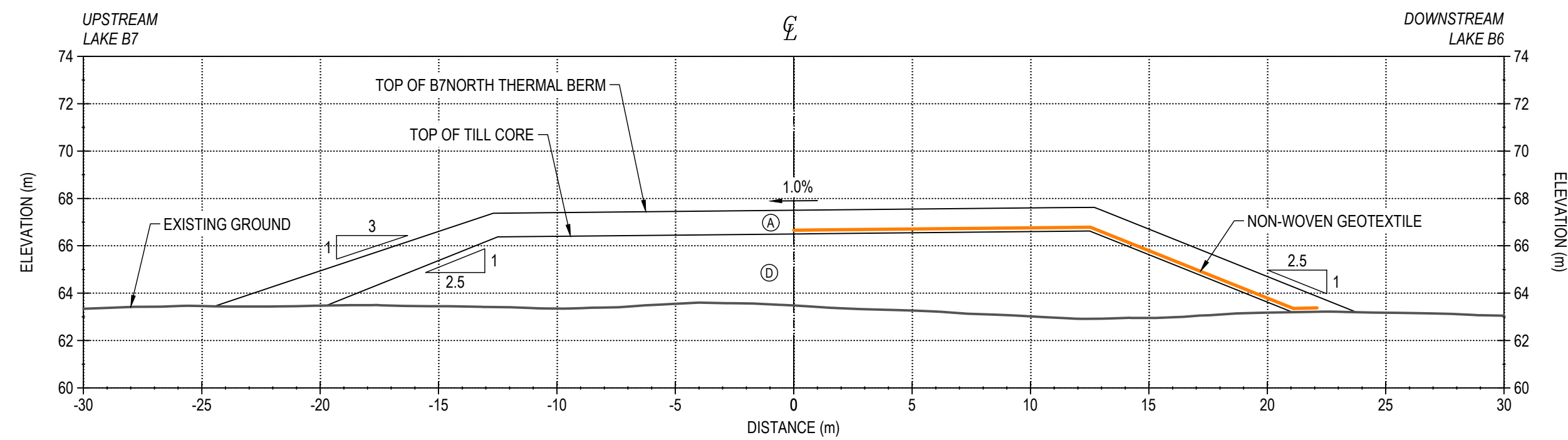
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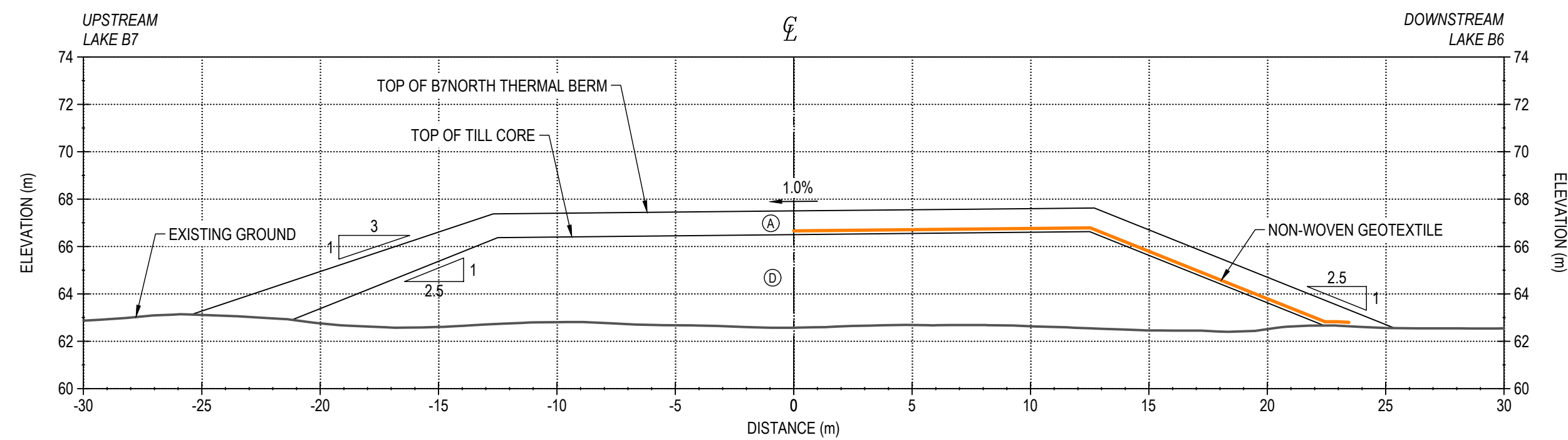
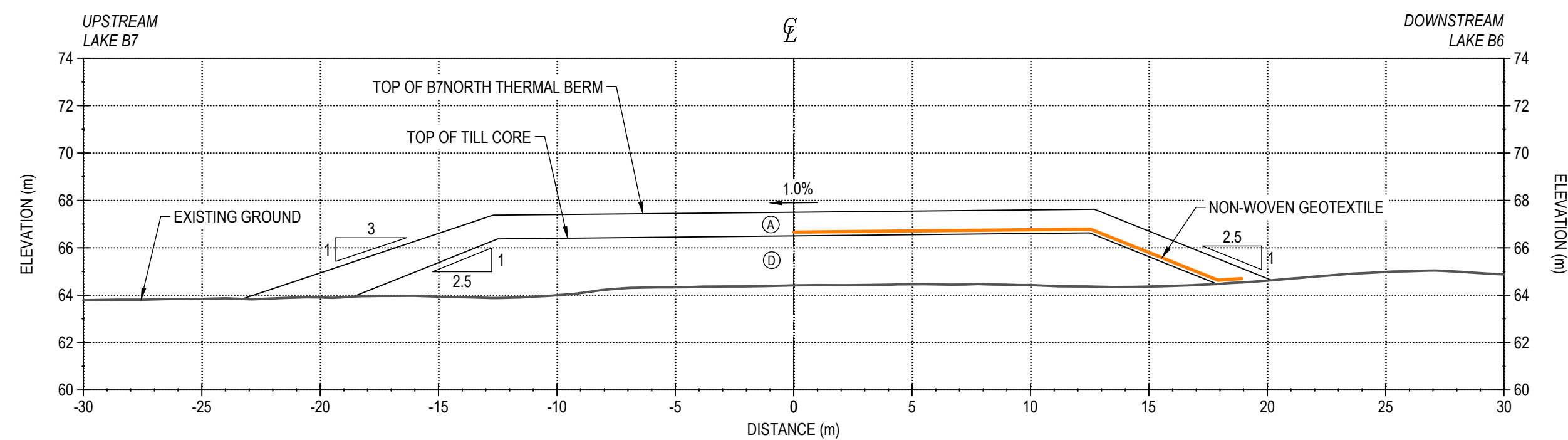
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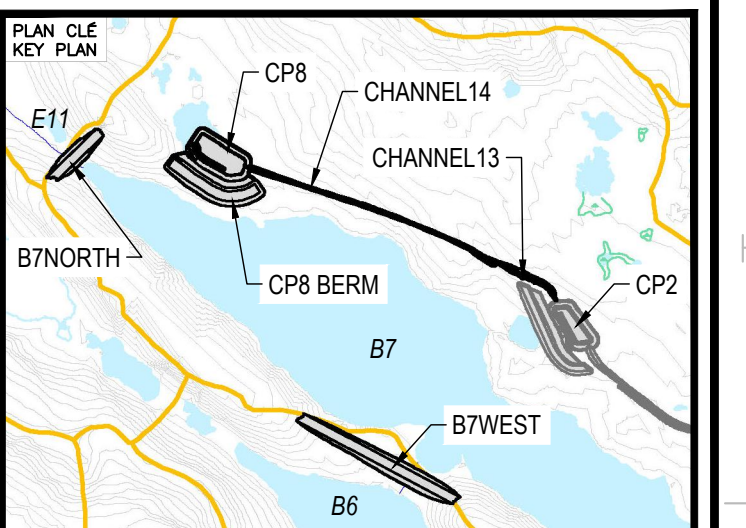
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STATION 0+250

STATION 0+350

STATION 0+450



NOTES GÉNÉRALES / GENERAL NOTES

1. ASSUMED CONSTRUCTION SCHEDULE WINTER 2026 / 2027
2. ASSUMED GEOTECHNICAL THAT MEETS MATERIAL SPECIFICATION WILL BE AVAILABLE AT SITE FOR BERM CONSTRUCTION.
3. MATERIAL PLACEMENT AND FOUNDATION PREPARATION SHOULD BE IN ACCORDANCE WITH THE REQUIREMENTS OF GEOTECHNICAL CONSTRUCTION / MATERIAL SPECIFICATIONS (TETRA TECH 2025).
4. GROUND TEMPERATURE CABLES SHOULD BE INSTALLED AFTER CONSTRUCTION AS PER DESIGN TO MONITOR THE PERFORMANCE OF THE BERM.
5. EXISTING GROUND CONTOUR BASED ON THE SURVEY TAKEN BY AGNICO EAGLE ON JULY 19, 2021.

LEGEND

- ④ CLEAN ROCKFILL FROM EXCAVATION (600 mm MINUS)
- ⑤ OVERBURDEN FROM EXCAVATION (300 mm MINUS)

PERMIT TO PRACTICE
TETRA TECH CANADA INC.

Signature _____

Date _____

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Engineers and Geoscientists

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TITRE / TITLE
AGNICO EAGLE MELIADINE GOLD MINE

B7WEST THERMAL BERM
DESIGN SECTIONS

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VERIFIÉ PAR CHECKED BY	DS	2025-11-14
APPROUVÉ PAR APPROVED BY	HX	2025-11-14

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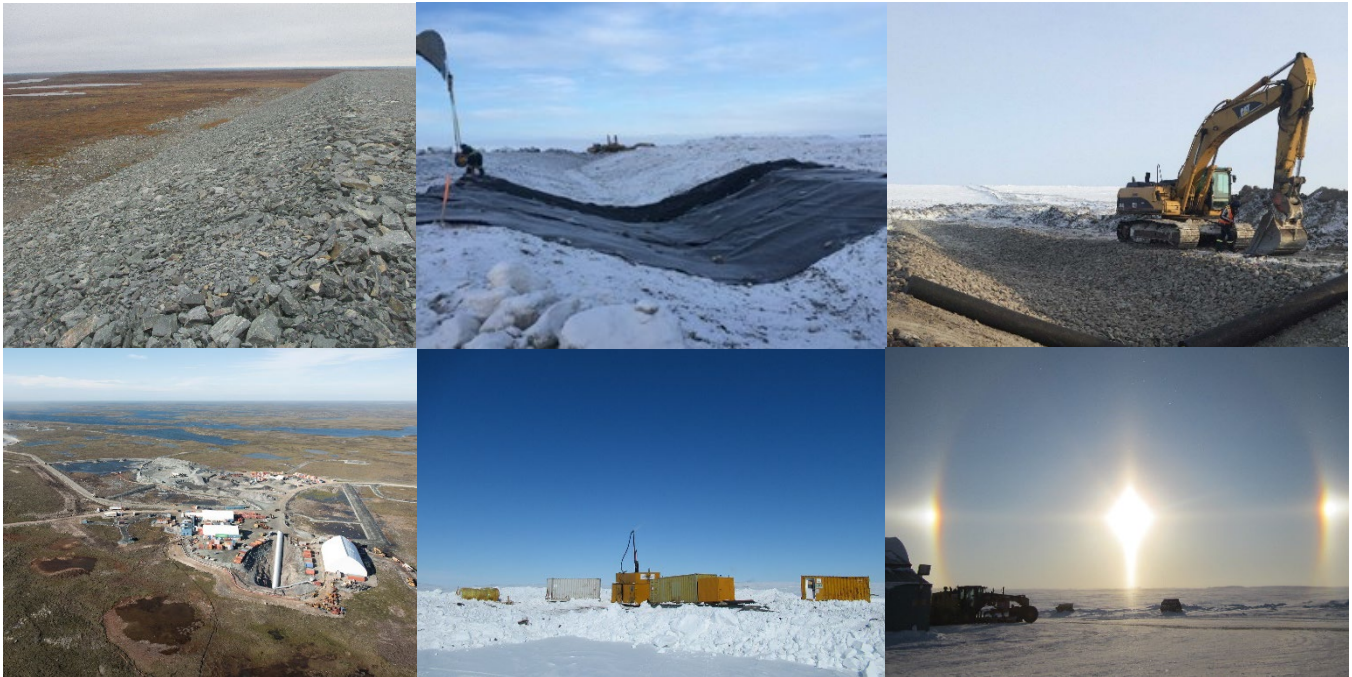
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APPENDIX E

GEOTECHNICAL SPECIFICATIONS FOR CONSTRUCTION OF CP8, CP8 THERMAL BERM, CHANNEL13, CHANNEL14, B7NORTH THERMAL BERM, AND B7WEST THERMAL BERM

Geotechnical Specifications for Construction of CP8, CP8 Thermal Berm, Channel13, Channel14, B7North Thermal Berm, and B7West Thermal Berm, Meliadine Gold Mine, NU



PRESENTED TO

Agnico Eagle Mines Limited

NOVEMBER 14, 2025

ISSUED FOR USE

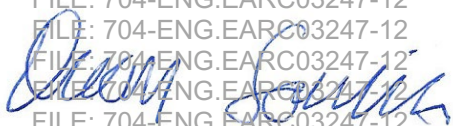
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AGNICO EAGLE DOCUMENT NUMBER: 65-695-230-SPT-001

Presented to:
Agnico Eagle Mines Ltd.
10 200, route de Preissac
Rouyn-Noranda, QC, Canada J0Y 1C0

Respectfully Submitted,
Tetra Tech Canada Inc.

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FILE: 704-ENG.EARC03247-12
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FILE: 704-ENG.EARC03247-12

Reviewed by:
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Fai.Ndofo@tetrattech.com

/jf

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1.2 Definitions	1
1.3 Acronyms	1
1.4 Units of Measure	2
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1.2 Construction Methods	1
1.3 Drawing Discrepancies	1
1.4 Supply of Construction Materials	1
1.5 Site Cleanup	2
1.6 As-built Survey	2
1.7 QA/QC Testing	2
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SECTION 1001 – DEFINITIONS AND ACRONYMS

1.1 General

- .1 Definitions of terms and acronyms used throughout the Geotechnical Specifications for construction of CP8, CP8 Thermal Berm, Channel13, Channel14, B7North Thermal Berm, and B7West Thermal Berm are presented in this Section.

1.2 Definitions

Construction Drawings or Drawings: The design drawings as Issued for Construction.

Construction Specifications: This document.

Contract: The legal and binding agreement between the Contractor and Agnico Eagle Mines Limited (Agnico Eagle) regarding construction of CP8, CP8 Thermal Berm, Channel13, Channel14, B7North Thermal Berm, and B7West Thermal Berm of the project.

Contractor: The general contractor responsible for construction.

Engineer: Tetra Tech Canada Inc., owner's on-site geotechnical representative during construction or related activities.

Owner: Agnico Eagle Mines Limited.

Site: The area in which construction or related activities are occurring.

Unsuitable: Not meeting the requirements stated herein or not receiving the Engineer's approval.

Civil Component: Any portion of construction relating to civil works.

1.3 Acronyms

ASTM	American Society for Testing and Materials
Agnico Eagle	Agnico Eagle Mines Limited
GTC	Ground Temperature Cable
Mine	Meliadine Gold Mine
Non-PAG	Non potentially Acid Generating
NU	Nunavut
QA/QC	Quality Assurance and Quality Control
TSS	Total Suspended Solids

1.4 Units of Measure

km	kilometre
m	metre
mm	millimetre
m ³	cubic metres
m ²	square metres

END OF SECTION

SECTION 1002 – GENERAL

1.1 General

- .1 This specification has been prepared for construction of CP8, CP8 Thermal Berm, Channel13, Channel14, B7North Thermal Berm, and B7West Thermal Berm at the Meliadine Gold Mine in the Nunavut Territories (NU) and for the exclusive use at this specific project.
- .2 This document follows the International System of Units (SI).

1.2 Construction Methods

- .1 The elevations and dimensions shown on the Construction Drawings are for the purpose of construction and measurement. The Contractor shall ensure that all grades, elevations, and dimensions are adhered to. Any deviation or change from the Construction Drawings requires the approval of the Engineer.
- .2 The Contractor will be responsible for the specific method of construction to meet the design intent/ requirements and Construction Specifications. The specific method of the construction from the Contractor shall be approved by the Engineer before the start of the construction.

1.3 Drawing Discrepancies

- .1 Any discrepancies found on the Construction Drawings shall be brought to the immediate attention of the Engineer. No deviations shall be permitted from the Construction Drawings without written approval from the Engineer.
- .2 The Contractor shall immediately submit in writing to the Engineer any conflicts discovered within this document or between this document, the purchase order, the accompanying data sheets and drawings, and any other supplemental information or specifications. The Engineer will then make a ruling and clarify the matter in writing.

1.4 Supply of Construction Materials

- .1 The materials referenced in Section 1005 – Granular Fill Materials of this document are designated on the Drawings. Estimated “in-place” material quantities are also presented on the Drawings. The clean rockfill quantity should be increased by a minimum of 10% to account for overbreak, waste, and/or overbuild that may occur during construction. The geotextile material should be increased by 20% to account for overlap, damaged sections, and/or waste that may occur during construction.
- .2 Overburden till will be available during excavation of CP8 or from overburden stripping for open pit development. A selected portion of the excavated till that meets the material specifications will be used as Overburden Till Fill (Type D) for berm construction. Re-using of the overburden as Type D Material is the responsibility of the Contractor.
- .3 The clean rockfill from the pond excavation and other sources approved by the Owner will be used as Clean Rockfill (Type A) or Rip-rap for channel construction. Only the rockfill classified as non-PAG and with no potential for metal leaching will be used for construction.

- .4 The non-woven geotextile will be provided by the Owner. The Contractor of this package will install the supplied non-woven geotextile for berm and channel construction.

1.5 Site Cleanup

- .1 The Contractor shall remove all temporary structures and shall clean up the construction area and stockpile areas after completion of the Contract work.

1.6 As-built Survey

- .1 A survey contractor will be directly hired by the Owner to carry out as-built survey and documentation to verify quantities and produce as-built drawings for each structure.
- .2 The Survey Contractor should carry out the following tasks, but not be limited to:
 - .a Survey the as-built conditions of excavations and fills including different material boundaries as required;
 - .b Survey the geotextile installation locations and elevations;
 - .c Survey the instrumentation installation locations and elevations;
 - .d Survey of any measurement for payment items;
 - .e Provide quantities of each of excavations and fill materials on critical stages or as required;
 - .f Provide the Engineer an AutoCAD drawing showing 3D lines and surfaces of each of excavations and fill materials at critical stages or as required; and
 - .g Provide the as-build AutoCAD drawing showing 3D lines and surfaces of each of excavations and fill materials after the completion of each structure.

1.7 QA/QC Testing

- .1 Soil testing for the construction Quality Assurance and Quality Control (QA/QC) program and associated documentation will be carried out by either the Engineer or a qualified site representative hired by the Owner.

1.8 Equipment and Tools for Construction

- .1 The Contractor shall be responsible for the equipment and tools that are required for construction of the berms and channel. The equipment and tools may include, but is not limited to, the following:
 - .a Equipment for material loading, hauling, placing, and compacting;
 - .b Equipment for frozen overburden and rock excavation including drill/blast operation;
 - .c Equipment and tools that are required for geotextile installation and QA/QC testing;
 - .d Equipment for temporary water/erosion management during construction if required;
 - .e A drill rig to drill holes for installing vertical ground temperature cables through the thermal protection berm; and
 - .f Any other equipment that may be required for construction.

END OF SECTION

SECTION 1003 – EXCAVATION, SITE, AND FOUNDATION PREPARATION

1.1 General

- .1 This section describes the general requirements with respect to excavation, site, and foundation preparation.

1.2 General Excavation

- .1 The Contractor shall undertake all excavation to the dimensions and lines shown on the Construction Drawings or as directed by the Engineer.
- .2 The Contractor will be solely responsible for the method of excavation which may include manual excavation, hydraulic excavation, ripping, and blasting.
- .3 The Contractor shall use excavation methods that minimize the disturbance and/or fracturing beyond excavation limits. Excavation beyond the limits shown on the Construction Drawings shall not be undertaken without prior approval of the Engineer. Any excavation completed outside the design limits without the Engineer's approval shall be done at the Contractor's expense. The actual excavation depth and side slopes could be different from those shown on the drawings.
- .4 Over-excavation affecting the design gradelines or elevations shall be backfilled as directed by the Engineer. Backfill shall be placed in accordance with Section 1006 – Granular Fill Placement.
- .5 All completed excavations shall be free of loose or deleterious material.
- .6 The original ground shall remain undisturbed. Any disturbed areas surrounding excavations shall be graded following construction to promote positive drainage away from the work areas.
- .7 The Contractor will be solely responsible for the control and diversion of surface and subsurface water flows into and around the excavation. Measures should be taken to minimize the total suspended solids (TSS) in the water collected.
- .8 The Contractor will be responsible for all aspects of safety during the excavation operations including the stability of the excavations.

1.3 Pond Excavation

- .1 All unsuitable foundation soils or rocks shall be removed from within the pond and berm footprints as directed by the Engineer and detailed in the Construction Drawings. Excavated materials shall be disposed at approved spoil locations if not used for construction.
- .2 The pond shall be excavated according to the Construction Drawings or approved by the Engineer. Blasting may be required to excavate the frozen overburden and bedrock.
- .3 The final slope of rock faces after excavation will be determined during construction by a qualified Geotechnical Engineer, based on the actual rock conditions (joint, faults, evaluation height etc.) and risk of local failure or rock falls. If required, the rock faces will be flattened to increase the stability.
- .4 Excavation of rock shall be conducted in a manner that avoids excessive fracturing or the creation of voids in the underlying rock.

- .5 Any inflow of water into the excavation shall be controlled by sumps and pumps in a manner that minimizes thaw and erosion at the excavation base and side slopes. The water shall be disposed of in a manner to not contaminate the receiving water bodies. Sedimentation or treatment may be required. The discharge location of the collected water in sumps during the excavation will be determined by the Owner or the Engineer.
- .6 As indicated in the Construction Drawings, the base of the till berm should be stripped to remove snow/ice, loose materials (organics/peat, boulders/cobbles etc.) and other high permeability materials. The required depth of the berm base stripping shall be determined at the time of construction by the Engineer.

1.4 Drilling and Blasting

- .1 The Contractor is responsible for ensuring that blasting procedures used are within guidelines set by all regulatory bodies and authorities having jurisdiction on site.
- .2 The Contractor shall use excavations methods that minimize fracturing beyond excavation limits.
- .3 Care shall be taken in locating the drill holes, orienting the drills, and while drilling so that accurate positioning and alignment of the drill holes is achieved.
- .4 Controlled blasting techniques shall be used to satisfy the excavation requirements stated herein. The initial explosive type and quantity, blasting sequence, and delay pattern shall be modified where required to achieve the requirements specified herein.

1.5 Foundation Preparation

- .1 All fill shall be placed on a firm bearing surface, free from snow, soft and/or loosened areas, ice, or other detritus material. All unsuitable foundation soils, as determined by the Engineer, shall be excavated and replaced with the appropriate material specified in the drawings. This material shall be placed and compacted in accordance with Section 1006 – Material Placement.
- .2 Boulders must be removed as determined by the Engineer.
- .3 The survey contractor shall carry out an accurate (i.e., no more than ± 10 mm) survey to act as a reference for material quantities.
- .4 Surficial vegetation, loose organic soils, open graded boulders, or other high permeable materials shall be removed according to the Construction Drawings or as determined by the Engineer.
- .5 Refer to the Construction Drawings for other foundation preparation requirements specified for each structure.

1.6 Foundation Approval

- .1 The ground surface shall be inspected and approved by the Engineer before any fill material is placed. The Contractor shall give, not less than 24 hours' notice to the Engineer for subgrade inspection.

END OF SECTION

SECTION 1004 – WATER, SNOW/ICE, EROSION, AND TURBIDITY CONTROL

1.1 General

- .1 This section describes water, snow/ice, erosion, and turbidity control during construction.
- .2 Natural runoff/run-on water due to rainfall events and the seepage water through unfrozen overburden into the excavations or construction areas during construction are not expected based on the current construction schedule (January/February 2026). If required, the berm and channel footprint area shall be dewatered to allow for fill placement in a relatively dry environment.
- .3 The excavation shall be protected to avoid erosion by rainfall or freshet runoff if required.
- .4 Water, snow, ice control, and construction related dewatering are the responsibilities of the Contractor.

1.2 Water Control

- .1 If required, the Contractor shall employ all measures necessary to control inflow into the various required excavations during construction. This may include construction of temporary water control structures, such as, berms around excavation perimeters, or excavation of interceptor trenches and/or sumps.
- .2 Construction, maintenance, and operation of any temporary water control works shall be the responsibility of the Contractor.
- .3 Water management during construction shall follow the Water Management Plan and the Sediment and Erosion Management Plan.
- .4 Following completion of the work, all temporary water control works shall be removed and the affected areas graded to provide positive drainage as directed by the Engineer.
- .5 All temporary sumps shall be backfilled as directed by the Engineer. Backfill shall be placed in accordance with Section 1006 – Material Placement or as per Engineer's direction.

1.3 Snow and Ice Control

- .1 The Contractor shall employ all measures necessary to control snow and ice accumulation in the open work areas during construction. This may include snow ploughing and grading.
- .2 No snow or ice is allowed to be backfilled with fill materials. Any snow or ice shall be cleared off before fill materials are placed and compacted.
- .3 Construction, maintenance, and operation of any temporary snow and ice control works shall be the responsibility of the Contractor.
- .4 Following completion of the work, all temporary snow and ice control works shall be removed, and the affected areas graded to provide positive drainage as directed by the Engineer.

1.4 Erosion Control

- .1 The excavation face and backfill shall be protected, when required, to minimize erosion due to heavy rainfall events during construction.
- .2 The erosion protection measures shall be removed following completion of the construction.

1.5 Turbidity Control

- .1 Runoff water from the fill or excavation surfaces during construction may have excess TSS. The Contractor shall take necessary measures to control the turbidity of the water, if there is a risk of the runoff water flowing into a nearby water body to be protected from excess turbidity.
- .2 The turbidity control measures shall be approved by the Engineer or the Owner.

END OF SECTION

SECTION 1005 – GRANULAR MATERIAL

1.1 General

- .1 This Section describes the available granular fill materials for construction.

1.2 Reference Standards

- .1 Where material properties are specified, the following standards are applicable:
 - .a ASTM D422, Test Method for Particle-Size Analysis of Soils.
 - .b ASTM D1140, Test Method for Amount of Material in Soils Finer than the No. 200 (75 µm) Sieve.
 - .c ASTM C136, Test Method for Sieve Analysis of Fine and Coarse Aggregates.
 - .d ASTM D2216, Test Method for Laboratory Determination of Water (Moisture) Content of Soil and Rock.

1.3 Material Sources

- .1 No material of any type shall be borrowed or excavated without the Owner's prior approval.
- .2 Borrow pits and/or quarries shall be maintained and managed in accordance with the requirements set out in the Owner's Land Use and Quarry Permits and Borrow Pits and Quarries Management Plan.
- .3 The fills that require processing shall be processed from materials obtained from sources approved by the Owner, provided the final product meets the requirements specified herein. Processing may be required to achieve the specified gradations of some fills.
- .4 The parent rock from which all fill materials are derived shall be non-potential acid generating (Non-PAG) rock and consist of sound, hard, durable material free from soft, thin, elongated, or laminated particles and shall contain no unsuitable substances. The potential quarry source shall be approved by the Owner or the Engineer. The construction material should be verified with the client's representative to make sure the material can be used as the construction material with no environmental issues.
- .5 A selected portion of the excavated till during excavation of CP8 or from overburden stripping for open pit development that meets the material specifications can be used as Overburden Till Fill (Type D) for berm construction.
- .6 The clean rockfill from the pond excavation and other sources approved by the Owner will be used as Clean Rockfill (Type A) or Rip-rap for berm and channel construction.

1.4 Material Specifications

.1 Clean Rockfill (600 mm Minus)

The Clean Rockfill can have a wide variation of gradation with a maximum particle size of 600 mm. Any oversized boulders should be removed before the rockfill is placed into the earth structure. Rockfill particles shall be angular and shall be derived from hard, durable rock. Any significant concentration of unsatisfactory materials shall be removed and directed to the waste disposal area or, with the Owner's approval, mixed with other materials to produce a material, which would meet specifications.

NAG rock shall be used for earth work construction. The clean rockfill will be sourced from the pond excavation or mine development. The clean rockfill shall be free from snow, ice, frozen chunks, organic matters, and debris.

.2 Overburden Till Fill

Till Fill represents a wide range of natural overburden materials including inorganic, till, and native granular materials. The material can have a wide variation in gradation with a fines (less than 0.08 mm) content of between 10% and 60% by weight to have a relatively low hydraulic conductivity after compacted. The fill shall consist of mineral soils, be free of oversized boulders, roots/peats/organics, topsoil, and other deleterious material. The Till can be obtained from the pond excavation or other mining areas. The selected overburden waste from excavation during construction or mine operation can be used as the Till Fill.

.3 Rip-Rap

Rip-rap shall be used as the erosion protection material for the pond. The particle size specifications for the graded rip-rap materials are minimum particle size of 20 mm and maximum particle size of up to 600 mm to 200 mm. The material shall be free of roots, organics, and other deleterious material. Processing may be required to achieve the specified gradation. The material can be processed from hard, durable, Non-PAG rock.

END OF SECTION

SECTION 1006 – MATERIAL PLACEMENT

1.1 General

The placement methods to be used during construction are described in this Section.

- .1 Construction shall be performed with proper construction techniques and equipment.
- .2 Fill materials shall be placed so that each layer is homogeneous, free of snow/ice, stratifications, ice chunks, organics, and deleterious materials.
- .3 No fill material shall be placed on any part of the foundation until it has been prepared as specified herein and approved by the Engineer. Placement of fill material shall conform to the lines, grades, and elevations shown on the Construction Drawings.
- .4 No fill should be placed in ponded water.
- .5 Construction shall not proceed when the work cannot be performed in accordance with the requirements of the Specifications. Any part of fill material that has been damaged by the action of rain, snow, or any other cause shall be removed and replaced with the appropriate material conforming to the requirements stated herein before succeeding layers are placed.
- .6 Stockpiling, loading, transporting, placing, and spreading of all materials shall be carried out in such a manner to avoid segregation. Segregated materials may need to be removed and replaced with the materials meeting the requirements stated herein, as required by the Engineer.
- .7 The Contractor shall remove all debris, vegetation, or any other material not conforming to the requirements stated herein. The Contractor shall dispose of these materials in an area approved by the Owner.
- .8 All fills shall be placed and compacted in horizontal lifts from the bottom up over a slope, except for special cases that are approved by the Design Engineer.

1.2 Reference Standards

- .1 Where material properties are specified the following standards are applicable:
 - .a ASTM D422, Test Method for Particle-Size Analysis of Soils.
 - .b ASTM D1140, Test Method for Amount of Material in Soils Finer than the No. 200 (75 µm) Sieve.
 - .c ASTM C136, Test Method for Sieve Analysis of Fine and Coarse Aggregates.
 - .d ASTM D2216, Test Method for Laboratory Determination of Water (Moisture) Content of Soil and Rock.

1.3 Placement of Fill

- .1 Clean Rockfill (600 mm minus)
 - .a Clean Rockfill shall be placed in loose lift thicknesses not exceeding 1,000 mm.
 - .b Clean Rockfill must be stockpiled, transported, and placed using techniques, which avoid segregation and nesting of coarse particles. With the approval of the Engineer, the segregated coarse particles may be placed on the outside face of the structure to serve as erosion protection material.
 - .c The material shall be placed and compacted to the satisfaction of the Engineer. Subsequent lifts of material shall not be placed without approval of the Engineer.
 - .d Care shall be taken not to puncture the non-woven geotextile when placing the rockfill. Any damaged non-woven geotextile shall be repaired or replaced as requested by the Engineer.
- .2 Overburden Till Fill
 - .a Overburden Till Fill shall be placed in loose lift thicknesses not exceeding 500 mm.
 - .b Overburden Till Fill must be stockpiled, transported, and placed using techniques, which avoid segregation and nesting of coarse particles.
 - .c Overburden Till Fill shall be subjected to at least six full passes with a smooth drum vibratory compactor weighing not less than 10 tonnes or compacted to the satisfaction of the Engineer. A full pass is defined as one forward pass followed by a backward pass.
- .3 Rip-rap
 - .a Specified size of Rip-rap, as defined in Section 1005 shall be used.
 - .b The rip-rap shall be placed on the pond excavated surfaces or as directed by the Engineer on the excavation bottom or slope.

END OF SECTION

SECTION 1007 – NON-WOVEN GEOTEXTILE

1.1 General

- .1 The product and installation specifications for the non-woven geotextile to be used for the construction are presented in this Section.
- .2 This specification covers non-woven geotextile test properties for subsequent use as protection (or cushioning) materials.

1.2 References

Where material properties are specified, the following standards are applicable:

- .1 ASTM D4355, Test Method for Deterioration of Geotextiles from Exposure to Ultraviolet Light and Water (Xenon-Arc Type Apparatus).
- .2 ASTM D4533, Test Method for Trapezoidal Tearing Strength of Geotextiles.
- .3 ASTM D4632, Test Method for Grab Breaking Load and Elongation of Geotextiles.
- .4 ASTM D4833, Test Method for Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products.
- .5 ASTM D5261, Test Method for Measuring Mass per Unit Area of Geotextiles.
- .6 ASTM D6241, Test Method for Static Puncture Strength of Geotextiles and Geotextile-Related Products Using a 50 mm Probe.
- .7 ASTM D4751, Test Method for Determining Apparent Opening Size of a Geotextile.
- .8 ASTM D5199, Standard Test Method for Measuring the Nominal Thickness of Geosynthetics.

1.3 Geotextile

- .1 Non-woven geotextile shall comprise needle punch polypropylene fabric made of 100% polypropylene staple fibers conforming to the properties in Table 1.
- .2 Recommended Minimum Non-woven Geotextile Properties are presented in Table 1.
- .3 Alternatives with equivalent parameters or functionality can be used with approval of the Engineer.

Table 1: Recommended Minimum Non-woven Geotextile Properties

Test Parameter	Required Specifications	ASTM Test Method (or Approved Equal)
Nominal Thickness of Geotextile (mm)	1.7	D5199
Grab Tensile (N)	710	D4632
Elongation (%)	50	D4632
Trapezoidal Tear (N)	270	D4533
Puncture Resistance (N)	380 (or 1820)	D4833 (or D6241)
Typical Unit Weight (g/m ²)	200	D5261
UV Resistance (500 hrs)	70%	D4355
Apparent Opening Size (AOS) (mm)	0.212	D4751

1.4 Installation Method

- .1 The Contractor shall place the geotextile once the excavation or bedding surface (if required) has been completed and approved by the Engineer.
- .2 If the excavation is conducted when the overburden soils are frozen, bedding material may be required to be placed over the excavated surface to form a smooth surface for geotextile installation.
- .3 Place geotextile material by unrolling onto graded, smooth surface.
- .4 Place geotextile material smooth and free of tension, stress, folds, wrinkles, and creases.
- .5 Place geotextile material on sloping surfaces in one continuous length from toe of slope to over crest.
- .6 Overlap each successive length of geotextile 450 mm, or to manufacturer's instructions, if a shorter overlap is required, approval from the Engineer shall be obtained prior to installation.
- .7 Protect installed geotextile material from displacement and damage. Replace damaged and deteriorated geotextile.
- .8 Do not permit passage of any vehicle directly on geotextile at any time.

END OF SECTION

SECTION 1008 – INSTRUMENTATION INSTALLATION

1.1 General

- .1 This section describes the instrumentation and installation for the CP8 Thermal Berm, B7North Thermal Berm, and B7West Thermal Berm.
- .2 The instrumentation to be installed in the Thermal Berms include vertical ground temperature cables (GTCs).
- .3 The instrumentation will be provided to the Contractor by the Engineer as per request.
- .4 The Contractor shall install the instrumentation under the direct supervision of the Engineer.

1.2 Installation and Monitoring

- .1 Each instrumentation device shall be installed as specified in the Construction Drawings.
- .2 Survey confirmation of the instrumentation locations is required before and after instrumentation installation.
- .3 Care should be taken to avoid sharply bending the GTCs under cold temperatures. If required, the GTCs can be warmed in a heated space to facilitate unwarping the cables before installation.
- .4 Before installation, initial reading should be made by the Engineer for each GTC to confirm the normal function of each thermistor bead.
- .5 The Contractor shall ensure that the instrumentation shall not be damaged by construction activities during and after instrumentation installation.
- .6 After the completion of the berm construction, regular readings (monthly for the first two years, then quarterly afterwards, or as required by the Design Engineer) of the GTCs shall be made by the Owner. The readings should be sent to the Design Engineer for review and record.

END OF SECTION

APPENDIX F

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.

Any unauthorized use of the Professional Document is at the sole risk of the user. TETRA TECH accepts no responsibility whatsoever for any loss or damage where such loss or damage is alleged to be or, in fact, caused by the unauthorized use of the Professional Document.

Where TETRA TECH has expressly authorized the use of the Professional Document by a third party (an "Authorized Party"), consideration for such authorization is the Authorized Party's acceptance of these Limitations on Use of this Document as well as any limitations on liability contained in the Contract with the Client (all of which is collectively termed the "Limitations on Liability"). The Authorized Party should carefully review both these Limitations on Use of this Document and the Contract prior to making any use of the Professional Document. Any use made of the Professional Document by an Authorized Party constitutes the Authorized Party's express acceptance of, and agreement to, the Limitations on Liability.

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.