SNC·LAVALIN

Construction Support of South Whale Tail Diversion Channel

Construction Report of South Whale Tail Diversion Channel

Agnico Eagle Mines Limited



Mining & Metallurgy

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Quebec, August 24th, 2020

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Subject: Construction Support of South Whale Tail Diversion Channel
Construction Report of South Whale Tail Diversion Channel
Our file: 667648-3000-40ER-0001_01

Dear Mr. Bolduc,

We are pleased to submit the final version of the report mentioned in the above subject.

Do not hesitate to communicate with the undersigned should you have further questions regarding the content of this report.

Truly yours,

SNC LAVALIN INC.

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EV/bsp

List of Revisions

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List of Acronyms and Abbreviations

AEM	Agnico Eagle Mines Limited, Meadowbank Division
CF	Coarse Filter
FF	Fine Filter
IFC	Issued for Construction
IFD	Inflow Design Flood
KCG	Kivalliq Contractors Group Ltd.
MET	Meadowbank Engineering Team
QA	Quality Assurance
QC	Quality Control
RFI	Request for Information
SWTDC	South Whale Tile Diversion Channel
SWTDC-LA45S	South Whale Tile Diversion Channel Section Lake A45
TSS	Total Suspended Solids

Executive Summary

The South Whale Tail Diversion Channel is part of the water management infrastructures jointly developed by the SNC-Lavalin and AEM teams. The channel was built between existing A20, A45 and Mammoth lake and will be used as the outlet of Whale Tail Lake starting spring 2020. The construction was started in January 2020 and completed in April 2020. The construction process of these structures and their compliance with the Design and Technical Specifications are discussed in the current construction report.

The construction of South Whale Tail Diversion Channel was completed in accordance with the Drawings and Technical Specifications as per data collected from the quality control and quality assurance program. The construction of the channel includes earthworks such as foundation preparation and fill placement, geotextile installation and riprap placement.

The quality control and quality assurance program included approvals for foundation preparation, fill materials and placement, geotextile installation and riprap placement. During the course of the work, field adjustments and/or design changes were applied to optimize construction activities and are documented in this report.

1.0 INTRODUCTION

1.1 Context

Agnico Eagle Mines Limited, Meadowbank Division ("AEM") is developing the Whale Tail Pit, a satellite gold deposit on the Whale Tail property, as a continuation of current mine operations and milling at the Meadowbank Mine. The Amaruq property is a 408 km² site located on Inuit Owned Land, approximately 150 km north of the Hamlet of Baker Lake and approximately 50 km northwest of the Meadowbank Mine in the Kivalliq region of Nunavut.

SNC-Lavalin Inc. ("SNC-Lavalin") was retained for engineering of water management and geotechnical infrastructures at Amaruq. The site layout was jointly developed by the SNC-Lavalin and AEM teams. A permitting engineering report followed the scoping study was completed in the early 2016 for the development of these water management infrastructures (SNC-Lavalin, 2016).

The South Whale Tail Diversion Channel (SWTDC), located south-west of the Amaruq site, is an important structure of the water management system for the Whale Tail Project. SWTDC will be the outlet of Whale Tail Lake South starting spring 2020. SWTDC is located in the south-western part of the Whale Tail Lake watershed and will channel flow from Whale Tail Lake (Lake A20) to Mammoth Lake.

SNC-Lavalin completed the detailed engineering of South Whale Tail Diversion Channel following the results of the 2019 geotechnical campaign completed by AEM (SNC-Lavalin, 2019a) (AEM, 2019). Following a review of the water management strategy of Amaruq site, AEM mandated SNC-Lavalin to update the design of SWTDC by decreasing its invert elevation by 0.5 m, allowing a reduction of the water head on Whale Tail Dike (WTD) in the early 2020 (SNC-Lavalin, 2020a). The initial water level in the Whale Tail Lake is at elevation 155.3 m, assuming that the lake will have a similar water level as the invert-elevation of the channel at the beginning of the spring freshet. A section of the channel is located upstream of Lake A45 (from the Whale Tail Lake to inlet of Lake A45) and a section downstream of Lake A45 (from outlet of Lake A45 to Mammoth Lake) with an operational water level elevation of 154.27 m in Lake A45. The construction of the two channel sections (upstream and downstream of Lake A45) were based on Issued for Construction (IFC) drawings provided in the SWTDC design report (SNC-Lavalin, 2020a). The IFC drawings are available in Appendix C of this report.

The original design of SWTDC in the design report (SNC-Lavalin, 2020a) did not include a structure in Lake A45. In order to control the risk of elevated total suspended solid (TSS) coming from the lakebed sediment re-suspension of Lake A45, AEM mandated SNC-Lavalin to incorporate a structure into the channel section through Lake A45 (SWTDC – LA45S) while the construction was in progress in early February 2020. As requested by AEM, the base of the design of the section in Lake A45 was the plan submitted by AEM on February 27, 2020 (named ``Option 3``). This proposed option has been reviewed and modified based on engineering work completed by SNC-Lavalin. Further modifications have been included following discussions between AEM and SNC-Lavalin. From the original plan submitted by AEM to the design reviews completed by SNC-Lavalin and the further discussions between AEM and SNC-Lavalin, the main design modifications are summarized in the SWTDC-LA45S design report (SNC-Lavalin, 2020b). SNC-Lavalin provided foundation preparation field work instructions (SNC-Lavalin, 2020f) to AEM on March 26, 2020 in

order to initiate the work in Lake A45 without interrupting construction progress. The SWTDC – LA45S was designed mainly to control the risk of elevated TSS coming from the lakebed sediment of Lake A45, but also constituted the access road on the east and west side through Lake A45.

The construction of the SWTDC started in January 2020 and was completed in April 2020. The construction documentation is presented in this report. It should be noted that part of the SWTDC construction was completed during the COVID-19 Pandemic. Due to limited operations and personal availability on site during this period, it was agreed that QA and QC tasks would be undertaken by AEM representative following the SWTDC Technical Specifications recommendations (based on teleconference meeting between AEM and SNC-Lavalin, March 30, 2020). The QA task as of April 2, 2020 and the QC task as of April 5, 2020 were undertaken by AEM representatives. As of April 2, 2020, no representative of the Designer (SNC-Lavalin) were present on site during the construction.

1.2 Purpose and Scope

This construction report summarizes and discusses the activities carried out during the construction of SWTDC, including the following elements:

- A summary of the construction steps completed;
- Quality control and quality assurance (QC/QA) tasks, compilation of data obtained from field surveillance and site observations as well as laboratory and field testing;
- A summary of design variations and field adjustments; and
- As-built drawings (completed by the Contractor).

The construction report presents the details of the work activities for the SWTDC construction based on QA and QC documentation. Construction details for Road 24 are also presented in this report, based on the information provided by AEM. SNC-Lavalin was not present during the construction of the access roads (Maintenance Road and Road 24). SNC-Lavalin did not provide any construction support, QA services and inspection or documentation for the road construction as it was not part of SNC-Lavalin mandate.

1.3 Limitations

Due to limited operations and personal availability on site related to COVID-19 situation, it was agreed that QA and QC tasks would be undertaken by AEM representative. As of April 2, 2020, the QA task were undertaken by AEM representatives and no representative of the Designer (SNC-Lavalin) as QA inspector were present on site during the remaining period of construction.

This construction report is based on the documentation completed by the SNC-Lavalin QA inspectors, from January 13 to April 1, 2020. For the remaining part of construction, from April 2 to April 19, 2020, the information presented in this construction report is based solely on the information provided by AEM from April 2 to April 19, 2020 (Daily Construction Meeting Report, QA Daily Report, QC Daily Report and Approvals form) and reviewed by SNC-Lavalin.

1.4 Description of Built Structure

A brief description SWTDC as part of the water-management infrastructure is provided in the following sections.

Figure 1-1 shows a general layout of the site, the dike, the channel and the lakes.

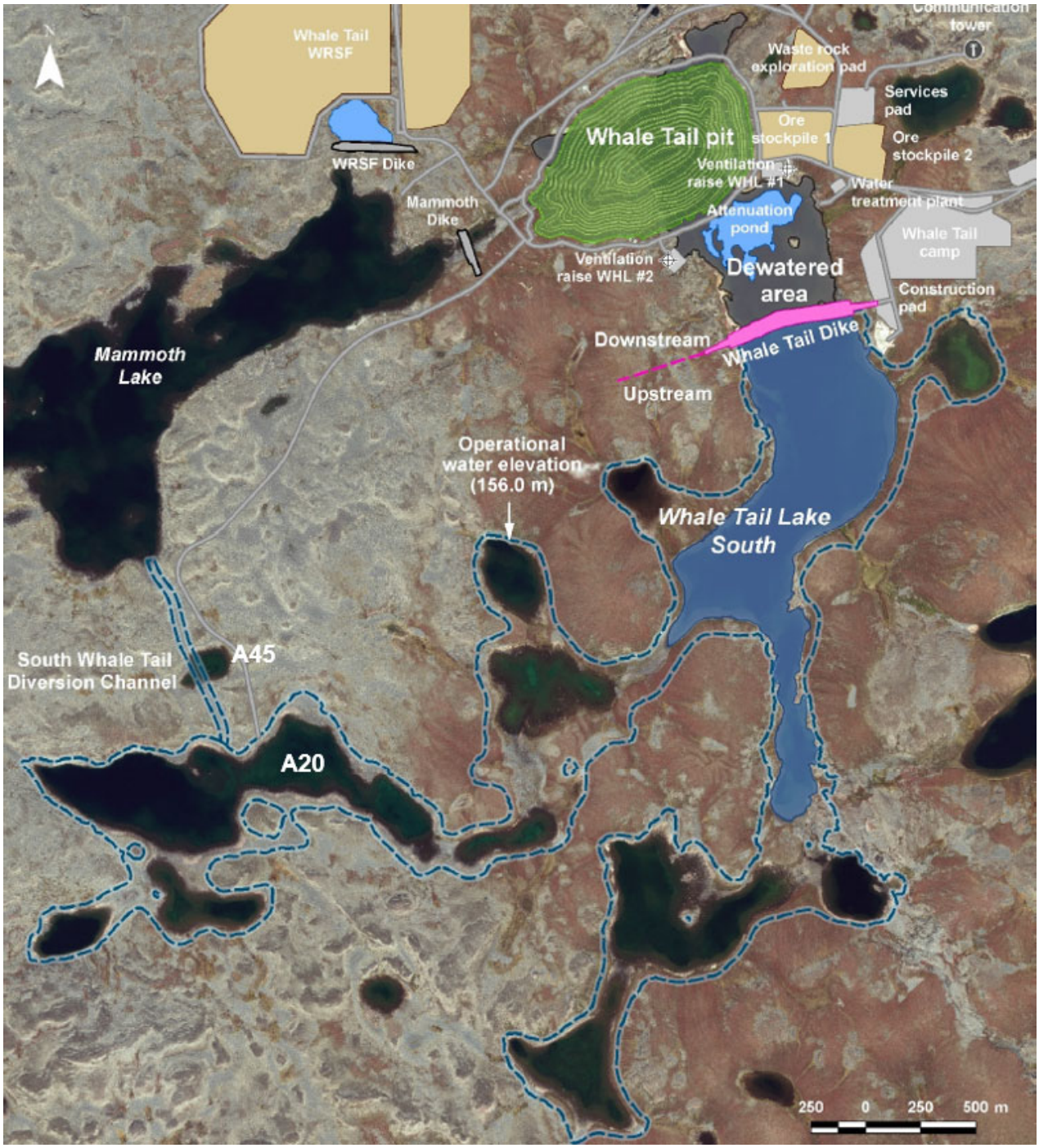

Figure 1-1 : Amaruq project mine layout

1.4.1 South Whale Tail Diversion Channel

The South Whale Tail Diversion Channel (SWTDC) is located in the south-western part of the Whale Tail Lake watershed and it will channel flow from Whale Tail Lake (Lake A20) to Mammoth Lake. The channel will drain a watershed of 2429 ha (SNC-Lavalin, 2020a). This area includes all the runoff flowing naturally from the South Whale Tail Lake's surroundings, and the watershed from Lake A53. SWTDC is classified as "high" as per CDA dam classification ((SNC-Lavalin, 2020a), (CDA, 2007, rev 2013)). Hence, an inflow design flood (IDF) of 1/3rd Flood between the 1,000-Yr Flood and the PMF was adopted for the design (SNC-Lavalin, 2020a).

The SWTDC is part of the water management infrastructures jointly developed by the SNC-Lavalin and AEM teams (SNC-Lavalin, 2016). As part of water management infrastructure, a dewatering dike (named "Whale Tail Dike (WTD)") is required to enable mining of the open pit located in the north part of Whale Tail Lake. The WTD is located north of the Whale Tail Lake on a shallow plateau of the lake floor with an approximate 2 m depth of water. For the mine operation, the downstream side of the dike has been dewatered and resulted the water level in upstream side of the dike to raise. SWTDC will be used as the outlet of Whale Tail Lake for the water management.

The SWTDC channel consisted of three portions: upstream of Lake A45, downstream of Lake A45 and Lake A45. The design details of the channel section upstream and downstream of Lake A45 can be found in the design report (SNC-Lavalin, 2020a). The channel is a trapezoidal channel with 5.0 m base, side-slopes of 3H:1V, and bed slope of 0.3% with an inlet-invert elevation of 155.3 m. This channel will provide enough capacity to allow safety passing the IDF with adequate freeboard. Channel sections upstream and downstream to Lake A45 were constructed using a protective riprap layer to avoid erosion and limit TSS in the water. Two transition filter materials (fine and coarse filter) and a geotextile on top of the coarse filter were placed between the riprap and the overburden. For channel sections upstream and downstream of Lake A45 where the excavation was too deep, a rockfill material on the upper part of the slope above the maximum water level was placed against the excavation slope.

The section of the channel passing Lake A45, SWTDC – LA45S, was designed to control the risk of elevated total suspended solid (TSS) coming from the lakebed sediment of Lake A45. The SWTDC – LA45S design also provided access roads on the east and west side through Lake A45. The design details of SWTDC – LA45S are presented in the design report (SNC-Lavalin, 2020b). The channel section in Lake A45 was designed with the same section shape, dimensions and side slopes as the rest of the SWTDC, but the bed slope is flat at 0% slope in this section, due to channel inverts at the Lake A45 inlet and outlet being the same at elevation 154.3m. It is important to note that the design of the SWTDC-LA45S was initiated after the excavation of the SWTDC, and that both channel inlet invert and channel outlet invert for Lake A45 were already excavated to their final elevations. The SWTDC-LA45 design consisted in a continuity of the riprap channel, with an esker layer to support the filters at the base of the channel and rockfill berms to support the channel slopes. The esker layer was enclosed by two transition filter materials (coarse and fine). In Lake A45, a geotextile was placed between the coarse filter and riprap or rockfill at the base of the channel. The design also included French drain, composed of boulders and geotextile, across the east and the west rockfill berms of SWTDC – LA45S. The French drains enhance the total seepage capacity of the rockfill berms for runoff collected at either side of the Lake A45 to be drained to SWTDC. The enhanced seepage capacity reduces the probability of local runoff overtopping the access roads on both sides of the SWTDC, and it is

essential to maintain road access to the south end of the SWTDC, particularly before and during spring snowmelt.

The current expected life span of the SWTDC is about 20 years. It is recommended that during this period AEM monitor this structure and make appropriate maintenance of it when required. The SWTDC plays a critical role in the protection of the Whale Tail Dike to ensure that the water level does not overtop the dike. Thus, it is assumed and recommended that appropriate maintenance and surveillance procedures will be put in place by AEM.

1.5 Roles and Responsibilities

The Drawings and Technical Specifications of South Whale Tail Diversion Channel were developed by SNC-Lavalin and reviewed by the AEM's Meadowbank Engineering Team (MET). Kivalliq Contractors Group Ltd. (KCG) was retained by AEM for general construction works, including the survey of the Work. AEM was responsible for managing and planning the construction operations.

The detailed scope of responsibilities was presented in the Technical Specifications Construction of South Whale Tail Diversion Channel (SNC-Lavalin, 2019b). Table 1-1 provides an overview of the roles and responsibilities for the various tasks completed during construction execution. Responsibilities are assigned in terms of the specific company holding that positions.

The roles and responsibilities presented applies to the SWTDC construction but do not encompassed the construction of the access roads (Maintenance Road and Road 24).

Table 1-1 : Roles and responsibilities

Responsibility	Details	Responsible party
Construction supervision	Project and site supervision	AEM
Surveying	As-constructed surveying service	KCG
Earthwork	Civil general contractor	KCG
Earthwork	Drilling in preparation for blasting	KCG
Earthwork	Blast pattern design and blasting	AEM
Quality Control (QC)	QC activities for earthwork including daily report for the section of the channel completed from January 15 to April 4, 2020	GHD
	QC activities for earthwork including daily report for the section of the channel completed from April 4 to April 19, 2020	AEM
Quality Assurance (QA) Earthwork	QA activities for earthwork including providing technical input and overviewed general compliance with drawing and Technical Specifications for the section of the channel completed from January 15 to April 1, 2020. On-line/remote construction support from April 2 to April 19, 2020 (as Designer, no representative on site).	SNC-Lavalin

Responsibility	Details	Responsible party
	QA activities for earthwork for the section of the channel completed from April 2 to April 19, 2020.	AEM
Laboratory testing (QC)	Laboratory testing for foundation soil, fine filter and coarse filter from January 15 to April 4, 2020	GHD
	Laboratory testing for foundation soil, fine filter and coarse filter from April 4 to April 19, 2020	AEM
Geotextile Installation	Placement of geotextile on top of coarse filter and for French drain	KCG
Construction Reporting	Construction completion report including as-built based on survey data and drawings from KCG	SNC-Lavalin

1.5.1 Agnico-Eagle

AEM is the Owner of the project site and was responsible for managing and planning the construction operations. The Owner was represented by the AEM Geotechnical Engineer.

Due to limited operations and personal availability on site during the last weeks of the project, AEM also provided personnel to complete the followings:

- QA services for the channel construction completed from April 2 to April 19, 2020; and
- QC services for the channel construction completed from April 4 to April 19, 2020.

1.5.2 Kivalliq Contractors Group Ltd.

Kivalliq Contractors Group Ltd. (KCG) was the civil general Contractor and was responsible for general construction works, including the earthwork, installation of geotextile and survey of the construction work.

1.5.3 GHD Consultant

GHD consultant (GHD) carried out the quality control (QC) for the section of the channel completed from January 15 to April 4, 2020 and was responsible for the supervision of the construction work and materials according to the Technical Specifications. QC was also responsible for the required laboratory and sampling during this period.

1.5.4 SNC-Lavalin

The Designer is represented by SNC-Lavalin. SNC-Lavalin has provided technical input and overviewed general compliance with Drawings and Technical Specifications during the construction. SNC-Lavalin was also responsible for the IFC drawings and construction completion report.

SNC-Lavalin was also mandated by AEM to complete the role of quality assurance (QA) on-site with presence of one QA inspector during the construction of the channel section from January 15 to April 1, 2020.

1.5.5 Key Personnel

The following parties and key personnel were involved during the design and or construction of SWTDC:

- Agnico-Eagle (AEM):
  - Frédérick L. Bolduc, Geotechnical coordinator;
  - Jesse Clark, Geotechnical coordinator;
  - Thomas Lepine, Engineer of Record & Technical Specialist;
  - Alexandre Lavallée, Project Lead Water Management and Infrastructure – Construction;
  - Patrice Gagnon, Geotechnical specialist;
  - Pier-Éric McDonald, Geotechnical engineer;
  - Marion Habersetzer, Geotechnical engineer;
  - Laurier Collette, Geotechnical engineer;
  - Jean-François Béland, Dike supervisor;
  - Yannick Simard, Dike supervisor;
  - Jacques Bernard, Dike supervisor.
- Agnico-Eagle (AEM) (quality assurance (QA) and quality control (QC)):
  - Christian Tremblay and Pier-Éric McDonald, Quality assurance representative;
  - Thomas Dahm and Jérôme Collard, Quality control technician.
- SNC-Lavalin (Designer and quality assurance (QA)):
  - Erika Voyer, Project Manager and Technical advisor;
  - Angie Arbaiza and Yohan Jalbert, Designer;
  - Mazin Toma and Hafeez Baba, Technical advisors and Designers;
  - Holman Tellez and Johnston Liu, Hydrologists;
  - Daniel Meles, Quality assurance inspector;
  - Hamza Abdel-Aziz, Quality assurance inspector;
  - Paul Yong, Quality assurance inspector.
- GHD consultant (quality control):
  - Mathieu Côté, Quality control technician;
  - Richard Jean Tremblay, Quality control technician;
  - Stephane Dorvelus, Quality control technician;
  - Yaotree Amegnran, Quality control technician.
- Kivalliq Contractors Group Ltd. (Contractor):
  - Dany Pageau, superintendent;
  - Nicolas Tremblay, project manager;

- Jonathan Truchon, Project coordinator;
- Sabin Larouche, superintendent;
- Étienne Gagnon, supervisor;
- Claude Tremblay, supervisor;
- Louis-Pierre Collard, lead surveyor;
- Francis Paulin, lead surveyor;
- Mikael Levesque, lead surveyor.

The line of communication defined by AEM and applied during the construction process is presented in Figure 1-2.

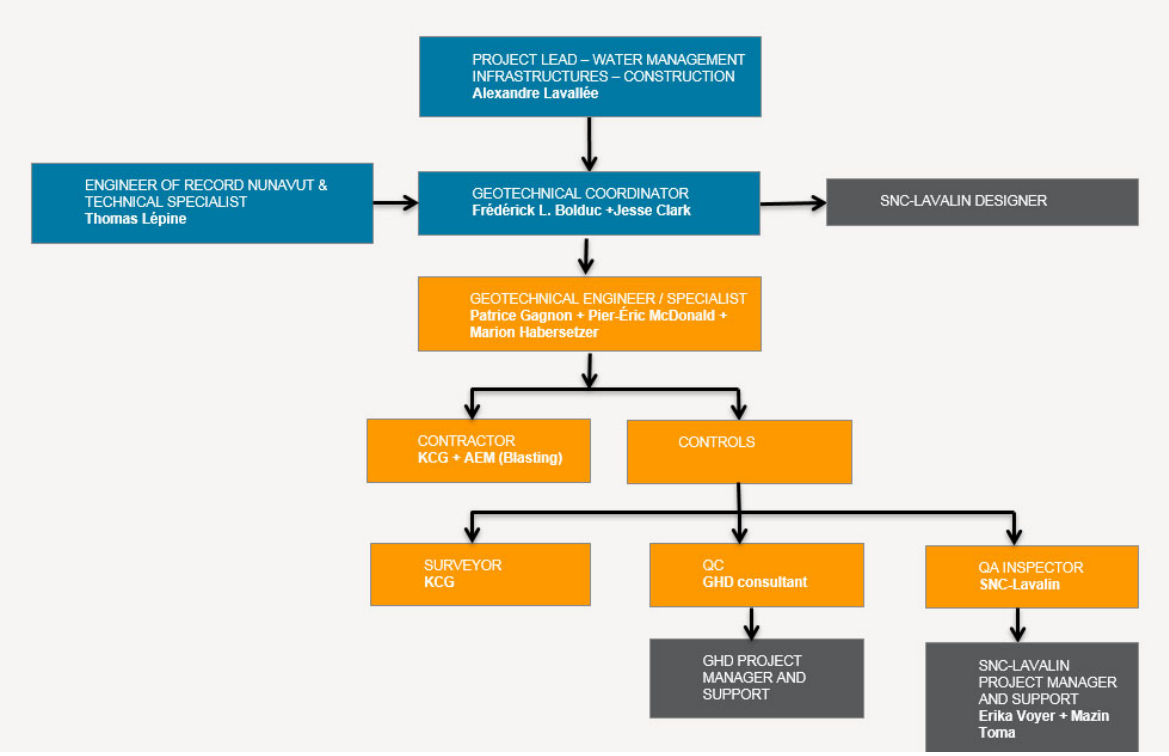

Figure 1-2: Communication Chart

1.6 Design, Technical Specifications, Construction Drawings

The SWTDC design presented a trapezoidal shape configuration with lateral slopes of 3H:1V and a base width of 5.0 m. The channel consisted of three portions: upstream of Lake A45 from 0+054 to 0+398 with channel slope of 0.3%, downstream of Lake A45 from 0+491 to 0+932 with channel slope of 0.3% and the section in Lake A45 from 0+398 to 0+491 with 0% channel slope. The Lake A45 was partially dewatered in November 2019, prior to the construction of the channel.

The SWTDC upstream and downstream of Lake A45 was designed using a protective riprap layer to avoid erosion and limit TSS in the water. The riprap protection was placed on the bottom and the sides of the channel and will serve to avoid erosion problems due to flow velocity. The riprap had a thickness of 0.5 m and consisted of blasted rock with a diameter of 100 – 300 mm.

Two transition filter materials, namely fine and coarse filter, have each a 0.3 m thickness placed between the riprap and the overburden (or esker backfill material) for particle retention between the foundation soil and the riprap. As specified in the Technical Specifications, the fine and coarse filter consists of gravel with trace of sand, and gravel and cobbles, respectively. It should be noted that during construction, AEM in discussion with SNC-Lavalin proposed to place a geotextile between the coarse filter and riprap for an additional protection to avoid erosion and limit TSS in the water. The geotextile addition is discussed further in section 4.0 of this report.

For sections of the channel where the excavation was deeper, compared to the natural ground surface elevation, a rockfill material on the upper part of the slope above the maximum water level was placed against the excavation slope.

In order to control the risk of elevated total suspended solid (TSS) coming from the lakebed sediment re-suspension of Lake A45, a structure was designed for the section of the channel in Lake A45 (SWTDC-LA45S). The SWTDC – LA45S, located approximately between 0+398 and 0+491, has a channel slope of 0%, as both inverts in this section are at the same elevation (El. 154.3m). The SWTDC – LA45S in Lake A45 consisted a continuity of the riprap protected channel through Lake A45, esker layer at the base and rockfill berms to support channel slopes. The esker layer at the base is placed to bring the base of the channel to the proper grade and elevation by replacing the excavated lake sediments or ice rich material. The rockfill berms extending east and west of the channel to elevation 157.1 m are designed to support channel slope and to be used as maintenance road through Lake A45 in continuity of the Maintenance Road and Road 24 respectively. The rockfill berm has lateral slopes of 3H:1V towards the channel and 2H:1V away from the channel and included French drains to create a preferential path for water east/west of the channel. The esker layer is enclosed by two transition filter material (coarse and fine) filter each 0.3 m thick. A geotextile is placed underneath the riprap on the coarse filter for erosion protection, as for the rest of the channel. Unlike the section of the channel upstream or downstream of Lake A45, filter (coarse or fine) formed the base of the channel, but do not extend on the lateral 3H:1V slope underneath the riprap.

The lists of Design reports, Technical Specifications, drawings and field work instructions issued by SNC-Lavalin for construction are presented in Table 1-2 to Table 1-4

Field work instructions are available in Appendix B.

Table 1-2: List of Design Reports for SWTDC

No.	Date	Title	Revision
669635-2000-40ER-0001	2020-01-17	Design report of South Whale Tail Diversion Channel	00
667648-4000-40ER-0001	2020-04-16	Design report of lake A45 section - South Whale Tail Diversion Channel	PB

Table 1-3: List of Technical Specifications for SWTDC

No.	Date	Title	Revision
651298-2900-40EF-0001	2019-06-22	Technical Specifications - Construction of the South Whale Tail Diversion	00

Table 1-4: List of Field Work Instructions for SWTDC

No.	Date	Title	Revision
667648-2000-60NC-0001	2020-02-14	Filters Design Review and Esker Material	00
	2020-03-03	Filters Design Review and Esker Material	01
667648-2000-60NC-0002	2020-02-14	Geotextile Placement	00
667648-2000-60NC-0003	2020-03-12	Excavation of ice layer outside of channel footprint	PC
667648-2000-60NC-0004	2020-03-26	Foundation Excavation and Preparation of the South Whale Diversion Channel at Lake A45 Section	PB

1.7 Construction Documentation

The main construction documentation for SWTDC include the following:

- SNC-Lavalin Technical Specifications and Construction Drawings;
- AEM Daily Construction Meeting Minutes;
- QC Daily Reports;
- QC Test Reports;
- QA Daily and Weekly Reports;
- Construction schedule and weekly meeting between AEM and KCG provided by AEM;
- Email communications between QA and AEM;

- Request for Information (RFI);
- Field work instructions;
- Photos of the construction activities;
- As-Built Drawings (provided by KCG).

The above documents are presented in Appendices A to I. Email communications are archived separately.

2.0 SOUTH WHALE TAIL DIVERSION CHANNEL CONSTRUCTION

The construction operations for SWTDC construction are described in the following sub-sections.

The construction of SWTDC was completed during winter seasons. The main construction activities of the SWTDC were carried out from January to April 2020. The site temperature generally ranged from -20 to -42 °C. Occasional blizzard and extreme weather conditions halted the operation from short period of time to a day long. Construction was halted due to blizzard on January 18 and 30, February 12, 18 and 20, March 7, 14 and 16, April 2, 12 and 17, 2020.

2.1 South Whale Tail Diversion Channel Activities and Description of Works

2.1.1 Schedule and Construction Steps

The main construction activities of SWTDC including section of the channel in Lake A45 area were carried out from January 9, to April 19, 2020. The construction was completed into two steps. First, the channel sections upstream and downstream of Lake A45 was completed, followed by the section of the channel in Lake A45, SWTDC – LA45S. The main activities for the channel section upstream and downstream of Lake A45 were carried out from January 13, to April 2, 2020. The main activities for the section of the channel in the Lake A45 area were carried out from approximately April 1, to April 19, 2020.

In preparation for the construction of the channel, AEM completed partial dewatering of Lake A45 in November 2019 prior to construction work. Construction of the SWTDC was completed during winter in frozen conditions. No pumping was required for water management during construction. Water quality monitoring was completed by AEM as per regulatory requirements during the construction period, as AEM is required to abide by limits established by the Nunavut Water Board (NWB) in the Water License 2AM-WTP1826. The details of the requirement can be found in the Water Quality Monitoring and Management Plan for the Dike Construction and Dewatering. In addition, to mitigate the risk of erosion and elevated TSS during operation of the channel, Best Management Practices (BMPs), such as installation of silt fences and turbidity barriers, will be implemented if required.

To provide access during the construction, access road to Lake A45 was built from January 10, 2020 to February 5, 2020 and access road for construction (Road 24) was built from October 20, 2019 to January 26, 2020. The construction information for Road 24 was provided by AEM. As documented by AEM, Road 24 was built using rockfill material placed by a dozer in one lift. There was minimal foundation preparation (boulder and snow removal). SNC-Lavalin was not present during the construction of the access roads

(Maintenance Road and Road 24). SNC-Lavalin did not provide any construction support, QA services, inspection or documentation for the road construction as it was not part of SNC-Lavalin mandate.

Table 2-1 presents the timelines for the main construction activities. A detailed construction schedule and minutes of construction progress meeting between AEM and KCG are shown in Appendix A and final quantities of material in Appendix C.

Table 2-1: Timeline of the Main Construction Activities of SWTDC

Activity	Beginning	End
Channel section upstream and downstream of Lake A45		
Excavation including drill and blast	January 9, 2020	March 3, 2020
Foundation Preparation (clean up and esker placement)	January 14, 2020	March 10, 2020
Fill Placement (Coarse Filter and Fine Filter)	March 10, 2020	March 18, 2020
Geotextile and riprap	March 16, 2020	April 01, 2020
Rockfill	March 19, 2020	April 2, 2020
Channel section in Lake A45		
Excavation (hammering, removing lake bed sediment and foundation cleaning)	April 1, 2020	April 14, 2020
Fill Placement (Rockfill, Coarse Filter and Fine Filter)	April 3, 2020	April 19, 2020
Geotextile and riprap	April 3, 2020	April 17, 2020

2.1.2 Summary of the Construction Activities

2.1.2.1 Foundation Preparation

A geotechnical campaign was performed along the proposed SWTDC for the Whale Tail Project in April 2019 (AEM, 2019). The objective of this field campaign was to characterize the foundation condition of the SWTDC for construction purposes. As construction was completed during winter season and the area was characterized by the presence of big boulders (AEM, 2019), excavation of the channel required drill and blast of the frozen layer and big boulders to reach the required excavation depth and acceptable foundation conditions. The excavation started with drill and blast on January 4, 2020 and followed by removing of the blasted frozen material on January 9, 2020.

Drill and blast activities for the channel were completed on February 21, 2020. A total of eight (8) sequences of drill pattern were used to complete the blasting for the channel. The design of blast patterns, and blasting was completed by AEM. Drilling of the drilled hole and mucking of blasted material were completed by KCG.

Following the drill and blast activities, excavation of the blasted material was completed with excavators (Komatsu PC 450 LC). The excavated material was placed in haul trucks (Caterpillar 35T, 50T) and disposed outside of the channel footprint, in designated area. Upon removal of the blasted material, over-excavation in some area ranging from 0.1 to 1.0 m was observed, mainly due to over-blast and excavation of large boulders. Some areas were also under-excavated following the blasting activities.

Over-excavated areas were backfilled with esker backfill material available on site to reach design grade. The esker material is a natural/native material, coming from the surface layer excavation for the open pit development. Detail of the esker material is discussed in section 3.3.1. The procedure how to backfill the over excavated areas were discussed between AEM, QA inspector and the Designer in several instances and SNC-Lavalin submitted field work instruction for esker material gradation and backfilling requirements (SNC-Lavalin, 2020c), available in Appendix B. Areas where excavation limit was not achieved following blasting, a combination of rock hammer (Tramac) to soften frozen area and excavator equipped with teeth bucket was used to reach the excavation limit and acceptable foundation conditions as presented in the construction drawings and the Technical Specifications.

As the construction was completed during winter, there were many instances that the excavated area was filled with snow after excavation. In such instances, snow and ice cleaning was carried out using excavator before placing backfill (esker) material. The removal of snow and deleterious material on the footprint was carried out with the help of an excavator equipped with lip bucket.

Around approximately chainage 0+335 to 0+545, an ice ‘’layer’’ appears to be visible during the excavation of the SWTDC, on the top of the side slope, mainly at the surface of the natural soil. This layer of ice of approximately 1.0 m thick appears to be from the frozen Lake A45 surface at its former elevation (elevation 156.5m). The chainages 0+335 to 0+545 correspond approximately to the original elevation of the lake A45. In order to ensure that the foundation for the SWTDC was prepared adequately as per specifications, the ice layer present within and along the footprint of the SWTDC required to be removed. In order to prevent potential settlement, it was recommended to excavate the ice layer further away from the footprint and to replace it with compacted material. SNC-Lavalin submitted field work instruction for the excavation of this ice layer (SNC-Lavalin, 2020e), available in Appendix B.

Based on the QA daily reports from AEM, the foundation preparation for the section of the channel in Lake A45 was also carried out by removing lakebed sediment, ice and ice rich material using a combination of rock hammer (Tramac) to loosen ice rich/froze material and excavator equipped with teeth bucket. Foundation preparation was not completed for the entire foundation underneath rockfill berms. However, AEM specified that ice lenses/snow were removed for most part of the existing ground underneath the rockfill berms, especially for the west rockfill berm foundation. The existing access roads of rockfill were left in place and incorporated into the berms. For SWTDC-LA45S, no drill and blast activities occurred in this specific section of the channel. The procedure for the excavation of in Lake A45 area was discussed between AEM, QA and Designer, and SNC-Lavalin submitted field work instruction (SNC-Lavalin, 2020f) and the SWTDC-LA45S design report (SNC-Lavalin, 2020b).

2.1.2.2 Fill Placement

The fill materials for the SWTDC were esker, coarse and fine filter and rockfill. The coarse and fine filter materials had defined gradations in the Technical Specifications.

As mentioned above, the esker material is a natural/native material, coming from the surface layer excavation for the open pit development. The esker material was brought to the SWTDC site in haul trucks (Caterpillar 35T, 50T) and dumped close to its final location. The esker was placed by the excavator (Komatsu PC 450 LC) with a maximum thickness of 0.3 m and compacted using the excavator bucket.

The filter materials were loaded from stockpiles located in the crusher area, with an excavator or a loader. The filter materials were brought to the site in haul trucks (Caterpillar 35T, 50T). Trucks unloads filter material on horizontal ground (at the bottom of the channel) and excavator carefully taken the filter material and placed to the bottom and slope of the channel to minimize segregation. Coarse and fine filters were placed by the excavator in one lift (0.3 m thick) and compacted using the excavator bucket. As the bottom part of the channel was used for loading and unloading filter material, there was additional truck compaction on filter material placed at the bottom of the channel.

The rockfill material was brought to the site directly from the open pit or from stockpiles in haul trucks (Caterpillar 35T, 50T) and dumped close to its final location. An excavator (Komatsu PC 450 LC) was used to place and profile the slopes of rockfill and to sort materials (e.g. remove oversized boulders or pieces of frozen till). The thickness of each lift varies from 0.5 to 0.7 m on the slope and 1.0 m in the section SWTDC-LA45S. Boulders of size 0.5 to 1 m was used for the French drain construction in Lake A45 area.

During fill placements, snow accumulations were removed with the bucket of the excavator before approval for the placement of subsequent lifts.

Based on AEM QA daily reports, the same procedures were used for the fill placement of material in SWTDC-LA45S and rockfill placement around the outlet of the channel towards the Mammoth lake.

All fill material used during construction were excavated or manufactured from good quality non-potentially acid generating (NPAG) and non metal leaching sources. The geochemical testing and classification of fill material was under the responsibility of AEM.

2.1.2.3 Geotextile and Riprap

Geotextile was placed on top of the coarse filter before placing riprap as per field work instruction (SNC-Lavalin, 2020d), available in Appendix B. Detail of the geotextile specification provided by AEM can be found in Appendix H-1. To minimize damage on the geotextile during riprap placement, any loose boulders or cobbles were removed from the coarse filter before geotextile placement. The geotextile panel was first placed at the top of the slope and unrolled perpendicular to the channel alignment with the help of an excavator and manually to maintain the minimum overlap. The geotextile was placed with 0.5 m minimum overlap with upstream sheet over the downstream sheet. At the end of each role, the geotextile was short to go all the way along the channel slope. In such case, the new geotextile role was placed to cover the remaining part by overlapping with a minimum length of 1 m.

Upon the completion of geotextile installation for a two panels section, riprap was then placed over the geotextile carefully without dropping the material. The riprap material was brought to the site in haul trucks (Caterpillar 35T, 50T) and the excavator (Komatsu PC 450 LC) was taking the riprap directly from the haul

truck and placing the material over the geotextile using excavator bucket. The riprap rocks were irregular and elongated in shape with at least the longest side between 100 to 300 mm in length.

No movement of heavy machinery was allowed on the top of the riprap to avoid potential damages to the underlying geotextile.

Based on AEM QA daily reports, the same procedures were used for the geotextile and rip-rap placement in SWTDC-LA45S.

3.0 QUALITY ASSURANCE AND QUALITY CONTROL SUMMARY

3.1 General QC/QA Programs

The QC/QA program for SWTDC construction was completed by GHD, SNC-Lavalin and AEM. GHD, working under the supervision of AEM, carried out the QC program from January 15 to April 4, 2020. SNC-Lavalin carried out the QA program from January 15 to April 1, 2020. AEM representatives took over the role of QC starting April 4, 2020 and role of QA starting April 2, 2020 for the remaining period of the construction until April 19, 2020, with remote support from SNC-Lavalin as the Designer. Table 3-1 presents the summary of the QC/QA program representatives site presence for the construction of the SWTDC and the specific dates. Table 3-2 presents a summary of the documentation prepared during the QC/QA programs as described below.

GHD (working under the supervision of AEM) and AEM representative carried out the Quality Control program as per Drawings and Technical Specifications for construction of SWTDC. The daily reports prepared by the QC Representatives (GHD and AEM) are presented in Appendix E. The certificate of the laboratory testing prepared by the QC representatives are available in Appendix H.

Daily surveys were conducted by KCG to check grades and quantities under AEM supervision. The as-built drawings of the SWTDC based on the survey are available in Appendix C.

The Quality Assurance program was carried out by SNC-Lavalin and AEM representative. The content of the QA program is defined in the Technical Specifications and includes foundation preparation, fill placement, geotextile installation, riprap placement and rockfill placement. The QA inspectors observed the work and transferred the potential design impacts to the Designer. QC representatives and KCG Surveyors provided required information to the QA inspectors. The QA inspectors approved if control processes were in place and verified if the work met specifications. QA inspectors then reported the facts and any deviations from drawings and specifications to AEM and SNC-Lavalin construction support representative for review and decision. The QA inspectors did not instruct, supervise and/or measure the quantities of the Contractor or Surveyor work on-site. Daily and weekly QA reports were prepared by the QA inspectors on site or in the office to document the activities performed in the QA program during the construction of the SWTDC. The documentation is presented in Appendices F-1 and F-2, respectively.

One QA personnel was present in all day shifts (6:30 a.m. to 6:30 p.m.) from January 15 to April 19, 2020. One QC personnel was present in all day shift (6:30 a.m. to 6:30 p.m.) from January 15 to March 23, 2020 and from April 3 to April 7, 2020. One QC personnel present on site in all night shift (6:30 p.m. to 6:30 a.m.) from January 28 to February 09, and February 15 to March 23, 2020. One QC personnel was present

day/night shift (12:30 p.m. to 12.30 a.m.) from March 23 to April 8, 2020 and one QC personnel was present day/night shift (6:30 a.m. to 12.30 a.m.) from April 9, to April 19, 2020.

No QA activities were performed during night shifts. All QA/QC tasks that require approvals were completed during the day shift.

The QA and QC representatives (SNC-Lavalin and GHD) worked on a 2-week rotation basis. Due to logistics for this remote site, no QC/QA day-shift representatives could be available on site for each rotation change during a 12 h day shift every two weeks.

Site photographs were taken by QA throughout the construction period from various components of the work. These photos are included in the QA daily reports, QA weekly reports in Appendices F-1 and F-2 per their relevance. A selected collection of photographs is also presented in Appendices I.

The Geotechnical Engineer/Specialist from AEM conducted inspections of the work during the construction of SWTDC on a daily basis and was supported by the Dike Supervisor in the daily supervision of the work. AEM did not have Engineer/Specialist or Dike Supervisor during night shifts. Instructions were exchanged before and after each shift.

The Daily Construction Meetings for the activities at SWTDC construction were held every morning with all parties present on-site, i.e. AEM, KCG (Contractor), GHD (QC), SNC-Lavalin (QA). GHD (QC) and SNC-Lavalin (QA) were present in the meeting from January 16, to March 23, 2020 and January 15, to April 2, 2020, respectively. SNC-Lavalin continued to attend the meeting remotely through teleconference for the remaining period of the construction from April 3 to April 19, 2020. The meetings covered a review the construction progress of the previous 24 hours, planning for the following 24 hours, discussions on quality issues and site problems and any safety issues. The minutes from these meetings, prepared by AEM, are presented in Appendix D.

Table 3-1: QC/QA Program representatives and dates

	Representative	Shift (Day/Night)	Dates
QC Program	GHD	Day (6:30 a.m. to 6:30 p.m.)	January 15 to March 23, 2020
		Night (6:30 p.m. to 6:30 a.m.)	January 28 to February 9 and February 15 to March 23, 2020
		Day/Night (12:30 p.m. to 12:30 a.m.)	March 23 to April 3, 2020
	AEM	Day/Night (12:30 p.m. to 12:30 a.m.)	April 4 to April 8, 2020
		Day/Night (6:30 p.m. to 12:30 a.m.)	April 9, to April 19, 2020
QA Program	SNC-Lavalin	Day	January 15 to April 1, 2020
	AEM	Day	April 2 to April 19, 2020

Table 3-2: QC/QA Program Documentation

	Representative
QC Program	Daily Report
	Laboratory Testing Certificate
QA Program	Daily Report
	Weekly Report
	Approval Forms

3.2 Foundations

3.2.1 Foundation Soil

Gradations of foundation soil were not available at the location of SWTDC during the design of the transition filter materials (coarse and fine) between riprap and foundation soil (SNC-Lavalin, 2020a). In order to verify the filter design and check for any ice-rich material, samples of in-situ foundation soil were taken by QC representative for gradation and moisture content tests during the foundation preparation. Sampling locations were instructed by QA representative based on visual assessment of the foundation soils.

Overall, the foundation soil is classified as sandy gravel with some silt or silty sandy gravel. The result of moisture content (Table 3-3) in general is less than the moisture content specified as ice-rich soil (20%). There are some samples that indicated moisture content greater than 20%. Areas that indicated moisture content greater than 20% were further assessed by QA in the presence of QC and corrected by removing any ice-rich foundation soil before fill placement. The results of gradation tests (Figure 3-1) indicated that all soil samples had fine content less than fine content of the soil used to design transition filter material (35%). Therefore, the filter design is considered compatible with the foundation soil in place. Gradation results were communicated when they were available with AEM and Designer. As the fine content of the foundation soil was less than 35%, no filter design modification was required. A field instruction was issued regarding the filter review (SNC-Lavalin, 2020c), available in Appendix B. Based on visual assessment foundation preparation was acceptable to QA/QC representative.

The laboratory test results of the foundation soil completed by QC can be found in Appendix H-2.

Table 3-3: Summary of Laboratory Test Results on the Foundation Soil

Sample ID	Sampling Station	Sampling location	Classification based CFEM	Ice content (%)	Total moisture Content (%)
AMQ-IP-001	-	Bottom of excavation	Sandy gravel with some silt	-	-
AMQ-IP-002	0+700	Bottom of excavation	Silty sandy gravel	-	-
AMQ-IP-003	0+800	Bottom of excavation	Sandy gravel with some silt	-	-
AMQ-IP-004	0+900	Bottom of excavation	Sandy gravel with some silt	-	-
AMQ-IP-005	0+750	Bottom of excavation	Sandy gravel with some silt	-	-
AMQ-IP-006	0+765	Bottom of excavation	Sandy gravel with some silt	-	16.4%
AMQ-IP-007	0+500	Bottom of excavation	Sandy gravel with some silt	-	10.0%
AMQ-IP-008	0+270	Bottom of excavation	Sandy gravel with some silt	-	21.8%
AMQ-IP-008-1		Bottom of excavation	-	-	11.5%
AMQ-IP-008-2		Bottom of excavation	-	-	8.1%
AMQ-IP-008-3		Bottom of excavation	-	-	13.6%
AMQ-IP-009	0+660	Bottom of excavation	Sandy gravel, with some silt	-	15.4%
AMQ-IP-010	0+600	Bottom of excavation	Sandy silty gravel	-	18.5%
AMQ-IP-011	0+530	Top of eastern slope	Sandy gravel with some silt	-	39.6%
AMQ-IP-012	0+530	Bottom of eastern slope	Silty sand and gravel	-	11.3%
AMQ-IP-013	0+520	Bottom of western slope	Silty sandy gravel	-	22.5%
AMQ-IP-014	0+320	Bottom of western slope	Silty sandy gravel	-	6.8%
AMQ-IP-015	0+220	Bottom of western slope	Sandy gravel with some silt	-	17.5%
AMQ-IP-016	0+170	Bottom of east slope	Sandy gravel with some silt	-	9.1%
AMQ-IP-017	0+120	Bottom of east slope	Sandy gravel with some silt	-	9.7%
AMQ-IP-018	0+70	Bottom of east slope	Sandy gravel with some silt	-	16.0%
AMQ-IP-019	0+380	Bottom of excavation	Silty sandy gravel	-	11.4%
AMQ-IP-020	0+349	Bottom of excavation	-	17.3%	42.2%
AMQ-IP-021	0+345	Bottom of excavation	-	16.4%	43.7%
AMQ-IP-022.1	0+490	Bottom of excavation (El. 152.6 m)	-	0.0%	6.9%
AMQ-IP-022.2		Bottom of excavation (El. 152.3 m)	-	4.0%	15.5%
AMQ-IP-023.1	0+440	Bottom of excavation (El. 152.8 m)	-	147.9%	368.1%
AMQ-IP-023.2		Bottom of excavation (El. 152.5 m)	-	43.1%	130.7%
AMQ-IP-023.3		Bottom of excavation (El. 152.1 m)	Silty gravelly sand	2.1%	14.6%
AMQ-IP-023.4		Bottom of excavation (El. 151.5 m)	Sand and gravel with some silt	5.8%	19.5%
AMQ-IP-24.1		Bottom of excavation (El. 152.4 m)	-	0.0%	8.4%

Sample ID	Sampling Station	Sampling location	Classification based CFEM	Ice content (%)	Total moisture Content (%)
AMQ-IP-24.2	0+467	Bottom of excavation (El. 152.1 m)	-	0.0%	7.0%
AMQ-IP-25	0+425	Bottom of excavation (El. 152.1 m)	-	0.0%	17.6%
AMQ-IP-26	0+435	Bottom of excavation (El. 152.1 m)	-	0.0%	20.1%
AMQ-IP-27	0+438	Bottom of excavation (El. 152.1 m)	-	4.3%	22.9%
AMQ-IP-28	0+438	Bottom of excavation (El. 152 m)	-	2.0%	15.3%
AMQ-IP-29	0+430	Bottom of excavation (El. 152 m)	-	1.3%	12.2%
AMQ-IP-30	0+430	Bottom of excavation (El. 152 m)	-	1.7%	14.0%

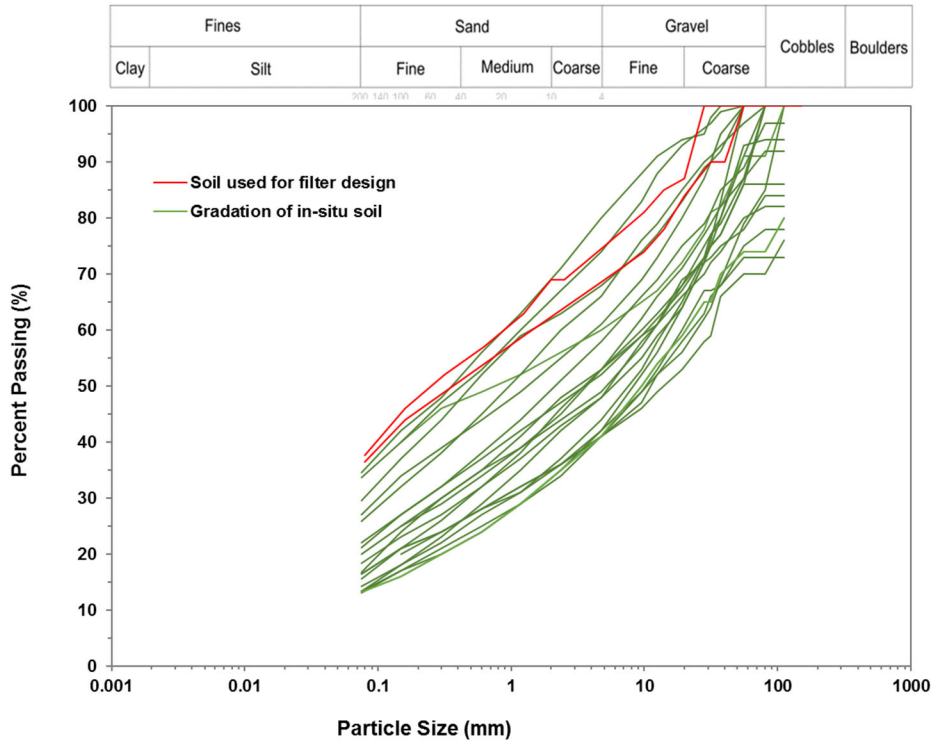

Figure 3-1 : Gradation of samples taken from the foundation soil

3.2.2 Foundation Approvals

As part of the QC/QA program, the foundations were approved before placing fill materials over the natural ground. The criteria for foundation approval are itemized in the approval forms and generally include:

- Adequate excavation and stripping to reach required grade and limits; and
- Removal of unsuitable materials, snow, ice, etc. as required in the Technical Specifications.

The following procedures were generally employed for the approval process:

- The Contractor notified all parties in advance for a specific time during the day for foundation approval. The Contractor supervisor, QA, QC and AEM representatives met on the field for foundation inspection;
- Upon observation of an acceptable foundation ground, the grades and lines were surveyed, and a photograph taken from the area;

- Upon confirmation of the grades and lines by QC/QA, a verbal approval was given to the Contractor for fill placement;
- The surveyor submitted the as-built sketch of the foundation with surveyed points to QC/QA representatives;
- The QA representatives prepared the approval form including their observations and comments. The surveyor's sketch and the photograph were also attached to the approval form when available in time;
- The approval forms were then signed by all parties involved.

The foundation was approved in different sections as the work progressed. All foundation approvals were completed during the day shift. Refer to Appendix H for the completed foundation approval forms.

The aim of this process was to make sure that the foundation was approved and inspected prior to backfill. A summary of the foundation approval forms issued during SWTDC are presented in Table 3-4, and the corresponding approval forms presented in Appendix G-1. The shaded areas in the tables are indicative of non-applicability of a sector.

For SWTDC-LA45S, the approval forms for the foundation were completed by the AEM QA representative. When completed, the approval forms were sent to SNC-Lavalin representative in the office for review and filling. It should be noted that the placement of material over the approved foundation by AEM QA representative was initiated before reception and review of the approval forms by SNC-Lavalin.

Table 3-4: SWTDC Foundation and Fill Placement Approval

<table>
<tr><th rowspan="2">Station</th><th rowspan="2">Foundation Approval</th><th colspan="3">Fill Placement Approval</th><th rowspan="2">Geotextile and Riprap Approval</th></tr>
<tr><th>Backfill (Esker)</th><th>Fine Filter</th><th>Coarse Filter</th></tr>
<tr><td>0+906</td><td rowspan="2"></td><td rowspan="8">20200314-DS-16</td><td rowspan="4">20200314-DS-17</td><td rowspan="8">20200321-DS-19</td><td rowspan="8">20200324-DS-24</td></tr>
<tr><td>0+917</td></tr>
<tr><td>0+875</td><td rowspan="2">20200126-DS-01</td></tr>
<tr><td>0+830</td></tr>
<tr><td>0+835</td><td rowspan="3">20200129-DS-02</td><td rowspan="4">20200317-DS-18</td></tr>
<tr><td>0+815</td></tr>
<tr><td>0+795</td></tr>
<tr><td>0+775</td><td>20200203-DS-03</td></tr>
</table>

Station	Foundation Approval	Fill Placement Approval			Geotextile and Riprap Approval
		Backfill (Esker)	Fine Filter	Coarse Filter	
0+755					
0+735	20200216-DS-04		20200314-DS-17		
0+715					
0+700			20200313-DS-15		
0+688	20200226-DS-05				
0+675					
0+640	20200228-DS-06				
0+635					
0+600	20200228-DS-07				20200401-DS-31
0+595					
0+565	20200229-DS-08				
0+555		20200321-DS-20	20200321-DS-21	20200322-DS-22	
0+545	20200324-DS-25	20200327-DS-26	20200327-DS-27	20200327-DS-28	20200328-DS-29
0+515					
0+500					
0+475	20200408-DS-41	20200411-DS-42	20200411-DS-43	20200412-DS-44	20200426-DS-46
0+435					
0+400	20200331-DS-30	20200404-DS-33	20200405-DS-35	20200405-DS-36	20200406-DS-37
0+395					
0+374		20200426-DS-45			
0+355			20200404-DS-34		

Station	Foundation Approval	Fill Placement Approval			Geotextile and Riprap Approval
		Backfill (Esker)	Fine Filter	Coarse Filter	
0+331					
0+315	20200305-DS-09	20200312-DS-13	20200312-DS-14	20200322-DS-23	20200401-DS-32
0+280					
0+235	20200306-DS-10				
0+210					
0+195	20200308-DS-11				
0+185					
	20200310-DS-12				
0+170					
0+155	20200308-DS-11				
0+135					
0+115	20200310-DS-12				
0+075					
0+055	20200407-DS-38		20200408-DS-39	20200408-DS-40	
0+065					

Note: Approval forms 2020MMDD-DS-01 to 2020MMDD-DS-32 were completed by SNC-Lavalin QA representative. Approval forms 2020MMDD-DS-33 to 2020MMDD-DS-45 were completed by AEM QA representative.

3.3 Fill Materials Placement

During fill placement, the following were monitored, based on the Technical Specifications:

- Gradations were controlled by QC to be within the allowable ranges;
- Materials were visually acceptable;
- Placement technique limited segregation;
- Maximum allowable lift thickness was not exceeded;

- Fill compacted per specification requirements.

The information presented below is based on the site inspection and documentation completed by the SNC-Lavalin QA inspectors, from January 15 to April 1, 2020. For the remaining part of construction, from April 2 to April 19, 2020, the information presented below is based solely on the information provided by AEM from April 2nd to 19th 2020 (Daily Construction Meeting Report, QA Daily Report, QC Daily Report, Laboratory Testing Certificates and Approvals forms).

3.3.1 Backfill material - Esker

The backfill material was esker available on-site. The placement of the esker material was checked visually by QC/QA representative and samples of in-placed esker were taken by QC representatives for gradation tests. Sampling locations were instructed by QA representative based on visual assessment of the esker material. It was checked that the esker had suitable gradation, acceptable lift thickness, segregation and compaction by the bucket of the excavator. No specific gradation limits for esker were specified in the Technical Specifications. The acceptable gradation was based on the fine content being less than the soil used for the design (to ensure filter compatibility) and on the material being well graded (as mentioned in the field instruction (SNC-Lavalin, 2020c), available in Appendix B.

Overall, the esker is classified as well to poorly graded sandy gravel with trace silt and some cobbles. The results of gradation tests (Figure 3-2 indicated most of the samples had fine content less than 10%. One sample indicated fine content greater than fine content of the soil used to design transition filter material (35%), notification was made by QA representative for corrective action. Occasionally, segregation during placement was observed at the toe of the slope and was corrected locally by removing excesses coble material. Based on visual assessment during placement and gradation test results, esker material used as backfill was acceptable by QC/QA representative.

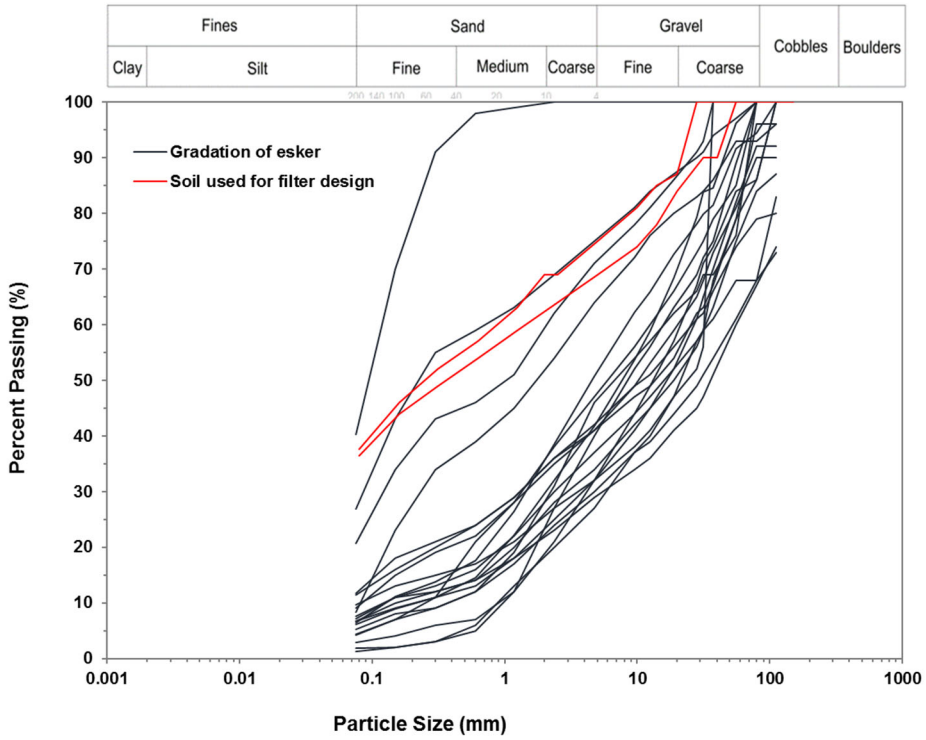

Figure 3-2 : Gradation of samples taken from the backfill (esker)

3.3.2 Filter

Samples of fine filter and coarse filter materials were taken by QC Representatives during site operation at frequencies required in the Technical Specifications. The sampling was done in stock pile for general assessment prior to placement and *in situ* at the time of placement of materials. The samples were tested for particle size distribution as required in the Technical Specifications. The water content of the samples was also obtained during the gradation tests and recorded in the test reports and results are recorded in the gradation test reports. QA monitored the laboratory procedures and gradation test data processing.

The results of gradation tests on fine filter material (Figure 3-3) showed that fine filter material is predominantly gravel-sand mixtures to gravel-sand-silt mixtures and fell within the specified gradation limits. The gradation curves for two (2) samples were slightly coarser than the permissible ranges. Nonetheless, the material was still accepted by QC/QA representatives based on visual evaluations. The moisture content of the fine filter material was normally within 1% to 3%.

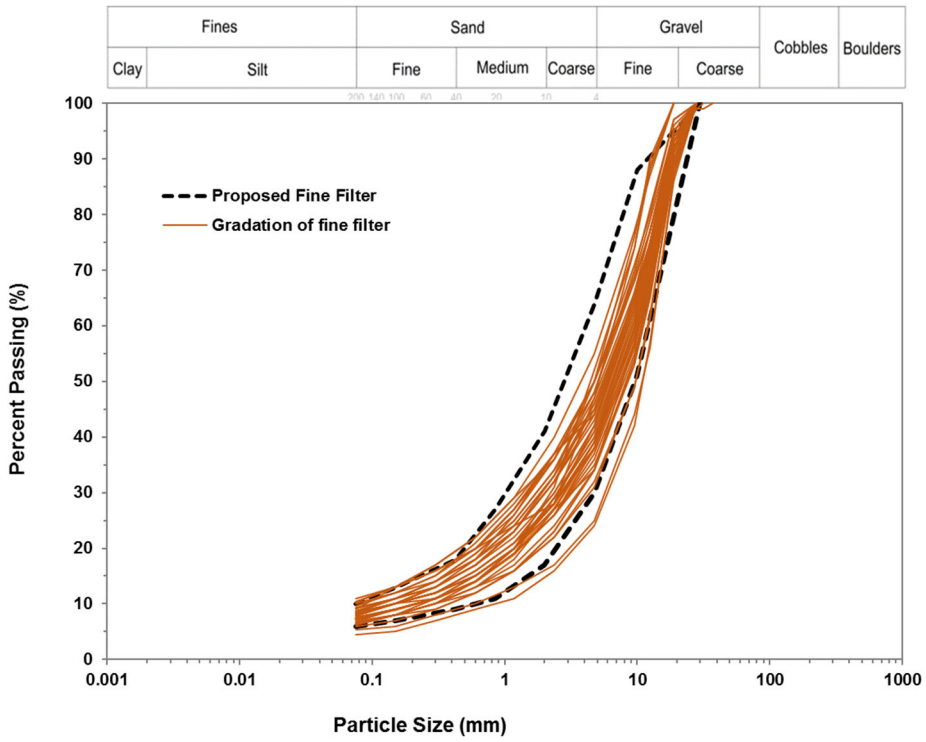

Figure 3-3 : Gradation of samples taken from fine filter

The results of gradation tests (Figure 3-4) indicated that in general, coarse filter material is gravel and cobbles with little to no fines and has minor deviation from the specification gradation limits. The minor deviation from the specification was accepted given the presence of geotextile on top of the coarse filter for an additional erosion protection.

In general, the coarse filter material placed was visually acceptable to QC/QA representatives. At some locations, when segregation of coarse filter material was noticed. Upon request by QC/QA representatives, the gradation of the coarse filter was corrected locally through removing the coarse material by the excavator operator.

The laboratory test results of fill material completed by QC can be found in Appendices H-3, H-4, and H-5.

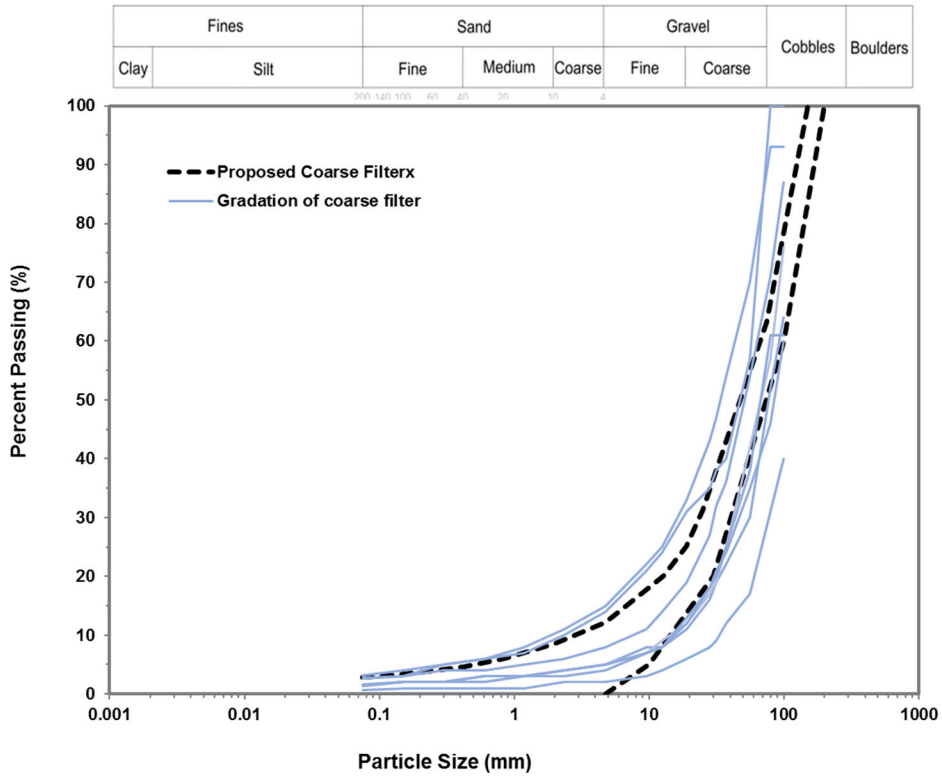

Figure 3-4 : Gradation of samples taken from coarse filter

3.3.3 Geotextile Installation

The geotextile installation was visually assessed by QC/QA representative as per the field instruction (SNC-Lavalin, 2020d) recommendations, available in Appendix B. During installation, it was checked by QC and QA representatives for minimum overlap, any damage during installation and direction of geotextile panel with respect to the channel alignment. In general, the geotextile installation was visually acceptable to QC/QA representatives.

3.3.4 Riprap

The riprap was crushed rock coming from the open pit exploitation, with irregular and elongated in shape and at least the longest side between 100 to 300 mm. The riprap placement was checked by QC/QA representative. It was checked visually for any oversize rock, fine content and placement method not to damage the geotextile. In general, the placed riprap was visually acceptable to QC/QA representatives. For the riprap placed on the night of March 22, 2020 the QA during field visit noticed significant amount of fine

material mixed with riprap in some area and notification was made for corrective action. The issue was discussed among AEM, KCG and SNC-Lavalin and was corrected by removing the fine material manually.

3.3.5 Rockfill

The rockfill was produced from non-acid generating and non-metal leaching waste rock coming from the open pit exploitation. The overall rock size and if placed in the correct zone as required in the drawing was checked by QA/QC representative. Overall the placed rockfill was acceptable by QA/QC representative. There was one instance that QA (SNC-Lavalin) representative observed excess small size particles and frozen till material were observed during placement, notifications were made by QA for corrective actions.

The rockfill used for French drains in SWTDC-LA45S consisted of boulders with size 0.5 to 1 m.

3.3.6 Fill Placement Approvals

As part of the QC/QA program, approvals were issued for fill materials and placement in compliance with Specifications. The checking items included:

- Fill free of ice, snow or deleterious materials;
- Gradation within the allowable ranges;
- Lift maximum thickness respected;
- Placement method minimized segregation.

During fine filter approval, AEM requested reducing sampling frequency proposed in the Technical Specifications for laboratory gradation tests required to approve the placement of fine filter. SNC-Lavalin reviewed the request and suggested fine filter placement approval based on visual assessment and available gradation tests results when approval of an area was requested. The remaining gradation tests on the fine filter were completed following the approvals. A summary of the foundation approval forms issued during SWTDC are presented in Table 3-4, and the corresponding approval forms presented in Appendices G-2-1, G-2-2 and G-2-3.

3.3.7 Geotextile and Riprap Approval

As part of the QC/QA program, approvals were issued geotextile installation and riprap placement in compliance with Specifications. The checking items included:

- Minimum overlap between successive panel of geotextile;
- Direction of geotextile panel with respect to channel alignment;
- Damage on the geotextile during installation and riprap placement;
- Overall size of the riprap; and
- Placement in a correct zone according to the drawing.

A summary of the foundation approval forms issued during SWTDC are presented in Table 3-4, and the corresponding approval forms presented in Appendix G-3.

3.4 As-Built and Material Quantity

The as-built drawings and final quantity of materials completed by KCG can be found in Appendix C3. The as-built drawings include the details and quantities of the SWTDC and the Road 24. It should be noted that the Original Surveyors Civil3D CAD file was not available in the as-built AutoCAD drawings provided to SNC-Lavalin at the time of writing this report. SNC-Lavalin did not check numerical values of the quantities reported in the as-built drawing shown in Appendix C. SNC-Lavalin also noted the followings from the as-built drawings shown in Appendix C:

- Coarse filter limit is missing from the as-built profile figure;
- Geotextile is missing from section view for station 0+418, 0+440 ad 0+475; and
- Geotextile is missing from the French drain shown in section view at station 0+418, 0+420 and 0+440.

4.0 VARIATION AND FIELD ADJUSTMENTS

The deviation in construction from the drawings or specifications (SNC-Lavalin, 2020a) are discussed in this section. A list of the design changes, variations and adjustments made during the construction stage is presented in Appendix B, as a Request for Information (RFI) list.

The followings are a summary of deviation in construction from IFC drawings provided in the SWTDC

design report (SNC-Lavalin, 2020a):

- SWTDC inlet modification: The original design geometry of the SWTDC inlet from Whale Tail lake was modified from a rectangular to a funnel shape to minimize the risk of ice jam and to facilitate flow. The width of SWTDC inlet was modified to transition from 15 m at station 0+054 to 5 m at station 0+104 approximately. AEM proposed the design modification, and SNC-Lavalin reviewed and accepted the design change.
- Geotextile between the coarse filter and the riprap material: AEM in discussion with SNC-Lavalin proposed to place a geotextile between the coarse filter and riprap for an additional protection to avoid erosion and limit TSS in the water. SNC-Lavalin reviewed the proposed modification, accepted the installation of geotextile between coarse filter and riprap and provided field instructions (SNC-Lavalin, 2020d).
- Use of esker material as foundation backfill: AEM proposed esker to be used as a backfill material for over-excavated foundation area. SNC-Lavalin reviewed and provided field instructions (SNC-Lavalin, 2020c) regarding specification requirements of the esker material.
- SWTDC outlet to Mammoth Lake: the original design of the SWTDC outlet to Mammoth Lake proposed field fitting to the channel outlet at the chainage 0+932 and elevation 152.94 m. After field condition assessment during construction, AEM proposed to field fit the channel outlet at chainage 0+917 and elevation 153 m. SNC-Lavalin reviewed the modification and accepted the change.

- Fine filter test frequency: AEM requested reducing sampling frequency proposed in the Technical Specifications for laboratory gradation tests required to approve the placement of fine filter. SNC-Lavalin reviewed the request and suggested fine filter approval based on visual assessment and available gradation tests results when approval of an area was requested. Remaining samples of fine filter were processed after the approval was completed.

The original design of SWTDC in the design report (SNC-Lavalin, 2020a) did not include a structure for the section of the channel in Lake A45. In order to control the risk of elevated total suspended solid (TSS) coming from the lakebed sediment re-suspension of Lake A45, AEM mandated SNC-Lavalin to incorporate a structure into the channel section through Lake A45. SNC-Lavalin first submitted field instruction (SNC-Lavalin, 2020f) to initiate the work on the foundation and later submitted a design report (SNC-Lavalin, 2020b). Adjustments to the design were made during the construction of the SWTDC-LA45S. These adjustments were decided by AEM representatives during the construction. At this time, no SNC-Lavalin representative was present on site. The followings are a summary of deviation in construction from IFC drawings provided in the SWTDC-LA45S design report (SNC-Lavalin, 2020b):

- Foundation preparation below the rockfill berms: based on discussions held on April 9rd and 13th 2020 between AEM and SNC-Lavalin, it was understood that foundation preparation for the SWTDC-LA45S was completed in the area of the footprint located below the base of the central portion extending to the outside limits of the 3H:1V slopes. Foundation preparation was not completed for the entire foundation underneath rockfill berms. However, AEM specified that ice lenses/snow were removed for most part of the existing ground underneath the rockfill especially from the west rockfill berm foundation. If settlement occurs, correction to the rockfill berm and access could be completed later, as confirmed by AEM. Initially, foundation preparation was recommended by SNC-Lavalin for the entire footprint of the SWTDC-LA45S structure (SNC-Lavalin, 2020f);
- Esker and filter material at the base: the geometry of the esker/filter used at the base of the channel was slightly modified. The esker and filter materials were proposed to extend from the base of the channel to the 3H:1V slope to elevation 154.3m (for the coarse filter). The esker and filter materials were rather limited to be placed underneath the base of the channel;
- Riprap elevation: the riprap maximum elevation proposed in the design was 155.8m on the 3H:1V side slopes. The riprap elevation was extended all the way along the slope of the rockfill berm, to elevation 157.1m approximately;
- Berms width: the crest width of the rockfill berms, initially proposed between 7.1m and 7.5m in the design, were slightly widened;
- Geotextile: geotextile was proposed in the design at the base of the channel over the coarse filter. Geotextile was placed between the coarse filter and the riprap at the base of the channel and extended on the 3H:1V slope to elevation 157.1m approximately, between the rockfill and the riprap.
- French drains height: from the design, the French drains height proposed was 1.0m for the east pond and 1.3m for the west pond. The French drains constructed have a height of 1.19m for the east pond and 1.17m for the west pond.

- Geotextile for the French drains: in the original design, the French drains were proposed to be enclosed by geotextile. During construction, geotextile was only placed on the side and top surface of the French drain and not at the bottom, as specified by AEM.

5.0 Personnel

This report has been prepared by Mr. Daniel Meles and Ms. Erika Voyer, and reviewed by Mr. Mazin Toma and Ms. Erika Voyer. This report has been approved by Mr. Hafeez Baba and Ms. Erika Voyer.

We trust that this report is to your satisfaction. Should you have any question, please do not hesitate on contacting us.

SNC-LAVALIN INC.

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SNC-LAVALIN INC.
Signature NAME Hafeez Baba
Date DATE 2020-08-24
PERMIT NUMBER: P 260
The Association of Professional Engineers, Geologists and Geophysicists of NWT/NU

6.0 References

AEM. (2019). *SWTC – Geotechnical Investigation, AEM, May 2019.*

CDA. (2007, rev 2013). *Canadian Dam Association, Dam Safety Guidelines.*

SNC-Lavalin. (2016). *Permitting Level Engineering Report for Geotechnical and Water Management Infrastructure.* 627215-1000-40ER-0004_01, February 2016.

SNC-Lavalin. (2019a). *Detailed Engineering of South Whale Tail Diversion Channel, 651298-2900-40ER-0001, July 2019.*

SNC-Lavalin. (2019b). *Technical Specifications Construction of South Whale Tail Diversion Channel, July 22, 2019.*

SNC-Lavalin. (2020a). *Design Report of South Whale Diversion Channel. 669635-2000-40ER-0001-00, January 2020.*

SNC-Lavalin. (2020b). *Design Report of Lake A45 Section - South Whale Tail. 667648-4000-40ER-0001-00, May 2020.*

SNC-Lavalin. (2020c). *Filter Design Review and Esker material Field Work Instruction (RFI 015). 667648-2000-60NC-0001, Feburary 2020.*

SNC-Lavalin. (2020d). *Geotextile Placement Field Work Instruction (RFI-011). 667648-2000-60NC-0002, Feburary 2020.*

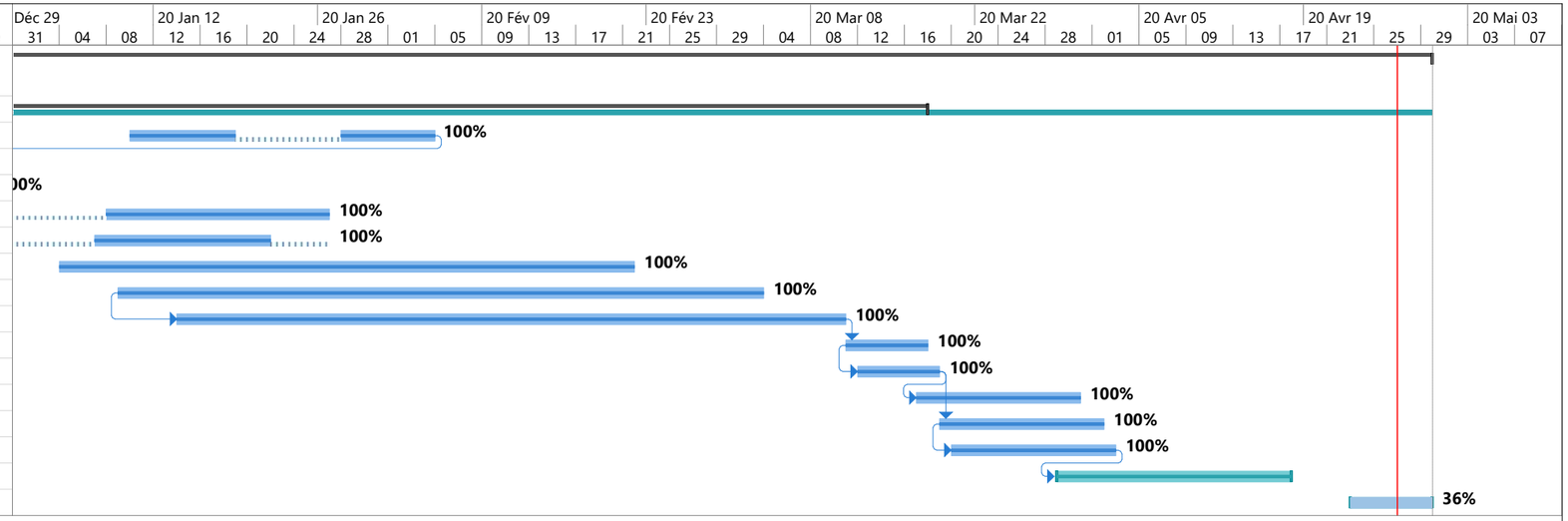
SNC-Lavalin. (2020e). *Excavation of Ice Layer Outside of Channel Footprint Field Work Instruction (RFI-017). 667648-2000-60NC-0003-00-PB, Feburary 2020.*

SNC-Lavalin. (2020f). *Foundation Excavation and Preparation of the South Whale Diversion Channel at Lake A45 Section Field Work Instruction. 667648-2000-60NC-0004-PB, March 2020.*

Appendix A

Construction Schedule – Update by KCG on April 24,2020 and minutes of construction progress meeting between AEM and KCG

N°	Nom de la tâche	Durée	Début	Fin	% achevé
1	**AGNICO EAGLE - WHALE TAIL EARTHWORK - CONSTRUCTION**	**193 jours**	**Dim 19-10-20**	**Jeu 20-04-30**	**98%**
2	**South Wail Tail Diverson Channel**	**90.98 jours**	**Mer 19-12-18**	**Mar 20-03-17**	**98%**
3	Access Road To A45 (AEM)	17 jours	Ven 20-01-10	Mer 20-02-05	100%
4	Culvert installation	5 jours			0%
5	A45 Dewatering (AEM)	10 jours	Jeu 19-12-19	Dim 19-12-29	100%
6	Access Road for construction (Road 24)	98.98 jours	Dim 19-10-20	Dim 20-01-26	100%
7	Platform Backfill (For D&B)	90.98 jours	Lun 19-10-28	Dim 20-01-26	100%
8	Drill and Blast	48.98 jours	Sam 20-01-04	Ven 20-02-21	100%
9	Excavation	54.98 jours	Jeu 20-01-09	Mar 20-03-03	100%
10	Foundation clean-up (tramac,ripper and esker)	56.98 jours	Mar 20-01-14	Mar 20-03-10	100%
11	Fine Filter	7 jours	Mar 20-03-10	Mar 20-03-17	100%
12	Coarse Filter	7 jours	Mer 20-03-11	Mer 20-03-18	100%
13	Geotextile installation	14 jours	Lun 20-03-16	Lun 20-03-30	100%
14	RipRap (100-250)	14 jours	Mer 20-03-18	Mer 20-04-01	100%
15	Rockfill	14 jours	Jeu 20-03-19	Jeu 20-04-02	100%
16	Lake A45 area	20 jours	Dim 20-03-29	Sam 20-04-18	100%
17	Turbidity Barriers	7 jours	Jeu 20-04-23	Jeu 20-04-30	36%



Whale tail project 2019 – 3 Weeks Meeting

LAST WEEK: 22/09 @ 28/09

- **HEALTH AND SAFETY**
- No event last week
- **ENVIRONMENT**
- No event last week

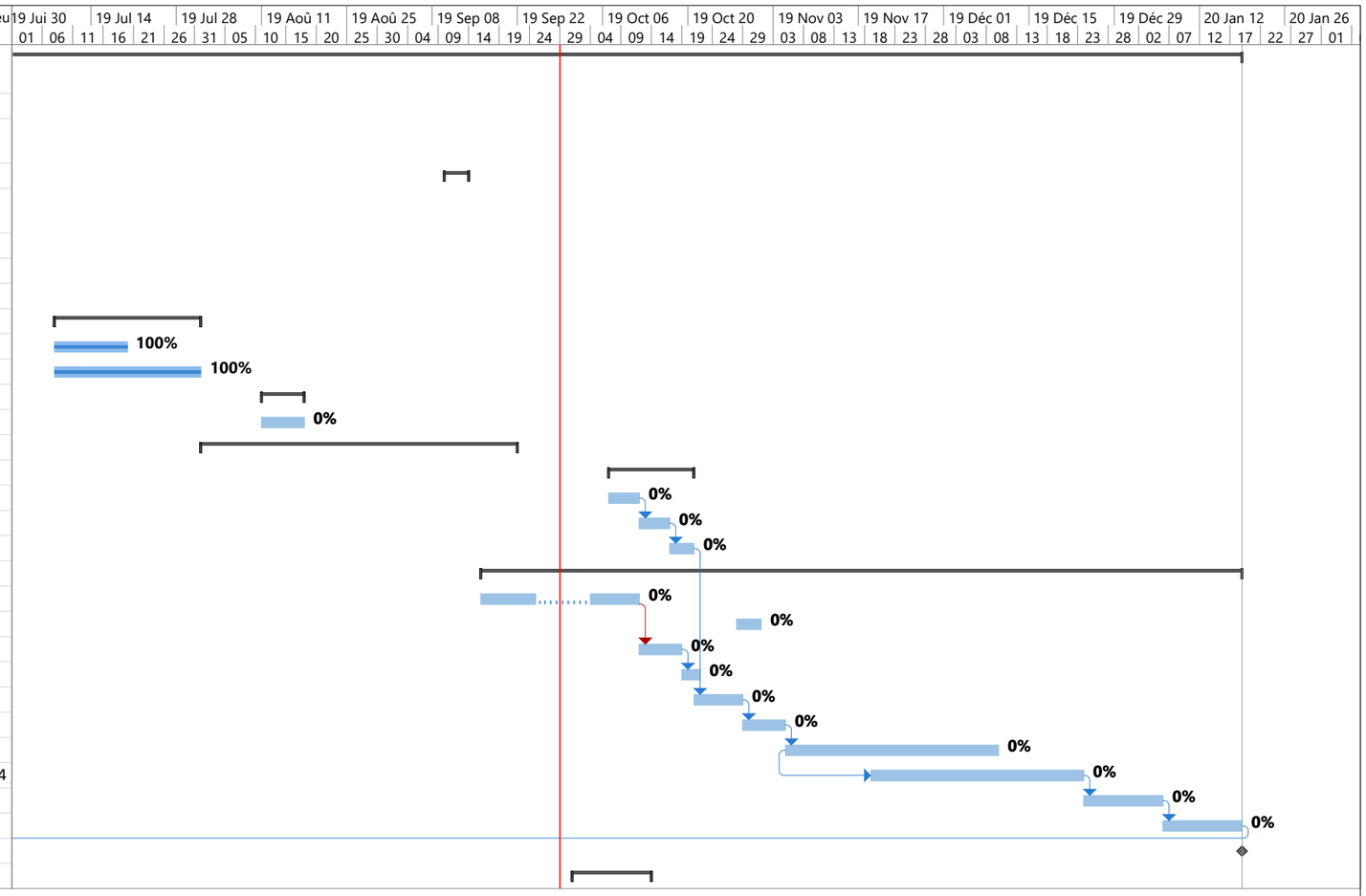
CURRENT WEEK: 29/09 @ 05/10

- **MISCELLANEOUS**
- *SWTC*
- 100-250mm/0-6'' to be crushed at the end of the seasons according to revised volume.
- Volume need to be review considering the design change. KCG survey.
- Capping and D&B will be the preferred method for excavation (80%)
- KCG has deliver work method.
- D&B pattern to be review by AEM, need to be on the 4 1/2 '' and adapt to the new design
- AEM to confirm if 4'' casing is available for SWTC D&B to be validate by AEM
- Survey of the excavation footprint is ongoing by KCG
- Test pit conduct in the boulder field with PC1250 to see if traditional excavation is possible.
- Water management plan need to be establish. AEM to confirm we're the water can be disposed.
- AEM to confirm if cost estimate need to be review in regard of the new design.
- Work schedule have been revised according to new design and side work.
- *Others*
- *WTD Sump work*
  - Work to begin next week Sept.30th - Should last 2 week
  - Work method to be transmitted by KCG
  - AEM will provide survey document to KCG surveyor for road alignment
  - Esker material to be use for access road. NPAG will be use once esker is not available.
  - Design to be field fitted with AEM
- *Culvert saline protection sector*
  - Work will last 3-4 days
  - To be completed before Oct.15th
- *Test pit*
  - Extra operator will be require to completed test pit for IVR project
- *WTD grouting*
- KCG to orders 5300 meters of casing (Casing arrive on Thorco – 29 sept)
- Work method for big bag unloading for the grouting unit
  - Big Permodome will be use as a transit station for cement.
- Campaign to begin on Oct.21st with casing installation. Injection crew to arrive on Oct.25th.
- Sand screening
  - Screen have been order and are schedule to be deliver on Oct 8th at Chicoutimi. Need to be shipped by Cargo for the 11th
  - Screening team schedule for Oct.14th – AEM equipment need to be available
  - Sand to be stockpiled under a tarp. (Tarp to be ordered by KCG and shipped by cargo)
- Water supply
  - Many option are available (Heating unit, Heated Seacan, second unit) – To be adapted according to the volume
- Width of the small dome need to be taken to ensure enough space available on the dike (Between instrumentation shack and bumper)
- Grouting team need to be schedule in the FLO, KCG will need support from AEM for camp and flight availability.

NEXT WEEK: 06/10 @ 12/10

- **OTHERS**
- *WTD Sump*
  - Begin main access road.
- **SWTC**
- Completed test pit once road 24 is reopened

N°	Nom de la tâche	Durée	Début	Fin	% achevé	Prédécesseu
1	**AGNICO EAGLE - WHALE TAIL EARTHWORK - CONSTRUCTION**	**580 jours**	**Lun 18-06-18**	**Dim 20-01-19**	**62%**	
2	**Whale Tail Dike 2018**	**351,98 jou**	**Lun 18-06-18**	**Mar 19-06-04**	**99%**	
53	**Saline Protection Channel 2019**	**241,98 jours**	**Mar 18-09-04**	**Ven 19-05-03**	**15%**	
58	**East Channel Coffer Dam**	**4 jours**	**Mar 19-09-10**	**Sam 19-09-14**	**0%**	
63	**Key dates**	**49,98 jours**	**Lun 18-11-19**	**Lun 19-01-07**	**0%**	
67	**North East Dike**	**161,98 jou**	**Dim 18-09-16**	**Dim 19-02-24**	**100%**	
78	**WRSF Dike**	**190 jours**	**Mer 18-10-03**	**Jeu 19-04-11**	**91%**	
90	**Mammoth Dike**	**64,02 jours**	**Ven 19-02-15**	**Dim 19-04-21**	**76%**	
103	**Whale Tail Dike 2019**	**24 jours**	**Lun 19-07-08**	**Jeu 19-08-01**	**100%**	
104	Slope profiling	12 jours	Lun 19-07-08	Sam 19-07-20	100%	
105	Rockfill placement	24 jours	Lun 19-07-08	Jeu 19-08-01	100%	
106	**Saline Protection Channel 2019**	**7 jours**	**Dim 19-08-11**	**Dim 19-08-18**	**0%**	
107	Coarse Filter Placement	7 jours	Dim 19-08-11	Dim 19-08-18	0%	
108	**East Channel**	**52 jours**	**Jeu 19-08-01**	**Dim 19-09-22**	**14%**	
120	**Whale tail dike Sump work**	**14 jours**	**Lun 19-10-07**	**Lun 19-10-21**	**0%**	
121	Access road	5 jours	Lun 19-10-07	Sam 19-10-12	0%	
122	Excavation	5 jours	Sam 19-10-12	Jeu 19-10-17	0%	121
123	Backfill	4 jours	Jeu 19-10-17	Lun 19-10-21	0%	122
124	**South Wail Tail Diverson Channel A45 Lake - 612 m.li.**	**125 jours**	**Lun 19-09-16**	**Dim 20-01-19**	**0%**	
125	Access Road To A45	17 jours	Lun 19-09-16	Sam 19-10-12	0%	
126	Culvert installation	4 jours	Lun 19-10-28	Ven 19-11-01	0%	
127	Turbidity Barriers 3 m x 330 m Li	7 jours	Sam 19-10-12	Sam 19-10-19	0%	125
128	A45 Dewatering (AEM)	3 jours	Sam 19-10-19	Mar 19-10-22	0%	127
129	Access Road for construction	8 jours	Lun 19-10-21	Mar 19-10-29	0%	123
130	Platform Backfill (For D&B)	7 jours	Mar 19-10-29	Mar 19-11-05	0%	129
131	Drill and Blast	35 jours	Mar 19-11-05	Mar 19-12-10	0%	130
132	Excavation	35 jours	Mar 19-11-19	Mar 19-12-24	0%	131DD+14
133	Filters	13 jours	Mar 19-12-24	Lun 20-01-06	0%	132
134	RipRap	13 jours	Lun 20-01-06	Dim 20-01-19	0%	133
135	Instrumentation	0 jour	Dim 20-01-19	Dim 20-01-19	0%	134
136	**WRSF Saddle Dam**	**13 jours**	**Mar 19-10-01**	**Lun 19-10-14**	**0%**	



Whale tail project 2019 – 3 Weeks Meeting

LAST WEEK : 24/11 @ 30/11

- **HEALTH AND SAFETY**
- A workers cut his finger while manipulating casing – First aid
- **ENVIRONMENT**
- Spill 5L compressor
- Sea-can open doors
- **MISCELLANEOUS**
- Culvert for E&I on ring road - **Stand By**
- **WTD grouting**
- *Injection advancement*
  - **Completed 75 stage plug**
- *Casing installation*
  - Work on going – 6 casing left to be installed
  - Night shift drilling stopped on November 23rd
- Bedrock water drilling started for the blanket between 749 @ 596 (5 primary holes done for now)
- **Beginning of grouting should start this afternoon, as planned**
- Meeting to be held between all partys before every new milestone
- KCG 5300 meters of casing – To be shipped to AMQ – **3 Bundle left at Meadowbank**
- Total quantity of casings **Inventory 2019-11-17: 1209m installed + 5802 m casing left including MBK + AMQ = 7011 m of casing receive on site.**
- **Revised work method for grouting -** on going – Awaiting New spec and work sequence.
- Water supply
  - **Water quantity will be put by Grouting supervisor on the daily report.**
- KCG will need support from AEM for camp and flight availability. **On going**
- API filter tests - Material have been receive. GHD training left to be done – **Paper filters missing (Have been ordered) –** First test have been completed with success on Mix B,C and D
- AEM to confirm officially dates for Christmas break. **– Christmas break to occur between December 20th and January 10th.**
- Add. Mixtures delivery dates to be confirmed by AEM. – **Sylvain Chartier (AEM) contact person for follow-up.** Kelco-crete at the CTMN – Sodium silicate at MBK
- Storage for Add mixtures need to be determined – Mastermatrix was frozen (to confirm with supplier for use by AEM) **– Only 2 tote may not be recoverable.**
- Glenium need to be shipped at AMQ Std-By MBK
- Additional Cargo required – On site

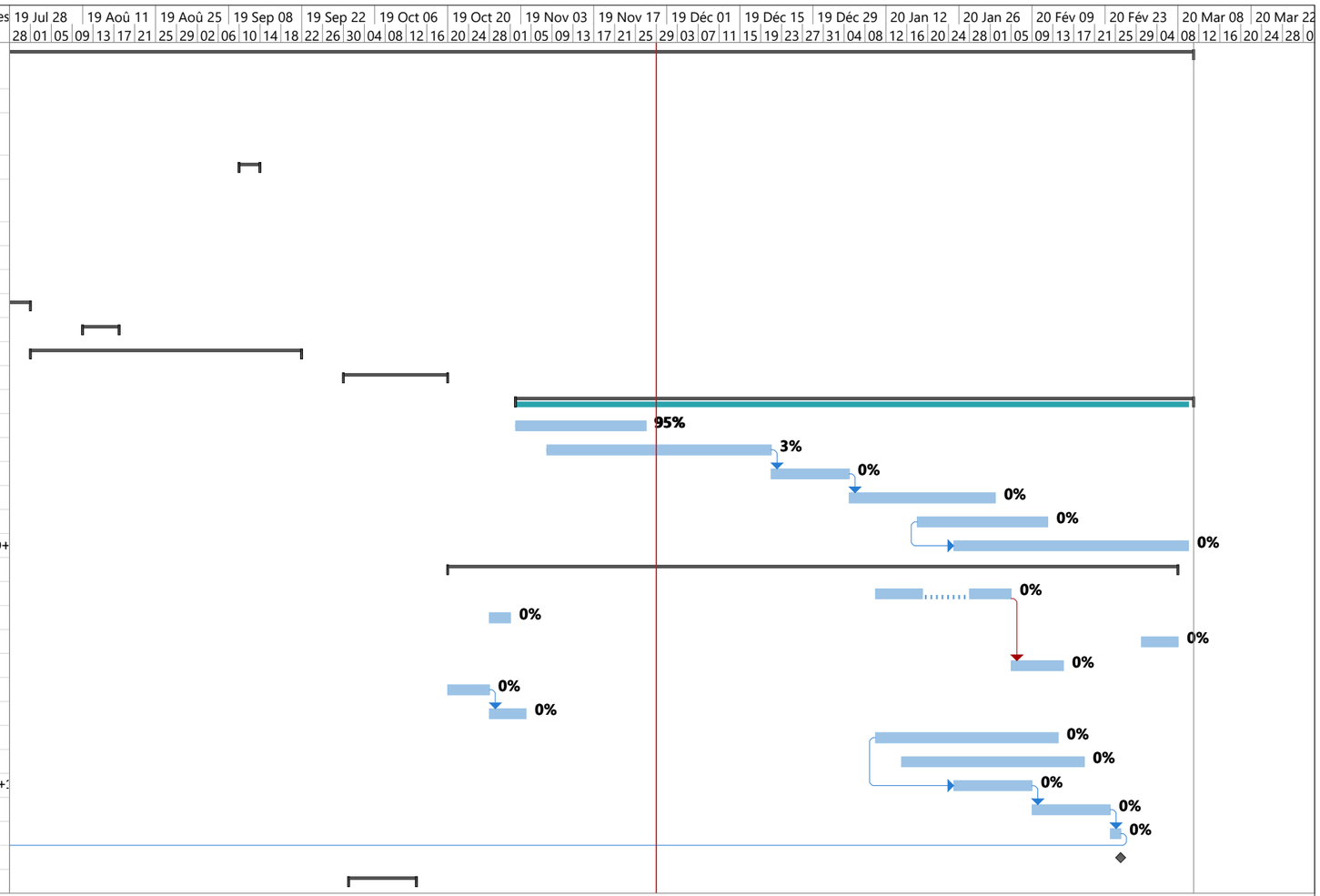
CURRENT WEEK: 01/12 @ 07/12

- **WTD grouting**
- Casing installation **– Casing installation to be completed (6 to be done)**
- Continue bedrock drilling
- Re-drills to be performed since the specifications changes (number to be validate)
- Grouting :
  - Stop stage plug injection
  - Blanket rock grouting – 549.5 @ 596.5

SOUTH WHALE TAIL CHANNEL

- **Postponed to January 3th**
- Last version of drawing have been shared by KCG– Rev.5
- Final drawing to be completed by KCG – Construction begin with KCG drawing and will be adjusted if required during construction. – On going
- Only 0-3/4 will be necessary – 7000 m³ propose by KCG for project only– Possibility of having material taken by mine op. Qty to be validate by AEM if extra necessary. Revision of crusher schedule on going. – quantities to be validate by KCG
- Capping and D&B will be the preferred method for excavation (80%) **– Change to 100 % if done in winter period. To be determine according to thermistor result.**
- D&B pattern to be review by AEM, need to be on the 4 1/2 '' and adapt to the new design KCG to provide DWG. Meeting to be held for DB pattern.
- AEM to confirm if 4'' casing is available for SWTC D&B – Confirmed – To be stored on KCG pad. Not received –
- Method to be reviewed with 100% D&B excavation method**.** Work method to include both options as it is still undetermined. On going
- (NPAG only for Rd 24, material to be recycled for D&B pad in steps**) to be closely monitored.**
- Capping have been completed by mine op.
- Remove ice on lake A45
- **Start-up meeting to be held next week.**

N°	Nom de la tâche	Durée	Début	Fin	% achevé	Prédéces
1	**AGNICO EAGLE - WHALE TAIL EARTHWORK - CONSTRUCTION**	**631,98 jours**	**Lun 18-06-18**	**Mar 20-03-10**	**56%**	
2	**Whale Tail Dike 2018**	**351,98 jou**	**Lun 18-06-18**	**Mar 19-06-04**	**99%**	
53	**Saline Protection Channel 2019**	**241,98 jours**	**Mar 18-09-04**	**Ven 19-05-03**	**15%**	
58	**East Channel Coffer Dam**	**4 jours**	**Mar 19-09-10**	**Sam 19-09-14**	**0%**	
63	**Key dates**	**49,98 jours**	**Lun 18-11-19**	**Lun 19-01-07**	**0%**	
67	**North East Dike**	**161,98 jou**	**Dim 18-09-16**	**Dim 19-02-24**	**100%**	
78	**WRSF Dike**	**190 jours**	**Mer 18-10-03**	**Jeu 19-04-11**	**91%**	
90	**Mammoth Dike**	**64,02 jours**	**Ven 19-02-15**	**Dim 19-04-21**	**76%**	
103	**Whale Tail Dike 2019**	**24 jours**	**Lun 19-07-08**	**Jeu 19-08-01**	**100%**	
106	**Saline Protection Channel 2019**	**7 jours**	**Dim 19-08-11**	**Dim 19-08-18**	**0%**	
108	**East Channel**	**52 jours**	**Jeu 19-08-01**	**Dim 19-09-22**	**14%**	
120	**Whale tail dike Sump work**	**20 jours**	**Lun 19-09-30**	**Dim 19-10-20**	**100%**	
124	**Injection Phase 2 WTD**	**129,98 jou**	**Sam 19-11-02**	**Mar 20-03-10**	**14%**	
125	Casings Installation Downstream	25 jours	Sam 19-11-02	Mer 19-11-27	95%	
126	Injection Downstream	42,98 jour	Ven 19-11-08	Ven 19-12-20	3%	
127	Christmas Break	14,98 jour	Ven 19-12-20	Sam 20-01-04	0%	126
128	Injection Downstream	28 jours	Sam 20-01-04	Sam 20-02-01	0%	127
129	Casings Installation Upstream	25 jours	Sam 20-01-18	Mer 20-02-12	0%	
130	Injection Upstream	45 jours	Sam 20-01-25	Mar 20-03-10	0%	129DD+
131	**South Wail Tail Diverson Channel A45 Lake - 612 m.li.**	**140 jours**	**Dim 19-10-20**	**Dim 20-03-08**	**0%**	
132	Access Road To A45 (AEM)	17 jours	Ven 20-01-10	Mer 20-02-05	0%	
133	Culvert installation	4 jours	Lun 19-10-28	Ven 19-11-01	0%	
134	Turbidity Barriers 3 m x 330 m Li	7 jours	Dim 20-03-01	Dim 20-03-08	0%	
135	A45 Dewatering (AEM)	10 jours	Mer 20-02-05	Sam 20-02-15	0%	132
136	Access Road for construction (Road 24)	8 jours	Dim 19-10-20	Lun 19-10-28	0%	123
137	Platform Backfill (For D&B)	7 jours	Lun 19-10-28	Lun 19-11-04	0%	136
138	Excavation	35 jours	Ven 20-01-10	Ven 20-02-14	0%	
139	Drill and Blast	35 jours	Mer 20-01-15	Mer 20-02-19	0%	
140	Filters	15 jours	Sam 20-01-25	Dim 20-02-09	0%	138DD+
141	RipRap (100-250)	15 jours	Dim 20-02-09	Lun 20-02-24	0%	140
142	Rockfill	2 jours	Lun 20-02-24	Mer 20-02-26	0%	141
143	Instrumentation	0 jour	Mer 20-02-26	Mer 20-02-26	0%	142
144	**WRSF Saddle Dam**	**13 jours**	**Mar 19-10-01**	**Lun 19-10-14**	**0%**	



AMQ Water Management Infrastructures – 3 Weeks Meeting

- **HEALTH AND SAFETY**
- All new worker has been met to present the work method and general safety meeting with our last events.
- Near miss : Door of the permadome (cement bucket plant) - **Item closed**
- Change signalisation on Road 7 – Superhighway
- New sign on Road
- **ENVIRONMENT**
- Monthly inspection report sent to KCG – action completed

LAST WEEK : 05/01 @ 11/01

- **WTD grouting**

- Re-start bedrock drilling and grouting after Christmas break.
- Bedrock drilling/grouting sequence has been optimize.
  - Only 2 stage of grouting / hole. – 1 for the plug and 1 in the bedrock (5m)
- Grouting advancement :
  - **125 / 392 stages (plug included)**

- **South Whale Tail Channel**

- Drilling advancement :
  - **1467 m.lin / 4812 m.lin (30.5% done)**
- Excavation advancement :
  - **90 m.lin / 858 m.lin (10% done)**
- Building the drilling pad with blasted material.
- Building road 24 with NPAG.
- No foundation approval has there were no QA on site.

CURRENT WEEK: 12/01 @18/01

- **WTD grouting**
- Continue grouting and bedrock drilling – Target 3 stage / shift.
- Grouting NS pending on AEM. Update to be provide on Jan. 24th - After that, 3 weeks to start the NS (around Feb. 14th)
- 2 Check holes done. (S-746.5 and S-686.5)
- Grouting advancement :
  - **145 / 392 stages (plug included) – On Jan. 16th**
- NCR on the bedrock drilling: One holes has been drilled in the wrong sequence. Drilled a tertiary hole with the secondary not grouted.

- **South Whale Tail Channel**
- Difficulty to reach the good elevation for the channel and slope.
  - Ripping with the dozer and excavator to break frozen material.
- Blast pattern has been modified for the Seq.4 - to be monitor after the blast.
- Drilling advancement :
  - **2436 m.lin / 4812 m.lin (50% done) – On Jan. 16th.**
- Excavation advancement :
  - **210 m.lin / 855 m.lin (25% done) – On Jan. 16th.**
  - Grade excavation at **0+850 – On Jan. 16th.**

- Drilling pad completed at **0+052.**
- Hauling and placing NPAG for the road 24.
- Small isolated section with water in hole.
- QC / QA arrival.
- New design by KCG for the inlet and outlet – To be approved by SNC/AEM.
- Review geotextile design before starting backfill - SNC

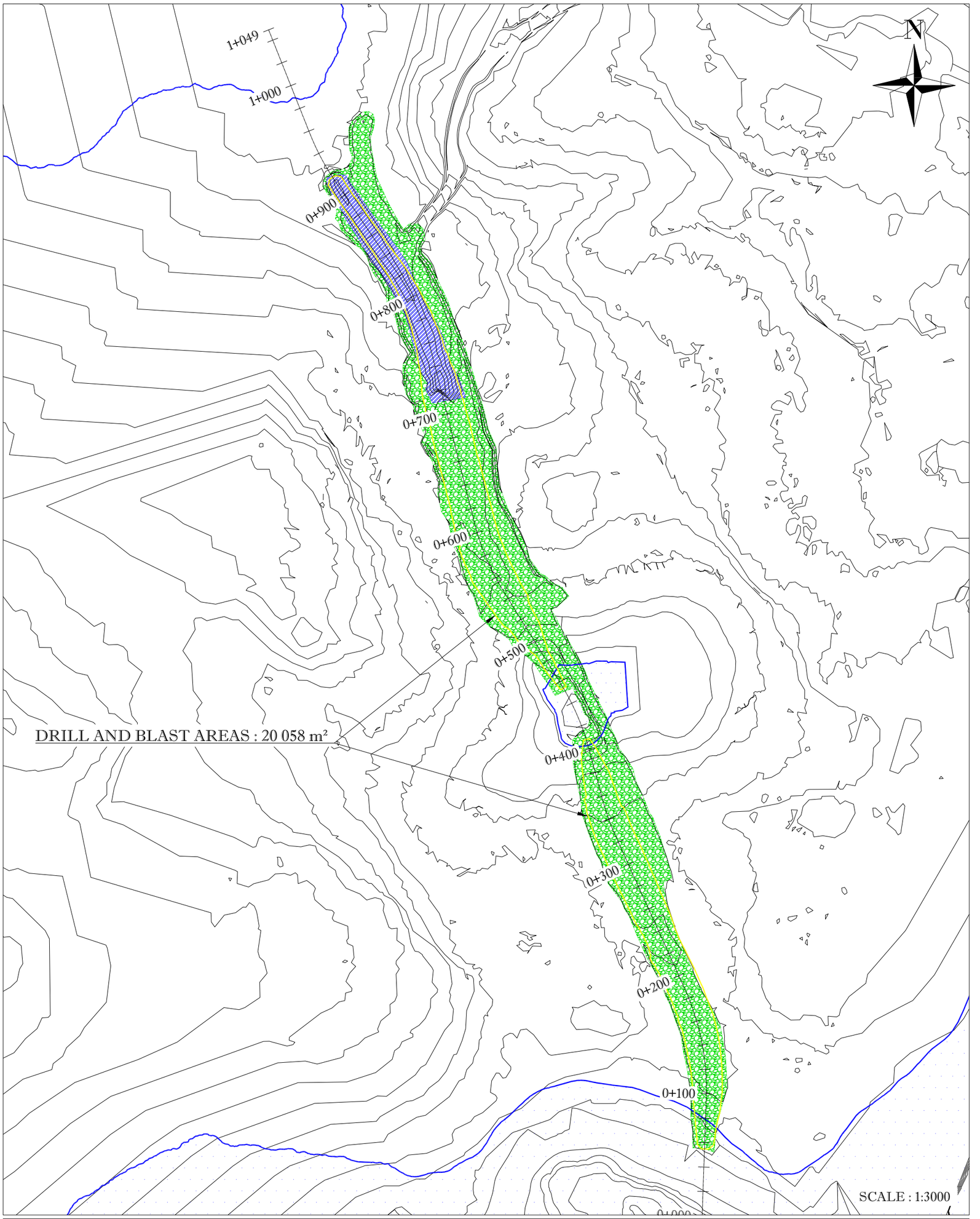
NEXT WEEK: 19/01 @ 25/01

- **WTD grouting**
- Continue bedrock drilling and grouting of primary, secondary and tertiary holes.
- AEM to provide information about upstream/downstream sequence and night shift option
  - Presentation of the different options.

- **South Whale Tail Channel**

- Arrival of the NS crew planned on Jan. 24th.
- Continue drilling and blasting on Seq.4,5,6,…
- Continue ripping with dozer and excavator.
- Foundation approval.
- Start placing fine, coarse and rip rap.
- Installation of geotextile - Labors arrival on Jan 24th.
  - 14 300m2; 35 roll needed – 35 on site at AMQ.
- Continue road 24 with NPAG.
- Access road to be built on the west side of the channel. -**INFO**
- Access to cross the channel while in operation – to be confirmed by AEM.
- Turbidity Barriers :
  - KCG to make an inventory of the stuff on site. Meeting to occur on 30/01 between AEM and SNC
- QC to make a sieves analysis of the blast materials (to use on WRSF capping) Sample this morning
- Open PO for WRSF capping following cost estimate
- Next meeting : Include MS Project

WEEKLY PROGRESS
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



VOLUMETRY DETAIL

D&B BACKFILL : 27 070 m³

EXCAVATION : 6 532 m³

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 17-01-2020
CON-QT-134

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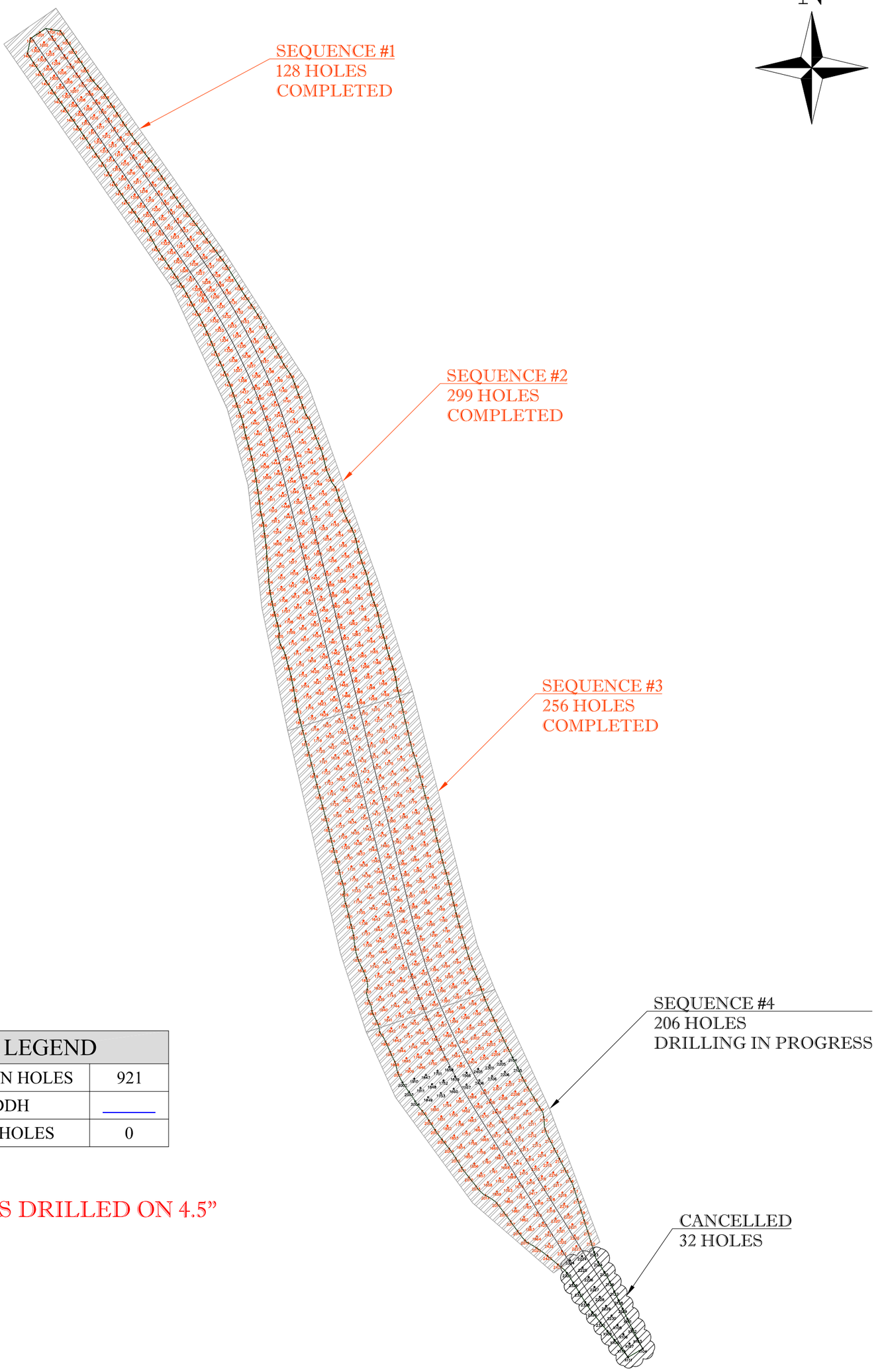
DRILL & BLAST PROGRESSION
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



LEGEND	
DESIGN HOLES	921
DDH	———
MISHOLES	0

HOLES DRILLED ON 4.5”

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 17-01-2020
CON-DR-094

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Whale tail project 2020 – 3 Weeks Meeting

- **HEALTH AND SAFETY**
- Pickup traffic on the dike around injection unit to be fix - The dike is now blocked. Mandatory call to the dike supervisor before entry.
-
- New workers for the channel. They will be met to present the work and safety procedure.

- **ENVIRONMENT**

- Nothing to report

LAST WEEK : 19/01 @25/01

- **WTD grouting**

- Bedrock drilling and grouting on going
- Grouting advancement :
  - **170 / 392 stages (plugs included)**
- 1 NCR
  -Packer stuck in borehole P-524.5

- **South Whale Tail Channel**

- Drilling advancement :
  - **3106 m.lin / 4812 m.lin (64.5% done)**
- Excavation advancement :
  - **264 m.lin / 916 m.lin (29% done)**
- Blast #4 happened on 21/01 at 11h am, it went well.
- Building road 24 with NPAG.
- No foundation approval as there were no QA on site.
- Drilling pad was completed
- Night shift crew arrived on the 24th - First shift on Jan 26th .

CURRENT WEEK: 26/01 @ 01/02

- **WTD grouting**
- Target 3 stages / shift.
- Bedrock drilling completed for secondary holes up to station P-440.5 (green shack)
- Grouting NS pending on AEM. Update to be provide on Feb. 7th - After that, 3 weeks to start the NS (around Feb. 28th)
- Grouting advancement :
  - **183 / 392 stages (plugs included) – On Jan. 30th**
- Finishing grouting secondary holes on second sequence, drilling tertiary holes and grouting as much tertiary holes as possible

- **South Whale Tail Channel**
- Difficulty to reach the good elevation for the channel and slope.
  - Ripping with the hammer frozen material where it's under blasted.
- We hit a frozen barrier between blast #3 and blast #4 on 27th.
- Then we started to dig only the lift over frozen material. At some point the material was softer under the first lift, so we started to dig back from 0+550 towards 0+645 to we expose the frozen barrier.
- Excavator with hammer ripping the frozen barrier
- Excavation has been accepted from 0+916 to 0+775
- Elevation correction with Esker has been completed from 0+916 to 0+830

- Drilling advancement :
  - **3358 m.lin / 4812 m.lin (70% done) – On Jan. 30th**
- Excavation advancement : **(readjust to 916 m.lin)**
  - **271 m.lin / 916 m.lin (30% done) – On Jan. 30th**

- Road 24 was completed on 29th
- Blast pattern has been changed for smaller pattern
- Geotextile and Rip Rap work method has been sent
- Night shift crew started on 26th

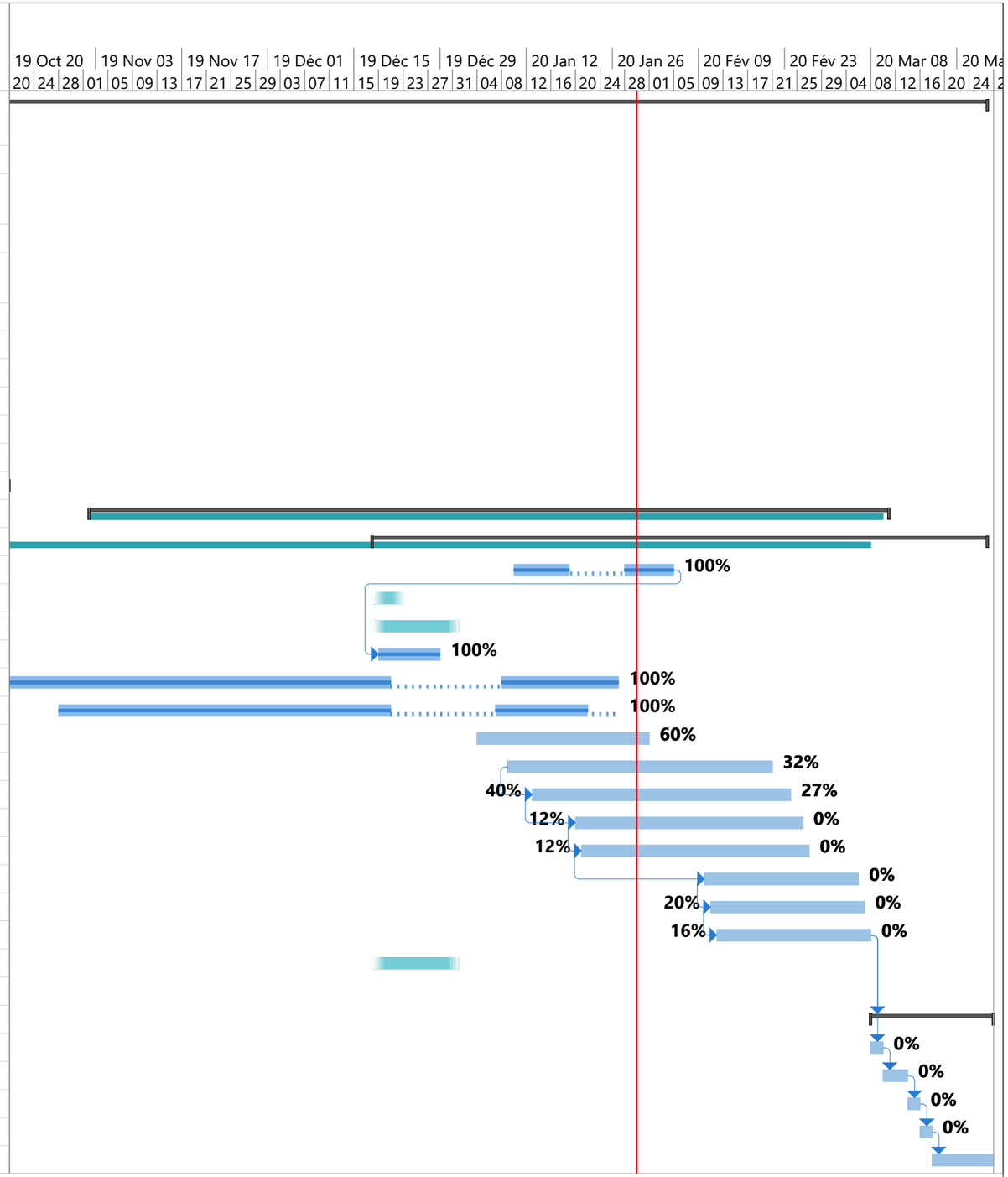
NEXT WEEK: 02/02 @ 08/02

- **WTD grouting**
- Continue bedrock drilling and grouting of tertiary holes on second sequence If not completed yet. (waiting for AEM on further instruction)
- AEM to provide information about upstream/downstream sequence and night shift option

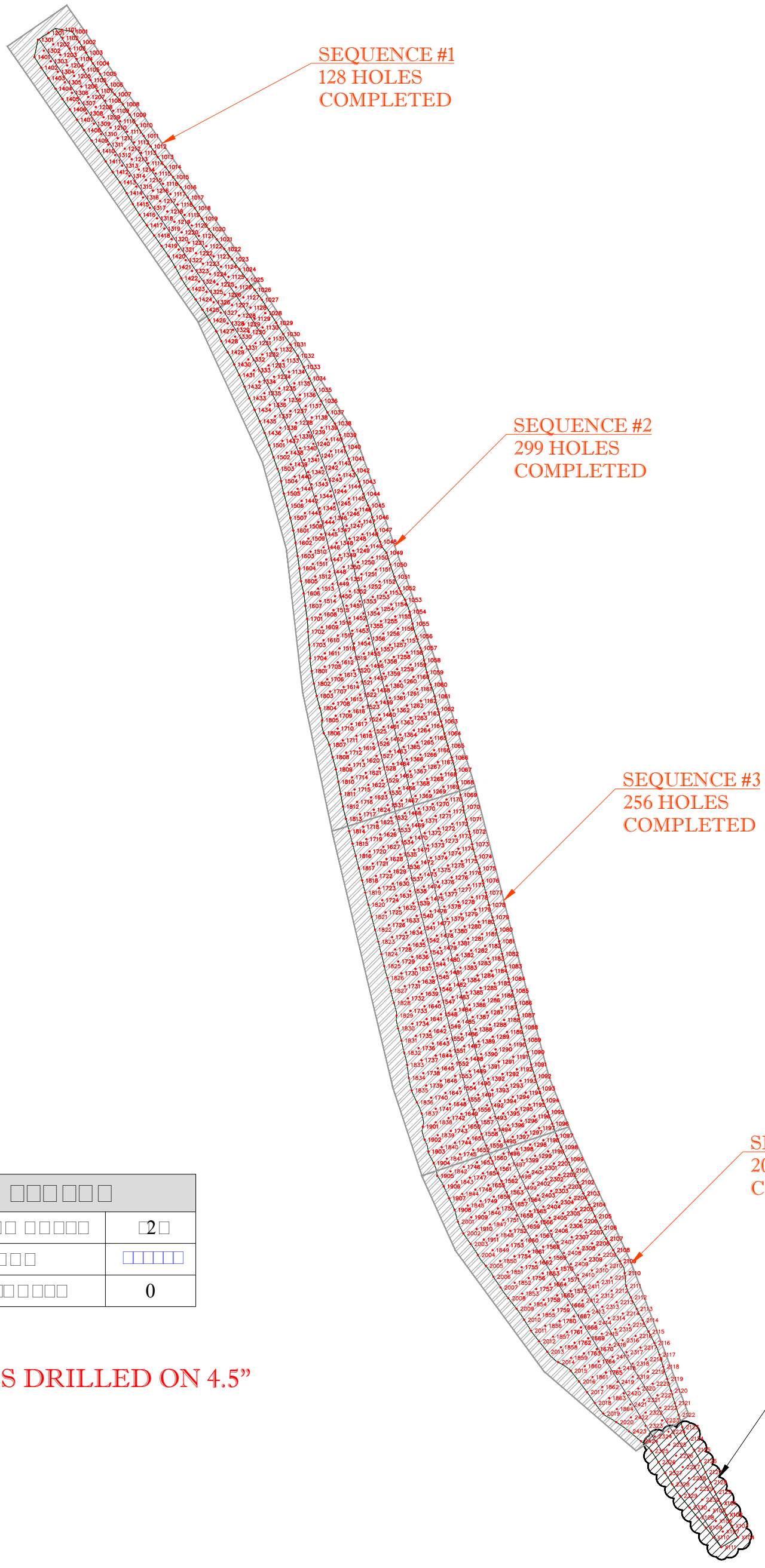
- **South Whale Tail Channel**

- Continue drilling and blasting on Seq. 6, 7,… - Standby for now due to blast material freezing.
- Continue ripping with dozer, hammer and excavator.
- Continue with foundation approval.
- Continue foundation elevation correction with esker
- Start placing fine, coarse filters.
- AEM to make comment on geotextile and Rip Rap work method.
  - 14 300m2; 35 roll needed – 35 on site at AMQ. – Quantity with 500mm of overlapse. Couple more roll to bring from meadowbank to have spare roll.
- Access to cross the channel while in operation – to be confirmed by AEM.
- Turbidity Barriers :
  - KCG to make an inventory of the stuff on site. Meeting to occur on 30/01 between AEM and SNC
- ~~QC to make a sieves analysis of the blast materials (to use on WRSF capping)~~
- ~~QC to make a sieves of esker material analysis~~
- Open PO for WRSF capping following cost estimate

N°	Nom de la tâche	Durée	Début	Fin	Prédécesseurs	Planne work effort %	% achevé
1	**AGNICO EAGLE - WHALE TAIL EARTHWORK - CONSTRUCTION**	**648 jours**	**Lun 18-06-18**	**Ven 20-03-27**			**60%**
2	**Whale Tail Dike 2018**	**351.98 jou**	**Lun 18-06-18**	**Mar 19-06-04**			**99%**
53	**Saline Protection Channel 2019**	**241.98 jours**	**Mar 18-09-04**	**Ven 19-05-03**			**15%**
58	**East Channel Coffer Dam**	**4 jours**	**Mar 19-09-10**	**Sam 19-09-14**			**0%**
63	**Key dates**	**49.98 jours**	**Lun 18-11-19**	**Lun 19-01-07**			**0%**
67	**North East Dike**	**161.98 jou**	**Dim 18-09-16**	**Dim 19-02-24**			**100%**
78	**WRSF Dike**	**190 jours**	**Mer 18-10-03**	**Jeu 19-04-11**			**91%**
90	**Mammoth Dike**	**64.02 jours**	**Ven 19-02-15**	**Dim 19-04-21**			**76%**
103	**Whale Tail Dike 2019**	**24 jours**	**Lun 19-07-08**	**Jeu 19-08-01**			**100%**
106	**Saline Protection Channel 2019**	**7 jours**	**Dim 19-08-11**	**Dim 19-08-18**			**0%**
108	**East Channel**	**52 jours**	**Jeu 19-08-01**	**Dim 19-09-22**			**14%**
120	**Whale tail dike Sump work**	**20 jours**	**Lun 19-09-30**	**Dim 19-10-20**			**100%**
124	**Injection Phase 2 WTD**	**129.98 jou**	**Sam 19-11-02**	**Mar 20-03-10**			**15%**
131	**South Wail Tail Diverson Channel**	**100 jours**	**Mer 19-12-18**	**Ven 20-03-27**			**51%**
132	Access Road To A45 (AEM)	17 jours	Ven 20-01-10	Mer 20-02-05			100%
133	Culvert installation	5 jours					0%
134	Turbidity Barriers 3 m x 330 m Li	14 jours					0%
135	A45 Dewatering (AEM)	10 jours	Jeu 19-12-19	Dim 19-12-29	132		100%
136	Access Road for construction (Road 24)	98.98 jours	Dim 19-10-20	Dim 20-01-26	123		100%
137	Platform Backfill (For D&B)	90.98 jours	Lun 19-10-28	Dim 20-01-26			100%
138	Drill and Blast	28 jours	Sam 20-01-04	Sam 20-02-01		50	60%
139	Excavation	43 jours	Jeu 20-01-09	Ven 20-02-21			32%
140	Foundation clean-up (tramac,ripper)	42 jours	Lun 20-01-13	Lun 20-02-24	139DD+4 jour	40%	27%
141	Fine Filter	37 jours	Lun 20-01-20	Mer 20-02-26	140DD+7 jour	12%	0%
142	Coarse Filter	37 jours	Mar 20-01-21	Jeu 20-02-27	141DD+1 jour	12%	0%
143	Geotextile installation	25 jours	Lun 20-02-10	Ven 20-03-06	142DD+20 j		0%
144	RipRap (100-250)	25 jours	Mar 20-02-11	Sam 20-03-07	143DD+1 jour	20%	0%
145	Rockfill	25 jours	Mer 20-02-12	Dim 20-03-08	144DD+1 jour	16%	0%
146	Reorganization of Lake 45 area	14 jours					0%
147	**WRSF Saddle Dam**	**13 jours**	**Mar 19-10-01**	**Lun 19-10-14**			**0%**
153	**WRSF Capping**	**20 jours**	**Dim 20-03-08**	**Sam 20-03-28**	**145**		**0%**
154	Snow Removal	2 jours	Dim 20-03-08	Mar 20-03-10	145		0%
155	Fine Filter	4 jours	Mar 20-03-10	Sam 20-03-14	154		0%
156	Coarse Filter	2 jours	Sam 20-03-14	Lun 20-03-16	155		0%
157	Geotextile	2 jours	Lun 20-03-16	Mer 20-03-18	156		0%
158	Rockfill	10 jours	Mer 20-03-18	Sam 20-03-28	157		0%



DRILL & BLAST PROGRESSION
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



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HOLES DRILLED ON 4.5”

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MARC-ANDRÉ BLACKBURN
DATE : 31-01-2020
CON-DR-096

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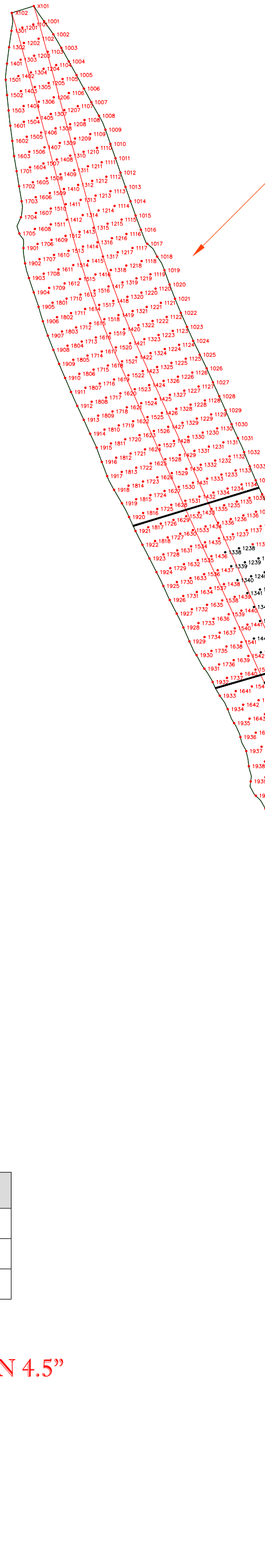
DRILL & BLAST PROGRESSION
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



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HOLES DRILLED ON 4.5”

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MARC-ANDRÉ BLACKBURN
DATE : 31-01-2020
CON-DR-096

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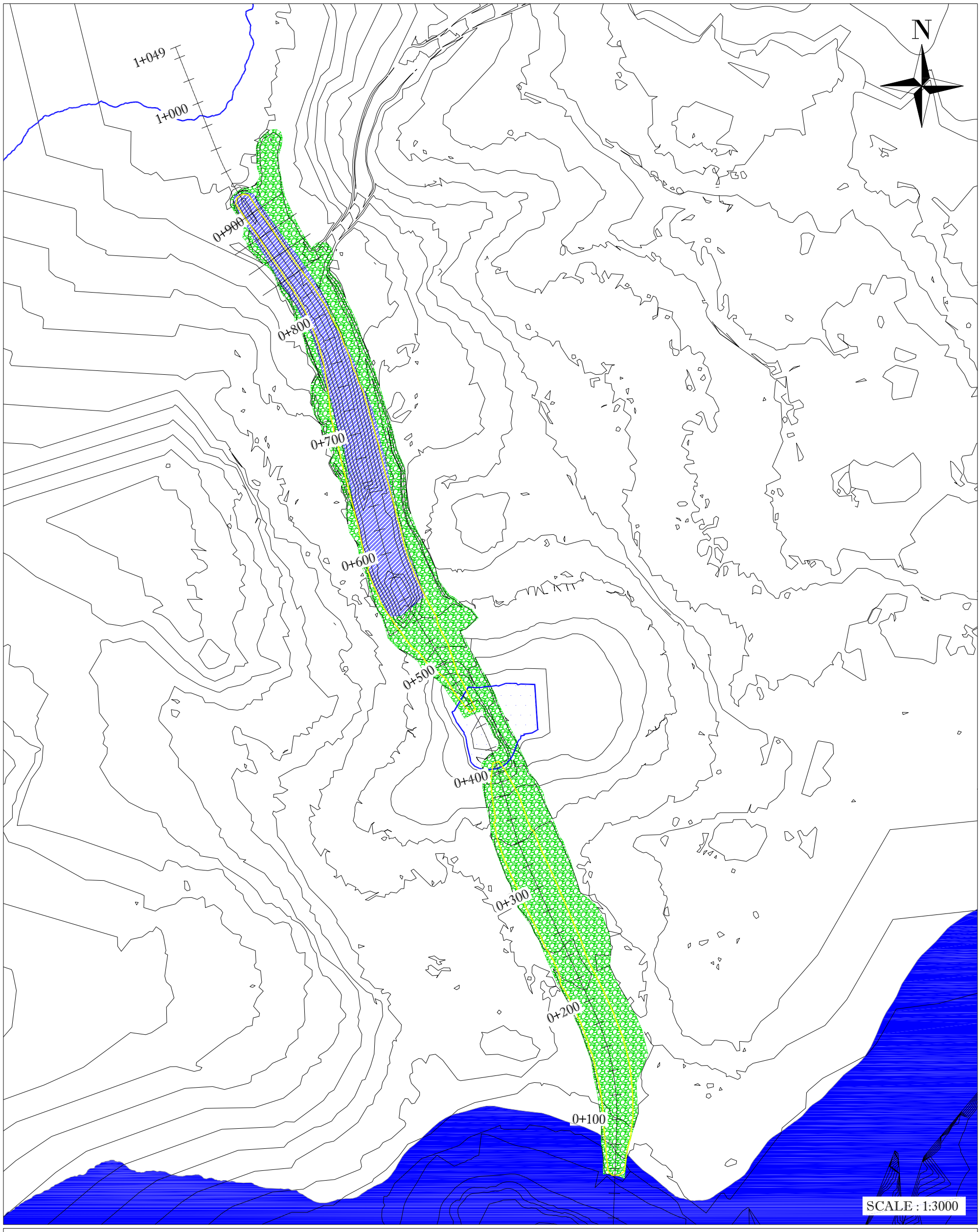
WEEKLY PROGRESS
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



VOLUMETRY DETAIL

D&B BACKFILL : 28 820 m³

EXCAVATION : 21 440 m³

FINE FILTER | COARSE FILTER | RIP RAP (100 - 300mm) | D&B BACKFILL | EXCAVATION

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MARC-ANDRÉ BLACKBURN
DATE : 31-01-2020
CON-QT-137

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Amaruq Water Management Infrastructures – 3 Weeks Meeting

- **HEALTH AND SAFETY**
- Near miss with fuel truck and 785
- Near miss with Komatsu haul truck going out of waste dump with a 785.
- Plywood
- Frostbite
- Q

- **ENVIRONMENT**
- Nothing to report

LAST WEEK : 02/02 @ 08/02

- **WTD grouting**

- Bedrock drilling and grouting on going
- Grouting sequence updated by AEM – All downstream section to be done / not proceeding with a night shift.
- Grouting advancement :
  - **134 / 188 plugs**
  - **105 / 200 stages**

- **South Whale Tail Channel**

- Drilling advancement : (Total m.lin of drilling updated with re-drill pattern)
  - **4848 m.lin / 5805 m.lin (83% done)**
- Final Excavation advancement :
  - **465 m.lin / 855 m.lin (54% done)**
- West access road completed up to 0+700

CURRENT WEEK: 09/02 @ 15/02

- **WTD grouting**

- Bedrock drilling on primary, secondary and tertiary from 437,5 to 176,5 for the downstream sequence.
- Grouting advancement :
  - **161 / 188 plugs – On Feb 12th**
  - **120 / 200 stages – On Feb 12th**
- All holes completed up to T-437,5
- Injection genset actually down. Will revive a spare genset from Baker 14/02 PM. Parts to arrive on Monday 17/02 plane

- **South Whale Tail Channel**

- Drilling advancement :
  - **5102 m.lin / 5805 m.lin (88% done) – On Feb 12th**
- Final Excavation advancement :
  - **506 m.lin / 855 m.lin (60 % done) – On Feb 12th**

- West access road completed up to 0+600.
- 3 shift lost for weather conditions.
- Start excavation of the snowbank around Lake A45.
- Blast done for Seq.7 on Feb 10th – Over vibration tolerance.
- Blasting the re-drill pattern. Feb 14th or 15th
- Foundation grade correction with esker on the West slope from 0+775 @ 0+735
- KCG send new drawing and design for the inlet of the channel.
- KCG send a cost estimate and quantity for the lake A45 work.

- **WRSF Capping**

- Cost code and OC received.

NEXT WEEK: 16/02 @ 22/02

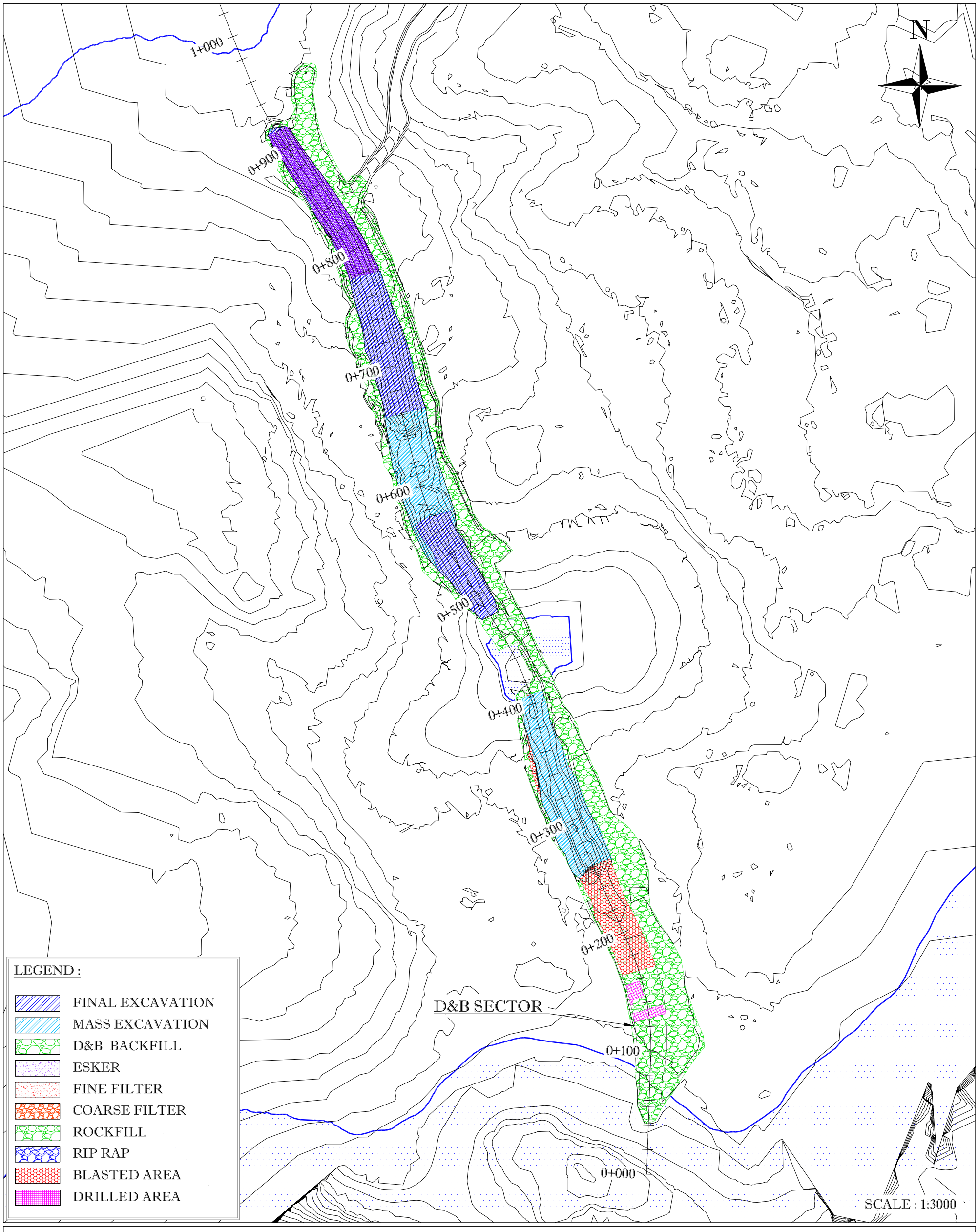
- **WTD grouting**

- Continue bedrock drilling and grouting of primary, secondary and tertiary holes up to 176.5
- Estimated date of downstream end around March 18th
- Possibility to start upstream casing installation around Feb 21st – when the drilling of SWTC will be finished – waiting for confirmation from AEM. For now, prepare and schedule manpower for that plan.
- Alex Lavallee to send question to SNC / Grout committee about planning for upstream (160 to 200 stages anticipated on upstream before freshet)

- **South Whale Tail Channel**

- Continue drilling and blasting on Seq. 8 and 9.
- Continue excavation ripping with dozer, hammer and excavator.
- Continue with foundation approval.
- Continue foundation correction with esker.
- Continue west access road.
- Start placing fine and coarse filters.
- Turbidity Barriers :
  - KCG to make an inventory of the stuff on site. Meeting to occur on 30/01 between AEM and SNC – **Waiting for the geotextile labors arrival on site to start inventory.**

WEEKLY PROGRESS
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



VOLUMETRY DETAIL

D&B BACKFILL : 30 343 m³

EXCAVATION : 40 386m³

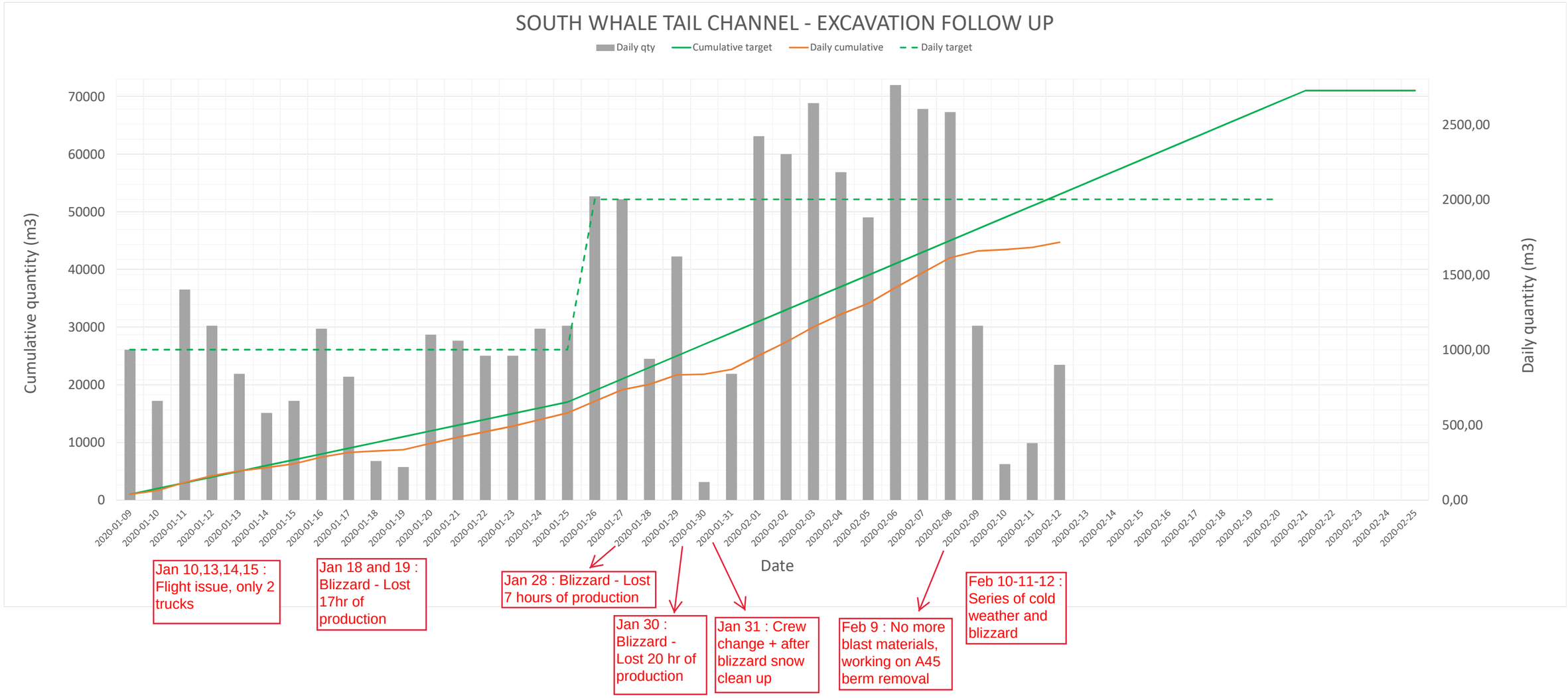
ESKER : 472m³

KIVALLIQ CONTRACTORS GROUP LTD

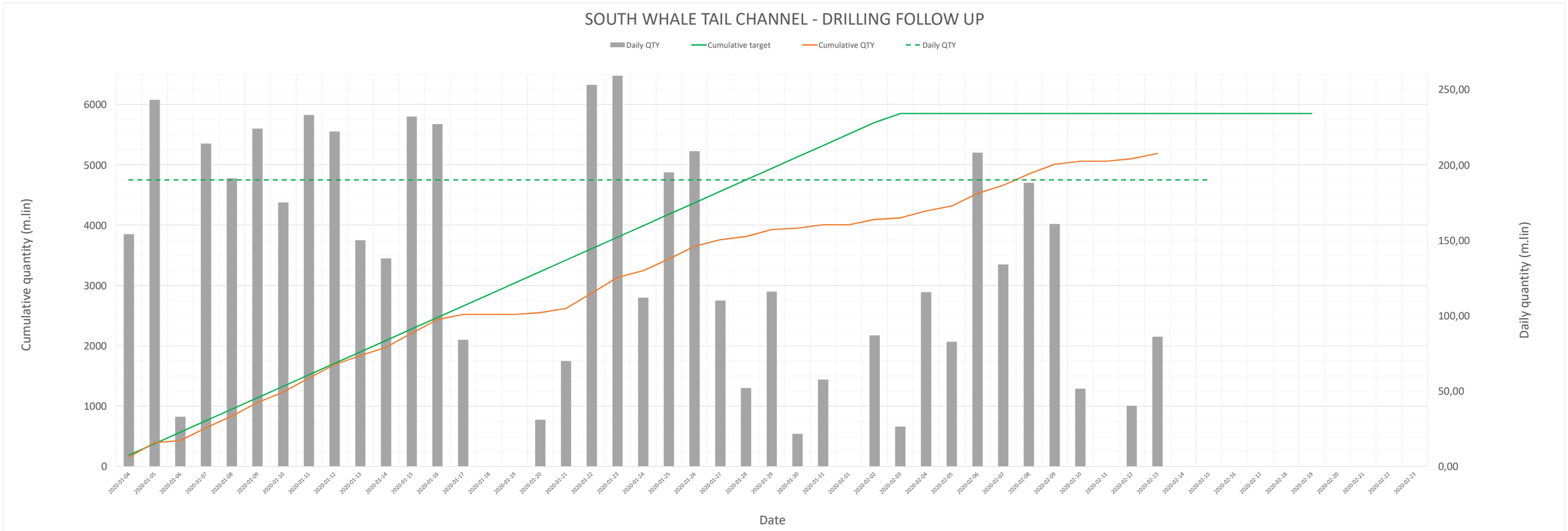
PREPARED BY : MIKAËL LÉVESQUE
DATE : 14-02-2020
CON-QT-141

C:\Users\arpenteur\Dropbox (Groupe Gilbert)_arpentage meadowbank\02-E - OFFICIAL DRAWING\11-811 - AMQ DIKES\CON-QT (QUANTITY AND MONTHLY REPORT)\CON-QT-141_SWTC WEEKLY PROGRESS_14022020.dwg

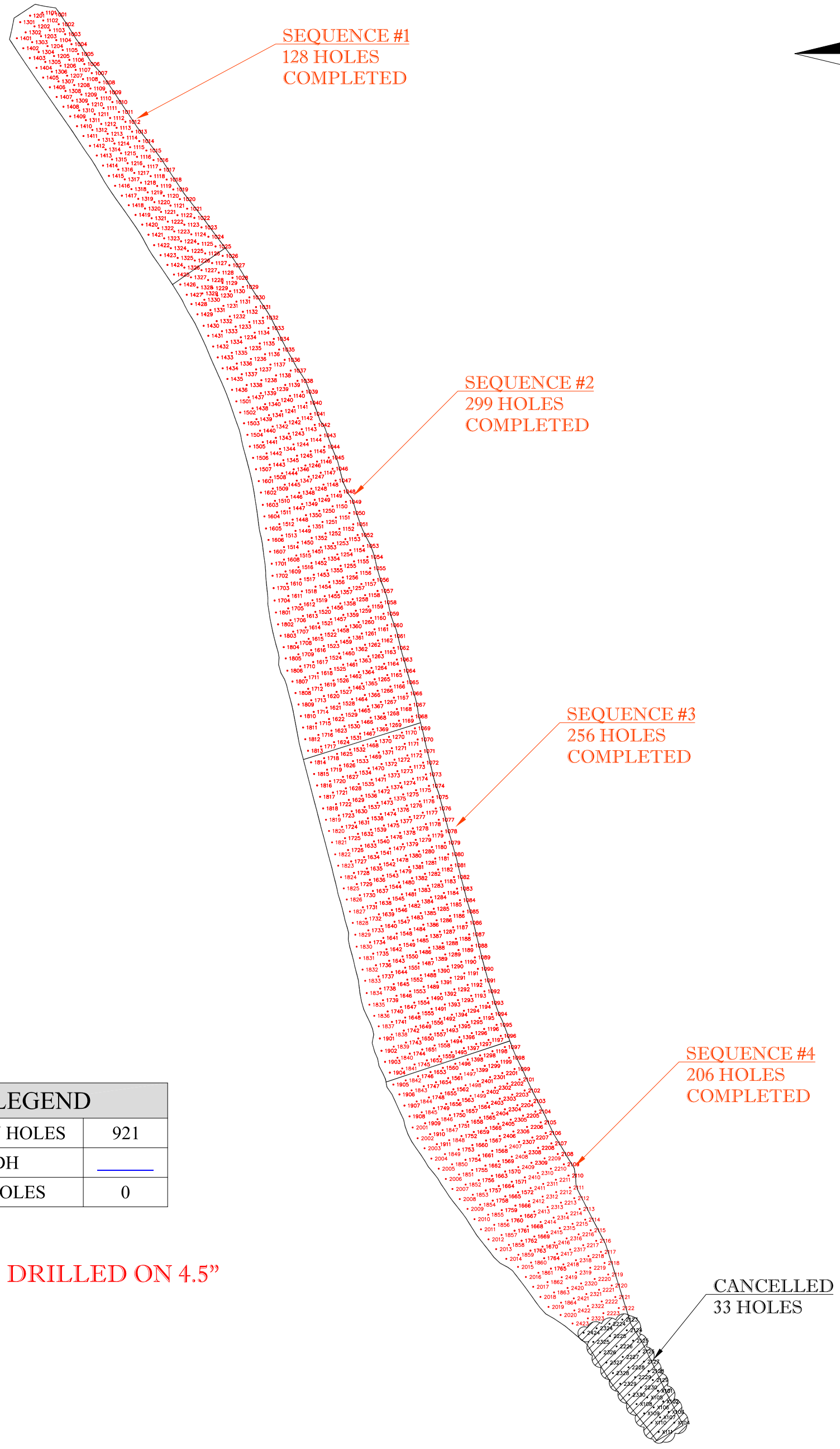
KIVALLIQ CONTRACTORS GROUP LTD



KIVALLIQ CONTRACTORS GROUP LTD



DRILL & BLAST PROGRESSION
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



LEGEND	
DESIGN HOLES	921
DDH	_____
MISHOLES	0

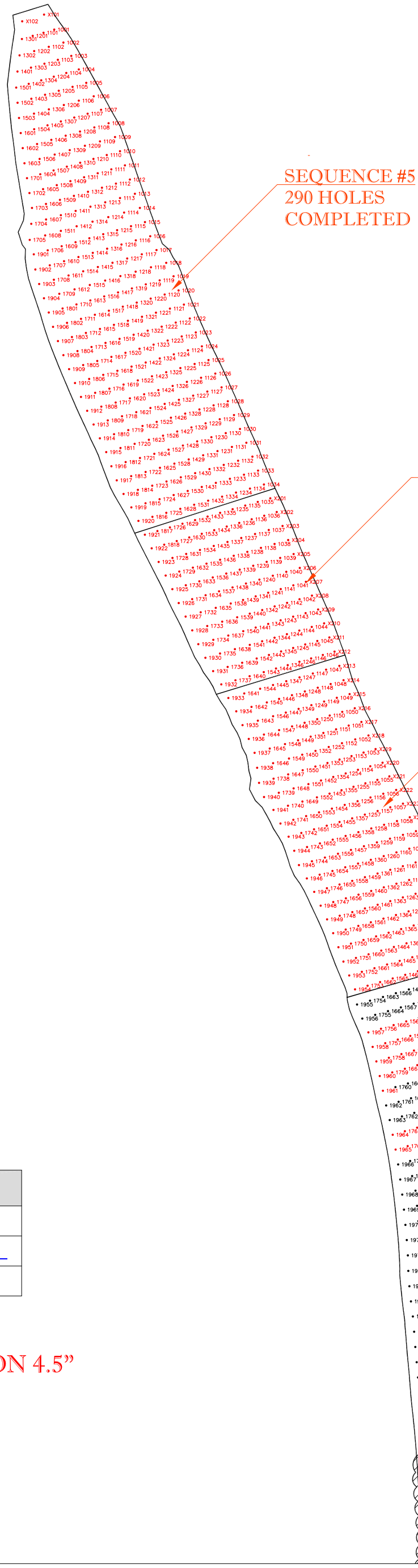
HOLES DRILLED ON 4.5”

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 14-02-2020
CON-DR-101-1

C:\Users\arpenteur\Dropbox (Groupe Gilbert)_arpentage meadowbank\02-E - OFFICIAL DRAWING\11-811 - AMQ DIKES\CON-DR (INTERNAL NON OFFICIAL DRAWING)\CON-DR-101_SWTC D&B PROGRESSION_14022020.dwg

DRILL & BLAST PROGRESSION
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



LEGEND	
DESIGN HOLES	964
DDH	_____
MISHOLES	0

HOLES DRILLED ON 4.5”

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 14-02-2020
CON-DR-101-2

C:\Users\arpenteur\Dropbox (Groupe Gilbert)_arpentage meadowbank\02-E - OFFICIAL DRAWING\11-811 - AMQ DIKES\CON-DR (INTERNAL NON OFFICIAL DRAWING)\CON-DR-101_SWTC D&B PROGRESSION_14022020.dwg

Amaruq Water Management Infrastructures – 3 Weeks Meeting

- **HEALTH AND SAFETY**
- Worker felt from a ladder, first aid.
- Light material damage on a pickup truck
- Watch for frostbite, reminder

- **ENVIRONMENT**
- 30 liters oil spill in Sana office parking lot

LAST WEEK : 09/02 @ 15/02

- **WTD grouting**
- Bedrock drilling on primary, secondary and tertiary from 437,5 to 176,5 for the downstream sequence.
- Grouting advancement :
  - **161 / 186 plugs – On Feb 12th**
  - **120 / 200 stages – On Feb 12th**
- All holes completed up to T-437,5
- Grouting unit's genset down. Brought back a genset from Baker. Production down for 1.5 day

- **South Whale Tail Channel**

- Drilling advancement :
  - **5426 m.lin / 5805 m.lin (93% done)**
- Final Excavation advancement :
  - **506 m.lin / 855 m.lin (60% done)**
- West access road completed up to 0+700
- KCG sent new drawing and design for the inlet of the channel.
- KCG sent a cost estimate and quantity for the lake A45 work.

- **WRSF Capping**

- Cost code and OC received. (Rev. to be sent)

CURRENT WEEK: 16/02 @ 22/02

- **WTD grouting**
- Bedrock drilling on secondary and tertiary from 437.5 to 176.5 for the downstream sequence.
- Stage plugs completed
- Grouting advancement :
  - **185 / 185 plugs – On Feb 20th**
  - **135 / 200 stages – On Feb 20th**
- All holes completed up to T-437,5
- Grouting unit's genset still down. Waiting for a part to come.
- Start of day shift casing drilling on February 22th
- No QA for the weekend, KCG and AEM agreed to continue grouting

- **South Whale Tail Channel**

- Drilling advancement :
  - **5805 m.lin / 5805 m.lin (100% done) – On Feb 19th**
- Final Excavation advancement :
  - **700 m.lin / 855 m.lin (81 % done) – On Feb 21th**

- West access road completed up to 0+535
- 1.5 shift lost for mechanics issue. (All due to extreme cold weather)
- Continue excavation of the snowbank around Lake A45. (further on stand-by)
- Blast done for re-drill pattern on 18th
- Excavation approval from 0+735 to 0+688
- Foundation grade correction with esker from 0+735 to @ 0+688
- Ready to load and blast sequence #8 (we have driller for holes cleaning until Feb 24th)
- 14,5 hours lost time for blizzard – feb 21st

NEXT WEEK: 23/02 @ 29/02

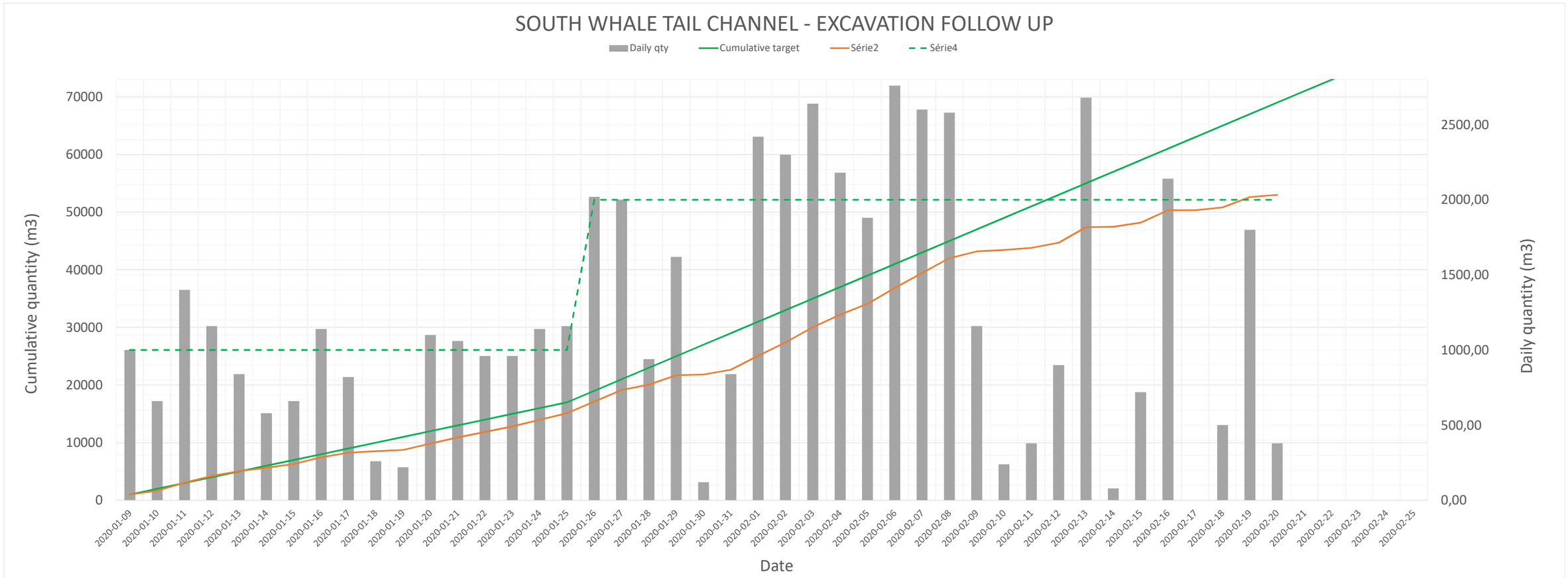
- **WTD grouting**

- Continue bedrock drilling and grouting of primary, secondary and tertiary holes from 473.5 up to 176.5
- Start of night shift casing drilling on February 25th
- Estimated date of downstream end around March 18th
- Waiting for AEM to send the official plan for upstream grouting before freshet. (sent on feb 21st)

- **South Whale Tail Channel**

- Continue excavation ripping with dozer, hammer and excavator. (pending on blast #8)
- Continue with foundation approval.
- Continue foundation correction with esker.
- Continue west access road.
- Continue snowbank excavation around Lake A45 and west access road. (on standby until further notice)
- Start placing fine and coarse filters.
- Turbidity Barriers :
  - KCG to make an inventory of the stuff on site. Meeting to occur between AEM and SNC – **Waiting for the geotextile labors arrival on site to start inventory.**

KIVALLIQ CONTRACTORS
GROUP LTD



Jan 10,13,14,15 : Flight issue, only 2 trucks

Jan 18 and 19 : Blizzard - Lost 17hr of production

Jan 28 : Blizzard - Lost 7 hours of production

Jan 30 : Blizzard - Lost 20 hr of production

Jan 31 : Crew change + after blizzard snow clean up

FEB 09, NO MORE BLAST MATERIAL TO HAUL. WAITING FOR THE RE DRILL BLAST. WORKING ON LAKE A45 AND WEST ACCESS ROAD

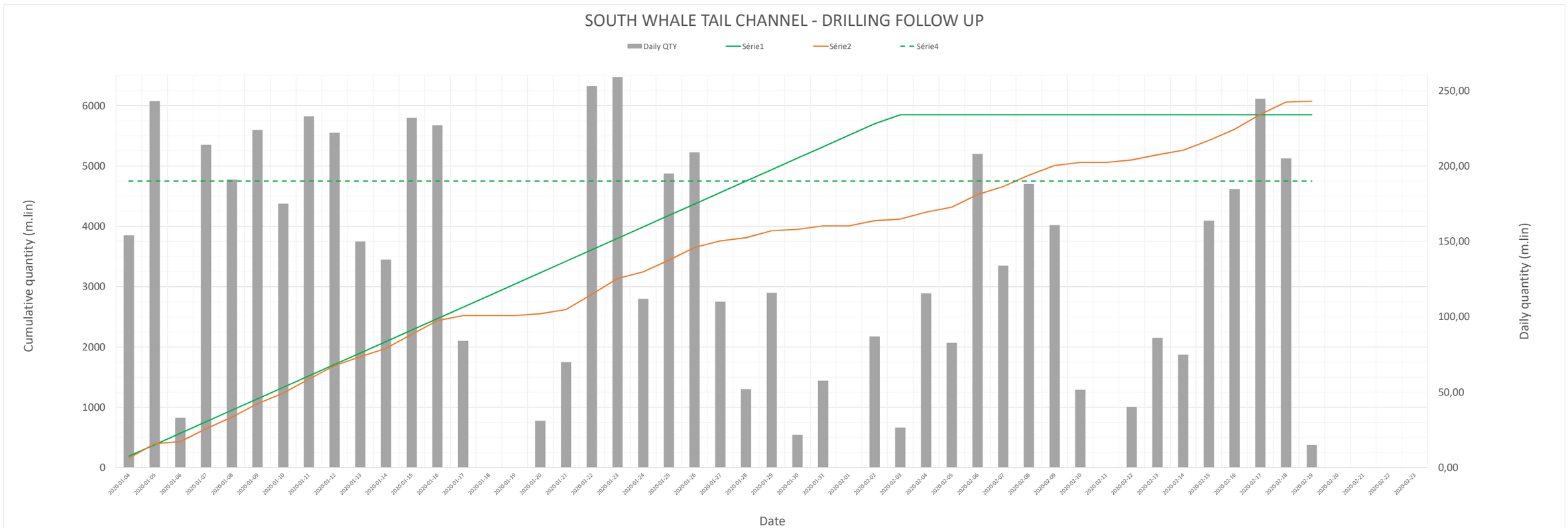
FEB 10--11-12, COLD WEATHER AND BLIZZARD CONDITION

FEB. 14-15, MECHANIC ISSUE DUE TO COLD WEATHER (2 BROKEN BUCKET, COUPLE BROKEN OSES AND TRACTION OFF)

FEB 17-18, NO MORE BLAST MATERIAL TO HAUL. WAITING FOR THE RE DRILL BLAST. WORKING ON LAKE A45 AND WEST ACCESS ROAD

FEB 20, BLIZZARD CONDITION

KIVALLIQ CONTRACTORS
GROUP LTD



Amaruq Water Management Infrastructures – 3 Weeks Meeting

- **HEALTH AND SAFETY**
- 50T with oil tote, no spill
- Light material damage on a pickup truck (foot step)
- Watch for frostbite, reminder

- **ENVIRONMENT**
- 180L hydraulic oil CAT365 SWTC 0+900 (reported and cleaned-up, approved by Envir. Dept.)

~~LAST WEEK : 16/02 @ 22/02~~

- ~~**WTD INJECTION**~~
- ~~Bedrock drilling on primary, secondary and tertiary from **437.5 to 176.5** for the downstream sequence.~~
- ~~Grouting advancement :~~
  - ~~**141 / 200 stages – On Feb 22th**~~
- ~~All holes completed up to **T-407.5**~~
- ~~Back on the Grout Unit Gen.~~
- ~~No QA before Monday 2nd, KCG and AEM agreed to continue grouting~~

- ~~**SOUTH WHALE TAIL CHANNEL**~~
- ~~Drilling advancement :~~
  - ~~**5805 m.lin / 5805 m.lin (100% done)**~~
- ~~Final Excavation advancement :~~
  - ~~**700 m.lin / 855 m.lin (81% done)**~~
- ~~West access road completed up to 0+535~~
- ~~Blast done for re-drill pattern on 18th~~
- ~~Excavation approval from 0+735 to 0+688~~

- ~~**WRSF Capping**~~
- ~~Cost code and OC received, **Rev. Cost Est. Sent**~~

CURRENT WEEK: 23/02 @ 29/02

- **WTD INJECTION**
- Bedrock drilling on secondary and tertiary from **377.5 to 176.5** for the downstream sequence.
- Started casing drilling on the Downstream quaternaries (DS/NS)
  - 9 / 22 casings – On Feb 27th
- Started casing drilling on the Upstream (DS/NS)
  - **2 casings drilled on the first sequence (750 to 550) – On Feb 26th**
- Mechanical troubles with the drill TCG 05
- Grouting advancement :
  - **162 / 200 stages – On Feb 26th**
- All holes completed up to **P-380.5**

- **SOUTH WHALE TAIL CHANNEL**
- Drilling advancement :
  - **5805 m.lin / 5805 m.lin (100% done) – On Feb 19th**
  - **Drill standby for holes cleaning (pending on blaster)**
- Final Excavation advancement :
  - **743 m.lin / 855 m.lin (87 % done) – On Feb 27th**
- West access road completed up to 0+445
- Continue excavation of the snowbank along west access road
- Excavation delayed (blast delay)
- Excavation approval from 0+688 to 0+600 Feb. 27th
- Foundation grade correction with esker from 0+688 to 0+640
- Blast #8 has been redesigned and split in 4 blast for vibration issue.
- Blast done on 25-02-2020 within vibration tolerance (0+054 to 0+079)
- Blast done on 26-02-2020 within vibration tolerance (0+166 to 0+148)
- KCG sent material quantities required and cost estimate for new A45 lake design

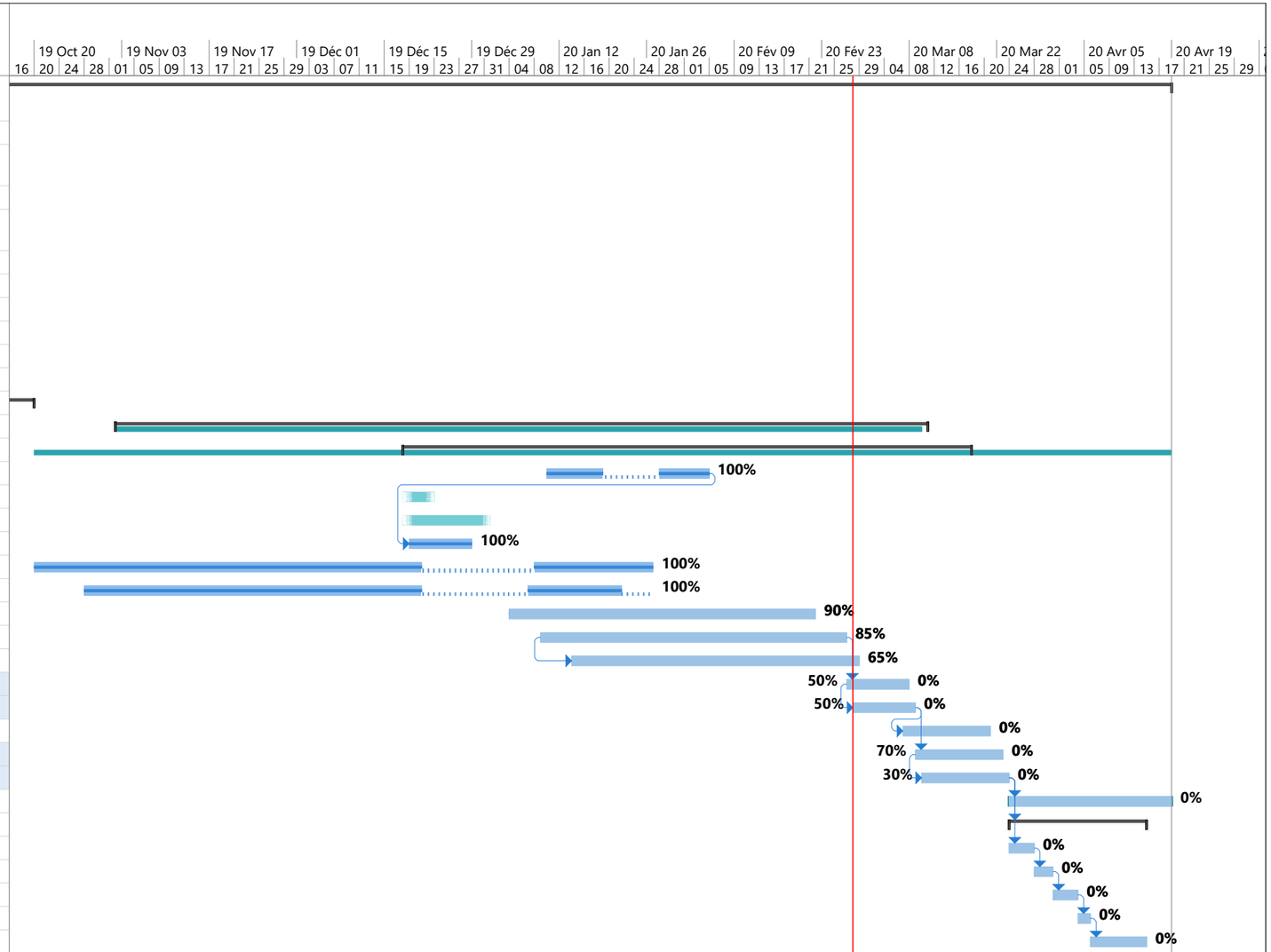
NEXT WEEK: 01/03 @ 07/03

- **WTD INJECTION**
- Continue bedrock drilling and grouting of tertiary holes from **377.5 up to 176.5**
- Grout Committee meeting next week (Upstream sequence)

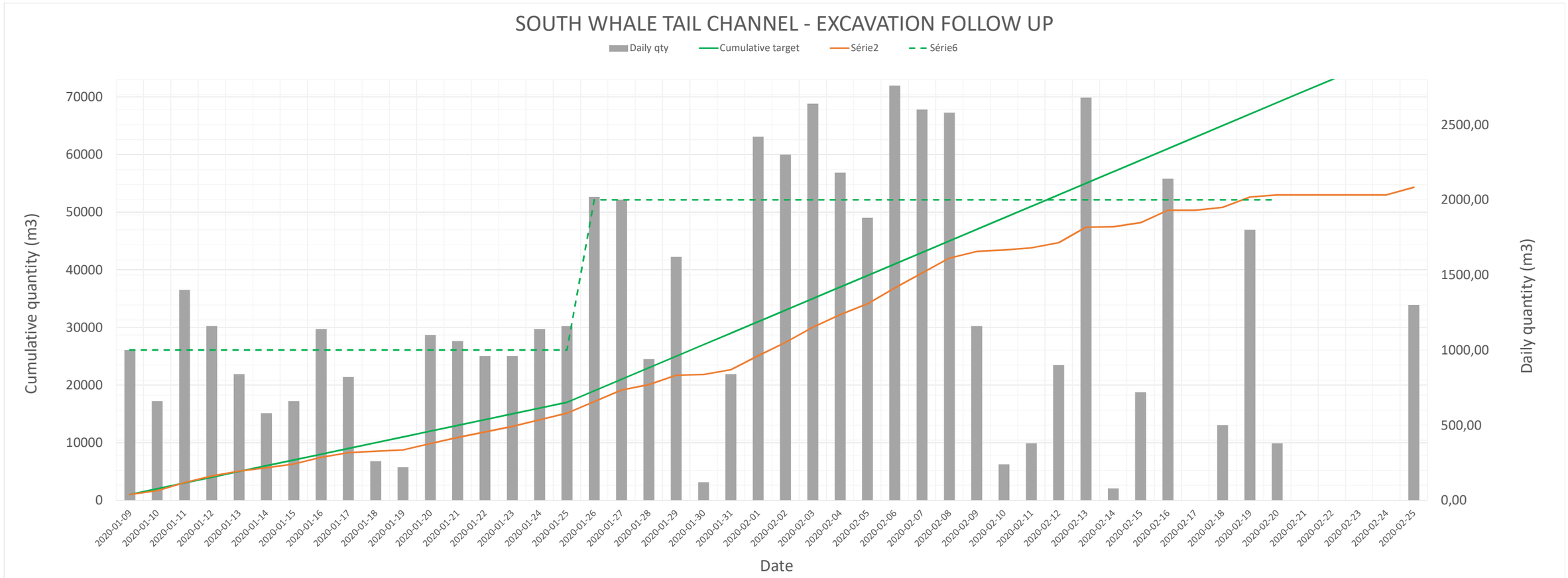
- Continue casing drilling (DS/NS) on the Downstream quaternaries and Upstream sequence **(750 to 550)**

- **SOUTH WHALE TAIL CHANNEL**
- Continue excavation, ripping and cleaning with hammer and excavator (pending on blast left to do)
- Continue with foundation approval.
- Continue foundation correction with esker.
- Continue west access road.
- Continue snowbank excavation along west access road.
- Turbidity Barriers (AEM to make decision on design)

N°	Nom de la tâche	Durée	Début	Fin	Prédécesseurs	Planned work effort %	% achevé
1	**AGNICO EAGLE - WHALE TAIL EARTHWORK - CONSTRUCTION**	**670,98 jours**	**Lun 18-06-18**	**Sam 20-04-18**			**66%**
2	**Whale Tail Dike 2018**	**351,98 jou**	**Lun 18-06-18**	**Mar 19-06-04**			**99%**
53	**Saline Protection Channel 2019**	**241,98 jours**	**Mar 18-09-04**	**Ven 19-05-03**			**15%**
58	**East Channel Coffer Dam**	**4 jours**	**Mar 19-09-10**	**Sam 19-09-14**			**0%**
63	**Key dates**	**49,98 jours**	**Lun 18-11-19**	**Lun 19-01-07**			**0%**
67	**North East Dike**	**161,98 jou**	**Dim 18-09-16**	**Dim 19-02-24**			**100%**
78	**WRSF Dike**	**190 jours**	**Mer 18-10-03**	**Jeu 19-04-11**			**91%**
90	**Mammoth Dike**	**64,02 jours**	**Ven 19-02-15**	**Dim 19-04-21**			**76%**
103	**Whale Tail Dike 2019**	**24 jours**	**Lun 19-07-08**	**Jeu 19-08-01**			**100%**
106	**Saline Protection Channel 2019**	**7 jours**	**Dim 19-08-11**	**Dim 19-08-18**			**0%**
108	**East Channel**	**52 jours**	**Jeu 19-08-01**	**Dim 19-09-22**			**14%**
120	**Whale tail dike Sump work**	**20 jours**	**Lun 19-09-30**	**Dim 19-10-20**			**100%**
124	**Injection Phase 2 WTD**	**129,98 jou**	**Sam 19-11-02**	**Mar 20-03-10**			**15%**
131	**South Wail Tail Diverson Channel**	**90,98 jours**	**Mer 19-12-18**	**Mar 20-03-17**			**71%**
132	Access Road To A45 (AEM)	17 jours	Ven 20-01-10	Mer 20-02-05			100%
133	Culvert installation	5 jours					0%
134	Turbidity Barriers 3 m x 330 m Li	14 jours					0%
135	A45 Dewatering (AEM)	10 jours	Jeu 19-12-19	Dim 19-12-29	132		100%
136	Access Road for construction (Road 24)	98,98 jours	Dim 19-10-20	Dim 20-01-26	123		100%
137	Platform Backfill (For D&B)	90,98 jours	Lun 19-10-28	Dim 20-01-26			100%
138	Drill and Blast	48,98 jours	Sam 20-01-04	Ven 20-02-21			90%
139	Excavation	48,98 jours	Jeu 20-01-09	Mer 20-02-26			85%
140	Foundation clean-up (tramac,ripper)	45,98 jours	Mar 20-01-14	Ven 20-02-28	139DD+4 jou		65%
141	Fine Filter	10 jours	Mer 20-02-26	Sam 20-03-07	139	50%	0%
142	Coarse Filter	10 jours	Jeu 20-02-27	Dim 20-03-08	141DD+1 jou	50%	0%
143	Geotextile installation	14 jours	Ven 20-03-06	Ven 20-03-20	142FD-2 jou		0%
144	RipRap (100-250)	14 jours	Dim 20-03-08	Dim 20-03-22	142	70%	0%
145	Rockfill	14 jours	Lun 20-03-09	Lun 20-03-23	144DD+1 jou	30%	0%
146	Lake A45 area (Timeline to be determine)	26 jours	Lun 20-03-23	Sam 20-04-18	145		0%
147	**WRSF Capping**	**22 jours**	**Lun 20-03-23**	**Mar 20-04-14**	**145**		**0%**
148	Snow Removal	4 jours	Lun 20-03-23	Ven 20-03-27	145		0%
149	Esker amended with bentonite	3 jours	Ven 20-03-27	Lun 20-03-30	148		0%
150	Esker	4 jours	Lun 20-03-30	Ven 20-04-03	149		0%
151	Geotextile	2 jours	Ven 20-04-03	Dim 20-04-05	150		0%
152	Rockfill	9 jours	Dim 20-04-05	Mar 20-04-14	151		0%



KIVALLIQ CONTRACTORS GROUP LTD



Jan 10,13,14,15 : Flight issue, only 2 trucks

Jan 18 and 19 : Blizzard - Lost 17hr of production

Jan 28 : Blizzard - Lost 7 hours of production

Jan 30 : Blizzard - Lost 20 hr of production

Jan 31 : Crew change + after blizzard snow clean up

FEB 09, NO MORE BLAST MATERIAL TO HAUL. WAITING FOR THE RE DRILL BLAST. WORKING ON LAKE A45 AND WEST ACCESS ROAD

FEB 10--11-12, COLD WEATHER AND BLIZZARD CONDITION

FEB. 14-15, MECHANIC ISSUE DUE TO COLD WEATHER (2 BROKEN BUCKET, COUPLE BROKEN OSES AND TRACTION OFF)

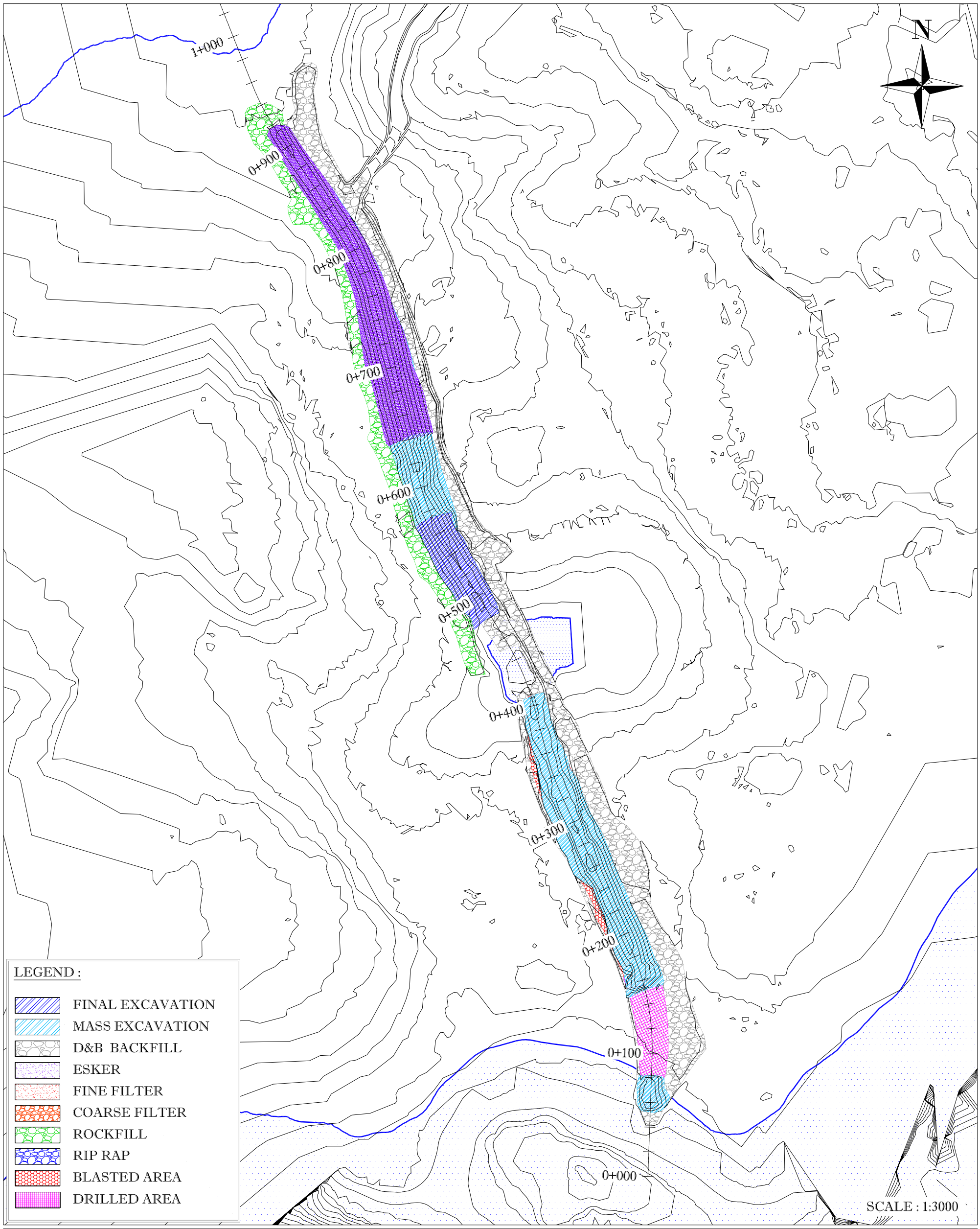
FEB 17-18, NO MORE BLAST MATERIAL TO HAUL. WAITING FOR THE RE DRILL BLAST. WORKING ON LAKE A45 AND WEST ACCESS ROAD

FEB 20, BLIZZARD CONDITION

FEB 21, 22, 23, 24, NO MORE BLAST MATERIAL TO HAUL, SNOW CLEANNING AND WEST ACCES ROAD WORK

FEB 25, BLAST IS ONLY 1300 M.3

WEEKLY PROGRESS
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



VOLUMETRY DETAIL

D&B BACKFILL : 30 343 m³

EXCAVATION : 51 922m³

ESKER : 1 348m³

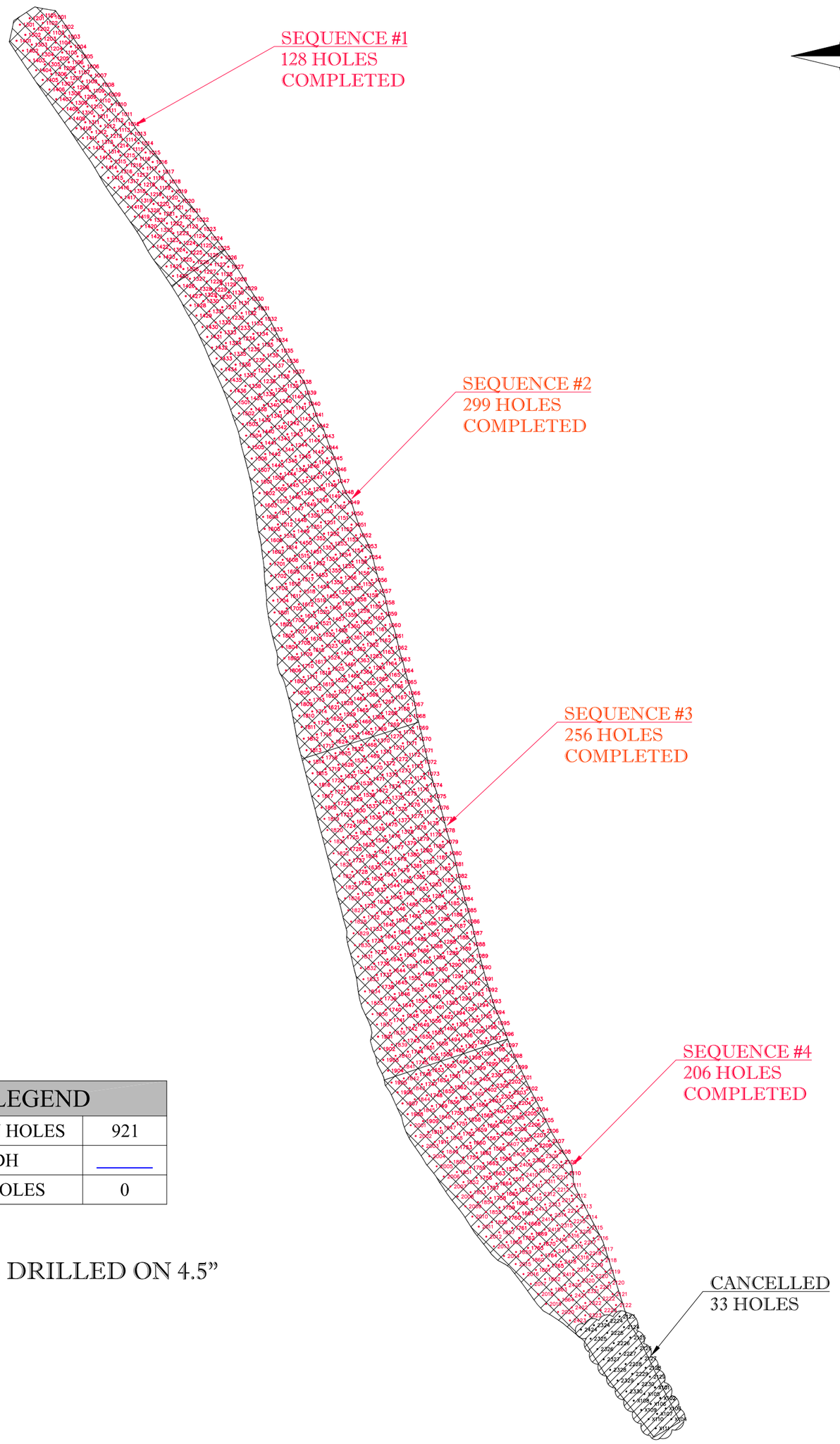
ROCKFILL ACCESS WEST SIDE : 1 916m³

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : FRANCIS PAULIN
DATE : 28-02-2020
CON-QT-145

C:\Users\arpenteur\Dropbox (Groupe Gilbert)_arpentage meadowbank\02-E - OFFICIAL DRAWING\11-811 - AMQ DIKES\CON-QT (QUANTITY AND MONTHLY REPORT)\CON-QT-145_SWTC WEEKLY PROGRESS_28022020.dwg

DRILL & BLAST PROGRESSION
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



LEGEND	
DESIGN HOLES	921
DDH	———
MISHOLES	0

HOLES DRILLED ON 4.5”

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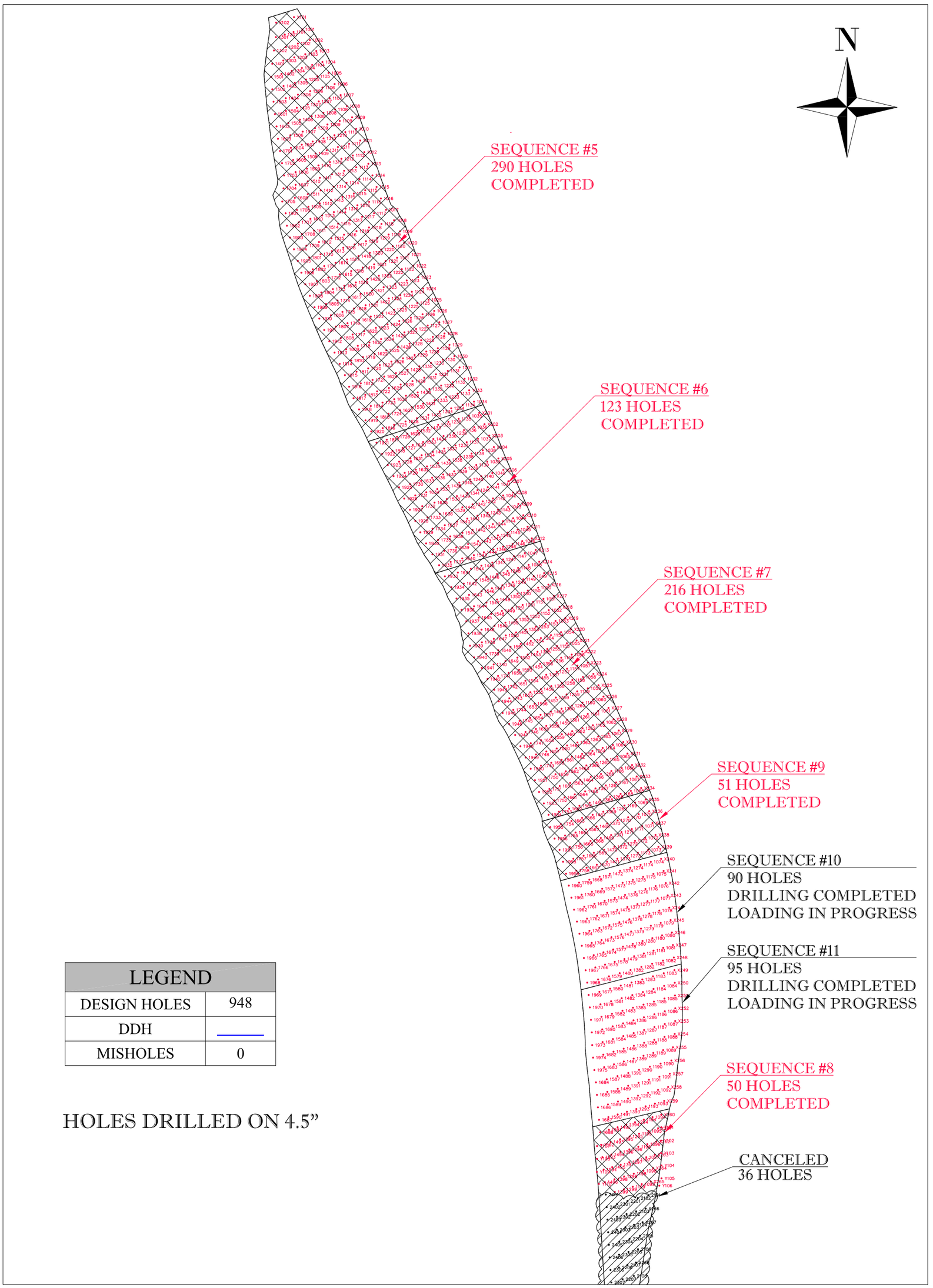
KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 28-02-2020
CON-DR-104-1

DRILL & BLAST PROGRESSION
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



LEGEND	
DESIGN HOLES	948
DDH	
MISHOLES	0

HOLES DRILLED ON 4.5”

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KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 28-02-2020
CON-DR-104-2

Amaruq Water Management Infrastructures – 3 Weeks Meeting

- **HEALTH AND SAFETY**

- Light damaged on pickup truck. Hit a seacan while backing up.

- **ENVIRONMENT**

- Nothing to report

CURRENT WEEK: 22/03 @ 28/03

- **WTD INJECTION**
- Project completed. Official documents sent.
- All downstream quaternaries are plugged
- All upstream holes are plugged **on March 21th**
- Grouting advancement **on March 25th** :
  - **Downstream : 218 / 225 stages**
  - **Upstream : 5 / 80 stages**

- **SOUTH WHALE TAIL CHANNEL**
- FF, CF, RR placement
  - **656 m.lin / 855 m.lin (77% done)**

- Fine filter placement and approval :
  - **0+906 @ 0+502**
  - **0+322 @ 0+070**

- Coarse filter placement and approval :
  - **0+906 @ 0+502**
  - **0+322 @ 0+070**

- Geotextile & rip-rap placement and approval :
  - **0+906 @ 0+502**
  - **0+322 @ 0+070**

- AEM sent recommended ice lenses zone (hammer need to be done on south section)

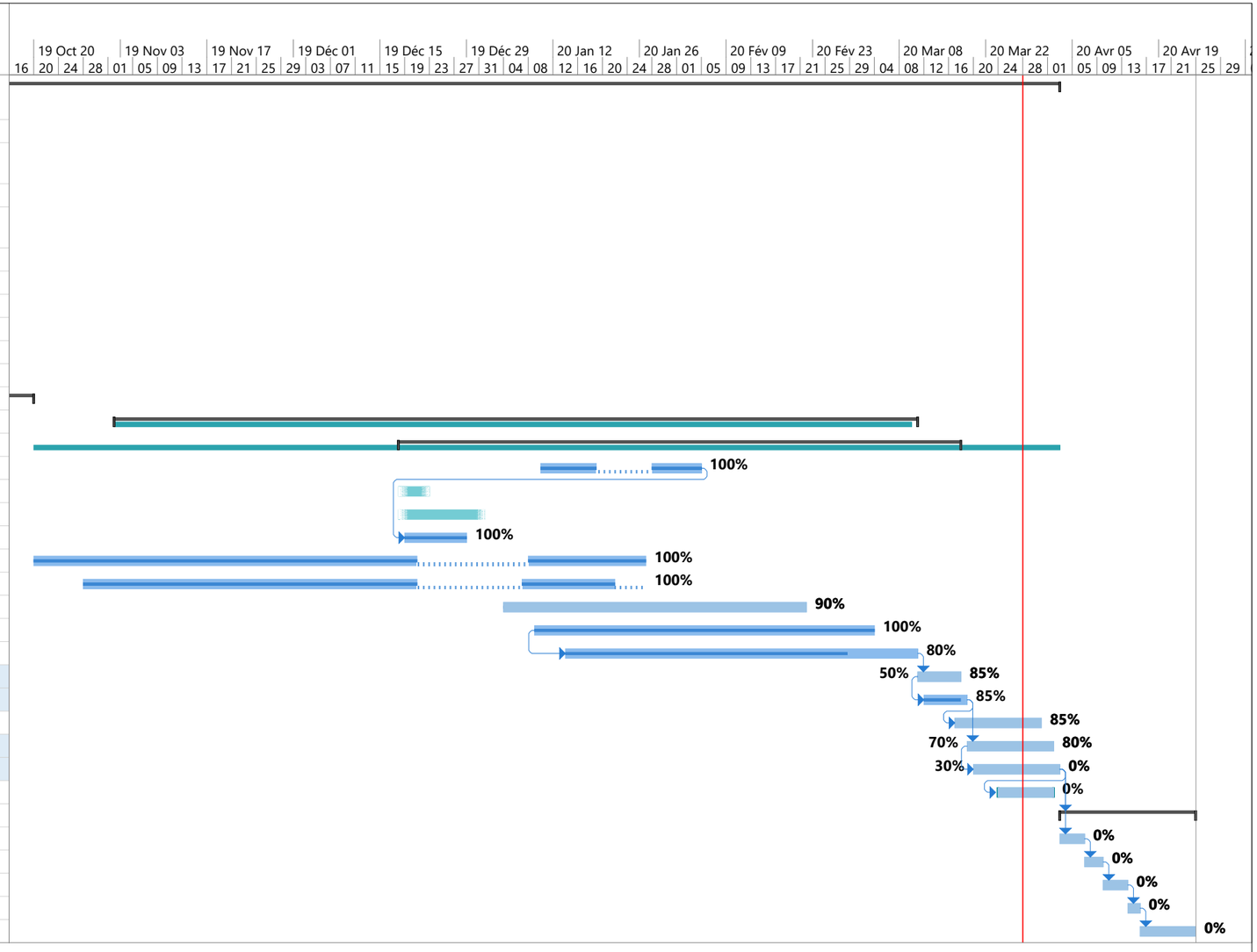
NEXT WEEK: 29/03 @ 04/04

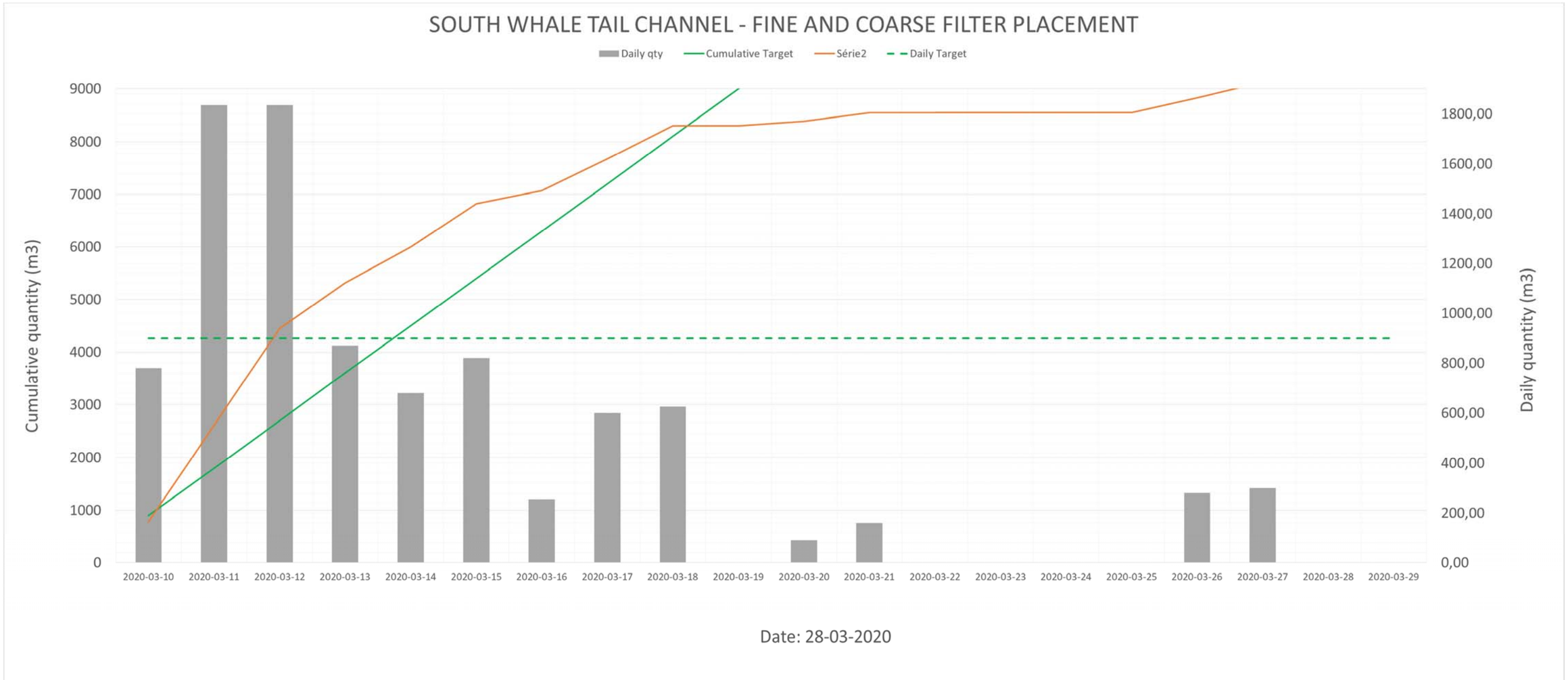
- **WTD INJECTION**
- Cleaning and removal of the drill/grout shack from the dike
- Orange plugs over the remaining casings
- Possibility of a safety berm to avoid circulation incident with stick ups
- Project closure

- **SOUTH WHALE TAIL CHANNEL**
- Complete geotextile and rip-rap placement.
- Work on each side of the lake that has been leftover (ice lense)
- Remove snow in the channel for rockfill placement
- Turbidity Barriers (AEM to make decision on design)
- AEM to provide information about the Lake A45 zone.
- KCG to look at man power (Lake A45 vs WRSF)

- **WRSF CAPPING**
- Snow removal

N°	Nom de la tâche	Durée	Début	Fin	Prédécesseurs	Planned work effort %	% achevé
1	**AGNICO EAGLE - WHALE TAIL EARTHWORK - CONSTRUCTION**	**654,98 jours**	**Lun 18-06-18**	**Jeu 20-04-02**			**79%**
2	**Whale Tail Dike 2018**	**351,98 jou**	**Lun 18-06-18**	**Mar 19-06-04**			**99%**
53	**Saline Protection Channel 2019**	**241,98 jours**	**Mar 18-09-04**	**Ven 19-05-03**			**15%**
58	**East Channel Coffer Dam**	**4 jours**	**Mar 19-09-10**	**Sam 19-09-14**			**0%**
63	**Key dates**	**49,98 jours**	**Lun 18-11-19**	**Lun 19-01-07**			**0%**
67	**North East Dike**	**161,98 jou**	**Dim 18-09-16**	**Dim 19-02-24**			**100%**
78	**WRSF Dike**	**190 jours**	**Mer 18-10-03**	**Jeu 19-04-11**			**91%**
90	**Mammoth Dike**	**64,02 jours**	**Ven 19-02-15**	**Dim 19-04-21**			**76%**
103	**Whale Tail Dike 2019**	**24 jours**	**Lun 19-07-08**	**Jeu 19-08-01**			**100%**
106	**Saline Protection Channel 2019**	**7 jours**	**Dim 19-08-11**	**Dim 19-08-18**			**0%**
108	**East Channel**	**52 jours**	**Jeu 19-08-01**	**Dim 19-09-22**			**14%**
120	**Whale tail dike Sump work**	**20 jours**	**Lun 19-09-30**	**Dim 19-10-20**			**100%**
124	**Injection Phase 2 WTD**	**129,98 jou**	**Sam 19-11-02**	**Mar 20-03-10**			**100%**
131	**South Wail Tail Diverson Channel**	**90,98 jours**	**Mer 19-12-18**	**Mar 20-03-17**			**86%**
132	Access Road To A45 (AEM)	17 jours	Ven 20-01-10	Mer 20-02-05			100%
133	Culvert installation	5 jours					0%
134	Turbidity Barriers 3 m x 330 m Li	14 jours					0%
135	A45 Dewatering (AEM)	10 jours	Jeu 19-12-19	Dim 19-12-29	132		100%
136	Access Road for construction (Road 24)	98,98 jours	Dim 19-10-20	Dim 20-01-26	123		100%
137	Platform Backfill (For D&B)	90,98 jours	Lun 19-10-28	Dim 20-01-26			100%
138	Drill and Blast	48,98 jours	Sam 20-01-04	Ven 20-02-21			90%
139	Excavation	54,98 jours	Jeu 20-01-09	Mar 20-03-03			100%
140	Foundation clean-up (tramac,ripper and esker)	56,98 jours	Mar 20-01-14	Mar 20-03-10	139DD+4 jou		80%
141	Fine Filter	7 jours	Mar 20-03-10	Mar 20-03-17	140	50%	85%
142	Coarse Filter	7 jours	Mer 20-03-11	Mer 20-03-18	141DD+1 jou	50%	85%
143	Geotextile installation	14 jours	Lun 20-03-16	Lun 20-03-30	142FD-2 jou		85%
144	RipRap (100-250)	14 jours	Mer 20-03-18	Mer 20-04-01	142	70%	80%
145	Rockfill	14 jours	Jeu 20-03-19	Jeu 20-04-02	144DD+1 jou	30%	0%
146	Lake A45 area (Timeline to be determine)	9 jours	Lun 20-03-23	Mer 20-04-01	145		0%
147	**WRSF Capping**	**22 jours**	**Jeu 20-04-02**	**Ven 20-04-24**	**145**		**0%**
148	Snow Removal	4 jours	Jeu 20-04-02	Lun 20-04-06	145		0%
149	Esker amended with bentonite	3 jours	Lun 20-04-06	Jeu 20-04-09	148		0%
150	Esker	4 jours	Jeu 20-04-09	Lun 20-04-13	149		0%
151	Geotextile	2 jours	Lun 20-04-13	Mer 20-04-15	150		0%
152	Rockfill	9 jours	Mer 20-04-15	Ven 20-04-24	151		0%




SOUTH WHALE TAIL CHANNEL - FINE AND COARSE FILTER PLACEMENT
Daily qty
Cumulative Target
Série2
Daily Target
Cumulative quantity (m3)
Daily quantity (m3)
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
1800,00
1600,00
1400,00
1200,00
1000,00
800,00
600,00
400,00
200,00
0,00
2020-03-10
2020-03-11
2020-03-12
2020-03-13
2020-03-14
2020-03-15
2020-03-16
2020-03-17
2020-03-18
2020-03-19
2020-03-20
2020-03-21
2020-03-22
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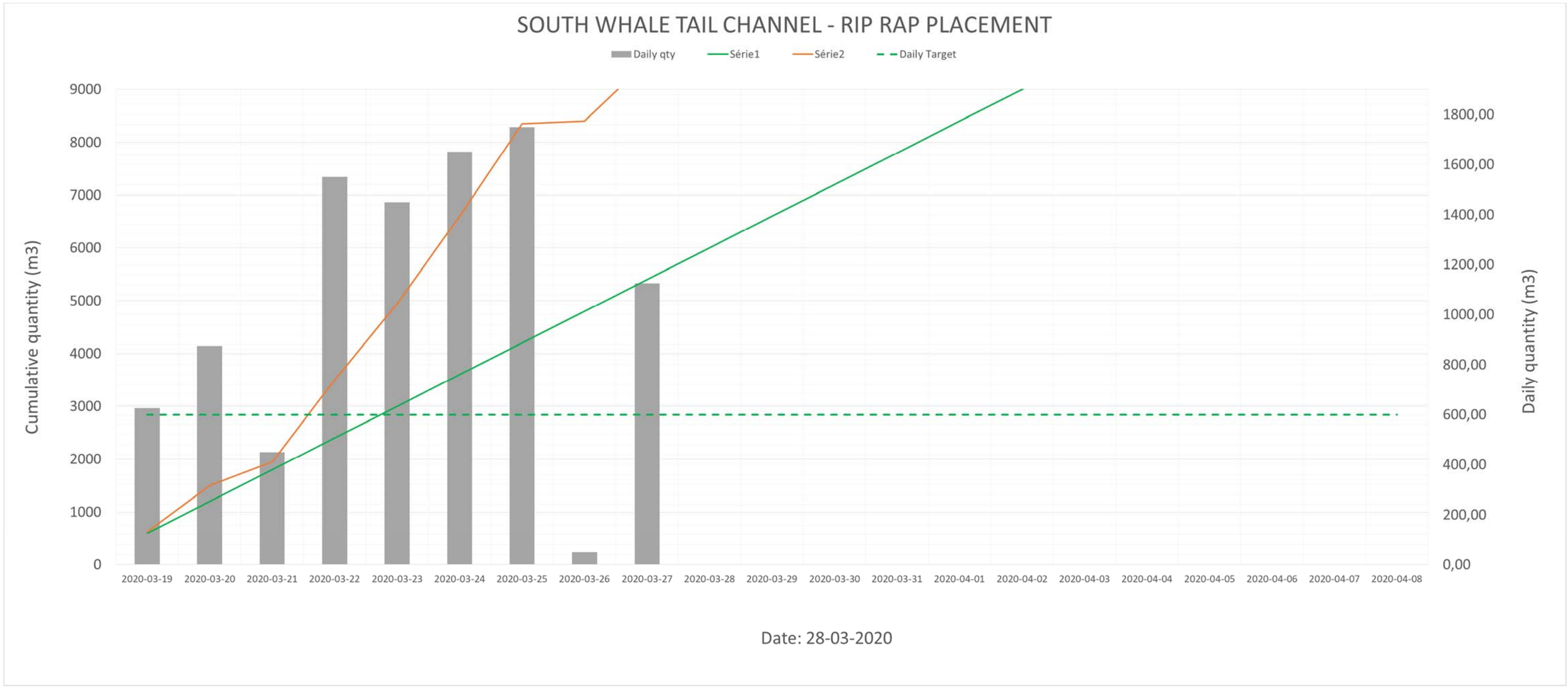
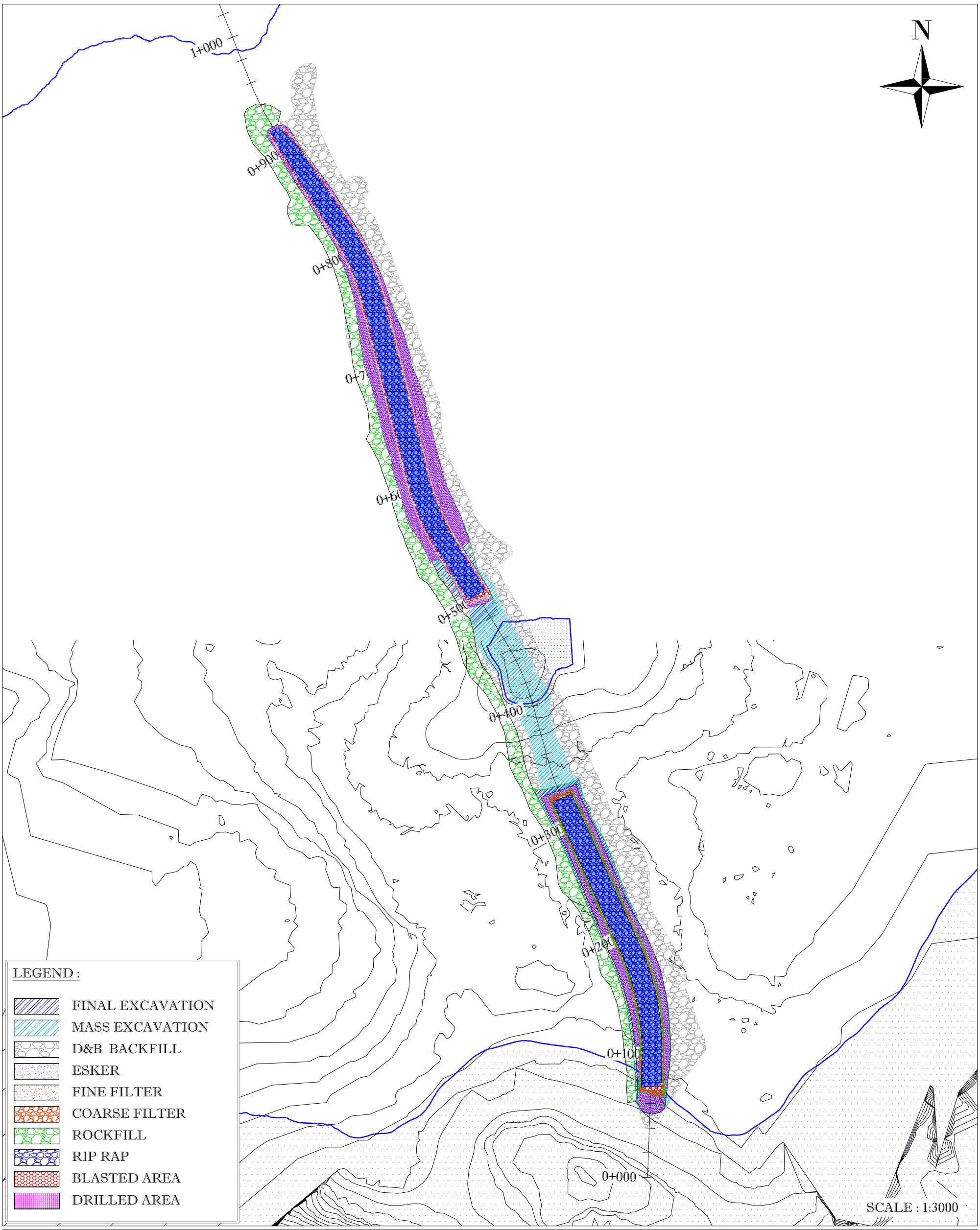
2020-03-28
2020-03-29
Date: 28-03-2020


SOUTH WHALE TAIL CHANNEL - RIP RAP PLACEMENT
Daily qty
Série1
Série2
Daily Target
Cumulative quantity (m3)
Daily quantity (m3)
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
1800,00
1600,00
1400,00
1200,00
1000,00
800,00
600,00
400,00
200,00
0,00
2020-03-19
2020-03-20
2020-03-21
2020-03-22
2020-03-23
2020-03-24
2020-03-25
2020-03-26
2020-03-27
2020-03-28
2020-03-29
2020-03-30
2020-03-31
2020-04-01
2020-04-02
2020-04-03
2020-04-04
2020-04-05
2020-04-06
2020-04-07
2020-04-08
Date: 28-03-2020

WEEKLY PROGRESS
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



VOLUMETRY DETAIL

D&B BACKFILL : 30 343 m³ ROCKFILL ACCESS WEST SIDE : 3 571m³ ESKER : 5 737m³

EXCAVATION : 63 305/63 285m³ FINE FILTER : 4 197/ 4 236m³ COARSE FILTER : 3 543/ 3 713 m³

RIP RAP: 5 196/5 556 m³ GEOTEXTILE: 11 804 m²

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : FRANCIS PAULIN
DATE : 28-03-2020
CON-QT-153

C:\Users\arpenteur\Dropbox (Groupe Gilbert)_arpentage meadowbank\02-E - OFFICIAL DRAWING\11-811 - AMQ DIKES\CON-QT (QUANTITY AND MONTHLY REPORT)\CON-QT-152_SWTC WEEKLY PROGRESS_28032020.dwg

Appendix B

RFI List – Design Variations and adjustments

Appendix B-1

RFI List

RFI Log

RFI #	Date Received	Date Responded	Status	Subject	Location	Notes
RFI-001	2019-08-13		*To be approved*	Change of outlet geometry, outlets were higher than topography	0+060, 0+390, 0+480, 0+900	Consists of having small filter tablets on topographic surface at crests to direct water flow towards Mammoth rather than have it spreaded
RFI-002	2019-08-13		*To be approved*	Change of inlet geometry. Not build buttress platforms used to get 1.3m depth i.e. disregard 1.3m min	On low topographic spots	This material was put in place to follow the 1.3m minimum but it would be rockfill i.e. draining material i.e. be useless. It would be used at the same time to facilitate constructability where road in not adjacent i..e close to A45
RFI-003	2019-08-13		*To be approved*	Having slope at 2.5:1 rather than 3:1 above max water level	TBD	Apply in section where rockfill is directly against slope as butress
RFI-004	2019-08-13		Field Fit	Modification of Road 24 alignment for construction access		Construction access to be field fitted
RFI-005	2019-08-13		Field Fit	Access to bottom of channel from both side		Will need to be field fitted with a slope to allow access within channel
RFI-006	2019-08-13		Approved	Use of 0-150 instead of 0-200 for coarse filter		Approved by changing 100-300 to 100-250
RFI-007	2019-08-13		Approved	Use of 100-300 instead of 100-250 for rip-rap		Condition for the approval of RFI-006
RFI-008	2019-09-05		Approved	Lowering the inelt of the channel by 0.5 m		New version of construction drawings and report were submitted by SNC in December 2019
RFI-009	2019-12-15		Pending	Turbidity concern on lake A45	A45	
RFI-010	2019-12-15		Rejected	Leaving the construciton road within the operational level of Lake A45 can stay there	A45	Env asked that the no road remain within the operation level of A45. Will ahve to be dismantled at the end of construction
RFI-011	2019-12-16	2020-01-17	Recommendation provided	Adding a geotextile above the corase filter to add robustnest to the design	Within Channel	See field memo: 667648-2000-60NC-0002-PB_Field Work Instruction (RFI-011)_Geotextile
RFI-012	2020-01-15		Pending	Proposed inlet modification (see drawings)	Inlet's	See design report: 667648-4000-40ER-0001_PB_SWTDC-LA45S (DRAFT)
RFI-0-13	2020-01-15	2020-02-07	Approved	Modified inlet to have a 'fan' shape instead of rectangular to improve water conveyance	Inlet's	SNC agrees with the proposal of expending the width of the channel from 5 m to 15 m, along with a transition zone, between station 0+54 to 0+104
RFI-014	2020-01-15	2020-01-17	Approved	Proposed outlet modification to Mammoth lake (see drawing)	Outlet to Mammoth lake	The outlet to the Mammoth lake can be adjusted to the existing ground conditions. Ensure that there is no high point in the nearby topography downstream of the outlet to ensure proper flow towards the lake.
RFI-015	2020-01-15	2020-01-26	Review continue as excavation progress	Revise filter design for existing foundation soil		See field memo: 667648-2000-60NC-0001-PB_Field Work Instruction (RFI-015)_Filters) for the geotextile and the filters design review
RFI-016	2020-01-15	2020-02-07	Approved	Proposed inlet modification (see drawings) and Modified inlet to have a 'fan' shape instead of rectangular to improve water conveyance	Inlet's	SNC agrees with the proposal of expending the width of the channel from 5 m to 15 m, along with a transition zone, between station 0+54 to 0+104. This is our understanding that the depth of the channel and the material placement (filters and rip rap) will remain the same in this section as per the original design. And recommends increasing the size of the rip rap between station 0+104 and 0+110. We recommend clean rip rap with particle size between 200 mm to 300 mm (instead of 100 mm to 300 mm) for this short section. As for the area around the inlet (approximately station 0+00 to 0+54), we also recommend additional erosion protection, based on field condition. We recommend installing a geotextile over the natural soil, and to place rip rap material over the geotextile.
RFI-015 (version 1)	2020-02-29	2020-03-03	Approved	AEM requests the designer's input on the esker already placed and also asking a derogation for the phrase « leaving a 10 cm limit before placing the fine filter as per specifications » specifier in RFI 015	Channel	SNC confirms that its areas of segregation observed as to be corrected and they accept the derogation but no placement of esker material should be done above the fine filter limit, to ensure the fine filter thickness of 0.3 m (after compaction) as per specifications ;
RFI -017	2020-03-01	2020-03-12	Finalized	transition zone which contains ice at the top of the slope between the lake A45 and the channel.	Approx. from ST 0+545 to 0+335	AEM requests the designer's proposals about the transition zone which contains ice at the top of the slope between the lake A45 and the channel and SNC provide field note instruction version PC (667648-2000-60NC-0003-PC_Field Work Instruction (RFI-017)).
RFI -018	2020-03-10	2020-03-13	Approved	Adjustment of filter design over the road	Channel	SNC agreed with the proposed design change based on the understanding that the road (Road 24 and the maintenance road) embankments are made of rockfill and agreed with the replacement of fine filter, coarse filter and rip rap above the natural ground and against rock fill road embankment with rock fill. SNC also agree with the placement of geotextil, going horizontally over the top of the fine and coarse filters below the rip rap.”

Appendix B-2

Field Instructions

AGNICO EAGLE SNC·LAVALIN	**Field Work Instructions** **667648-2000-60NC-0001**		RFI-015
PROJECT:	Construction Support for South Whale Tail Diversion Channel	PROJECT NUMBER:	667648
OWNER REPRESENTATIVE:	Agnico Eagle Mines (AEM) Frederick Bolduc, Jesse Clark, Patrice Gagnon, Pier-Eric McDonald	CONTRACTOR:	KCG

FILTERS DESIGN REVIEW AND ESKER MATERIAL

Description of the Work

This field work instruction is issued to provide field instructions to the contractor and to the QA/QC representative for the excavation, preparation and placement of soil material at the South Whale Diversion Channel (SWTDC).

Based on the Design Report of South Whale Tail Diversion Channel (669635-2000-40ER-0001-00), the SWTDC will be constructed using a protective riprap layer to avoid erosion and limit TSS in the water. The riprap will have a thickness of 0.5 m and will consist of blasted rocks. The maximum rip-rap particle diameter recommended is 300 mm.

Two transition materials (filters) with a 0.3 m thick each will be needed between the overburden and the riprap for particle retention between the foundation soil and the riprap.

Fine and Coarse Filters Design Review

SNC-Lavalin reviewed the grain size distribution available soil samples from the SWTDC foundation and compared them to the grain size distribution of the soil considered for the design (industrial site).

Based on the recent gradation analyses of the foundation material at the SWTDC from Station 0+917 to 0+775, the percentage of the fine material was in the range of 1-27% which is less than the percentage assumed on the original design, but the sand material percentages are still in the range assumed during the design.

Based on the recent assessment and design calculations of the filter compared to the grain size analyses of the foundation material, the filter system design is still satisfying with the gradation of foundation material encountered at the SWTDC excavations. No modification is required for the filter design, thickness and placement.

SNC-Lavalin recommends taking additional samples of the soil in place during further excavation of the channel to yet review the grain size distribution of the soil and ensure that the filter design remains acceptable.

Esker Material

The Esker (ES) is a natural/native material, coming from the surface layer excavation for the open pit development. This material is in similar nature to the till material excavated along the SWTDC. Glacial till material normally presents a wide gradation from clay to boulders and due to the nature of the mechanical formation of the till along the glaciation, the percentage of the grain size varies. The ES material is used to backfill over-blasted or over-excavated overburden areas of the SWTDC excavation.

Based on the gradation analyses of eight (8) ES samples (Table 1), all samples AMQ-ES-001 to AMQ-ES-008 has a fine percentage of 1 - 27%, except for AMQ-ES-003.1 where the fine represents 40%, which could be a small pocket within the ES material stockpile and does not appears to represent the majority of the ES material. SNC-Lavalin considers that all ES samples are acceptable to be used at the site as foundation and subgrade leveling material.

SNC-Lavalin recommends that the ES material always meets the technical specification requirement and the designer recommendations as followed:

- The esker material should not include too much fine (not more % fine than the soil in place, therefore be on the coarse side);
- To be well graded as much as possible;
- Free of frozen/ice soil, snow and big cobbles/boulders;
- Compacted appropriately with the bucket of the excavator, leaving a 10 cm limit before placing the fine filter as per specifications;

It is also recommended to sample the ES in stockpile and after placement to ensure the material is appropriate for backfill over the SWTDC foundation.

Table 1: Summary of Esker Material

Material	Origin	Sample ID	Fines-Sand-Gravel %	Station	Sampling Location	Date Sampling	Testing Date	Placement area
Esker	Pit (Stock pile 1)	AMQ-ES-001	1 - 39 - 60	-	Stock pile 1	17/01/2020	17/01/2020	[0+917 - 0+830]
Esker	Pit (Stock pile 1)	AMQ-ES-002	4 - 37 - 59	-	Stock pile 1	17/01/2020	18/01/2020	[0+917 - 0+830]
Esker	Pit (Stock pile 2)	AMQ-ES-003	- -	-	Stock pile 2	31/01/2020	Lost sample	[0+830 - 0+775]
Esker	Pit (Stock pile 2)	AMQ-ES-003.1	40 - 60 - 0	-	Stock pile 2	02/02/2020	04/02/2020	[0+830 - 0+775]
Esker	Pit (Stock pile 2)	AMQ-ES-004	7 - 25 - 68	0+820	Slope W. of channel	01/02/2020	02/02/2020	[0+830 - 0+775]
Esker	Pit (Stock pile 2)	AMQ-ES-005	21 - 50 - 29	0+820	Slope E. of channel	01/02/2020	02/02/2020	[0+830 - 0+775]
Esker	Pit (Stock pile 2)	AMQ-ES-006	27 - 48 - 25	0+800	Slope E. of channel	04/02/2020	04/02/2020	[0+830 - 0+775]
Esker	Pit (Stock pile 2)	AMQ-ES-007	8 - 56 - 36	0+780	Slope W. of channel	04/02/2020	05/02/2020	[0+830 - 0+775]
Esker	Pit (Stock pile 1)	AMQ-ES-008	2 - 25 - 73	0+860	Slope E. of channel	04/02/2020	05/02/2020	[0+917 - 0+830]
Note : The samples taken in the stockpile are not always representative of materials placed								

Prepared by: (SLI) Toma Mazin, Ph.D., P.Eng. Senior Geotechnical Engineer m. kh. A. Toma DATE: 2020-02-14	Approved by: Project Manager (SLI) Erika Voyer, ing., M.Sc. Mining Environment Engineer 2020.02.14 10:13:30 -05'00' DATE:	Approved by: AEM Representative Pier-Eric McDonald 2020.02.25 11:40:18 -06'00' DATE:

AGNICO EAGLE / SNC·LAVALIN	Field Work Instructions		RFI-015
	667648-2000-60NC-0001-01		
PROJECT:	Construction Support for South Whale Tail Diversion Channel	PROJECT NUMBER:	667648
OWNER REPRESENTATIVE:	Agnico Eagle Mines (AEM) Frederick Bolduc, Jesse Clark, Patrice Gagnon, Pier-Eric McDonald	CONTRACTOR:	KCG

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Esker Material

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- No placement of esker material should be done above the fine filter limit, to ensure the fine filter thickness of 0.3 m (after compaction) as per specifications.

It is also recommended to sample the ES in stockpile and after placement to ensure the material is appropriate for backfill over the SWTDC foundation.

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Esker	Pit (Stock pile 2)	AMQ-ES-004	7 - 25 - 68	0+820	Slope W. of channel	01/02/2020	02/02/2020	[0+830 - 0+775]
Esker	Pit (Stock pile 2)	AMQ-ES-005	21 - 50 - 29	0+820	Slope E. of channel	01/02/2020	02/02/2020	[0+830 - 0+775]
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Esker	Pit (Stock pile 2)	AMQ-ES-007	8 - 56 - 36	0+780	Slope W. of channel	04/02/2020	05/02/2020	[0+830 - 0+775]
Esker	Pit (Stock pile 1)	AMQ-ES-008	2 - 25 - 73	0+860	Slope E. of channel	04/02/2020	05/02/2020	[0+917 - 0+830]
Note : The samples taken in the stockpile are not always representative of materials placed								

Prepared by: (SLI) Toma Mazin, Ph.D., P.Eng. Senior Geotechnical Engineer  DATE: 2020-03-03	Approved by: Project Manager (SLI) Erika Voyer, ing., M.Sc. Mining Environment Engineer  2020.03.03 11:54:45 -05'00' DATE:	Approved by: AEM Representative DATE:

AGNICO EAGLE / SNC·LAVALIN	Field Work Instructions		RFI-011
	667648-2000-60NC-0002		
PROJECT:	Construction Support for South Whale Tail Diversion Channel	PROJECT NUMBER:	667648
OWNER REPRESENTATIVE:	Agnico Eagle Mines (AEM) Frederick Bolduc, Jesse Clark, Patrice Gagnon, Pier-Eric McDonald	CONTRACTOR:	KCG

GEOTEXTILE PLACEMENT

Description of the work

AEM requested SNC-Lavalin to review the addition of a geotextile between the rip-rap material and the coarse filter material of the South Whale Tail Diversion Channel (SWTDC). The current design does not include a geotextile between the filters and the rip-rap material and it is assumed in the filter design that the soil present on the footprint of SWTDC is similar to the one encountered at the industrial site.

As requested by AEM, the geotextile can be placed between the coarse filter and the rip-rap material without affecting the performance of the channel. As discussed with AEM, the geotextile will be an additional contingency measure to control the fine material wash-out from the coarse filter, that may create some total suspended solid (TSS) in the water draining through the SWTDC as well as loosening the coarse filter material which may cause collapse of the riprap down the channel slope.

Geotextile specifications

It is understood that the geotextile placed within the SWTDC will meet the specifications provided by AEM (see Appendix 1). SNC-Lavalin did not review the mechanical properties of the geotextile and its suitability to be placed under rip-rap material (particle size of 100-300mm).

Recommendations for geotextile placement

The geotextile will be placed over the coarse filter, after approval of the fill placement as per the specifications. As proposed by AEM, the geotextile panel will be placed perpendicular to the channel alignment (parallel to the side 3H:1V slope) with a minimum overlap of 0.3 m between each panel. The overlap must consider the flow direction (upstream sheet over downstream sheet). It is important to avoid stretching and tearing the geotextile during placement. It is recommended not to leave any loose large size cobbles or boulders on the coarse filter which may punch or tear the geotextile.

SNC-Lavalin recommends developing a procedure with the contractor for placement of rip-rap material over the geotextile, as the geotextile could shear and tear. It is recommended to place carefully the rip-rap material over the geotextile and avoid dropping material. Rip-rap material shall not roll down the slope over the geotextile during placement. Field-monitoring must be performed to verify that rip-rap placement does not damage the geotextile.

If some parts of the geotextile are exposed after placement of the rip-rap, the geotextile could be damaged during maintenance work of the channel. SNC-Lavalin recommends using special care during the SWDC maintenance, snow and ice removal in the channel to avoid damaging the geotextile.

Prepared by: (SLI) Erika Voyer, ing., M.Sc. Mining Environment Engineer Toma Mazin, Ph.D., P.Eng. Senior Geotechnical Engineer	Approved by: Project Manager (SLI) Erika Voyer, ing., M.Sc. Mining Environment Engineer	Approved by: AEM Representative Pier-Eric McDonald 2020.02.25 11:41:15 -06'00'
_____ DATE: _____	_____ DATE: _____	_____ DATE: _____

AGNICO EAGLE SNC·LAVALIN	**Field Work Instructions** **667648-2000-60NC-0003-00-PB**		RFI-017
PROJECT:	Construction Support for South Whake Tail Diversion Channel	PROJECT NUMBER :	667648
OWNER REPRESENTATIVE:	Agnico Eagle Mines (AEM) Frederick Bolduc, Jesse Clark, Patrice Gagnon, Pier-Eric McDonald	CONTRACTOR:	KCG

Excavation of ice layer outside of channel footprint

Description of the field observations

Around approximately chainage 0+335 to 0+545, an ice ''layer'' appears to be visible during the excavation of the SWTDC, on the top of the side slope, mainly at the surface of the natural soil. This layer of ice of approximately 1.0m thick appears to be from the frozen lake A45 surface at its former elevation (el. 156.5m). The chainages 0+335 to 0+545 correspond approximately to the original elevation of the lake A45, as presented on Figure 1. The ice layer is near the surface of the natural soil. The ice layer includes the ice, boulders from the shore of the lake A45 and likely some saturated frozen soil.

An ice cover over the lake A45 was observed prior and during dewatering that occurred in November 2019. The ice cover remained in place following dewatering as the winter conditions started on site. The drilling platform was built over the ice layer and is now observed during excavation, as presented in Photos 1, 2 and 3.

Figure 1 – Chainages where ice layer is visible (orange and green lines)



Photos 1, 2 and 3 – Observed ice layer, chainage 0+520



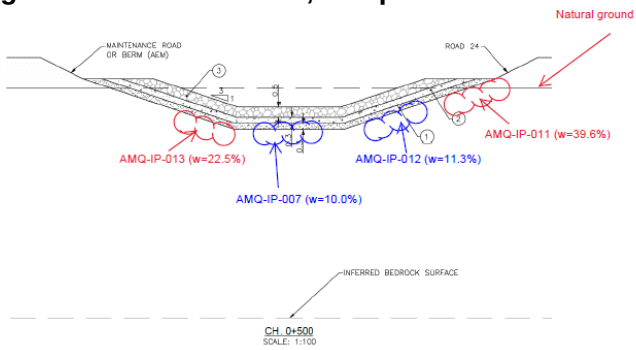




Field Samples

Samples of foundation material were taken around chainage 0+500 to 0+530, as presented in Figure 2. The sample AMQ-IP-011 presents a water content of 39.6% and is in the ice layer zone.

Figure 2 – Cross section, sample location and results



Sample ID	Fines-Sand-Gravel	Moisture Content	Station	Location of sampling	Date of sampling	Sample by	Date of testing	Test by
AMQ-IP-007	20 - 33 - 47	10.0%	0+500	Bottom of excavation	07/02/2020	SD	07/02/2020	YA
AMQ-IP-011	13 - 28 - 59	39.6%	0+530	Top of eastern slope	01/03/2020	SD	03/03/2020	YA
AMQ-IP-012	21 - 37 - 42	11.3%	0+530	Bottom of eastern slope	01/03/2020	SD	03/03/2020	YA
AMQ-IP-013	30 - 39 - 32	22.5%	0+520	Botom of western slope	01/03/2020	SD	03/03/2020	YA

*****Sample AMQ-IP-013 is ice rich permafrost and not visible ice

Field Investigation Results (April 2019)

From the geotechnical drilling completed in April 2019 and as presented in the investigation report (2019 SWTC – Geotechnical Investigation, AEM, May 2019), the drill holes SWTC-19-04, SWTC-19-05 (located on shore of Lake A45) encountered a layer of ice at the surface, respectively of 1.2 and 1.3 of thickness, as presented in Figure 3.

Figure 3 – Drillholes locations and results (2019 SWTC – Geotechnical Investigation, AEM, May 2019)

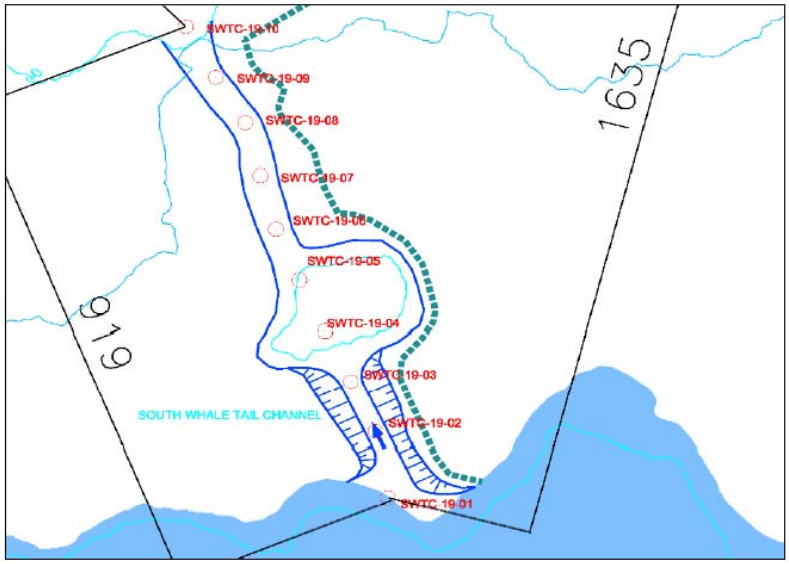


Table 5: SWTC-19-04 Description

Drill Hole ID		Easting	Northing	Elevation	Starting time	Ending time
SWTC-19-04		604722	7253111	156.3	2:00 PM	2:20 PM
Depth range (m)		**Thickness (m)**	**Description**			
0.0	1.2	1.2	Ice			
1.2	3.7	2.5	Frozen fine grey sand (lake mud)			
3.7	7.7	4.0	Brown sand and gravel			
7.7	10.1	2.4	Good (hard) bedrock			
Final Depth	10.1	-	End of drilling at desired depth, bedrock reached			
Water level	3.7					
Comments	A-45 Lake shore					

Table 6: SWTC-19-05 Description

Drill Hole ID		Easting	Northing	Elevation	Starting time	Ending time
SWTC-19-05		604679	7253201	156.3	1:35 PM	2:00 PM
Depth range (m)		**Thickness (m)**	**Description**			
0.0	1.3	1.3	Ice			
1.3	3.7	2.4	Frozen fine grey material			
3.7	10.1	6.4	Fine grey silty sand (muddy cutting)			
Final Depth	10.1	-	End of drilling at desired depth, no bedrock reached			
Water level	3.7					
Comments	A-45 Lake shore					

Recommendations for ice excavation and foundation preparation

As specified in the Technical Specifications (651298-2900-40EF-0001), the Contractor shall remove snow, ice and boulders within SWTDC footprint prior to any fill placement and shall keep the work area dry. Foundation preparation must ensure that the footprint of SWTDC is free of snow, ice, boulders and any other deleterious materials or soft pocket at all times during the first layer of fill placement regardless of the type or fill zone. The channel excavation may be carried out in permafrost, thus requiring drilling and blasting; if the blasted surface in the overburden exposes massive ice, ice-rich material or thaw softening layer(s), the Contractor shall propose a method that will minimize thaw induced ditch slope instability or excessive lateral deformation to the Owner's Representative before continuing with the excavation work or any fill placement. It is understood that in this particular case, AEM requested the recommendations of SNC-Lavalin in order to prepare the foundation as per specifications.

In order to ensure that the foundation for the SWTDC is prepared adequately as per specifications, the ice layer present within the footprint of the SWTDC will require to be removed. Ice layer or ice rich soil can trigger settlement as thawing can occur when exposed to ambient warm temperature. In order to prevent potential settlement, it is recommended to excavate the ice layer further away from the footprint and to replace it with compacted material.

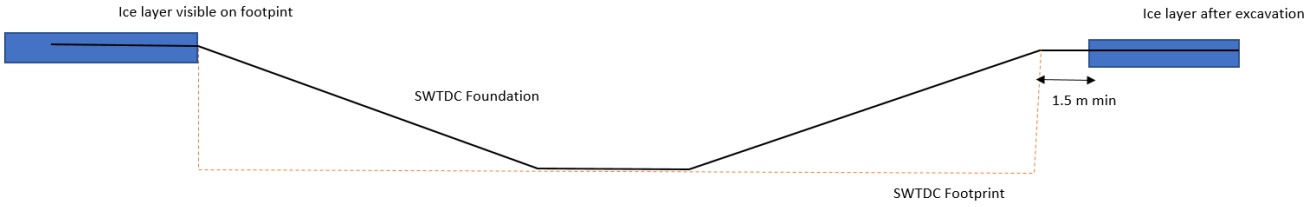
The depth of the permafrost and active layer will vary based on proximity to the lakes, overburden thickness, vegetation, climate conditions, and slope direction. The typical depth of the active layer is 2 m in this region of Canada (Whale Tail Pit Waste Rock Management Plan (V5, May 2019)).

Based on the information provided in this memo, SNC-Lavalin recommends the excavation of the layer of ice/ice rich frozen soil and boulders as presented on Figure 4. It is required to excavated 1.5m minimum outside the footprint of the SWTDC by removing the entire thickness of visible ice/ice rich frozen soil layer. The excavated material will be replaced with compacted esker material as per specifications (memo 667648-2000-60NC-0001-01_Field Work Instruction (RFI-015)) in order to isolate the remaining ice layer. Filter materials or rockfill will then be placed as per the design.

If compacted esker material is exposed outside of the SWTDC footprint, it is recommended to cover it with rockfill for erosion protection.

Prior to placement of compacted esker, the area shall be inspected and approved as per the specifications. Areas of ice layer excavation shall be surveyed to be documented in the as-built report.

Figure 4 – Typical section of ice layer excavation



Prepared by : (SLI) Toma Mazin, Ph.D., P.Eng. Senior Geotechnical Engineer Erika Voyer, ing., M.Sc. Mining Environment Engineer _____ DATE: _____	Approved by: Project Manager (SLI) Erika Voyer, ing., M.Sc. Mining Environment Engineer _____ DATE: _____	Approved by: AEM Representative _____ DATE: _____

AGNICO EAGLE / SNC·LAVALIN	Field Work Instructions		SWTDC-LA45S (PCN-003)
	667648-2000-60NC-0004-PB		
PROJECT:	Construction Support for South Whake Tail Diversion Channel	PROJECT NUMBER :	667648
OWNER REPRESENTATIVE:	Agnico Eagle Mines (AEM) Thomas Lepine, Frederick Bolduc, Jesse Clark, Patrice Gagnon, Pier-Eric McDonald	CONTRACTOR:	KCG

Foundation Excavation and Preparation of the South Whale Diversion Channel at Lake A45 Section (SWTDC-LA45S)

This Field Work Instructions Memo is issued as part of the SWTDC construction support, specifically for the design of the section in Lake A45 (work related to PCN-003). These instructions include details for the foundation excavation and preparation of the South Whale Diversion Channel at Lake A45 Section (SWTDC-LA45S) and are issued to allow foundation preparation work to be initiated, as per Agnico Eagle (AEM) request (2020/03/20, Design Lake A45 – Progress Update Meeting).

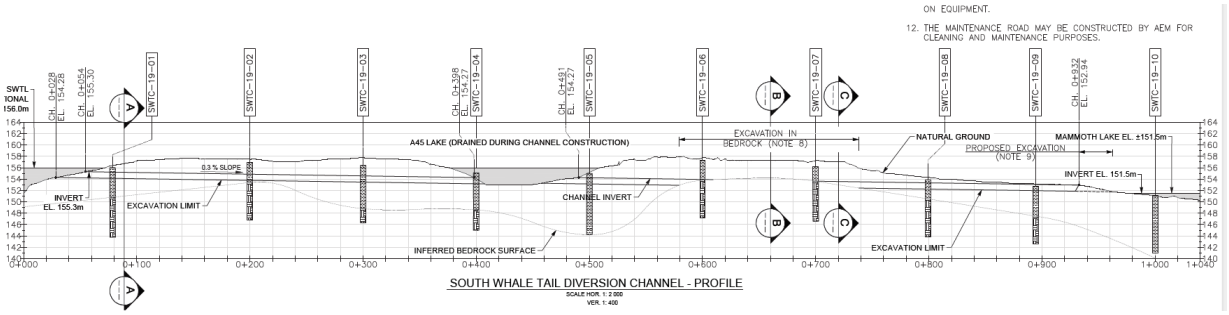
The Technical Specifications for the Construction of the South Whale Tail Diversion Channel (651298-2900-40EF-0001-00) are applicable to SWTDC-LA45S and should be referred to during the work.

This Field Work Instructions Memo will be included in the design report of the section in Lake A45.

Subsurface Conditions at SWTDC-LA45S

From the geotechnical drilling completed in April 2019 and as presented in the investigation report (2019 SWTC – Geotechnical Investigation, AEM, May 2019), the drill holes SWTC-19-04 and SWTC-19-05 (located on shore of Lake A45) encountered a layer of ice at the surface. Based on the drill holes SWTC-19-04 at the south end of Lake A45 (Ch. 0 + 398) and SWTC-19-05 at the north end of Lake A45 (CH. 0 + 491), as presented on Figure 1 (Drawing no. 669635-2000-4GDD-0001), 1.2 m of ice was encountered at the surface, followed by a 2.4 m to 2.5m thick layer of frozen fine grey material (associated with lakebed deposits). In drill hole SWTC-19-04, brown sand and gravel was encountered at a depth of 3.7m.

Figure 1 – SWDC- Typical Section



Recommendations for Channel Excavation and Foundation Preparation

1. The foundation preparation for the SWTDC-LA45S footprint must ensure the removal of lakebed sediments. Lakebed sediments and ice-rich material must be removed until suitable foundation conditions are reached. As specified in the SWTDC Technical Specifications (651298-2900-40EF-0001-00), the Contractor shall remove snow, ice and boulders within SWTDC-LA45S footprint.
2. Proceed with the ice cover and lakebed deposit excavation with conventional excavation using the excavator and/or with the use of the dozer ripper and the hydraulic hammer, which can facilitate the work in frozen material, in order to go deeper into the frozen ice rich lake deposits.
3. Following ice and snow removal, if suitable foundation such as dense till material is encountered at the channel design grade elevation foundation in SWTDC-LA45S (to be confirmed by QC and QA geotechnical engineer), then deeper excavation will not be required. If fine lake sediments/ice rich material are still encountered at the specified channel grades foundation, then sub-excavation will be required in the lake sediments. Sub- excavated material will be replaced with compacted good esker (till) material. Rock fill material can also be used to bring the bottom of the sub-excavation to design grade foundation, minus 300 mm of compacted esker material.
4. To reach proper grade of the foundation, esker material may be placed in 300 mm lifts and compacted with heavy vibrating roller. Visual inspection is required from QA/QC personal to ensure the placement and compaction is carried out as recommended in this field technical instruction. Esker material placement shall follow the specifications as per the Field Work Instruction Memo 667648-2000-60NC-0001-01 (RFI-015). Rock fill material can also be used to bring the bottom of the excavation to design grade. Rockfill shall be placed in 500 mm lifts and compacted with heavy vibrating roller. If rockfill material is used for backfill, the foundation surface to grade must be finalized with a layer of compacted esker material of 300 mm.
5. Foundation preparation must always ensure that the footprint of SWTDC-LA25S is free of snow, ice, boulders and any other deleterious materials or soft pocket prior to the first layer of fill placement regardless of the type or fill zone.
6. The excavation is carried out in permafrost, thus may require drilling and blasting if conventional excavation is not enough.
7. If the blasted surface in the overburden exposes massive ice, ice-rich material or thaw softening layer(s) in the area close to Lake A45, the Contractor shall use the procedure proposed on the Field Work Instruction Memo (667648-2000-60NC-0003-00). Excavation of ice layer outside of channel footprint, to remove any ice layers or ice-rich material and replace with compacted esker material.
8. The final channel invert depth as well as longitudinal and lateral dimensions shall meet those shown on the drawings and shall be approved by the Owner's Representative and the QC/QA personnel prior any fill placement.
9. The prepared foundation must be approved by the QC/QA personnel prior to fill placement as per the SWTDC Technical Specifications.

10. Excavated materials shall be set aside separately or stockpiled in areas approved by the Owner or its representative, outside of the Lake A45 area and its catchment area.

Construction Methodology and Material

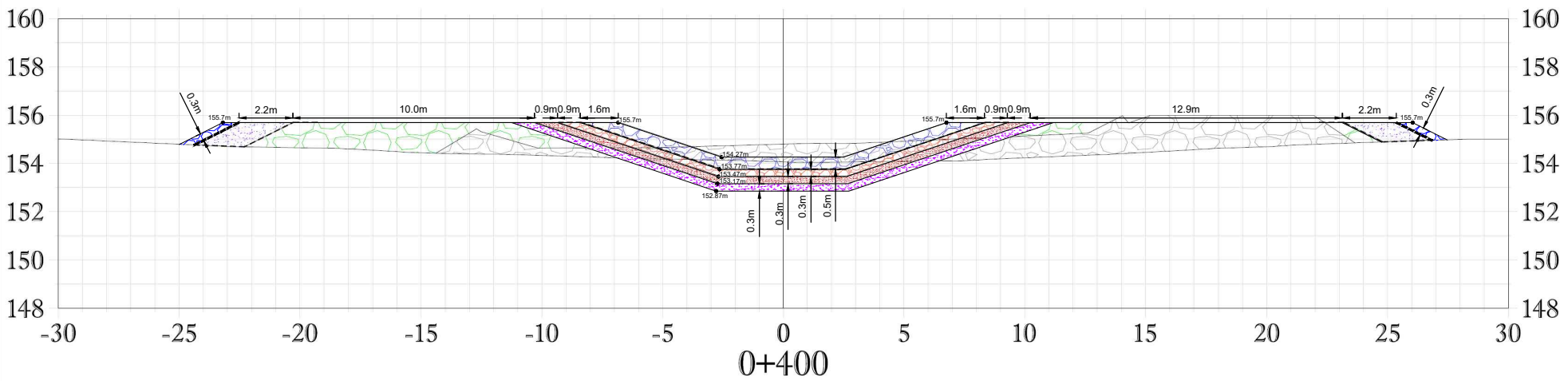
For construction methodology and material, follow all procedures and instructions for material gradation, placement, thicknesses and compaction as indicated on the SWTDC Technical Specification (651298-2900-40EF-0001-00) and the Design report of SWTDC (669635-2000-40ER-0001-00).

Typical Section for SWTDC-LA45S

Typical section views of SWTDC-LA45S are attached to this Field Work Instructions Memo. The typical section views are provided for information only are not the issued for construction.

Prepared by : (SLI) Mazin Toma, Ph.D., P.Eng. Senior Geotechnical Engineer Erika Voyer, ing., M.Sc. Mining Environment Engineer _____ DATE: _____	Approved by: Project Manager (SLI) Erika Voyer, ing., M.Sc. Mining Environment Engineer Hafeez Baba Engineering Manager Sustaining Mining Development _____ DATE: _____	Approved by: AEM Representative _____ DATE: _____

COFFERDAMS ON LAKE A45 QUANTITIES
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



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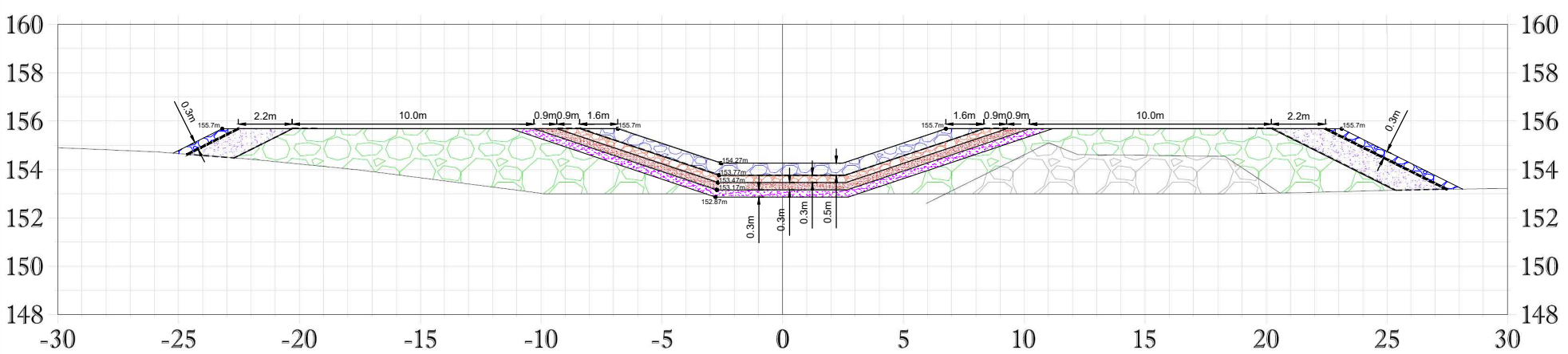

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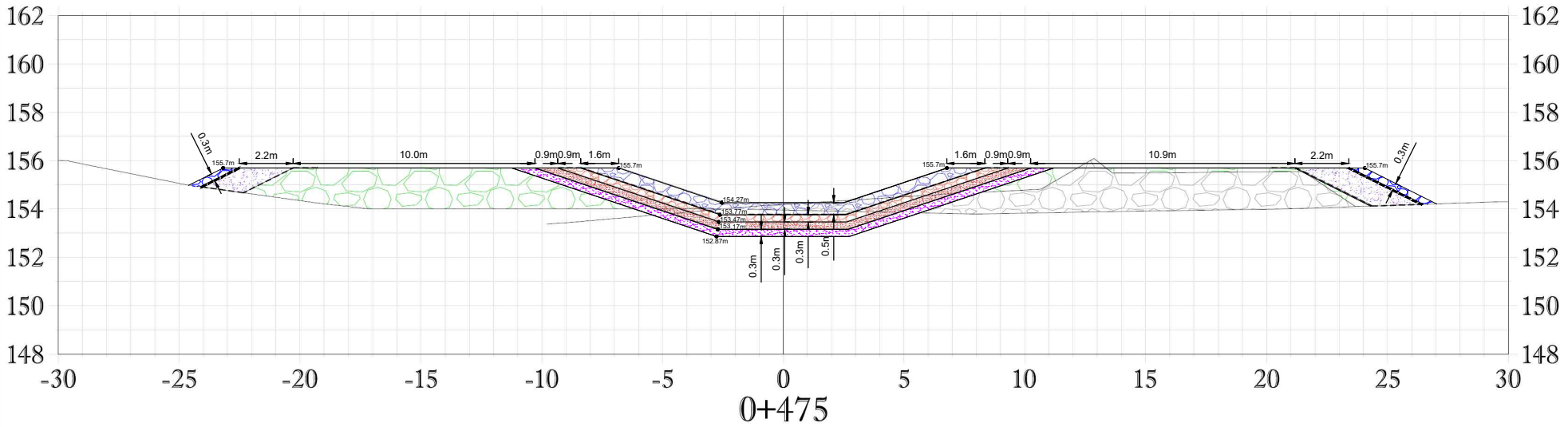


0+475

LEGEND :

- FINAL EXCAVATION
- MASS EXCAVATION
- D&B BACKFILL
- ESKER
- FINE FILTER
- COARSE FILTER
- ROCKFILL
- RIP RAP
- BLASTED AREA
- DRILLED AREA

SCALE : 1:250
VERTICAL EXAGERATION : 1

VOLUMETRY DETAIL

- ROCKFILL : 4 405m³
- FINE FILTER : 667m³
- ESKER : 638m³
- COARSE FILTER : 601m³
- RIP RAP : 856m³
- ----- GEOTEXTILE : 2 600m²

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 23-02-2020
CON-QT-144-2

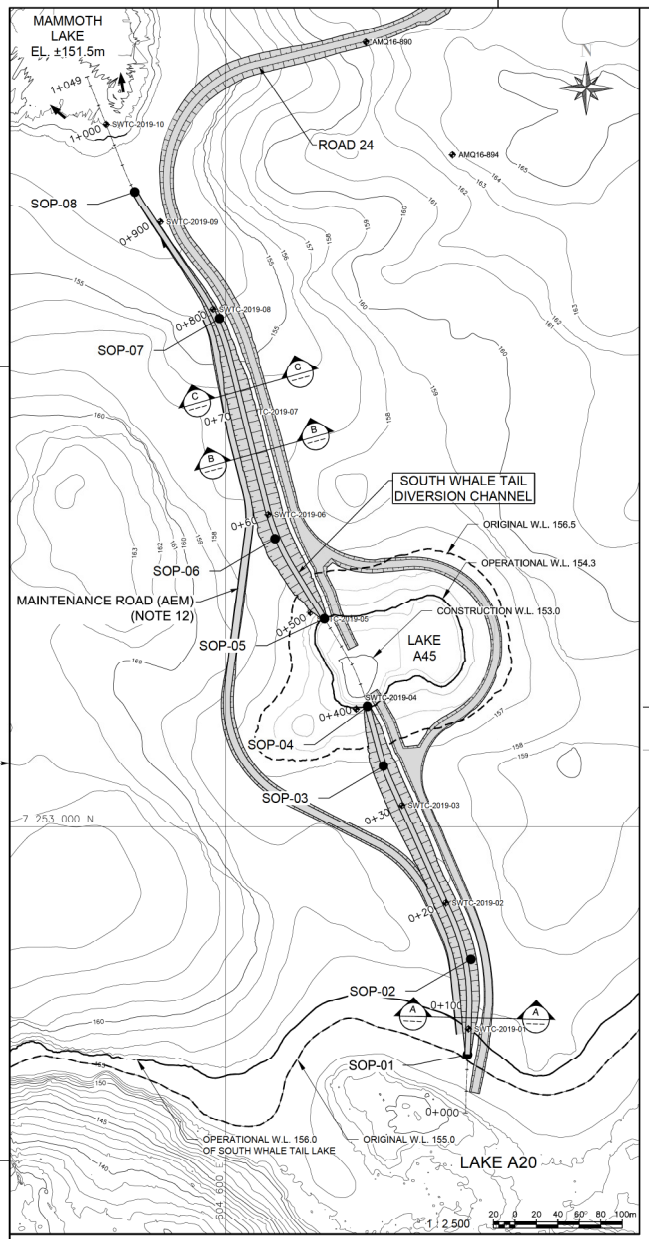
C:\Users\arpenteur\Dropbox (Groupe Gilbert)_arpentage meadowbank\02-E - OFFICIAL DRAWING\11-811 - AMQ DIKES\CON-QT (QUANTITY AND MONTHLY REPORT)\CON-QT-144_SWTC COFFERDAMS ON LAKE A45 THEO QTY.dwg

Appendix C

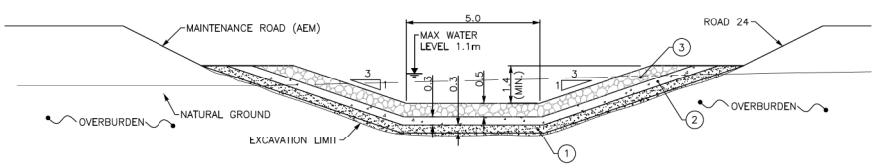
IFC and As Built Drawing

Appendix C1

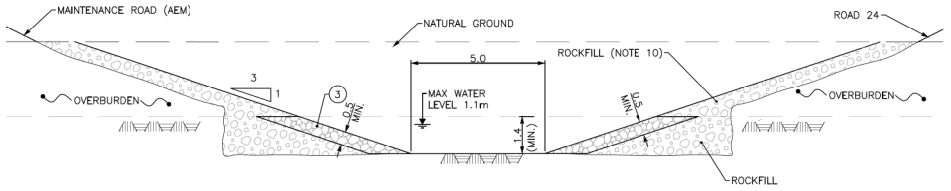
IFC Drawings for SWTDC



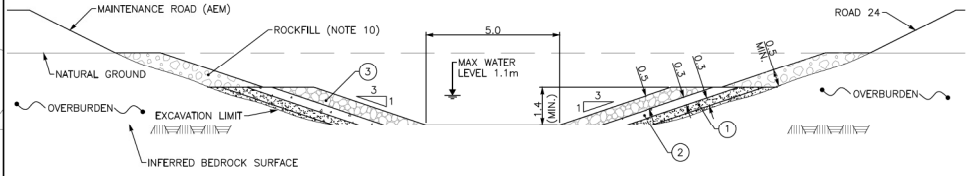
SOUTH WHALE TAIL DIVERSION CHANNEL - PLAN VIEW
SCALE 1: 2500



SECTION A-A - SOUTH WHALE TAIL DIVERSION CHANNEL - TYPICAL SECTION IN OVERBURDEN
SCALE 1: 100

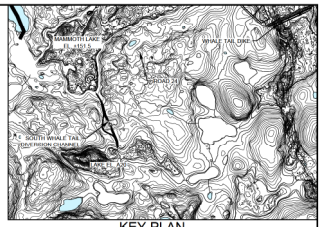


SECTION B-B - SOUTH WHALE TAIL DIVERSION CHANNEL - TYPICAL SECTION IN OVERBLASTED BEDROCK
SCALE 1: 100



SECTION C-C - SOUTH WHALE TAIL DIVERSION CHANNEL - TYPICAL SECTION FOR EXCAVATION IN BEDROCK
SCALE 1: 100

SETTING OUT POINTS				
NAME	STA.	EASTING	NORTHING	RADIUS
SOP-01	0+054	604 826.7	7 252 787.3	---
SOP-02	0+142	604 829.8	7 252 876.1	200
SOP-03	0+340	604 747.8	7 253 057.0	200
SOP-04	0+398	604 732.6	7 253 113.0	---
SOP-05	0+491	604 692.3	7 253 195.0	---
SOP-06	0+577	604 646.0	7 253 269.8	200
SOP-07	0+790	604 594.0	7 253 476.2	200
SOP-08	0+932	604 514.8	7 253 594.8	---



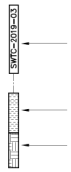
KEY PLAN
SCALE 1: 40000

LEGEND

OPERATIONAL WATER LEVEL
AMQ15-441 EXPLORATION BOREHOLE
SWTC-2019-01 AIR TRACK DRILL HOLE (DESTRUCTIVE) (AEM, 2019)
SOP-01 SETTING OUT POINTS

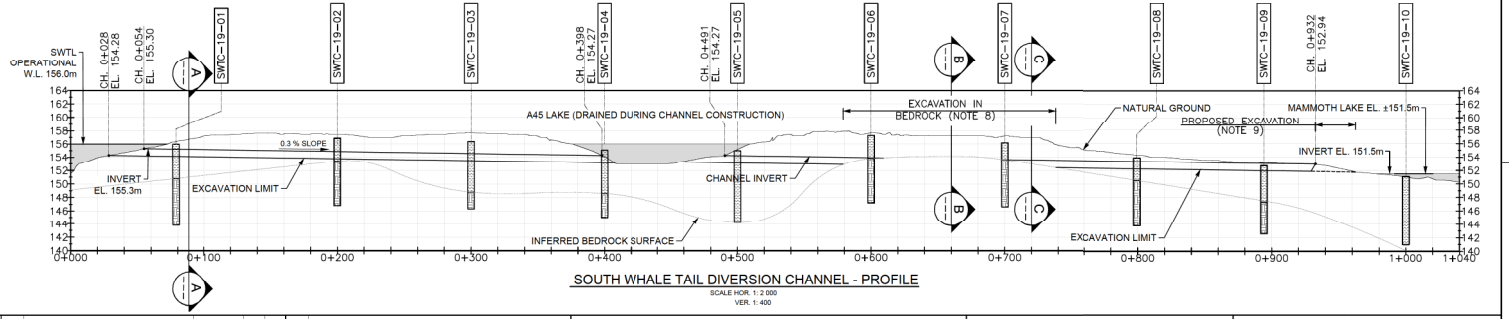
LEGEND FOR FILL MATERIAL

1 FINE FILTER
2 COARSE FILTER
3 RIP RAP (100-300 mm)
4 ROCKFILL



NOTES:

1. WORKS SHOWN ON THIS DRAWING SHALL BE EXECUTED IN ACCORDANCE WITH THE APPLICABLE TECHNICAL SPECIFICATIONS.
2. ALL ELEVATIONS ARE IN METERS.
3. MATERIAL 1 WILL BE USED AS LEVELING FILL FOLLOWING EXCAVATION OF THE CHANNEL. HOWEVER, IF THE WORK IS DONE IN SUMMER, LEVELING CAN BE DONE WITH EXCAVATED MATERIAL IF IT MEETS THE SPECIFICATIONS.
4. THE BEDROCK SURFACE WAS ESTIMATED USING THE FIELD INVESTIGATIONS FROM 2019 (AEM, 2019).
5. IF THE EXCAVATED SURFACE IN THE OVERBURDEN EXPOSES LARGE ICE LENSES, OR ICE RICH LAYER(S), THE CONTRACTOR SHALL PROPOSE A METHOD THAT WILL MINIMIZE THAW INDUCED DITCH SLOPE INSTABILITY OR EXCESSIVE LATERAL DEFORMATION TO AEM'S REPRESENTATIVE BEFORE CONTINUING WITH THE WORK. REFER TO DESIGN REPORT FOR THE CONSTRUCTION METHODOLOGY DURING EXCAVATION.
6. THE LAYOUT OF THE ROAD IS APPROXIMATE. THE DETAILED ENGINEERING OF THIS STRUCTURE IS PRESENTED IN THE ROAD'S DESIGN REPORT (SNC LAVALIN, 2019). THIS ROAD MAY BE FIELD FIT ACCORDING TO THE SITE'S CONDITIONS DURING EXCAVATION.
7. DETAILS RELATED TO THE REFERENCES ARE GIVEN IN THE LIST OF REFERENCES IN THE SWTDC DESIGN REPORT.
8. TRANSITION OF FILL MATERIALS CAN BE ADJUSTED DURING THE CONSTRUCTION FOR THIS PORTION OF THE CHANNEL THAT WILL BE IN BEDROCK.
9. THE LAYOUT OF THE INLET AND THE OUTLET OF THE CHANNEL AND SECTOR OF LAKE A45 WILL NEED TO BE ADAPTED DURING THE CONSTRUCTION TO MINIMIZE IMPACT ON THE SHORE AND ON THE LAKE. TURBIDITY BARRIER OR SILT CURTAIN MAY BE REQUIRED. THE OUTLET OF THE CHANNEL CAN BE FIELD FIT ACCORDING TO THE SITE'S CONDITIONS DURING EXCAVATION.
10. THICKNESS OF ROCKFILL IS VARIABLE AND CAN BE ADAPTED DURING THE CONSTRUCTION OF THE CHANNEL IN BEDROCK. A MINIMUM THICKNESS OF 0.5 m IS REQUIRED, AND A MAXIMUM PARTICLE DIAMETER OF 300mm IS RECOMMENDED.
11. ACCESS ROAD FROM ROAD 24 TOWARDS THE CHANNEL SHALL BE CONSTRUCTED FOR MAINTENANCE AND CLEANING PURPOSES WITH A MAXIMUM SLOPE OF 10%. LIMITS SHALL BE DEFINED ON SITE BASED ON EQUIPMENT.
12. THE MAINTENANCE ROAD MAY BE CONSTRUCTED BY AEM FOR CLEANING AND MAINTENANCE PURPOSES.



SOUTH WHALE TAIL DIVERSION CHANNEL - PROFILE
SCALE HOR. 1: 2 000
VER. 1: 400

ISSUE No	REV.	DATE (Y/M/D)	PURPOSE OF ISSUE
03	00	2020-01-16	ISSUED FOR CONSTRUCTION
02	PB	2019-11-18	ISSUED FOR CLIENT REVIEW
01	PA	2019-11-14	ISSUED FOR INTERNAL REVIEW

ISSUE REGISTER

ISSUE No	REV.	DATE (Y/M/D)	PURPOSE OF ISSUE

ISSUE REGISTER

No	REVISION DESCRIPTION	DATE (Y/M/D)	*	**
	INITIALS: * DESIGNED ** APPROVED			

REVISION REGISTER

No	
05	ROAD 24 FROM SNC
04	SWTC_ROAD 24 KCG DESIGN (002).DWG
03	TOPO_SWTC.DWG (BAHTY LAKE A45)
02	AMQ BATHY CL1M MD
01	644819-SITE AMARUQ – 2019-02-07_REV2

REFERENCE DRAWINGS

PROFESSIONAL SEAL

REGISTERED PROFESSIONAL ENGINEER A.A. ARBAIZA CLEMAN LICENSEE 2020-01-17 NT/NU

REGISTERED PROFESSIONAL ENGINEER D-Y JALBERT LICENSEE 2020-01-17 NT/NU

PERMIT TO PRACTICE SNC-LAVALIN INC.
Signature
Date 2020-01-17
PERMIT NUMBER: P 260
The Association of Professional Engineers, Geologists and Geophysicists of NWT/NU

SNC·LAVALIN
Mining & Metallurgy
5500, des Gaineries Blvd., bur. 200, Quebec (Quebec), Canada G2K 2I2
Telephone: (418) 621-5500, Fax: (418) 621-8887

PREPARATION	APPROVAL
DESIGNED A. ARBAIZA, P. ENG.	PROJECT DISCIPLINE ENGINEER
DRAWN D. LAN	PROJECT ENGINEERING MANAGER A. ARBAIZA, P. ENG.
CHECKED Y. JALBERT, P. ENG.	CLIENT
DATE 2020-01-16	
SCALE AS SHOWN	

CLIENT
AGNICO EAGLE

PROJECT
AGNICO EAGLE – MEADOWBANK DIVISION
WHALE TAIL PIT

TITLE
SOUTH WHALE TAIL DIVERSION CHANNEL
PLAN VIEW, PROFILE AND TYPICAL SECTIONS

PROJECT No	SUBDIVISION	SUBJECT	SERIAL	REV.
669635	2000	4G|DD	0001	00

A1-HOR-FRAME-EN (SI)

LAST SAVE: 2020/01/17 – 2:17pm
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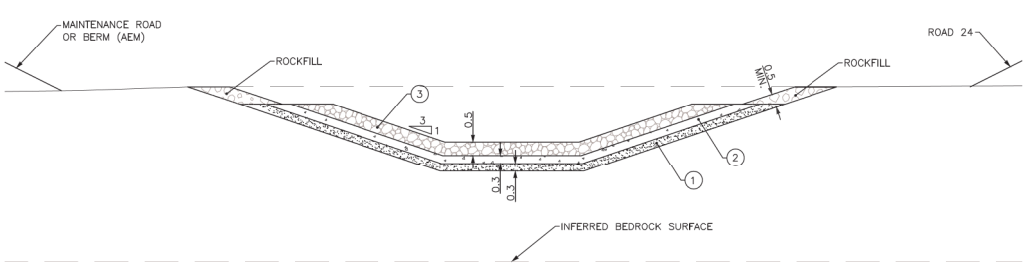
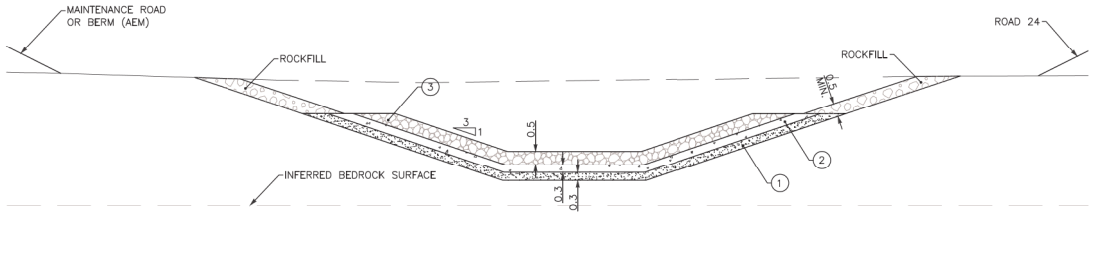
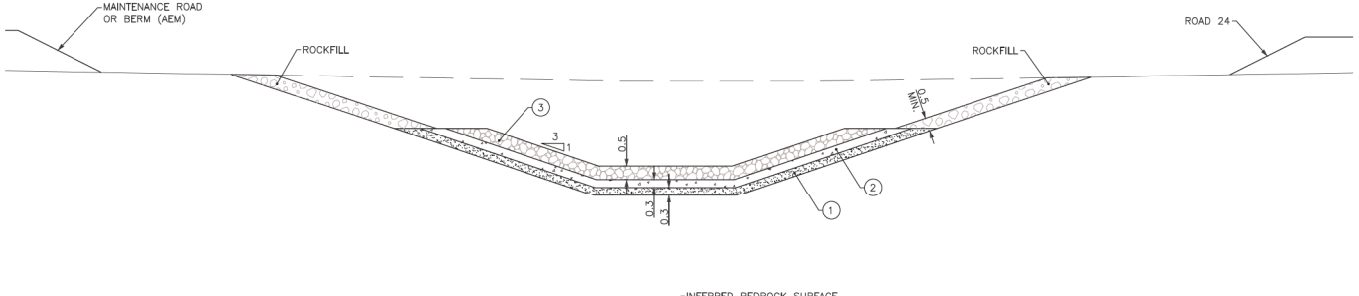


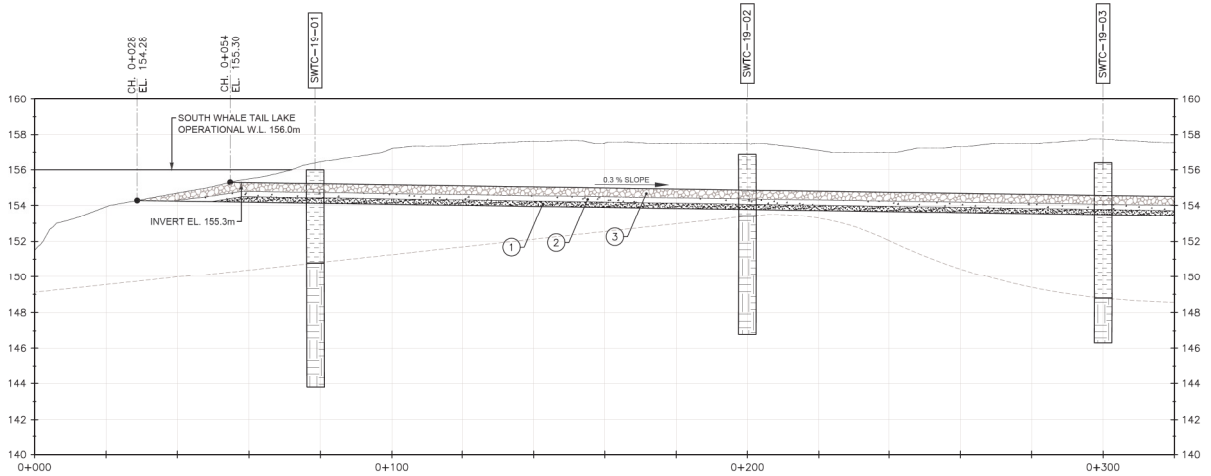
STATION 0+100
SCALE: 1:100



STATION 0+200
SCALE: 1:100



STATION 0+300
SCALE: 1:100



SOUTH WHALE TAIL DIVERSION CHANNEL - PROFILE
SCALE HOR. 1: 750
VER. 1: 150

LEGEND FOR FILL MATERIAL

1	FINE FILTER
2	COARSE FILTER
3	RIP RAP (100-300 mm)
4	ROCKFILL

ISSUE No	REV.	DATE (Y/M/D)	PURPOSE OF ISSUE
03	00	2020-01-16	ISSUED FOR CONSTRUCTION
02	PB	2019-11-18	ISSUED FOR CLIENT REVIEW
01	PA	2019-11-14	ISSUED FOR INTERNAL REVIEW

ISSUE REGISTER

ISSUE No	REV.	DATE (Y/M/D)	PURPOSE OF ISSUE

ISSUE REGISTER

No	REVISION DESCRIPTION	DATE (Y/M/D)	*	**

INITIALS: * DESIGNED ** APPROVED

REVISION REGISTER

No	
02	AMQ BATHY CL1M MD
01	644819-SITE AMARUQ – 2019-02-07_REV2

REFERENCE DRAWINGS

PROFESSIONAL SEAL

REGISTERED PROFESSIONAL ENGINEER — A.A. ARBAIZA-CUZMAN — LICENSEE — 2020-01-17 — NT/NU

REGISTERED PROFESSIONAL ENGINEER — D-Y JALBERT — LICENSEE — 2020-01-17 — NT/NU

PERMIT TO PRACTICE
SNC-LAVALIN INC.
Signature
Date 2020-01-17
PERMIT NUMBER: P 260
The Association of Professional Engineers, Geologists and Geophysicists of NWT/NU

SNC·LAVALIN
Mining & Metallurgy
5500, des Gradins Blvd., bur. 200, Québec (Québec), Canada G2K 2C2
Telephone: (418) 621-5500, Fax: (418) 621-8687

PREPARATION	APPROVAL
DESIGNED A. ARBAIZA, P. ENG.	PROJECT DISCIPLINE ENGINEER
DRAWN D. LAN	PROJECT ENGINEERING MANAGER A. ARBAIZA, P. ENG.
CHECKED Y. JALBERT, P. ENG.	CLIENT
DATE 2020-01-16	
SCALE AS SHOWN	

CLIENT
AGNICO EAGLE

PROJECT
AGNICO EAGLE – MEADOWBANK DIVISION
WHALE TAIL PIT

TITLE
SOUTH WHALE TAIL DIVERSION CHANNEL
PROFILE AND SECTIONS 0+100 TO 0+300

PROJECT No	SUBDIVISION	SUBJECT	SERIAL	REV.
669635	2000	4G DD	0002	00

A1-HOR-FRAME-EN (SI)

LAST SAVE: 2020/01/17 - 2:12pm
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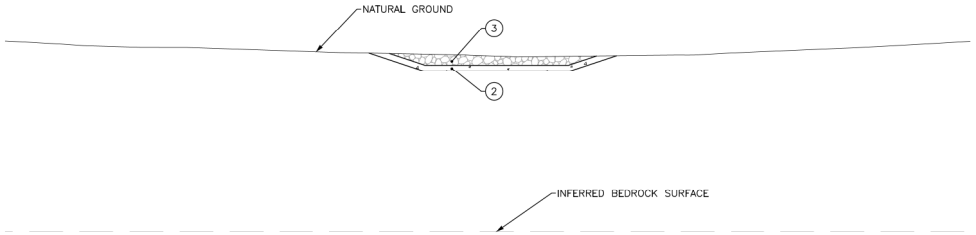
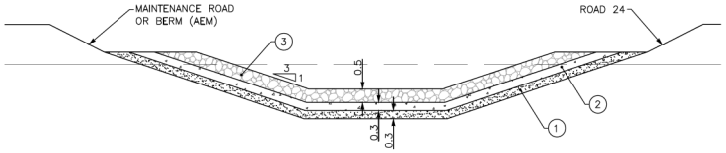
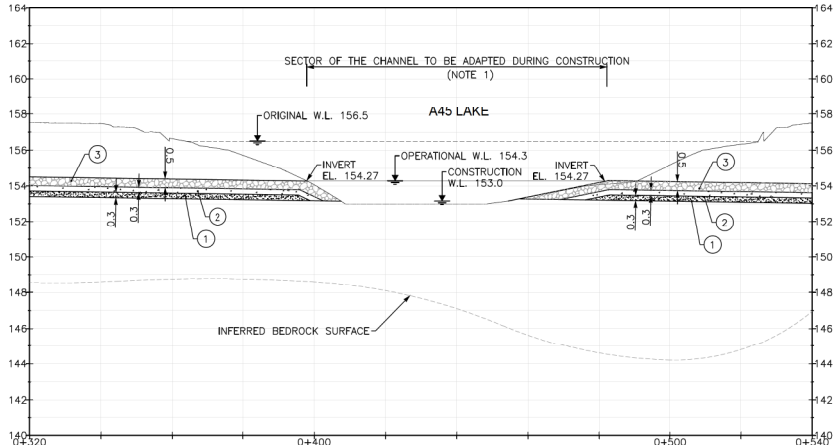


STATION 0+400
SCALE: 1:100





CH. 0+500
SCALE: 1:100



SOUTH WHALE TAIL DIVERSION CHANNEL - PROFILE (LAKE A45)
SCALE HOR. 1: 750
VER. 1: 150

LEGEND FOR FILL MATERIAL

1	FINE FILTER
2	COARSE FILTER
3	RIP RAP (100-300 mm)
4	ROCKFILL

NOTE:

1. A PROTECTION LAYER MAY BE REQUIRED TO AVOID ANY EROSION INSTABILITY TO THE CHANNEL DEPENDING ON THE TYPE OF MATERIAL THAT IS PRESENT AT THE BOTTOM OF LAKE A45.

ISSUE REGISTER

ISSUE No	REV.	DATE (Y/M/D)	PURPOSE OF ISSUE
03	00	2020-01-16	ISSUED FOR CONSTRUCTION
02	PB	2019-11-18	ISSUED FOR CLIENT REVIEW
01	PA	2019-11-14	ISSUED FOR INTERNAL REVIEW

ISSUE REGISTER

ISSUE No	REV.	DATE (Y/M/D)	PURPOSE OF ISSUE

REVISION REGISTER

No	REVISION DESCRIPTION	DATE (Y/M/D)	*	**	No

INITIALS: * DESIGNED ** APPROVED

REFERENCE DRAWINGS

03	TOPO_SWTC.DWG (BAHTY LAKE A45)
02	AMQ BATHY CL1M MD
01	644819-SITE AMARUQ - 2019-02-07_REV2

PROFESSIONAL SEAL

REGISTERED PROFESSIONAL ENGINEER
A.A. ARBAIZA CUZMAN
LICENSEE
NT/NU

REGISTERED PROFESSIONAL ENGINEER
D-Y JALBERT
LICENSEE
2020-01-17
NT/NU

PERMIT TO PRACTICE
SNC-LAVALIN INC.
Signature
Date 2020-01-17
PERMIT NUMBER: P 260
The Association of Professional Engineers, Geologists and Geophysicists of NWT/NU

SNC·LAVALIN
Mining & Metallurgy
5500, des Gerentes Blvd., bur. 200, Quebec (Quebec), Canada G2K 2E2
Telephone: (418) 621-5500, Fax: (418) 621-8687

PREPARATION	APPROVAL
DESIGNED: A. ARBAIZA, P. ENG.	PROJECT DISCIPLINE ENGINEER
DRAWN: D. LAN	PROJECT ENGINEERING MANAGER: A. ARBAIZA, P. ENG.
CHECKED: Y. JALBERT, P. ENG.	CLIENT
DATE: 2020-01-16	
SCALE: AS SHOWN	

CLIENT: AGNICO EAGLE

PROJECT: AGNICO EAGLE – MEADOWBANK DIVISION
WHALE TAIL PIT

TITLE: SOUTH WHALE TAIL DIVERSION CHANNEL
PROFILE AND SECTIONS 0+400 TO 0+500

PROJECT No	SUBDIVISION	SUBJECT	SERIAL	REV.
669635	2000	4G DD	0003	00

A1-HOR-FRAME-EN (SI)

LAST SAVE: 2020/01/17 - 2:12pm
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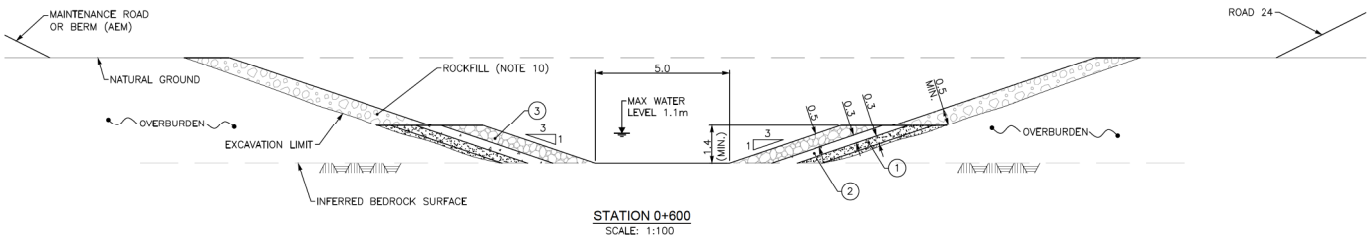

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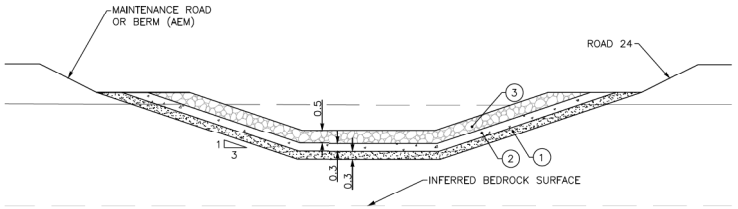

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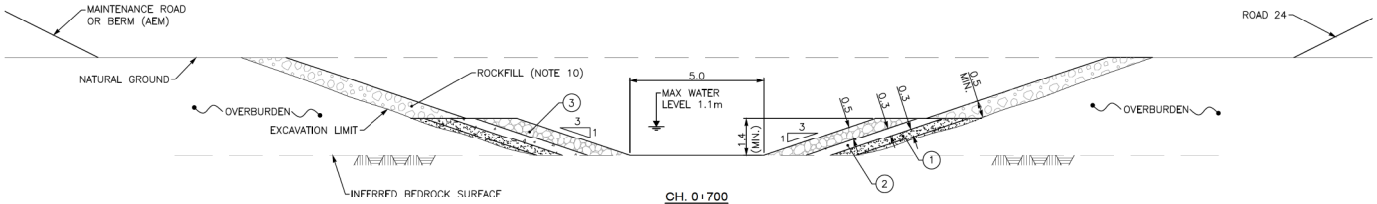
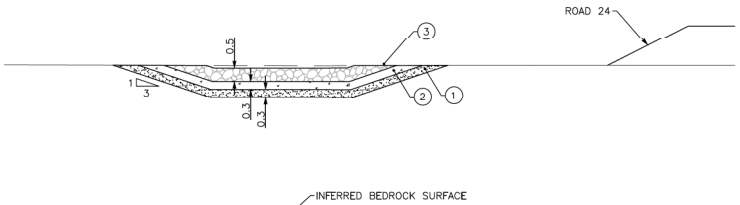
SCALE: 1:100



CH. 0+700
SCALE: 1:100



CH. 0+900
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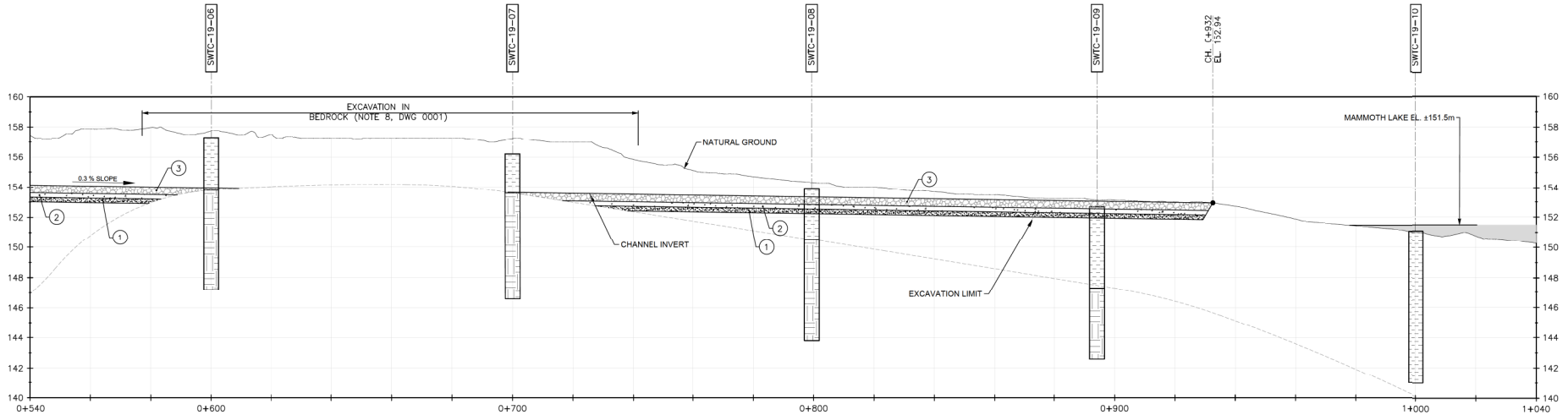

SOUTH WHALE TAIL DIVERSION CHANNEL - PROFILE
SCALE HOR. 1: 750
VER. 1: 150

LEGEND FOR FILL MATERIAL

1 FINE FILTER
2 COARSE FILTER
3 RIP RAP (100-300 mm)
4 ROCKFILL

ISSUE No	REV.	DATE (Y/M/D)	PURPOSE OF ISSUE
03	00	2020-01-16	ISSUED FOR CONSTRUCTION
02	PB	2019-11-18	ISSUED FOR CLIENT REVIEW
01	PA	2019-11-14	ISSUED FOR INTERNAL REVIEW

ISSUE REGISTER

ISSUE No	REV.	DATE (Y/M/D)	PURPOSE OF ISSUE

ISSUE REGISTER

No	REVISION DESCRIPTION	DATE (Y/M/D)	*	**

INITIALS: * DESIGNED ** APPROVED

REVISION REGISTER

No	
02	AMQ BATHY CL1M MD
01	644819-SITE AMARUQ - 2019-02-07_REV2

REFERENCE DRAWINGS

PROFESSIONAL SEAL

REGISTERED PROFESSIONAL ENGINEER
A. A. ARBAIZA CULLMAN
LICENSEE
2020-01-17
NT/NU

PERMIT TO PRACTICE
SNC-LAVALIN INC.
Signature
Date 2020-01-17
PERMIT NUMBER: P 260
The Association of Professional Engineers, Geologists and Geophysicists of NWT/NU

REGISTERED PROFESSIONAL ENGINEER
D-Y JALBERT
LICENSEE
2020-01-17
NT/NU

SNC·LAVALIN
Mining & Metallurgy
5500, des Gouverneurs Blvd., bur. 200, Quebec (Quebec), Canada G2K 2C2
Telephone: (418) 621-5500, fax: (418) 621-8687

PREPARATION	APPROVAL
DESIGNED: A. ARBAIZA, P. ENG.	PROJECT DISCIPLINE ENGINEER
DRAWN: D. LAN	PROJECT ENGINEERING MANAGER: A. ARBAIZA, P. ENG.
CHECKED: Y. JALBERT, P. ENG.	CLIENT
DATE: 2020-01-16	
SCALE: AS SHOWN	

CLIENT: AGNICO EAGLE

PROJECT: AGNICO EAGLE – MEADOWBANK DIVISION
WHALE TAIL PIT

TITLE: SOUTH WHALE TAIL DIVERSION CHANNEL
PROFILE AND SECTIONS 0+600 TO 0+900

PROJECT No	SUBDIVISION	SUBJECT	SERIAL	REV.
669635	2000	4G DD	0004	00

A1-HOR-FRAME-EN (SI)

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NO. DESSIN DRAWING NO. 61-695-210-200

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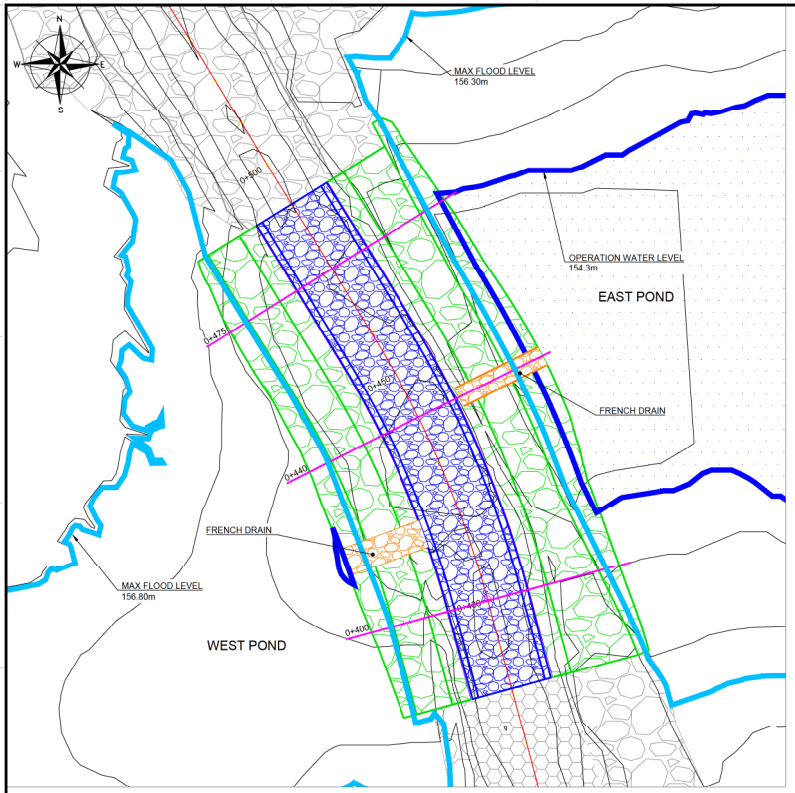
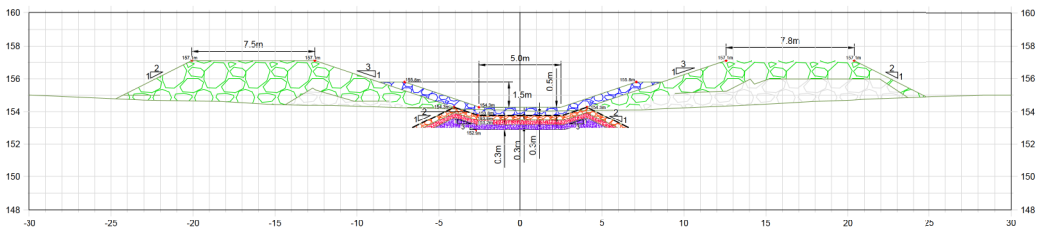


PLAN
SCALE = 1:500

0 10 20 30m
SCALE= 1:500



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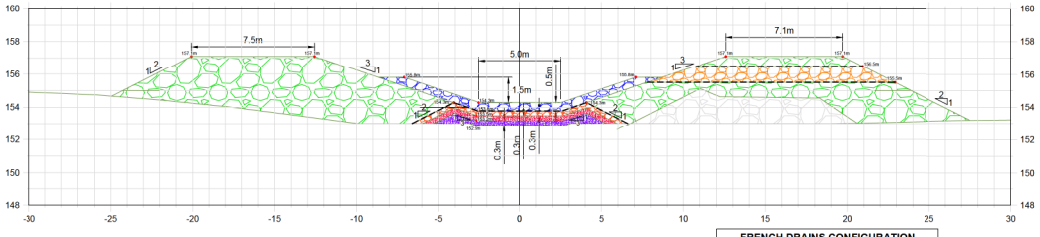
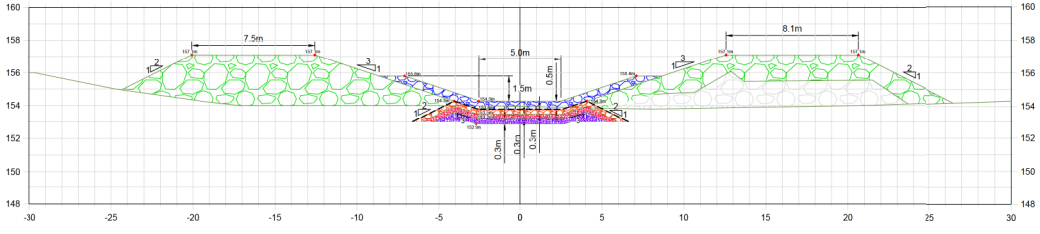


SECTION - 0+440
SCALE =1:150

FRENCH DRAINS CONFIGURATION		
PARAMETERS	EAST POND	WEST POND
LOCATION	0+440	0+417
CLEAR ROCKFILL K (m/s)	0.1	0.1
BOTTOM EL. (m)	155.5	155.5
TOP EL. (m)	156.5	156.8
HEIGHT (m)	1.0	1.3
BOTTOM WIDTH (m)	4.0	6.5
SIDE SLOPES	1H : 1V	1H : 1V



SECTION - 0+475
SCALE =1:150

0 3 6 9m
SCALE= 1:150

PERMIT TO PRACTICE
SNC-LAVALIN INC.
Signature NAME
Date DATE 06-05-2020
PERMIT NUMBER: P 260
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

PLAN CLÉ
KEY PLAN

SNC·LAVALIN
Mining & Metallurgy
5500, des Galeries Blvd., bur. 200, Québec (Québec), Canada G2K 2E2
Telephone: (418) 621-5500, Fax: (418) 621-8887

PROJECT No	SUBDIVISION	SUBJECT		SERIAL	REV.
667648	2000	4G	DD	0001	00

NOTES GÉNÉRALES / GENERAL NOTES

NOTES:

1. ROCKFILL BERM WIDTH MAY BE ADAPTED TO FIELD CONDITIONS AND ROCKILL IN PLACE FROM DRILL AND BLAST ACCESS.
2. ALL MODIFICATIONS OR CHANGES DURING CONSTRUCTION TO THE DESIGN OF THE SWTDC-LA45S WILL BE DOCUMENTED IN THE AS-BUILT CONSTRUCTION REPORT OF THE SWTDC, INCLUDING THE CONSTRUCTION OF THE SWTDC-LA45S

LEGEND :

- D&B BACKFILL
- ESKER
- FINE FILTER
- COARSE FILTER
- ROCKFILL
- RIP RAP
- BOULDERS
- GEOTEXTILE

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DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG

AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
00	2020-05-05	ISSUED FOR CONSTRUCTION	M.T.	H.B.	

REVISIONS

TITRE / TITLE
AGNICO EAGLE – AMARUQ DIVISION
WHALE TAIL PIT
SOUTH WHALE TAIL DIVERSION CHANNEL
LAKE A45 SECTION
PLAN VIEWS AND TYPICAL SECTIONS

DESSINÉ PAR DRAWN BY	M. SYKES	DATE 2020-05-05
VÉRIFIÉ PAR CHECKED BY	M. TOMA	2020-05-05
APPROUVÉ PAR APPROVED BY	H. BABA	2020-05-05
ÉCHELLE SCALE	AS SHOWN	DATE 2020-05-05

NO. DESSIN DRAWING NO. 61-695-210-200

NO. PROJET PROJECT NO.	REVISION	FEUILLE / SHT
6127	00	1 / 1

AE-CART-ARCH D

FILE NO. .DWG

Appendix C2

IFC Drawings for Road 24

NO. DESSIN DRAWING NO. 61-417-230-254

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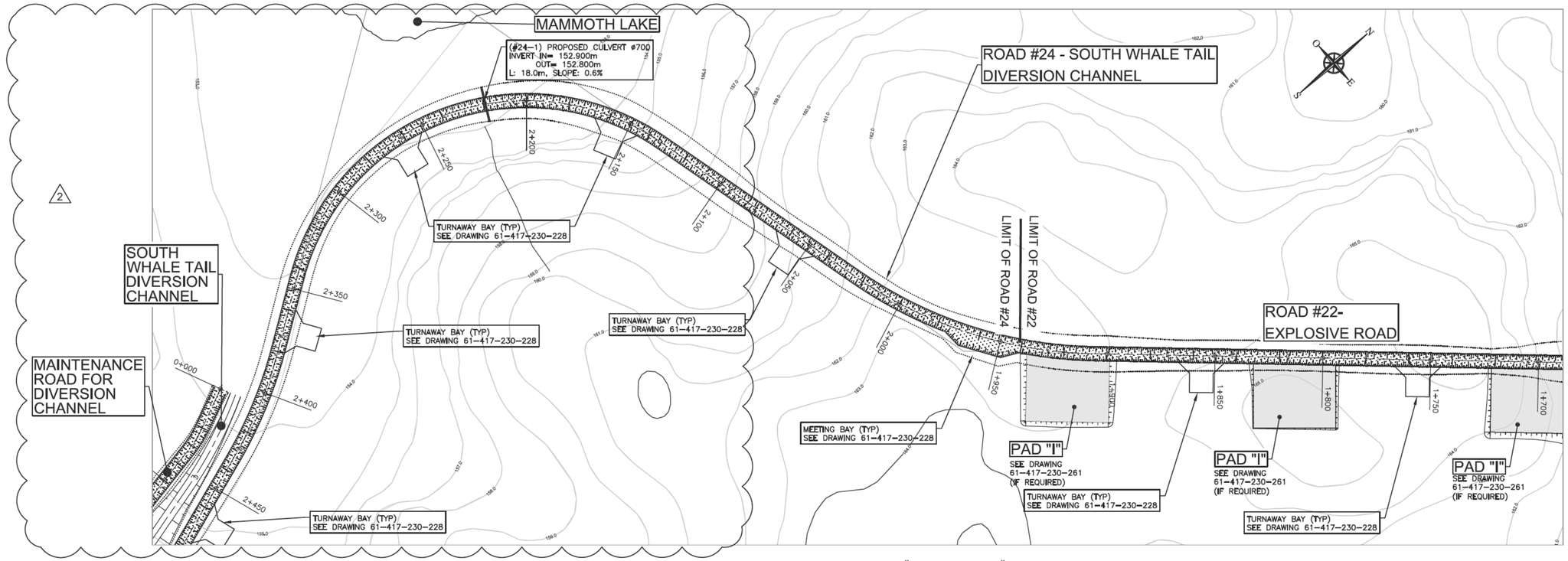
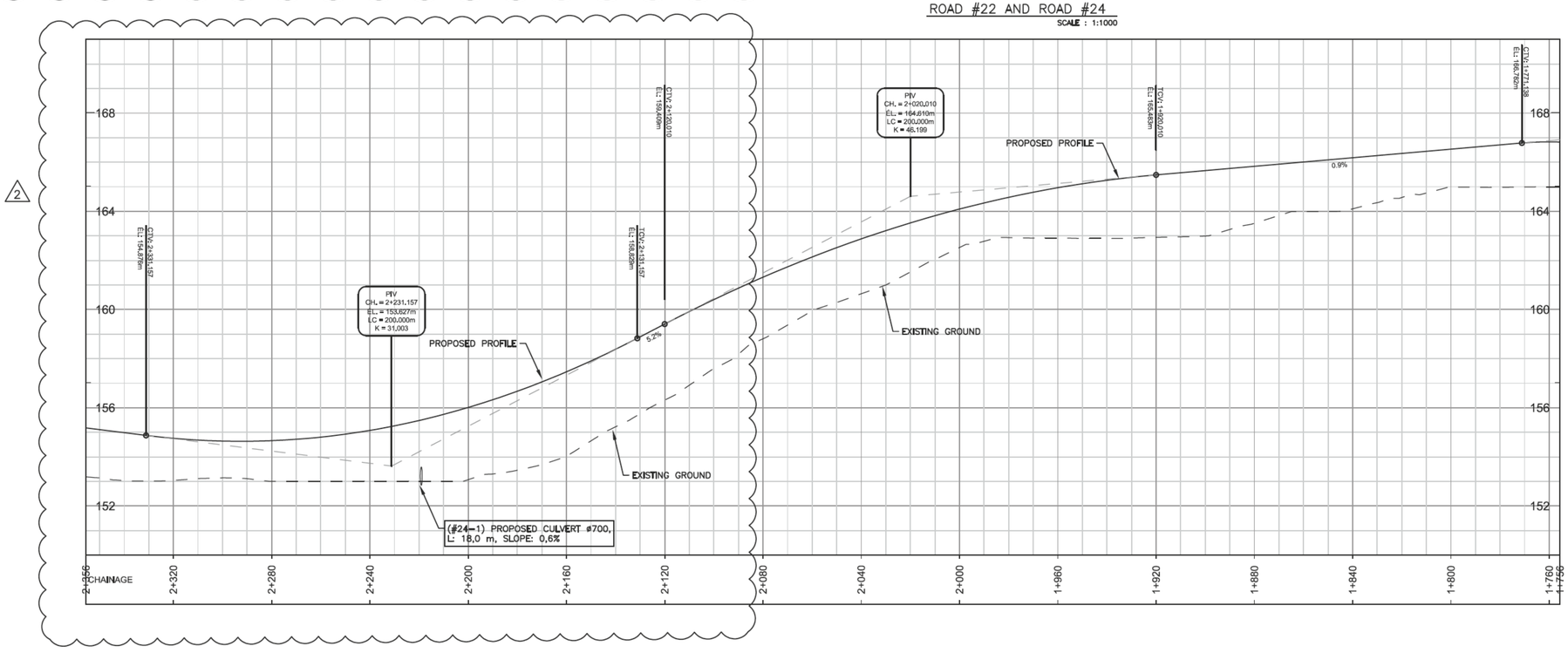
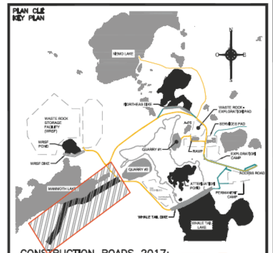


ROAD #22 AND ROAD #24

SCALE : 1:1000



PLAN CLE
KEY PLAN



CONSTRUCTION ROADS 2017:
CONSTRUCTION ROADS 2018:

NOTES GÉNÉRALES / GENERAL NOTES

POUR CONSTRUCTION
FOR CONSTRUCTION
AGNICO EAGLE
DATE : 2019-07-22

SNC-LAVALIN

SNC-Lavalin Stavibel Inc.
150, rue Gamble Ouest
Rouyn-Noranda (Québec) J9X 2R7
Tél.: 819 764-3181 Fax: 819 797-0158
www.snclavalin.com

Project # : 644819-0000

L'UTILISATION D'UNE QUELCONQUE PARTIE DE CE PLAN SANS LE CONSENTEMENT ÉCRIT DE SNC-LAVALIN INC. ET AGNICO EAGLE MINES LTÉE, LES DÉCLINE DE TOUTE RESPONSABILITÉ À CET ÉGARD ET DONNE DROIT À SNC-LAVALIN INC. ET AGNICO EAGLE MINES LTÉE À UNE COMPENSATION POUR TOUS DOMMAGES DIRECTS OU INDIRECTS QUI POURRAIENT EN RÉSULTER. © AGNICO EAGLE LTÉE.

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DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
TURN AWAY / MEETING BAY	61-417-230-228
EMULSION STORAGE PAD	61-417-230-262
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
2	2019-07-22	ISSUED FOR CONSTRUCTION	D.D.	R.M.	E.T.
1	2019-03-06	ISSUED FOR CONSTRUCTION	F.P.	R.M.	E.T.
0	2018-06-04	ISSUED FOR CONSTRUCTION	D.D.	G.M.	E.T.

REVISIONS

TITRE / TITLE

AGNICO EAGLE – WHALE TAIL (AMARUQ)
417 – ROADS, YARDS, FENCES AND OTHER
230 – GENERAL EARTH WORKS
PLAN & PROFILE
ROAD #22 AND #24 – SOUTH WHALE TAIL DIVERSION CHANNEL
1+800 @ 2+400

DESSINÉ PAR DRAWN BY	DANIELLE DESCÔTEAUX, T.P	DATE 2018-06-04
VÉRIFIÉ PAR CHECKED BY	RICHARD MARCOUX, ING.	2019-02-20
APPROUVÉ PAR APPROVED BY	RICHARD MARCOUX, ING.	2019-02-20

ÉCHELLE SCALE 1:1000/1:100 DATE 2018-06-04

NO. DESSIN DRAWING NO. 61-417-230-254

NO. PROJET PROJECT NO.	RÉVISION	FEUILLE / SHT
6115	2	1 / 1

AE-CANT-ARCH D

NO. DESSIN DRAWING NO. 61-417-230-255

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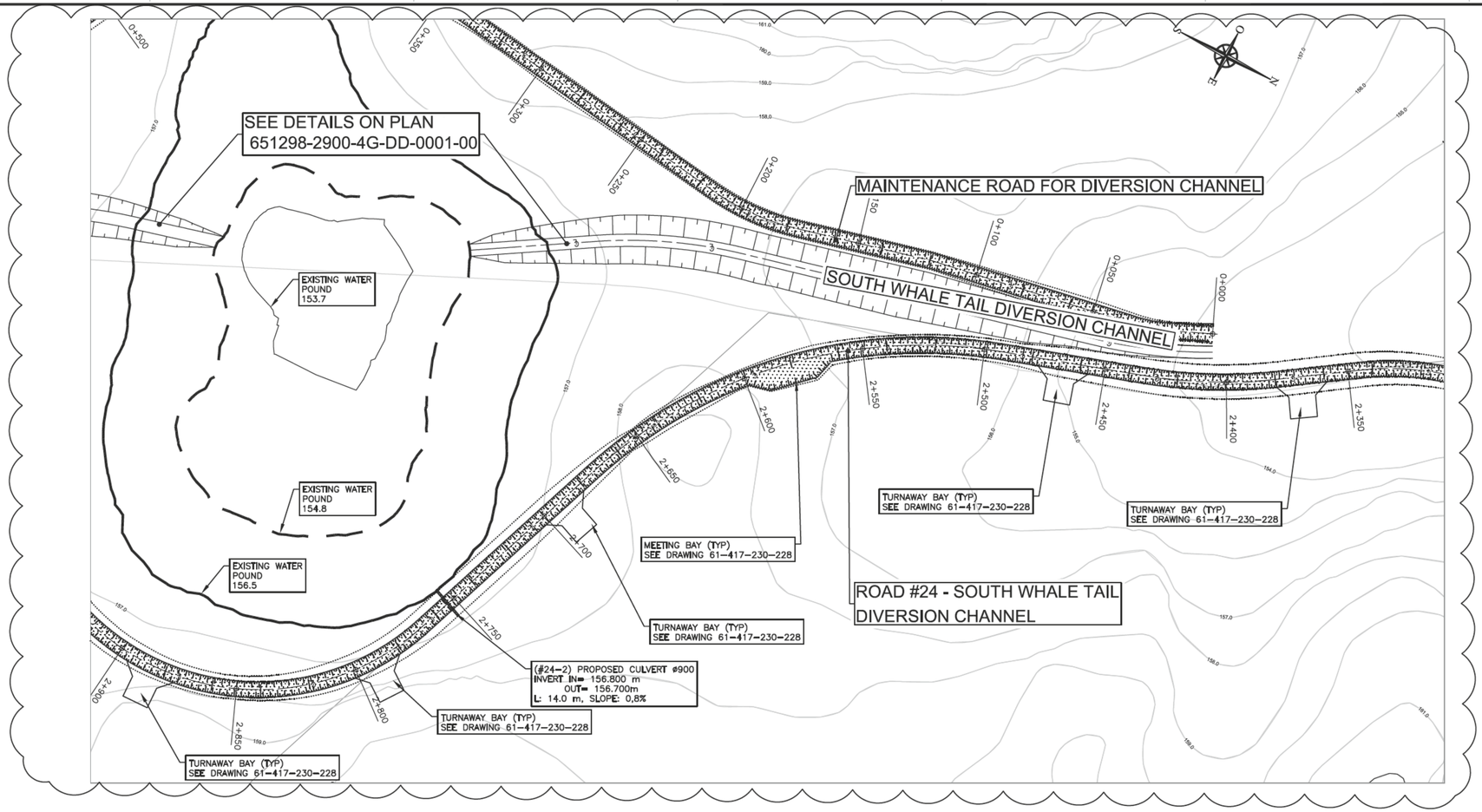
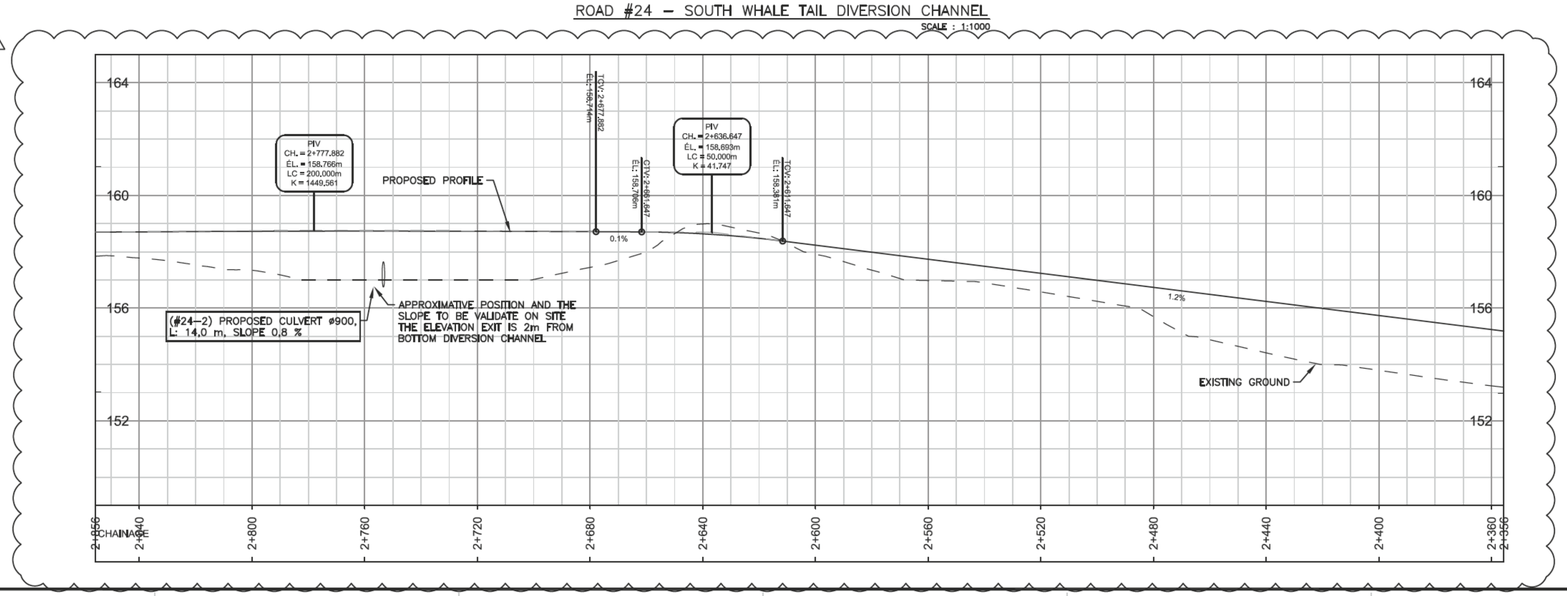
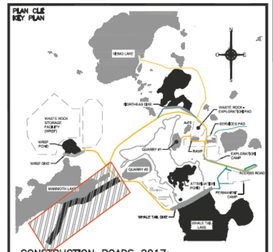


ROAD #24 – SOUTH WHALE TAIL DIVERSION CHANNEL

SCALE : 1:1000



PLAN CLÉ
KEY PLAN



CONSTRUCTION ROADS 2017:
CONSTRUCTION ROADS 2018:

NOTES GÉNÉRALES / GENERAL NOTES

POUR CONSTRUCTION
FOR CONSTRUCTION
AGNICO EAGLE
DATE : 2019-07-22

SNC·LAVALIN

SNC-Lavalin Stavibel Inc.
150, rue Gamble Ouest
Rouyn-Noranda (Québec) J9X 2R7
Tel.: 819 764-5181 Fax: 819 797-0158
www.snclavalin.com

Project # : 644819-0000

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
TURN AWAY / MEETING BAY	61-417-230-228
EMULSION STORAGE PAD	61-417-230-262
–	–
–	–
–	–
–	–

AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
2	2019-07-22	ISSUED FOR CONSTRUCTION	D.D.	R.M.	E.T.
1	2019-03-08	ISSUED FOR CONSTRUCTION	F.P.	R.M.	E.T.
0	2018-06-04	ISSUED FOR CONSTRUCTION	D.D.	G.M.	E.T.

REVISIONS

TITRE / TITLE
AGNICO EAGLE – WHALE TAIL (AMARUQ)
417 – ROADS, YARDS, FENCES AND OTHER
230 – GENERAL EARTH WORKS
PLAN & PROFILE
ROAD #24 – SOUTH WHALE TAIL DIVERSION CHANNEL
2+400 @ 2+900

DESSINÉ PAR DRAWN BY	DANIELLE DESCÔTEAUX, T.P	DATE 2018-06-04
VÉRIFIÉ PAR CHECKED BY	RICHARD MARCOUX, ING.	2019-02-20
APPROUVÉ PAR APPROVED BY	RICHARD MARCOUX, ING.	2019-02-20
ÉCHELLE SCALE	1:1000/1:100	DATE 2018-06-04

NO. DESSIN DRAWING NO. 61-417-230-255

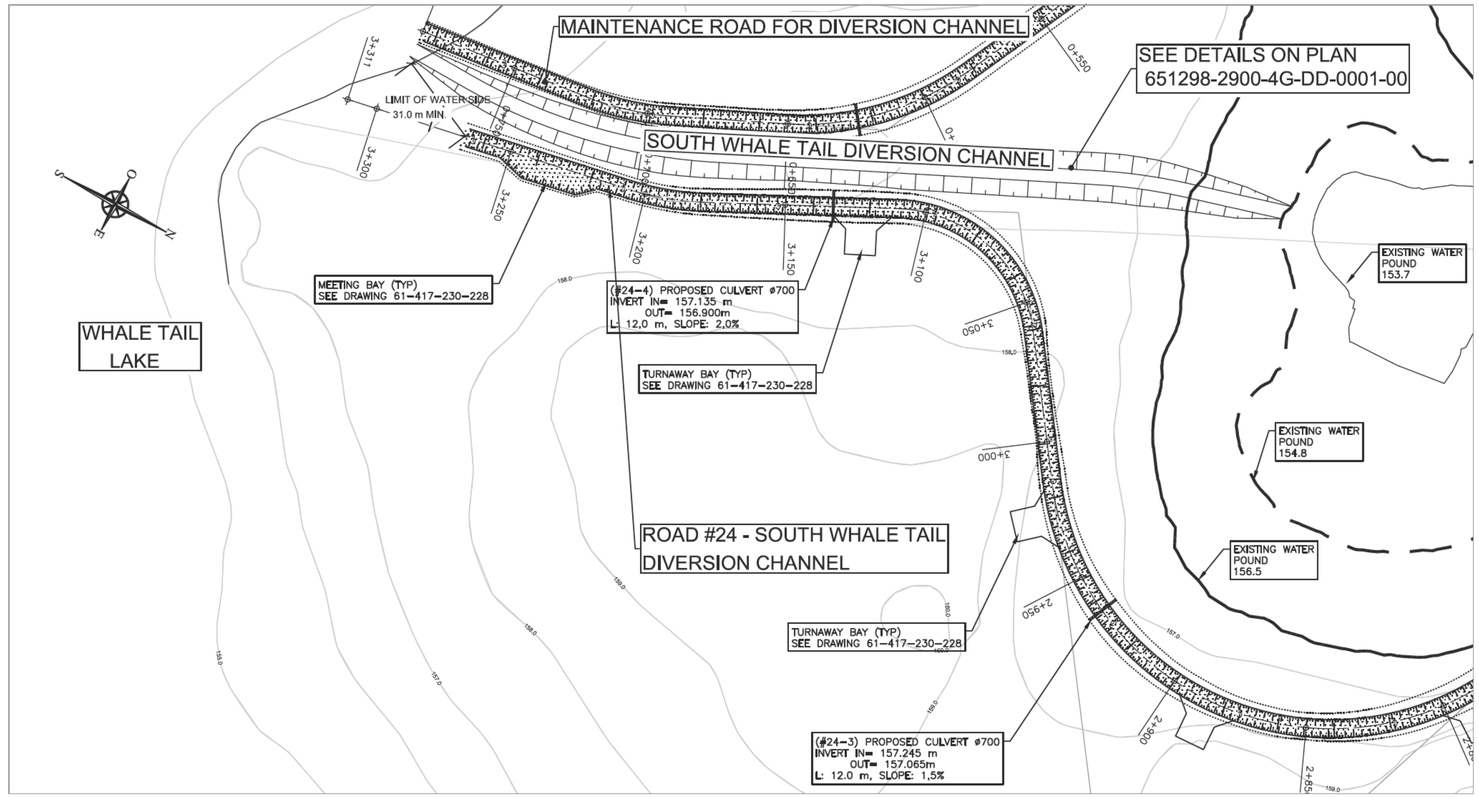
NO. PROJET PROJECT NO.	REVISION	FEUILLE / SHT
6115	2	1 / 1

AE-CART-ARCH D

NO. DESSIN
DRAWING NO. 61–417–230–256

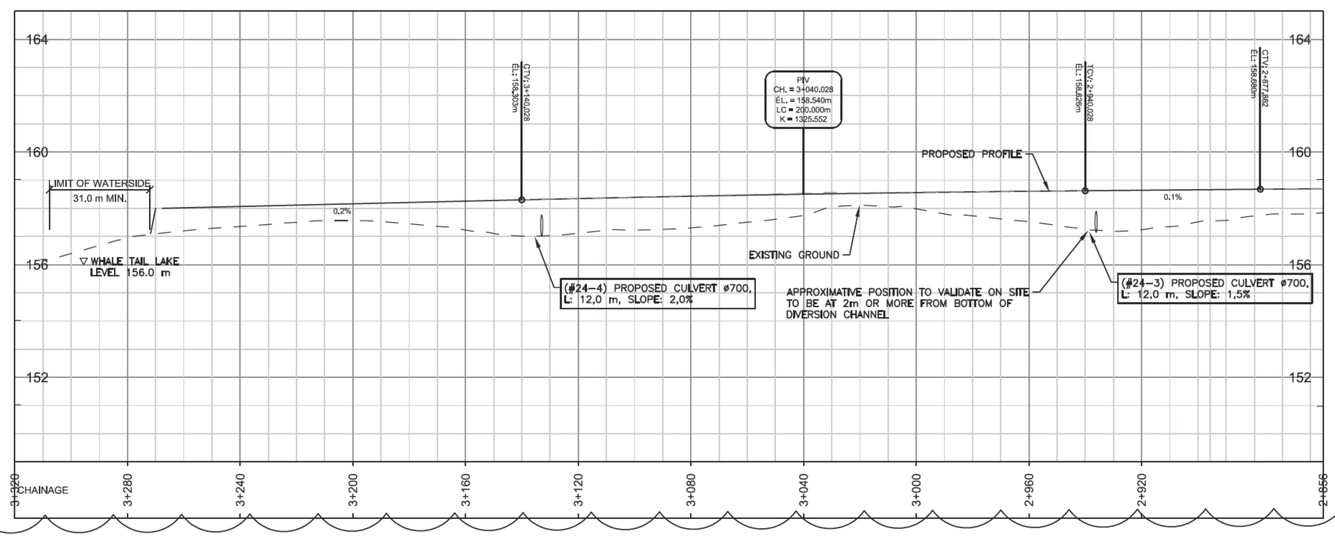
FORMAT ARCHD

3

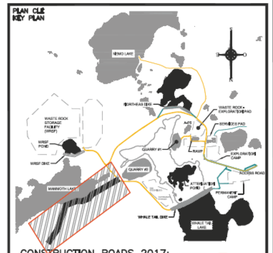


ROAD #24– SOUTH WHALE TAIL DIVERSION CHANNEL

SCALE : 1:1000



PLAN CLE
KEY PLAN



CONSTRUCTION ROADS 2017:
CONSTRUCTION ROADS 2018:

NOTES GÉNÉRALES / GENERAL NOTES

POUR CONSTRUCTION
FOR CONSTRUCTION
AGNICO EAGLE
DATE : 2019-07-22

SNC·LAVALIN
SNC-Lavalin Stavibel Inc.
150, rue Gamble Ouest
Rouyn-Noranda (Québec) J9X 2R7
Tel.: 819 764-3181 Fax: 819 797-0158
www.snclavalin.com

Project # : 644819-0000

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DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
TURN AWAY / MEETING BAY	61–417–230–228
EMULSION STORAGE PAD	61–417–230–262
EMULSION STORAGE PAD	61–417–230–262
SOUTH WHALE TAILE DIVERSION CHANNEL	651298–2500–4GDD–0012
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
3	2019–07–22	ISSUED FOR CONSTRUCTION	D.D.	R.M.	E.T.
2	2019–04–02	ISSUED FOR CONSTRUCTION	F.P.	R.M.	E.T.
1	2019–03–08	ISSUED FOR CONSTRUCTION	F.P.	R.M.	E.T.
0	2018–06–04	ISSUED FOR CONSTRUCTION	D.D.	G.M.	E.T.

REVISIONS

TITRE / TITLE
AGNICO EAGLE – WHALE TAIL (AMARUQ)
417 – ROADS, YARDS, FENCES AND OTHER
230 – GENERAL EARTH WORKS
PLAN & PROFILE
ROAD #24 – SOUTH WHALE TAIL DIVERSION CHANNEL
2+900 @ 3+133

DESSINÉ PAR / DRAWN BY	DANIELLE DESCÔTEAUX, T.P	DATE 2018–06–04
VÉRIFIÉ PAR / CHECKED BY	GILLES MARCOTTE, ING.	2018–06–04
APPROUVÉ PAR / APPROVED BY	GILLES MARCOTTE, ING.	2018–06–04

ÉCHELLE / SCALE 1:1000/1:100 | DATE 2018–06–04

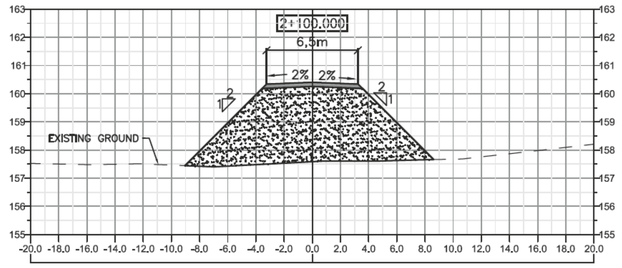
NO. DESSIN / DRAWING NO. 61–417–230–256

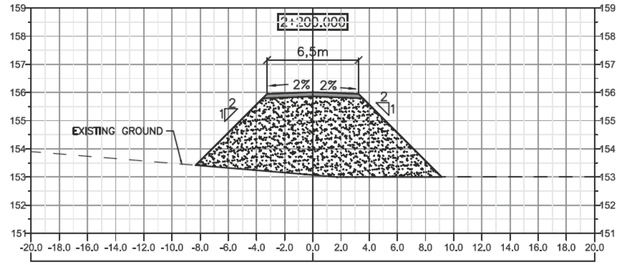
NO. PROJET / PROJECT NO.	REVISION	FEUILLE / SHT
6115	3	1 / 1

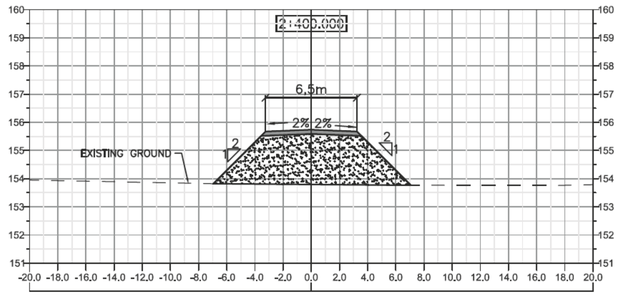
AE–CAVE–ARCH D

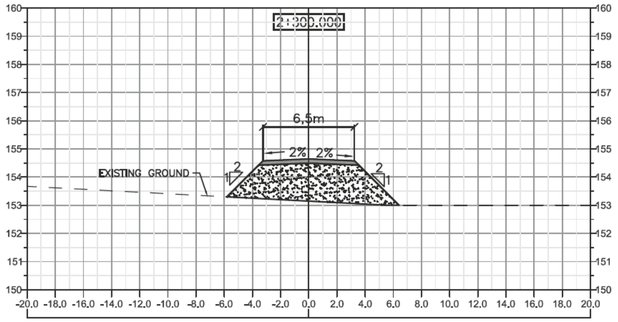
NO. DESSIN DRAWING NO. 61-417-230-259

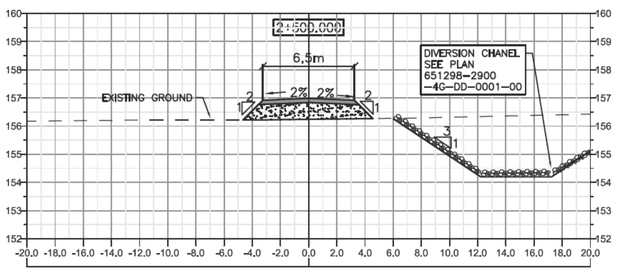
FORMAT ARCHD

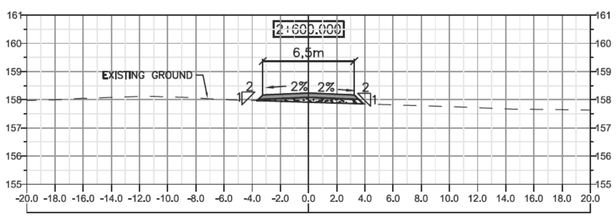












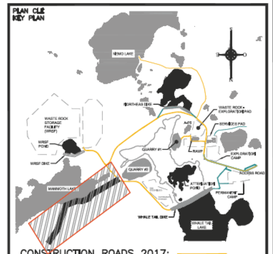
NOTE:

WIDTH OF ROAD #22 AND #23 = 6.5 m
EACH WAY = 3.25 m

LEGEND:

- CRUSHED STONES 0-50, THICKNESS 150mm, COMPACTED TO 95% P.M.
- BACKFILL- ESKER MATERIALS, MAX ø 0-150 mm, MIN. THICKNESS 600 mm, COMPACTED TO 92% P.M.
- EXCAVATION

PLAN CLÉ
KEY PLAN



CONSTRUCTION ROADS 2017:
CONSTRUCTION ROADS 2018:

NOTES GÉNÉRALES / GENERAL NOTES

POUR CONSTRUCTION
FOR CONSTRUCTION
AGNICO EAGLE
DATE : 2019-07-22

SNC·LAVALIN
SNC-Lavalin Stavibel Inc.
150, rue Gamble Ouest
Rouyn-Noranda (Québec) J9X 2R7
Tel.: 819 764-5181 Fax : 819 797-0158
www.snclavalin.com

Project # : 644819-0000

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DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
TURN AWAY / MEETING BAY	61-417-230-228
EMULSION STORAGE PAD	61-417-230-262
–	–
–	–
–	–
–	–

AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
2	2019-07-22	ISSUED FOR CONSTRUCTION	D.D.	R.M.	E.T.
1	2019-03-08	ISSUE FOR CONSTRUCTION	F.P.	R.M.	E.T.
0	2018-06-04	ISSUED FOR CONSTRUCTION	D.D.	G.M.	E.T.

REVISIONS

TITRE / TITLE
AGNICO EAGLE – WHALE TAIL (AMARUQ)
417 – ROADS, YARDS, FENCES AND OTHER
230 – GENERAL EARTH WORKS
CROSS SECTIONS
ROAD #22 AND #24 – SOUTH WHALE TAIL DIVERSION CHANNEL
1+800 @ 2+600

DESSINÉ PAR DRAWN BY	DANIELLE DESCÔTEAUX, T.P	DATE 2018-06-04
VÉRIFIÉ PAR CHECKED BY	GILLES MARCOTTE, ING.	2018-06-04
APPROUVÉ PAR APPROVED BY	GILLES MARCOTTE, ING.	2018-06-04
ÉCHELLE SCALE	1:200/1:100	DATE 2018-06-04

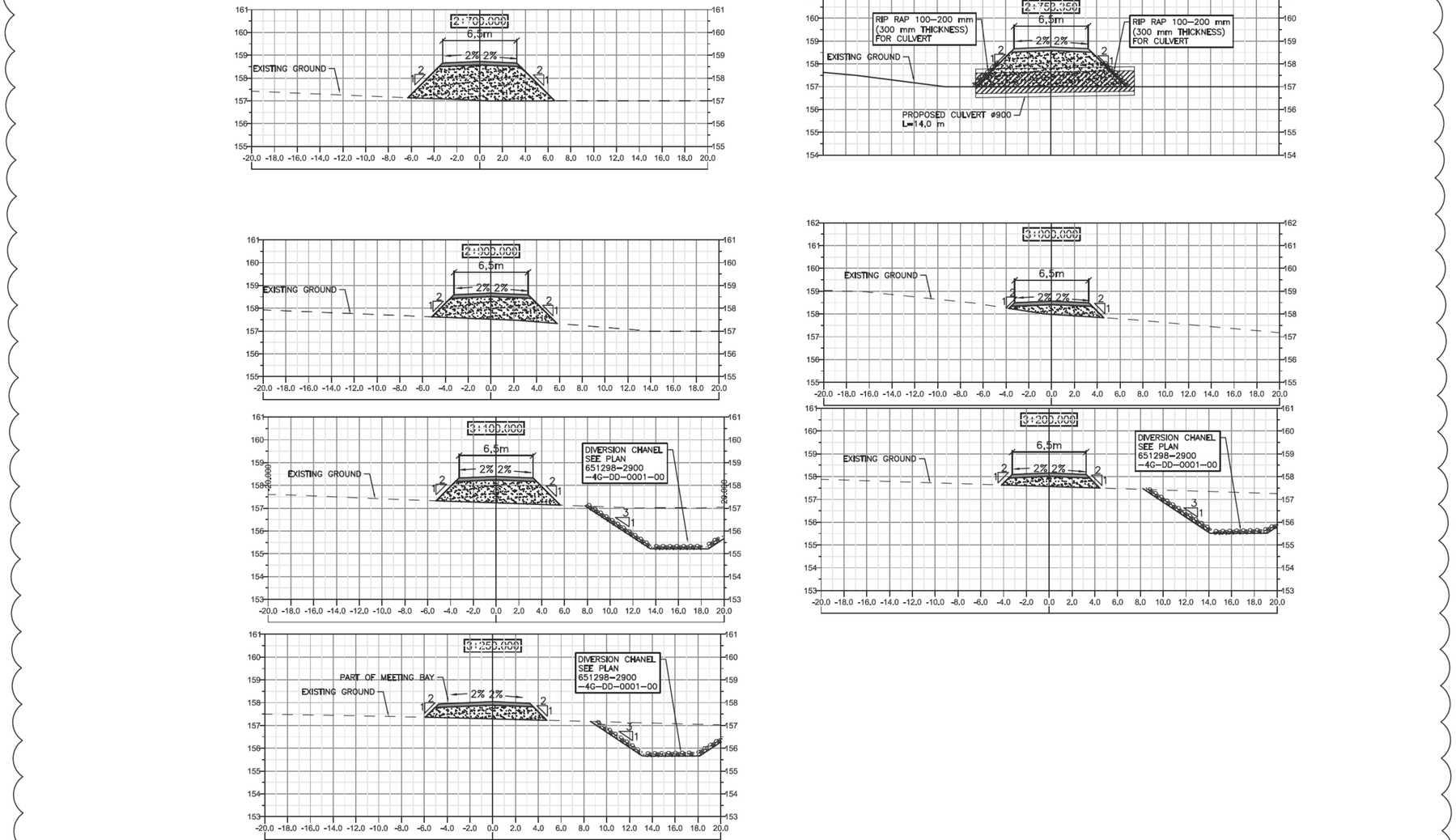
NO. DESSIN DRAWING NO. 61-417-230-259

NO. PROJET PROJECT NO.	REVISION	FEUILLE / SHT
6115	2	1/1

AE-CART-ARCH D

NO. DESSIN
DRAWING NO. 61-417-230-260

FORMAT ARCH D



NOTE:

WIDTH OF ROAD #22 AND #23 = 6.5 m
EACH WAY = 3.25 m

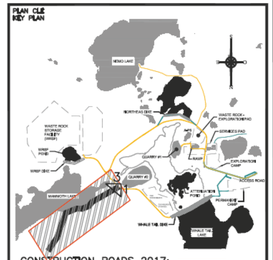
LEGEND:

CRUSHED STONES 0-50, THICKNESS 150mm, COMPACTED TO 95% P.M.

BACKFILL- ESKER MATERIALS, MAX ø 0-150 mm, MIN. THICKNESS 600 mm, COMPACTED TO 92% P.M.

EXCAVATION

PLAN CLE
KEY PLAN



CONSTRUCTION ROADS 2017:
CONSTRUCTION ROADS 2018:

NOTES GÉNÉRALES / GENERAL NOTES

POUR CONSTRUCTION
FOR CONSTRUCTION
AGNICO EAGLE
DATE : 2019-07-22

SNC-LAVALIN
SNC-Lavalin Stavibel Inc.
150, rue Gamble Ouest
Rouyn-Noranda (Québec) J9X 2R7
Tél.: 819 764-5181 Fax.: 819 797-0158
www.snclstavibel.com

Project # : 644819-0000

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DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
TOWN AREA / MEETING BAY	61-417-230-2228
EXPLOSIVE STORAGE PAD	61-417-230-262
SOUTH WHALE TAIL DIVERSION CHANNEL	651298-2900-4600-0012
-	-
-	-
-	-

AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
2	2019-07-22	ISSUED FOR CONSTRUCTION	D.D.	R.M.	E.T.
1	2019-04-02	ISSUED FOR CONSTRUCTION	F.P.	R.M.	E.T.
0	2018-06-04	ISSUED FOR CONSTRUCTION	D.D.	G.M.	E.T.

REVISIONS

TITRE / TITLE
AGNICO EAGLE - WHALE TAIL (AMARUQ)
417 - ROADS, YARDS, FENCES AND OTHER
230 - GENERAL EARTH WORKS
CROSS SECTIONS
ROAD #24 - SOUTH WHALE TAIL DIVERSION CHANNEL
2+670 @ 3+080

DESSINÉ PAR / DRAWN BY	DANIELLE DESCÔTEAUX, T.P	DATE 2018-06-04
VÉRIFIÉ PAR / CHECKED BY	GILLES MARCOTTE, ING.	2018-06-04
APPROUVÉ PAR / APPROVED BY	GILLES MARCOTTE, ING.	2018-06-04

ÉCHELLE / SCALE 1:200/1:100 | DATE 2018-06-04

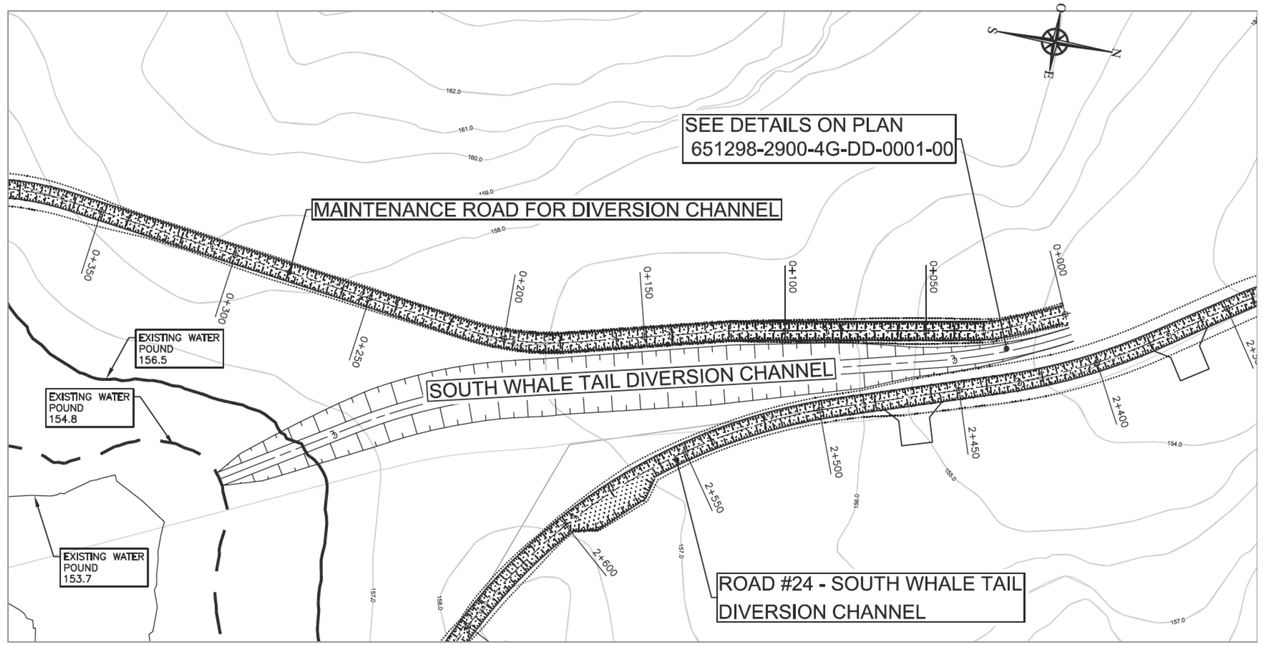
NO. DESSIN / DRAWING NO. 61-417-230-260

NO. PROJET / PROJECT NO. 6115 | REVISION 2 | FEUILLE / SHT 1/1

AE-CAVE-ARCH D

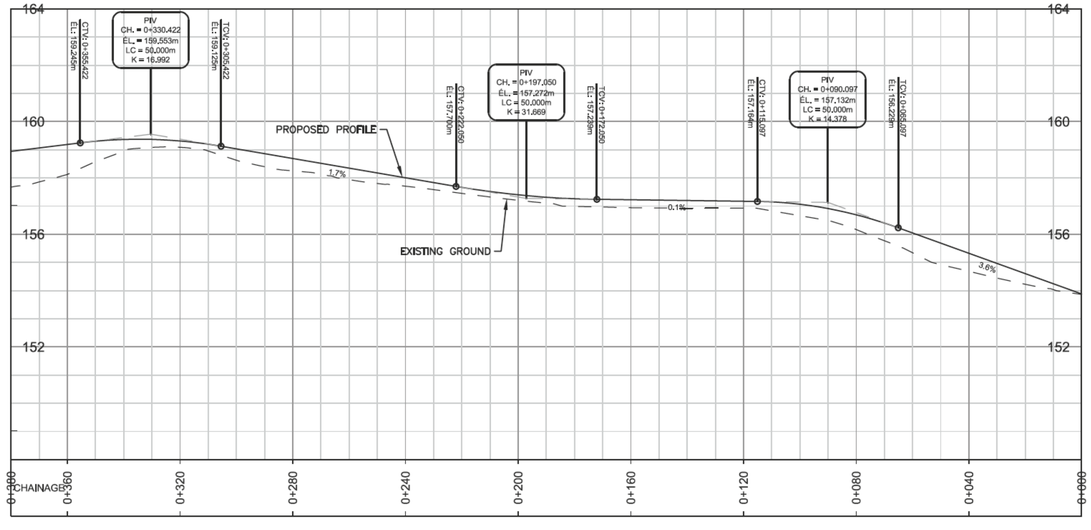
NO. DESSIN DRAWING NO. 61-417-230-272

FORMAT ARCHD

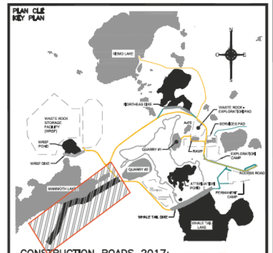


MAINTENANCE ROAD – SOUTH WHALE TAIL DIVERSION CHANNEL

SCALE : 1:1000



PLAN CLÉ
KEY PLAN



CONSTRUCTION ROADS 2017:
CONSTRUCTION ROADS 2018:

NOTES GÉNÉRALES / GENERAL NOTES

POUR CONSTRUCTION
FOR CONSTRUCTION
AGNICO EAGLE
DATE : 2019-07-22

SNC·LAVALIN
SNC-Lavalin Stavibel Inc.
150, rue Gamble Ouest
Rouyn-Noranda (Québec) J9X 2R7
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Project # : 644819-0000

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DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
TURN AWAY / MEETING BAY	61-417-230-228
EMULSION STORAGE PAD	61-417-230-262
–	–
–	–
–	–
–	–

AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
0	2019-07-22	ISSUED FOR CONSTRUCTION	D.D.	G.M.	E.T.

REVISIONS

TITRE / TITLE
AGNICO EAGLE – WHALE TAIL (AMARUQ)
417 – ROADS, YARDS, FENCES AND OTHER
230 – GENERAL EARTH WORKS
PLAN & PROFILE
ROAD #24 – SOUTH WHALE TAIL DIVERSION CHANNEL
0+000@ 0+380

DESSINÉ PAR DRAWN BY	DANIELLE DESCÔTEAUX, T.P	DATE 2019-07-22
VÉRIFIÉ PAR CHECKED BY	RICHARD MARCOUX, ING.	2019-07-22
APPROUVÉ PAR APPROVED BY	RICHARD MARCOUX, ING.	2019-07-22
ÉCHELLE SCALE	1:1000/1:100	DATE 2019-07-22

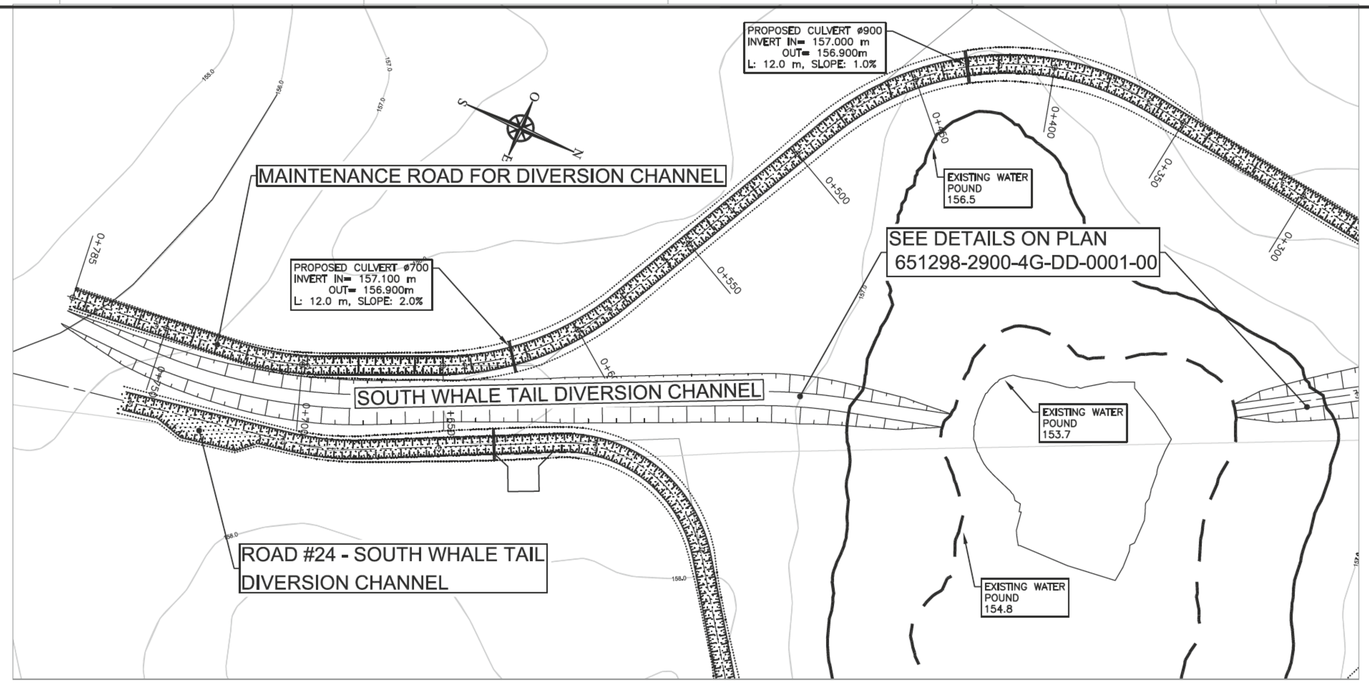
NO. DESSIN DRAWING NO. 61-417-230-272

NO. PROJET PROJECT NO.	REVISION	FEUILLE / SHT
6115	0	1/1

AE-CART-ARCH D

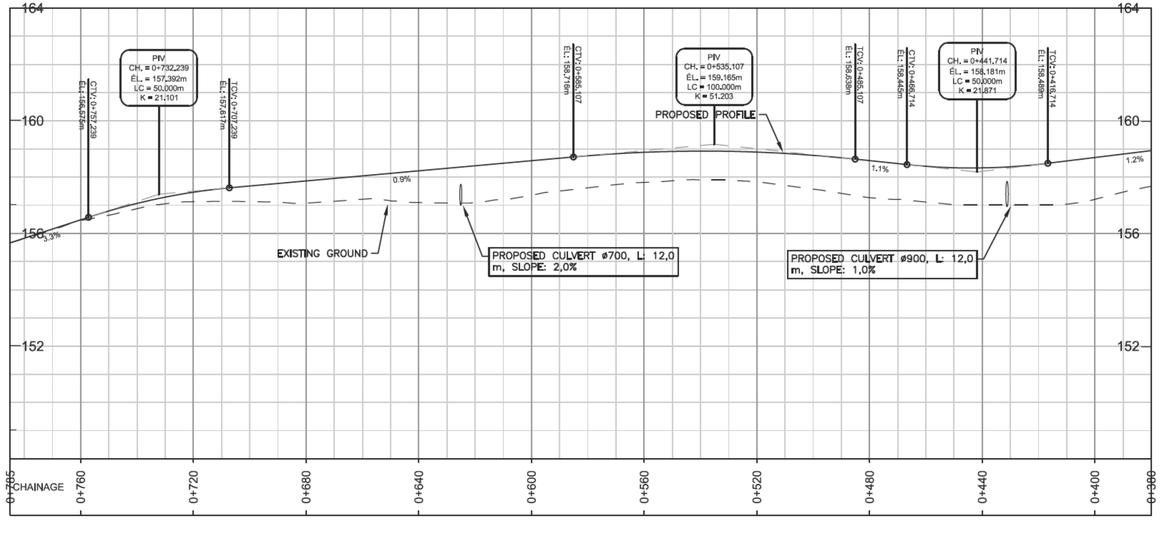
NO. DESSIN DRAWING NO. 61-417-230-273

FORMAT ARCHD

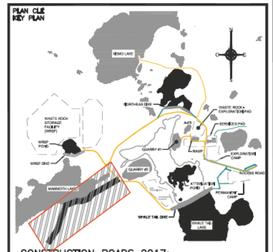


MAINTENANCE ROAD – SOUTH WHALE TAIL DIVERSION CHANNEL

SCALE : 1:1000



PLAN CLÉ
KEY PLAN



CONSTRUCTION ROADS 2017:
CONSTRUCTION ROADS 2018:

NOTES GÉNÉRALES / GENERAL NOTES

POUR CONSTRUCTION
FOR CONSTRUCTION
AGNICO EAGLE
DATE : 2019-07-22

SNC·LAVALIN

SNC-Lavalin Stavibel Inc.
150, rue Gamble Ouest
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Tel. : 819 764-5181 Fax : 819 797-0158
www.snclavalin.com

Project # : 644819-0000

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
TURN AWAY / MEETING BAY	61-417-230-228
EMULSION STORAGE PAD	61-417-230-262
–	–
–	–
–	–
–	–

AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
0	2019-07-22	ISSUED FOR CONSTRUCTION	D.D.	G.M.	E.T.

REVISIONS

TITRE / TITLE
AGNICO EAGLE – WHALE TAIL (AMARUQ)
417 – ROADS, YARDS, FENCES AND OTHER
230 – GENERAL EARTH WORKS
PLAN & PROFILE
ROAD #24 – SOUTH WHALE TAIL DIVERSION CHANNEL
0+380 @ 0+785

DESSINÉ PAR DRAWN BY	DANIELLE DESCÔTEAUX, T.P	DATE 2019-07-22
VÉRIFIÉ PAR CHECKED BY	RICHARD MARCOUX, ING.	2019-07-22
APPROUVÉ PAR APPROVED BY	RICHARD MARCOUX, ING.	2019-07-22
ÉCHELLE SCALE	1:1000/1:100	DATE 2019-07-22

NO. DESSIN DRAWING NO. 61-417-230-273

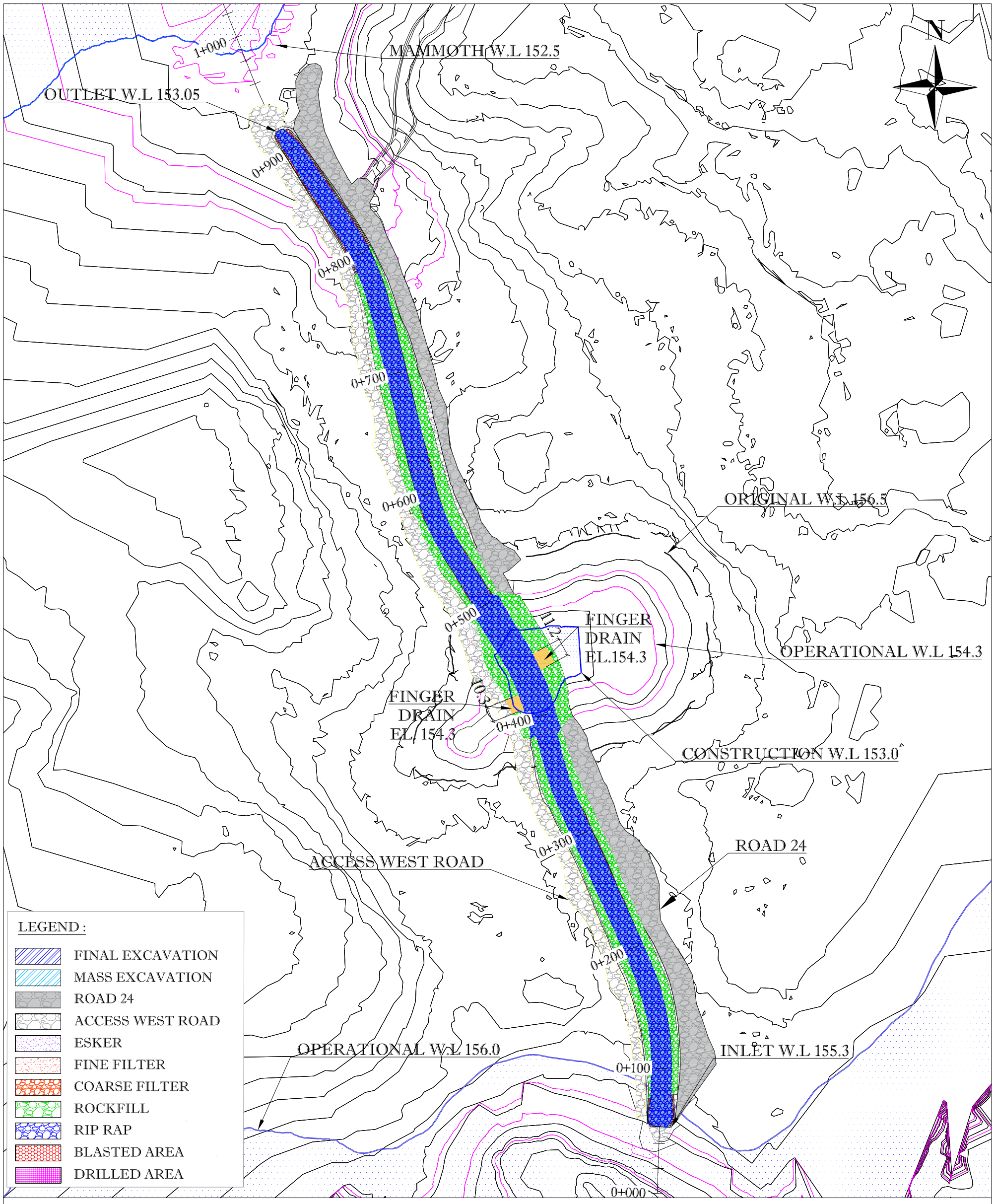
NO. PROJET PROJECT NO.	REVISION	FEUILLE / SHT
6115	0	1/1

AE-CART-ARCH D

Appendix C3

As Built Drawings

FINAL QUANTITY
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



VOLUMETRY DETAIL

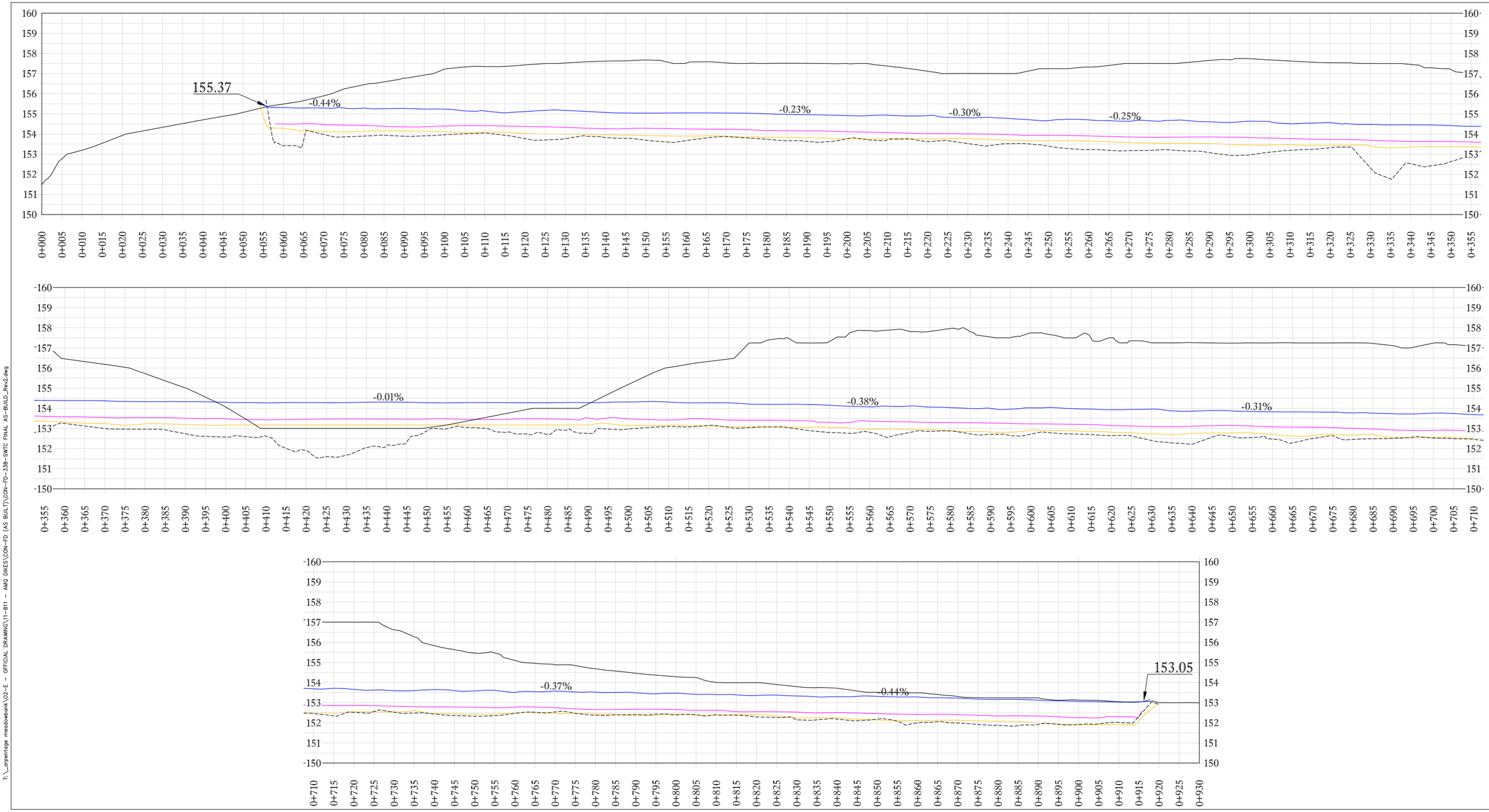
D&B BACKFILL : 30 343 m³	ROCKFILL ACCESS WEST SIDE : 3 571m³	ROCKFILL ROAD 24 : 7736m³
EXCAVATION : 64 825m³	FINE FILTER : 4 693m³	RIP RAP: 5 100m³
EXCAVATION LAKE: 1 875m³	FINE FILTER LAKE : 322m³	RIP RAP LAKE: 1 745m³
ESKER : 8 115m³	COARSE FILTER : 4 055 m³	ROCKFILL : 4614M³
ESKER LAKE: 322m³	COARSE FILTER LAKE : 320 m³	ROCKFILL LAKE : 10 900M³
GEOTEXTILE: 18 326m²	ROCK 0.5-1M : 410 M³	

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : FRANCIS PAULIN
DATE : 2020-08-16
CON-QT-162

C:\Users\arpenteur\Dropbox (Groupe Gilbert)_arpentage meadowbank\02-E - OFFICIAL DRAWING\11-811 - AMQ DIKES\CON-QT (QUANTITY AND MONTHLY REPORT)\CON-QT-162_ SWTC FINAL QUANTITY.dwg

SWTC AS-BUILD PROFILE VIEWS
CONTRACT # 11-811



KIVALLIQ CONTRACTORS GROUP LTD

EXCAVATION AS-BUILT

INITIAL GROUND

ESKER AS-BUILT

FINE FILTER AS-BUILD

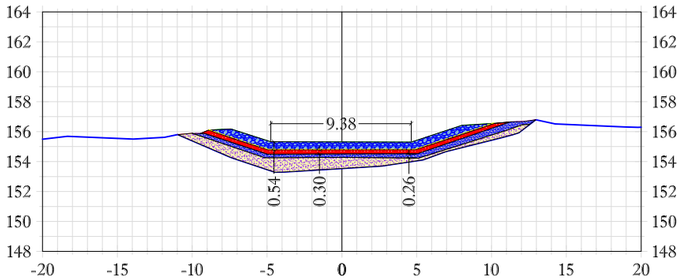
COARSE FILTER AS-BUILD

RIP-RAP AS-BUILD

PREPARED BY : MAXIME BOUCHER
DATE : 2020-05-07
CON-FD-338-1_REV2

T:_orpentage meadowbank\02-E - OFFICIAL DRAWING\11-811 - AMQ DIKES\CON-FD (AS BUILT)\CON-FD-338-SWTC FINAL AS-BUILD_Rev2.dwg

SECTION VIEWS 0+060 TO 0+350
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



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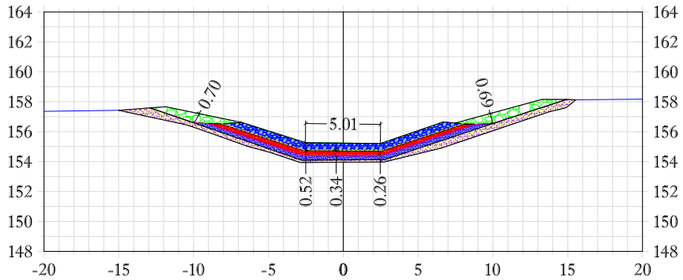

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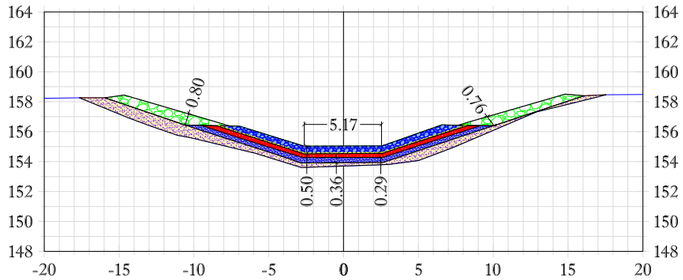

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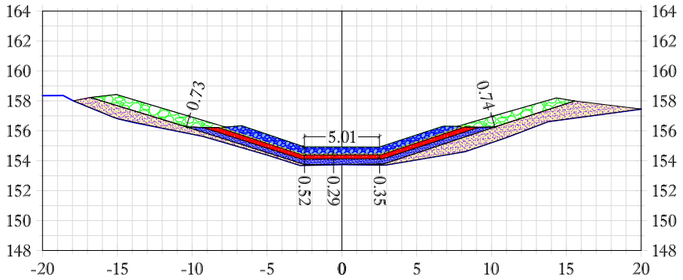

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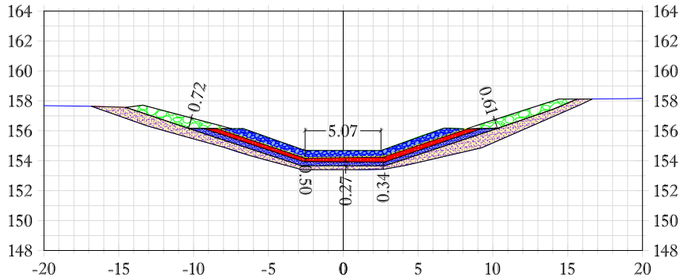

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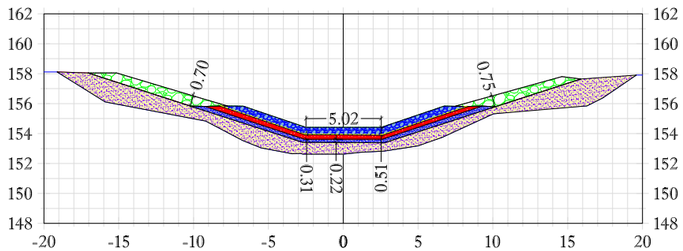

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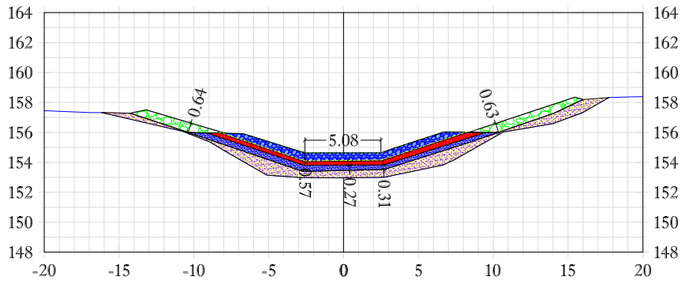

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ESKER AS-BUILT

FINE FILTER AS-BUILT

COARSE FILTER AS-BUILT

RIP RAP AS BUILT

ROCK FILL AS-BUILT

BOULDERS 0.5-1.0m AS- BUILT

EAST AND WEST SIDE ROADS AS- BUILT

GEOTEXTILE

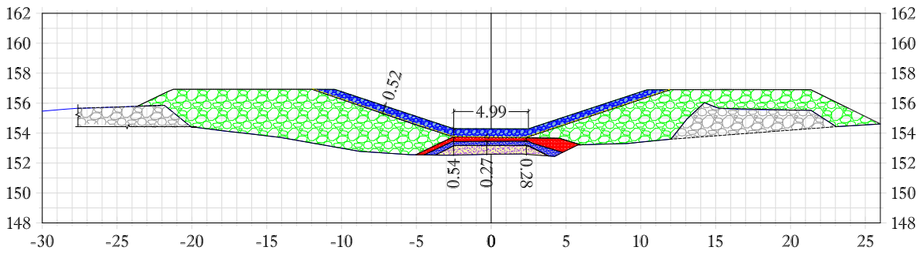
SIDE ROADS ARE NOT SHOWN ON ALL SECTIONS.
SEE CON-FD-338-5 FOR SAMPLED SECTIONS.

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MAXIME BOUCHER
DATE : 2020-05-07
CON-FD-338-2_REV2

T:_orpentage meadowbank\02-E — OFFICIAL DRAWING\11-811 — AMQ DIKES\CON-FD (AS BUILT)\CON-FD-338-SWTC FINAL AS-BUILD_Rev2.dwg

SECTION VIEWS 0+405 @ 0+550
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



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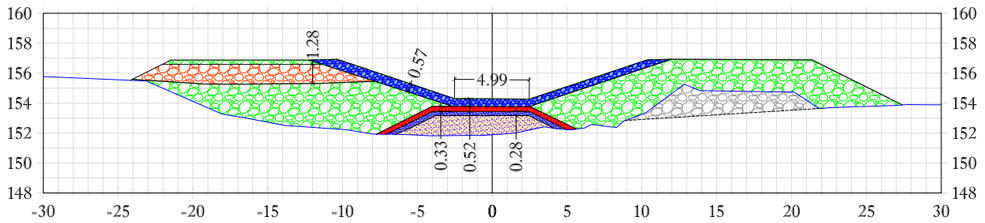

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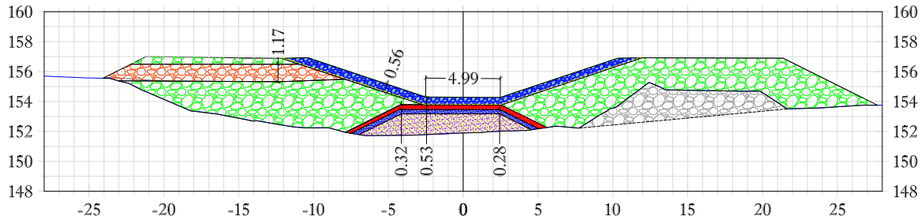

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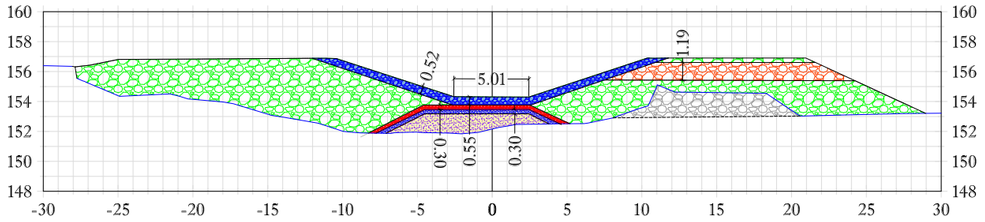

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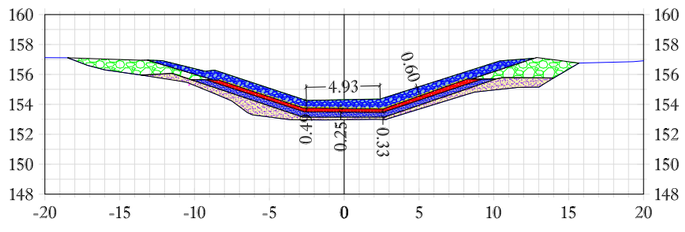
0+450

0+475



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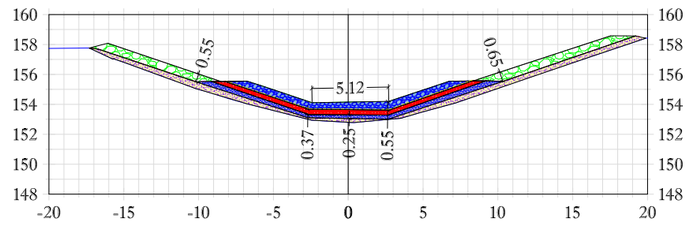


0+550

ESKER AS-BUILT

FINE FILTER AS-BUILT

COARSE FILTER AS-BUILT

RIP RAP AS BUILT

ROCK FILL AS-BUILT

BOULDERS 0.5-1.0m AS- BUILT

EAST AND WEST SIDE ROADS AS- BUILT

GEOTEXTILE

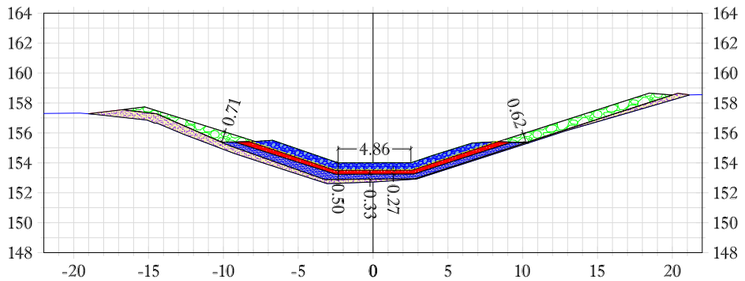
SIDE ROADS ARE NOT SHOWN ON ALL SECTIONS.
SEE CON-FD-338-5 FOR SAMPLED SECTIONS.

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MAXIME BOUCHER
DATE : 2020-05-07
CON-FD-338-3_REV2

T:_orpentage meadowbank\02-E - OFFICIAL DRAWING\11-811 - AMQ DIKES\CON-FD (AS BUILT)\CON-FD-338-SWTC FINAL AS-BUILD_Rev2.dwg

SECTION VIEWS 0+600 @ 0+930
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



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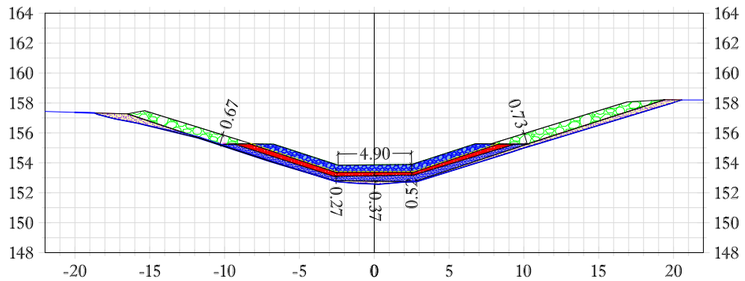

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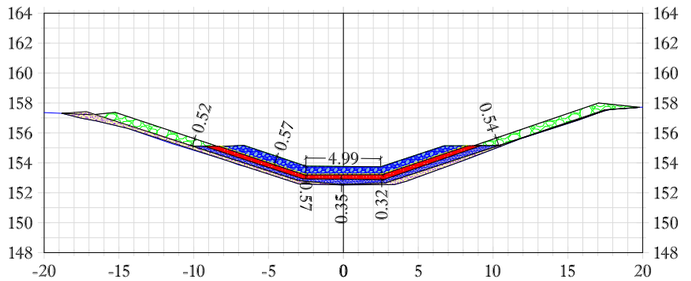

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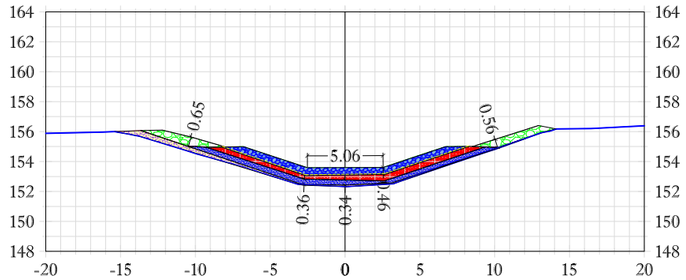

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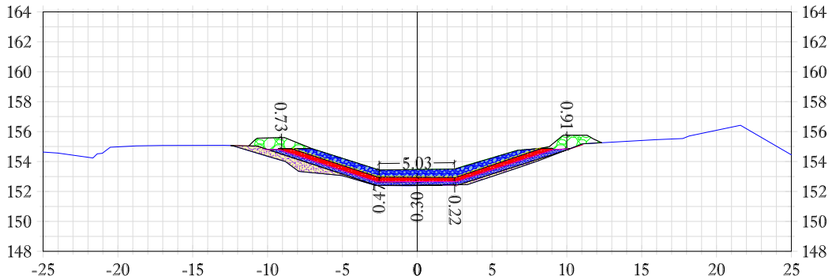
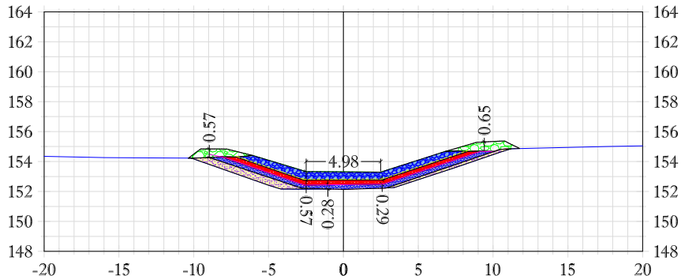


0+800



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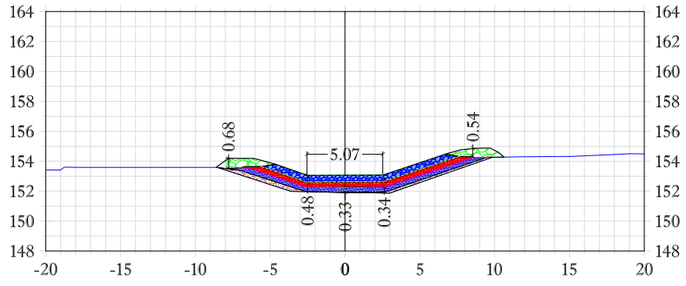

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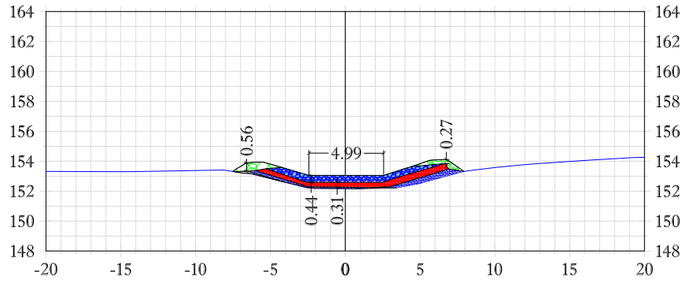

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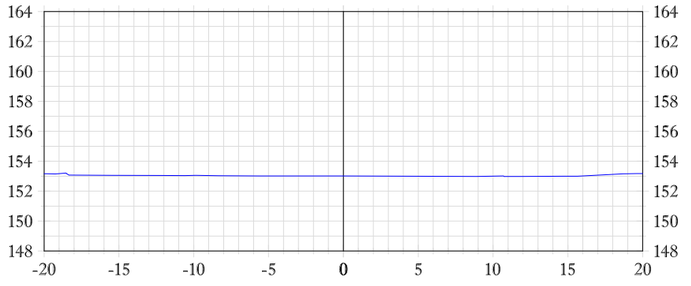


0+930

ESKER AS-BUILT

FINE FILTER AS-BUILT

COARSE FILTER AS-BUILT

RIP RAP AS BUILT

ROCK FILL AS-BUILT

BOULDERS 0.5-1.0m AS- BUILT

EAST AND WEST SIDE ROADS AS- BUILT

GEOTEXTILE

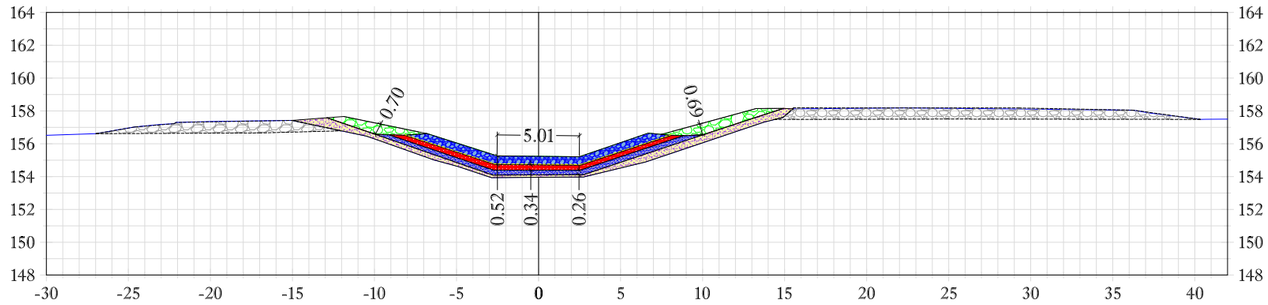
SIDE ROADS ARE NOT SHOWN ON ALL SECTIONS.
SEE CON-FD-338-5 FOR SAMPLED SECTIONS.

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MAXIME BOUCHER
DATE : 2020-05-07
CON-FD-338-4_REV2

T:_arpentage meadowbank\02-E - OFFICIAL DRAWING\11-811 - AMQ DIKES\CON-FD (AS BUILT)\CON-FD-338-SWTC FINAL AS-BUILD_Rev2.dwg

SECTION VIEWS SIDE ROADS
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



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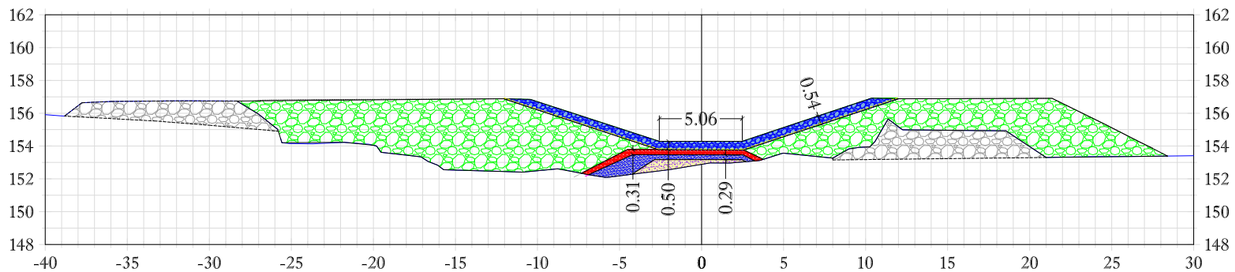

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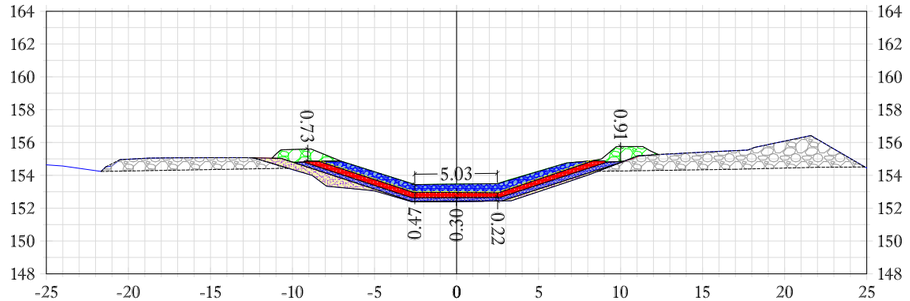

0+800

ESKER AS-BUILT

FINE FILTER AS-BUILT

COARSE FILTER AS-BUILT

RIP RAP AS BUILT

ROCK FILL AS-BUILT

BOULDERS 0.5-1.0m AS- BUILT

EAST AND WEST SIDE ROADS AS- BUILT

GEOTEXTILE

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MAXIME BOUCHER
DATE : 2020-05-07
CON-FD-338-5_REV2

T:_arpentage mesdowsonk\02-E - OFFICIAL DRAWING\11-811 - AMQ DIKES\CON-FD (AS BUILT)\CON-FD-338-SWTC FINAL AS-BUILD_Rev2.dwg

Appendix D

Minutes of Meeting – AEM Daily Construction Meetings

DAILY CONSTRUCTION MEETING

WHALE TAIL DIKE 2019

SWTG

Date: Jan 14th 2020

Time: 7h30

AGNICO EAGLE
MEADOWBANK

Presents:

AEM: PG - JFB

KCG: SL - NT

QA: QC:

Health & Safety & Environment:

- Nothing to report

Daily Advance:

KCG :
- Drilling 47 holes - 680/921
- Mucking 59 loads - 17 oversize to WRSF 0+795 to 760
- Drill pad 0+180 to 0+136
- Road 24 0+273

Casing drilled	/ 192
Injection	/ 192
Water cons.	liters
Cement	Kg

QA/QC :

General Planning/Comments:

KCG :
- Continue excavation + mucking + drill pad + road
- Blast maybe today
- Ripper + claw in foundation to reach grade

QA/QC :

Report By:

DAILY CONSTRUCTION MEETING

WHALE TAIL DIKE 2019

SWTC

AGNICO EAGLE
MEADOWBANK

Date: Jan 16th 2020

Time: 7h30

Presents:

AEM: PG - JFB

KCG: SL - DB - JT - JD - ML

QA: DM QC: MC

Health & Safety & Environment:

- Lots of snow drifts on road, poor snow management, low visibility
- New access to WRSF Dump is tricky in crusher area, blind spots
- New stop sign of road 7

Daily Advance:

KCG: - Drilled 73 holes 796/991

- Mucking 64 loads - 31 waste 0+740 to 0+794
- drill pat 140 to 070 completed

Casing drilled	/ 192
Injection	/ 192
Water cons.	liters
Cement	Kg

QA/QC: - set-up in lab, Slake missing

- discussions of inlet & outlets → Email sent to SNC

General Planning/Comments

KCG: - Continue drilling + mucking + ripping

- All waste to WRSF

QA/QC: - Gradations + sampling

- inlet & outlet discussions + follow-up

Report By: _____

DAILY CONSTRUCTION MEETING

WHALE TAIL DIKE 2019

SWTC

Date: Jan 17th 2020

Time: 7h30

Presents:

AEM: PG-JFB

KCG: MZ-SD-DP-CG-NT-FC

QA: DM QC: MC

Health & Safety & Environment:

- Influenza outburst on site - one KCG employee
- Meeting point are to be used on road 24
- PCK 12-0013 no back up alarm

Daily Advance:

KCG :
- Mucking 0+726 to 0+718, 59 loads to WRSF
- Drilling 2nd completed 0+046
- Drilling 515/2001: 67 holes done; 23 left

Casing drilled	/ 192
Injection	/ 192
Water cons.	liters
Cement	Kg

QA/QC :
- 3 gradations done, fix pumps in lab & set-up
- Design modifications follow-up

AEM : need to have answer on geotextile soon as we will likely place filters this weekend

General Planning/Comments:

KCG :
- Continue mucking, hauling, in blasted material only
- No ripping → crew change
- Finish drilling 1st pattern

QA/QC :
- WRSF esker gradation
- Follow-up on construction

Report By: _____

DAILY CONSTRUCTION MEETING

WHALE TAIL DIKE 2019

AGNICO EAGLE
MEADOWBANK

Date: Jan 18th 2020

SWTC

Time: 7h30

Presents:

AEM: PG - JFB

KCG: CG-DD-JD-AB-FC

QA: training QC: MC

Health & Safety & Environment:

- Near miss - 2 haul trucks, hit boxes
- Blizard warning in effect
- Respect 10 km/h at Emulsion

Daily Advance:

KCG: - Excavation 0+698 from 0+710, 49 loads to WRSF Dump
- Drilling : finished 96 holes, then stand by
- Crew change, so no ripping

Casing drilled	/ 192
Injection	/ 192
Water cons.	liters
Cement	Kg

QA/QC: - Sample esker WRSF
- Field visit

General Planning/Comments:

KCG: - Continue mucking, ripping, dozer
- Drilling stand by, waiting to load pattern #4

QA/QC: - Sampling of FF & CF with loader on WRSF stockpile

Report By: _____

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: Jan 19th 2020

Time: 7h30

Presents:

AEM: PG - JFB

KCG: AB - DP - FC - JD -

QA: DM QC: MC

Health & Safety & Environment:

- Nothing to report
- Blizzard condition, site closed 10:30 yesterday

Daily Advance:

KCG: - Mucking 11 loads - 0+698 to 0+696
- Ripper, claw & dozer in foundation
- Stand by drill

QA/QC: - Gradation esker
- SOP training

General Planning/Comments:

KCG: - Snow clean-up when blizzard stops
- Open road 22 & 24
-

QA/QC: - Sample if permitting
- Weekly report QA

Report By: _____

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: Jan 20th 2020

Time: 7h30

Presents:

AEM: PG - JFB

KCG: DP - JD - IC

QA: DM QC: MC

Health & Safety & Environment:

- Nothing to report

- Work resumed in the afternoon by snow removal

Daily Advance:

KCG :
- Snow removal with dozer
- Excavation 13 loads 0+694
- Cleaned 6 holes, drilled 4 holes - blast tomorrow

QA/QC :
- 1 sample in excavation, 1 in NPAG, 2 off fine filter
- QA went for sampling with QC

General Planning/Comments:

KCG :
- Continue mucking, crew change today
- New crew coming from Mbk ~ 2 additionnal trucks available
- Drilling : decision will be made this morning about DDH335157

QA/QC :
- Gradation of samples
- Site visit

Geotextile will be installed between 0-6 & rip rap

Report By: _____

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: Jan 21st 2020

Time: 7h30

Presents:

AEM: PG - JFB

KCG: JD - FC

QA: DM QC: MC

Health & Safety & Environment:

- Blast today
- Meeting points need to be respected at all time, use proper radio channel
- Nothing to report

Daily Advance:

KCG: - Mucking in blast zone 3; 55 loads;
- Drilling - hole clean-up, loading, drilling 13 holes → in lake A45 2m frozen on top then mud

QA/QC: - Gradation in place till 8 NAG
- Sample till at 0+800 (seems finer than the one taken before)
- Inspection of bottom of excavation

General Planning/Comments:

KCG: - Continue excavation, hammer in foundation
- Blast today this morning
- Drilling 5151 0003 Zone 1 South of A45

QA/QC:
- Finish FF gradation, till, sample CF
- Follow-up on excavation & sampling (QA)

Report By: _____

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 22/01/2019

Time: 7h30

Presents:

AEM: PET, MTH, JFB

KCG: FC, DP, JD

QA: DT QC: MC

Health & Safety & Environment:

No event. Cold weather. Reminder : 10 km/h around camp, mechanic shop.
SWTC: use correct radio channel, use meeting points on the road.

Daily Advance:

KCG : drill : 54 holes yesterday. Some holes have mud at bottom (~ 4 m deep). No need for casing at the moment.
excavation : 53 loads → 0 +672
sequence # 4 : checked for bootlegs (in progress)

QA/QC : gradation 0+800 : within specs (foundation)
fine filter in stockpile : within specs
coarse filter in stockpiles : to be done
site visits
NPAG to be tested
sampling difficult because of snow (water content unreliable)

General Planning/Comments:

KCG : excavation (ripper, hammer)
drilling

QA/QC : complete coarse filter gradation
when new foundation is exposed, verify that the in-place soil is consistent with design assumptions (send gradation results to SNC).
follow up on site
sample in-place soils

Report By: MTH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 23/01/2020

Time: 7h30

Presents:

AEM: PET, TH, YS

KCG: DP, FC, JD, TL, TPG, AP

QA: DT QC: TC

Health & Safety & Environment:

Blast 12:45. Nothing to report. Coactivity.
KCG: new recognition program to promote good moves in HSSE.

Daily Advance:

KCG: drilling 90 holes, no water, frozen soil. Only the lake shore was soft material.
38 loads → 0+540 (excavation)
final cleanup with survey shots

QA/QC: gradation and sampling, water pump down in the lab (now fixed).
loader made a pad at stockpiles for sampling

General Planning/Comments:

KCG: survey check of sequence #4 Road 24 must be continued soon
loading starting
approvals to be done right after survey approval, backfill right after excavation, snow cleanup continued
drilling continued.

QA/QC: will sample soils after snow removal
gradations

Report By: TH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 24/01/2020

Time: 7h30

Presents:

AEM: PET, TH, YS

KCG: AP, JD, FC

QA: DT QC: TC

Health & Safety & Environment:

Heavy traffic but no event.

Daily Advance:

KCG : 71 holes drilled, going well. Holes are stable.
Drilling pattern under review by AEM, in the meantime keep drilling.
Excavation → 0+668 (full width), → 0+665 (half), 49 loads.

QA/QC : sampled coarse filter, gradation on fine filter, coarse filter
sampled in-place till for water content (~ 9%) by QC + QA
Inlet design: under discussion with AEM
In-place soils are consistent with the design hypotheses.
Discussion on the field about foundation approvals. Template is available.

General Planning/Comments:

KCG : drilling crew change today, probably no drilling until night shift.
Extension of Road 24 toward South.

QA/QC : Do foundation approval over the weekend before QA shift change on Monday.
Probably first approval today.

Report By: TH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 25/01/2020

Time: 7h30

Presents:

AEM: PET, MH, YS

KCG: JD, AP

QA: JM QC: MC

Health & Safety & Environment:

Spill (32 L), reported.

Daily Advance:

KCG :

Excavation : 57 loads, excavation → 0+636

QA/QC : Discussion about approval procedures : foundation approval of bottom of excavation, with a comment about grade correction if it was subexcavated.
Esker can be used instead of fine filter for grade correction on overburden foundation
If too much of a hassle, fine filter will be used still.

General Planning/Comments:

KCG : Snow removal for foundation approval. Possibility of welding on a lip attachment.

QA/QC : Will call everyone involved for foundation approval (AETT, SANA, QA/QC, surveyor).

AETT: check the option of installing geotextile between coarse filter and Rip-rap. Quantities available to be checked, number of layers based on thickness to be determined.

Report By: MH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 26/01/2020

Time: 7h30

Presents:

AEM: PET, MH, YS

KCG: AB, JT, JD

QA: DM QC: MC

Health & Safety & Environment:

Windy conditions and snow, possibility of low visibility.
Minor first aid: eye irritation by driller.
No blast at SWTC today.

Cross-shifting SSE personnel:
new person arriving on Tuesday

Daily Advance:

KCG: cleanup snow O+918 → 842 (foundation preparation)
excavation O+556 (58 loads)
Rockfill has too much fine for the road.
Trucks are avoiding the loaded pattern area.
Drilling: pattern finished, 53 holes drilled yesterday.

QA/QC: Issue with water pump at the lab.
Site visit and discussion with AEM.
Sampled in-place soil, started gradations until pump stopped.

General Planning/Comments:

KCG: will send a quote to assess the impact of the use of geotextile.
Cleanup of excavation, soil/rock stripping continued.
Start of night shift tonight.
Loading the pattern, planned to blast tomorrow morning.
Adjusting next pattern.

QA/QC: Site visit, possibly foundation approval
Gradations, cross-shifting preparation

AEM: sampling for PAG/NPAG characterization of blasted rock
geotextile strategy still under discussion

Report By: MH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 27/01/2020

Time: 7h30

Presents:

AEM: PET, TH, YS

KCG: JT, DP, FC

QA: DT QC: TC

Health & Safety & Environment:

Blast around 10.

Daily Advance:

KCG: Excavation → top of hill as large boulders remain (101 loads)
Esker backfilling on approved foundation (10 loads): 917 → 885
Drilling (71 holes), blast tie-in.

QA/QC: Foundation approval of first section 0+916 → 0+830
Ready for grade correction with esker. When survey confirm the grade is compliant, make sure it is compacted enough before placing fine filter.
Water pump at the lab is working again.

General Planning/Comments:

KCG: Start on fine filter once foundation is on grade
Excavation (no new area for backfilling while the QAQC are away)
Drilling NS and tomorrow afternoon.

QA/QC: No foundation approval possible over the next 2 days (QAQC gap in cross-shifting).

Report By: TH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 28/01/2020

Time: 7h30

Presents:

AEM: PETT, MH, YS

KCG: JT, BC, FC

QA: ✓ QC: ✓

Health & Safety & Environment:

High winds: low visibility → single lane road, Bird hill particularly hazardous at that time. No event.

Daily Advance:

KCG: Some frost in the blasted pattern → will try with a ripper to break it apart. Not sure if it froze back after the blast or if it did not blast properly.
Esker: 850 → 830 (section finished)
Excavation → 550 (upper half) (64 loads) Drill: 33 holes
→ 645 (entire depth)
Road 24 → 287 (39 loads NPAG)

QA/QC: ✓

AETT: Blast vibrations yesterday exceeded limit: driller said the ground felt harder than the previous sequence. Mitigation measures will be taken. Bedrock was not drilled through, only dense till. Remind blasters of max allowable KG per hole and verify all parameters from this blast. Increase collar length? KCG: risk of not breaking surface boulders enough.

General Planning/Comments:

KCG: Works on hold at the moment to decide how to manage the road.
Cleanup West section continued.
Prepare for acceptation of foundation for QA/QC arrival.

QA/QC: ✓

Report By: MH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 29/01/2020

Time: 7h30

Presents:

AEM: PET, TH, YS

KCG: JT, FC, DP

QA: HAA QC: SD

Health & Safety & Environment:

Blizzard conditions yesterday.
New workers (QA/QC) on site. Safety induction done on the field.
Reminder: always ask before taking over an equipment in a pickup.

Daily Advance:

KCG: 10 loads of esker : 916 → 830 (backfilling to grade).
Excavation 1st half 645 : frozen, ripping failed (between blast sequences 3 and 4)
→ 628 DS
590 NS
Road 24 : 287 $\xrightarrow{DS}$ 210 $\xrightarrow{NS}$ 105
Rip rap and geotextile work method updated and sent to AET.

QA/QC: Hauling NPAG from the pit.
Drilling : 15 holes drilled, 9 holes cleaned.

Inductions, specs review.

General Planning/Comments:

KCG: Test the limits of the frozen zone, try using the hammer.
Next blast: 100 holes. See after results if we increase the number of holes.
Driller has trainings today.
Excavation, cleanup (830 → 775 should be ready to approve).

QA/QC: Foundation approval, site visits.
Sampling.

Report By: TH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 30/01/2020

Time: 7h30

Presents:

AEM: PET, TH, YS

KCG: JT, FC

QA: HAA QC: SD

Health & Safety & Environment:

No event yesterday. Radio communication dodgy in the excavation. Wait for visual contact with operator when radio does not work.

Daily Advance:

KCG: Excavation 1st half $\xrightarrow{DS}$ 550 $\xrightarrow{NS}$ 586. NS almost entire depth.
Slopes → 695
Drilling: 32 holes
No esker due to temperature.
Road 24 finished.

QA/QC: Foundation approval 830 → 775.

General Planning/Comments:

KCG. Excavation softer area. Skip frozen zone for now.
Objective 645 for next foundation approval.

QA/QC: Sample esker in place (1 every 100 m).

Report By: TH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 31/01/2020

Time: 7h30

Presents:

AEM: MH, YS

KCG: JT

QA: ✓ QC: ✓

Health & Safety & Environment:

White-out conditions.

Daily Advance:

KCG: Frozen section: too long with the hammer. Probably needs a blast.
580/600 → 545 : frozen section ~ 2-3 m deep
TBD with D&B.
Continue excavation on the other side of the test pit to see the extent of the zone.
Snow removal during the night after blizzard.

QA/QC : ✓

General Planning/Comments:

KCG: Remove blasted material ASAP.

QA/QC : ✓

Report By: MH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 02/01/2020

Time: 7h30

esents:

AEM: PEM, YS

KCG: PG, NT, SL, DB

QA: HAA QC: SD

Health & Safety & Environment:

Spill on a Shovel 365 (hydraulic.)

Daily Advance:

KCG: Geotextile approved.
Crew change
Snow removal on 2nd approved section
Drilling 14 holes → drill parked, driller sent in pit.
42 loads on NS + 6 eskers used for backfilling 0+828 – 0+797
Excavation 0+532 on top bench, frozen part @ 0+546

QA/QC:

Good thing that drilling stopped, water in holes, risk of freezing & excavation late on drilling.
- SOP training
- Inspection 0+730 – 0+875
- Esker used for backfill is too fine

General Planning/Comments:

KCG:

- look if coarser esker material can be used for backfill
- Excavation
- Esker placement
- ripper / tramac.
- lip bucket will be ready today.

QA/QC:

- Send esker result.
- Hamza to see impact of geotextile & choice of backfill material.
- rapatriate geotextile from Vault by Dam

Report By: [signature]

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 02/02/2020.

Time: 7h30

Presents:

AEM: YS, PEM

KCG: EG, SL, NT,

QA: HA QC: SD

Health & Safety & Environment:

Esker : spill, declared to ENV.
HA : Be careful in seacan offices not to put gear close to heater.

Daily Advance:

KCG :

Day: 58 trips Day, 2 esker trips
Night: 63 trips, Ø esker
0+532 to 0+525 excavation
clean up 0+715 to 0+670.
0+575 to 0+545 → bad blast → required to DLB.
0+715 to 0+709 clean up on night
0+535 to 0+510 on night. (excavation)
& 0+390 to 0+380. → good blast quality.

QA/QC :

Sample esker 0+820
- inspection 0+830 to 0+875 for material put in place.
- Ø lab, gilson is broken for now.

General Planning/Comments:

KCG :- Toe to reblast → need to stakeout & redesign.
- excavation, clean up
- Drill will come back from pit tonight, we have 3d of advance with excavation

QA/QC :

- Approval 0+715 to 0+670
- Gilson to be repaired for granulometry
- Sample on new esker coarser zone
Weekly report

Report By: _____

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 02/03/2020

Time: 7h30

Presents:

AEM: YS, PEM

KCG: EG, DB, SL

QA: HAA QC: SD

Health & Safety & Environment:

Frost bite on 1 worker → be vigilant to observe one another.
Very cold expected weather today with high wind.
Lots of dust in the lab → mask to be provided.

Daily Advance:

KCG:

59 trips for excavation 0+380, 56 trips for excavation on night shift 0+375
clean up 0+670 to 0+710 hammer (day) 0+690 to 0+735 clean up (night)
0+582 to 0+547 hammer (night)
Drilling began back on night shift.
Sample to be brought → check with geology.

QA/QC:

Information sent to SNC looking at geotextile impact.
Team field observation for potential approval zone
Lab repaired, Gilson up → continue granulometry.
Took 1 sample @ esker stockpile.

General Planning/Comments:

KCG: Lip bucket to be prepared.
Excavation
clean up
application
finish drill seg 6 → loading.

QA/QC:

Results compilation & analysis w/ Designer
Field follow ups tighter presence on the field.

HEN: examine DRB options for not blasted zone.
Clarify aggregates quantity

Report By:

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 2/4/2020

Time: 7h30

esents:

AEM: YS, PEM

KCG: NT, EG, DB, SL

QA: HAA QC: SD

Health & Safety & Environment:

- Procedure for getting around loaded haul trucks explained by SL
- mask for QC is working fine.

Daily Advance:

KCG :

- Excavation on side of the road
  66 loads DS & 66 loads NS
  Clean up 0+515 & 0+375 to 0+365 on south side.
  Approved 0+775 - 0+735
  21 holes done on DS & 2 on NS.
- Seg 6 being loaded.
  ↳ Blast tomorrow.
  0+540 to 0+515 Clean up
  0+515 to 0+565 Jn hammer.

QA/QC :

Approb. 0+775 to 0+735.
Esker needs to be more coarse. → SL said will pick coarser zone in SP.
Sample foundation + lab granulometry

- AEM: Polygon of rebust provided to AEM D&B for pattern design.

General Planning/Comments:

KCG :

- Drilling on-going for seg 7, same specs as seg 6.
  Load seg 6, Continue drilling seg 7.
  Continue excavation
  Start esker placement in 3rd approved zone.
  Clean up & hammer.

QA/QC :

- Sample foundation, every 100m for water content.

AEM: 9000 m³ early Jan of F.F., other depart. take some...
6000 m³ required. No extra for foundation backfill
Maintenance road w/ minimal lift & width is approved.

Report By:

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

6629
6681

AGNICO EAGLE
MEADOWBANK

Date: Feb 5, 2020

Time: 7h30

Presents:

AEM: FLD, YS

KCG: E, SL, NT, DB

QA: Hamza QC: Lab

Health & Safety & Environment:

—

access road, frostbite

Daily Advance:

	South	North
KCG: Exc: 73 load :	0+340 - 0+320, memoir etc 0+575 - 0+545 → slope 0+565 - 0+540 → Ramp	36 load 0+320 - 310 0+365 0+355 0+540 - 500 Ramp

• Snow removal, maintenance road

Blast: 28 hole d5,5 ms drill

QA/QC:

- Esker (?)
- 10% Fine, 6" } diminish Esker
- Sample frequency diminish

After meeting: compaction roller might be required based on condition

General Planning/Comments:

KCG:
- Excavation:
- Rockfill maintenance road
- Monitoring
- Blast (12h) → blast monitor

QA/QC:
- Work follow-up

Report By: Frédérick L. Boldue

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

6844
6643

AGNICO EAGLE
MEADOWBANK

Date: Feb 6, 2020

Time: 7h00

Presents:

AEM: FLB, JFB

KCG: SL, DB

QA: Hamza QC: SD

Health & Safety & Environment:

- Congested area, equipment feedback hard to get
- Extinguisher verification
- Speed limit remainder

Daily Advance:

KCG:
- DS 44 load 320-300
  1:30 lost code 1
- cleanup hammer (0+510-600)
- DnB: 19 hole, bulk truck down

- NS 55 load (0+300)
- Cleanup

QA/QC:
- AEM: drill and blast vibration excedence (seq 6), mine
  - dnb dont go past 0+54
  - might need dnb change 0+54 - 0+154 area should be standbye for now
- waiting for designer on esker
- Snow removal remainder

General Planning/Comments:

KCG:
- Excavation
- Snow removal
- access road west side

QA/QC:
- Esker inspection

Report By: Frédérick L. Boldue

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 2020.02.07

Time: 7h30

Presents:

AEM: J.FB FB

KCG: EG. OB NT SL

QA: HAA QC: SD

Health & Safety & Environment:

- LATE REPORT, NOSE FROST BITE
- HYDRATATION
- ADDED REPETITOR FOR RADIO COMMUNICATION

Daily Advance:

KCG: 76 LOAD DAY
EXCAVATION TOP BENCH 0-320 to 0.300
HAMMER + CLEAN-UP 0+300 TO 0+4TO 0+330 to 0-330
62 LOADS NIGHT
EXCAVATION TOP BENCH 0+300 0+220
Bottom BENCH 0+320 0+300

QA/QC: HAMMER 0+330 TO 0+325

DRILLING
DAY 40 HOLE
NIGHT 15 HOLE
↳ MECHANICAL ISSUE
FIELD LOW

- ESKER ALREADY IN PLACE WILL STAY THERE
- COORDINATION WITH SHOVEL BUCKET
- Follow-up
- MEETING A-045 CAPPING
- ANALYZE GRANULO

General Planning/Comments:

KCG: - KEEP Going. Follow-up close for the weather

- PIT NEED 1250
- TEST PIT A-45
- DRILLING KEEP Going

QA/QC:

TEST PIT SAMPLE

Follow-up

Report By: J.F Bérard

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: Feb 8, 2020

Time: 7h00

Presents:

AEM: FLB, JFB

KCG: DB, SL, NT (Nicolas Tremblay)

QA: Hamza QC: SD

Health & Safety & Environment:

- Road 24, pipe crew
- Not allow to park near blasting magazine

Daily Advance:

KCG: DS: 75 load (toe bench 250-280) NS: 55 loads
- Snow removal access road

Drill DS: 31 holes 6 redrill, clean hole
NS: 8 holes (mechanical wire steel bucket line)

QA/QC:
- Sampling 0+500, boundaries and inspection
- Inspection A45 test pit
- Second spot blast monitor
-

General Planning/Comments:

KCG:
- Keep going excavation
- Clean-up blast pattern

- Finish pattern (6 holes to drill) → maybe blast tomorrow

QA/QC:
- Sampling
- A-45

Report By: Frédérick L-Bolduc

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: Feb 9, 2020

Time: 7h30

Presents:

AEM: FLB, JFB

KCG: NT, CG, SB, DB

QA: Hamza QC: SD

Health & Safety & Environment:

- use of meeting point for shovel parking (dont do that)
- Worker on foot on road 24/ (dewatering crew)
- Add boulder for bumper

Daily Advance:

KCG:
- DS: 68 load 0+280 to 0+250 (top bench)
- NS: 61 load 0+280 to 0+265 (bottom bench)
- cleanup 0+280 to 275
- snow removal

DB: 40 dewn, 6 hole
NS: 67 hole

QA/QC:
- 0+500 field complain

General Planning/Comments:

KCG:
- Access road
- Excavation
- Filter placement

DB: Blast (?) continue drilling
- Overexcavation

QA/QC:
- QA work
- Sampling ice rich

Report By: Frédérick L. Boldue

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: Feb 10, 2020

Time: 7h30

Presents:

AEM: FLB, JFB

KCG: SL, DB, SD, NT,

QA: Hamza QC:

Health & Safety & Environment:

- Near-miss, taken light mast bolt when unpinned
- Dewatering crew co-activity

Daily Advance:

KCG:
- DS: 55 load 0+260 - 0+230
  access road west: 37 load 0+920 - 0+780
  Remove bumper and ice: 8 load
- NS: access road 750 to 0+680
  66 load ice and bumper
  A-45: 1 month NS/DS

DB: 9 holes day (no map)
65 holes night

QA/QC:
- Sampling 0+270

General Planning/Comments:

KCG:
- West access construction
- Esker placement pit grade excavation
- Excavation & D&B → blast monitor

. Blast at 12:00

QA/QC:
- Crew change → look for shifting QA/QC

Report By: Frédérick L. Boldue

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 11/02/2020

Time: 7h30

Presents:

AEM: MH, JFB

KCG: JD, SL, NT, C

QA: DT QC: MC

Health & Safety & Environment:

Cold weather : operations on hold.

Daily Advance:

KCG : holes: DS 8 , 15 NS
9 loads esker 777 → 735 (East side)
West access 700 → 640 (33 loads of NPAG)
Mucking new blast (12 loads of till)
Removing snow / ice 420 → 400 (51 loads)
Blast

QA/QC : Crew change.
(?) about loose foundation materials.

General Planning/Comments:

KCG : If weather improves, continue operations.

QA/QC : Take additional samples in loose foundation area.

Report By: MH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 12/02/2020

Time: 7h30

Presents:

AEM: PG, MH, JFB

KCG: JD, SL, E, NT

QA: DT QC: MC

Health & Safety & Environment:

Works on standby in the morning. NS: blizzard conditions.

Daily Advance:

KCG: 19 loads excavation

QA/QC: Sampled in-place esker.
Gradations.
Office set-up.

General Planning/Comments:

KCG: If weather improves, resume operations
Drilling pattern almost done. Possibility to blast tomorrow (reblast). ~ 250 holes.

QA/QC: Sample again the supposed ice-rich soil to confirm.

AEM: scarification of foundation → to be confirmed by SNC about the reason.

Report By: MH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 13/02/2020

Time: 7h30

Presents:

AEM: PG, MH, JFB

KCG: JD, NT, E

QA: DM QC: MC, RT

Health & Safety & Environment:

Potential near-miss near the dump.

Daily Advance:

KCG: No work on DS (weather)
NS: snow removal until 10:00
45 loads excavation 255 → 295 (top bench)
snow removal on West Road access
drilling

QA/QC: gradations: in-place material, esker (0+760), Ph. 2 samples.

General Planning/Comments:

KCG: drilling: 8 holes remaining. Possibly blast tomorrow. 3 blasts remaining in total.
excavation
NPAG for access road

filters should start next week.

QA/QC: Next foundation approval when possible (probably after blast and cleanup).

Report By: MH.

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 14/02/2020

Time: 7h30

Presents:

AEM: PG, MH, JFB

KCG: DP, NT, CG

QA: DT QC: MC, RT

Health & Safety & Environment:

Yesterday's near miss : still under discussion. Yield installed. Reminder: haul truck with blind side has the priority.

Daily Advance:

KCG : DS 72 loads excavation 195 → 185 top bench NS: 185→175
240 → 220 bottom 220 →210

cleanup 735 → 700 } ready for approval
NS cleanup 680 → 700

drilling : 28 holes on NS, drilling pattern finished
snow removal on West access road.

QA/QC : 3 samples on foundation
soil removed from excavation has a lot of frozen chunks. No visible ice.
site visits
QA : the esker is not well graded, unsuitable for large backfilling.

General Planning/Comments:

KCG : Crew change on DS : only excavation
If foundation is approved, esker placement during NS (grade correction).
loading of blast pattern today probably.

QA/QC : foundation approval

Report By: MH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 15/02/2020

Time: 7h30

Presents:

AEM: MH, JFB

KCG: JD, DP, JT

QA: DT QC: MC

Health & Safety & Environment:

Near-miss near waste dump is closed. Cold weather conditions.

Daily Advance:

KCG: excavation (4 loads DS)
mechanical issues (345, 365, bucket of 365)
drill down on DS

QA/QC: gradations + moisture content
went to see the foundation and recommend additional cleanup.

General Planning/Comments:

KCG: 450 + new bucket for 365 are coming today. Fix equipments.
Move the broken shovel out of the blast radius.
Blast tomorrow to be able to muck the blast shortly after.
Cleanup for foundation approval.

QA/QC: Foundation approval this PM if possible.
Gradations

Report By: MH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 16/02/2020

Time: 7h30

Presents:

AEM: PG, MH, JFB

KCG: JT, FC, JD

QA: DM QC: MC

Health & Safety & Environment:

Light damage to a pickup (backed up in a boulder).
Many new haul truck drivers : reminder on meeting points and traffic near the channel.
Misshole mucking during part of the night shift : road blocked around the pit.

Daily Advance:

KCG : new bucket, fixed equipments in the PIT.
NS : excavation top lift → 155
bottom lift → 200
drilling : 26 holes on DS, 10 on NS. Hole cleaning.

QA/QC : Gradations

General Planning/Comments:

KCG : Optimize drilling pattern with Drill & Blast
Stemming in drill holes
Remove excavator from blast radius
Excavation and West Road access placement
Foundation cleanup.

QA/QC : Gradations

Report By: MH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 17/02/2020

Time: 7h30

Presents:

AEM: PG, MH, JFB

KCG: JD, JT, DP

QA: DT QC: MC

Health & Safety & Environment:

Emulsion truck and haul trucks traffic the site : emulsion to call before entering Rd 24 and the haul trucks will park to leave space.
Reminder: emulsion truck with red/blue lights has right of way.

Daily Advance:

KCG : excavation → 155 completed (57 DS, 60 NS loads)
esker backfill (10 loads) on approved foundation.
drilling 30 holes (DS), 20 (NS)
excavator moved from blast radius

QA/QC : gradations
foundation approval

General Planning/Comments:

KCG : possible blast today
A45 lake ice excavation. Will go back to channel excavation after blast.
drilling

QA/QC : field visits
gradations

Report By: MH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 18/02/2020

Time: 7h30

Presents:

AEM: PG, MH, JFB

KCG: JT

QA: DM QC: MC

Health & Safety & Environment:

Spill 5L (pickup truck), reported.

Daily Advance:

KCG: excavation of ice on lake and west road (62 DS, 70 NS)
esker 735 → 638
drilling 35 holes (DS), 31 on NS (60 remaining)

QA/QC: gradations
sampling of in-place esker

General Planning/Comments:

KCG: finish snow removal on West Road
remove ice on lake, evaluate the footprint of black mud to cap.
blast (reblast) today
get ready for filter placement. To be placed near the outlet in a stairs configuration so we can connect when the outlet is done.

QA/QC: Remove all snow over the backfilled esker before planning filter installation.
Remove boulder nests on the foundation.
→ to be monitored by QA/QC
Weekly report
Monitor esker placement and suitability for filters.

Report By: MH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 19/02/2020

Time: 7h30

Presents:

AEM: PET, MH, JFB

KCG: JT, FC, JD

QA: DN QC: MC

Health & Safety & Environment:

Nothing to report. loading of blast pattern completed smoothly with new safety procedure.
Windy conditions yesterday.
Blind spots in SANA parking.

Daily Advance:

KCG: blast done
snow removal ALS (25 loads) + West Road
till excavation (50 loads)
drilling 25 holes DS, 43 NS

QA/QC: gradations

General Planning/Comments:

KCG: need to optimize loading of last blast pattern: load as soon as possible so that the drill is free to move to the dike.
mucking the blast
working on West side road
snow removal ALS (used as a buffer to accommodate other activities).

QA/QC: sampling, follow up on works.

Report By: MH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 20/02/2020

Time: 7h30

Presents:

AEM: PET, MH

KCG: JT, JD

QA: DT QC: MC

Health & Safety & Environment:

SANA parking : seacans will be moved today.
Expected blizzard conditions this afternoon.
New truck driver on the channel.

Daily Advance:

KCG : drilling completed, loading started.
excavation (DS+NS) almost completed (reblast section) : 39 +15 loads
West Road → 570
365 shovel broke down. 345 put on mucking instead.

QA/QC : site visits
no more water in the lab → supposed to be refilled today
mix the FF stockpile before loading into trucks for filter placement.

General Planning/Comments:

KCG : excavation. A few areas require hammer. Clean the bottom.
Maybe aim for an approval tomorrow.
West side road.
Focus on excavation before starting to place filters.

QA/QC : site visits

Report By: MH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 21/02/2020

Time: 7h30

Presents:

AEM: PEM, MH

KCG: JT, JD

QA: DM QC: MC

Health & Safety & Environment:

Blizzard in the PM and night

Daily Advance:

KCG: excavation (19 loads)
West access road
NS: only snow removal with loader to open the road.

QA/QC: gradations on esker
lab door broken

AEM: reminder that QA/QC reports must be as detailed as possible.

General Planning/Comments:

KCG: crew change
excavation should be completed this morning
foundation clean-up (approval tomorrow possibly).
drill on standby. Warm it up if loading of holes is planned.

QA/QC: site visits, sample foundation soil.

AEM: will verify the distance between the drilling pattern and the lake to confirm plug thickness. Survey the area and verify depths relative to water level.

Report By: MH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 22/02/2020

Time: 7h30

Presents:

AEM: PET, MH, YS

KCG: JB, FC, JT, DP

QA: DT QC: TC

Health & Safety & Environment:

Traffic plan for the channel to be done.

Daily Advance:

KCG: snowbank removal West access road
cleaned 50 holes. All holes are full of snow → pattern must be cleaned entirely.

QA/QC: site visits
no sampling because the excavator was not working on the foundation.
lab door was fixed

General Planning/Comments:

KCG: hammer to be installed this AM → foundation corrections in the channel.
snowbank removal

QA/QC: site visits, sampling.

AEM: meeting this PM about drilling and blasting.

Report By: MH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 23/02/2020

Time: 7h30

Presents:

AEM: PET, MH, YS

KCG: JD, FC, JT, DP

QA: DT QC: MC

Health & Safety & Environment:

Nothing to declare on works. Traffic plan for Road 22/24 was done by SANA. follow up on snow removal on meeting point.

Daily Advance:

KCG : line drilling around the blast pattern (35 holes during NS). Access issues on the West side of the loaded pattern.
snowbank (35 NS)
West road (NS) → Lake A45. Small access across the lake.

QA/QC : site visits

General Planning/Comments:

KCG : cleanup of inside of the channel, hammer when temperature allows (> -35°)
drilling around blast pattern (line drilling)
esker separation on the esker pad

QA/QC : monitor esker separation on the pad.

Report By: MH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 24/02/2020

Time: 7h30

Presents:

AEM: PET, MH, YS

KCG: JT, FC

QA: DT QC: TC

Health & Safety & Environment:

Nothing to report.

Daily Advance:

KCG: snowbank on the west Road, snow removal in the channel.
Channel bottom (foundation) has more boulders and less fines as we go toward WTS.
→ more corrections to do with esker.
line drilling and sinking cut almost complete.

QA/QC: No need to remove boulders below the excavation limit.
Crew change today for QA and QC.

General Planning/Comments:

KCG: Foundation approval possible tomorrow
Finish line drilling

QA/QC: Next team arriving tonight.

Report By: MH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 2/25/2020

Time: 7h30

Presents:

AEM: YS, PEM

KCG: EG, JT

QA: HA QC: SD

Health & Safety & Environment:

Wait for equipment confirmation (sign / flasher / etc.) before moving an equipment. Radios are bad.

Daily Advance:

KCG :

- cleaning
- hammer.
- PC450 & WA500 did clean up on snow dump to free up space as it is getting full.

QA/QC :

QC crew change

General Planning/Comments:

KCG :

Approval to be done from 0+688
Esker placement.
hammer & clean up.
BLAST TODAY, HR TO CONFIRM for SWTC. → 3 blast monitors to install.

QA/QC :

- Need to see if there is a sample of foundation taken for water content & filter compatibility, if not a sample will be needed before esker placement → to be discussed if it delays work to wait results
- Approval.

Report By:

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 2/26/2020

e: 7h30

Presents:

AEM: YS, PEM

KCG: SF, EG, JT

QA: HA QC: SD

Health & Safety & Environment:

Smog, low sun & scratched windshield can yield very low visibility, take more time to ensure proper visibility.

Daily Advance:

KCG:

Blast seg 4, excavation done. 65 loads total, good fragmentation
Clean up of next section to approve.
hammer, now on South side of A45 lake, way less hammer in this section
→ vibrations 14.4, 13.1, 9.6 mm/s, 1 over exceedance.

QA/QC:

Some ice lenses observed → clean up was done.
Sample @ 0+660, w% @ 15.4%

General Planning/Comments:

KCG:

Approval, 0+690 to 0+640.
Ready to load seg 5 free face section. Drill clean up.
hammer + cleaning.

QA/QC:

Approval + follow up
Sample if next zone is cleaned

Report By:

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 2/27/2020

e: 7h30

Presents:

AEM: PEM, YS

KCG: JT

QA: HA QC: SD.

Health & Safety & Environment:

Spill close to mammoth lake ~ 30m ~~from~~ from lake. All on snow. Was cleaned up up to rock. ~ 80L.

Daily Advance:

KCG:

Approved 0+688 to 0+640 → esker completed on NS (29 loads)
Excavation 0+166 0+148 → 67 loads.
Clean up on NS 0+640 going down.

QA/QC:

Observed esker backfilling
Did approval form

General Planning/Comments:

KCG:

2 blasts are remaining. DSB Xshift today but loading can occur.
Blast excavation → road on west side.
Clean up 0+600 – 0+640. → Scheduled to approve end of AM.

QA/QC:

Observe esker placement
Field follow up
Sample placed esker

Report By:

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 2/28/2020

e: 7h30

Presents:

AEM: PEM, YS

KCG: SL, DB.

QA: HA QC: SD

Health & Safety & Environment:

Nothing to report.

Daily Advance:

KCG:

13 trips snow removal. +19 → drainage 0+600 (east side only).
44 loads of. clean up.,
22 trips waste on NS
West road continued
& holes clean up (compressor broke down after) → 3 rows loaded → Blast maybe today.

QA/QC:

Approval 0+640 - 0+600 east side.
Esker correction 0+688 - 0+640 for segregation
Sample in-situ @ 0+600.
QC followed the shovel for foundation follow up.

General Planning/Comments:

KCG:

Continue clean & load, maybe blast.
new change on Dayshift.
Esker once approval done.

QA/QC:

Approve remaining west side.
Esker sample 0+640 to 0+688.
Sample of in-situ soil.

Report By:

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 2/29/2020

Time: 7h30

Presents:

AEM: YS, PEM

KCG: NT, EG, SL, DB

QA: HA QC: SD

Health & Safety & Environment:

Need to check if radio repeater is still there for increasing comm.
Blast in pit 12h45

Daily Advance:

KCG:

Blast done @ 00h30. 1 last sequence to take.
22 snow loads
New Blast → 26 loads of mass excavation
10 esker loads of esker on West side, 50m of approved section remaining
Clean up & approval on Dayshift.

QA/QC:

2 approvals 0+640 to 0+600, & 0+600 @ 0+565
Esker clean up of small portion (segregation) to be done later today as agreed
QC on field to follow shovel excavation.

General Planning/Comments:

KCG:

Maybe loading in PM, clean up needed before.
Continue Blast ~~esk~~ excavation
Continue esker placement → beautiful w/ snow accumulation
Tramack 1-2 spots identified by QA

QA/QC:

Approval target 0+600 to 0+500
Esker Sample x3 0+608, 0+565
Field follow up, careful look on snow
QC work with shovel.

Report By: [signature]

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 3/01/2020

Time: 7h30

Presents:

AEM: PEM, YS.

KCG: AB, NT, SL

QA: HAA QC: SD

Health & Safety & Environment:

- No radio repeater is working, its another device in antenna and maintenance is due only monday
- When code 1 is called, radio silence must be respected.

Daily Advance:

KCG:

56 Trips of mass excavation on DS + 64 trips on NS. 2hrs remaining clean up. for approval section
NS: 11 loads of esker 0+600 – 555 (east) & 0+600 - 565 (west).

QA/QC:

Esker placement showed areas Ø well graded & KCG sensibilized
0+565 - 0+545 approval done
Ice lenses observed @0+520 on West crest. Samples taken nearby.
QC did shovel follow up all day for clean up.
2 esker samples @0+620 & 0+670.

→ need designer input on Monday for this zone.

General Planning/Comments:

KCG:

Blast (last one) @ 14h30.
Continue mass excavation
Clean up up to Lake A45 (0+500) for approval.
hammer on South side of A45 Lake.

QA/QC:

Shovel investigation required on opposite slope of where ice lenses were observed.
take 1 sample for esker placed yesterday.
Gradation of samples
Approval to be sent

Report By:

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 3/02/2020

Time: 7h30

Presents:

AEM: YS, PEM

KCG: NT, EG, SL

QA: HAA QC: SD

Health & Safety & Environment:

Reminder to workers to switch channel at the sign & not at road 22 entrance

Road 22 snowbanks pushed. / Sensibilized workers to park pick ups. away from 50T trucks.

Daily Advance:

KCG:

- Day: 47 loads till excavated
  Road advanced w/ 14 loads NAG 0+450 - 405
  hammer on South side of A45
- Night: 84 loads of blast, totally excavated
  Continued hammer.

QA/QC:

- test pits done on East side of slope (just ~~south~~ north of A45) → ice @ crest.
  ↳ samples taken @ bottom of the slope.
- Esker corrections remaining → Confirm w/ design.
- Talk w/ designer for ice lenses
- On-going samples.

General Planning/Comments:

KCG:

Clean clean up muck.
West maintenance road.
Get first section approved south of A45.

QA/QC:

Designer talks
Lab results to become available.

Report By: [signature]

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 3/03/2020

Time: 7h30

Presents:

AEM: PETI, MH, YS

KCG: NT, SL, EG

QA: HAA QC: SD

Health & Safety & Environment:

Call when you disembark from pickup on the channel. Park so that the operators can see you. Respect traffic plan. HSSE visit planned today.

Daily Advance:

KCG: DS: 60 loads till (cleanup), hammer and shovel.
NS: 13 loads esker (backfill), almost complete
7 loads till (cleanup)
West access road (38 loads NPAG) → 0+310

QA/QC: spoke with designer about esker segregation
transition with lake A45 to come. In the meantime, approve other zones.
0+540 /520 : ice lenses on top of slopes
inlet area rockier at the bottom.
moisture content 0+530 : high WC
0+520 at bottom of slope : rather high WC.

General Planning/Comments:

KCG: West access road
hammer as much as possible so it can move to the southern extremity.
possible foundation approval

QA/QC: discussion with designer for lake A45
sampling.

Report By: MH

DAILY CONSTRUCTION MEETING

SOUTH WHALE TAIL CHANNEL

AGNICO EAGLE
MEADOWBANK

Date: 4/03/2020

Time: 7h30

Presents:

AEM: TH, YS

KCG: EG, NT, SL

QA: HAA QC: SD

Health & Safety & Environment:

Communication tower rebooted: radio signal should be better on the channel.

Daily Advance:

KCG: DS: W. load: 46 loads NPAG → 0+220 hammer → 0+070

28 loads snow

1 load 2" for access

NS: WK 68 loads NPAG → 0+080

hammer gone to the pit during the night.

Snow removal and cleanup with 450.

Casing drilled	/ 192
Injection	/ 192
Water cons.	liters
Cement	Kg

QA/QC: visual inspection of esker: corrections to do

→ 0+688 is good, south of that, esker is less well-graded (too coarse). Cobble zones to rework.

A zone of esker seems to have been placed on non-approved foundation 545/540. To verify.

Reminder to remove snow before placing road material.

Sampling foundation soil. Gradations.

General Planning/Comments:

KCG: Hammer (~ 2 days remaining)

Snow removal (not the priority).

QA/QC: Sampling. Esker 545.

Possibly foundation approval.

With AET: check for filters elevation when the channel depth is lower.

Report By: TH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 5/03/2020

Time: 7h30

Presents:

AEM: TH, JFB

KCG: EG, SL, NT

QA: HAA QC: SD

Health & Safety & Environment:

Snow mobile crossing close to emulsion plant, speed limit has been modified.

Daily Advance:

KCG: DS: cleanup 355 → 240 (hammer + shovel) + 2 loads 2"
56 loads snow removal
5 loads Hill exc.
NS: 38 loads snow removal
31 loads Hill exc.
340 → 280 cleanup for approval

QA/QC: discussion with SNC and AEM about ice lenses.
sampling esker

General Planning/Comments:

KCG: foundation approval
cleanup with hammer (should be done today).
esker corrections on approved foundation
West access road.

QA/QC: sample 0-3/4" road stockpile to compare with the planned stockpile.
site visits, inspect esker stockpile
soil sampling.

Report By: TH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 6/03/2020

Time: 7h30

Presents:

AEM: TH, JFB

KCG: NT, EG, SL

QA: HAA QC: SD

Health & Safety & Environment:

Nothing to report. Radius to respect around equipment. Numbers difficult to identify on equipments.

Daily Advance:

KCG : DS : 25 loads snow removal
West road (3 loads NPAG) complete.
8 loads till from hammer and cleanup (hammer done)
0+335 → 0+280 foundation approved for filters + rockfill
NS : 11 loads till cleanup 235 → 210
esker (27 loads) 335 → 280 East side, 335 → 300 West side

QA/QC : Ice observed in the foundation at one spot (350)

General Planning/Comments:

KCG : Cleanup
Esker before blizzard → cover as much as possible.
Foundation approval

QA/QC : Esker placement monitoring
0-3/4" ATIC Road sampling
Soil sampling, esker sampling.

Report By: TH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 7/03/2020

Time: 7h30

Presents:

AEM: MH, JFB

KCG: EG, SL, NT

QA: HAA QC: SD

Health & Safety & Environment:

Nothing to declare. Blizzard conditions.

Daily Advance:

KCG: verified inlet excavation width, all good.

DS: 4 loads hill excavation.
28 loads esker → 230 (West), 260 (East)

NS: 12 loads esker → 260 → 210 (East) until blizzard

QA/QC: foundation approval 280 → 210
sample at 220, OK
esker placement is beautiful.
sampled 0-3/4" Road stockpile
rocky hump in rockfill zone: reminder to survey all foundation before approval.

General Planning/Comments:

KCG: wait for weather improvement, then resume operations
esker sorting

QA/QC: monitor cleanup esker
lab

Report By: MH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 8/03/2020

Time: 7h30

Presents:

AEM: MH, JFB

KCG: NT, EG, SL

QA: HAA QC: SD

Health & Safety & Environment:

Blizzard conditions until 2 PM. Reminder to communicate with operators before approaching. Road meeting points are plowed too wide (driving on snow): stay inside flags.

Daily Advance:

KCG: snow cleanup. 345 did not start until NS.
hill cleanup (11 loads) 210 → 170
esker (5 loads) 230 → 210 W
esker sorting at stockpile

QA/QC: survey checks: missing info, remaining blocks over grade.
esker inspection, form will be issued right before the filters are placed.
esker sampling
gradations 0-3/4"

General Planning/Comments:

KCG: foundation cleanup
change buckets for material placement
esker placement not planned to prioritize cleanup
cold weather procedure: no hammer possible, check if required.

QA/QC: sampling (soil)
approvals
check blocks over grade.
site visits
lab results verification.

Report By: MH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 9/03/2020

Time: 7h30

Presents:

AEM: FH, JFB

KCG: NT, SL, EG

QA: HAA QC: SD

Health & Safety & Environment:

Snow management plan : snow must be stockpiled on the East side of the channel.

Daily Advance:

KCG : DS : 20 loads till
f. approval 210 → 185 , 170 → 135
3 loads 2" for roads
cleanup

NS: hammer 170 → 185, 135 → 050
cleanup for approval (10 loads till)
esker W+E : 210 → 190

QA/QC : sample 0+170 9% WC
0+170 → 0+185 some hammering to do before approving foundation
QA wants to be present for compaction.
esker must be placed in several lifts for compaction.

General Planning/Comments:

KCG : esker (2 shovels) if foundation approved.
Road 24 near inlet.
fine filter

QA/QC : verifications before cross-shifting.

Report By: FH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 10/03/2020

Time: 7h30

Presents:

AEM: TH, JFB

KCG: SL, NT

QA: DT QC: MC

Health & Safety & Environment:

Nothing on the channel. Electric shock in the SANA shop.

Daily Advance:

KCG : DS : 4 loads till (excavation)
30 loads esker → 0+155 W+E

NS : 28 loads esker W → 0+050
(stop for Code 1) E → 0+100

QA/QC : cross-shifting yesterday
foundation approval
foreman and construction general supervisor took pictures of operations during X-shifting

General Planning/Comments:

KCG : finish esker
finish Road 24
place fine filter with 2 shovels
remove snow on the esker

QA/QC : esker approval for FF placement
sample esker

Report By: TH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 11/03/2020

Time: 7h30

Presents:

AEM: PG, FTH

KCG: NT

QA: DT QC: TC

Health & Safety & Environment:

Nothing to report.

Daily Advance:

KCG: DS: esker completed (26 loads)
Road 24 extended (3 loads NPAG) + access ramps to bottom of channel
fine filter (3 loads)
2 loads 2" for maintenance
NS: FF 0+330 → 0+270, 0+66 → 0+140 (51 loads)
0-3/4" road stockpile has a lot of frozen chunks.

QA/QC: gradations (FF, esker + in-place material)
esker sampling
esker approval with corrections.

General Planning/Comments:

KCG: finish FF on the first section
approval of FF
start coarse filter

QA/QC: approve FF surface
gradations

Report By: FTH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 12/03/2020

Time: 7h30

Presents:

AEM: PG, MH, JFB

KCG: SL, NT

QA: DM QC: MC

Health & Safety & Environment:

Small spill at the stockpile (2L).

Daily Advance:

KCG: DS: 41 loads FF (South → 195, North → 210)
NS: connect both sides (2 loads)
CF 0+167 → 0+155, stockpile is frozen.
cleanup snow on North part

QA/QC: sampling FF
approval of FF surface
gradations

General Planning/Comments:

KCG: CF, try loosen stockpile material
cleanup of esker surface

QA/QC: approval of remaining FF surface
approval of esker surface
gradations

Report By: MH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 13/03/2020

Time: 7h30

Presents:

AEM: PG, MH, JFB

KCG: JD, DP, NT

QA: DM QC: MC

Health & Safety & Environment:

Nothing to report on the channel.
Small spill at the stockpile (reported).

Daily Advance:

KCG: DS: CF: 25 loads 0+155 → 0+240
Cleanup 600 → 700, 916 → 845 (11 loads of snow)
Esker corrections (3 loads).
NS: finish CF 200 → 240 (14 loads)
FF 555 → 628, 906 → 867 (43 loads)

QA/QC: FF approval
snow cleaning approval over esker surface
sample CF and FF
monitor material placement, requested additional compaction for toe of CF slope.
gradations CF, mostly good, and FF.

General Planning/Comments:

KCG: continue removing snow on north side
FF placement
crew change today.

QA/QC: monitor material placement and compaction.
sampling
approval of esker surface and ff surface.

Report By: MH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 14/03/2020

Time: 7h30

Presents:

AEM: PG, MH, JFB

KCG: JT, JD, NT, DP

QA: DM QC: MC

Health & Safety & Environment:

Reminder to observe traffic plan and to leave space for passing over.
Make sure the operators are aware of your presence.

Daily Advance:

KCG: FF approval 845 → 772; 700 → 555
snow clearing 772 → 700
CF 555 → 630

QA/QC: approvals
site visits
sampling FF
gradations FF

General Planning/Comments:

KCG: esker approval
FF placement
then CF placement

QA/QC: approvals
sample FF and CF

Report By: MH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 15/03/2020

Time: 7h30

Presents:

AEM: MH, JFB

KCG: JD, JT

QA: DT QC: MC

Health & Safety & Environment:

(?) about the procedure for loaded haul trucks parking.
Low visibility due to blowing snow.

Daily Advance:

KCG: NS: FF → 845 → 700 (19 loads)
CF → 655 (8 loads)
shift ended because of blizzard
NS: snow removal
FF 700 → 710

QA/QC: QC needs to monitor snow cleaning.
approval
sampling of
gradations

General Planning/Comments:

KCG: snow removal
ff placement
work on small areas due to blowing snow.

QA/QC: sample CF, FF
follow-up on works
gradations

Report By: MH

JEANNOT.DESBIENS@GROUPEGILBERT.COM

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 16/03/2020

Time: 7h30

Presents:

AEM: PG, TTH, JFB

KCG: JT, JD, DP

QA: DT QC: TTC

Health & Safety & Environment:

Blizzard conditions. Slippery ground. Visibility is low. New questionnaire to fill in before leaving site and before coming on site.

Daily Advance:

KCG: snow removal
FF 845 → 805, 700 → 770 (34 loads)

NS ended ~ 11 PM due to blizzard.

QA/QC: monitored snow removal
sampling
eker + FF approval
gradations on FF

General Planning/Comments:

KCG: FF placement after snow removal, try to finish the section
open the road after blizzard.
crew change
make sure NS has enough room to work (plan approvals).

QA/QC: monitor cleaning and FF placement
weekly report
sampling
gradations

Report By: TTH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 17/03/2020

Time: 7h30

Presents:

AEM: PG, MH, JFB

KCG: JD, JT

QA: DM QC: MC

Health & Safety & Environment:

Visibility on the channel due to blizzard conditions, Slippery slopes : be careful when going into the channel.

Daily Advance:

KCG : snow removal
ff completed 770 → 805
blizzard at 2:30 PM → midnight
end of NS : 905 → 885 CF

QA/QC : site visits
gradations
sampling ff (almost all done)

General Planning/Comments:

KCG : snow removal
CF placement in sections
crew change.

QA/QC : sampling CF
cleaning the remaining ff section to approve : make sure not to forget it.
gradations.

Report By: MH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 18/03/2020

Time: 7h30

Presents:

AEM: TH, JFB, YS (phone)

KCG: JT, JD

QA: DT QC: TC

Health & Safety & Environment:

Nothing to report. Cold weather.
New crew members, new tasks (geotextile installation)

Daily Advance:

KCG: snow removal, ff corrections
CF: 885 → 830
crew change, NS started around 11

QA/QC: FF final approval
gradations FF (all done)
compaction: track toe of the slope with the shovel.
as-built: take more survey points to avoid interpolation errors. (0+650)

General Planning/Comments:

KCG: snow removal
CF placement
prepare for geotextile placement.
work method to be checked.

QA/QC: AEM: continuous approval of textile and riprap to avoid delays.
monitor works
first placement of textile should be monitored
sample CF

Report By: TH

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 19/03/2020

Time: 9h30

Presents:

AEM: MH, LC, YS (phone)

KCG: JT, JD

QA: DD QC: MC

Health & Safety & Environment:

JHA done for the geotextile installation. Make sure new workers review it.

Daily Advance:

KCG : CF finished except for lake area.
snow removal
time lost due to mucking of misshdes.

QA/QC : sample CF
works monitoring
ff excessive thickness at 1 point, already buried with CF.

General Planning/Comments:

KCG : geotextile + riprap
surface correction

340 -> 390 : foundation approval will require hammering ; could be done when the weather does not allow for geotextile.

QA/QC : compact more the place with excessive thickness to level it.
CF approval.

Report By: MM

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 2020-03-21

Time: 7h00

Presents:

AEM: YS LC

KCG: JT

QA: DM QC : MC

Health & Safety & Environment:

Nothing to report

Daily Advance:

KCG : Snow removal, geotextile and rip rap from 0+840 to 0+906 done, for a total of 0+740 to 0+906

Outlet at 0+906 completed during night shift

QA/QC : Follow up and acceptance on the strategy regarding the geotextile overlapp placement at the end of rolls in continuity.

Follow up on placement and advance of material

Gradation : 2 samples were close from the limit but considering the additional protection,

they are acceptable. Daniel will do notes regarding this.

General Planning/Comments:

KCG : Snow cleanup, geotextile and rip rap from 0+740 going south

Windy weather announced today and in the next days, monitoring for work impact and will adjust to plan b if necessary

QA/QC : Approval in zone between 0+565 to 0+620

Gradation on coarse sample

Follow up in the field

Report By: Y. simard

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 2020-03-21

Time: 7h15

Presents:

AEM: YS LC JC

KCG: JG JT

QA: DM QC : MC

Health & Safety & Environment:

Nothing to report

Night shift supervisor not fit to work update, today.

Daily Advance:

KCG : No geotextile, too windy

Approval in area 0+545 to 0+560 for foundation, then esker and 3-4.

Night shift : Geotextile from +700 to 0+740.

Coarse filte at 0+545 to 0+560.

QA/QC : Follow up and approval for section 0+545 – 0+560

Sampling and gradation on fine and coarse.

reports.

General Planning/Comments:

KCG : Geotaxtile and ri rap

Bad weather is announced for tonight and tomorrow, no snlow clean up.

QA/QC : Approval for coarse

Follow up on work advances.

Observation for ice lens to perform with AEM and KCGrepresentatives.

Report By: Y. simard

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 2020-03-23

Time: 7h15

Presents:

AEM: YS LC JC

KCG: JG JT

QA: DM QC : MC

Health & Safety & Environment:

Nothing to report

Night shift supervisor will be sent home today

Daily Advance:

KCG : Geotextile and ri rap installed from 0+700 to 0+600

remediation of fine issue in the ri rap

correction on coarse filter in south, approved

QA/QC : Approval of coarse and textile +rip rap

Discussions and follow up for fines in the rip rap.

Fine issue solved, Daniel to send a note on his report.

General Planning/Comments*:*

KCG : Geotextile and rip rap

Bad weather is announced for tonight and tomorrow, no snlow clean up.

Srcaping and cleaning in ice lens section (A 45 area)

QA/QC : Follow up on work advances.

Paper work and reports

Field visit

Report By: Y. simard

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 2020-03-24

Time: 7h15

Presents:

AEM: YS LC

KCG: AG DP SL AB

QA: DM QC :

Health & Safety & Environment:

Nothing to report

Daily Advance:

KCG : Geotextile and ri rap installed from 0+600 to 0+560 on north section

Geotextile and rip rap installed from 0+345 to 0+320 on South section

Snow clean up in A45 area

QA/QC : Approval of coarse and textile +rip rap

follow up on work advances.

discussions for QA QC coverage.

General Planning/Comments:

KCG : Geotextile and rip rap in south section

Clean up at A45 area and foundation approval

Srcaping and cleaning in ice lens section (A 45 area)

QA/QC : Follow up on work advances.

Approbation of A45 if the work are ok.

Observation and follow up for ice lens section.

Report By: Y. simard

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 2020-03-24

Time: 7h15

Presents:

AEM: YS LC VD JC

KCG: DP

QA: DM **QC :**

Health & Safety & Environment:

Nothing to report

Daily Advance:

KCG :

Geotextile and rip rap from 323 to 191

Clean up at north and south of A45

Hammer at south side A 45 area

QA/QC :

Foundation approval of cleanup around A45 area

follow up on work advances.

General Planning/Comments:

KCG :

Geotextile and rip rap in south section

Start esker in the approved area and follow with filter.

Rockfill placement in slope

Hammering around A 45 area

QA/QC :

Follow up on work advances.

Approbation of A45 if the work are ok.

Observation and follow up for ice lens section.

QA is leaving today.

Report By: Y. simard

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 2020-03-24

Time: 7h15

Presents:

AEM: YS LC VD JC

KCG: DP

QA: PY **QC :**

Health & Safety & Environment:

Nothing to report

Daily Advance:

KCG : Goetextile and rip rap from 0+191 to inlet

clean up for approval in Northen section of A 45

Hammering around A 45 area

QA/QC : Foundation approval of cleanup around A45 area, retouch to be done

follow up on work advances.

General Planning/Comments:

KCG : Esker and filter placement in A 45 approach

Rockfill placement in slope

Inlet work on night shift

QA/QC : Follow up on work advances.

Discussions with SNC & AEM about project details for transfer

Report By: Y. simard

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 2020-03-28

Time: 7h15

Presents:

AEM: YS VD

KCG: SL

QA: QC :

Health & Safety & Environment:

Nothing to report

Daily Advance:

KCG : Geotextile and rip rap from 0+551 to 448

Coarse filter from 0+545 to 0+500

snow removal at inlet and A45

QA/QC : Approval for coarse filter placement.

follow up on work advances.

General Planning/Comments:

KCG : Rockfill placement in slope

Inlet work at 0+70

QA/QC : Follow up on work advances.

Approval on daily adavnce.

Report By: Y. simard

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 2020-03-29

Time: 7h15

Presents:

AEM: YS VD

KCG: SL EG

QA: PY QC :

Health & Safety & Environment:

Nothing to report

Daily Advance:

KCG :

Rockfill placement in west slope from 0+768 to 0+530

Clean up A45 area from 0+343 to 0+420 and 0+505 to 0+520

Snow removal in slope west from 0+500 to 0+725 and 0+740 to 0+875 at east

Snow clean up from 0+560 to 0+690

QA/QC :

Approval rip rap from 0+495 to 0+545

Gradation results, 1 sample (0+379) had moisture in it

Follow up on work advances.

General Planning/Comments:

KCG :

Rockfill placement in slope

Ongoing in A45 clean up

QA/QC :

Follow up on work advances.

Approval on daily adavance.

Report By: Y. simard

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 2020-03-31

Time: 7h15

Presents:

AEM: YS TD VD CT

KCG: SL EG

QA: PY **QC :**

Health & Safety & Environment:

Light damage on KCG pick up truck, declaration done and sent

Daily Advance:

KCG :

Rockfill placement in slope East : 0+500 to 0+600 – 0+875 to 902 – 0+206 to 0+320

Rockfill placement in slope West : 0+758 to 0+787

Clean up in A 45 area 0+480 to 0+460 (hammering)

Clean up in top of slope 0+320 to 0+400

QA/QC :

Follow up on section 0+331 to 0+400 (still work to do to be approved)

Still high moisture content in sample around this section

Follow up on work advances.

General Planning/Comments:

KCG :

Rockfill placement in slope

Cleanup 0+331 to 0+400 for approval this morning

Hammering and clean up in A45 area

QA/QC :

Follow up on work advances.

Approval of 0+331 to 0+400 for foundation

Report By: Y. simard

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 2020-04-01

Time: 7h15

Presents:

AEM: YS TD VD CT AL

KCG: SL EG

QA: PY QC :

Health & Safety & Environment:

GHD QC didn't have contact while passing behing excavator, discussion to have

Daily Advance:

KCG :	Excavation approved for section 0+331 to 0+400	
	Rockfill placement in slope at east 0+200 to 0+218	
	Clean up in A45 section 0+500 to 0+440	
	Pit test for soil in A45	
	Esker from 0+326 to 0+396 at west on final grade	
	Esker from 0+326 to 0+390, still work to complete today	
QA/QC :		
	Approval of 0+331 to 0+400 for foundation	
	Test pits at 0+440 and 0+480. At 1m still see ice, took sample at 1.3m for moisture	

General Planning/Comments:

KCG :	Esker finalization between 0+326 to 0+400 and filters after approval
	Clean up in A45 section 0+500 to 0+440
	Hammering and clean up in A45 area
QA/QC :	Follow up on work advances.
	Approval of 0+331 to 0+400 on Esker for filters placement.

Report By: Y. simard

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: 2020-04-03

Time: ~~7h30~~ 7h15

Presents:

AEM: JB, AL, TD, CT

KCG: SL, EG

QA: CT QC: TD

Health & Safety & Environment:

Nothing to report. Work stopped due to blizzard conditions around 9h00 yesterday.

Daily Advance:

KCG:
- Hammer in lake A4S
- Clean up in lake A4S
- 0+155 to 0+191 rock fill

QA/QC: Nothing to report

General Planning/Comments:

KCG:
- Crew change today. Work will start back slowly in afternoon.

QA/QC: Will depend on the work that will be performed during the day.

Report By: Christen Tremblay.

DAILY CONSTRUCTION MEETING

WHALE TAIL DIKE 2019/2020

AGNICO EAGLE
MEADOWBANK

Date: Apcil 5 2020

Time: 7h~~30~~ 15

Presents:

AEM: J.B C.T A.L T.D E.V

KCG: S.L

QA: CT QC: TD. YA

Health & Safety & Environment:

Nothing

Daily Advance:

KCG:
- snow clean up in Ditch 6 Loads
- Hammesing A45 All Day
- correction 0 0/3/4 inch 3 Loads
- Rock Fill NPAG 15 loads 0+150
- Night shift Find Filter 0+375 to 0+384
- 0/6 inch 0+328 0+3~~7~~2

QA/QC:
- Hammesing A45 Hll Night
- Approval of FF from 0+331 to 0+372
- Approval of ~~Estev~~ west slope 0+374 to 0+400

Casing drilled	/ 192
Injection	/ 192
Water cons.	liters
Cement	Kg

General Planning/Comments:

KCG:
- Finish 0/6 inch
- Install Geo texile
- Start Rip Rap
- Start clean up WTSF snow removale

QA/QC: Follow up on approval

Report By: Jacques Bernard

DAILY CONSTRUCTION MEETING

WHALE TAIL DIKE 2019/2020

AGNICO EAGLE
MEADOWBANK

Date: April 6 2020

Time: 7h15

Presents:

AEM: J.B C.T T.D E.V

KCG: S.L

QA: CT QC: TD Y.A

Health & Safety & Environment:

⊘

Daily Advance:

KCG: 0+331 to 0+360 rip Rap 22 loads
0+331 to 0+400 0-6 inch compaction
Install GEO TEX
Clean up #45
Snow removal WRSF
Nights 0+386 to 0+~~388~~400 19 loads Rip Rap
QA/QC: 0+155 to 0+208 13 NPAG Rock Fill
- Install Geo TEX

Casing drilled	/ 192
Injection	/ 192
Water cons.	liters
Cement	Kg

General Planning/Comments:

KCG:
- Hamesing #45
- Rock Fill in slope start 0+208
- Snow removal WRSF

QA/QC:

Follow up on approval

Report By: Jacques Decaud

DAILY CONSTRUCTION MEETING
WHALE TAIL DIKE 2019/2020

AGNICO EAGLE
MEADOWBANK

Date: April 7 2020

Time: 7h30 / 15

Presents:

AEM: J.B SNC T.M

KCG: S.L E G

QA: C.T QC: T.D

Health & Safety & Environment:

No H/S

Daily Advance:

KCG: O+180 to O+340 west 26 Loads Rock fill
A-45 load of waste 3 loads / 4 loads SNOW
A-45 Hammering
Night O+358 to O+385 west Rock Fill 18 loads
O+385 to O+316 East Rock Fill
A-45 Remove 14 loads and SNOW

QA/QC: WRSF SNOW Removal

Casing drilled	/ 192	
Injection	/ 192	
Water cons.	liters	
Cement	Kg	

General Planning/Comments:

KCG:
- A-45 Clean up
- WRSF SNOW clean up
- work on Inlet O+70
-

QA/QC: - waiting on Aproval for A-45

Report By: Jacques Bernard

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: April 8 2020

Time: 7h~~00~~15

Presents:

AEM: J.B C.T J.C SNC T.M

KCG: S.L E.G

QA: C.T QC: J.C

Health & Safety & Environment:

No HS 10L spill Fuel at Sena Crusher WA-600 # 11-02-01

Daily Advance:

KCG: - Snow Removal WRSF / Snow and Rock Removal at SWTC 38km
- A-45 19 loads Removed / 2 loads 2inch RD Maintenance
- Night shift WRSF Dozer Pushing Snow
- A-45 11 loads Removed / A-45 Hammesing
- 3 load Esker 0+065 to 0+055
- 5 load 3/4 inch 0+065 to 0+055 / 4 loads 6inch 0+65 to 0+055

QA/QC: - 4 loads Rip Rap 0+065 to 0+055 / Install 600 Texile

General Planning/Comments:

KCG: - Finish inlet 0+065 to 0+055
- clean up Snow and Rock ou Edge SWTC
- Hammesing A-45 and WRSF
- Clean up at WRSF close to instrument
- waiting Appcouval A-45

QA/QC: Follow up at SWTC

Report By: Jacques Bernard

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: April 9 2020

Time: 7h30/15

Presents:

AEM: J.B SNC D.T

KCG: S.L F.G N.T

QA: C.T QC: J.C

Health & Safety & Environment:

FGL Surveyor walking in A-45 on ice and broke true the pot hole Aprox 1 Feet deep (Neas Miss)

Daily Advance:

KCG:
- Finish Inlet 0+060 to 0+055
- 1 load 6 inch and 6 load of Rip Rap
- Finish A-45 clean up loaded 5 loads
- clean up Edge SWTC 17 loads of waste meterial
- Night shift Continue Edge clean up loaded 52 loads

QA/QC:

General Planning/Comments:

KCG: Start A-45 once Approval
- Continue clean up on the Edge of SWTC

QA/QC: Follow up A-45

Report By: Jacques Bernard

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: April 10 2020

Time: 7h15

Presents:

AEM: J.B

KCG: S.L

SNC D.T

QA:

QC:

Health & Safety & Environment:

0

Daily Advance:

KCG: 37 load of snow and waste Rock on the Edge of SWTC

- Night's shift 63 load of snow and waste Rock on the Edge of SWTC

QA/QC :

General Planning/Comments:

KCG: - Keep clean up snow and waste Meterial on the Edge of SWTC

- waiting on Approuval A-45

QA/QC : Follow up on A-45 Approuval

Report By: Jacques Bernard

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: April 11 2020

Time: 7h~~30~~ 15

Presents:

AEM: J.B C.T E.V J.C

KCG: S.L E.G N.T

QA: C.T QC: J.C

Health & Safety & Environment:

⊖

Daily Advance:

KCG: - 24 load of snow and Rock, Edge SWTC
- Access Ramp to A-45 5 loads
- Eskers 0+430 0+400 14 loads

Night Shift Eskers 0+430 0+400 13 loads
- Rock Fill 0+493 0+400 34 loads

QA/QC :

General Planning/Comments:

KCG: - 0/3/4 0/6inch countinues Rock Fill

QA/QC: follow up ON A-45

Report By: Jacques Bernard

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: April 12 2020

Time: 7h~~30~~15

Presents:

AEM: J.D C.T J.C E.V

KCG: S.L E.G N.T

QA: C.T QC: J.C

Health & Safety & Environment:

0

Daily Advance:

KCG:
- 11 load Rock Fill A-45
- Fine filter 0+380 to 0+480 12 loads
- Course filter 0+380 to 0+420 8 loads

-Night shift - course filter 0+420 to 0+498 11 loads
- Rock Fill 0+398 to 0+478 58 loads west side

QA/QC:

General Planning/Comments:

KCG:
- Rock fill at A-45
- Sort Bolders for Finger drain at A-45

QA/QC: Follow up on Approval

Report By: Jacques Bernard

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: April 13 2020

Time: 7h30

Presents:

AEM: J.B C.T J.C SNC T.M

KCG: S.L E.G N.T

QA: C.T QC: J.C

Health & Safety & Environment:

No H/S - 48 L hyd in A-45 16-10-04 50T

Daily Advance:

KCG:
- Rock fill 0+439 to 0+485 west side 14 loads
- 11:00 Am Blizzard Condition stop

- Night Shift
  - Start opening the road at 2:00 Am
  - Spread crush on the Road

QA/QC:
- Sorting 500 mm to 1000 mm PAD - E
- Remove spill at A-45

General Planning/Comments:

KCG: - continue Rock fill From the Pit

QA/QC: Follow up at A-45

Report By: Gaetan Bernard

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: April 14 2020

Time: 7h30 15

Presents:

AEM: J.B P.E.M SNC T.M D.T

KCG: S.L N.T

QA: P.E.M QC: J.C

Health & Safety & Environment:

Daily Advance:

KCG: - Rock Fill at A-45 0+440 to 0+485 80 Loads
0+485 to 0+450 elevation 156.9

Nightshift A-45 71 loads Finish west side Rock Fill
Started East side Rock Fill
Loaded one load of snow clean up

QA/QC:

General Planning/Comments:

KCG: - Continue Rock fill at A-45 From the Pit
- Install GEO Texile
- Work on East side Rock Fill

QA/QC: Follow up at A-45

Report By: Jacques Bernard

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: April 15 2020

Time: 7h~~30~~ 15

Presents:

AEM: J.B

KCG: S.L E.G N.T SNC.T.M

QA: P.E.M QC:

Health & Safety & Environment:

0

Daily Advance:

KCG :

- Rock Fill East side 0+400 to 0+460 64 loads
- Snow removal Fondation A-45

Night shift: Rock Fill East side 0+400 to 0+460 56 loads
3 load of 500 to 1000 A-45 west side

QA/QC :

General Planning/Comments:

KCG :

- 500 to 1000 Finger drain East and west side
- Install Geo Texile
- Start Rip Rap

QA/QC : Follow up

Report By: Jacques Bernard

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: April 16 2026

Time: 7h30 15

Presents:

AEM: J.B SNC. T.M

KCG: E.G N.T S.L

QA: P.F.M QC: J.C

Health & Safety & Environment:

⊖ 4L hyd ON Road 22 Equipment 12-03-03

Daily Advance:

KCG: - Work on fingers drain 21 Loads of 500-1000
- Clean up snow in A-45

- Night shift - Cover Finger drain with NPAG 7 loads
- Short Down For Blizzard condition

QA/QC:

General Planning/Comments:

KCG: - Install GEO TEXile
- Put Rip Rap A-45

QA/QC: Follow up

Report By: Jacques Bernard

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

Date: April 17 2020

Time: 7h15

AGNICO EAGLE
MEADOWBANK

Presents:

AEM: J.B

KCG: S.L N.T E.G SNC T.T

QA: P.E.M QC: J.C

Health & Safety & Environment:

0

Daily Advance:

KCG : - 0+385 to 0+440 Rip Rap 30 loads
- Install GEO Textile

Night shift : 0+496 to 0+485 East side
0+496 to 0+475 bottom Past 32 loads
0+475 to 0+445 Rock Fill Slope

QA/QC : Install GEO Textile

General Planning/Comments:

KCG : - Finish Rip Rap IN A-45
- Finish GEO Textile IN A-45
-

QA/QC : follow up

Report By: Jacques Bernard

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: April 18 2020

Time: 7h~~30~~15

Presents:

AEM: S.B

KCG: S.L

QA: QC:

Health & Safety & Environment:

Ø

Daily Advance:

KCG: - 10 loads of Rip Rap
- GEO TEXile
- Shut DOWN at 10:00 AM Blizzard condition
- Night shift Blizzard condition

QA/QC :

General Planning/Comments:

KCG: Blizzard condition

QA/QC :

Report By: Jacques Lecuyer

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: April 19 2020

Time: 7h~~30~~15

Presents:

AEM: J.B P.E.A J.C SNC T.M

KCG: S.L E.G N.T

QA: P.F.M QC: J.C

Health & Safety & Environment:

☺

Daily Advance:

KCG: Shut Down Due to Blizzard
- Start up at 3:00 PM
- SNOW clean up on RD 22

Night shift -- SNOW clean up on RD 22
- Rip Rap 0+460 to 0+420 9 loads DONE
- SNOW clean up in the trench

QA/QC:

General Planning/Comments:

KCG:
- Finish channel shape (RD)
- Bring Bolders to set up for Tusbitity Bassier at the outlet

QA/QC: Follow up

Report By: Jacques Bernard

DAILY CONSTRUCTION MEETING

South Whale Tail Channel

AGNICO EAGLE
MEADOWBANK

Date: April 20 2020

Time: 7h45

Presents:

AEM: J.B P.E.M J.C SNC J.M

KCG: E.G N.T S.L

QA: P.E.M QC: J.C

Health & Safety & Environment:

0

Daily Advance:

KCG: - Finish channel shape 18 loads Rock Fill

- Night shift 2 loads of Rock Fill channel shape

QA/QC:

General Planning/Comments:

KCG: - Bolders for turbitity Barries

QA/QC:

Follow up

Report By: Jacques Bisnaire

Appendix E

Quality Control (QC) Daily Field Reports

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-01-15
Site Amaruq	☐ Drill and Blast ☐ Expertise ☐ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Derivation channel	
Project N° : 11204932-B1	☐ Other (specify):

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training

I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-43 °C

Field Results

- Sampling of 2 samples of fine filter in the stockpile (AMQ-FF-001 and AMQ-FF-002)
- Sampling of 1 sample of the bottom of the excavation of the soil in place (AMQ-IP-001)
- Sampling of 3 samples of 5 kg as requested by AEM for personal analysis
- Set up of the lab, to be continued.

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Mathieu Cote

(Print Name)

From : AEM

Signature* :

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-01-16
Site Amaruq	☐ Drill and Blast ☐ Expertise ☐ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project N° : 11204932-B1	☐ Other (specify):

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training

I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-32 °C

Field Results

- Gradation of fine filter (AMQ-FF-001 and AMQ-FF-002)
- Gradation of soil in place at the bottom of the excavation (AMQ-IP-001)
- Setup of the lab and now ready for utilization
- Visit of the channel, not ready for approval now

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Mathieu Cote
(Print Name)

From : AEM

Signature* :

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

Daily Field Report

Client AEM	Inspection Date 2020-01-17
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☒ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Derivation channel	
Project N° : 11204932-B1	☐ Other (specify):

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training

I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-44 °C

Field Results

- Sampling of 2 samples of esker from the WRSF capping stockpile (AMQ-ES-001 and AMQ-ES-002)
- Gradations of the 2 samples of esker to be continued tomorrow morning
- Visit on site of the channel for the foundation approval, they are not ready for approval now
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Mathieu Cote (Print Name)

From : AEM

Signature* : Mathieu Cote

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

Daily Field Report

Client AEM	Inspection Date 2020-01-18
Site Amaruq	☐ Drill and Blast ☐ Expertise ☐ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project Nº : 11204932-B1	☐ Other (specify):

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training

I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-34 ˚C

Field Results

- Gradation of esker from the WRSF stockpile (AMQ-ES-002)
- Blizzard condition everything stopped around 11:00 and the roads for the stockpile were closed, stand by at the office.
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Mathieu Cote (Print Name)

From : AEM

Signature* : Mathieu Cote

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

Daily Field Report

Client AEM	Inspection Date 2020-01-19
Site Amaruq	☐ Drill and Blast ☐ Expertise ☐ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Derivation channel	
Project Nº : 11204932-B1	☐ Other (specify):

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training

I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-32 ˚C

Field Results

- Sampling of dompag (AMQ-DO-001)
- Sampling of soil in place (AMQ-IP-002)
- Blizzard condition, stand by at the office until 16:00
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Mathieu Cote (Print Name)

From : AEM

Signature* : Mathieu Cote

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-01-20
Site Amaruq	☐ Drill and Blast ☐ Expertise ☐ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project Nº : 11204932-B1	☐ Other (specify):

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training

I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-30 ˚C

Field Results

- Sampling of 2 samples of fine filter (AMQ-FF-003 and AMQ-FF-004) from the top of the stockpile
- Took a sample from the bottom of the excavation at ch: 0+800 (AMQ-IP-003) and visited the site of excavation with QA
- Water in my Gilson made me lost about 4 hours to dry everything…
- Gradation of soil in place (AMQ-IP-002)

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Mathieu Cote (Print Name)

From : AEM

Signature* : Mathieu Cote

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-01-21
Site Amaruq	☐ Drill and Blast ☐ Expertise ☐ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project Nº : 11204932-B1	☐ Other (specify):

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training

I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-43 ˚C

Field Results

- Gradation of soil in place (AMQ-IP-003)
- Gradation of Fine filter (AMQ-FF-003)
- Sampling of coarse filter (AMQ-CF-001) and gradation to be finish tomorrow morning
- Visit on the site with QA

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Mathieu Cote (Print Name)

From : AEM

Signature* : Mathieu Cote

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-01-22
Site Amaruq	☐ Drill and Blast ☐ Expertise ☐ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☐ Other (specify):

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training

I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-54 ˚C

Field Results

- Sampling in the stockpile of fine filter (AMQ-FF-005) with a loader
- Sampling in the stockpile of coarse filter (AMQ-CF-002) with a loader
- Gradation (AMQ-CF-002) to finish in tomorrow
- Water pump in the lab stopped working, SANA plumber coming to fix it tomorrow
- Gradation of coarse filter (AMQ-CF-001)
- Visit on the site with QA

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Mathieu Cote (Print Name)

From : AEM

Signature* : Mathieu Cote

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-01-23
Site Amaruq	☐ Drill and Blast ☐ Expertise ☐ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☐ Other (specify):

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training

I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-44 ˚C

Field Results

- Gradation of Coarse filter (AMQ-CF-002)
- Sampling of till from the bottom of excavation for moisture content
- Sampling of N-pag from WRSF stockpile
- Visit on field with QA
- Visit on field with the surveyors and the dike supervisor to speak about how we will do the approvals

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Mathieu Cote (Print Name)

From : AEM

Signature* : Mathieu Cote

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-01-28
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Derivation channel	
Project N° : 11202247-B1	☒ Other (specify): Camp and site inductions
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-20 ˚C

- Field Results : **First day field report from QC night shift**
- General induction to Amaruq camp, received from welcoming team
- Site works induction, site visits organized by QA/Mine team
- Site visits with contractor surveyor during night shift : discussions on the channel excavation setting up process
- On demand of the surveyor, channel slope excavation visual inspection from ch.0+830 to ch.0+775 .
  No approval was given
- Review of tasks list prepared by previous QC: tasks will be planned with the QA
- Inspection of lab equipments : everything is likely functional for basic tests to be conducted on samples.
- Awaiting samples reviewed, and tests will be planned for coming days.

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Yaotree Amegnran (Print Name)

From : AEM

Signature* : Yaotree Amegnran

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-01-28
Site Amaruq	☐ **Drill and Blast** ☐ **Expertise** ☐ **Foundation Prep.** ☐ **Vibration Monitoring** ☐ **Rockfill Placement** ☐ **Water Management** ☐ **Sampling** ☐ **Grout curtain** ☐ **Compaction** ☐ **Liner / Geotextile** ☐ **Gradations**
Project Derivation channel	
Project N° : 11202247-B1	☒ **Other (specify):** Camp and site inductions
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	 **-17 ˚C**

Field Results :

- Took the bus from Meadobank to Amaruq ;
- Visit of the main building, at Amaruq whit the Owner's Representative ;
- Visit of the lab, and review the tasks list left by previous QC ;
- Site visit to the channel QA (SNC Lavalin) and AEM representatives ;
- General induction to Amaruq camp, received from welcoming team
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Pier-Éric McDonald

Inspector : Stéphane Dorvélus
(Print Name)

From : AEM

Signature* : Stéphane Dorvélus

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-01-29
Site Amaruq	☐ Drill and Blast ☐ Expertise ☐ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project N° : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-27 ˚C

- Field Results
- Gradation of N-Pag (AMQ NP-003) : Material sampled by Mathieu Coté and test completed by Yaotree A.
- Gradation of Fine Filter (FF-005) : Material sampled by Mathieu Coté and test done by Yaotree A.
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Yaotree Amegnran (Print Name)

From : AEM

Signature* : Yaotree Amegnran

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-01-29
Site Amaruq	☐ **Drill and Blast** ☐ **Expertise** ☐ **Foundation Prep.** ☐ **Vibration Monitoring** ☐ **Rockfill Placement** ☐ **Water Management** ☐ **Sampling** ☐ **Grout curtain** ☐ **Compaction** ☐ **Liner / Geotextile** ☐ **Gradations**
Project Derivation channel	
Project N° : 11202247-B1	☒ **Other (specify):** Visit to the site
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-34 ˚C

Field Results :

- Attend daily meeting ;
- Visit of the site with QA for foundation approval, from station 0+830 to station 0+775 ;

*Note : The foundation was free of ice, snow and water ;

- Visit of the site with QA for Lines and grades approval, from station 0+917 to station 0+830.

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Pier-Éric McDonald

Inspector : Stéphane Dorvélus
(Print Name)

From : AEM

Signature* : Stéphane Dorvélus

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-01-30
Site Amaruq	☐ **Drill and Blast** ☐ **Expertise** ☐ **Foundation Prep.** ☐ **Vibration Monitoring** ☐ **Rockfill Placement** ☐ **Water Management** ☐ **Sampling** ☐ **Grout curtain** ☐ **Compaction** ☐ **Liner / Geotextile** ☐ **Gradations**
Project Derivation channel	
Project N° : 11202247-B1	☒ **Other (specify):** Office work
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	 **-31 ˚C**

Field Results :

- Attend daily meeting ;
- Did some paperwork and a brief summary of all the tests that have been done at the lab so far ;
- Due to bad weather condition, we could not go to the channel site today (White out).
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Pier-Éric McDonald

Inspector : Stéphane Dorvélus
(Print Name)

From : AEM

Signature* : Stéphane Dorvélus

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-01-30
Site Amaruq	☐ **Drill and Blast** ☐ **Expertise** ☐ **Foundation Prep.** ☐ **Vibration Monitoring** ☐ **Rockfill Placement** ☐ **Water Management** ☐ **Sampling** ☐ **Grout curtain** ☐ **Compaction** ☐ **Liner / Geotextile** ☐ **Gradations**
Project Derivation channel	
Project N° : 11202247-B1	☒ **Other (specify):** Office work
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	 **-31 ˚C**

Field Results :

- Attend daily meeting ;
- Did some paperwork and a brief summary of all the tests that have been done at the lab so far ;
- Due to bad weather condition, we could not go to the channel site today (White out).
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Pier-Éric McDonald

Inspector : Stéphane Dorvélus
(Print Name)

From : AEM

Signature* : Stéphane Dorvélus

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-01-31
Site Amaruq	☐ Drill and Blast ☒ Foundation Prep. ☐ Rockfill Placement ☒ Sampling ☐ Compaction ☒ Gradations ☐ Other (specify):
Project Derivation channel	☐ Expertise ☐ Vibration Monitoring ☐ Water Management ☐ Grout curtain ☐ Liner / Geotextile
Project N° : 11202247-B1	

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-25 ˚C

- Field Results :

- Sampling of the Esker material used to level the channel slope. Esker material in place : AMQ-ES-004
- Field visit of channel excavation. Approval of western slope from ch.0+828 to ch.0+775. Spots of snow removed, as required, prior to the set up of the esker material to fill gaps in the slope. Surveyor provided locations of the section filled.
- Gradation of Esker sample collected by day shift team (AMQ-ES-003) ;
- Start gradation of Esker material sampled during the shift (on site Esker AMQ-ES-004)
- Design of a sampling form to facilitate information management during sampling process: prior approval is required.
- **Office equipment** : Project Manager is ordering new computer from GDH headquarter. Computer will likely be received on next Monday
- **Lab equipment : Guilson is misbehaving. Urgent maintenance required.**

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Yaotree Amegnran
(Print Name)

From : AEM

Signature* : Yaotree Amegnran

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-01-31
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Derivation channel	
Project N° : 11202247-B1	☒ Other (specify): Visit of de site
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-25 ˚C

Field Results :

- Attend SOP training ;
- Visit on site of the channel with QA to take pictures of the work progression ;
- Visual inspection to detect if snow and ice was removed from the foundation of the channel between station 0+830 and station 0+775, before putting the Esker in place, following yesterday's blizzard ;
- Visual inspection of the frozen zone ;
- Took a sample of Esker from the WRSF stock pile. (AMQ-ES-003) ;
- Prepared the sample for gradation.

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Pier-Éric McDonald

Inspector : Stéphane Dorvélus
(Print Name)

From : AEM

Signature* : Stéphane Dorvélus

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-01
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project N° : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-24 ˚C

- Field Results :
- Start gradation of sample AMQ-ES-005, sampled during day shift
- Field visit : photos collected to document work process from ch.830 to ch.775.
- Design of sampling form to provide useful information on the materials samples for better follow up of gradation
- **Lab equipment** : Repair demand is sent to maintenance workshop . Repair not yet effective

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Yaotree Amegnran (Print Name)

From : AEM

Signature* : Yaotree Amegnran

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-01
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project N° : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-24 ˚C

- Field Results :
- Start gradation of sample AMQ-ES-005, sampled during day shift
- Field visit : photos collected to document work process from ch.830 to ch.775.
- Design of sampling form to provide useful information on the materials samples for better follow up of gradation
- **Lab equipment** : Repair demand is sent to maintenance workshop . Repair not yet effective

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Yaotree Amegnran (Print Name)

From : AEM

Signature* : Yaotree Amegnran

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-02
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	☒ Other (specify): Site visit and lab
Project Nº : 11202247-B1	
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-29 ˚C

Field Results :

- Attend daily meeting ;
- Visit on work site with QA to see the channel foundation and excavation progression ;
- Visit to the channel to see if the Esker put in place ;

*(Awaiting for the gradation results. If the results or no good, correction might have to be done from ST.0+830 to ST.0+775 ;

- Visit to the lab to continue gradation of sample AMQ-ES-003, AMQ-ES-004 and AMQ-ES-005 ;
- * (If the Gilson is usable today, check with supervisor if it has been fixed) .
- Since sample AMQ-ES-003 was in the Gilson when it broke, we had to take another sample to replace it ;
- No approval today, snow has to be remove on the west side of the slope from ST.0+775 to ST.0+735

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Pier-Éric McDonald

Inspector : Stéphane Dorvélus
(Print Name)

From : AEM

Signature* : Stéphane Dorvélus

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-02
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	☒ Other (specify): Site visit and lab
Project Nº : 11202247-B1	
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-29 ˚C

Field Results :

- Attend daily meeting ;
- Visit on work site with QA to see the channel foundation and excavation progression ;
- Visit to the channel to see if the Esker put in place ;

*(Awaiting for the gradation results. If the results or no good, correction might have to be done from ST.0+830 to ST.0+775 ;

- Visit to the lab to continue gradation of sample AMQ-ES-003, AMQ-ES-004 and AMQ-ES-005 ;
- * (If the Gilson is usable today, check with supervisor if it has been fixed) .
- Since sample AMQ-ES-003 was in the Gilson when it broke, we had to take another sample to replace it ;
- No approval today, snow has to be remove on the west side of the slope from ST.0+775 to ST.0+735

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Pier-Éric McDonald

Inspector : Stéphane Dorvélus
(Print Name)

From : AEM

Signature* : Stéphane Dorvélus

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-03
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project N° : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-33 ˚C

- Field Results :
- Sampling of the soil in place at the channel bottom. material in place : AMQ-IP-004 at ch. 0+750
- Start gradation of sample AMQ-IP-005 : too much water content. Suggestion to proceed to ice content determination
- Gradation of sample AMQ-ES-3.1
- Data processing of gradations results .
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Yaotree Amegnran (Print Name)

From : AEM

Signature* : Yaotree Amegnran

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-03
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☒ Other (specify): Site visit and lab
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-38 ˚C

Field Results :

- Attend daily meeting ;
- Visit on work site with QA to see the channel foundation and excavation progression ;
- Visit to the lab to continue gradation of sample AMQ-ES-003.1 ;
- Approval of foundation from ST.0+775 to ST.0+735
  (Snow has been removed).

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Pier-Éric McDonald

Inspector : Stéphane Dorvélus
(Print Name)

From : AEM

Signature* : Stéphane Dorvélus

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-03
Site Amaruq	☐ Drill and Blast ☒ Foundation Prep. ☐ Rockfill Placement ☒ Sampling ☐ Compaction ☒ Gradations ☐ Other (specify):
Project Derivation channel	☐ Expertise ☐ Vibration Monitoring ☐ Water Management ☐ Grout curtain ☐ Liner / Geotextile
Project N° : 11202247-B1	
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-35 ˚C

- Field Results :
- Gradation of sample AMQ-ES-006
- Start gradation of sample AMQ-IP-006
- Gradation of sample AMQ-ES-005
- Data processing of gradations results .
- **Lab equipment** : Guilson received maintenance done by Dike supervisor, and performance has improved

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Yaotree Amegnran (Print Name)

From : AEM

Signature* : Yaotree Amegnran

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-04
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-32 ˚C

Field Results :

- Attend daily meeting ;
- Visit on work site with QA to see the channel foundation and excavation progression ;
- Visit to the lab to continue gradation of sample AMQ-IP-005 ;
- Visit to the coarse filter stock pile to see what it looks like. (It was frozen, but gradation looks good)
- Sampling of Esker in place at ST.0+800 (AMQ-ES-006), ST.0+780 (AMQ-ES-007) and ST.0+860 (AMQ-ES-008).
- Sampling of soil in place at the bottom of the channel, at ST.0+765 (AMQ-IP-006)

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Pier-Éric McDonald

Inspector : Stéphane Dorvélus
(Print Name)

From : AEM

Signature* : Stéphane Dorvélus

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-05
Site Amaruq	☐ Drill and Blast ☐ Expertise
Project Derivation channel	☒ Foundation Prep. ☐ Vibration Monitoring
	☐ Rockfill Placement ☐ Water Management
	☐ Sampling ☐ Grout curtain
	☐ Compaction ☐ Liner / Geotextile
	☒ Gradations
Project Nº : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training	 -38 ˚C
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	

Field Results :

- Visit to the lab to continue gradation of samples (AMQ-ES-007) and (AMQ-ES-008) ;
- Start gradation of (AMQ-IP-006), will be continued by night shift ;
- Visit on work site with QA to see the channel foundation, drilling, cleaning and excavating progression.

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Pier-Éric McDonald

Inspector : Stéphane Dorvélus (Print Name)

From : AEM

Signature* : Stéphane Dorvélus

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-05
Site Amaruq	☐ Drill and Blast ☐ Expertise
Project Derivation channel	☒ Foundation Prep. ☐ Vibration Monitoring
	☐ Rockfill Placement ☐ Water Management
	☐ Sampling ☐ Grout curtain
	☐ Compaction ☐ Liner / Geotextile
	☒ Gradations
Project Nº : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training	 -38 ˚C
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	

Field Results :

- Visit to the lab to continue gradation of samples (AMQ-ES-007) and (AMQ-ES-008) ;
- Start gradation of (AMQ-IP-006), will be continued by night shift ;
- Visit on work site with QA to see the channel foundation, drilling, cleaning and excavating progression.

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Pier-Éric McDonald

Inspector : Stéphane Dorvélus (Print Name)

From : AEM

Signature* : Stéphane Dorvélus

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-06
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☐ Gradations ☐ Other (specify):
Project Derivation channel	
Project N° : 11202247-B1	
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-31 ˚C

Field Results :

- Attend daily meeting ;
- Creation of a summary record, to assure traceability of all sample ;
- Visit on work site to see the channel foundation, drilling and excavating progression, also to have an idea of all the working zones (Drilling, Excavating, Blasting and Snow removal).

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Pier-Éric McDonald

Inspector : Stéphane Dorvélus (Print Name)

From : AEM

Signature* : Stéphane Dorvélus

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*



View of the outlet side of the SWDTC (ST.0+917)



View of the SWDTC, looking South (From ST.0+830)



View of the SWDTC, looking North (From ST.0+755)



View of the SWDTC, looking South (From ST.0+785)



End of Excavation work on the North side of Lake A45 (From ST.0+640 to ST.0+595)



End of Excavation work on the North side of Lake A45 (From ST.0+640 to ST.0+595)



Excavation work on the South side of Lake A45 (ST.0+330)



Snow and ice removal (ST.0+480 to 0+540)



Drilling zone



Drilling zone

AGNICO EAGLE

Daily Field Report



Hammering work on the South side of Lake A45 (ST.0+545)

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-06
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	 -31 ˚C

Field Results :

- Attend daily meeting ;
- Creation of a summary record, to assure traceability of all sample ;
- Visit on work site to see the channel foundation, drilling and excavating progression, also to have an idea of all the working zones (Drilling, Excavating, Blasting and Snow removal).

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Pier-Éric McDonald

Inspector : Stéphane Dorvélus
(Print Name)

From : AEM

Signature* : Stéphane Dorvélus

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*



View of the outlet side of the SWDTC (ST.0+917)



View of the SWDTC, looking South (From ST.0+830)



View of the SWDTC, looking North (From ST.0+755)



View of the SWDTC, looking South (From ST.0+785)



End of Excavation work on the North side of Lake A45 (From ST.0+640 to ST.0+595)



End of Excavation work on the North side of Lake A45 (From ST.0+640 to ST.0+595)

AGNICO EAGLE

Daily Field Report



Excavation work on the South side of Lake A45 (ST.0+330)



Snow and ice removal (ST.0+480 to 0+540)



Drilling zone



Drilling zone

AGNICO EAGLE

Daily Field Report



Hammering work on the South side of Lake A45 (ST.0+545)

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-07
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Derivation channel	
Project N° : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-32 ˚C

Field Results :

- Attend daily meeting ;
- Visit on work site to see the excavation progression,
- Took time to read once again all the technical specification for the SWTDC project ;
- Make a comeback on all the gradation tests we did since our arrival here, to verify if there is no analysis error ;
- Sampling of Soil in place, (AMQ-IP-007) at ST.0+500.

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Pier-Éric McDonald

Inspector : Stéphane Dorvélus
(Print Name)

From : AEM

Signature* : Stéphane Dorvélus

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-07
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project N° : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-32 ˚C

Field Results :

- Gradation of sample AEM-IVRT-TP5 : it is AEM geotechnical investigation sample
- Gradation of sample AMQ-IP-007 : from the bottom of the channel, at around ch.0+500
- Updating gradation register
- Data processing of gradations results of AEM-IVRT-TP5, and AMQ-IP-007

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Yaotree Amegnran (Print Name)

From : AEM

Signature* : Yaotree Amegnran

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-08
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Derivation channel	
Project N° : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	 **-34˚C**

Field Results :

- Attend daily meeting ;
- Visit on work site to see the excavation progression, and make sure that the soil in place doesn't contain ice .
-
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Pier-Éric McDonald

Inspector : Stéphane Dorvélus
(Print Name)

From : AEM

Signature* : Stéphane Dorvélus

Project Manager : Daniel Pedneault

Time on site : 12h

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Bottom of foundation to see what the soil in place looks like (ST.0+750)



View of the SWDTC, looking North (From ST.0+750)



View of the SWDTC, looking South (From ST.0+750)



Zone where clean up as to be done ST.0+480 to ST.0+320



Zone where clean up as to be done ST.0+480 to ST.0+320



Excavation work on the South side of Lake A45 (ST.0+260)



Excavation work on the South side of Lake A45 (ST.0+260)



Excavation work on the South side of Lake A45 (ST.0+260)



Excavation work on the South side of Lake A45 (ST.0+260)



Zone to be blast for a second time (From ST.0+640 to ST.0+595)

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-09
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Derivation channel	
Project N° : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-30 ˚C

Field Results :

- Attend daily meeting ;
- Visit on work site to see the excavation progression, and make sure that the soil in place doesn't contain ice .
- Sampling of soil in place AMQ-IP-008, ST.0+270
-
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Pier-Éric McDonald

Inspector : Stéphane Dorvélus
(Print Name)

From : AEM

Signature* : Stéphane Dorvélus

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*



Sampling of soli in place, ST.0+270

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-10
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Derivation channel	
Project N° : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-30 ˚C

Field Results :

- Attend daily meeting ;
- Did some paper work at the office ;
- Took the bus to Meadobank to go back home
-
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Pier-Éric McDonald

Inspector : Stéphane Dorvélus (Print Name)

From : AEM

Signature* : Stéphane Dorvélus

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-11
Site Amaruq	☐ Drill and Blast ☒ Foundation Prep. ☐ Rockfill Placement ☒ Sampling ☐ Compaction ☒ Gradations ☐ Other (specify): ☐ Expertise ☐ Vibration Monitoring ☐ Water Management ☐ Grout curtain ☐ Liner / Geotextile
Project Derivation channel	
Project Nº : 11202247-B1	

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-61 ˚C

- Gradation of in place material (AMQ-IP-008)
- Sampling of Esker from West side of the slope at St : 0+760 (AMQ-ES-008)
- Work on computer for first day preparation
- Visit on site with QA
- Visit on site and lab with the new QC Richard Tremblay
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Mathieu Côté
(Print Name)

From : AEM

Signature* :

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-12
Site Amaruq	☐ Drill and Blast ☐ Expertise ☐ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☐ Other (specify):

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-49 ˚C

- Blizzard condition we can't go on the site
- Gradation of in place material (AMQ-IP-008)
- Gradation of esker from the bottom of excavation (AMQ-ES-009) to finish tomorrow
- Gradation of AEM geotechnical investigation samples (IVR-NR-TP1-1.5m) to finish tomorrow morning
-
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Mathieu Côté
(Print Name)

From : AEM

Signature* :

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-13
Site Amaruq	☐ Drill and Blast ☐ Expertise ☐ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-54 ˚C

- Finish gradatrion of esker (AMQ-ES-009)
- Finish gradation of AEM geotechnical investigation sample (IVR-NR-TP1-1.5m)
- Gradation of AEM geotechnical investigation sample (AMQ-IVR-WRSF-tp8A-0.8m-1-2)
- Gradation of AEM geotechnical investigation sample (AMQ-WT-WRSF-TP-1.5M)
- Visit on site (2) with QA
- Sample of 3 in place material around station 0+270 for moisture content with QA
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Mathieu Côté and Richard Jean Tremblay (Print Name)

From : AEM

Signature* : Mathieu Côté Richard Jean Tremblay

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

Daily Field Report

Client AEM	Inspection Date 2020-02-14
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☐ Other (specify):

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-51 ˚C

- Visit on site with QA for approval but no approval was given
- Gradation of geotechnical investigation samples (IVR-TP2B), (WT-WRSF-TP12-1.2m), (WT-WRSF-TP15-1.8m) and (WT-WRSF-TP4-0.6M)
- Moisture content on the 3 samples of yesterday, we have approximatively 13% humidity, no ice detected in samples
-
- .
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Mathieu Côté and Richard Jean Tremblay
(Print Name)

From : AEM

Signature* :

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-15 DAY
Site Amaruq	☐ Drill and Blast ☐ Expertise ☐ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☐ Other (specify):

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-52 ˚C

- Gradation of geotechnical investigation sample (IVR-TP3-1.0m) ,
- Gradation of geotechnical investigation samples (IVR-TP2-1.2m) and (IVR-TP4B) to be finish in night shift
- Visit on site with QA and no activity were done in SWTC
- Paperwork in office
- Attend daily construction meeting
-
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Mathieu Côté
(Print Name)

From : AEM

Signature* :

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

Daily Field Report

Client AEM	Inspection Date 2020-02-15 Night
Site Amaruq	☒ **Drill and Blast** ☐ **Expertise**
Project Derivation channel	☐ **Foundation Prep.** ☐ **Vibration Monitoring**
	☐ **Rockfill Placement** ☐ **Water Management**
	☐ **Sampling** ☐ **Grout curtain**
	☐ **Compaction** ☐ **Liner / Geotextile**
	☒ **Gradations**
Project Nº : 11202247-B1	☐ **Other (specify):**

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-35 ˚C

- Gradation of AMQ geotechnical investigation samples (AMQ-IVR-TP4B, AMQ-IVR-TP2-1a2, AMQ-IVR-WRSF-TP9C-1.5m) and the work has been completed in the dayshift.
- Work office and compilation of lab result.
- Monitoring excavation and drillers activities between survey born 0+220 and 0+280
- Finish with light works and clean up the lab.
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Richard Jean Tremblay
(Print Name)

From : AEM

Signature* : Richard Jean Tremblay

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-16 DAY
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☒ Other (specify): Foundation approval

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training

I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-42 ˚C

- Gradation of the geotechnical samples (AMQ-IVR-tP1B)
- Finish gradation (AMQ-IVR-TP1B-1.5M), (AMQ-IVR-TP1-0.5M), (AMQ-WT-WRSF-TP4-0.6m) and (AMQ-IVR-TP5-2.0m)
- Work office and compilation of lab result
- Approval of bottom excavation (foundation) from ST. 0+735 to ST. 0+688
-
- .
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Mathieu Côté

From : AEM

Signature* : Mathieu (Print Name)

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-16 Night
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☐ Other (specify):

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-32 ˚C

- Compilation of gradation results.
- Gradation of AMQ geotechnical investigation samples (AMQ-IVR-TP2-0.8m, AMQ-IVR-TP3-0.5m, AMQ-WRSF-TP13-1.2m, AMQ-IVR-TP1B-1.5m) and complete in the dayshift.
- Observation and verification of west slope correction in channel between (0+680 et 0+735).
- Works on computer and in lab.
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Richard Jean Tremblay
(Print Name)

From : AEM

Signature* : Richard Jean Tremblay

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-17 DAY
Site Amaruq	☐ **Drill and Blast** ☐ **Expertise** ☒ **Foundation Prep.** ☐ **Vibration Monitoring** ☐ **Rockfill Placement** ☐ **Water Management** ☒ **Sampling** ☐ **Grout curtain** ☐ **Compaction** ☐ **Liner / Geotextile** ☒ **Gradations**
Project Derivation channel	
Project Nº : 11202247-B1	☒ **Other (specify):** Field visit
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	 **-39 ˚C**

- Finish gradation (AMQ-IVR-WRSF-TP7C-1.5to2.0m3-3) and (AMQ-IVR-TP3C-Dike)
- Gradation of (AMQ-WT0-WRSF-TP2-0.5M) and (WT-WRSF-TP5-1.0M) to be finish on night shift
- Visit on field, we noted that some part of Esker placement was segregated (Big rock concentrated in some part) and asked for replacement
- Office work and compilation of results
- Moisture content test made on a little sample of Soil in place, (that we sample with AEM representative and QA) we can see some ice layer, the moisture content (12.2) is not significant sign of ice and we can accept it for foundation
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Mathieu Côté

From : AEM

Signature* : (Print Name) Mathieu

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-17 Night
Site Amaruq	☐ Drill and Blast ☐ Expertise
Project Derivation channel	☐ Foundation Prep. ☐ Vibration Monitoring
	☐ Rockfill Placement ☐ Water Management
	☒ Sampling ☐ Grout curtain
	☐ Compaction ☐ Liner / Geotextile
	☒ Gradations
Project Nº : 11202247-B1	☐ Other (specify):

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-33 ˚C

- Compilation of the last gradation results (AMQ-IVR-WRSF-TP7C-1.5 to 2m 3/3 and AMQ-IVR-TP3C-DIKE) of dayshift.
- Start new batch of soil samples at the laboratory.
- Do office works.
- Complete the gradation of investigation AMQ samples (AMQ-IVR-WRSF-TP3-1.2m, WT-WRSF-TP5-1.0m, IVR-WRSF-TP7C-1.5 to 2m 3/3 and WT-WRSF-TP2-0.5m)
- In the morning, sampling esker materials in the center of the west slope at survey point 0+700 and 0+690 (AMQ-ES-010) and AMQ-ES-011).
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Richard Jean Tremblay
(Print Name)

From : AEM

Signature* : Richard Jean Tremblay

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-18Day
Site Amaruq	☐ Drill and Blast ☐ Expertise ☐ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☐ Other (specify):

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-44 ˚C

- Starting gradation AMQ-ES-010 sampled by Richard J.Tremblay at ST. 0+700 to be finish in night shift
- Blast and cleaning of road in afternoon between st.0+640 and 0+540, can't go on site
- Blizzard condition from 11:00 to 13:30
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-
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Corrective action to be taken:

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-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Mathieu Côté
(Print Name)

From : AEM

Signature* :

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-18 Night
Site Amaruq	☐ Drill and Blast ☐ Expertise ☐ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-31 ˚C

- Office works and compilation of gradation results.
- Finish gradation AMQ-ES-010 and prepare the AMQ-ES-011 for the dayshift.
- Go to visit the excavation works on the channel.
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-

Corrective action to be taken:

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-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Richard Jean Tremblay (Print Name)

From : AEM

Signature* : Richard Jean Tremblay

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-19
Site Amaruq	☐ Drill and Blast ☐ Expertise ☐ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☒ Other (specify): Excavation and snow removal

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-43 ˚C

- Visit SWTC, QA took some pictures of the work, need to remove snow before fine filter placement. Excavation done in the reblasting area, I don't have the precise stations but it's between 0+640 to 0+560 and it need more work
- Verification of job done on night shift (paperwork and correction of gradation from the geotechnical investigation sample ''mystery with no name on bag'')
- Gradation of AMQ-ES-011 sampled by Richard at st. 0+690 to be finish tomorrow, no more water in my tank and it will only can be filled tomorrow morning
- Snow and ice removal each side of the channel (outside the channel)
- West side road is on going (from the outlet to approx. ST. 0+550)
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Mathieu Côté
(Print Name)

From : AEM

Signature* :

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

Daily Field Report

Client AEM	Inspection Date 2020-02-19 Night
Site Amaruq	☐ Drill and Blast ☐ Expertise ☐ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☑ Other (specify): Ice rock excavation
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-33 ˚C

- Office and lab works.
- Wait for the reparation of water supply in lab to finish gradation ES-011 during the dayshift.
- QC and monitoring the rock excavation works on the channel for the access road east border.
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Corrective action to be taken:

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Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Richard Jean Tremblay
(Print Name)

From : AEM

Signature* : Richard Jean Tremblay

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-20
Site Amaruq	☐ Drill and Blast ☐ Expertise ☐ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☐ Other (specify):

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-45 ˚C

- Finish gradation of AMQ-ES-011, the fine are according the specs, not too much big rock and its well graded
- Blizzard condition started around 10:30 and we were stand by until end of the shift
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Corrective action to be taken:

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Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Mathieu Côté (Print Name)

From : AEM

Signature* : Mathieu

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-20 Night
Site Amaruq	☐ **Drill and Blast** ☐ **Expertise** ☐ **Foundation Prep.** ☐ **Vibration Monitoring** ☐ **Rockfill Placement** ☐ **Water Management** ☐ **Sampling** ☐ **Grout curtain** ☐ **Compaction** ☐ **Liner / Geotextile** ☐ **Gradations**
Project Derivation channel	
Project Nº : 11202247-B1	☐ **Other (specify):**
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	 **-35 ˚C**

- The cold weather, strong blizzard wind and heavy climatic conditions suspend all the works and operation in the open pit of the mine and in the derivation channel for the night. Need wait the call of the night supervisor to continue the works operation for the mine.
- Waiting in the morning for the beginning of the work on the construction site.
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Corrective action to be taken:

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Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Richard Jean Tremblay
(Print Name)

From : AEM

Signature* : Richard Jean Tremblay

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-21
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☐ Other (specify):

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-43 ˚C

- Visit to SWTC Channel, excavator cleaning snow and frozen soil\boulders around ST. 0+600, A lot of snow accumulation on the east side of the slope will need to be cleared before we can sample and accept fine filter placement on all the channel
- Stand by at office, waiting for excavation progress
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- .
-
-

Corrective action to be taken:

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-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Mathieu Côté (Print Name)

From : AEM

Signature* : Mathieu

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-21 Night
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☐ Other (specify):

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-33 ˚C

- Continuation of the excavation job near the maintenance road access (AEM) border east of the derivation channel between chainage 0+420 to 0+600. The surface in the channel is not free of ice and snow cause of the blizzard of yesterday.
- Inspect the works on the field and wait for the beginning of the fill up works at the channel basement.
- Excavation works progress well for reach to the lake.
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-
-
-

Corrective action to be taken:

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-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Richard Jean Tremblay
(Print Name)

From : AEM

Signature* : Richard Jean Tremblay

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-22 DAY
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☐ Other (specify):

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-43 ˚C

- SWTC visit, they are only cleaning snow on the west side acces road, I have no station but it's a little bit before A45 lake
- No activity in lab
- Start to write the notes for the cross shift QC
- Bring the pickup truck 12-0015 to sana garage for fix the backup alarm but they had no time to do
- .
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Mathieu Côté

From : AEM

(Print Name)

Signature* : Mathieu

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-22 Night
Site Amaruq	☐ Drill and Blast ☐ Expertise ☑ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☐ Other (specify):

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-34 ˚C

- Compilation of the last daily reports.
- Going to the derivation channel inspect the excavation works evolution. The contractor has filing the channel ridge with cobbles, metric round stones and rocks fragments at the portion west of the lake A45 and continue the work excavation of the access road (AEM) on the same side approximately between chainage (0+470 to 0+590).
- If climatic condition goes well, soon they will prepare the compaction works and slope smooth between chainage (0+680 to 0+500) to the south lake upstream channel.
- Mechanical failure equipment slowdown the speed night operation of the contractor on the channel and they solve the issue during the morning.
-
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Richard Jean Tremblay
(Print Name)

From : AEM

Signature* : Richard Jean Tremblay

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

Daily Field Report

Client AEM	Inspection Date 2020-02-23 day
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☐ Other (specify):

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-46 ˚C

- SWTC visit, they are cleaning the bottom of excavation and the slopes around st.0+688 to 0+510 but there is still job to do
- Cleaning snow on west side access road around A45 lake
- No lab work
- Finish the notes for the cross shift QC
- Go back at the Sana garage for the backup alarm but they have no time to do it
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Mathieu Côté
(Print Name)

From : AEM

Signature* : Mathieu Côté

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-24
Site Amaruq	☐ Drill and Blast ☐ Expertise ☐ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☒ Other (specify): Office Work
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-31 ˚C

Field Results :

- Took the bus from Meadobank to Amaruq ;
- Did some paper work at the office (to catch up) ;
- No visit to the SWTDC today due to the time of our arrival and a Mandatory Meeting from the Mine General Manager at 4h30 PM, so all activities were suspended.
-
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Pier-Éric McDonald

Inspector : Stéphane Dorvélus
(Print Name)

From : AEM

Signature* : Stéphane Dorvélus

Project Manager : Daniel Pedneault

Time on site : 6h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-24 night shift
Site Amaruq	☐ Drill and Blast ☐ Expertise ☐ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☒ Other (specify): Reports review
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	 **-33 ˚C**

- First night shift of the run
- Previous QC reports review : refreshing results achieved so far for better planning of activities
- Updating sampling register with new gradations information. The register is an important tool to follow up samplings. A copy is available in lab, but it is necessary to keep soft copy of the register to secure the information.
- Visit lab : all equipments are functional and if all stuff is in place for soil tests.
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Yaotree Amegnran (Print Name)

From : AEM

Signature* : Yaotree Amegnran

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-25
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Derivation channel	☐ Other (specify):
Project N° : 11202247-B1	
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-29 °C

Field Results :

- Attend daily meeting;
- Visit to SWTC to see the progression of the work since our last run;
- Sampling of soil in place at ST.0+660 (AMQ-IP-009), before the approval of the section between ST.0+688 to ST.0+650
- Started gradation of sample AMQ-IP-009, and will be finished by night shift.
-
-

Corrective action to be taken:

- There is still some cleaning to do, snow, ice lentils and boulders have to be removed from the slope before approval.
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Pier-Éric McDonald

Inspector : Stéphane Dorvélus (Print Name)

From : AEM

Signature* : Stéphane Dorvélus

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*


Cleanning of slopes and bottom
of excavation at ST.0+660


Hammering aroud ST.0+560

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-25 Night shift
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations ☐ Other (specify):
Project Derivation channel	
Project Nº : 11202247-B1	
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	 **-30 ˚C**

- Gradation of sample AMQ-IP-009.
  Soil in place at the bottom of the channel, sampled by day shift team at location 0+660m
- Data processing of sample AMQ-IP-009 gradation results.
  Results have shown 15.4% moisture, with 17% component clay, 25% sand and 59% gravel. The material is not too much different from the ones encountered so far at this level of the channel.
- Visit SWTC excavation.
  Cleaning of channel Eastern slope going on around 0+680m
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Yaotree Amegnran
(Print Name)

From : AEM

Signature* : Yaotree Amegnran

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-26 Night shift
Site Amaruq	☐ **Drill and Blast** ☐ **Expertise** ☒ **Foundation Prep.** ☐ **Vibration Monitoring** ☐ **Rockfill Placement** ☐ **Water Management** ☐ **Sampling** ☐ **Grout curtain** ☐ **Compaction** ☐ **Liner / Geotextile** ☒ **Gradations**
Project Derivation channel	
Project Nº : 11202247-B1	☐ **Other (specify):**
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	 **-30 ˚C**

- Data processing of sample AMQ-IP-009 gradation results:
  - Estimation of Cu (Uniformity coefficient) and Cc (conformity coefficient) as requested by the QA to provide more data to appreciate the material.
  - Documentation review was necessary to compute the required information and provide useful data to QA for his data analysis.
  - QA will provide comments on the data computed and resulting quality of material analyzed.
- Visit SWTC channel excavation:
  1- Installation of Esker in progress, on Eastern slope of the channel and on the foundation, from location 0+680 to beyond 0+640. Pictures collected showing even surface of the slope with compacted Esker.
  2- Cleaning up of the Western slope of the channel in progress, from location 0+640 upward
  3- Sampling of Esker in place will be done during day shift.
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Yaotree Amegnran (Print Name)

From : AEM

Signature* : Yaotree Amegnran

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-27
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Derivation channel	☐ Other (specify):
Project N° : 11202247-B1	
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-29 °C

Field Results :

- Attend daily meeting ;
- Visit to the SWTC for the foundation preparation of the section from ST.0+640 to ST.0+600 ;
- Visit to the SWTC for the foundation pre-approval of the section from ST.0+640 to ST.0+600 (East side of the slope only);
- Sampling of soil in place (AMQ-IP-010), at ST.0+600.
-
-

Corrective action to be taken:

- Some areas between ST.0+688 and ST.0+640 needs to be reworked, since the Esker in place was not well graded.
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Pier-Éric McDonald

Inspector : Stéphane Dorvélus (Print Name)

From : AEM

Signature* : Stéphane Dorvélus

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*



View of the SWTC, looking South



Verification of Esker placement

Daily Field Report

Client AEM	Inspection Date 2020-02-27 Night shift
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-27 ˚C

- Gradation of sample AMQ-IP-010:
  - The sample is soil in place and was collected from the channel bottom at location 0+600.
  - Results show 18.5% moisture content, 31% clay and silt, 29% sand and 40% gravel.

- Further data processing of AMQ-IP-010 gradation results :
  - Estimation of Cu (Uniformity coefficient) and Cc (conformity coefficient)

- Visit SWTC channel excavation:
  1- Installation of Esker in progress, on Eastern slope of the channel and on the foundation, from location 0+640 to beyond 0+600 and beyond. More progress might be achieved after the visit which took place around 3:00 AM.
  2- Cleaning up of the Western slope of the channel in progress, at same location

-

Corrective action to be taken:

-

-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Yaotree Amegnran (Print Name)

From : AEM

Signature* : Yaotree Amegnran

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-28
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Derivation channel	
Project N° : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-29 °C

Field Results :

- Attend daily meeting : Discussed, about the approval form
  1) Foundation approval trench bottom: This approval is provided to allow the contractor to use the Esker material in case of an overcut. The Esker placement as to be done the same day;
  2) Fill placement material (Esker): This approval will be provided only when the fine filter is ready to be install;
  3) Fill placement for the filters: Fine filter, Coarse filter and Rip Rap.

  The approval forms will be provided only if the technical specifications and designer recommendations are reached.
- Visit to the SWTC for the foundation preparation of the section from ST.0+640 to ST.0+600 (West side of the slope only) ;
- Visit to the SWTC for the foundation approval of the section from ST.0+640 to ST.0+600;
- Visit to the SWTC for the foundation preparation of the section from ST.0+600 to ST.0+565 ;
- Visit to the SWTC for the foundation approval of the section from ST.0+600 to ST.0+565 ;
-

Corrective action to be taken:

- Esker placement correction between ST.0+688 to ST.0+640, is not done yet. Those correction have to be done before the filter placement.
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Pier-Éric McDonald

Inspector : Stéphane Dorvélus (Print Name)

From : AEM

Signature* : Stéphane Dorvélus

Project Manager : Daniel Pedneault

Time on site : 12h

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Daily Field Report



View of the SWTC, looking South

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Daily Field Report



Verification of Esker placement

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Daily Field Report

Client AEM	Inspection Date 2020-02-28 Night shift
Site Amaruq	☐ Drill and Blast ☐ Expertise
Project Derivation channel	☒ Foundation Prep. ☐ Vibration Monitoring
	☐ Rockfill Placement ☐ Water Management
	☐ Sampling ☐ Grout curtain
	☐ Compaction ☐ Liner / Geotextile
	☒ Gradations
Project N° : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training	-25 °C
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	

-
- Visit SWTC channel:

  1- Spend reasonable time in the field for the follow up of the channel works.
  2- Setting up of **Esker** material in progress, on **Western slope** of the channel and on the foundation. Esker is set up from location 0+640 to beyond 0+600. Esker material looks very uniform. Some coarser stones are removed from the pile before compaction is completed. Pictures collected showing even surface of the slope with compacted Esker and uncompacted materials.
  3- Had discussions with channel supervisor about specific measures required to be taken on works on the Eastern slope.
  4- Finally, no work on the Easter slope. Supervisor has planned Easter slope for the next shift.

-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Yaotree Amegnran (Print Name)

From : AEM

Signature* : Yaotree Amegnran

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

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Daily Field Report

Client AEM	Inspection Date 2020-02-29
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Derivation channel	
Project N° : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-22 °C

Field Results :

- Attend daily meeting ;
- Visit to the SWTC for the foundation preparation of the section from ST.0+565 to ST.0+500) ;
- Sampling of Esker material between ST.0+688 to ST.0+640 and ST.0+640 to ST.0+600. (AMQ-ES-012 and AMQ-ES-013) ;
- Visit to the SWTC for the foundation approval of the section from ST.0+565 to ST.0+545).
-
-

Corrective action to be taken:

- There was a lot of ice lenses seen at the top Western slope of the SWTC, between ST.0+520 and ST.0+500. These ice lenses will have to remove before the foundation approval.
- Some areas between ST.0+640 and ST.0+600 needs to be reworked, since the Esker in place was not well graded.
- The corrections on Esker placement between ST.0+688 and 0+640 have not yet been made.

Follow up visit required: Yes ☒ No ☐

Site Representative : Pier-Éric McDonald

Inspector : Stéphane Dorvélus (Print Name)

From : AEM

Signature* : Stéphane Dorvélus

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*



Ice lenses seen at the top Western slope of the SWTC, between ST.0+520 and 0+500



Ice lenses seen at the top Western slope of the SWTC, between ST.0+520 and 0+500



Ice lenses seen at the top Western slope of the SWTC, between ST.0+520 and 0+500



Ice lenses seen at the top Western slope of the SWTC, between ST.0+520 and 0+500



Ice lenses seen at the top Western slope of the SWTC, between ST.0+520 and 0+500

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-02-29 Night shift
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations ☐ Other (specify):
Project Derivation channel	
Project Nº : 11202247-B1	
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-27 ˚C

- Gradation sample AMQ-ES-012:
  - Start gradation of the sample. Half work done due to field visits. To be finished later.
- Visit SWTC channel:

  1- Attend the setting up of Esker on the critical parts of the Eastern slope, from location 0+600 going upstream.
  2- Proper filling up of big holes in Eastern slope, with Esker. Extreme coarser stones are removed from the material.
  3- Big holes are filled up in two to three layer and well compacted with the bucket.
  4- Esker set up on the Western slope, up to location 0+580
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Yaotree Amegnran (Print Name)

From : AEM

Signature* : Yaotree Amegnran

Project Manager : Daniel Pedneault

Time on site : 12h

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Daily Field Report

Client AEM	Inspection Date 2020-03-01
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Derivation channel	
Project N° : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-29 ˚C

Field Results :

- Attend daily meeting ;
- Visit to the SWTC for the foundation preparation of the section from ST.0+545 to ST.0+500) to investigate the foundation soil search for ice lenses ;
- Sampling of Soil in place at ST.0+530 (AMQ-IP-011), ST.0+530 (AMQ-IP-012) and ST.0+520 (AMQ-IP-013) ;
- Sampling of Esker at ST.0+580 (AMQ-ES-014).
-

Corrective action to be taken:

- Ice lenses were seen at the top Eastern slope of the SWTC, between ST.0+530 and 0+500. These ice lenses will have to remove before the foundation approval.
- Bottom of the foundation will have to be reworked since the Esker in place was not well graded.
- No corrections have yet been made on Esker placement between ST.0+688 and 0+600.

Follow up visit required: Yes ☒ No ☐

Site Representative : Pier-Éric McDonald

Inspector : Stéphane Dorvélus (Print Name)

From : AEM

Signature* : Stéphane Dorvélus

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*



Ice lenses seen at the top Eastern slope of the SWTC, between ST.0+530 and 0+500



Ice lenses seen at the top Eastern slope of the SWTC, between ST.0+530 and 0+500



Ice lenses seen at the top Eastern slope of the SWTC, between ST.0+530 and 0+500



Ice lenses seen at the top Eastern slope of the SWTC, between ST.0+530 and 0+500



Bottom of the foundation where Esker placement will have to be reworked



Sampling of Soil in place at ST.0+530

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-03-01 Night shift
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations ☐ Other (specify):
Project Derivation channel	
Project Nº : 11202247-B1	
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	 **-37 ˚C**

- Gradation sample AMQ-ES-012:
  - Finish gradation and process data
  - Moisture content is 7.8%, as clay, sand and gravel components are respectively 7%, 27% and 66%
  - The sample was collected from the station 0+670 of the channel
- Gradation sample AMQ-ES-013 and data procession
  - Results showed 4,8% of moisture as clay and silt component is 4%. Sand and gravel are respectively 26% and 70%.
  - This sample came from station 0+620.
- Start ice content measurement for samples IP-011, IP-012 and IP-013
  - Lab test finished. Excess water was removed from the sample.
  - Samples were left in the pans to allow melting of ice and resulting water was dumped and weighted.
  - Computations and data processing to be carried out later

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Yaotree Amegnran (Print Name)

From : AEM

Signature* : Yaotree Amegnran

Project Manager : Daniel Pedneault

Time on site : 12h

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Daily Field Report

Client AEM	Inspection Date 2020-03-02
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project N° : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-36 ˚C

Field Results :

- Attend daily meeting ;
- Start gradation on Esker AMQ-ES-014 ;
- Continue gradation AMQ-IP-012 and AMQ-IP-013 ;
- Visit to the SWTC for the foundation preparation of the section from ST.0+340 to Inlet of the channel to see the progression of the work, and to see if there is no ice lenses. Some parts of this area is very rocky. From ST.0+545 to ST.0+340 we have observed some ice lenses.
-

Corrective action to be taken:

- From ST.0+545 to ST.0+340 (Zone where Lake A45 have been drained), we are waiting for a proposal from de designer to resolve the situation with the ice lenses.
- No correction have yet been made on Esker placement between ST.0+688 to ST.0+565.
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Pier-Éric McDonald

Inspector : Stéphane Dorvélus (Print Name)

From : AEM

Signature* : Stéphane Dorvélus

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-03-01 Night shift
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	☐ Other (specify):
Project Nº : 11202247-B1	
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	 **-37 ˚C**

- Gradation sample AMQ-IP-011:
  - Finish gradation and data processing
  - Moisture content is 39.6%, due to presence of excess water related to ice.
  - As for clay, sand and gravel components, they are respectively 13%, 28% and 59%
  - The sample come from Eastern slope of the channel (top level)
- Gradation sample AMQ-IP-012 and data procession
  - Moisture content is 11.3% and clay, sand and gravel are respectively 21%, 37% and 42%.
  - The material was sample at the bottom of the Eastern slope.
- Gradation sample AMQ-IP-013 and data processing:
  - Moisture content showed a value of 22.5%. Ice presence is suspected in the sample
  - Remaining results showed 30% of clay, 39% of sand and 32% of gravel components,
  - This sample is collected 10m upstream from the others, at station 0+520m.

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Yaotree Amegnran
(Print Name)

From : AEM

Signature* : Yaotree Amegnran

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-03-03
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project N° : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-32 ˚C

Field Results :

- Attend daily meeting ;
- Finish gradation on Esker AMQ-ES-014 ;
- Visit to the SWTC for the foundation preparation of the section from ST.0+340 to ST.0+310 and a visual inspection of the Esker placement between ST.0+565 to ST.0+545
- Sampling of Soil in place (AMQ-IP-014) at ST. 0+320 Eastern slope. To see if there is frozen ground at the limit of the filters to be placed.
-

Corrective action to be taken:

- No correction have yet been made on Esker placement between ST.0+688 to ST.0+545.
- The limit approved for the Esker placement is ST.0+545. All Esker placed over that limit has to be removed, the zone has not yet been approved.
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Pier-Éric McDonald

Inspector : Stéphane Dorvélus (Print Name)

From : AEM

Signature* : Stéphane Dorvélus

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-03-03 Night shift
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	☐ Other (specify):
Project Nº : 11202247-B1	
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	 -30 ˚C

- Gradation and data processing of sample AMQ-IP-014:
  - Sample suspected to contain ice blocs, but after more than six hours stay in the lab at a temperature of 24 degrees, no melt water or excess water was observed.
  - Moisture content is finally low: 6.8%.
  - As for clay, sand and gravel components, they are respectively 34%, 40% and 26%

- Data processing of sample AMQ-ES-012, ES-013 and ES-014
  - Estimation of the conformity and uniformity coefficients of those samples
  - The results show values of Cu 165, 129 and 397 respectively
  - As for the Cc, values are 1.4, 0.9 and 0.8 respectively
  - The sample gradations graphics were used to estimate those coefficients.
  -

- Updating of the sample registration
  - Gradation basic information of many samples are used to fill the register

Corrective action to be taken:

-

-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Yaotree Amegnran (Print Name)

From : AEM

Signature* : Yaotree Amegnran

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-03-04
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	☐ Other (specify):
Project N° : 11202247-B1	
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-32 ˚C

Field Results :

- Attend daily meeting ;
- Visit to the SWTC for the foundation preparation of the section from ST.0+340 to ST.0+310;
- Sampling of Esker at ST.0+555 Western slope (AMQ-ES-015)
  - Visual inspection shows that there is a lot of segregation in this area ;
- Start gradation of AMQ-ES-015 ;
-

Corrective action to be taken:

- No correction have yet been made on Esker placement between ST.0+688 to ST.0+545.
-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Marion Habersetzer

Inspector : Stéphane Dorvélus (Print Name)

From : AEM

Signature* : Stéphane Dorvélus

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*



Visual inspection of the Esker placement between ST.0+565 to ST.0+545 shows a lot of segregation.

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-03-04 Night shift
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	☐ Other (specify):
Project Nº : 11202247-B1	
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	 -25 ˚C

- Gradation and data processing of sample AMQ-ES-015
  - Esker sample, collected from the Western slope of the channel at station 0+555m
  - Results show a Moisture content of 4.0%.
  - This sample has less clay and silt components (8%), compared to the previous samples. The sand and gravel components, are respectively 21% and 71% .

- Data processing of sample AMQ-IP-011, for ice content estimation
  - This sample presented excess water when exposed to the lab temperature (around 23 degrees). So, the sample was thawed and the melt water was recuperated before going into standard water content analysis.
  - The procedure applied comes from the following reference suggested by AEM Engineers : "Document No. GAL TP001 Soil Description"
  - Estimation of the ice content according to the formula provided
  - The results show values of 31.5% ice content, 7.9% standard water content and 31.7% total moisture.
  - As this is the first attempt of ice content estimation, the results are submitted to AEM team prior the dispatching.
  -

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Yaotree Amegnran (Print Name)

From : AEM

Signature* : Yaotree Amegnran

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-03-05
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Derivation channel	
Project N° : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-25 °C

Field Results :

- Attend daily meeting ;
- Visit to the SWTC for the foundation preparation of the section from ST.0+340 to ST.0+280 ;
- Visit to the SWTC for the foundation approval of the section from ST.0+335 to ST.0+280
  - As we observed ice under the rocks at ST.0+340 (Western slope of the SWTC), no approval have been made between ST.0+340 and ST.0+335 ;
-
-

Corrective action to be taken:

- No correction have yet been made on Esker placement between ST.0+688 to ST.0+545.
-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Marion Habersetzer

Inspector : Stéphane Dorvélus (Print Name)

From : AEM

Signature* : Stéphane Dorvélus

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*



Ice under the rocks at ST.0+340 (Western slope of the SWTC),



Approval of the section from ST.0+335 to ST.0+280

Daily Field Report

Client AEM	Inspection Date 2020-03-05 Night shift
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	 **-37 ˚C**

- Office works:
  - Data processing of uniformity / curvature coefficients (Cu, Cc) sheets which were realized formerly manually. For a professional presentation of results of those estimations, we entered information on Excel sheet, to facilitate the dispatching to all stakeholders.
  - Design of an Excel form to estimate the uniformity / curvature coefficients (Cu, Cc), in order to reduce errors and to carry on calculations with Excel sheets. However, the determination of basic data like D10, D30 and D60 must be done throw graphical methods.
- Visit SWTC channel:
  1- Visual supervision of Esker setting up on Eastern slope of channel, from station 0+330 to 0+ 290.
  2- Esker works on Western slope started from station 0+300 and will go upstream.
  3- Progression is slowed by the low level of the ground due to extra excavation.
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Yaotree Amegnran (Print Name)

From : AEM

Signature* : Yaotree Amegnran

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-03-06
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	☐ Other (specify):
Project N° : 11202247-B1	
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-35 °C

Field Results :

- Attend daily meeting ;
- Visit to the SWTC for the foundation preparation of the section from ST.0+280 to ST.0+210 ;
- Visit to the SWTC for the foundation approval of the section from ST.0+280 to ST.0+210 ;
- Sampling of Soil in place at ST.0+220 Western slope (AMQ-IP-015) ;
- Start gradation of sample AMQ-IP-015. The results shows a moister content of 17.5% witch is less than the specifications ;
- Sampling of 0-¾ (road) at the stockpile (AMQ-RD-001), to see if it's usable in event of an insufficient quantity of fine filters ;
- Verify the Esker placement between ST.0+335 to ST.0+210. Visual inspection shows that the Esker was well graded and no visual segregation. The proposed method was followed, the Esker material was unloaded onto a horizontal surface at the top of the slope and then placed with the excavator bucket.

Corrective action to be taken:

- No correction have yet been made on Esker placement between ST.0+688 to ST.0+545.
-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Marion Habersetzer

Inspector : Stéphane Dorvélus (Print Name)

From : AEM

Signature* : Stéphane Dorvélus

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*



Esker placement between ST.0+335 and ST.0+280



Cleaning of the section from ST.0+280 to ST.0+230, before approval



Esker placement between ST.0+335 and ST.0+210



Approval of the section from ST.0+280 to ST.0+210

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-03-06 Night shift
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-37 ˚C

- Gradation and data processing of sampleAMQ-IP-015:
  - Gradation of sample IP-015 collected during day shift from the Western slope, at the station 0+220m,
  - Results show a moisture content of 17%. Which is in the range
  - The sample is made up with 16% clay and silt, 25% of sand and 59% of gravel.
  - No Cc and Cu is estimated for this sample.

- Visit SWTC channel:
  1- Esker works went on tonight. Placement of Esker on Eastern Slope of the channel from 0+ 280m upstreamward. Actually, works started from where it was stopped last night.
  2- Esker is compacted with the bucket of the loader. Where needed, filling is made up in two or more layers. Then the loader run on the top, to increase compaction. Some measures are taken to avoid segregation of the Esker.
  3- Blizzard came after the break of midnight and works stopped around station 0+230. Visibility became too low in the field.

-

Corrective action to be taken:

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-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Yaotree Amegnran (Print Name)

From : AEM

Signature* : Yaotree Amegnran

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-03-07
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	☐ Other (specify):
Project N° : 11202247-B1	
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-36 ˚C

Field Results :

- Attend daily meeting ;
- Paper work at the office ;
- Start gradation of sample AMQ-RD-001 ;
- Work at the SWTDC is pending due to bad weather conditions ;
- Sampling of Esker material (AMQ-ES-016), at ST.0+280.
-

Corrective action to be taken:

- No correction have yet been made on Esker placement between ST.0+688 to ST.0+545.
-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Marion Habersetzer

Inspector : Stéphane Dorvélus (Print Name)

From : AEM

Signature* : Stéphane Dorvélus

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-03-08
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Derivation channel	
Project N° : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-39 °C

Field Results :

- Attend daily meeting ;
- Visit to the SWTC for the foundation preparation of the section from ST.0+210 to ST.0+135 ;
- Sampling of Soil in place (AMQ-IP-016), at ST.0+170, Eastern slope ;
- Inspection of the foundation shows that the excavation limit has been reached, the foundation is free of snow, ice lenses and no apparent boulders.
- Visit to the SWTC for the foundation approval of the section from ST.0+210 to ST.0+185 and from ST.0+170 to ST.0+135
  - There is still some hammering to do between ST.0+185 and ST.0+170 (there is no approval for this section).

Corrective action to be taken:

- Rock peak at ST.0+242, which is 140 mm higher than the theoretical limit of foundation was broken during the night, cleaning as to be done before going further with the placement.
- We suggest that no Esker placement is done during the cross shift to assured the quality of the surveillance.
- In places where the Esker placement should be done by layers of 300mm in the case where more than 300 mm needs to be placed.

Follow up visit required: Yes ☒ No ☐

Site Representative : Marion Habersetzer

Inspector : Stéphane Dorvélus (Print Name)

From : AEM

Signature* : Stéphane Dorvélus

Project Manager : Daniel Pedneault

Time on site : 12h

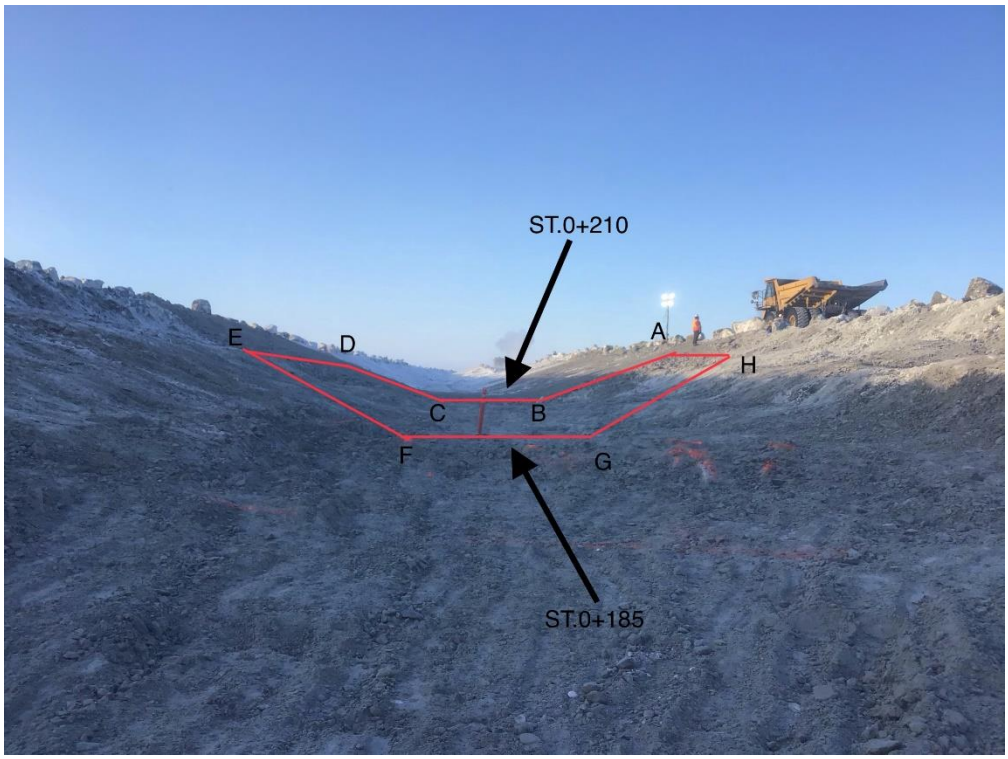
* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*



Rock peak at ST.0+242, which is 140 mm higher than the theoretical limit of foundation.



Foundation cleaning between ST.0+210 to ST.0+135



Foundation approval of the section from ST.0+210 to ST.0+185



Foundation approval of the section from ST.0+170 to ST.0+135

Daily Field Report

Client AEM	Inspection Date 2020-03-08 Night shift
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-37 ˚C

Last shift of the run

- Visit SWTC channel:
  1- Cleaning of Eastern slope was carried out during first part of the night shift.
  2- After break, Esker placement on the Eastern slope, from the location 0+210 to around 0+195 upstream. Parallel to that, cleaning continued with the same team.
  3- Good practices are noted for the placement of the Esker : no segregation of Esker, reasonable compaction and dumping of Esker on the edge of the channel prior to its displacement on the slope and where needed.
  4- Big stones that came over the Esker level, on Western side of the channel, are broken. But broken stones have to be removed from the slope. See next page for picture.
  5- Wind started around 2:00 am, making working conditions in the field very difficult.

- Gradation and data processing of sampleAMQ-IP-016:
  - Material sampled on the Eastern side, at station 0+170m.
  - Results show 9.1% of moisture, 18% of clay and silt, 30% of sand and 52% of gravel.
  - Housekeeping in the lab.

- Elaboration of Memo, as a guide document to the coming run for smooth continuation and passing over of the works carried out at the quality control level.

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Yaotree Amegnran (Print Name)

From : AEM

Signature* : Yaotree Amegnran

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*



Big stone is broken on the Western slope

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-03-09
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Derivation channel	
Project N° : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-30 °C

Field Results :

- Attend daily meeting ;
- Visit to the SWTC for the foundation preparation of the section from ST.0+135 to ST.0+054 ;
- Sampling of Soil in place (AMQ-IP-017), at ST.0+120, Eastern slope and (AMQ-IP-018), at ST.0+070, Eastern slope ;
- Inspection of the foundation shows that the excavation limit has been reached, the foundation is free of snow, ice lenses and no apparent boulders ;
- Visit to the SWTC for the foundation pre-approval of the section from ST.0+185 and ST.0+170 and from ST.0+135 to ST.0+054.
  - The final approbation will be done by the cross shift, conditional of the sample moister results, cleaning recommended.

Corrective action to be taken:

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-
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Follow up visit required: Yes ☒ No ☐

Site Representative : Marion Habersetzer

Inspector : Stéphane Dorvélus (Print Name)

From : AEM

Signature* : Stéphane Dorvélus

Project Manager : Daniel Pedneault

Time on site : 12h

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Daily Field Report

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-03-09 Night
Site Amaruq	☐ **Drill and Blast** ☐ **Expertise**
Project Derivation channel	☐ **Foundation Prep.** ☐ **Vibration Monitoring**
	☐ **Rockfill Placement** ☐ **Water Management**
	☐ **Sampling** ☐ **Grout curtain**
	☐ **Compaction** ☐ **Liner / Geotextile**
	☒ **Gradations**
Project Nº : 11202247-B1	☐ **Other (specify):**

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-27,5˚C

- In the morning, the principal road to the derivation channel blocked due to mechanical/electrical dozer failure. They restricted the access on worksite and stay in office for the shift.
- Continue the last gradation prepare by Stephane (AMQ-IP-017) and start 2 new gradation sample for the dayshift (RD-001 and AMQ-IP-016).
- Office works, transition time during the rotation switch and up to date the new information brought by the supervisor.
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Corrective action to be taken:

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Follow up visit required: Yes ☒ No ☐

Site Representative : Marion Habersetzer et Patrice Gagnon

Inspector : Richard Jean Tremblay
(Print Name)

From : AEM

Signature* : Richard Jean Tremblay

Project Manager : Daniel Pedneault

Time on site : 12h

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Daily Field Report

Client AEM	Inspection Date 2020-03-10 day
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Amaruq Derivation channel	
Project Nº : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-36˚C

Field Results

- Start of gradation AMQ-IP-018 sampled by Stephane at st. 0+070
- Finish of gradation AMQ-RD-001 sampled by Stephane at WRSF stockpile
- Visit on site and approval of the Esker for fine filter placement from st.0+056 to 0+320
- Sampling and start Gradation of AMQ-ES-017 sampled at ST: 0+077
-
-

Corrective action to be taken:

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-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Mathieu Cote (Print Name)

From : AEM

Signature* :

Project Manager : Daniel Pedneault

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-03-10 Night
Site Amaruq	☐ Drill and Blast ☐ Expertise ☐ Foundation Prep. ☐ Vibration Monitoring ☒ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☐ Other (specify):

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-25˚C

- Finish the gradation (AMQ-IP-016, ES-017 and AMQ-IP-018) before the new materials placement.
- The contractor starts the rockfill placement on the channel basement and go sampling in the south part of lake A45 six samples perpendicular to the parallel axis of the center channel with fine filter rock at chainage (0+327m and 0+310m). Also need to verify visually the compaction degree, the type of materials, the grains sizes, rounded and watch the confection of the channel slopes. Overall seems the job is well done.
- The section of the channel near the SWTL have been filling up over the surface foundation with fine filter materials between chainage (0+100m to 0+160m).
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Corrective action to be taken:

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Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon et Marion Habersetzer

Inspector : Richard Jean Tremblay (Print Name)

From : AEM

Signature* : Richard Jean Tremblay

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

Daily Field Report

Client AEM	Inspection Date 2020-03-11 day
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☒ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-35˚C

Field Results

- Sampling of Fine filter with QA at st. 0+060 (AMQ-FF-008), 0+080, 0+100 (AMQ-FF-009), 0+120, 0+140 (AMQ-FF-010), 0+290, 0+270 (AMQ-FF-011) and 0+250, we will do one gradation per 40m and if we have time we will do the others one later.
- The gradation AMQ-FF-006 and FF-AMQ-009 are a little bit out of specs but it still acceptable for my side AMQ-FF-007 and AMQ-FF-008 are in the specs
- Gradation of fine filter (AMQ-FF-006 sampled at st. 0+327 by RJT, AMQ-FF-007 sampled at st .0+310 by RJT, AMQ-FF-008 sampled at st. 0+060 by MC, AMQ-FF-009 sampled at st. 0+100 by MC)
- Inspection of fine filter placement, the inlet side need to be compacted more in the 2 slopes (done during dayshift)
- Start gradation of AMQ-FF-010 (0+140 west slope) and AMQ-FF-011 (0+270 East slope)
- Compilation data of gradation in excel sheet
- Approval of the fine filter between st. 0+056 to 0+180 and from st. 0+220 to 0+330 the 40m left in the middle will be accepted tomorrow morning

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Mathieu Cote (Print Name)

From : AEM

Signature* :

Project Manager : Daniel Pedneault

Time on site : 12h

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Daily Field Report

Client AEM	Inspection Date 2020-03-11 Night
Site Amaruq	☐ Drill and Blast ☐ Expertise ☐ Foundation Prep. ☐ Vibration Monitoring ☒ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☐ Other (specify):

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-27˚C

- During the nightshift, going inspect the last modification before they start to filling up with granular coarse filter and finish the placement of the fine filter layer in south part channel.
- Sampling 5 bags of fine filters materials (FF-012 to FF-016) in the derivation channel between chainage (0+230m to 0+160m). The general composition of the materials seems homogenous and coarse with most particles diameter superior to 0,475 mm and soft light fine particles.
- The contractor start to fill up the coarse materials and it placement after lunch time. Almost finish the section south of A45 lake (0+240 to 0+330m) and finish in the morning the section (0+060 to 0+135m). Waiting client decision and approval to continue the coarse filter placement in central zone.
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Corrective action to be taken:

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-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon et Marion Habersetzer

Inspector : Richard Jean Tremblay
(Print Name)

From : AEM

Signature* : Richard Jean Tremblay

Project Manager : Daniel Pedneault

Time on site : 12h

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Daily Field Report

Client AEM	Inspection Date 2020-03-12
Site Amaruq	☐ Drill and Blast ☒ Foundation Prep. ☐ Rockfill Placement ☐ Sampling ☒ Compaction ☒ Gradations ☐ Other (specify):
Project Derivation channel	☐ Expertise ☐ Vibration Monitoring ☐ Water Management ☐ Grout curtain ☐ Liner / Geotextile
Project Nº : 11202247-B1	

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-44˚C

Field Results

- Approval of the Fine filter between st. 0+180 ant 0+220, material is well compacted and elevation is good
- Gradation of fine filter AMQ-FF-010, AMQ-FF011, AMQ-FF-012 AMQ-FF-013, AMQ-FF-014, all the gradation are in the specs and are really good for the fine filter
- Sampling of Coarse filter at st.0+160 in the East slope (AMQ-CF-003)
- Approval of Esker for fine filter placement from St. 0+555 to 0+700, snow removal and segregation of East slope need to be corrected before placement, Approval from st. 0+867 to 0+907 snow removal need to be done in the center bottom of excavation before placement of fine filter
- Verification of coarse filter, placement was great I don't have the precise station but its between st. 0+065 to 0+220 and from st. 0+325 to 0+285
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Mathieu Cote (Print Name)

From : AEM

Signature* :

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-03-12 Night
Site Amaruq	☐ Drill and Blast ☐ Expertise ☐ Foundation Prep. ☐ Vibration Monitoring ☒ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☐ Other (specify):

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-34˚C

- In the beginning of the night going inspect the channel advancement and the coarse filter granular placement. The contractor has smoothly and softly equalized the slope and compact the side wall in the channel. The works go well and finish the most section south lake A45. The section north needs to be clean and free of ice before to filling up with fine materials and they begin it in the morning but not finish yet.
- Finish the gradation prepare by my colleague during the dayshift (AMQ-CF-003).
- Sampling fresh and new fine filter materials (AMQ-FF-021 and AMQ-FF-022) at the chainage 0+560 WS and 0+580 ES.
- Visual verification of the east slope of the channel to avoid segregation of the materials.
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-
-

Corrective action to be taken:

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-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon et Marion Habersetzer

Inspector : Richard Jean Tremblay (Print Name)

From : AEM

Signature* : Richard Jean Tremblay

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-03-13
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☒ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☐ Other (specify):

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-39˚C

Field Results

- Sampling of 3 samples of fine filter at st. 0+900, 0+600, 0+620
- Gradation of fine filter: FF-022, FF-024 and FF-025, the AMQ-FF-022 have 2 sieves not respecting specs but it is only for 1% and less, it seem acceptable for me, the 2 others are in the specification
- Inspection of the compaction of the fine filter for st. 0+555 to 0+700, nothing to report all is good
- Verification of the coarse filter placed between st. 0+065 and 0+325, all is good, no segregation and the material is well compacted
- Approval of Esker from St. 0+772 to 0+867, No segregation or snow to remove, ready for fine filter placement
- Approval of Fine filter from st. 0+555 to 0+700, compaction and lift thickness was good, ready for coarse filter placement

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Mathieu Cote (Print Name)

From : AEM

Signature* :

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

Daily Field Report

Client AEM	Inspection Date 2020-03-13 Night
Site Amaruq	☐ Drill and Blast ☐ Expertise ☐ Foundation Prep. ☐ Vibration Monitoring ☒ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☐ Other (specify):

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-35˚C

- Sampling fine filter materials (AMQ-FF-026, AMQ-FF-027 and AMQ-FF-028) in the channel at the chainage (0+640, 0+660 et 680 m). The fine filter materials look conform without any ice/water cover apparent, good granular distribution and without humidity excess between the grains border and small rock powder fragments.
- The contractor fills up with coarse filter materials the section downstream the lake A45 and continue to cleaning and skinning ground channel surface after chainage (0+680) to the north direction.
- Gradation of the last samples made few years ago and yesterday (AMQ-FF-017, AMQ-FF-019, AMQ-FF-020 and AMQ-FF-021) and start sample (AMQ-FF-015) for the rotation shift.
- General inspection of the works and pick some photos to show the night progression in the channel area.
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-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon et Marion Habersetzer

Inspector : Richard Jean Tremblay
(Print Name)

From : AEM

Signature* : Richard Jean Tremblay

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-03-14
Site Amaruq	☐ Drill and Blast ☒ Foundation Prep. ☐ Rockfill Placement ☒ Sampling ☒ Compaction ☒ Gradations ☐ Other (specify):
Project Derivation channel	☐ Expertise ☐ Vibration Monitoring ☐ Water Management ☐ Grout curtain ☐ Liner / Geotextile
Project Nº : 11202247-B1	

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-50 ˚C

Field Results

- Approval of Esker from St. 0+700 to 0+750, yesterday I put until 0+772 but it was up to 0+750 the exact station, the contractor removed a lot of snow and the surface is clean now, ready to put the fine filter
- Gradation of AMQ-FF-015, AMQ-FF-027 and AMQ-CF-004
- Sampling of coarse filter CF-004 at St. 0+580 West slope
- Verification of compaction for the coarse filter and the fine filter placement and it was all good
- Work is shut down cause of blizzard condition around 12:30
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Mathieu Cote
(Print Name)

From : AEM

Signature* :

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Sno	Inspection Date 2020-03-14 Night
Site Amaruq	☐ Drill and Blast ☐ Expertise
	☒ Foundation Prep. ☐ Vibration Monitoring
Project Derivation channel	☐ Rockfill Placement ☐ Water Management
	☐ Sampling ☐ Grout curtain
	☐ Compaction ☐ Liner / Geotextile
	☒ Gradations
Project Nº : 11202247-B1	☐ Other (specify):

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-32˚C

- This nightshift, the cold climatic condition, intense wind and bad weather force the workers to wait before outside condition calm down. So, they close momently the access road to the derivation channel. Approximately at the end of the evening, the contractor decides to take time and continue to clean-up the ice/snow at chainage (0+695) to north direction, but it's hard to do a perfect job with this poor "meteo".
- Finish dayshift gradation in lab (AMQ-CF-004) and do gradation of fine filter materials (AMQ-FF-015, AMQ-FF-016 and AMQ-FF-26).
- In others words, wind and snow accumulation suspend and slow the work for this night. Snow tracks stay on the surface of the channel and need to be clean first and after continue fine filter fill up.
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-
-

Corrective action to be taken:

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-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon et Marion Habersetzer

Inspector : Richard Jean Tremblay
(Print Name)

From : AEM

Signature* : Richard Jean Tremblay

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-03-15
Site Amaruq	☐ Drill and Blast ☒ Foundation Prep. ☐ Rockfill Placement ☒ Sampling ☒ Compaction ☒ Gradations ☐ Other (specify):
Project Derivation channel	☐ Expertise ☐ Vibration Monitoring ☐ Water Management ☐ Grout curtain ☐ Liner / Geotextile
Project Nº : 11202247-B1	

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-24 ˚C

Field Results

- Sampling of Fine filter at St. 0+700 (AMQ-FF-029), 0+720 (AMQ-FF-030), 0+740 (AMQ-FF-031), 0+860 (AMQ-FF-037), 0+880 (AMQ-FF-038) and 0+840 (AMQ-FF-036)
- Inspection of placement and compaction of the fine filter, snow had to be removed before placement because of the blizzard of yesterday and the compaction is good
- Finish gradation started by Richard (AMQ-FF-015 sampled at st. 0+080 in West slope and AMQ-FF-026 sampled at St. 0+640 in East slope), they are all in the specification.
- Approval of fine filter between St. 0+906 and 0+815 and between St. 0+747 to 0+700
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Mathieu Cote
(Print Name)

From : AEM

Signature* :

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Sno	Inspection Date 2020-03-15 Night
Site Amaruq	☐ Drill and Blast ☐ Expertise
	☐ Foundation Prep. ☐ Vibration Monitoring
Project Derivation channel	☒ Rockfill Placement ☐ Water Management
	☐ Sampling ☐ Grout curtain
	☐ Compaction ☐ Liner / Geotextile
	☒ Gradations
Project Nº : 11202247-B1	☐ Other (specify):

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-18˚C

- They fill up the derivation channel with fine filter materials between chainage (0+820 and 0+740m). The foundation surface was empty of snow and well clean when they put the layer on. Also, the west slope profile near the approval zone around 0+740 has been straight and improve.
- Around 22:30 o'clock, the works has been interrupted cause of stormy wind and snow precipitation that has highly decrease the visibility and for security reason. The security procedure has been followed and all the workers were comeback safe at the main office and be patient to continue the jobs.
- Finish gradation starts during the day (AMQ-FF-023).
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Corrective action to be taken:

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-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon et Marion Habersetzer

Inspector : Richard Jean Tremblay
(Print Name)

From : AEM

Signature* : Richard Jean Tremblay

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-03-16
Site Amaruq	☐ Drill and Blast ☒ Foundation Prep. ☐ Rockfill Placement ☒ Sampling ☒ Compaction ☒ Gradations ☐ Other (specify): ☐ Expertise ☐ Vibration Monitoring ☐ Water Management ☐ Grout curtain ☐ Liner / Geotextile
Project Derivation channel	
Project Nº : 11202247-B1	
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-37 ˚C

Field Results

- Inspection of the fine filter placement, compaction is good, I don't see any segregation and the snow have been removed
- Sampling of fine filter AMQ-FF-032 (st. 0+760 center), AMQ-FF-033 (st. 0+780 East slope), AMQ-FF-034 (st. 0+800 West slope) and AMQ-FF-035 (st. 0+820 East slope)
- Gradation of Fine filter AMQ-FF-037, All is good except one rock in sieve 31.5mm, started gradation AMQ-FF-028, AMQ-FF-029 and AMQ-FF-030 to be finished on night shift
- Work stopped around 3:00 PM because of blizzard condition
-
-

Corrective action to be taken:

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-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Mathieu Cote (Print Name)

From : AEM

Signature* :

Project Manager : Marc-Olivier Parent

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-03-17
Site Amaruq	☐ Drill and Blast ☐ Expertise ☐ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☒ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Amaruq Derivation channel	
Project Nº : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-42 ˚C

Field Results

- Visit to the site for verification of snow removal and compaction of the Coarse filter compaction
- Finish gradation started by the nightshift QC AMQ-FF-031, AMQ-FF-032 and AMQ-FF-033
- Start gradation of AMQ-FF-031, AMQ-FF-034 and AMQ-FF-035
- Approval of fine filter between st. 0+747 to 0+815, now all the fine filter has been approved except for the A45 lake part
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Mathieu Cote (Print Name)

From : AEM

Signature* :

Project Manager : Marc-Olivier Parent

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

no	Inspection Date 2020-03-17 Night
Site Amaruq	☐ Drill and Blast ☐ Expertise
Project Derivation channel	☐ Foundation Prep. ☐ Vibration Monitoring ☒ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Nº : 11202247-B1	☐ Other (specify):

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-30˚C

- Finish the last batch of fine filter gradation (AMQ-FF-035, AMQ-FF-034 and AMQ-FF-036).
- Go on the channel inspect the works before the approval and take some photos of the area. The zone between 0+760 to 0+816 is clean empty of ice/snow, the slopes are regular and flat angle conception. At the end of the evening, the contractor starts to fill up coarse filter materials the north sector of the channel. The visual assessment proves the works quality and jobs conformity between theses chainages.
- Between chainages 0+740 to 0+760, they need to correct some imperfection at the base of the slope, because there is a little bid “excess of materials” and some protuberances at the bottom of the slopes to correct. Of course, they need to wait or do the correction for this section of the channel before the placement. The slope correction has been completed in early morning.
- For the approval, the contractor surveyor confirms the elevation level of the channel with a certain order of imprecision, but acceptable in this particular channel zone.
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Corrective action to be taken:

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-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon et Marion Habersetzer

Inspector : Richard Jean Tremblay
(Print Name)

From : AEM

Signature* : Richard Jean Tremblay

Project Manager : Marc-Olivier Parent

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-03-18
Site Amaruq	☐ Drill and Blast ☐ Expertise
Project Derivation channel	☐ Foundation Prep. ☐ Vibration Monitoring
	☐ Rockfill Placement ☐ Water Management
	☐ Sampling ☐ Grout curtain
	☒ Compaction ☐ Liner / Geotextile
	☐ Gradations
Project Nº : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training	-38 ˚C
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	

Field Results

- Visit to the site to see the coarse filter placement and the snow removal in the morning , the site was closed after because of a missed hole between 11:00 and 5:50
- Compilation of gradations in the office
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Corrective action to be taken:

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Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Mathieu Cote (Print Name)

From : AEM

Signature* :

Project Manager : Marc-Olivier Parent

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client: AEM	Inspection Date 2020-03-18 Night
Site: Amaruq	☐ Drill and Blast ☐ Expertise
Project: Derivation channel	☐ Foundation Prep. ☐ Vibration Monitoring
	☒ Rockfill Placement ☐ Water Management
	☒ Sampling ☐ Grout curtain
	☐ Compaction ☐ Liner / Geotextile
	☐ Gradations
Project Nº : 11202247-B1	☐ Other (specify):

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-29˚C

- Tonight, take 3 coarse filter samples (AMQ-CF-005, AMQ-CF-006-1 and AMQ-CF-006-2) in the north zone at born (0+890m and 0+780m) and 1 sample (AMQ-CF-007) in the south portion at born (0+300m) of the SWTC derivation channel. The samples AMQ-CF-005 and AMQ-CF-007 had ice/snow presence on their body's surfaces. I brush the surface, but could be possible that ice/snow stay with the grains when picking up the samples. Careful, it could create an error in the moisture content results. The 2 same samples (AMQ-CF-006) could be used to compare the materials results, to have a better idea on the distribution of the grains size and be more representative, because they are a wide granular range for this materials and variable results at this point of the road.
- Inspection of the coarse filter placement and clean-up of the derivation channel during the nightshift. Verification and assessment of the quality of the works by the contractor and seems well done in this section of the channel.
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Corrective action to be taken:

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Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon et Marion Habersetzer

Inspector : Richard Jean Tremblay
(Print Name)

From : AEM

Signature* : Richard Jean Tremblay

Project Manager : Marc-Olivier Parent

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-03-19 DAY
Site Amaruq	☐ **Drill and Blast** ☐ **Expertise**
Project Derivation channel	☐ **Foundation Prep.** ☐ **Vibration Monitoring**
	☐ **Rip-rap Placement** ☐ **Water Management**
	☐ **Sampling** ☐ **Grout curtain**
	☐ **Compaction** ☒ **Liner / Geotextile**
	☒ **Gradations**
Project Nº : 11202247-B1	☐ **Other (specify):**
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training	**-42 ˚C**
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	

- Approval of Coarse filter from the A45 lake to 0+906 needed some corrections for the segregation and snow removal but it was done during afternoon
- Placement of geotextile and rip-rap in the bottom (slopes were not completed) from st. 0+760 to 0+800 approximatively the 500mm of overlap was respected and the rock were placed well
- Start gradation of coarse filter AMQ-CF-005
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-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Mathieu Côté (Print Name)

From : AEM

Signature* :

Project Manager : Marc-Olivier Parent

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-03-20
Site Amaruq	☐ Drill and Blast ☐ Expertise ☐ Foundation Prep. ☐ Vibration Monitoring ☒ Riprap Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☐ Other (specify):

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-38 ˚C

Field Results

- Sampling of coarse filter (AMQ-CF-005.1) at st. 0+580min East slope, the other one (AMQ-CF-005) was almost only rock and it was clear that it was not representative of the material in place
- Verification of geotextile placement and of the rip rap placement , all was good and the 500 mm overlap between the geotextile layers was respected
- Gradation of AMQ-CF-005.1 and AMQ-CF-006.2 to be finished on night shift
- Gradation AMQ-CF-006.1 had the same problem than the AMQ-CF-005 and was really not representative of the material in place
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-

Corrective action to be taken:

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-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Mathieu Cote
(Print Name)

From : AEM

Signature* :

Project Manager : Marc-Olivier Parent

Time on site : 12h

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AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-03-21
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☒ Sampling ☐ Grout curtain ☒ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☐ Other (specify):

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-18 ˚C

Field Results

- Verification of rip rap and geotextile placement but it was too much windy and they didn't place anything in this shift
- Approval of Esker and fine filter from St. 0+555 to 0+545 all was good, good compaction and the material is not segregated
- Sampling of Fine filter at ST. 0+550 (AMQ-FF-039)
- Sampling of coarse filter at St. 0+600 (AM-CF-008)
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Mathieu Cote
(Print Name)

From : AEM

Signature* :

Project Manager : Marc-Olivier Parent

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client: AEM	Inspection Date 2020-03-21 Night
Site: Amaruq	☐ Drill and Blast ☐ Expertise
Project: Derivation channel	☐ Foundation Prep. ☐ Vibration Monitoring
	☒ Rockfill Placement ☐ Water Management
	☒ Sampling ☐ Grout curtain
	☐ Compaction ☐ Liner / Geotextile
	☒ Gradations
Project Nº : 11202247-B1	☐ Other (specify):

I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF



-8˚C

- The contractor had installed around 30-40 meters of geotextile section and rip-rap materials between born (0+750 to 0+720m). The overlapping was respect, the geotextile placement was good and the placement of the rip-rap materials was softly drop on the textile without fail the materials. The snow removal works were concentrated at the side border of A45 lake in the south portion of the derivation channel.
- Finish the gradation of (AMQ-CF-007) and start new samples (AMQ-FF-039 and AMQ-CF-008).
- Go sampling, but it was yet done, so do an error and take twice fine filters and coarse materials, so we have double of materials for the two last gradations mention on the line before.
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Corrective action to be taken:

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Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon et Marion Habersetzer

Inspector : Richard Jean Tremblay (Print Name)

From : AEM

Signature* : Richard Jean Tremblay

Project Manager : Marc-Olivier Parent

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

Daily Field Report

Client AEM	Inspection Date 2020-03-23 day and Night shift
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project Nº : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-30 ˚C

- Web meeting at arrival at Amaruq

Web meeting was organized at 15:30 PM with QA, QC, GHD project manager and Agnico technical staff for the channel project. The meeting aimed at finding solutions to the absence of one QC who could not travel to Amaruq because of corona virus. After discussions, It was proposed to change the shift of the only one QC in the field (myself), from night shift to part day and night shift (from 12:30 pm to 00:30 am). This change will allow the QC to work with the QA prior to his departure scheduled on Wednesday. When the new QA will come in, the program will be adjusted accordingly.

- Field visit

Rip Rap works is going on in the channel :
2 loaders are working on the Rip Rap: one at the back for the finishing and compaction of Rip Rap on the slopes. Other one is at the front to set up geotextile and place Rip Rap both on foundation and slopes. Front loader does compact material on foundation. Geotextile and Rip Rap placement on both sides and on foundation. Rip Rap reaches the station 0+550m before night diner time. Have discussions in the field, with the operator to remove too big stones higher than 300mm.
Good geotextile placement and overlaps, are acceptable. But attention is due, as withdrawal can occur at some parts (edges of slope), when Rip Rap is placed from the foundation toward the edge of the slope. May be consider the possibility to stabilize geotextile at the edge, prior to the placement of Rip Rap at the foundation level.

- Office works

- Review of past run reports and gradation results
- Data processing of sampleAMQ-CF-007, of which gradation was done by the previous QC: moisture content is 0.84% but the sample is made up with 98% gravel. It is slightly outside the limit of the defined for this filter.

- Lab

- Continue gradations left in the lab by previous QC : FF-039 and CF-008, without data processing
- Some requirements expressed to the Agnico project team, and are already completed the following day. They are :
  * water tank is filled of water, as water level drops a lot * Sampling bags are provided, as they were finished.

Corrective action to be taken:

-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Yaotree Amegnran (Print Name)

From : AEM

Signature* : Yaotree Amegnran

Project Manager : Daniel Pedneault

Time on site : 12h

- *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-03-24 :12:30 to 00:30 shift
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project N^{o} : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	 -20 ˚C

- Visit SWTC channel:
  1- Cleaning took place at both slopes up to station 0+500m, during the day shift.
  2- Rip Rap placement reaches the station 0+323m, before the midnight break. Geotextile and rip rap material are acceptable.
  3- Two visits with the QA, by 6:30 pm and one visit by QC in the night.

- Data processing of samples AMQ-CF-008
  - Material sampled at station 0+600m, by previous QC.
  - Results show 2.6% of moisture and 96% of gravel. Material in the accepted range of filters

- Data processing of samples AMQ-FF-039
  - Gradation stated by previous QC and finished last night
  - Results show a moisture content of 7.9%, sand 30%, and gravel 62%. The filter is in the range specified in the project requirements

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon

Inspector : Yaotree Amegnran (Print Name)

From : AEM

Signature* : Yaotree Amegnran

Project Manager : Daniel Pedneault

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-03-25 : 12:30 to 00:30 shift
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project N° : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-20 °C

- Visit SWTC channel :
  1- Rip Rap placement in the south part of the channel.
  2- Cleaning of the channel, at the southern part of the lake A45. Additional cleaning is required by the new QA, at this part of the channel. And cleaning was carried out during night shift.
  3- Geotextile is well placed, with good overlaps in the direction of the flow : South to Nord.
  4- Instructions given to channel supervisor to remove fine materials from the Rip Rap stock pile.

- Lab :
  Updating sampling register

Corrective action to be taken:

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon et Marion Habersetzer

Inspector : Yaotree Amegnran
(Print Name)

From : AEM

Signature* : Yaotree Amegnran

Project Manager : Daniel Pedneault

Time on site : 12h



Rip Rap placement



Geotextile overlaps in the direction of the flow

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-03-26 :12:30 to 00:30 shift
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project N° : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	 -25 ˚C

- Telephone meeting :
  - Participate to meeting with QA Daniel (in Toronto) and QA Paul on site, for passing over of the project activities between the two QAs.
  - Information exchange with QA Daniel to finalize the approval forms for the foundation and Rip Rap. Approval process started by Daniel before he leaves the site.
- Visit SWTC channel
  1- Visit channel with the QA, to supervise the Esker works : observations are made by the QA to contractor to improve upon the placement of the Esker material from station 0+555m to 0+500m
  2- Follow up of the reshape of the Esker as recommended by the QA
  3- Photographs are collected to support the results achieved in the field
  4- Follow up of the beginning of the fine filter placement at the same section of the channel
  5- Follow up of Rip Rap placement at the inlet level from station 0+100m to upstream.
- Sampling and gradation:
  - Collect sample of Esker : AMQ-ES-018 at the station 0+525
  - Collect second sample of Fine filter : AMQ-FF-040 at the station 0+540
  - Start gradation of AMQ-ES-018 at the station 0+525, but didn't finish
- Collect information for final Esker approval,
  1. Follow up of the finishing of the Esker
  2. Improvements of Esker placement are noticed as requested by the QA
  3. Temporary approval provided to contractor in order to proceed to the fine filter placement tonight,
  4. Photos are collected to support the final approval by QA and owner's team, tomorrow.

Corrective action to be taken:

-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon and Marion Habersetzer

Inspector : Yaotree Amegnran (Print Name)

From : AEM

Signature* : Yaotree Amegnran

Project Manager : Daniel Pedneault

Time on site : 12h

*

By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time

AGNICO EAGLE

Daily Field Report



Esker finishing from 0+555m to 0+ 500 for approval



Rip Rap finishing at the inlet of the channel

Daily Field Report

Client AEM	Inspection Date 2020-03-27 :12:30 to 00:30 shift
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project N° : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-35 ˚C

-

- Visit SWTC channel
  1- Follow up the placement of the coarse filter from station 0+555m to 0+500m, with the QA
  2- Make recommendations to improve upon the compaction of the coarse filter. Attending the finishing of coarse filter
  3- Follow up of the beginning of the geotextile placement at the same section of the channel
  4- Follow up the beginning of the Rip Rap placement over the geotextile.

- Sampling and gradation:
  - Collect sample of soil in place from the foundation of the southern section of the Lake A45: AMQ-IP-019 at the station 0+380m. This portion of the foundation is still awaiting to be finished.
  - Complete gradation of fine filter AMQ-FF-040 and AMQ-ES-018
  - Start gradation of AMQ-IP-019.
  - Data processing to be carried out tomorrow.

Remarks : It is very difficult for only one QC to follow the works in the field and to carry out the sample gradations on time. Gradation results seem a bit late, due to low time given to lab activities.

Corrective action to be taken:

-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon and Marion Habersetzer

Inspector : Yaotree Amegnran (Print Name)

From : AEM

Signature* : Yaotree Amegnran

Project Manager : Daniel Pedneault

Time on site : 12h

*

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AGNICO EAGLE

Daily Field Report

	
Coarse filter placement	Geotextile placement

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-03-28 :12:30 to 00:30 shift
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project N° : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	 -30 ˚C

-

- Visit SWTC channel
  1- Follow up the placement of Rockfill which starts today. Rockfill may reach station 0+550 at the end of the night shift.
  2- Follow cleanup of the foundation at south of Lake A45, from 0+400m to 0+325m. Cleanup attends foundation rocks and loose materials are almost removed. Ice presence is noticed at some spots.
  3- Cleanup may finish tonight, for approval tomorrow

- Sampling and gradation:
  - Collect a second sample of soil in place from the foundation of the southern section of the Lake A45: AMQ-IP-020 at the station 0+349m. Excess ice is suspected at that place, and sampling was decided to estimate the ice content.
  - Performed excess ice content estimation test for the sample AMQ-IP-020.
  - Data processing is carried for all samples in the lab
  - Gradation results look acceptable:

Sample	moisture %	silt %	sand %	gravel %
FF-04	4.5	10	34	56
IP-019	11.4	21	28	51
ES-018	6.9	10	22	68

  The fine filter results fall in the acceptable range
  - For the sample IP-020, excess ice content is 17.3% and total water content is 42.2%

Corrective action to be taken:

-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon and Marion Habersetzer

Inspector : Yaotree Amegnran (Print Name)

From : AEM

Signature* : Yaotree Amegnran

Project Manager : Daniel Pedneault

Time on site : 12h

*

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AGNICO EAGLE

Daily Field Report



Rockfill placement



Foundation cleanup

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-03-29 :12:30 to 00:30 shift
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project N° : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-30 ˚C

-

- Visit SWTC channel
  1- Rockfill placement starts at the Eastern slope and reaches station 0+680m
  2- On western slope, Rockfill arrives at A45, st. 0+555m
  3- Geotextile was not well covered well at western slope. Night shift is working to improve upon it.
  - Cleanup continued at South of A45, to remove more ice layers. Because, the sample IP-020 collected from this site showed excess ice content of 17.3% and total water content fo 42.2%. More cleanup is then recommended in that area to mitigate negative impacts
  4- Cleanup is going on at Northern site of A45. Identified ice layer are being removed too. Sample will be collected tomorrow, from this area to check ice content.

- Office works :
  - Data processing and updating samples register with information from previous run activities.

Corrective action to be taken:

-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon and Marion Habersetzer

Inspector : Yaotree Amegnran (Print Name)

From : AEM

Signature* : Yaotree Amegnran

Project Manager : Daniel Pedneault

Time on site : 12h

** By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-03-30 :12:30 to 00:30 shift
Site Amaruq	☐ Drill and Blast ☒ Foundation Prep. ☐ Rockfill Placement ☐ Sampling ☐ Compaction ☒ Gradations ☐ Other (specify):
Project Derivation channel	☐ Expertise ☐ Vibration Monitoring ☐ Water Management ☐ Grout curtain ☐ Liner / Geotextile
Project N° : 11202247-B1	
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	**-29 ˚C**

-

- Visit SWTC channel
  1- Rockfill placement continues at both Western and Eastern slopes between st. 0+780m and 0+760m
  2- Cleanup is still going on at Northern site of A45. Identified ice layer are being removed too.
  3- Cleanup at southern A45 continues at the Western slope level. The center seem to be well clear and visually with less ice content.

- Sampling and gradation:
  - Collect a sample of soil in place from the foundation of the southern section of the Lake A45: AMQ-IP-021 at the station 0+345m.
  - Perform excess ice content estimation test for the sample AMQ-IP-021 to check if any improvement of soil is achieved.
  - Excess ice content estimation is 16.4% and total water content is 43.7% .
  - Despite increase of excavation, water content remains almost the same

- Office works :
  - Continue updating of samples register with information from previous run activities.

Corrective action to be taken:

-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon and Marion Habersetzer

Inspector : Yaotree Amegnran (Print Name)

From : AEM

Signature* : Yaotree Amegnran

Project Manager : Daniel Pedneault

Time on site : 12h

** By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time*

Daily Field Report

Client AEM	Inspection Date 2020-03-31 :12:30 to 00:30 shift
Site Amaruq	☐ Drill and Blast ☒ Foundation Prep. ☐ Rockfill Placement ☐ Sampling ☐ Compaction ☒ Gradations ☐ Other (specify):
Project Derivation channel	☐ Expertise ☐ Vibration Monitoring ☐ Water Management ☐ Grout curtain ☐ Liner / Geotextile
Project N° : 11202247-B1	
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	**-25 ˚C**

-

- Visit SWTC channel
  1- Esker is being placed at south of A45, from 0+325m to 0+400m. Placement is going on both foundation and slopes.
  2- Cleanup of Northern section of A45 is being carried out. Ice layer is still required to be removed.

- Sampling and gradation:
  - Collect a sample of Esker ES-019 at the location 0+350m
  - 6 samples collected from Northern section of A45 to trace ice layer and to properly design the cleanup.
  - 2 samples at station 0+490m at the depth 0.6m and 0,3m
  - 4 samples are collected from station 0+440m at different depths from 0.3m to 1.20m.
  - Ice content estimations are being carried out on those samples.

Corrective action to be taken:

-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon and Marion Habersetzer

Inspector : Yaotree Amegnran (Print Name)

From : AEM

Signature* : Yaotree Amegnran

Project Manager : Marc-Olivier Parent

Time on site : 12h

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Daily Field Report

Client AEM	Inspection Date 2020-03-31 :12:30 to 00:30 shift
Site Amaruq	☐ Drill and Blast ☒ Foundation Prep. ☐ Rockfill Placement ☐ Sampling ☐ Compaction ☒ Gradations ☐ Other (specify):
Project Derivation channel	☐ Expertise ☐ Vibration Monitoring ☐ Water Management ☐ Grout curtain ☐ Liner / Geotextile
Project N° : 11202247-B1	
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-25 ˚C

-

- Visit SWTC channel
  1- Esker work is almost finished at south of A45, from 0+325m to 0+400m. Only small part of western slope is left. Approval is provided today for fine filter start up.
  2- Beginning of fine filter placement from station 0+325m going to the A45. Samples will be taken tomorrow
  3- Cleanup of northern section of A45 is still going. Samples collected yesterday show that ice layers are as deep as 1m at some parts. Hammering is being done tonight to accelerate the cleanup

- Sampling and gradation:
  - Collect two samples of soil in place at the cleanup area: AMQ-IP-024.1 and IP-024.2 at the location 0+467m.
  - Gradations are going on for samples collected yesterday. Especially, ice content estimation. Temporarily results show high content of ice at the Northern section of A45 as follows
  -

Sample	ice content %	total water content%	elevation /station
IP-22.1	0	6.9	152.6 / 490
IP-22.2	4.0	15.5	152.3 / 490
IP-23.1	368.1	147.9	152.8 / 440
IP-23.2	43.1	130.7	152.5/ 440
IP-23.3	2.1	15.6	152.1/ 440
IP-23.4	5.8	19.5	151.5/ 440

  - The surroundings of the A45 are very icy deeply.
  - We really appreciate support from Agnico team in the lab tests and samples collection. Thanks a lot.

Corrective action to be taken:

-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon and Marion Habersetzer

Inspector : Yaotree Amegnran (Print Name)

From : AEM

Signature* : Yaotree Amegnran

Project Manager : Marc-Olivier Parent

Time on site : 12h

** By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time*



Fine filter placement on the esker layer



Hammering of the north A45 for cleanup works

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-04-02 :12:30 to 00:30 shift
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rockfill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☒ Gradations
Project Derivation channel	
Project N° : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	**-20 ˚C**

- Blizzard during the whole day. No big works in the channel.

- Gradation and data processing
  - Finish gradation of sample ES-019 : results show a moisture of 5.6%, silt content of 12%, sand part of 29% and gravel content of 59%. The sample fall within the average results obtained so far. Esker is use to backfill southern part of lake A45.
  - Ice content estimation and data processing of the samples IP-024.1 and IP-024.2 at location 0+467 still at the North of lake A45. For both samples, ice content is null. The moistures are respectively, 8.4% and 7.0%
  - Those results shows that ice blocks are not spread everywhere on this section.

- Working with M. Thomas Dahm from AgnicoEagle to start handing over works and documents
  - M. Thomas will be doing all assignments of the QCs. To that regards, we start working together to hand over gradually all activities in order for them to continue efficiently at the end of the run of GHD QC's .
  - Both lab tests and data processing have been carried out.

Corrective action to be taken:

-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon and Marion Habersetzer

Inspector : Yaotree Amegnran (Print Name)

From : AEM

Signature* : Yaotree Amegnran

Project Manager : Marc-Olivier Parent

Time on site : 12h

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Daily Field Report

Client AEM	Inspection Date 2020-04-03 :12:30 to 00:30 shift
Site Amaruq	☐ Drill and Blast ☒ Foundation Prep. ☐ Rockfill Placement ☐ Sampling ☐ Compaction ☒ Gradations ☐ Other (specify):
Project Derivation channel	☐ Expertise ☐ Vibration Monitoring ☐ Water Management ☐ Grout curtain ☐ Liner / Geotextile
Project N° : 11202247-B1	
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	**-25 ˚C**

- Sampling and Gradation
  - Sampling of 4 fine filter as follows ;
  - FF-041 at 0+350m , FF-042 at 0+370m, FF-043 at 0+390m and FF-044 at 0+330m. The fine filter sample is at a frequency of 20m.
  - Start gradation of the fine filter samples
  - Collect additional sample of soil in place IP0-25 at location 0+485m to provide sufficient data to the decision makers regarding the excavation requirements at the lake A45.
  - The channel supervisor is waiting for clear instructions to that regard

- Field visit :
  - Follow up of the removal of snow from the geotextile for the Rockfill placement. Tonight shift will be placing Rockfill at the location 0+165m toward the upstream of the channel.
  - Cleanup is still going on at the lake A45.
  - Many questions remain answered yet for the excavation at the lake.

Corrective action to be taken:

-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon and Marion Habersetzer

Inspector : Yaotree Amegnran (Print Name)

From : AEM

Signature* : Yaotree Amegnran

Project Manager : Marc-Olivier Parent

Time on site : 12h

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Daily Field Report

Client AEM	Inspection Date 2020-04-04 Day
Site Amaruq	☐ **Drill and Blast** ☐ **Expertise**
Project Diversion channel	☐ **Foundation Prep.** ☐ **Vibration Monitoring**
	☐ **Rock Fill Placement** ☐ **Water Management**
	☐ **Sampling** ☐ **Grout curtain**
	☐ **Compaction** ☐ **Liner / Geotextile**
	☐ **Gradations**
Project Nº : 11202247-B1	☐ **Other (specify):**
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	**-20 ˚C**

-
- Clearing snow and hammering A45 lake area to assess depth of ice in channel
- Working on rock fill on slopes at beginning of channel
- Esker was approved from 0+374 to 0+400 and set for fine filter installation
- . Gradations on FF-043 and FF-044 completed
- Fine filter being placed and compacted from 0+374 to 0+400
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Christian Tremblay

Inspector : Thomas Dahm
(Print Name)

From : AEM

Signature* :

Project Manager :

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report





AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-04-05 :12:30 to 00:30 shift
Site Amaruq	☐ Drill and Blast ☒ Foundation Prep. ☐ Rockfill Placement ☐ Sampling ☐ Compaction ☒ Gradations ☐ Other (specify):
Project Derivation channel	☐ Expertise ☐ Vibration Monitoring ☐ Water Management ☐ Grout curtain ☐ Liner / Geotextile
Project N° : 11202247-B1	
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	**-18 ˚C**

This report will be the last one of the run. Departure is planned for tomorrow 6th April 2020.

- Gradation
  - Finish gradation of coarse filter sample: CF-009 from location 0+350 East slope.
  - Sample collected by the new QC
  - Data processing of the gradation results is not done. It will be performed by the incoming QC

- Field visit :
  - Follow up the placement of geotextile and Rip Rap material on the on section 0=331m to 0+395m
  - Coarse filter was finish early this morning.
  - Geotextile overlaps are well respected in the direction of the water flaw and at least 500mm overlap.
  - Rip Rap placement is being done simultaneously with geotextile on the same section, toward location 0+395.
  - Cleanup is still going on at the lake A45.

Corrective action to be taken:

-

Follow up visit required: Yes ☒ No ☐

Site Representative : Patrice Gagnon and Marion Habersetzer

Inspector : Yaotree Amegnran (Print Name)

From : AEM

Signature* : Yaotree Amegnran

Project Manager : Marc-Olivier Parent

Time on site : 12h

** By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time*

AGNICO EAGLE

Daily Field Report



Rip Rap placement this afternoon



Installation of geotextile during day shift

Daily Field Report

Client AEM	Inspection Date 2020-04-06 Day
Site Amaruq	☐ **Drill and Blast** ☐ **Expertise**
Project Diversion channel	☐ **Foundation Prep.** ☐ **Vibration Monitoring**
	☐ **Rock Fill Placement** ☐ **Water Management**
	☐ **Sampling** ☐ **Grout curtain**
	☐ **Compaction** ☐ **Liner / Geotextile**
	☐ **Gradations**
Project N° : 11202247-B1	☐ **Other (specify):**
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training	-15 ˚C
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	

-
- Clearing snow and hammering A45 lake area to assess depth of ice in channel
- Working on rock fill on slopes at beginning of channel
- Take 2 samples for moisture content. IP-25 (17.6%) Sta 0+425 and IP 26 (20.1%) at Sta 0+440. Both locations are within the A45 lake area.
- .
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Christian Tremblay

Inspector : Thomas Dahm (Print Name)

From : AEM

Signature* :

Project Manager :

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-04-07 Day
Site Amaruq	☐ **Drill and Blast** ☐ **Expertise**
Project Diversion channel	☐ **Foundation Prep.** ☐ **Vibration Monitoring**
	☐ **Rock Fill Placement** ☐ **Water Management**
	☐ **Sampling** ☐ **Grout curtain**
	☐ **Compaction** ☐ **Liner / Geotextile**
	☐ **Gradations**
Project N° : 11202247-B1	☐ **Other (specify):**
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	 **-15 ˚C**

-
- Clearing snow and hammering A45 lake area to assess depth of ice in channel. Hammering and ripping were ongoing.
- Working on rock fill on slopes of channel
- One (1) sample for moisture content. IP-28 (18.6%) Sta 0+438. Sample was taken beside where the ice started to go deeper. Material was lake sediment
-
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Christian Tremblay

Inspector : Thomas Dahm (AEM)
(Print Name)

From : AEM

Signature* :

Project Manager :

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*



Photo taken from West side of channel at the lake A45 area.

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-04-08 Night
Site Amaruq	☐ **Drill and Blast** ☐ **Expertise**
Project Diversion channel	☐ **Foundation Prep.** ☐ **Vibration Monitoring**
	☐ **Rock Fill Placement** ☐ **Water Management**
	☐ **Sampling** ☐ **Grout curtain**
	☐ **Compaction** ☐ **Liner / Geotextile**
	☐ **Gradations**
Project Nº : 11202247-B1	☐ **Other (specify):**
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training	 **-15 ˚C**
I SEE: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	

-
- Finished inlet, and placement of Esker, Fine Filter, Course Filter, Geomembrane and Rip Rap.
- Removing all material from outside the work area, which included waste rock and snow
- Finished hammering and removing all loose material and snow from the A45 area.
- Two (2) samples of In Place material were taken. IP-29 (12.2%) and IP-30 (14.0%)
- One sample was taken of Fine Filter FF-45 and one sample was taken of Course Filter CF-010. Results are attached to the QC report
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Christian Tremblay

Inspector : Thomas Dahm (AEM)
(Print Name)

From : AEM

Signature* :

Project Manager :

Time on site : 12h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*



Photo 1: Photo taken at the inlet looking South.

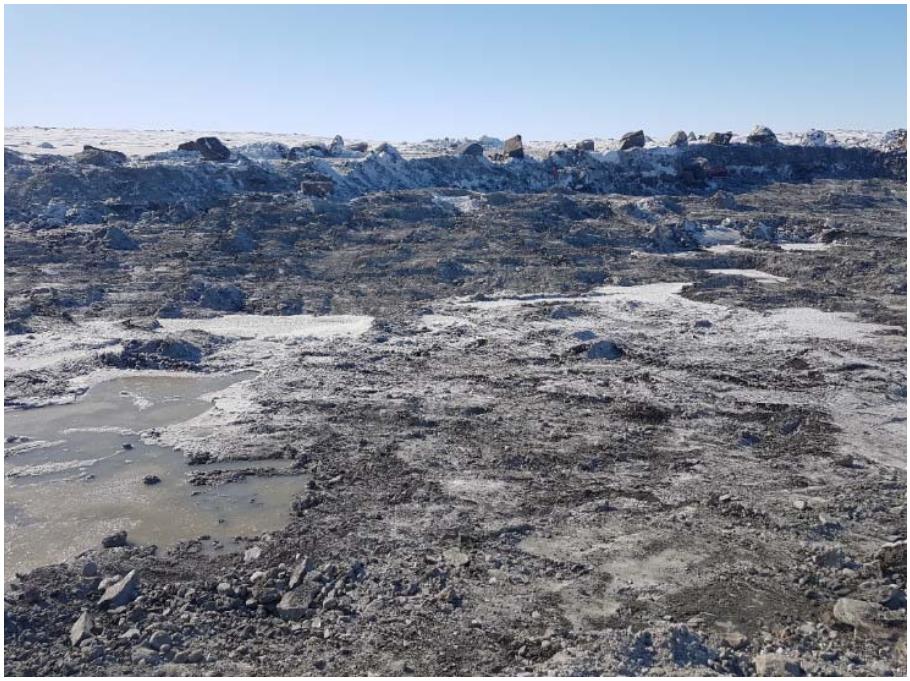


Photo 1: Photo taken at A45 looking West.

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-04-09 (6:30 to 0:00)
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rock Fill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Diversion channel (SWTC)	
	☐ Other (specify):
Project Nº : 11202247-B1	
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	**-20 ˚C**

- Continue removing all material from outside the work area (road berm on East side), which included waste rock and snow.
-
-
-
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Christian Tremblay

Inspector : J. Collard & T. Dahm (AEM)
(Print Name)

From : AEM

Signature* :

Project Manager :

Time on site : 18h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*



Photo 1: Photo taken looking South East at the berm and snow removal.

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-04-10 (6:30 to 0:00)
Site Amaruq	☐ **Drill and Blast** ☐ **Expertise** ☒ **Foundation Prep.** ☐ **Vibration Monitoring** ☐ **Rock Fill Placement** ☐ **Water Management** ☐ **Sampling** ☐ **Grout curtain** ☐ **Compaction** ☐ **Liner / Geotextile** ☐ **Gradations**
Project Diversion channel (SWTC)	☐ **Other (specify):**
Project N° : 11202247-B1	
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	**-20 ˚C**

- Continue removing all material from outside the work area (road berm on East side), which included waste rock and snow.
- Received drawing for area from 0+400 to 0+500 which included A45 area
- Esker placed in 300m lifts to final elevation 153.17. Esker was packed with shovel bucket and haul trucks.
- Sloped areas were smooth.
- One sample or Esker material was taken for gradation.
-
-
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Christian Tremblay

Inspector : J. Collard & T. Dahm (AEM)
(Print Name)

From : AEM

Signature* :

Project Manager :

Time on site : 18h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*



Photo 1: Photo taken looking East at the esker installation.



Photo 1: Photo taken looking South East at the esker installation.

AGNICO EAGLE

Daily Field Report

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-04-11 (6:30 to 0:00)
Site Amaruq	☐ Drill and Blast ☐ Expertise ☒ Foundation Prep. ☐ Vibration Monitoring ☐ Rock Fill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Diversion channel (SWTC)	
Project Nº : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	 **-20 ˚C**

- Placing fine filter as per drawings. Four (4) samples were taken for gradation. FF-046, FF-07, FF-048 & FF-049
- Material was placed in 300mm lift to specified elevation and compacted with bucket and roll on from haul trucks
- Course filter was placed in 300mm lift to specified elevation. One sample was taken for gradation.
-
- Course filter was approved.
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☒ No ☐

Site Representative : Christian Tremblay

Inspector : J. Collard & T. Dahm (AEM)
(Print Name)

From : AEM

Signature* :

Project Manager :

Time on site : 18h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*



Photo 1: Photo taken looking North at the course filter.



p

Photo 2: Photo taken looking North at the fine filter transition.

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-04-12 (6:30 to 0:00)
Site Amaruq	☐ Drill and Blast ☐ Expertise
Project Diversion channel (SWTC)	☐ Foundation Prep. ☐ Vibration Monitoring
	☒ Rock Fill Placement ☐ Water Management
	☐ Sampling ☐ Grout curtain
	☐ Compaction ☐ Liner / Geotextile
	☒ Gradations
Project Nº : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	 -19 ˚C

- Rock fill works ongoing on the West side
- Gradations completed on FF-046, FF-047, FF-048, FF-049, CF-011 and ES-020
- Results attached.
- Works stopped due to blizzard around 11 am.
-
-
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☐ No ☐

Site Representative : Christian Tremblay

Inspector : J. Collard & T. Dahm (AEM)
(Print Name)

From : AEM

Signature* :

Project Manager :

Time on site : 18h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-04-13 (6:30 to 0:00)
Site Amaruq	☐ Drill and Blast ☐ Expertise
Project Diversion channel (SWTC)	☐ Foundation Prep. ☐ Vibration Monitoring
	☒ Rock Fill Placement ☐ Water Management
	☐ Sampling ☐ Grout curtain
	☐ Compaction ☐ Liner / Geotextile
	☒ Gradations
Project Nº : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	 -19 ˚C

- Rock fill works ongoing on the West side
-
-
-
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☐ No ☐

Site Representative : Christian Tremblay

Inspector : J. Collard & T. Dahm (AEM)
(Print Name)

From : AEM

Signature* :

Project Manager :

Time on site : 18h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-04-14 (6:30 to 0:00)
Site Amaruq	☐ Drill and Blast ☐ Expertise
Project Diversion channel (SWTC)	☐ Foundation Prep. ☐ Vibration Monitoring ☒ Rock Fill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Nº : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	 **-19 ˚C**

- Rock fill works ongoing on the East side
- Finger drain prepared and geomembrane installed on slopes
-
-
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☐ No ☐

Site Representative : Christian Tremblay

Inspector : J. Collard & T. Dahm (AEM)
(Print Name)

From : AEM

Signature* :

Project Manager :

Time on site : 18h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*



Photo 1: Finger drain preparation on West Side.



Photo 2: Rock fill works ongoing on the East side.

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-04-15 (6:30 to 0:00)
Site Amaruq	☐ Drill and Blast ☐ Expertise
Project Diversion channel (SWTC)	☐ Foundation Prep. ☐ Vibration Monitoring ☒ Rock Fill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Nº : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	 **-19 ˚C**

- Rock fill works ongoing on the East side
- Finger drain and geomembrane on East and West side
- Strong winds during evening shift prevented many works from ongoing. Road was closed around 8 due to poor visibility.
-
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☐ No ☐

Site Representative : Christian Tremblay

Inspector : J. Collard & T. Dahm (AEM)
(Print Name)

From : AEM

Signature* :

Project Manager :

Time on site : 18h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*



Photo 1: Finger on East Side.



Photo 2: View looking South at channel.

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-04-16 (6:30 to 0:00)
Site Amaruq	☐ Drill and Blast ☐ Expertise
Project Diversion channel (SWTC)	☐ Foundation Prep. ☐ Vibration Monitoring
	☒ Rock Fill Placement ☐ Water Management
	☐ Sampling ☐ Grout curtain
	☐ Compaction ☐ Liner / Geotextile
	☐ Gradations
Project Nº : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	 -19 ˚C

- Finish finger drain and geomembrane on East side
- Clear snow from channel area to prepare for geomembrane on centre and slopes
- Install membrane on slopes and add rip rap over top to proper elevations
-
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☐ No ☐

Site Representative : Christian Tremblay

Inspector : J. Collard & T. Dahm (AEM)
(Print Name)

From : AEM

Signature* :

Project Manager :

Time on site : 18h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*



Photo 1: Finger on East Side and channel preparation.



Photo 2: View looking South at channel works.

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-04-17 (6:30 to 0:00)
Site Amaruq	☐ Drill and Blast ☐ Expertise
Project Diversion channel (SWTC)	☐ Foundation Prep. ☐ Vibration Monitoring ☒ Rock Fill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Nº : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	 **-15 ˚C**

- Blizzard conditions.
-
-
-
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☐ No ☐

Site Representative : Christian Tremblay

Inspector : J. Collard & T. Dahm (AEM)
(Print Name)

From : AEM

Signature* :

Project Manager :

Time on site : 18h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-04-18 (6:30 to 0:00)
Site Amaruq	☐ Drill and Blast ☐ Expertise
Project Diversion channel (SWTC)	☐ Foundation Prep. ☐ Vibration Monitoring ☒ Rock Fill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Nº : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	 **-20 ˚C**

- Blizzard condition for a good part of the day. Cleared snow and then restarted works at approx. 0h00
-
-
-
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☐ No ☐

Site Representative : Christian Tremblay

Inspector : J. Collard & T. Dahm (AEM)
(Print Name)

From : AEM

Signature* :

Project Manager :

Time on site : 18h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*



Photo 1: Looking south at the remaining geomembrane and rock works to be completed.



Photo 2: Looking north at the complete works in this section.

AGNICO EAGLE

Daily Field Report

Client AEM	Inspection Date 2020-04-19 (6:30 to 0:00)
Site Amaruq	☐ Drill and Blast ☐ Expertise
Project Diversion channel (SWTC)	☐ Foundation Prep. ☐ Vibration Monitoring ☒ Rock Fill Placement ☐ Water Management ☐ Sampling ☐ Grout curtain ☐ Compaction ☐ Liner / Geotextile ☐ Gradations
Project Nº : 11202247-B1	☐ Other (specify):
I HAVE: ☒ my JSEAs ☒ my PPE ☒ Proper Training **I SEE**: ☐ Unexpected Hazards **I NEED**: ☐ an S-RAF	-13 ˚C

- Finished geomembrane, rip rap and working at outlet to finish around top edge
-
-
-
-
-

Corrective action to be taken:

-
-

Follow up visit required: Yes ☐ No ☐

Site Representative : Christian Tremblay

Inspector : J. Collard & T. Dahm (AEM)
(Print Name)

From : AEM

Signature* :

Project Manager :

Time on site : 18h

* *By signing this form I acknowledge that I have consulted the appropriate JSEA for the current project and I am in compliance with the JSEA procedures for this site at this time.*



Photo 1: Looking south at the finished works on the west edge.



Photo 2: Looking north at the finishing edge being worked on.

Appendix F

Quality Assurance (QA) Reports

Appendix F-1

QA Daily Site Reports (SNC-Lavalin)

SNC·LAVALIN

SITE REPORT
(Detailed)

20200115-DS-01
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-01-15	6 :30 AM – 6 :30 PM	667648	Daniel Meles

Project	Client
South Whale Tale Diversion Channel construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☐Sunny ☒Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☐Light ☒Moderate ☐Strong, gusts

Temperature: -43 °C

Comments: **Because of the wind combined with snow on the ground visibility was very poor**

Appendix: ☒Yes ☐No Pictures ☒Yes ☐No Inspection report or other:

Pictures in the folder Appendix – design question

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attend daily construction meeting;
- Went to site and observed construction activities (drilling, preparation for blasting and excavation);
- Went with the QC to the filter stock pile area and observed fine filter sampling for gradation test;
- Went with QC to site and took one sample for gradation test from the overburden soil near excavation bottom;
- Went with the QC to observe the laboratory set-up for gradation test; and
- Had a discussion with Patrice Gagnon (AEM) some design issue: at inlet (Whale Tail Lake and lake A45) and outlet (near Mammoth and A45 lake) locations. For detail see email attached at the end of the report.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

- Dress up properly for extreme cold condition
- Drive slowly and horn at blind locations as Radio communication was poor in some location while driving to the site

Issued by : Daniel Meles (Signature) — 15-01-2020 (Date)

Verified by : (Signature) — (Date)

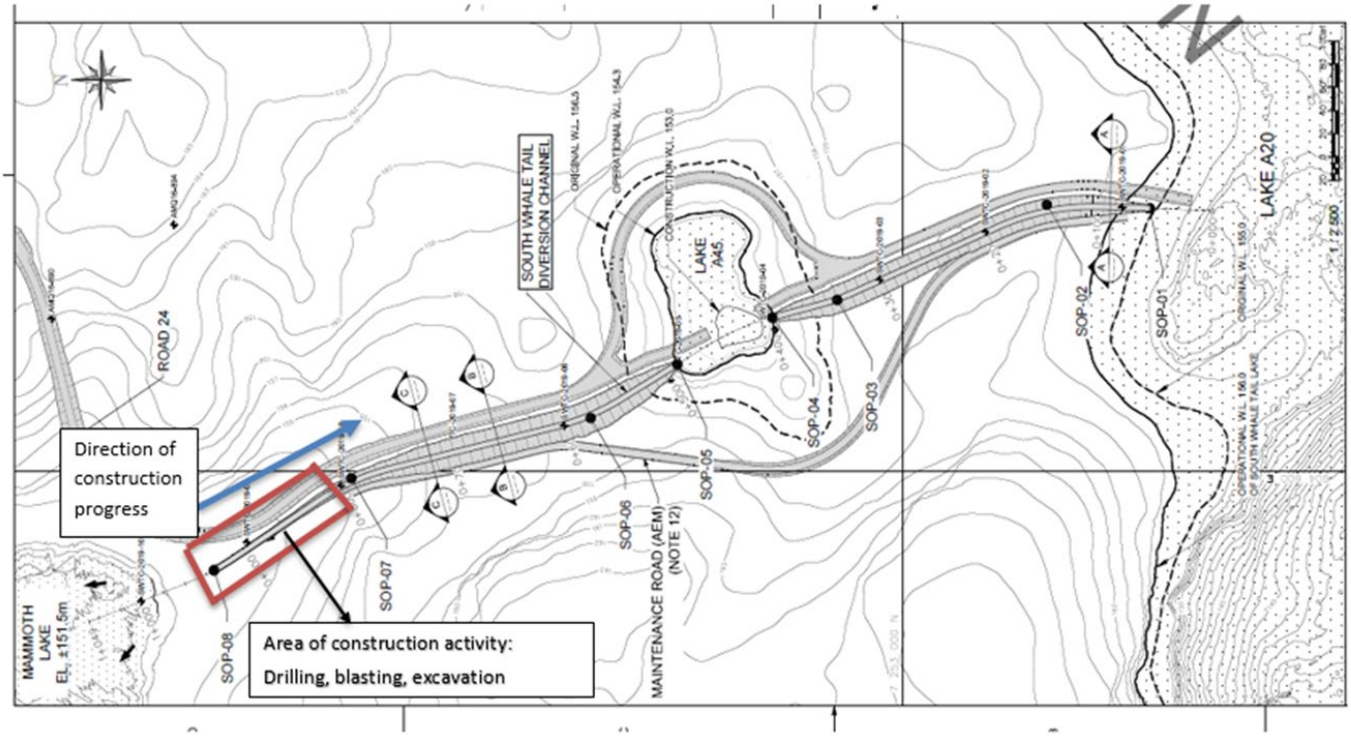


Figure 1: Approximate location of construction activity and direction of construction progress

SKETCH

FW: [EXTERNAL] 11-811 - SWTC INTLETS MODIFICATION - DRILL & BLAST DATA F DESIGN

Inbox ×

Patrice Gagnon <patrice.gagnon@agnicoeagle.com> 5:03 PM (2 hour

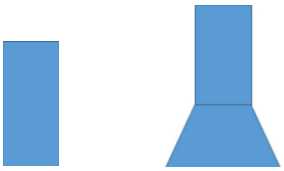
to Angie, erika.voyer@snclavalin.com, daniel.meles@snclavalin.com, me, Frederick, Alexandre, Pier-Eric

Salut SNC,

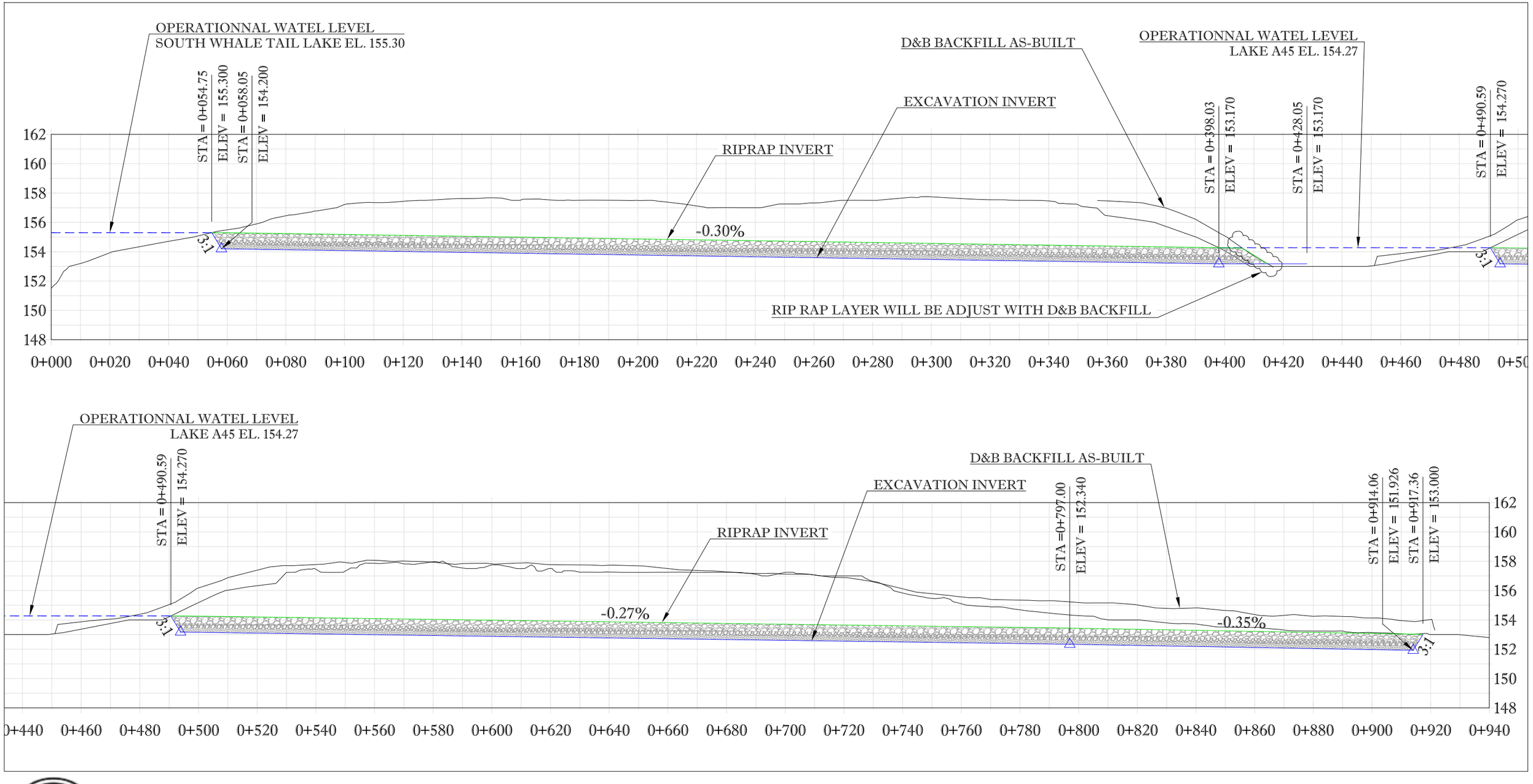
Here is the proposed design for the inlets of Whale Tail lake as well as lake A45. The proposed operational level of the South Whale Ta performing the design as proposed, the lake would likely go down to 154.3 as water will infiltrate through the filters into the channel. Wi overflowing water above 155.3 will enter the channel. Is SNC agreeing with this modification to the Design ?

Another point we would like to open discussion for is also at the inlet. We were wondering if a funnel shape design directing the water t more suitable to insure the best channel operation as possible, other than only relying to the current 5m wide straight design ?

AEM proposal SNC's Design



SWTC PROFILE - INLETS PROPOSITION
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



C:\Users\arpenteur\Dropbox (Groupe Gilbert)_arpentage meadowbank\02-E - OFFICIAL DRAWING\11-811 - AMQ DIKES\CON-AD (SCEALED ENGINEERING DRAWING)\CON-AD-022_SWTC INLETS PROPOSITION.dwg

KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 15-01-2020
CON-AD-022

SNC·LAVALIN

SITE REPORT
(Detailed)

20200116-DS-02
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-02-15	6 :30 AM – 6 :30 PM	667648	Daniel Meles

Project	Client
South Whale Tale Diversion Channel construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☐Sunny ☒Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☐Moderate ☐Strong, gusts

Temperature: -32 °C

Comments:

Appendix: ☐Yes ☒No Pictures ☒Yes ☐No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attend daily construction meeting; and
- Went to site and observed construction activities (drilling, preparation for blasting and excavation). See photos 1 and 2 taken during site visit attached at the end of the report;

SPECIFIC ELEMENTS VERIFIED

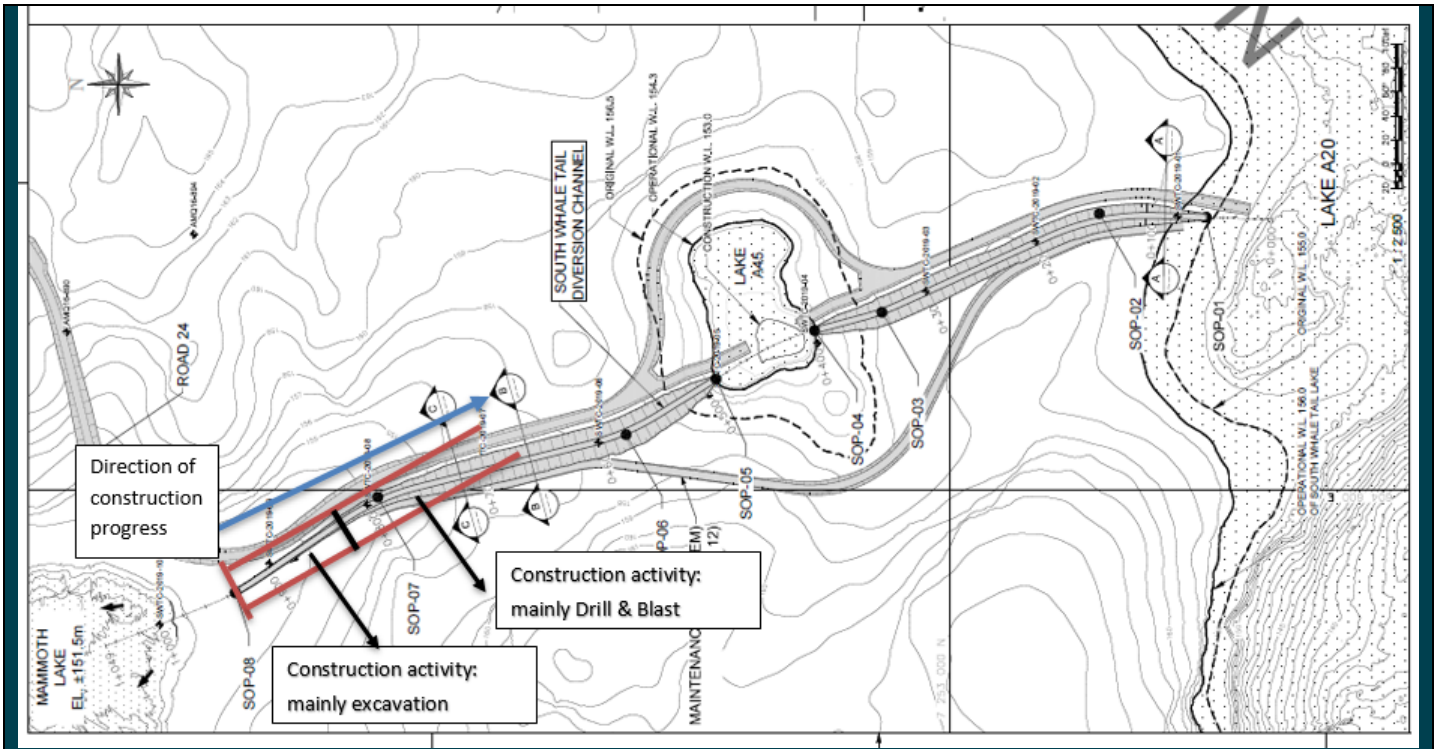
Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

- To observe new traffic stop sign on the on the access road to site.

Issued by : Daniel Meles — Signature — 16-01-2020 — Date

Verified by : Signature — Date



SKETCH



Photo 1 : Outlet to Mammoth lake channel excavation (left - taken looking south and right – taken looking north)



Photo 2 : Drilling and stripping activity (photo taken looking south)

SNC·LAVALIN

SITE REPORT
(Detailed)

20200117-DS-03
Document number (YYYYMMDD-DS-SR)

2020-01-17	6 :30 AM	6 :30 PM	667648	Daniel Meles
Visit date	Time (Start/End)		Project No.	Prepared by

South Whale Tale Diversion Channel construction	Agnico Eagle
Project	Client

SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☐Sunny ☒Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☐Moderate ☐Strong, gusts

Temperature: -44 °C

Comments:

Appendix: ☐Yes ☒No Pictures ☒Yes ☐No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attend daily construction meeting;
- Went to site and observed construction activities (drill pad and mucking in preparation for blasting and excavation). See photo 1 and 2 taken during the site visit.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

- Back up alarm of the pick up truck was not working

Issued by : Daniel Meles — Signature — 17-01-2020 — Date

Verified by : Signature — Date

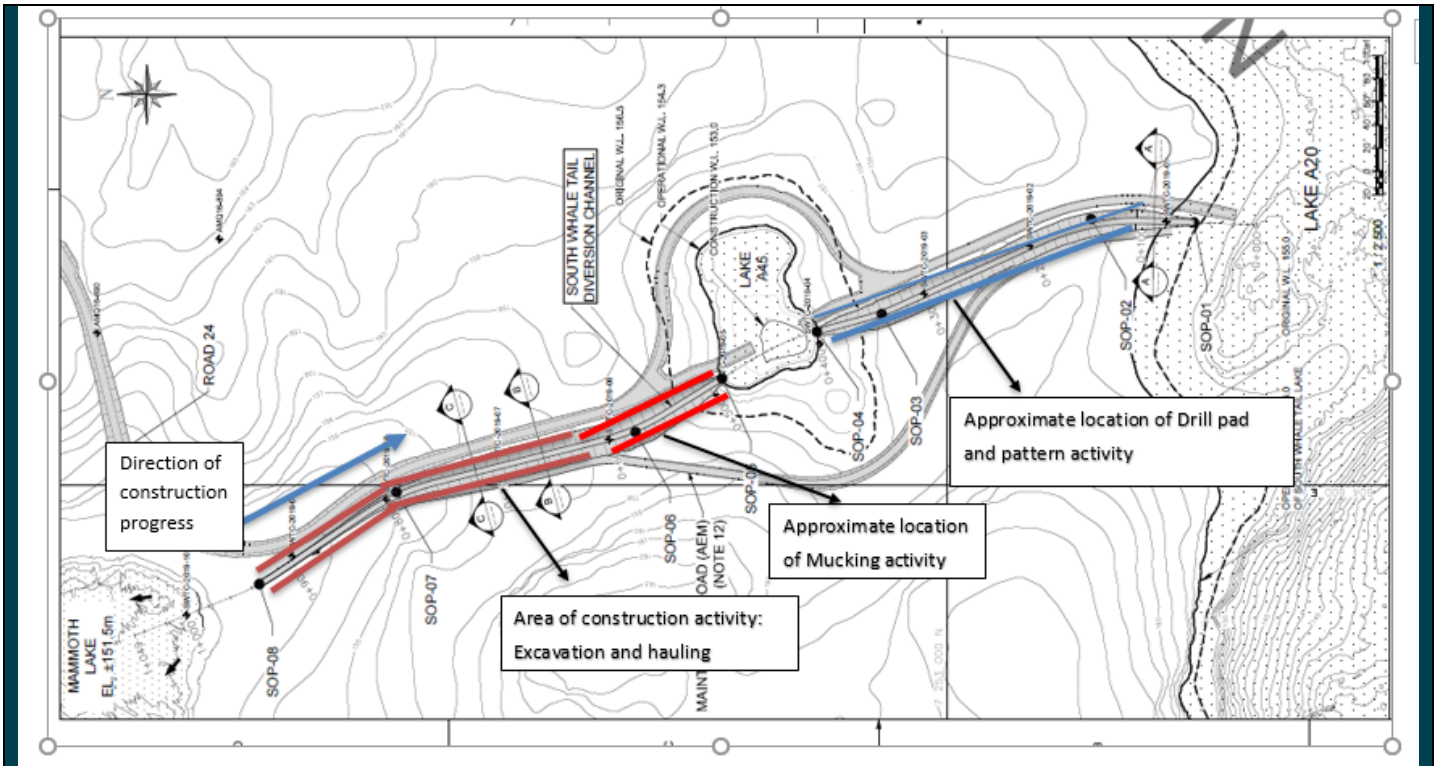


Figure 1: Approximate location of construction activity and direction of construction progress

SKETCH



Photo 1 : View of the site (photo taken looking north)



Photo 2 : View of the site (photo taken looking south)

SNC·LAVALIN

SITE REPORT
(Detailed)

20200118-DS-04
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-01-18	6 :30 AM – 6 :30 PM	667648	Daniel Meles

Project	Client
South Whale Tale Diversion Channel construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☐Sunny ☒Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☐Light ☐Moderate ☒Strong, gusts

Temperature: -34 °C

Comments: **Blizzard weather condition with poor visibility (wind gusteing 40 km/h)**

Appendix: ☐Yes ☒No Pictures ☐Yes ☒No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Take SOP mine training ;
- Site was closed around 11 am because of the poor visibility from blizzard weather condition

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

- During the daily construction meeting a near miss incident (back to back contact between two haul truck) was reported. The incident happened on January17, 2020.

Issued by : Daniel Meles (Signature) — 18-01-2020 (Date)

Verified by : (Signature) — (Date)

SKETCH

SNC·LAVALIN

SITE REPORT
(Detailed)

20200119-DS-05
Document number (YYYYMMDD-DS-SR)

2020-01-19	6 :30 AM	6 :30 PM	667648	Daniel Meles
Visit date	Time (Start/End)		Project No.	Prepared by

South Whale Tale Diversion Channel construction	Agnico Eagle
Project	Client

SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☐Sunny ☒Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☐Light ☐Moderate ☒Strong, gusts

Temperature: -32 °C

Comments: **Blizzard weather condition in the morning**

Appendix: ☐Yes ☒No Pictures ☐Yes ☒No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attained daily construction meeting;
- Site activity was shut down until 4:00 PM from yesterday and today morning the blizzard weather condition
- Observe QA during sampling channel foundation soil for gradation test

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

No safety issue

Issued by : Daniel Meles — Signature — 19-01-2020 — Date

Verified by : Signature — Date

SKETCH

SNC·LAVALIN

SITE REPORT
(Detailed)

20200120-DS-06
Document number (YYYYMMDD-DS-SR)

2020-01-20	6 :30 AM – 6 :30 PM	667648	Daniel Meles
Visit date	Time (Start/End)	Project No.	Prepared by

South Whale Tale Diversion Channel construction	Agnico Eagle
Project	Client

SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☐Sunny ☒Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☐Moderate ☐Strong, gusts

Temperature: -30 °C

Comments:

Appendix: ☐Yes ☒No Pictures ☒Yes ☐No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attend daily construction meeting;
- Site visit and observed channel excavation activity. See photo 1 taken during the site visit; and
- Went with QC to observe sampling at fine filter stock pile (2 samples) and channel foundation soil at Sta. 0 + 800 (1 sample). See Photo 2 for soil in the sampling location.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

- To switch to appropriate radio channel for communication while driving to site

Issued by : Daniel Meles (Signature) — 17-01-2020 (Date)

Verified by : (Signature) — (Date)

Photos



Photo 1 : View of the site (photo taken looking north)



Photo 2 : View of sampling location (photo taken looking south)

SNC·LAVALIN

SITE REPORT
(Detailed)

20200121-DS-07
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2021-01-21	6 :30 AM – 6 :30 PM	667648	Daniel Meles

Project	Client
South Whale Tale Diversion Channel construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☐Moderate ☐Strong, gusts

Temperature: -30 °C

Comments:

Appendix: ☐Yes ☒No Pictures ☒Yes ☐No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attend daily construction meeting;
- Site visit to channel excavation activity. See photo 1 taken during the site visit; and
- Visit the laboratory facility and observed QC performing gradation test. See photo 2
- Went with QC and observed sampling from coarse filter stock pile. See photo 3.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Slippery and make sure to have spike under shoes

Issued by : Daniel Meles — Signature — 21-01-2020 — Date

Verified by : Signature — Date

Photos



Photo 1 : View of the site (photo taken looking south)



Photo 2: Close up view of mechanical vibrator for coarse material gradation test



Photo 3: Close up view of coarse filter stock pile

SNC·LAVALIN

SITE REPORT
(Detailed)

20200122-DS-08
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2022-01-20	6 :30 AM – 6 :30 PM	667648	Daniel Meles

Project	Client
South Whale Tale Diversion Channel construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☐Moderate ☐Strong, gusts

Temperature: -50 °C

Comments:

Appendix: ☐Yes ☒No Pictures ☒Yes ☐No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attend daily construction meeting;
- Site visit to observe channel excavation activity and foundation soil. See photo 1 for the channel excavation and Photo 2 for typical foundation soil between Station 0 + 755 to Station 0 + 835. Channel section between Station 0 + 835 and the outlet was covered with snow to see the foundation soil type; and
- Went with QC and observed sampling from coarse filter (one sample) and fine filter stock pile (one sample).

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Extreme cold and frostbite can happen in minutes

Issued by : Daniel Meles — Signature — 22-01-2020 — Date

Verified by : Signature — Date

Photos



Photo 1 : View of the site (photo taken looking south)



Photo 2: View of foundation soil from Station 0 + 755 to Station 0 + 835

SNC·LAVALIN

SITE REPORT
(Detailed)

20200123-DS-09
Document number (YYYYMMDD-DS-SR)

2022-01-23	6 :30 AM	6 :30 PM	667648	Daniel Meles
Visit date	Time (Start/End)		Project No.	Prepared by

South Whale Tale Diversion Channel construction	Agnico Eagle
Project	Client

SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☐Moderate ☐Strong, gusts

Temperature: -44 °C

Comments:

Appendix: ☐Yes ☒No Pictures ☒Yes ☐No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attend daily construction meeting; and
- Site visit to observe channel excavation activity and sample foundation soil for moisture content test. See photo 1 for site excavation activities.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Extreme cold and frostbite can happen in minutes

Issued by :	Daniel Meles	23-01-2020
	Signature	Date
Verified by :		
	Signature	Date

Photos



Photo 1 : View of the site (photo taken looking south)

SNC·LAVALIN

SITE REPORT
(Detailed)

20200124-DS-10
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2022-01-24	6 :30 AM – 6 :30 PM	667648	Daniel Meles

Project	Client
South Whale Tale Diversion Channel construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☐Moderate ☐Strong, gusts

Temperature: -41 °C

Comments:

Appendix: ☐Yes ☒No Pictures ☒Yes ☐No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attend daily construction meeting;
- Completed three moisture content tests with QC on samples collected from the foundation soil; and
- Site visit to observe channel excavation activity. See photo 1 for site excavation activities.

No verification or approval completed.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

To use appropriate radio channel while using the access road to SWTDC

Issued by :	Daniel Meles	24-01-2020
	Signature	Date
Verified by :		
	Signature	Date

Photos



Photo 1 : View of the site (photo taken looking south)

SNC·LAVALIN

SITE REPORT
(Detailed)

20200125-DS-11
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2022-01-25	6 :30 AM – 6 :30 PM	667648	Daniel Meles

Project	Client
South Whale Tale Diversion Channel construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☐Moderate ☐Strong, gusts

Temperature: -34 °C

Comments:

Appendix: ☐Yes ☒No Pictures ☒Yes ☐No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attend daily construction meeting. At the daily construction meeting there was a discussion on foundation approval procedure and type of backfill material in case there is significant overcut encountred during overburden soil excavation.
  Foundation approval for the bottom of excavation will be completed when the excavation reach to the excavation limit indicated in the construction drawing. A second foundation approval may be required before filter placement for areas that require significant backfill to reach the bottom elevation of the filter before fill placement.
  Esker material (AMQ-ES-001 and AMQ-ES-002) with the gradation shown in Figure (attached at the end of the report) will be used in case a significant backfill for over-cut in the overburden soil is identified during during approval.
- Site visit to observe channel excavation activity and sample foundation soil at station 0 +917 for gradation test. See photo 1 for site excavation activities.
- No verification or approval completed.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Issued by :	Daniel Meles	25-01-2020
	Signature	Date
Verified by :		
	Signature	Date

Photos



Photo 1 : View of the site (photo taken looking south)

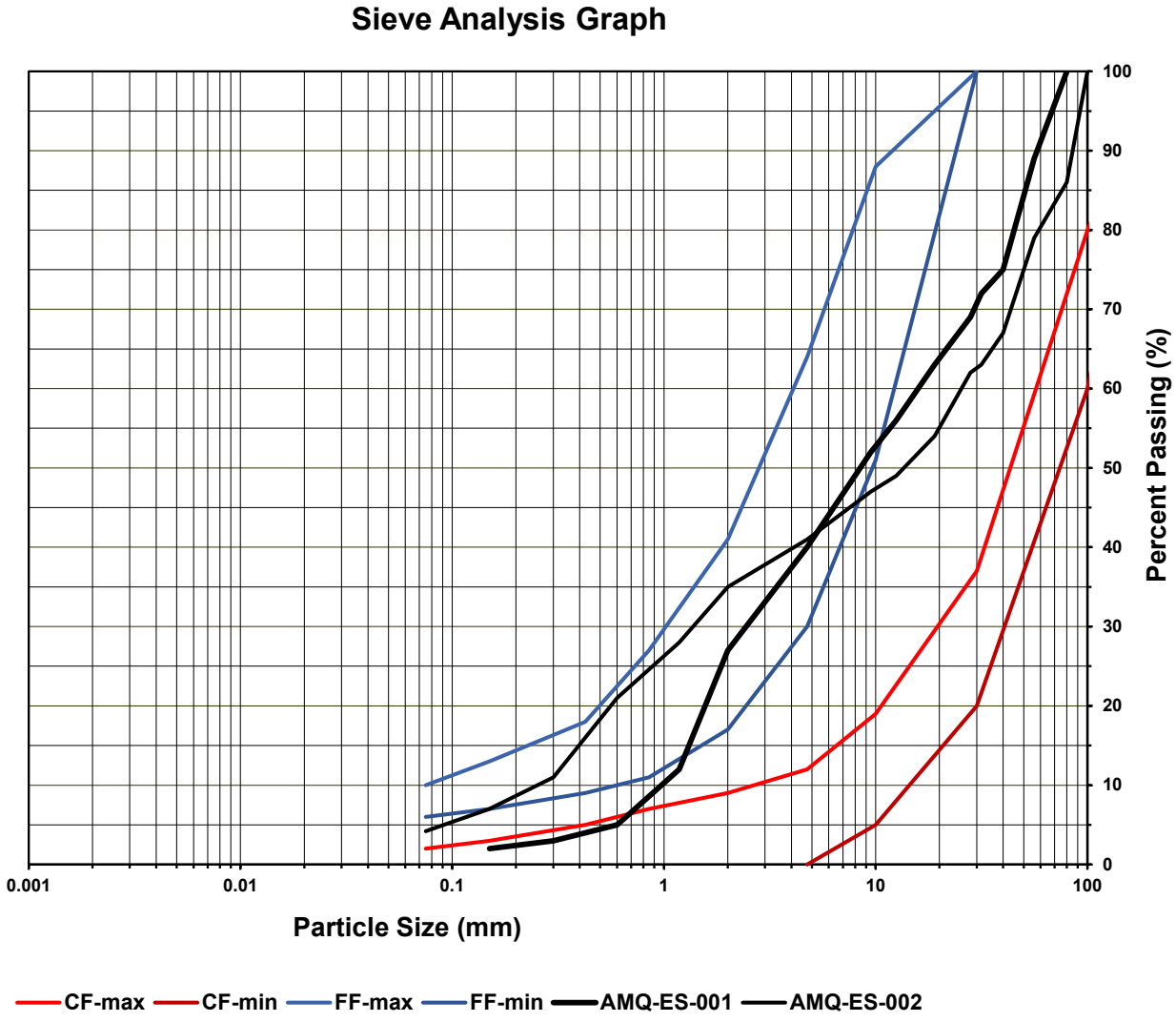


Figure 1: Gradation curve for Esker material (AMQ-ES-001 and AMQ-ES-002) proposed to use in case significant foundation soil backfill required during overburden soil excavation.

SNC·LAVALIN

SITE REPORT
(Detailed)

20200126-DS-12
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2022-01-26	6 :30 AM – 6 :30 PM	667648	Daniel Meles

Project	Client
South Whale Tale Diversion Channel construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☐Moderate ☐Strong, gusts

Temperature: -28 °C

Comments: **Light snow in the morning**

Appendix: ☐Yes ☒No

Pictures ☒Yes ☐No

Inspection report or other: Attached

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attend daily construction meeting;
- Site visit to observe channel excavation activity;
- Foundation approval from Station 0+917 to to Staion 0+830. See attached approval for for detail

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments
Free of ices/snow/water	Staition 0+917 to Staion 0+830	Require verification for snow cleaning if snow fall before placement
Cleaning of excavation bottom	Staition 0+917 to Staion 0+830	
As built survey completed	Staition 0+917 to Staion 0+830	

SAFE AND SAFETY REMARKS

To use appropriate radio channel while on the access road to SWTC

Issued by :	Daniel Meles	26-01-2020
	Signature	Date
Verified by :		
	Signature	Date

Photos

SNC·LAVALIN

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Canada H3A 1M8

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Fax: (514) 390-2765
www.snclavalin.com

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-01-26

DOCUMENT #: 20200126-DS-01 **TIME:** 3:15 PM

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☒ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+916 to 0+830	**Station:**	NA
Inclination:		**Details:**	
ELEVATION:	☐ varies _____ m		

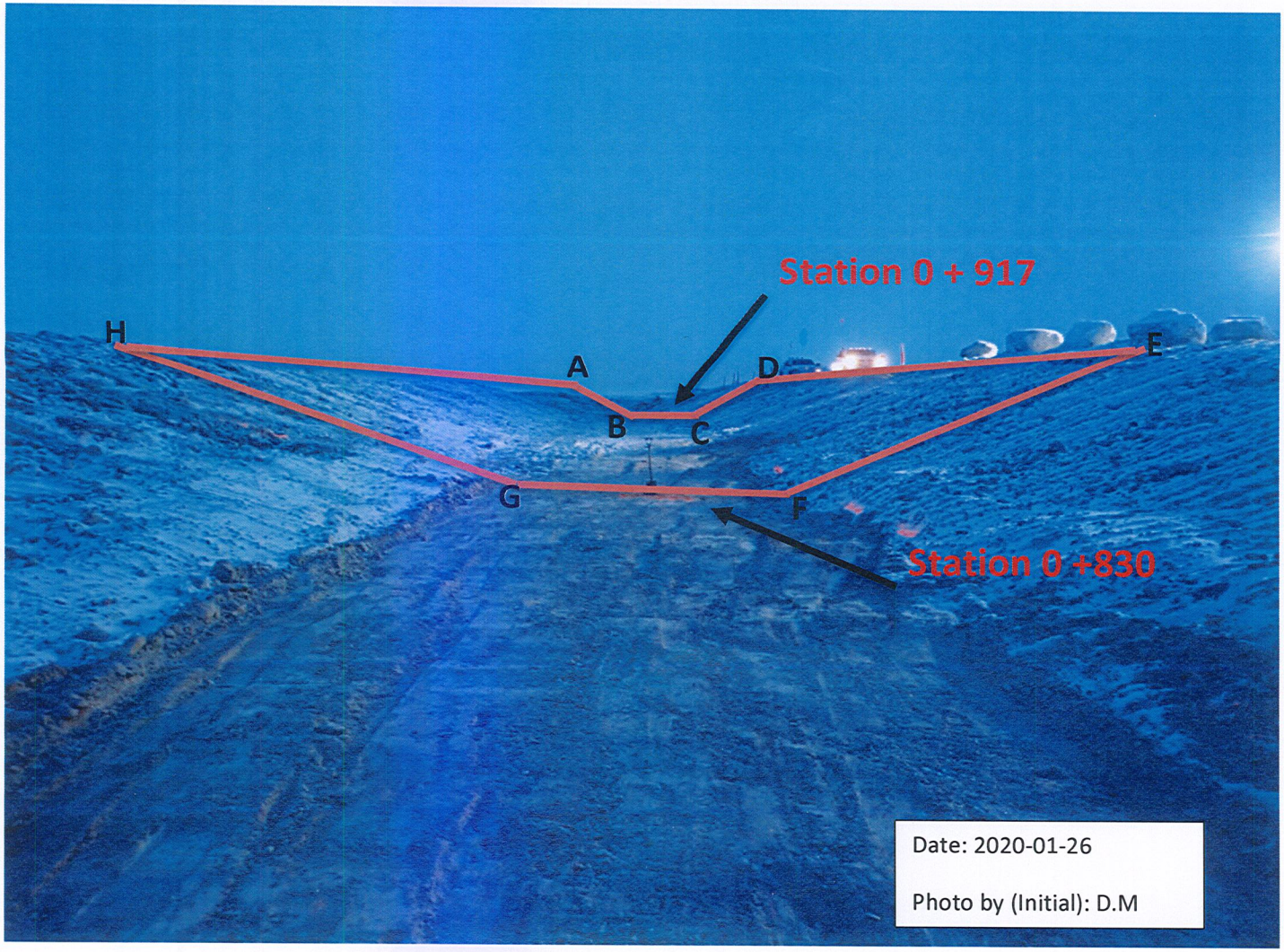
COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades			✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					—
5. Placement (lift thickness, segregation, etc.)					—
6. Compaction					
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS (Refer to list above for item #)		APPROVED BY:			
		QA		QC	
ITEM		Y	N	Y	N
2	require verification for snow cleaning before placement & snow falls before placement	✓		✓	
3		✓		✓	

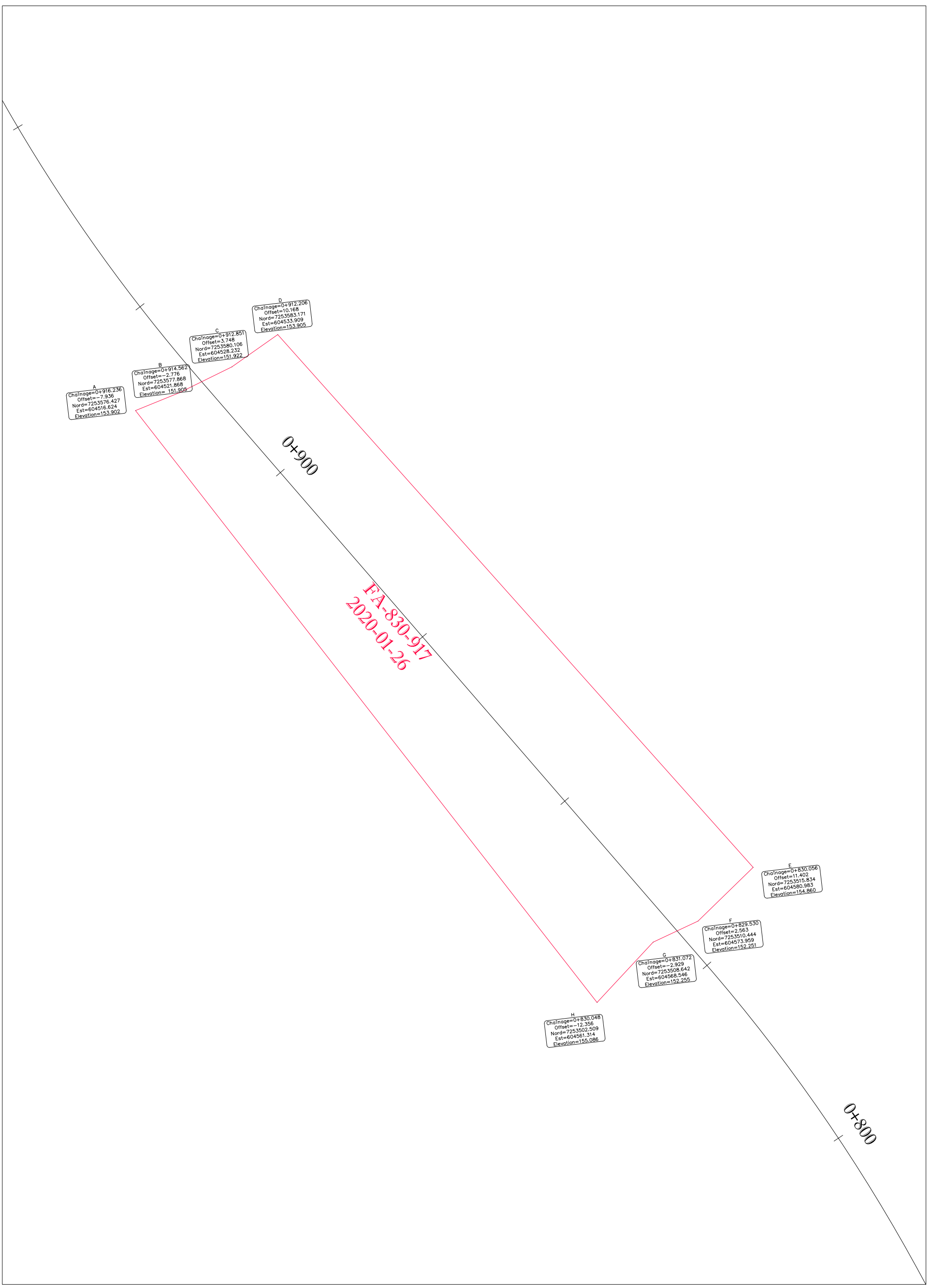
APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Mathieu Côté		26-01-2020
QA REPRESENTATIVE	Daniel Meles		26-01-2020
OWNER'S REPRESENTATIVE	Yanick Simard		27-01-2020
CONTRACTOR'S REPRESENTATIVE	Marie-Pier Cargnon		27-01-2020



Note: refer the sketch below for the coordinates of A, B, C, D, E, F, G, H

Picture 1 – Approximate approved foundation area

FA-830-917
SWTC FOUNDATION APPROVAL
CONTRACT # 11-811



C:\Users\arpenteur\Dropbox (Groupe Gilbert)_arpentage meadowbank\02-B - CAD\11-811 - AMQ DIKES\SOUTH WHALE TAIL CHANNEL\FOUNDATION ACCEPTABLE\SWTC_FOUNDATION_EXC.dwg

KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : MARIE-PIER GAGNON
DATE : 27-01-2020
CON-FD-228

SNC·LAVALIN

SITE REPORT
(Detailed)

20200127-DS-13
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-01-27	6 :30 AM – 6 :30 PM	667648	Hamza Abdel-Aziz

Project	Client
South Whale Tale Diversion Channel construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☐Sunny ☒Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☐Light ☒Moderate ☐Strong, gusts

Temperature: -25 °C

Comments:

Appendix: ☐Yes ☒No Pictures ☐Yes ☒No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Flight from Mirabel (7:30 AM) to Meadowbank (12:00 PM) ;
- Inductions in Meadowbank ;

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Extremely cold when we arrived at meadowbank, make sure to always wear the appropriate equipments.

Issued by : Hamza Abdel-Aziz (Signature) — 27-01-2020 (Date)

Verified by : (Signature) — (Date)

Photos

SNC·LAVALIN

SITE REPORT
(Detailed)

20200128-DS-14
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-01-28	6 :30 AM – 6 :30 PM	667648	Hamza Abdel-Aziz

Project	Client
South Whale Tale Diversion Channel construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☐Sunny ☒Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☐Light ☐Moderate ☒Strong, gusts

Temperature: -15 °C

Comments: **Light snow in the morning**

Appendix: ☐Yes ☒No

Pictures ☐Yes ☒No

Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Bus from Meadowbank (12:45 PM) to Amaruq (02:45 PM) ;
- Visit the main building camp Amaruq with owner's representative AEM (Pier-Eric McDonald) ;
- Visit of the lab with the QC team (GHD) and AEM (Pier-Eric McDonald and Yanick Simard) ;
- Site visit to observe channel with QC team (GHD) and AEM (Pier-Eric McDonald and Yanick Simard) ;
- Inductions in Amaruq ;

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Strong wind and poor visibility when transporting from Meadowbank to Amaruq

Issued by : Hamza Abdel-Aziz (Signature) 28-01-2020 (Date)

Verified by : (Signature) (Date)

Photos

SNC·LAVALIN

SITE REPORT
(Detailed)

20200129-DS-15
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-01-29	6 :30 AM – 6 :30 PM	667648	Hamza Abdel-Aziz

Project	Client
South Whale Tale Diversion Channel construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☐Sunny ☒Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☐Moderate ☐Strong, gusts

Temperature: -28 °C

Comments:

Appendix: ☒Yes ☐No Pictures ☒Yes ☐No Inspection report or other: Attached

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attend daily construction meeting ;
- Site visit to observe channel with QC and Yanick Simard (see photos taken during the site visit);
- From station 0+917 to 0+830 : Approval of lines and grades for the slopes of the SWTDC (see appendix A - the section view) ;
- From station 0+830 to 0+775 : Approval of the channel foundation : free ice / snow / water ; cleaning of excavation bottom (see appendix B - 20200129-DS-02_Foundation Approval).

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments
Lines and Grades	Station 0+917 to 0+830	
Free ice / snow / water	Station 0+830 to 0+775	Require verification for snow cleaning before placement
Cleaning of excavation bottom	Station 0+830 to 0+775	
As built survey completed	Station 0+830 to 0+775	backfill for over-cut in the overburden soil to be made

SAFE AND SAFETY REMARKS

Be sure to complete Safe Production (AEM) before starting the work day.

Very important to always have visual contact with heavy truck drivers when crossing to avoid incident, because sometimes the radio (means of communication) is not working well

Issued by :	Hamza Abdel-Aziz	29-01-2020
	Signature	Date
Verified by :		
	Signature	Date

Photos



Photo 1 : From station 0+917 to 0+830 (photo taken looking north)



Photo 2 : From station 0+830 to 0+775 (photo taken looking south)

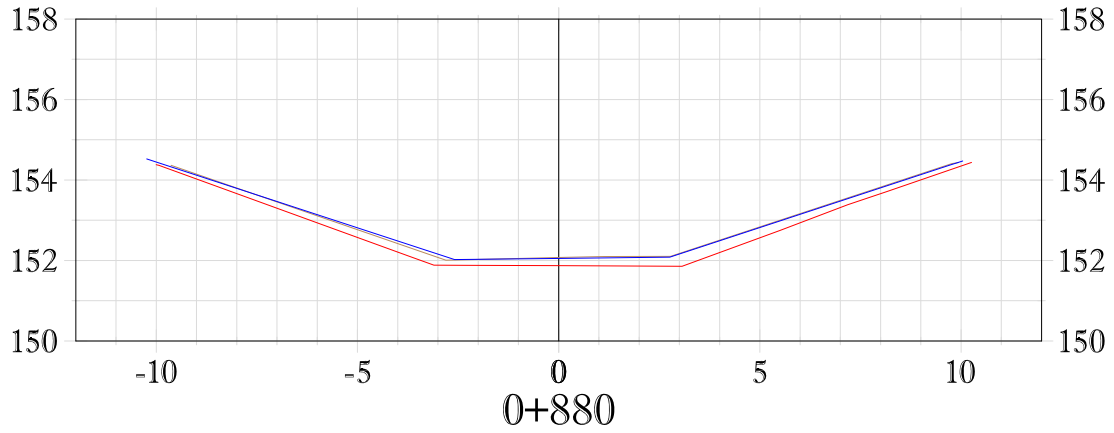


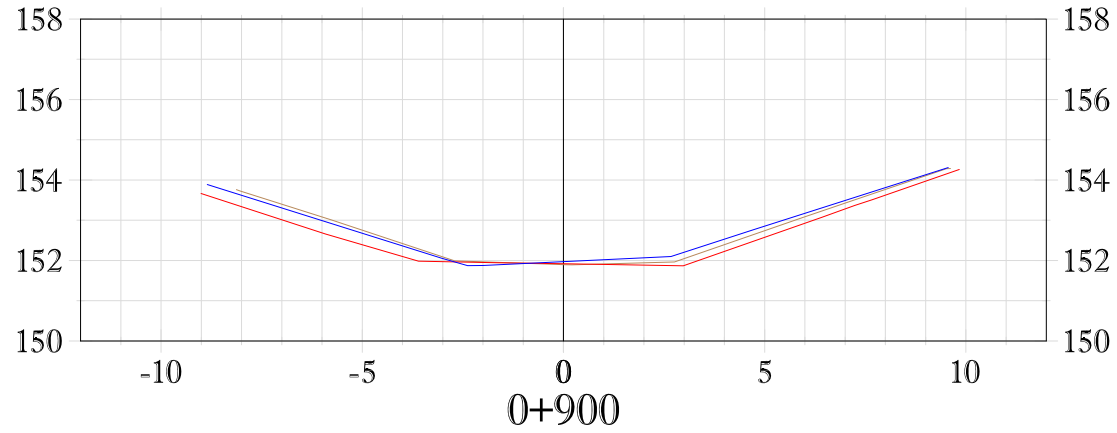
Photo 3 : view at the site (photo taken looking south)

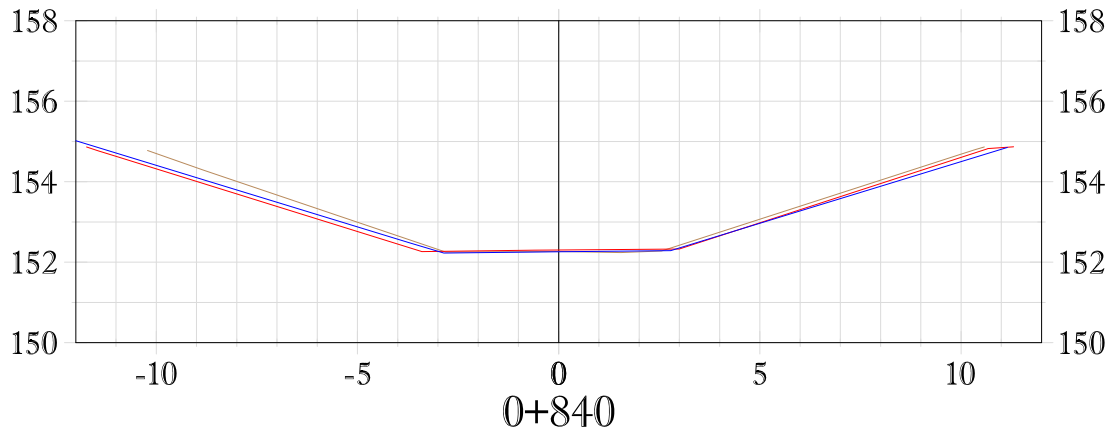
Appendix A

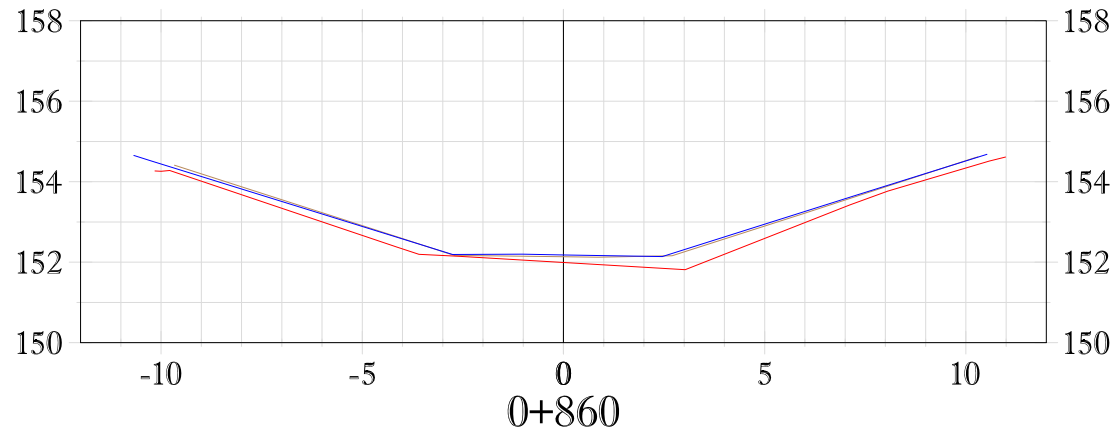
The section views from station 0+917 to 0+830

ESKER SECTION VIEW
SOUTH WHALE TAIL CHANNEL
CONTRACT # 11-811









KIVALLIQ CONTRACTORS GROUP LTD

THEORICAL EXCAVATION

AS BUILT EXCAVATION

AS BUILT ESKER

PREPARED BY : MARC-ANDRÉ BLACKBURN
DATE : 30-01-2019
CON-SK-0032

C:\Users\orpenteur\Dropbox (Groupe Gilbert)_orpentage meadowbank\02-B – CAD\11-811 – AMQ DIKES\SOUTH WHALE TAIL CHANNEL\AS-BUILT\SWTC_MASTER AS-BUILT QTY.dwg

Appendix B

20200129-DS-02_Foundation approval (from 0+830 to 0+775)

SNC·LAVALIN

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Montreal (Québec)
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Fax: (514) 390-2765
www.snclavalin.com

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-01-29

DOCUMENT #: 20200129-DS-02 **TIME:** 04:00 PM

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☒ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+830 to 0+775	**Station:**	~~N/A~~ 0+917 to 0+830
Inclination:		**Details:**	
ELEVATION:	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY:				
	QA		**QC**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					—
5. Placement (lift thickness, segregation, etc.)					—
6. Compaction					—
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS (Refer to list above for item #)		APPROVED BY:			
		QA		QC	
ITEM		Y	N	Y	N
2	Require verification for snow removal prior to zone placement if any accumulation of snow, by season fall are by wind.				
7	Back fill for over-cut in overburden soil to be made.				

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	STEPHANE DORVELUS		2020-01-29
QA REPRESENTATIVE	HAMZA ABDEL-AZIZ		2020-01-29
OWNER'S REPRESENTATIVE	Pier-Eric McDonald		2020-01-30
CONTRACTOR'S REPRESENTATIVE	Marie-Pier Gagnon		2020-01-30

SNC·LAVALIN

SITE REPORT
(Detailed)

20200130-DS-16
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-01-30	6 :30 AM – 6 :30 PM	667648	Hamza Abdel-Aziz

Project	Client
South Whale Tale Diversion Channel construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☐Sunny ☐Cloudy ☐Rain ☒Storm ☐ Snow ☐Glaze

Wind: ☐None ☐Light ☐Moderate ☒Strong, gusts

Temperature: -30 °C

Comments: **Blizzard weather condition with poor visibility (wind gusteing 40 km/h)**

Appendix: ☐Yes ☒No Pictures ☐Yes ☒No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attend daily construction meeting ;
- Summary of laboratory tests to update on what has already been done ;
- Site was closed around 11 am because of the poor visibility from blizzard weather condition (White Out) ;

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

- Blizzard weather condition with poor visibility, stay safe in the camp

Issued by : Hamza Abdel-Aziz — Signature — 30-01-2020 — Date

Verified by : Signature — Date

PHOTOS

SNC·LAVALIN

SITE REPORT
(Detailed)

20200131-DS-SR17
Document number (YYYYMMDD-DS-SR)

2020-01-31	6 :30 AM	6 :30 PM	667648	Hamza Abdel-Aziz
Visit date	Time (Start/End)		Project No.	Prepared by

South Whale Tale Diversion Channel construction	Agnico Eagle
Project	Client

SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☐Moderate ☐Strong, gusts

Temperature: -20 °C

Comments:

Appendix: ☐Yes ☒No Pictures ☒Yes ☐No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Take SOP mine training ;
- Went to site with the QC and site supervisor (Yanick Simard) for inspection of snow and ice removal from station 0+830 to 0+775, following yesterday's blizzard (see photos 1 and 2) ;
- Inspection for the frozen section (see photo 3) ;
- Went with the QC for the esker sampling from stock pile and observed for gradation test (see photo 4).

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments
Free ice / snow / water	Station 0+830 to 0+775	snow as to be removed from some parts
Esker material	Stock pile	Esker sampling , gradation must be made and review of filter design, if necessary

SAFE AND SAFETY REMARKS

Issued by :	Hamza Abdel-Aziz Signature	31-01-2020 Date
Verified by :	Signature	Date

PHOTOS



Photo 1: View of site from 0+830 to 0+775 (photo taken looking south)



Photo 2: View of site (photo taken looking south)



Photo 3: View of site - frozen section (photo taken looking south)



Photo 4: View of esker material in the stock pile

SNC·LAVALIN

SITE REPORT
(Detailed)

20200201-DS-SR18
Document number (YYYYMMDD-DS-SR)

2020-02-01	6 :30 AM	6 :30 PM	667648	Hamza Abdel-Aziz
Visit date	Time (Start/End)		Project No.	Prepared by

South Whale Tale Diversion Channel construction	Agnico Eagle
Project	Client

SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☐Sunny ☒Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☒None ☐Light ☐Moderate ☐Strong, gusts

Temperature: -28 °C

Comments:

Appendix: ☐Yes ☒No Pictures ☒Yes ☐No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attend daily construction meeting :
  - During this meeting, the owner's representative (Pier-Eric McDonald) informed as that they will use a geotextile, following a risk assement from AEM ;
  - We should verify the impact of the geotextile and choise of the backfill material.

- Went to site with the QC and site supervisor (Yanick Simard) for the esker sampling in place on the east side talus of the channel at station 0+820 (AMQ-ES-005) ;
- Summarize of esker samples took in place from station 0+830 to 0+775 :
  - AMQ-ES-003 : Esker sampling at stock pile on 2020-01-31 ;
  - AMQ-ES-004 : Esker sampling in place on the west side talus of the channel at station 0+820 by QC (Night shift) on 2020-02-01 ;
  - AMQ-ES-005 : Esker sampling in place on the east side talus of the channel at station 0+820 on 2020-02-01.

Tests are standby because at present the machine for gradation is spoiled.

- Inspection of esker placement for over-cut in the overburden from station 0+830 to 0+775. The visual gradation of the esker (AMQ-ES-003, AMQ-ES-004 and AMQ-ES-005) used for placement is too fine. This esker should not be used ;

- Summarize of esker in place of the channel :
  - From station 0+917 to 0+830 : Esker placement on the talus of the channel. The gradation is representative of the samples AMQ-ES-001 and AMQ-ES-002 (see photo 1) ;
  - From station 0+830 to 0+775 : Esker placement on the talus of the channel. The gradation is representative of the samples AMQ-ES-003, AMQ-ES-004 and AMQ-ES-005 (see photo 2) ;

- Site visit to channel excavation activity (see photos 3, 4) ;

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments
Esker placement	Station 0+830 to 0+775	The visual gradation of the esker used for placement is too fine.This esker should not be used

SAFE AND SAFETY REMARKS

Do not put thing near heater, because of risk of the fire.

Issued by : Hamza Abdel-Aziz (Signature) 01-02-2020 (Date)

Verified by : (Signature) (Date)

PHOTOS

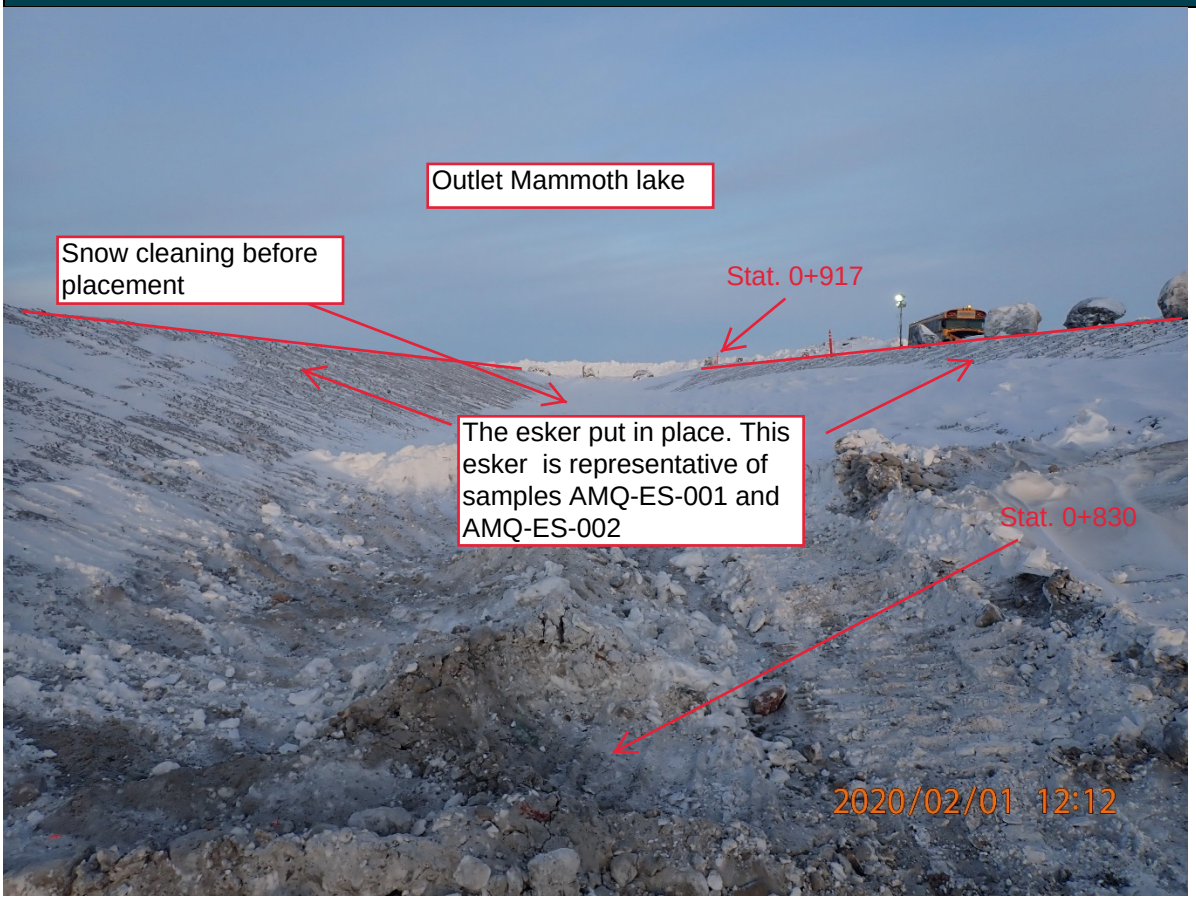


Photo 1: View of site from 0+830 to 0+917 (photo taken looking north)



Photo 2: View of site from 0+775 to 0+830 (photo taken looking north)



Photo 3: View of site (photo taken looking south)



Photo 4: View of site (photo taken looking south)

SNC·LAVALIN

SITE REPORT
(Detailed)

20200202-DS-SR19
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-02-02	6 :30 AM – 6 :30 PM	667648	Hamza Abdel-Aziz

Project	Client
South Whale Tale Diversion Channel construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☐Moderate ☐Strong, gusts

Temperature: -29 °C

Comments:

Appendix: ☐Yes ☒No Pictures ☒Yes ☐No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attend daily construction meeting ;
- Visit on work site with the QC and site supervisor (Yanick Simard) to follow the excavation work and the preparation of the channel foundation ;
- Visit to the channel from ST. 0+830 to 0+775 to see the esker placed ;

  Given that the esker placed in this area seems to be very fine by observation, samples were taken during the placement on 2020-02-01, we await the gradation tests. An analysis of the results of this samples will be necessary, considering the use of the geotextile as requested by AEM.

- Visit to the channel from ST. 0+775 to 0+690 to see the preparation of the channel foundation. No approval for this section, snow as to be removed from some parts and cleaning of excavation bottom (see photo 1)
- Since sample AMQ-ES-003 was in the Gilson when it broke, QC had to take another sample at the stock pile to replace it, gradation result is in progress for this sample.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments
The preparation of the channel foundation	Station 0+775 to 0+690	snow as to be removed from some parts and cleaning of excavation bottom

SAFE AND SAFETY REMARKS

It is important to always completed prior checklist before to use light vehicle equipment.

Issued by : Hamza Abdel-Aziz (Signature) — 02-02-2020 (Date)

Verified by : (Signature) — (Date)

PHOTOS



Photo 1: View of site from 0+775 to 0+690 (photo taken looking south)

SNC·LAVALIN

SITE REPORT
(Detailed)

20200203-DS-SR20
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-02-03	6 :30 AM – 6 :30 PM	667648	Hamza Abdel-Aziz

Project	Client
South Whale Tale Diversion Channel construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☐Moderate ☐Strong, gusts

Temperature: -30 °C

Comments:

Appendix: ☒Yes ☐No Pictures ☒Yes ☐No Inspection report or other: Attached

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attend daily construction meeting ;
- Site visit to observe channel with QC and Yanick Simard (see photo 1);
- Follow the excavation work and the preparation of the channel foundation (see photos 2 and 3);
- The gradation results for AMQ-ES-004 and AMQ-ES-005 (see appendix A);

  The results have been compiled and sent to the designer for verification, if the esker placed is satisfactory or not and considering the addition of geotextile in the filters design required by AEM;
- From station 0+775 to 0+735 : Approval of the channel foundation : free ice / snow / water ; cleaning of excavation bottom (see appendix B - 20200203-DS-03_Foundation Approval).

  Finish grades may need a final leveling and cleaning prior to fine filter placement as the finish grade/foundation material will be exposed to freezing and snow weather conditions.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments
Free ice / snow / water	Station 0+775 to 0+735	Require verification for snow cleaning before placement
Cleaning of excavation bottom	Station 0+775 to 0+735	
As built survey completed	Station 0+775 to 0+735	backfill for over-cut in the overburden soil to be made

SAFE AND SAFETY REMARKS

When it's sunny, the eyesight is reduced. Drive slowly

Issued by : Hamza Abdel-Aziz (Signature) — 03-02-2020 (Date)

Verified by : (Signature) — (Date)

Photos



Photo 1 : view at the site (photo taken looking north)



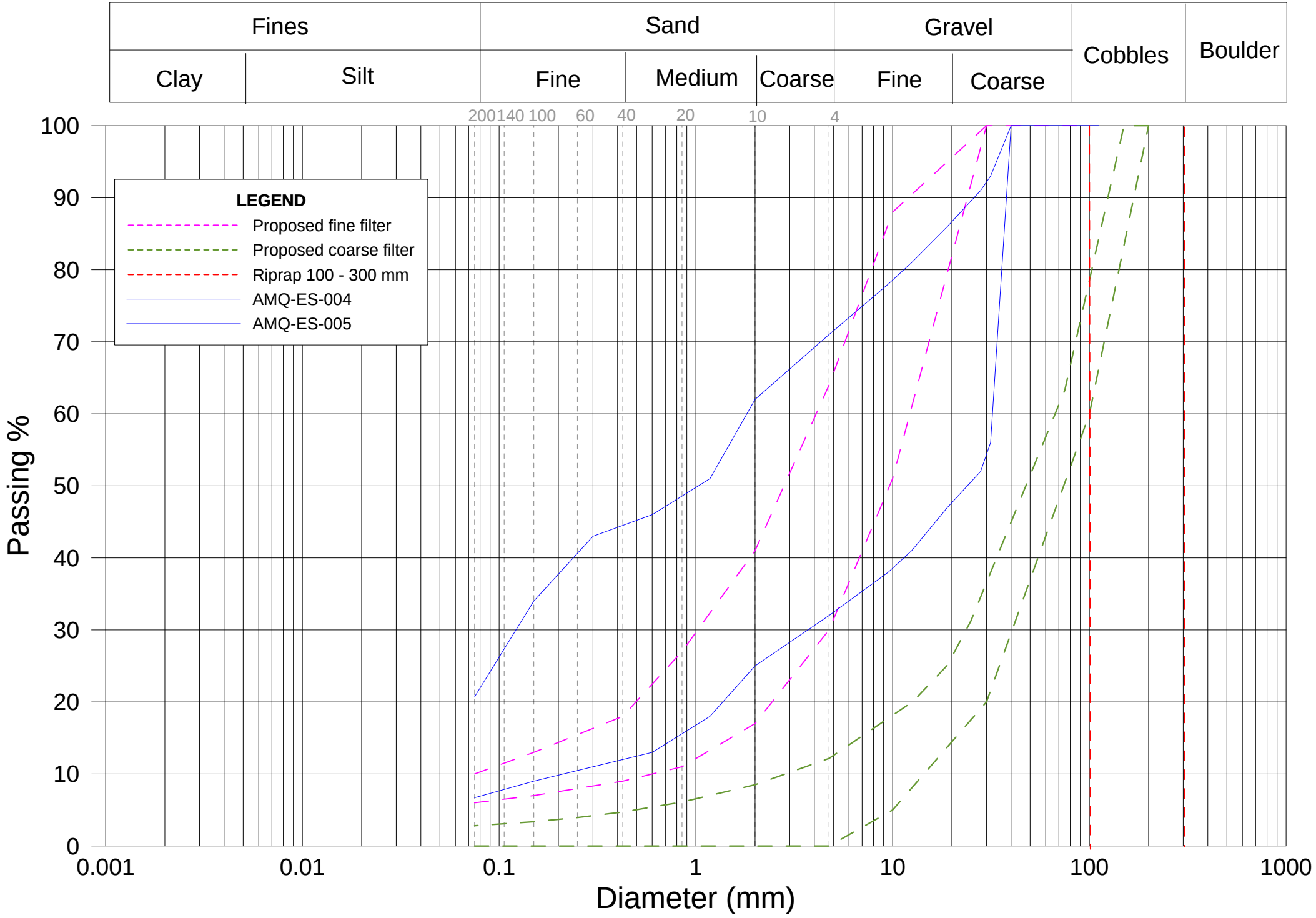
Photo 2 : view at the site (photo taken looking south)

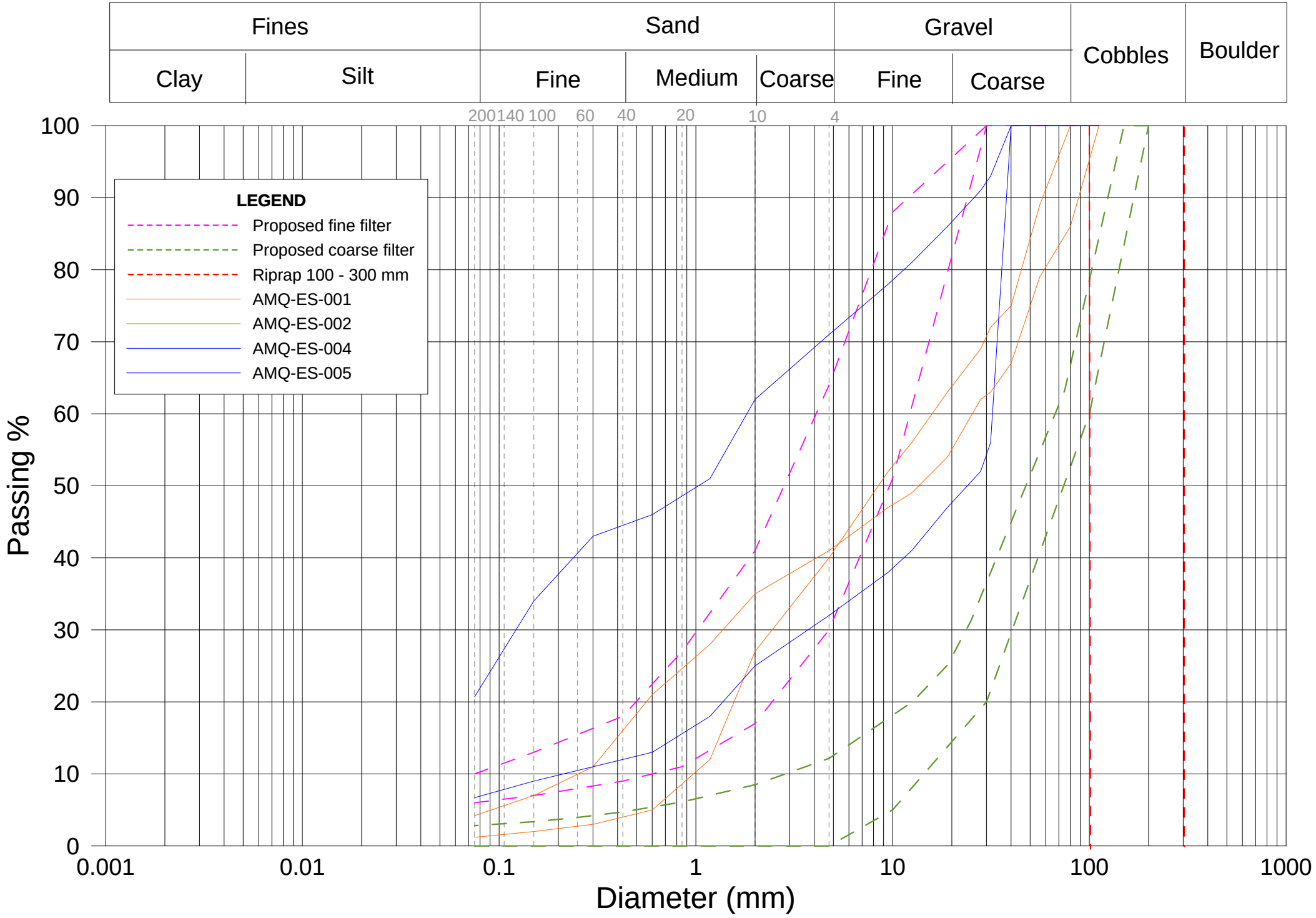


Photo 3 : view at the site (photo taken looking west)

Appendix A

The gradation results for AMQ-ES-004 and AMQ-ES-005


Fines
Clay
Silt
Sand
Fine
Medium
Coarse
Gravel
Fine
Coarse
Cobbles
Boulder
200
140
100
60
40
20
10
4
LEGEND
Proposed fine filter
Proposed coarse filter
Riprap 100 - 300 mm
AMQ-ES-004
AMQ-ES-005
Passing %
100
90
80
70
60
50
40
30
20
10
0
0.001
0.01
0.1
1
10
100
1000
Diameter (mm)


Fines
Clay
Silt
Sand
Fine
Medium
Coarse
Gravel
Fine
Coarse
Cobbles
Boulder
200
140
100
60
40
20
10
4
LEGEND
Proposed fine filter
Proposed coarse filter
Riprap 100 - 300 mm
AMQ-ES-001
AMQ-ES-002
AMQ-ES-004
AMQ-ES-005
Passing %
100
90
80
70
60
50
40
30
20
10
0
0.001
0.01
0.1
1
10
100
1000
Diameter (mm)

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11202247-B1

Sample N°: AMQ-ES-004

Projet: Derivation channel

Sampling Date:

Sampled by: Yaotree Amegnran

Description of Material: soil in place

Origin: In place, as used

Location of Sampling: Western slope of channel. ch.0+820

Proposed Use: Back filling

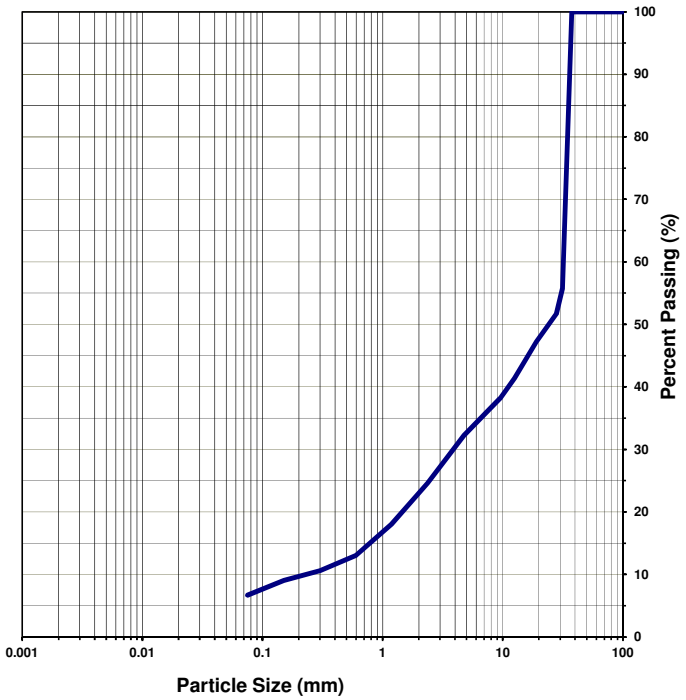
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	56	52	47	41	38	32	25	18	13	11	9	6.7
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	5.3		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**#REF!** (kg/m^3)
Optimum Moisture Content	**#REF!** (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
7	25	68

Remarks _____

Prepared by: Yaotree Amegnran

Verified by: _____

Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11202247-B1

Sample N°: AMQ-ES-005

Projet: Derivation channel

Sampling Date: 2020-02-01

Sampled by: Stéphane Dorevelus

Description of Material: soil in place

Origin: In place, as used

Location of Sampling: Eastern slope of channel. ch.0+820

Proposed Use: Back filling

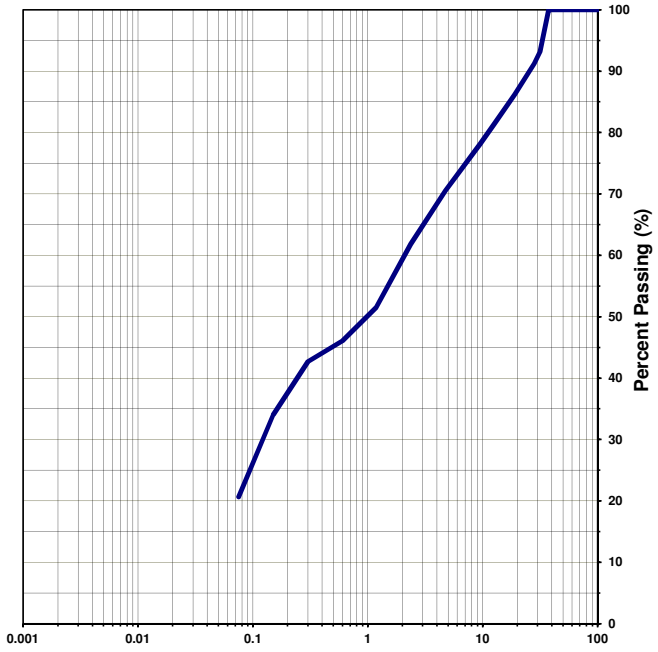
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	93	91	86	81	78	71	62	51	46	43	34	20.7
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	5.3		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**#REF!** (kg/m³)
Optimum Moisture Content	**#REF!** (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
21	50	29

Remarks _____

Prepared by: Yaotree Amegnran

Verified by: _____

Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Appendix B

20200203-DS-03_Foundation approval (from 0+775 to 0+735)

SNC·LAVALIN

Sustaining capital
Mining & Metallurgy
1140 Maisonneuve boul. West
Montreal (Québec)
Canada H3A 1M8

Telephone: (514) 393-8000
Fax: (514) 390-2765
www.snclavalin.com

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DOCUMENT #: 20200903 - DS - 03
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 2020-09-03

TIME: 01:30 PM
(24 hour clock)

APPROVAL FOR :

☑ Foundation approval (trench bottom and slopes)

☐ Fill placement approval: _____

☐ Other: _____

LOCATION

Station 0+775 to 0+735

Inclination:

ELEVATION: ☐ varies _____ m

PREVIOUS APPROVALS

Station: 0+830 to 0+775

Details:

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					—
5. Placement (lift thickness, segregation, etc.)					—
6. Compaction					—
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
21	Require verification for snow removal before placement if any accumulation of snow, by snow fall or by wind				
~~24~~					
7	backfill for overcut in the overburden soil to be made.				
	Finish grades may need a final leveling and cleaning prior to fine filter placement as the finish grade/foundation material will be exposed to freezing and snow weather conditions				

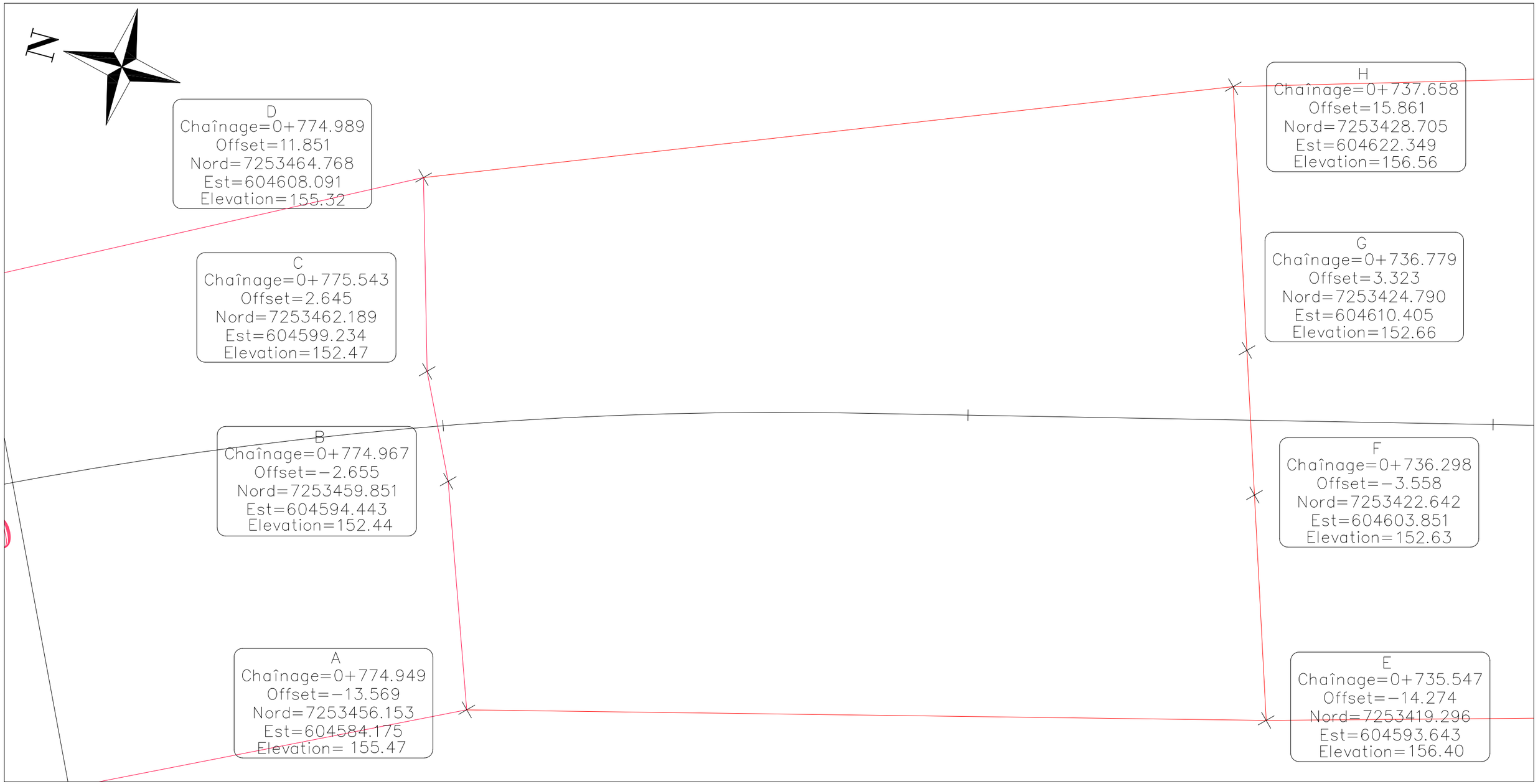
APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Nicolas Tremblay		02/04/2020
QC REPRESENTATIVE	STÉPHANE JORVÉLUS		02/04/2020
QA REPRESENTATIVE	HAMZA ABDEL-AZIZ		02/04/2020
OWNER'S REPRESENTATIVE	Pierre Eric McDonald		02/04/2020
CONTRACTOR'S REPRESENTATIVE	MARC ANDRE BLACKBURN		02/04/2020



Note: refer the sketch below for the coordinates of A, B, C, D, E, F, G, H

Picture 1 – Approximate approved foundation area

FA-775-735
STWC FOUNDATION APPROVAL
CONTRACT # 11-811



C:\Users\arpenteur\Dropbox (Groupe Gilbert)_arpentage meadowbank\02-E - OFFICIAL DRAWING\11-811 - AMQ DIKES\CON-FD (AS BUILT)\CON-FD-233_STWC_FA_775-735.dwg

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MARC-ANDRÉ BLACKBURN
DATE : 03-02-2020
CON-FD-233

SNC·LAVALIN

SITE REPORT
(Detailed)

20200204-DS-SR21
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-02-04	6 :30 AM – 6 :30 PM	667648	Hamza Abdel-Aziz

Project	Client
South Whale Tale Diversion Channel construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☐Sunny ☒Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☐Moderate ☐Strong, gusts

Temperature: -30 °C

Comments:

Appendix: ☒Yes ☐No Pictures ☒Yes ☐No Inspection report or other: Attached

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attend daily construction meeting ;
- Visit on work site with the QC and site supervisor (Yanick Simard) for the preparation of the channel foundation (see photos 1 and 2) ;
  Note : Finish grades may need a final leveling and cleaning prior to fine filter placement as the finish grade/foundation material will be exposed to freezing and snow weather conditions.
- Gradation results AMQ-ES-003.1 (see appendix A)

  AMQ-ES-003.1 was sampled at the stock pile on 2020-02-02 during the day.
  This sample have been tested by QC (Night shift) during the night between 2020-02-03 and 2020-02-04.
  Remarks from QC : After sampling, I think this sample is not representative of the stock pile, since no gravel from stock pile has not been sampled. Another sampling must be done.
- Since sample AMQ-ES-003.1 was not representative, other samples were taken in place :
  AMQ-ES-006 : Esker in place at station 0+800 (see photo 3)
  AMQ-ES-007 : Esker in place at station 0+780 (see photo 5)
  AMQ-ES-008 : Esker in place at station 0+860 (see photo 6)
  These esker samples will give a representative analysis of gradation of the eskers placed from station 0+917 to 0+830 and from station 0+830 to 0+775.

  Foundation soil sample were also taken :
  AMQ-IP-006 foundation soil in place at station 0+765 (see photo 7) and AMQ-IP-005 by QC (Night shit).
- Visit on work site : Excavation work (at station 0+820) very close to the slope of channel. Will be inspect the next day to make sure it has no snow accumulation (see photo 8) ;
- Visit the laboratory and pass the gradation tests with QC (see photo 4)

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments
The preparation of the channel foundation	Channel	Finish grades may need a final leveling and cleaning prior to fine filter placement as the finish grade/foundation material will be exposed to freezing and snow weather conditions.

SAFE AND SAFETY REMARKS

Very cold you must have the appropriate equipment

Issued by :	Hamza Abdel-Aziz	04-02-2020
	Signature	Date
Verified by :		
	Signature	Date

PHOTOS



Photo 1: View at site (photo taken looking north)



Photo 2: View at the site (photo taken looking south)

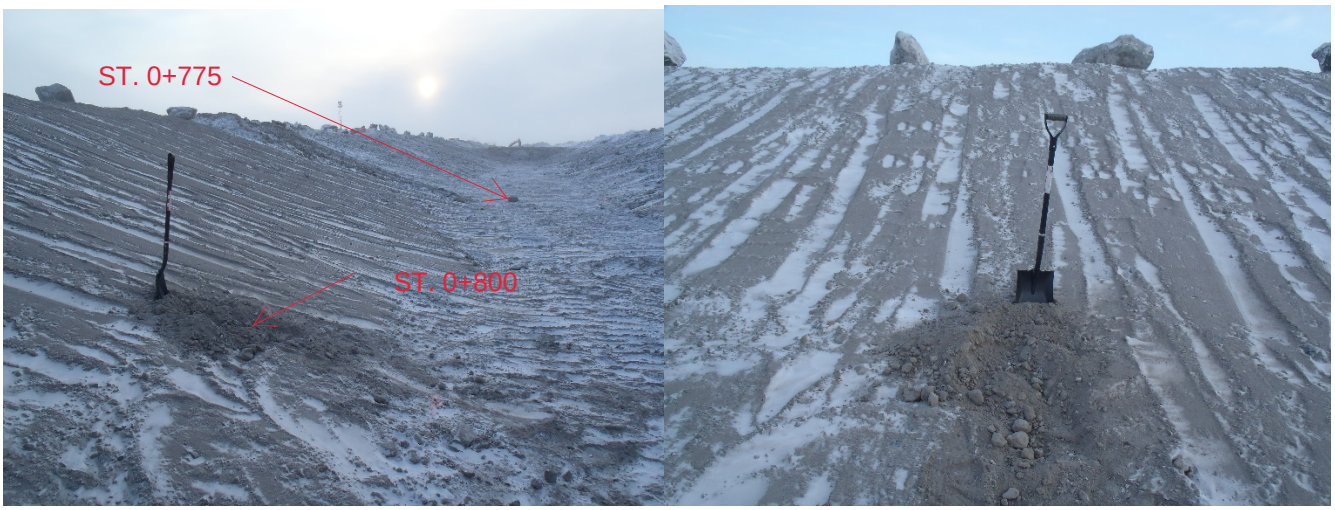


Photo3 : Esker sampling (AMQ-ES-006) at station 0+800 (photo taken looking south and East)



Photo 4 : Preparation for gradation tests of the esker sample (AMQ-ES-006)



Photo 5 : Fondation soil (AMQ-IP-006) sampling at station 0+765 (photo taken looking south)



Photo 6 : Esker sampling (AMQ-ES-007) at station 0+780 (photo taken looking south)



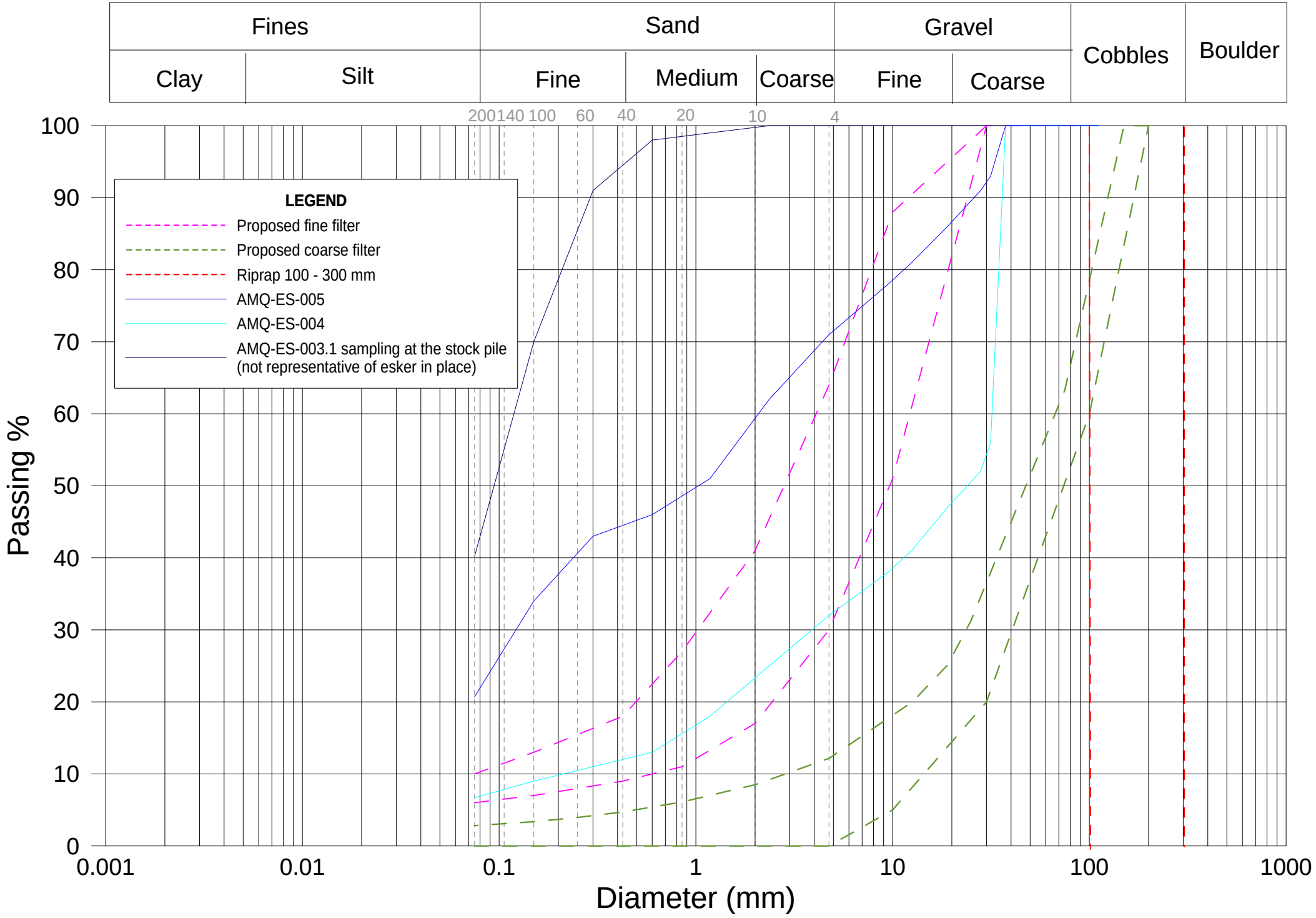
Photo 7 : Esker sampling (AMQ-ES-008) at station 0+860 (photo taken looking south)



Photo 8 : View at the site (photo taken looking west)

Appendix A

The gradation result for AMQ-ES-003.1


Fines
Clay
Silt
Sand
Fine
Medium
Coarse
Gravel
Fine
Coarse
Cobbles
Boulder
200 140 100 60 40 20 10 4
LEGEND
Proposed fine filter
Proposed coarse filter
Riprap 100 - 300 mm
AMQ-ES-005
AMQ-ES-004
AMQ-ES-003.1 sampling at the stock pile
(not representative of esker in place)
Passing %
100
90
80
70
60
50
40
30
20
10
0
0.001
0.01
0.1
1
10
100
1000
Diameter (mm)

Analysis Report - Soils and Aggregates

Client: AEM

Projet: Derivation channel

Description of Material: Esker in place

Origin: In place on the slope

Proposed Use: Back fillir

Proiect N°: 11202247-B1

Sample N°: AMQ-ES-003.1

Sampling Date: 2020-02-02

Sampled by: Stéphane Dorvelus

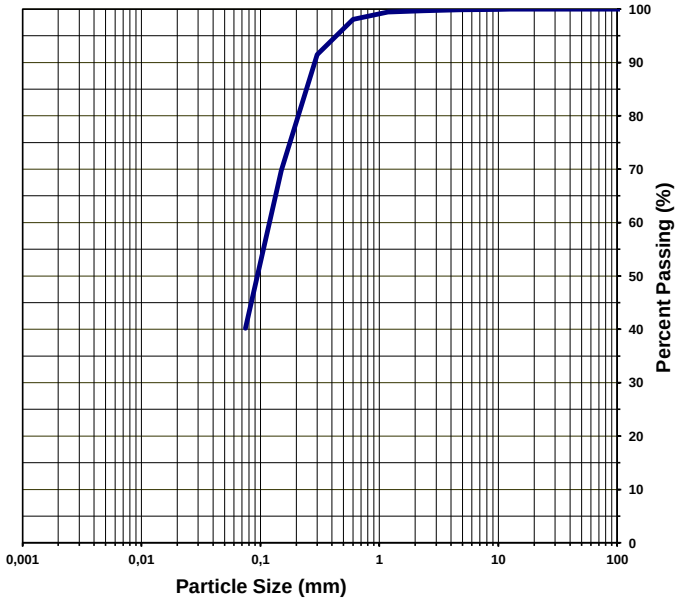
Location of Sampling: Stock pile

Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37,5 mm	31,5 mm	28 mm	19 mm	12,5 mm	9,5 mm	4,75 mm	2,36 mm	1,18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	100	100	100	100	100	99	98	91	70	40,2
Require-ments	min.																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	12,5		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m^3)
Optimum Moisture Content	#REF! (%)



Clay and silt	Sand	Gravel
40	60	0

Remarks: After sampling, I think this sample is not representative of the stock pile, since no gravel from stock pile has not been sampled. Another sampling has to be done.

Prepared by: Yaotree D. Amegnran/ S. Dorvélus 2020-02-03

Verified by: _____

Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

SNC·LAVALIN

SITE REPORT
(Detailed)

20200205-DS-SR22
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-02-05	6 :30 AM – 6 :30 PM	667648	Hamza Abdel-Aziz

Project	Client
South Whale Tale Diversion Channel construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☒None ☐Light ☐Moderate ☐Strong, gusts

Temperature: -28 °C

Comments:

Appendix: ☐Yes ☒No Pictures ☒Yes ☐No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attend daily construction meeting ;
- The gradation results (see appendix A) for :
  - AMQ-ES-006 : Esker sample at station 0+800 ;
  - AMQ-ES-007 : Esker sample at station 0+780 ;
  - AMQ-ES-008 : Esker sample at station 0+860.

Description of material	Origin	ID sample	Fines-Sand-Gravel	Station	Localisation of sampling	ate of samplin	Date of testing	Placement area
Esker	Pit (Stock pile 2)	AMQ-ES-006	27 - 48 - 25	0+800	Slope east of channel	04/02/2020	04/02/2020	[0+830 - 0+775]
Esker	Pit (Stock pile 2)	AMQ-ES-007	8 - 56 - 36	0+780	Slope west of channel	04/02/2020	05/02/2020	[0+830 - 0+775]
Esker	Pit (Stock pile 1)	AMQ-ES-008	2 - 25 - 73	0+860	Slope east of channel	04/02/2020	05/02/2020	[0+917 - 0+830]

The results have been compiled and sent to the designer for verification, if the esker placed is satisfactory or not and considering the addition of geotextile in the filters design required by AEM.

- Visit on work site to follow the activities of :
  - Excavation (see photo 1) ;
  - Drilling (see photo 2) ;
  - Snow removal (see photo 3).

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Drink water

Issued by : Hamza Abdel-Aziz (Signature) 05-02-2020 (Date)

Verified by : (Signature) (Date)

PHOTOS



Photo 1: View at the site (photo taken looking north)



Photo 2 : View at the site (photo taken looking south))

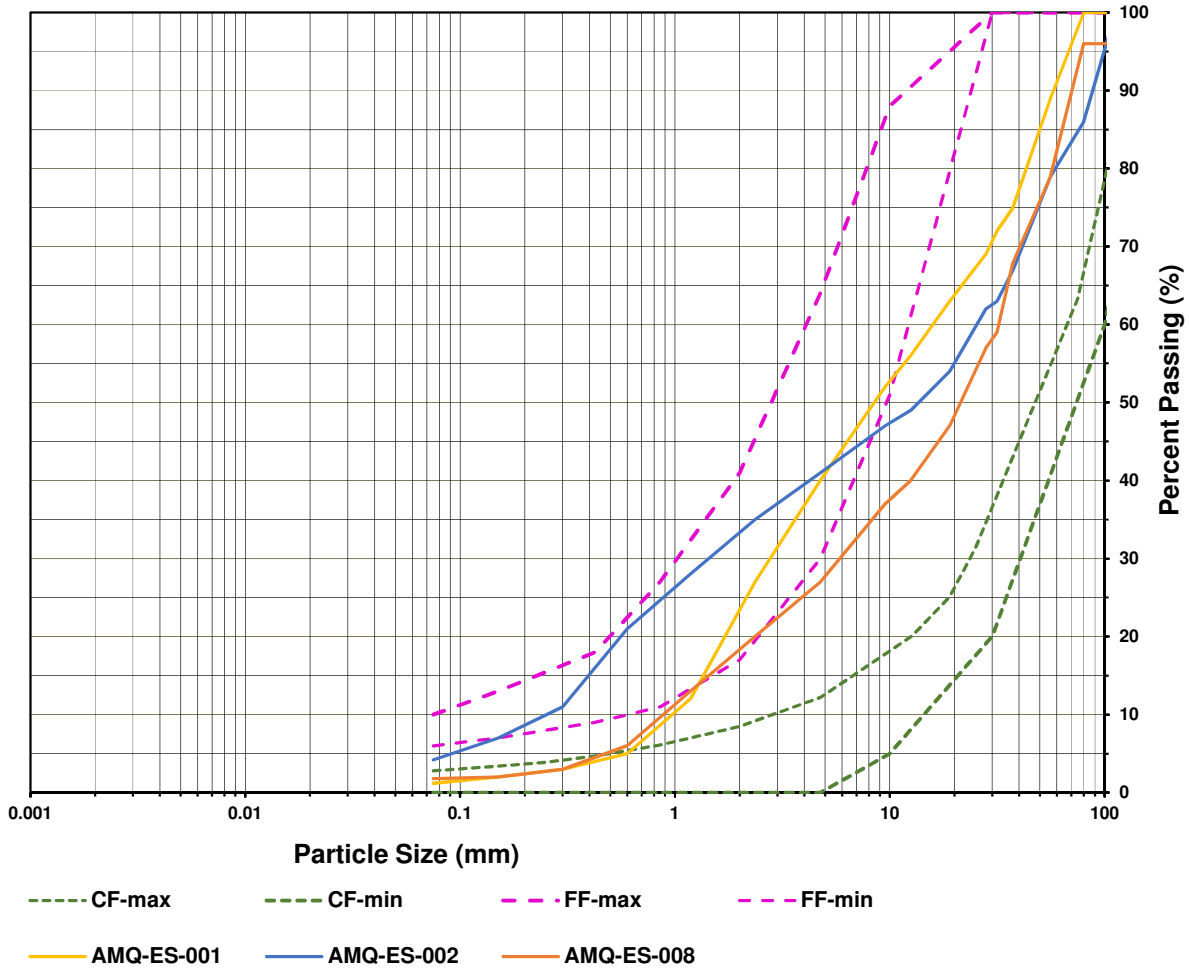


Photo 3 : View at the site (photo taken looking south)

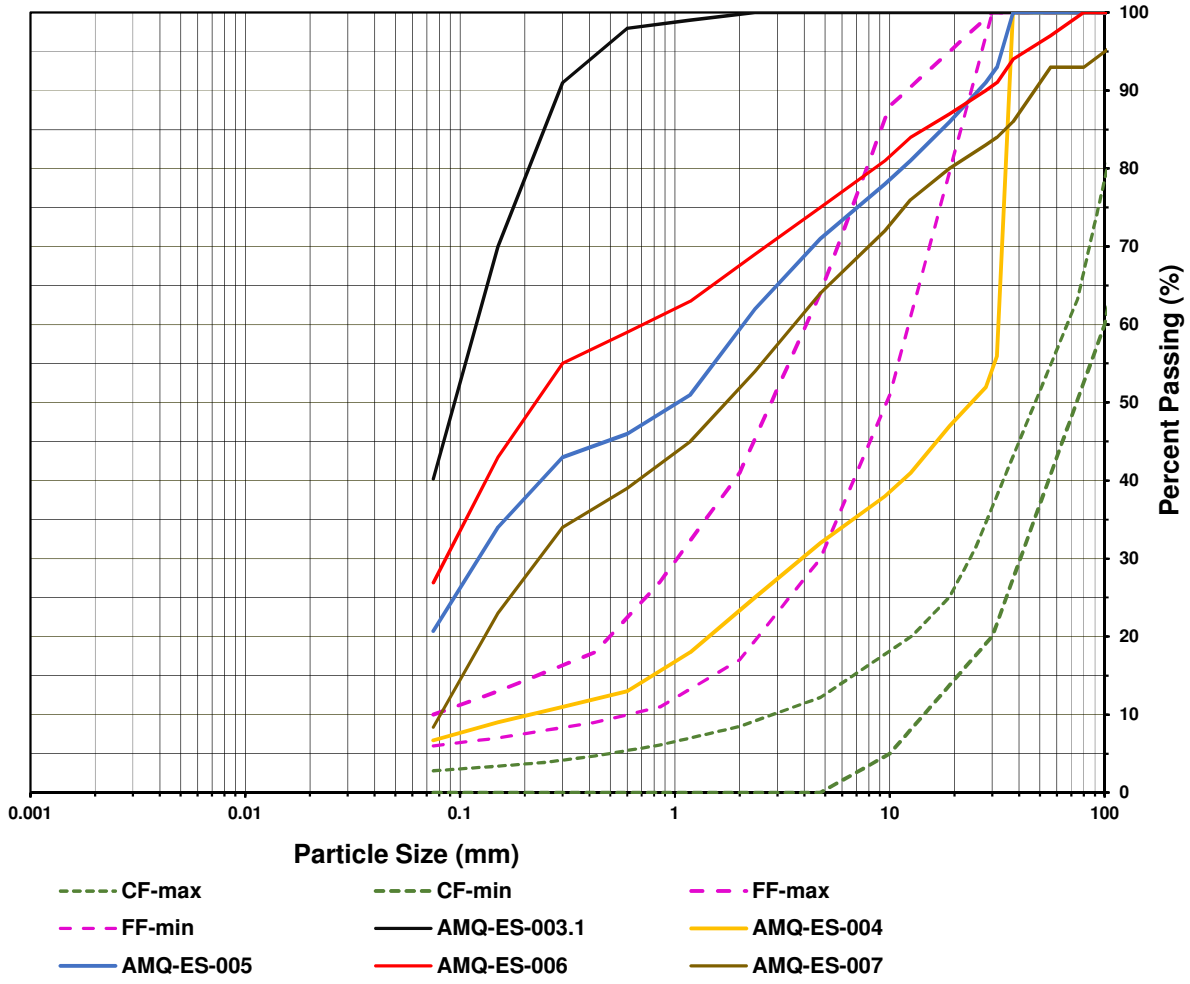
Appendix A

The gradation results for AMQ-ES-006, AMQ-ES-007 and AMQ-ES-008

Sieve Analysis Graph



Sieve Analysis Graph



Analysis Report - Soils and Aggregates

Client: AEM

Projet: Derivation channel

Description of Material: Esker

Origin: In place, as used

Proposed Use: Back filling

Proiect N°: 11202247-B1

Sample N°: AMQ-ES-006

Sampling Date: 2020-02-04

Sampled by: Stéphane Dorevelus

Location of Sampling: Eastern slope of channel. ch.0+800

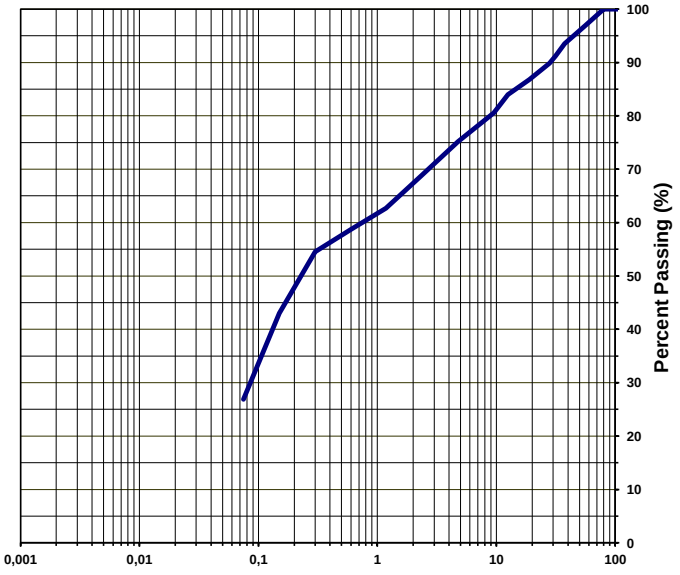
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37,5 mm	31,5 mm	28 mm	19 mm	12,5 mm	9,5 mm	4,75 mm	2,36 mm	1,18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	97	94	91	90	87	84	81	75	69	63	59	55	43	26,9
Require-ments	min.																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	11,8		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m^3)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
27	48	25

Remarks _____

Prepared by: Yaotree Amegnran 2020-02-04 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Projet: Derivation channel

Description of Material: Esker

Origin: In place, as used

Proposed Use: Slope of the channel

Proiect N°: 11202247-B1

Sample N°: AMQ-ES-007

Sampling Date: 2020-02-04

Sampled by: Stéphane Dorvelus

Location of Sampling: Western slope of channel. ST.0+780

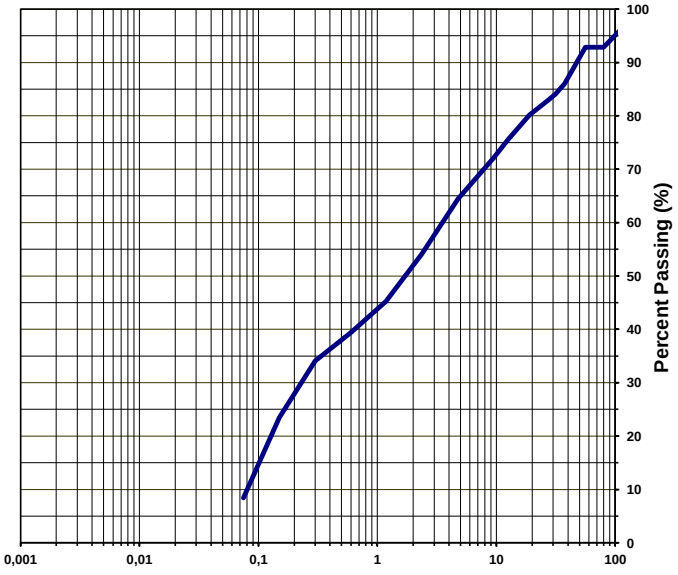
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37,5 mm	31,5 mm	28 mm	19 mm	12,5 mm	9,5 mm	4,75 mm	2,36 mm	1,18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		96	93	93	86	84	83	80	76	72	64	54	45	39	34	23	8,4
Require-ments	min.																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	15,8		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m^3)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
8	56	36

Remarks _____

Prepared by: Stéphane Dorvélus Date : 2020-02-05 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Projet: Derivation channel

Description of Material: Esker

Origin: In place, as used

Proposed Use: Slope of the channel

Proiect N°: 11202247-B1

Sample N°: AMQ-ES-008

Sampling Date: 2020-02-04

Sampled by: Stéphane Dorvelus

Location of Sampling: Eastern slope of channel. ch.0+860

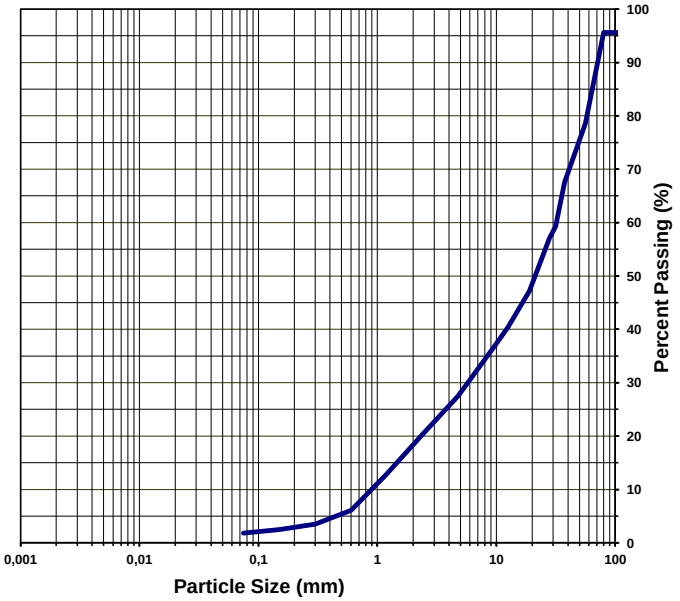
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37,5 mm	31,5 mm	28 mm	19 mm	12,5 mm	9,5 mm	4,75 mm	2,36 mm	1,18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		96	96	79	68	59	57	47	40	37	27	20	13	6	3	2	1,8
Require-ments	min.																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	11		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m^3)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
2	25	73

Remarks _____

Prepared by: Yaotree Amegnran Date : 2020-02-05

Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

SNC·LAVALIN

SITE REPORT
(Detailed)

20200206-DS-SR23
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-02-06	6 :30 AM – 6 :30 PM	667648	Hamza Abdel-Aziz

Project	Client
South Whale Tale Diversion Channel construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☐ Sunny ☒ Cloudy ☐ Rain ☐ Storm ☐ Snow ☐ Glaze

Wind: ☒ None ☐ Light ☐ Moderate ☐ Strong, gusts

Temperature: -32 °C

Comments:

Appendix: ☒ Yes ☐ No Pictures ☒ Yes ☐ No Inspection report or other: Attached

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attend daily construction meeting ;
- The gradation results (see appendix A) for :
  - AMQ-IP-005 : Foundation soil in place at station 0+750 ;
  - AMQ-IP-006 : Foundation soil in place at station 0+765.

- Following an analysis of esker material and the choise of the backfill material with the designer the esker placed may be left in place. However for the next use of esker, it would be important that the esker material always meets the technical specification requirement and the designer recommandations as such :
  - The esker material should not include too much fine (not more % fine than the soil in place, therefore be on the coarse side) ;
  - To be well graded as much as possible ;
  - Free of frozen/ice soil , snow and big cobbles/boulders ;
  - Compacted appropriately with the bucket ;
  - Sampling esker during placement and in stockpile to ensure the material is appropriate.

- Meeting for the lake A45 mitigation plan with Frederick Bolduc (AEM), Jean-François Beland (AEM) and Sabin Larouche (Groupe Gilbert)

  The objectives of this meeting were to discuss strategy for lake A45 to ensure no lakebed sediment are left expose at freshet. Several ideas have been proposed such as : excavation work and backfilling with esker or using geotextile, etc...
  A cost estimate must be prepared by the Groupe Gilbert. AEM will contact SNC-Lavalin regarding the lake A45 mitigation plan, if needed.

- Visit on work site to follow the activities of :
  - Excavation and hammering (see photo 1) ;
  - Snow removal (see photo 2) ;
  - Drilling ;

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

The klaxon does not work very well. a remark was made to check the vehicle

Issued by :	Hamza Abdel-Aziz	06-02-2020
	Signature	Date
Verified by :		
	Signature	Date

PHOTOS



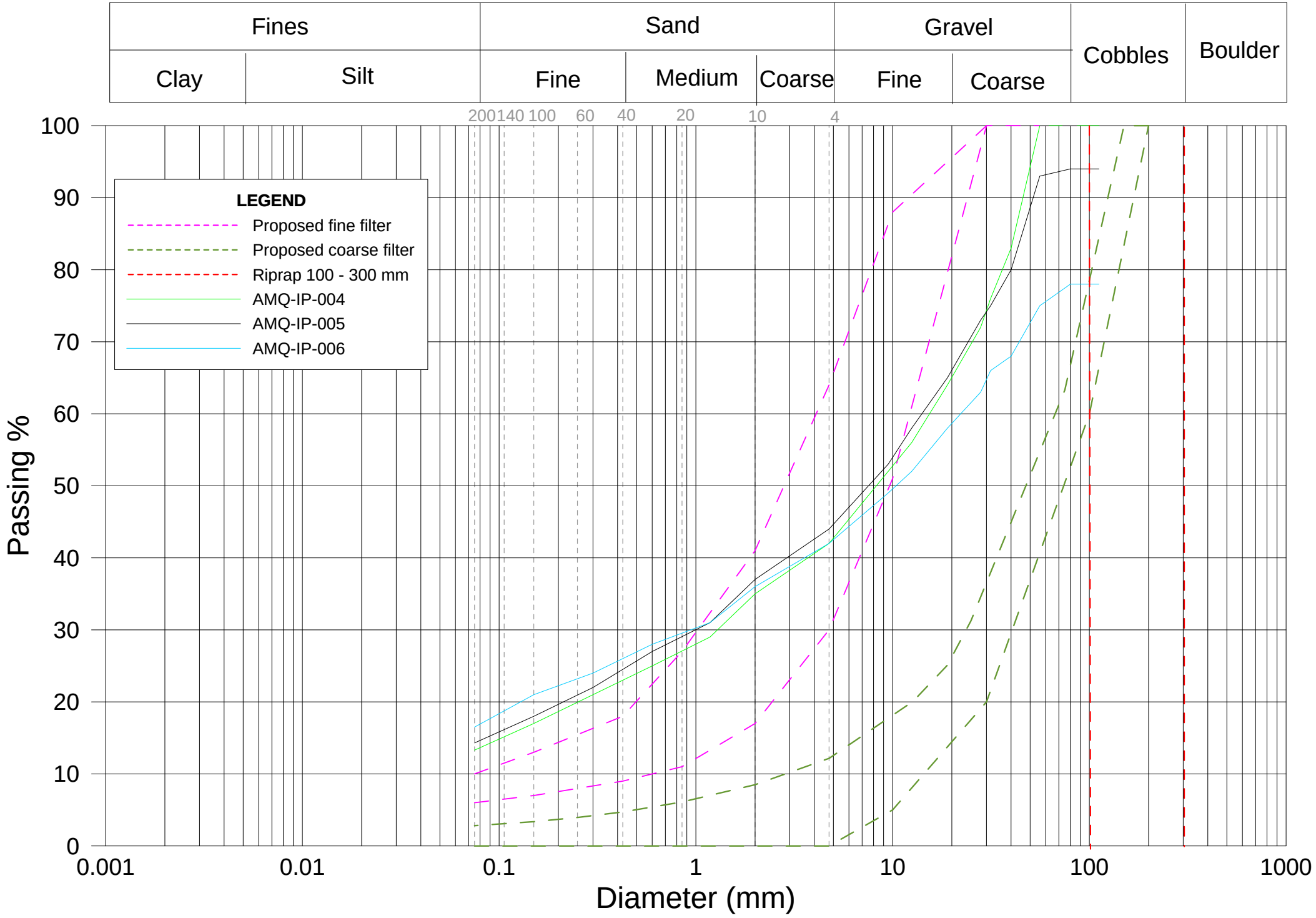
Photo 1: View at the site (photo taken looking south)

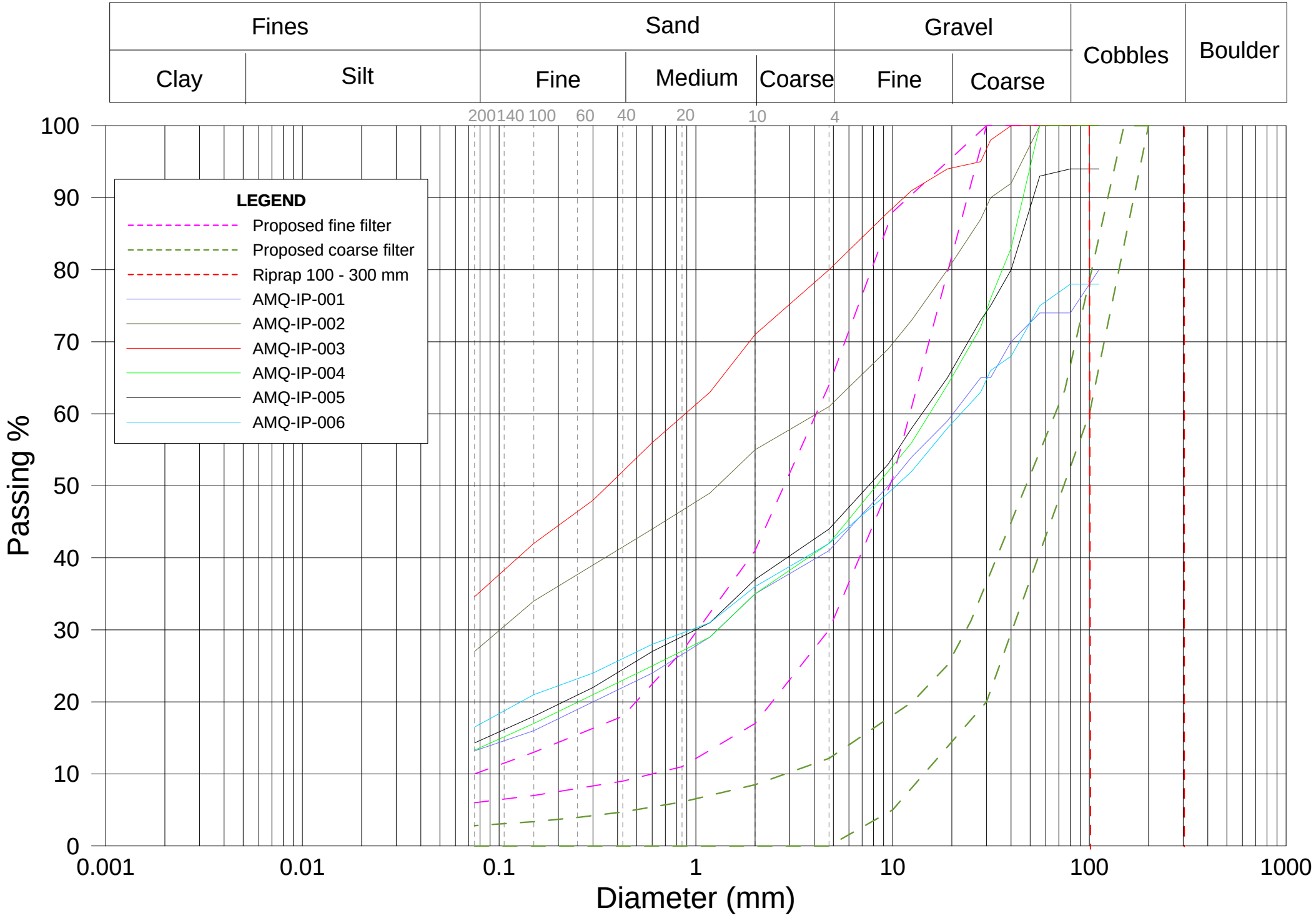


Photo 2: View at the site (photo taken looking south - west)

Appendix A

The gradation results for AMQ-IP-005 and AMQ-IP-006


Fines
Clay
Silt
Sand
Fine
Medium
Coarse
Gravel
Fine
Coarse
Cobbles
Boulder
200
140
100
60
40
20
10
4
LEGEND
Proposed fine filter
Proposed coarse filter
Riprap 100 - 300 mm
AMQ-IP-004
AMQ-IP-005
AMQ-IP-006
Passing %
100
90
80
70
60
50
40
30
20
10
0
0.001
0.01
0.1
1
10
100
1000
Diameter (mm)


Fines
Clay
Silt
Sand
Fine
Medium
Coarse
Gravel
Fine
Coarse
Cobbles
Boulder
200
140
100
60
40
20
10
4
LEGEND
Proposed fine filter
Proposed coarse filter
Riprap 100 - 300 mm
AMQ-IP-001
AMQ-IP-002
AMQ-IP-003
AMQ-IP-004
AMQ-IP-005
AMQ-IP-006
Passing %
100
90
80
70
60
50
40
30
20
10
0
0.001
0.01
0.1
1
10
100
1000
Diameter (mm)

SNC·LAVALIN

SITE REPORT
(Detailed)

20200207-DS-SR24
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-02-07	6 :30 AM – 6 :30 PM	667648	Hamza Abdel-Aziz

Project	Client
South Whale Tale Diversion Channel construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☐Sunny ☒Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☐Light ☐Moderate ☒Strong, gusts

Temperature: -33 °C

Comments:

Appendix: ☐Yes ☒No Pictures ☒Yes ☐No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attend daily construction meeting ;
- Investigative visit of lake A45 with site supervisor (Jean-Francois Beland) and QC ;
- Went to site with the QC for Sampling foundation soil at station 0+500 ;
- Visit on work site to follow the activities of :
  - Excavation and hammering ;
  - Snow removal ;
  - Drilling ;

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Wind strong and visibility was reduced. Always be very careful when driving

During the meeting, it has been reported that a worker had a nose frostbite

Issued by : Hamza Abdel-Aziz (Signature) — 07-02-2020 (Date)

Verified by : (Signature) — (Date)

PHOTOS

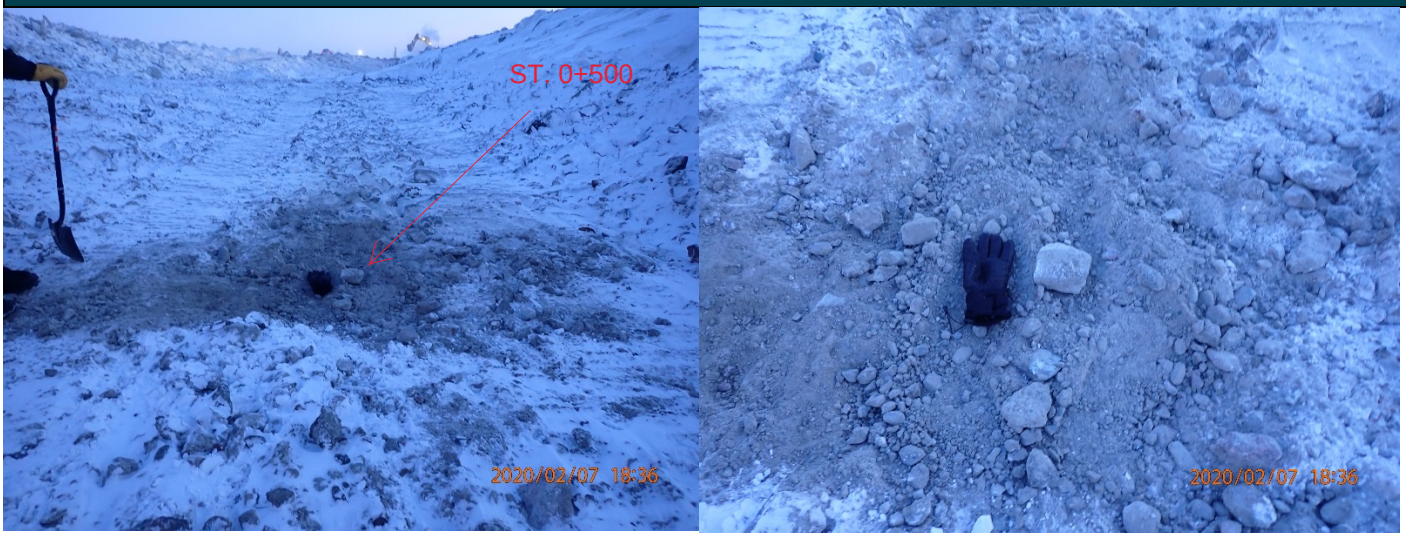


Photo 1: View at the site (photo taken looking south)

SNC·LAVALIN

SITE REPORT
(Detailed)

20200208-DS-SR25
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-02-08	6 :30 AM – 6 :30 PM	667648	Hamza Abdel-Aziz

Project	Client
South Whale Tale Diversion Channel construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☐Moderate ☐Strong, gusts

Temperature: -33 °C

Comments:

Appendix: ☒Yes ☐No Pictures ☒Yes ☐No Inspection report or other: Attached

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attend daily construction meeting ;
- Gradation result (see appendix A) for :
  - AMQ-IP-007 : Foundation soil in place at station 0+500 ;
- Reviewed the gradation results and moisture content for some samples prepared by the QC ;
- Visit on work site to follow the activities (see photos) of :
  - Excavation ;
  - Cleaning ;
  - Drilling and preparation for blasting.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Wear his protective mask before going to the laboratory

Issued by : Hamza Abdel-Aziz (Signature) — 08-02-2020 (Date)

Verified by : (Signature) — (Date)

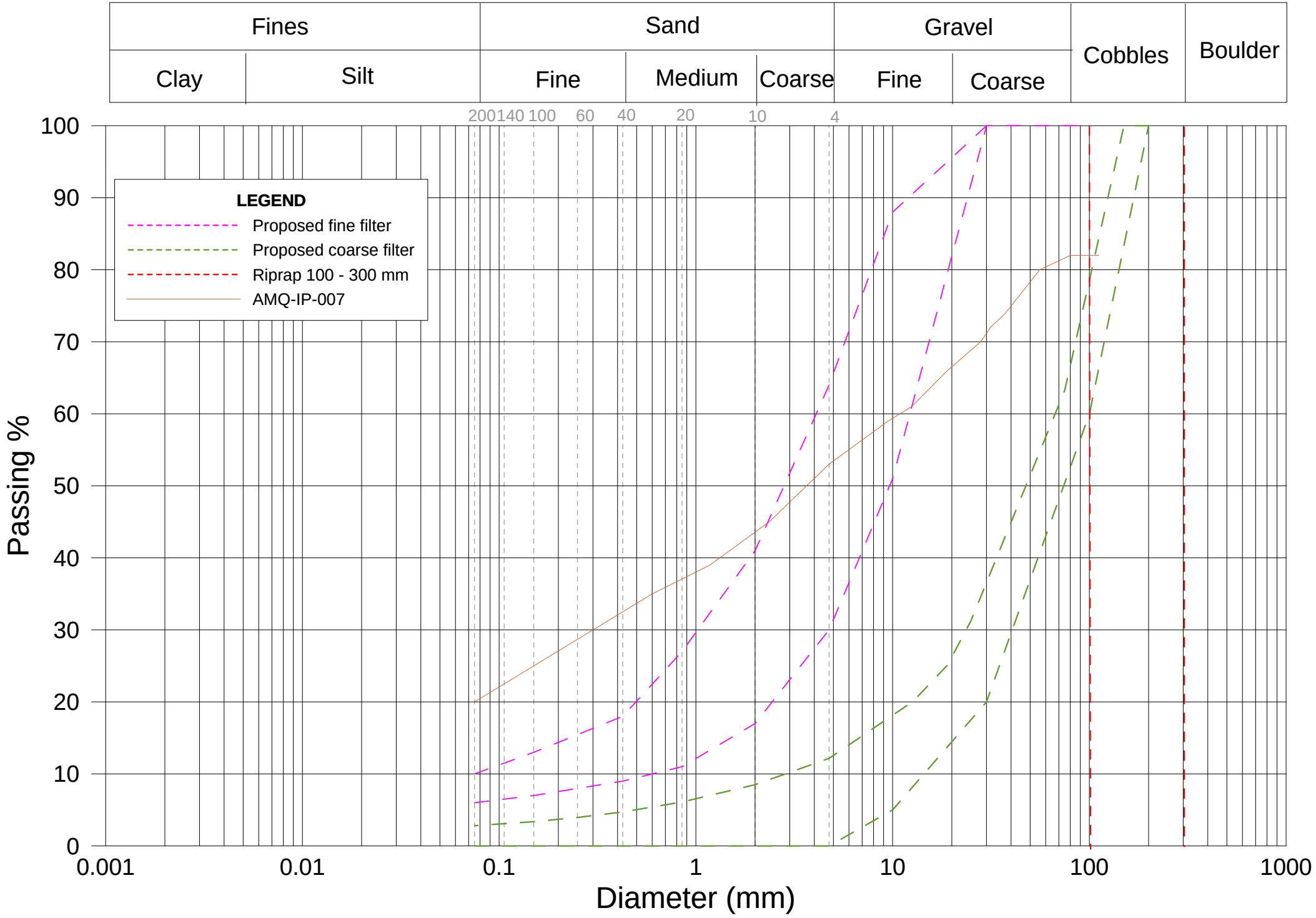
PHOTOS

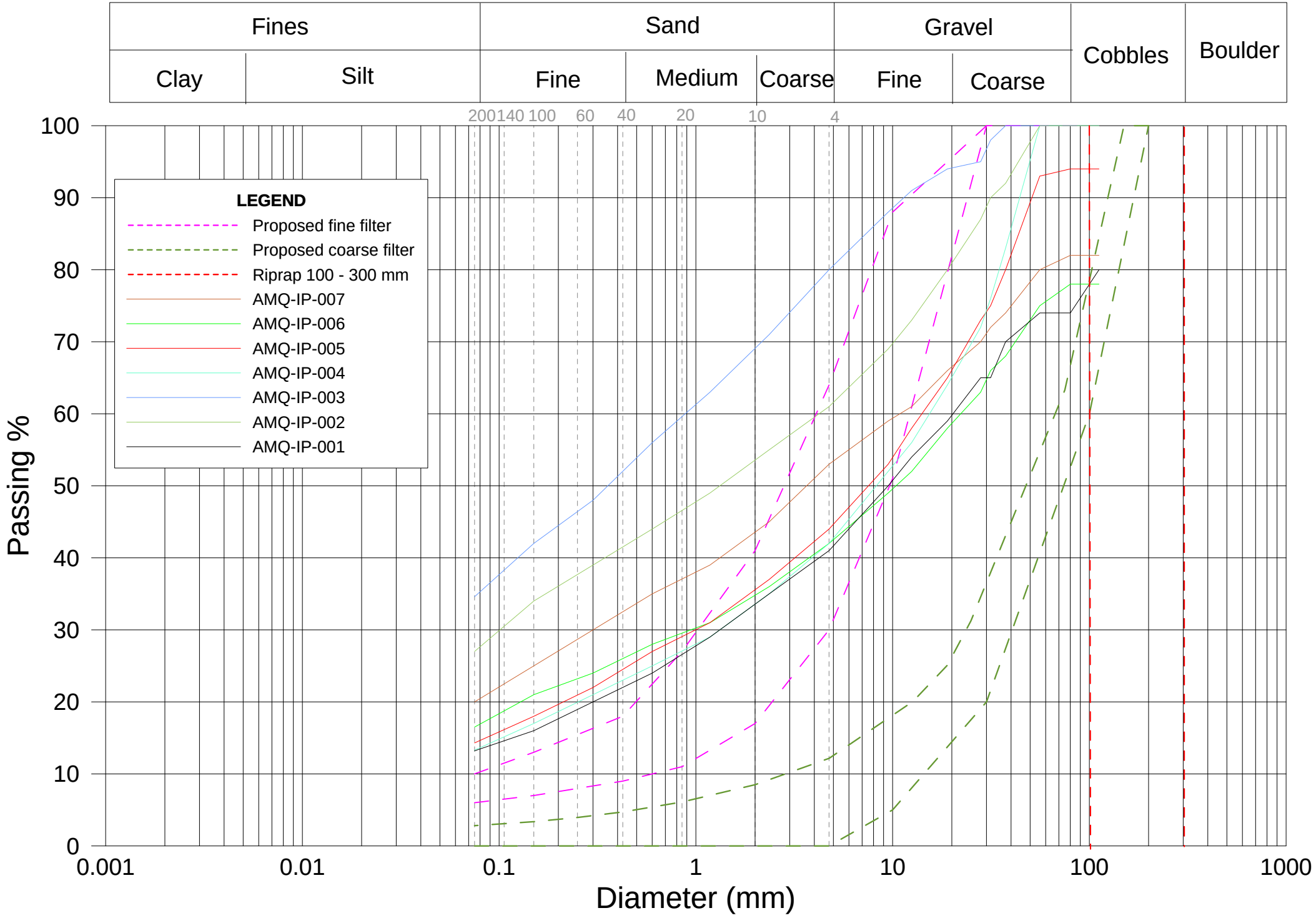


Photo 1: View at the site (photo taken looking south)

Appendix A

The gradation result for AMQ-IP-007


Fines
Clay
Silt
Sand
Fine
Medium
Coarse
Gravel
Fine
Coarse
Cobbles
Boulder
200 140 100 60 40 20 10 4
LEGEND
Proposed fine filter
Proposed coarse filter
Riprap 100 - 300 mm
AMQ-IP-007
Passing %
100
90
80
70
60
50
40
30
20
10
0
0.001
0.01
0.1
1
10
100
1000
Diameter (mm)


Fines
Clay
Silt
Sand
Fine
Medium
Coarse
Gravel
Fine
Coarse
Cobbles
Boulder
200 140 100 60 40 20 10 4
LEGEND
Proposed fine filter
Proposed coarse filter
Riprap 100 - 300 mm
AMQ-IP-007
AMQ-IP-006
AMQ-IP-005
AMQ-IP-004
AMQ-IP-003
AMQ-IP-002
AMQ-IP-001
Passing %
100
90
80
70
60
50
40
30
20
10
0
0.001
0.01
0.1
1
10
100
1000
Diameter (mm)

Analysis Report - Soils and Aggregates

Client: AEM

Projet: Derivation channel

Description of Material: Soil in place at bottom

Origin: In place

Proposed Use: Soil in place in the bottom of the channel

Proiect N°: 11202247-B1

Sample N°: AMQ-IP-007

Sampling Date: 2020-02-04

Sampled by: Stéphane Dorevelius

Location of Sampling: Bottom of channel. ch.0+500

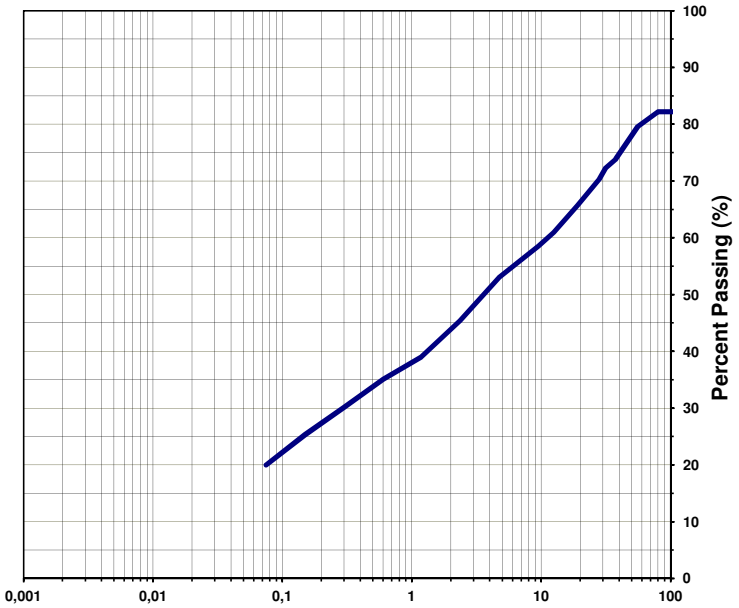
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37,5 mm	31,5 mm	28 mm	19 mm	12,5 mm	9,5 mm	4,75 mm	2,36 mm	1,18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		82	82	80	74	72	70	66	61	59	53	45	39	35	30	25	20,0
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	10		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m^3)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
20	33	47

Remarks _____

Prepared by: Yaotree Amegnran Date : 2020-02-07 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

SNC·LAVALIN

SITE REPORT
(Detailed)

20200209-DS-SR26
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-02-09	6 :30 AM – 6 :30 PM	667648	Hamza Abdel-Aziz

Project	Client
South Whale Tale Diversion Channel construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☐Moderate ☐Strong, gusts

Temperature: -30 °C

Comments:

Appendix: ☐Yes ☒No Pictures ☐Yes ☒No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attend daily construction meeting ;
  HAA attended the Whale Tail Daily Construction Meeting on February 09, 2020 During the daily construction meeting, there was a discussion on When the excavation limit is reached what type of material in the foundation is acceptable. This question was asked by the excavation operator, as he had reached at station 0 + 275, the excavation limit had been reached and there were always loose materials. Reference should be made to section 3.2, giving a definition of the materials to be excavated or not. adding samples to this can also be taken for laboratory testing. The definitions presented in the technical specification are :
  - ''Sound'' or ''Suitable'' fill materials are defined as being free from deleterious matter, having a gradation which permits compaction or placement to a stable state, and having the characteristics specified for the particular materials after handling, re-handling, processing and reprocessing have taken place.
  - ''Unstable'' or ''Unsuitable'' fill materials are defined as being too wet, containing oversized or segregated particles, organic or other deleterious matter, such as ice or snow, or having poor characteristics which may result in undesirable settlement or other movement of the fill or within the fill, or otherwise not meeting the requirements of the specifications. However, this definition permits drying, dewatering, watering, screening, raking and any other processing or reprocessing to make the material stable and suitable prior to incorporating it into the fill.
- Sampling foundation soil in place AMQ-IP-008 at station 0+270 ;
- Visit on work site to follow the activities of :
  - Excavation ;
  - Cleaning ;
  - Drilling and preparation for blasting.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Step back 2 meters for 2 minutes is very important

Issued by : Hamza Abdel-Aziz (Signature) — 09-02-2020 (Date)

Verified by : (Signature) — (Date)

PHOTOS

SNC·LAVALIN

SITE REPORT
(Detailed)

20200210-DS-27
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-02-10	6 :30 AM – 6 :30 PM	667648	Daniel Meles

Project	Client
South Whale Tale Diversion Channel Construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☐Sunny ☒Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☐Light ☒Moderate ☐Strong, gusts

Temperature: -35 °C

Comments:

Appendix: ☐Yes ☒No Pictures ☐Yes ☒No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Travel to site: Flew from Montreal to Meadowbank and took a bus from Meadowbank to Amaruq.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Extremely cold when we arrived at Meadowbank, make sure to dress appropriate clothing.

Issued by : Daniel Meles (Signature) 10-02-2020 (Date)

Verified by : (Signature) (Date)

Photos

SNC·LAVALIN

SITE REPORT
(Detailed)

20200211-DS-28
Document number (YYYYMMDD-DS-SR)

2020-02-11	6 :30 AM	6 :30 PM	667648	Daniel Meles
Visit date	Time (Start/End)		Project No.	Prepared by

South Whale Tale Diversion Channel construction	Agnico Eagle
Project	Client

SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☐Light ☐Moderate ☒Strong, gusts

Temperature: -61 °C

Comments: **Extreme cold warning and blowing snow**

Appendix: ☐Yes ☒No Pictures ☐Yes ☒No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attend daily construction meeting;
- The site was closed until 1:00 PM due to the extreme cold weather condition; and
- Went to site with the QC for Esker sampling (AMQ-ES-009) from west slope at station 0+760 (Photo 1).

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

- Extreme cold warning.

Issued by : Daniel Meles — Signature — 11-02-2020 — Date

Verified by : Signature — Date

PHOTOS



Photo 1: View of Esker sampling location – west slope at station 0+760 (photo taken looking west)

SNC·LAVALIN

SITE REPORT
(Detailed)

20200212-DS-29
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-02-12	6 :30 AM – 6 :30 PM	667648	Daniel Meles

Project	Client
South Whale Tale Diversion Channel construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☐ Sunny ☐ Cloudy ☐ Rain ☐ Storm ☒ Snow ☐ Glaze

Wind: ☐ None ☐ Light ☐ Moderate ☒ Strong, gusts

Temperature: -48 °C

Comments: **Blowing snow: near blizzard**

Appendix: ☐ Yes ☒ No Pictures ☐ Yes ☒ No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attend daily construction meeting; and
- No site activities: Work on standby from near blizzard weather condition

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

- Extreme cold warning.

Issued by : Daniel Meles — Signature — 12-02-2020 — Date

Verified by : Signature — Date

PHOTOS

SNC·LAVALIN

SITE REPORT
(Detailed)

20200213-DS-SR30
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-02-13	6 :30 AM – 6 :30 PM	667648	Daniel Meles

Project	Client
South Whale Tale Diversion Channel construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☐Moderate ☐Strong, gusts

Temperature: -52 °C

Comments:

Appendix: ☐Yes ☒No Pictures ☒Yes ☐No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attend daily construction meeting;
- Went to site with the QC to sample for moisture content test at station 0+270;
- Review and document gradation test result for AMQ-ES-009 and AMQ-IP-008 (Figure 1); and
- Visit work site to follow the activities of:
  - Excavation and esker placement (Photo 1); and
  - Drilling.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Potential near miss near the dump

Issued by : Daniel Meles (Signature) 13-02-2020 (Date)

Verified by : (Signature) (Date)

PHOTOS/FIGURES

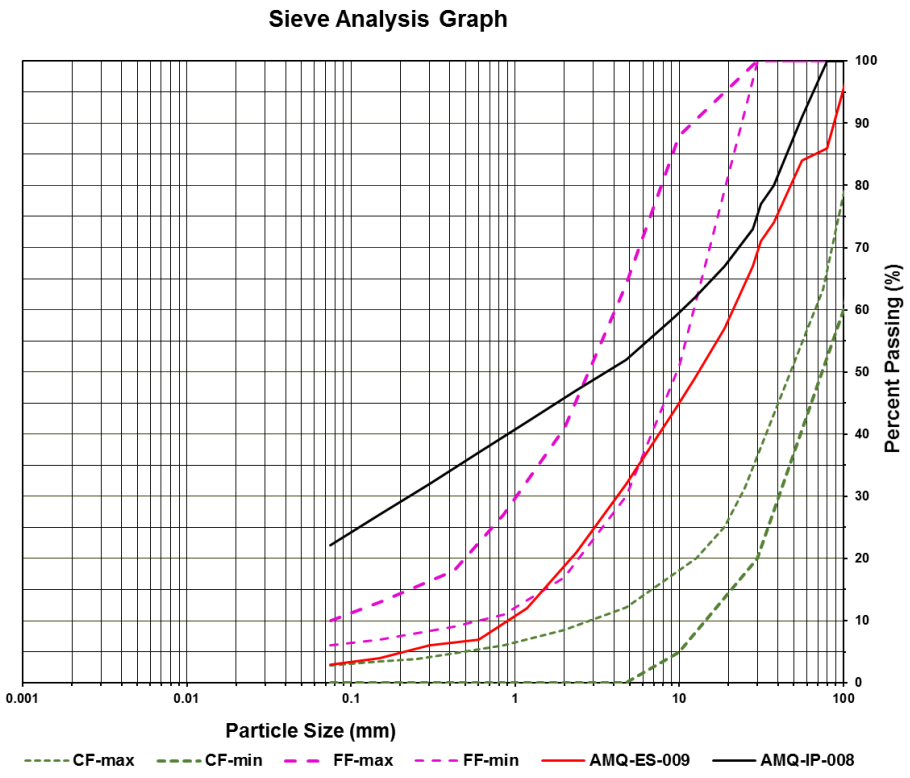


Figure 1: Gradation test result for AMQ-ES-009 and AMQ-IP-008.



Photo 1: View at the site (photo taken looking south)

SNC·LAVALIN

SITE REPORT
(Detailed)

20200215-DS-SR31
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-02-14	6 :30 AM – 6 :30 PM	667648	Daniel Meles

Project	Client
South Whale Tale Diversion Channel Construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☐Light ☒Moderate ☐Strong, gusts

Temperature: -50 °C

Comments:

Appendix: ☐Yes ☒No Pictures ☒Yes ☐No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attend daily construction meeting;
- Went to site with the QC and owner's representative (AEM) for foundation approval from station 0+735 to 0+688. The area require additional clean up of loose material and/or compaction of the looses material with excavator bucket (Photo 1) and was not approved; and
- Site activities were slow because of the contractor crew cross shift.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Potential near miss near the dump

Issued by : Daniel Meles — Signature — 14-02-2020 — Date

Verified by : Signature — Date

PHOTOS/FIGURES



Photo 1: View of the area requested for foundation approval (photo taken looking north)

SNC·LAVALIN

SITE REPORT
(Detailed)

20200215-DS-SR32
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-02-15	6 :30 AM – 6 :30 PM	667648	Daniel Meles

Project	Client
South Whale Tale Diversion Channel Construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☒Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☐Light ☒Moderate ☐Strong, gusts

Temperature: -46 °C

Comments:

Appendix: ☐Yes ☒No Pictures ☒Yes ☐No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting; and
- Site activities were slow due mechanical issues on equipment

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Issued by : Daniel Meles — Signature — 15-02-2020 — Date

Verified by : Signature — Date

PHOTOS/FIGURES

SNC·LAVALIN

SITE REPORT
(Detailed)

20200216-DS-SR33
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-02-16	6 :30 AM – 6 :30 PM	667648	Daniel Meles

Project	Client
South Whale Tale Diversion Channel Construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☒Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☐Light ☒Moderate ☐Strong, gusts

Temperature: -42 °C

Comments:

Appendix: ☐Yes ☒No Pictures ☒Yes ☐No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting; and
- Visited work site to follow the activities (see photo 1):
  - Excavation;
  - Cleaning;
  - Drilling.
- Went with AEM representative and QC for foundation approval from station 0+735 to 0+688 (see photo 2):
  - channel foundation: free ice / snow / water; and
  - cleaning of excavation bottom;

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments
Free ice / snow / water	Station 0+735 to 0+688	Require verification for snow cleaning before placement
Cleaning of excavation bottom	Station 0+735 to 0+688	Require back fill for over-cut area and compaction of the back fill to be checked before filter placement
As built survey completed	Station 0+735 to 0+688	

SAFE AND SAFETY REMARKS

Issued by : Daniel Meles — Signature — 16-02-2020 — Date

Verified by : Signature — Date

PHOTOS/FIGURES



Photo 1: View of the site (photo taken looking south)

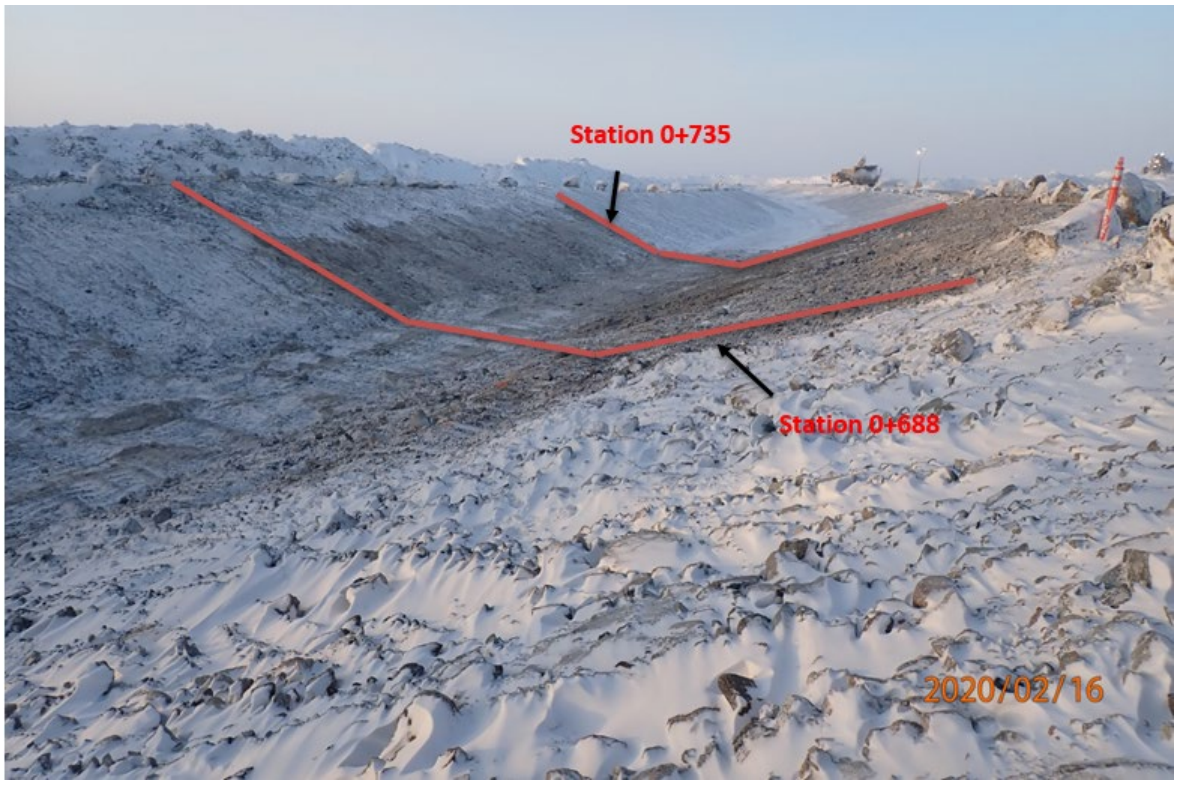


Photo 2: View of approved foundation on February 26, 20220 (photo taken looking north)

SNC·LAVALIN

SITE REPORT
(Detailed)

20200217-DS-SR34
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-02-17	6 :30 AM – 6 :30 PM	667648	Daniel Meles

Project	Client
South Whale Tale Diversion Channel Construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☒Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☐Light ☒Moderate ☐Strong, gusts

Temperature: -39 °C

Comments:

Appendix: ☐Yes ☒No Pictures ☒Yes ☐No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting; and
- Visited work site to followe activities:
  - Esker placed between station 0+735 and 0+688 (see photo 1);
  - Drilling (See photo 2); and
  - Cleaning of excavated material outside the channel (see photo 3)

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Issued by : Daniel Meles — Signature; 17-02-2020 — Date

Verified by : Signature; Date

PHOTOS/FIGURES



Photo 1: View of placed esker in station between 0+735 and 0+688 (photo taken looking north)

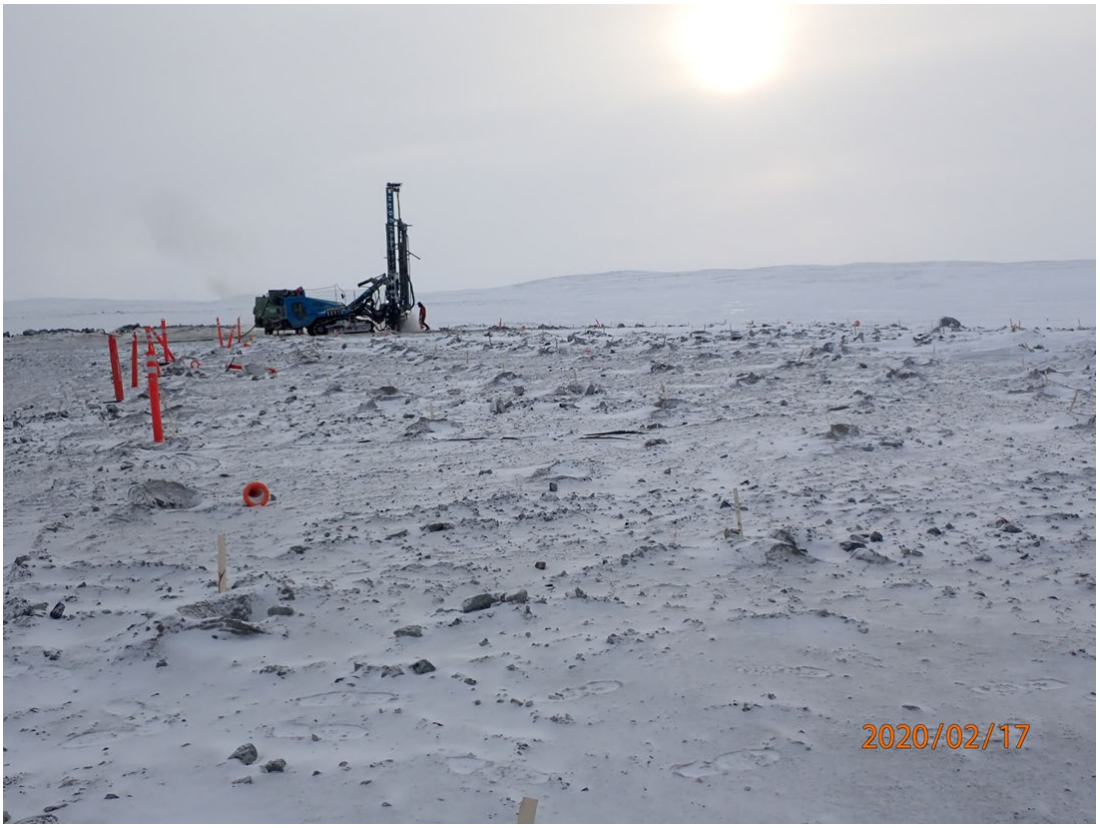


Photo 2: View of drilling for sequence 9 (photo taken looking south)



Photo 3: View of cleaning excavated material outside the channel (photo taken looking north)

SNC·LAVALIN

SITE REPORT
(Detailed)

20200218-DS-SR35
Document number (YYYYMMDD-DS-SR)

2020-02-18	6 :30 AM – 6 :30 PM	667648	Daniel Meles
Visit date	Time (Start/End)	Project No.	Prepared by

South Whale Tale Diversion Channel Construction	Agnico Eagle
Project	Client

SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☒Sunny ☒Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☐Light ☒Moderate ☐Strong, gusts

Temperature: -44 °C

Comments:

Appendix: ☐Yes ☒No Pictures ☒Yes ☐No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting; and
- Site activities were slow due blowing snow in the morning and blasting between station 0+640 to 0+480 in the afternoon.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Issued by : Daniel Meles (Signature) — 18-02-2020 (Date)

Verified by : (Signature) — (Date)

PHOTOS/FIGURES

SNC·LAVALIN

SITE REPORT
(Detailed)

20200219-DS-SR36
Document number (YYYYMMDD-DS-SR)

2020-02-19	6 :30 AM	6 :30 PM	667648	Daniel Meles
Visit date	Time (Start/End)		Project No.	Prepared by

South Whale Tale Diversion Channel Construction	Agnico Eagle
Project	Client

SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☐Moderate ☐Strong, gusts

Temperature: -43 °C

Comments:

Appendix: ☐Yes ☒No Pictures ☒Yes ☐No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting; and
- Visited work site to follow the activities:
  - Excavation of the blasted area around Station 0+640 (photo 1);
  - Cleaning west side road (photo 2); and
  - Drilling

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Issued by :	Daniel Meles	19-02-2020
	Signature	Date
Verified by :		
	Signature	Date

PHOTOS/FIGURES



Photo 1: View of the site (photo taken looking south)



Photo 2: View of west side road cleaning (photo taken looking west)



Photo 3: View of drilling in preparation for blasting (photo taken looking south)

SNC·LAVALIN

SITE REPORT
(Detailed)

20200220-DS-SR37
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-02-20	6 :30 AM – 6 :30 PM	667648	Daniel Meles

Project	Client
South Whale Tale Diversion Channel Construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☐Sunny ☒Cloudy ☐Rain ☐Storm ☒ Snow ☐Glaze

Wind: ☐None ☐Light ☐Moderate ☒Strong, gusts

Temperature: -25 and -45 (with wind chill) °C

Comments: **Visibilty was limited from the blizzard weather condition**

Appendix: ☐Yes ☒No Pictures ☒Yes ☐No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting; and
- No site vist due to limited visibility from the blizzard weather condition:

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Issued by : Daniel Meles (Signature) — 20-02-2020 (Date)

Verified by : (Signature) — (Date)

PHOTOS/FIGURES

SNC·LAVALIN

SITE REPORT
(Detailed)

20200221-DS-SR38
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-02-21	6 :30 AM – 6 :30 PM	667648	Daniel Meles

Project	Client
South Whale Tale Diversion Channel Construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☒Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☐Light ☒Moderate ☐Strong, gusts Temperature: -44 °C

Comments:

Appendix: ☐Yes ☒No Pictures ☒Yes ☐No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting; and
- Visited the site:
  - **Overall view of the site**: Example photo of the site after the yesterday's blizzard weather is shown in Photo 1. As shown, in Photo 1 snow accumulation from the yesterday blizzard weather condition was observed for the most part of the channel section. The snow accumulation was mainly observed on channel east slope and excavation bottom. The snow will be cleaned before filter/backfill placement.
  - **Channel Excavation**: Removal of excavated material from of the blasted area around Station 0+600 (Photo 2) was in progress. The mass excavation was almost completed but the are area requires cleaning and excavation in some spots. Visual observation of the excavated area indicated the foundation soil contain a lot of boulder mixed with overburden soil. Photo 3 showed close up view of in-place soil at excavation bottom between Station 0+630 to 0+600. As the area was covered with snow and cleaning was not completed, additional visual observation will be done during foundation approval;
  - **Reviewed and document** two test results (AMQ-ES-010 and AMQ-ES-11) sent from QC. AMQ-ES-010 and AMQ-ES-011were taken for the esker placed between station 0+735 and 0+688. The gradation plot along and computed Uniformity Coefficient (Uc) and Coefficient of Curvature (Cc)of the two samples test result are presented in Figure 1. The gradation plot, and UC and Cc values indicate both esker materials are well graded, and their fine content is less that fine content of the soil (40%) used to design the filter. Thus, both esker samples meet SNC-Lavalin recommendation of esker material to be used as backfill for over-excavated area in the overburden soil.
  - **Cleaning of west side access road** (Photo 3).
  - **No approval and/or sampling were completed**.

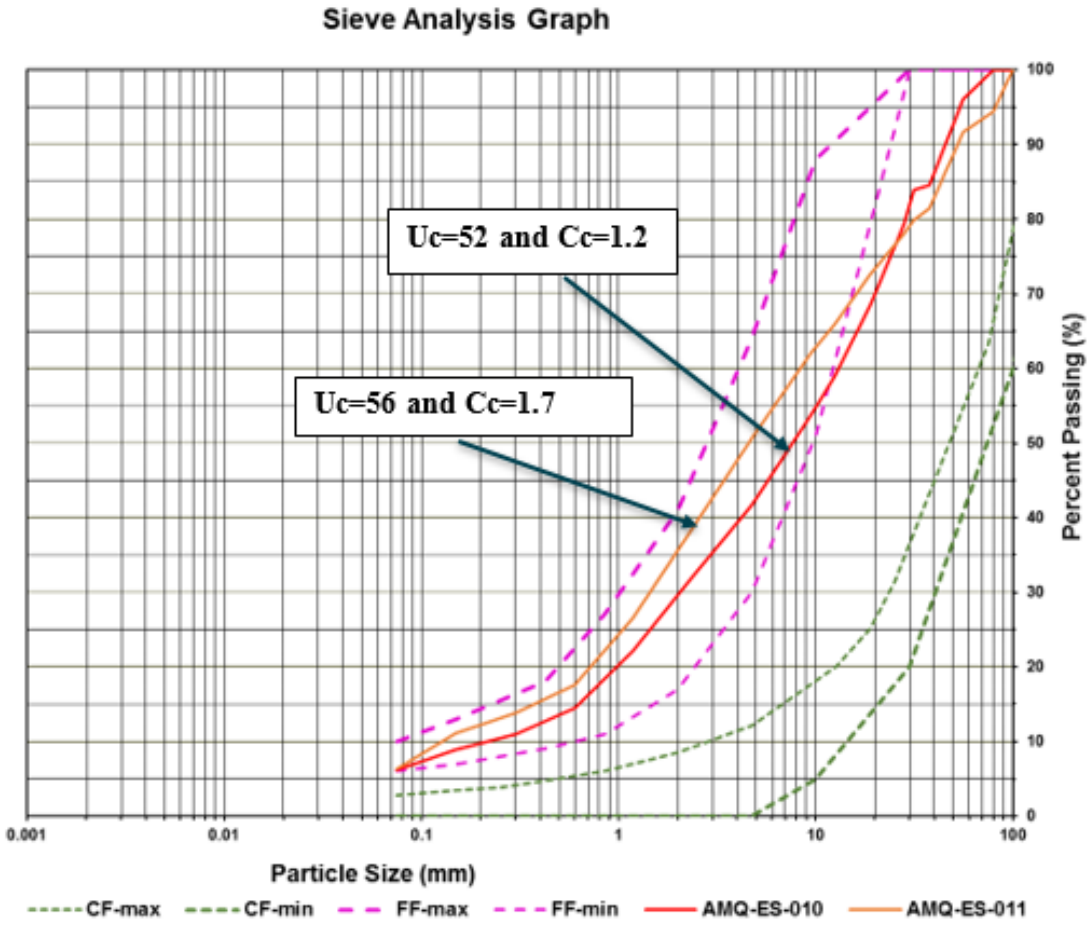


Figure 1: Gradation plot of AMQ-ES-010 and AMQ-ES-011

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Issued by : Daniel Meles (Signature) — 21-02-2020 (Date)

Verified by : (Signature) — (Date)

PHOTOS/FIGURES

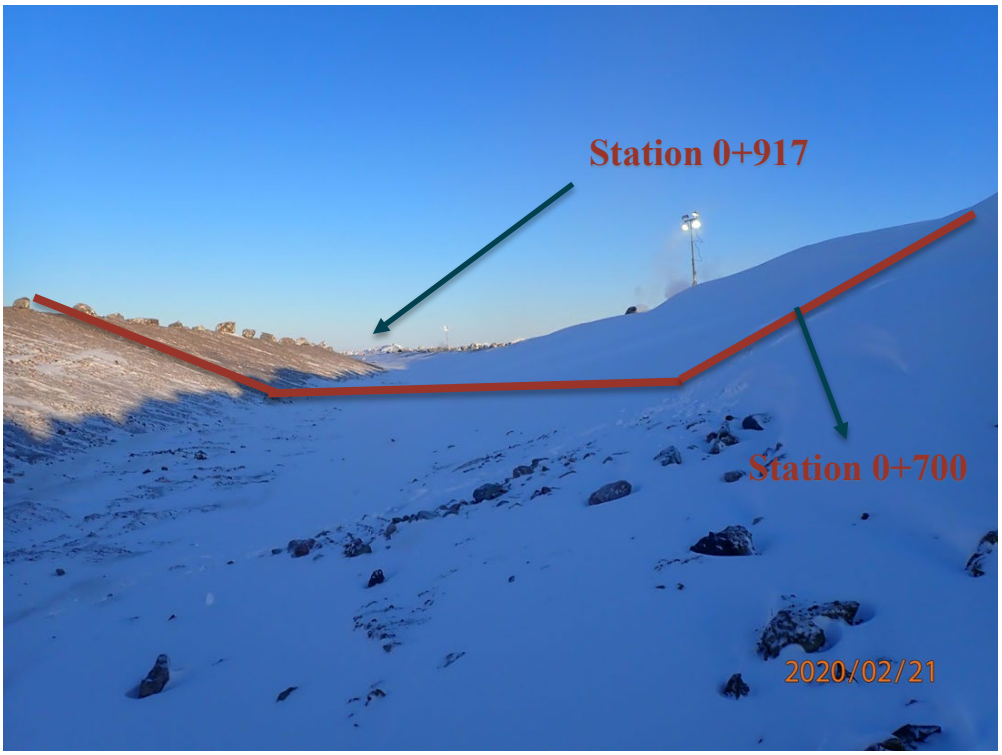


Photo 1: View of the site (photo taken looking North)



Photo 2: View of the site (photo taken looking south)



Photo 3: View of cleaning west access road (photo taken looking northwest)

SNC·LAVALIN

SITE REPORT
(Detailed)

20200222-DS-SR40
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-02-22	6 :30 AM – 6 :30 PM	667648	Daniel Meles

Project	Client
South Whale Tale Diversion Channel Construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☐Moderate ☐Strong, gusts

Temperature: -32 (-43 with wind chill) °C

Comments:

Appendix: ☐Yes ☒No Pictures ☒Yes ☐No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting; and
- Visited the site:
    - **Overall view of the site**: No activity on the site except cleaning access road west side of the channel. The snow accumulation from Feburary 20 blizzard weather condtion was not cleaned. Example photo of the the channel is shown in Photo 1. As shown, in Photo 1 snow accumulation was observed for most part of the channel section. The snow accumulation was mainly observed on channel east slope and excavation bottom.
      Comment: The snow should be cleaned from the previously approved foundation area and need to be verified and approved before filter placement.
    - **No approval and/or sampling were completed**.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Issued by : Daniel Meles (Signature) — 22-02-2020 (Date)

Verified by : (Signature) — (Date)

PHOTOS/FIGURES



Photo 1: View of the site (photo taken looking North)



Photo 2: View of cleaning west access road (photo taken looking southwest)

SNC·LAVALIN

SITE REPORT
(Detailed)

20200223-DS-SR41
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-02-23	6 :30 AM – 6 :30 PM	667648	Daniel Meles

Project	Client
South Whale Tale Diversion Channel Construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☐Moderate ☐Strong, gusts

Temperature: -34 (-44 with wind chill) °C

Comments:

Appendix: ☐Yes ☒No Pictures ☒Yes ☐No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting; and
- Visited the site:
  - **Channel Cleaning (Station 0+688 to 0+510)**: Channel cleaning starting from station 0+688 in progress. By end of the shift cleaning of the channel west slope and excavation bottom reached station 0+510. Example photo of the cleaning is shown in Photo 1, 2 and 3.

    Comments:
    -Channel east slope require cleaning;
    -There are a few spots that require excavation to reach excavation limit grade; and
    -There are boulders and loose materials observed on west slope and excavation bottom that require additional cleaning; and
    -Visual observation of the cleaned area indicated no ice rich material but the observation has to be checked again when cleaning is completed and during foundation approval; and
  - **West access road cleaning:** the west access road cleaning was on progress.
  - **No approval and/or sampling completed**.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Issued by : Daniel Meles (Signature) — 23-02-2020 (Date)

Verified by : (Signature) — (Date)

PHOTOS/FIGURES

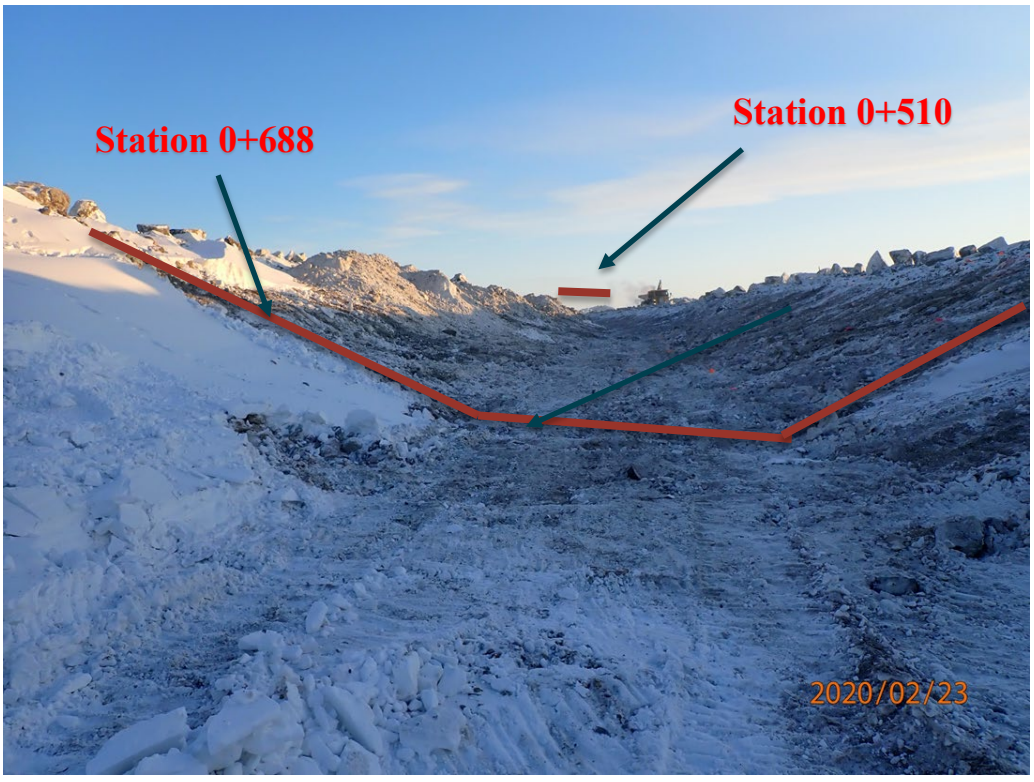


Photo 1: View of the site (photo taken looking South)



Photo 2: View of the site (photo taken looking South)

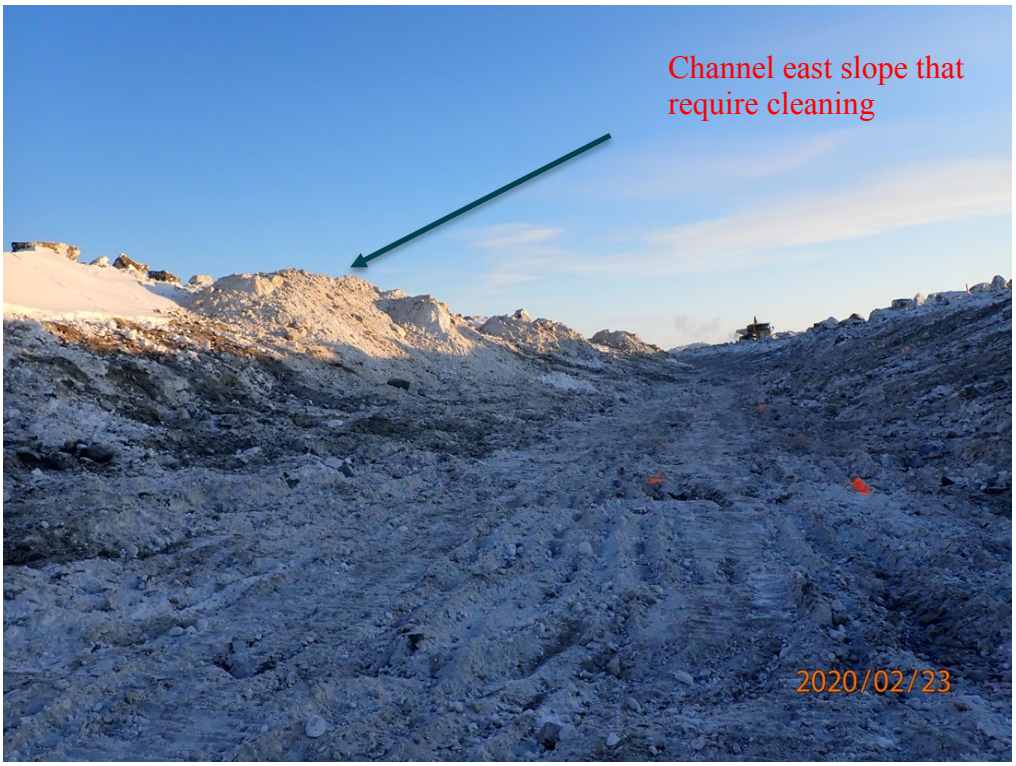


Photo 3: View of channel east slope (photo taken looking South)

SNC·LAVALIN

SITE REPORT
(Detailed)

20200224-DS-41
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-02-24	6 :30 AM – 6 :30 PM	667648	Hamza Abdel-Aziz

Project	Client
South Whale Tale Diversion Channel construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☒None ☐Light ☐Moderate ☐Strong, gusts

Temperature: -35 °C

Comments:

Appendix: ☐Yes ☒No Pictures ☐Yes ☒No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Flight from Mirabel (7:30 AM) to Meadowbank (12:00 PM) ;
- Bus from Meadowbank (01:00 PM) to Amaruq (02:45 PM) ;
- All activities stopped at 04:30 PM because of a mandatory meeting from the mine general manager ;

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Flat tire on our vehicule (012-0015)

Issued by : Hamza Abdel-Aziz — Signature — 24-02-2020 — Date

Verified by : Signature — Date

Photos

SNC·LAVALIN

SITE REPORT
(Detailed)

20200225-DS-SR42
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-02-25	6 :30 AM – 6 :30 PM	667648	Hamza Abdel-Aziz (HAA)

Project	Client
South Whale Tale Diversion Channel Construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☒None ☐Light ☐Moderate ☐Strong, gusts

Temperature: -30 °C

Comments:

Appendix: ☐Yes ☒No Pictures ☒Yes ☐No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting ;

- Visit to SWTC :
  - From 0+688 to 0+650 : **cleaning in progress**. Some area requires more removal of snow, ice and boulder (see photo 1) ;
  - From 0+079 to 0+054 (Inlet of the channel) : **blasting have been carried out and excavation in progress** (see photos 2 and 3). AEM is verifying if limit of vibration is respected.

- Sampling foundation soil in place AMQ-IP-009 at station 0+660.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Radio communication on site is not working well.

Issued by : Hamza Abdel-Aziz (Signature) 25-02-2020 (Date)

Verified by : (Signature) (Date)

PHOTOS/FIGURES

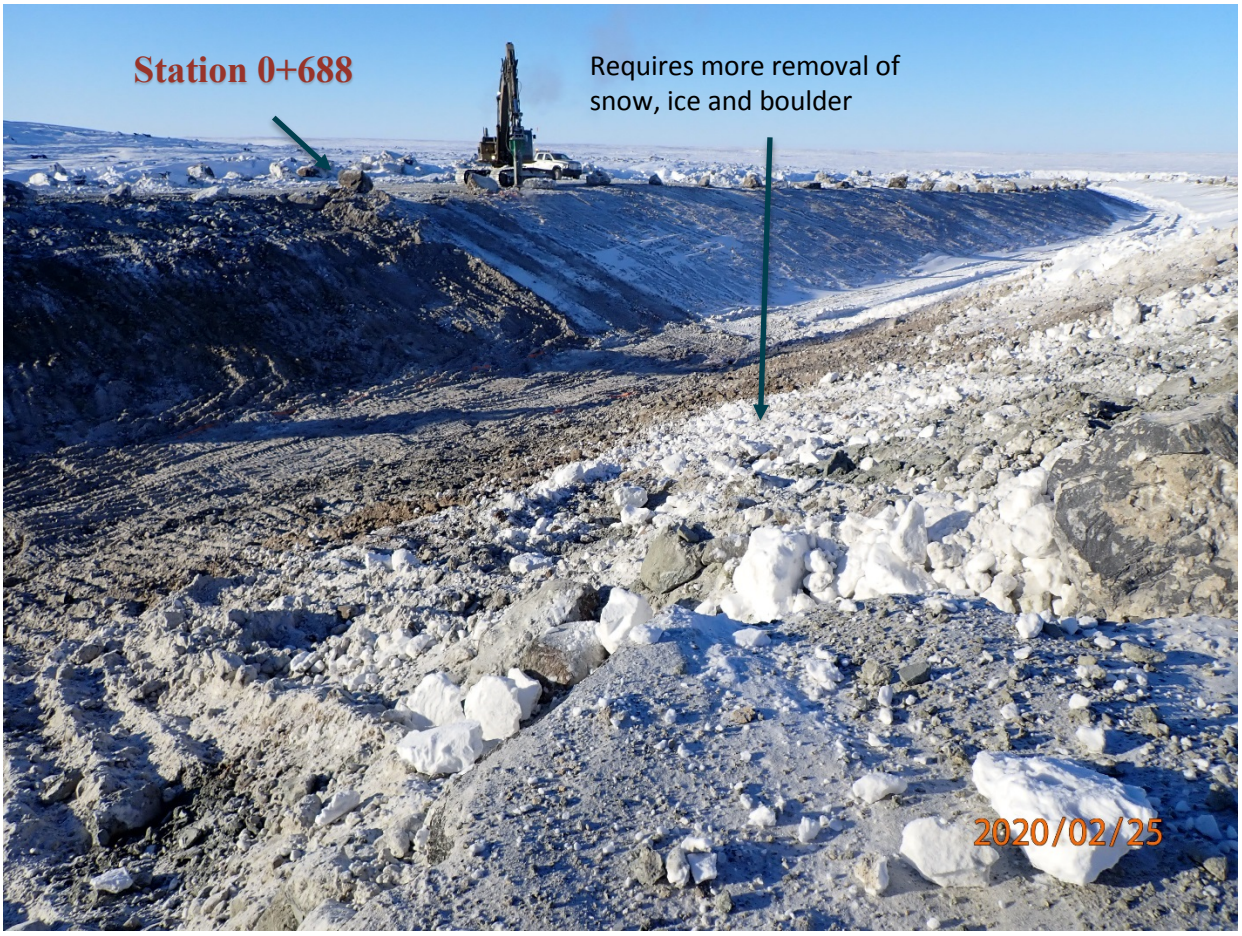


Photo 1: View of the site (photo taken looking North)



Photo 2: View of the site (photo taken looking north)



Photo 3: View of the site from 0+079 to 0+054 Inlet of the channel (photo taken looking south)

SNC·LAVALIN

SITE REPORT
(Detailed)

20200226-DS-SR43
Document number (YYYYMMDD-DS-SR)

2020-02-26	6 :30 AM – 6 :30 PM	667648	Hamza Abdel-Aziz (HAA)
Visit date	Time (Start/End)	Project No.	Prepared by

South Whale Tale Diversion Channel Construction	Agnico Eagle
Project	Client
SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☒None ☐Light ☐Moderate ☐Strong, gusts Temperature: -29 °C

Comments:

Appendix: ☒Yes ☐No Pictures ☒Yes ☐No Inspection report or other: Attached

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting ;

- **Gradation results** for AMQ-IP-009 at station 0+660 (see appendix A) ;

  The moisture content of the sample AMQ-IP-009 is 15,4 % less than the moisture (20%) defined in the design report.

- **Foundation approval** from station 0+688 to 0+640 : Free ice / snow / water ; cleaning of excavation bottom (see appendix B – 20200226-DS-05_Foundation Approval).

  - Finish grades may need a final leveling and cleaning prior to fine filter placement as the finish grade/foundation material will be exposed to freezing and snow weather conditions.
  - In this area, the foundation is a transition from poor bedrock and overburden (see photo 1). Since the bedrock is not continuous in the bottom of excavation, the fine filter, coarse filter and rip rap (100-300 mm) layers as defined in the construction plans in section A-A must be placed.

- **Esker placement** from station 0+688 to 0+640 on the west slope of the channel (see photo 2).

- **Blasted area** :
  - From 0+166 to 0+148 : blasting have been carried out. AEM is verifying if the limit of vibration is respected (see photo 3) ;
  - From 0+079 to 0+054 (Inlet of the channel) : Following verification by AEM, the vibration recorded by the blast monitor devices respect the limit of vibration.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments
Free ice / snow / water	Station 0+688 to 0+640	Require verification for snow cleaning before placement
Cleaning of excavation bottom	Station 0+688 to 0+640	
As buil survey	Station 0+688 to 0+640	Require backfill for overcut area and the compaction of the backfill material to be checked before filter placement.

SAFE AND SAFETY REMARKS

Visits sometimes reduced due to the sun and scratched the windshield.

Issued by :	Hamza Abdel-Aziz	26-02-2020
	Signature	Date
Verified by :		
	Signature	Date

PHOTOS/PICTURES



Photo 1: View of the site (photo taken looking East)

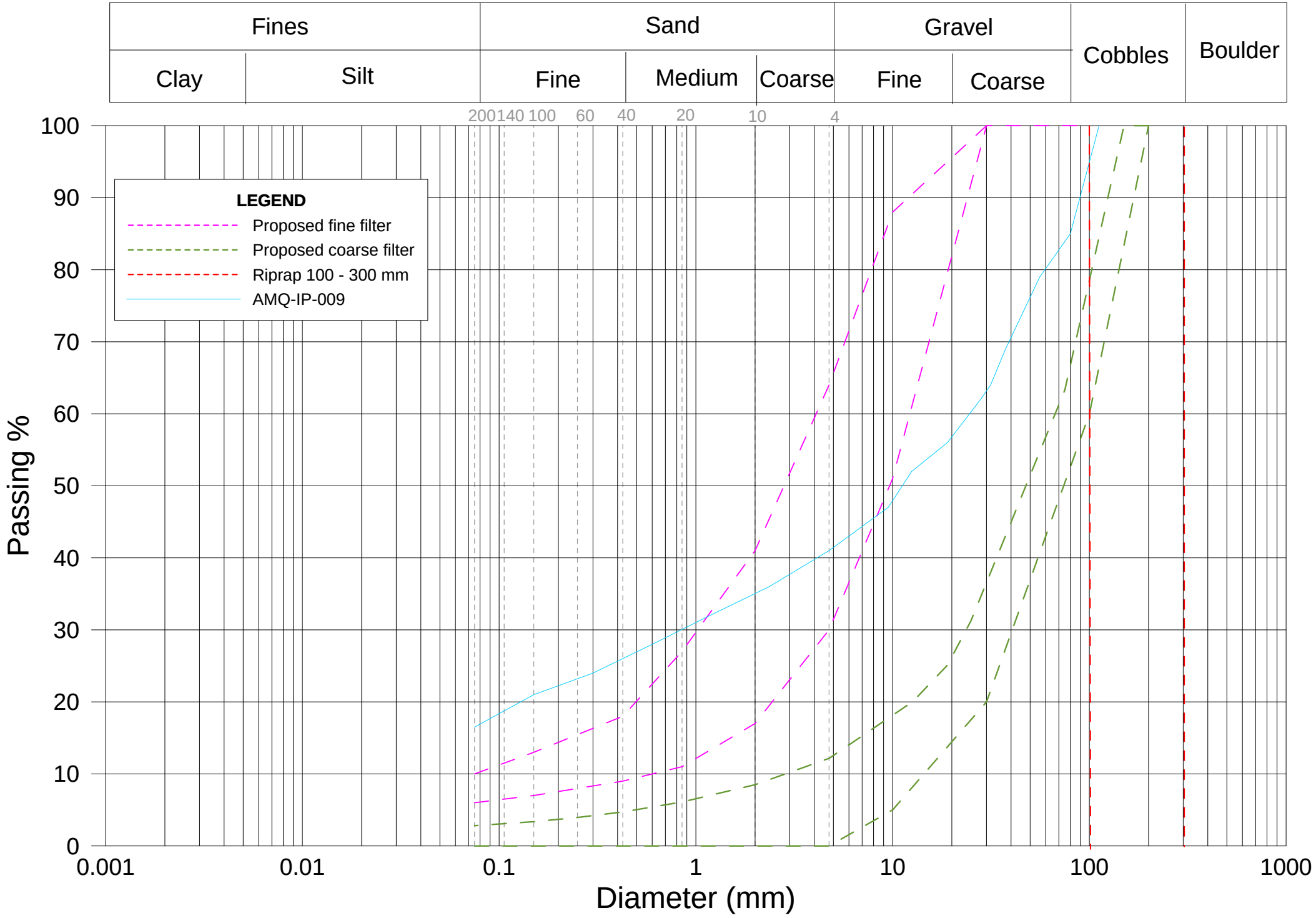


Photo 2: Esker placement (photo taken looking West)



Photo 3: the blast monitor device

APPENDIX A : THE GRADATION RESULTS FOR AMQ-IP-009


Fines
Clay
Silt
Sand
Fine
Medium
Coarse
Gravel
Fine
Coarse
Cobbles
Boulder
200 140 100 60 40 20 10 4
LEGEND
Proposed fine filter
Proposed coarse filter
Riprap 100 - 300 mm
AMQ-IP-009
Passing %
100
90
80
70
60
50
40
30
20
10
0
0.001
0.01
0.1
1
10
100
1000
Diameter (mm)

APPENDIX B : 20200226-DS-05_Foundation approval (from 0+688 to 0+640)

SNC·LAVALIN

Sustaining capital
Mining & Metallurgy
1140 Maisonneuve boul. West
Montreal (Québec)
Canada H3A 1M8

Telephone: (514) 393-8000
Fax: (514) 390-2765
www.snclavalin.com

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DATE: 2020-02-26

DOCUMENT #: 20200226-DS-05
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

TIME: 10:15 AM
(24 hour clock)

APPROVAL FOR :

- [x] Foundation approval (trench bottom and slopes)
- [ ] Fill placement approval: _____
- [ ] Other: _____

LOCATION	**PREVIOUS APPROVALS**
Station 0+688 to 0+640	**Station:** 0+317 to 0+688
Inclination:	**Details:**
ELEVATION: ☐ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

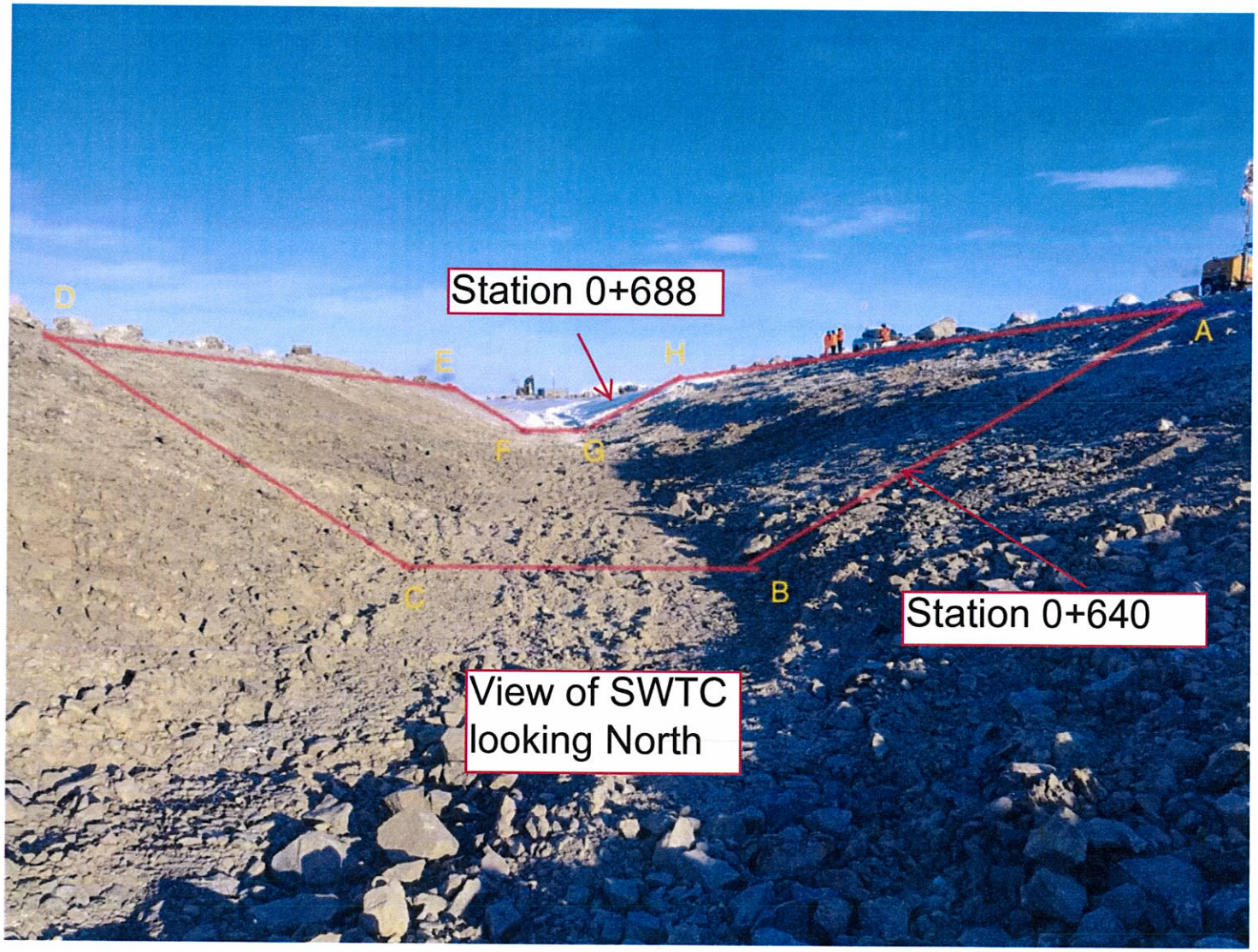
	VERIFICATIONS DONE BY:				
	QA		**QC**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					—
5. Placement (lift thickness, segregation, etc.)					—
6. Compaction					—
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
2	Require verification for snow removal before placement if any accumulation of snow, by snowfall or by wind				
7	~~Back~~ Require backfill for overcut area and the compaction of the backfill material to be checked before filter placement.				
ALL	Finish grades may need a final leveling and cleaning prior to fine filter placement as the finish grade/foundation material will be exposed to freezing and snow weather conditions				

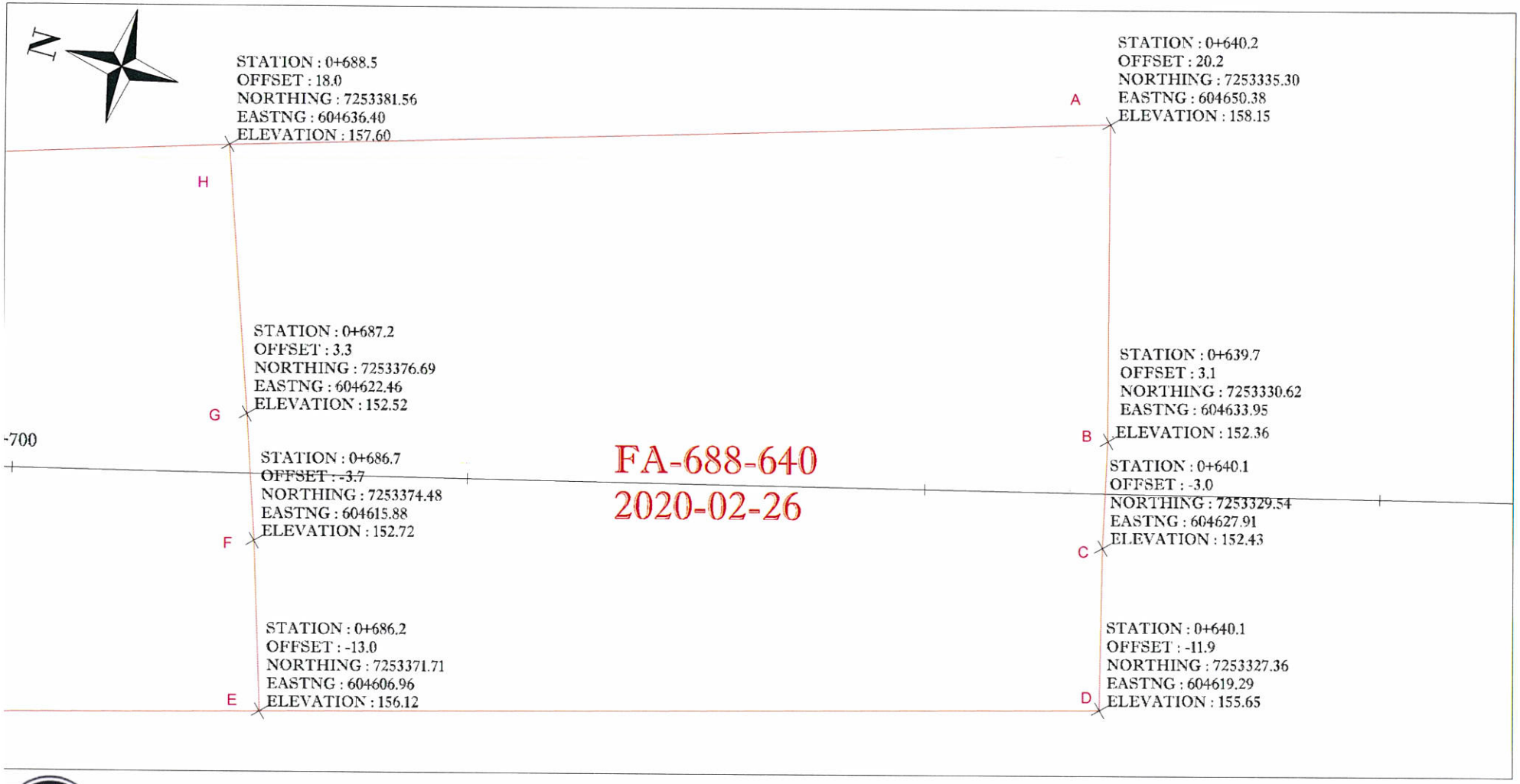
APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	STÉPHANIE DORVÉLUS		26/02/2020
QA REPRESENTATIVE	HAMZA ABDEL-AZIZ		2020/02/26
OWNER'S REPRESENTATIVE	Pier-Eric McDonald		2020/02/26
CONTRACTOR'S REPRESENTATIVE	Jonathan Truchon		2020/02/26



Note: refer the sketch below for the coordinates of A, B, C, D, E, F, G, H

Picture 1 – Approximate approved foundation area

FOUNDATION APPROVAL - 0+688 @ 0+640
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : FRANCIS PAULIN
DATE : 26-02-2020
CON-FD-241

SNC·LAVALIN

SITE REPORT
(Detailed)

20200227-DS-SR44
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-02-27	6 :30 AM – 6 :30 PM	667648	Hamza Abdel-Aziz (HAA)

Project	Client
South Whale Tale Diversion Channel Construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☒None ☐Light ☐Moderate ☐Strong, gusts

Temperature: -29 °C

Comments:

Appendix: ☐Yes ☒No Pictures ☒Yes ☐No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting ;

- **Sampling foundation soil in place** AMQ-IP-010 at station 0+600 ;

- **Foundation pre-approval** the East side of the slope from station 0+640 to 0+600. The west side of the slope requires cleaning and removal the big cobbles / Boulders.

- **Following esker placement** from station 0+688 to 0+640 :
  - Some area requires cleaning and removal the big cobbles / Boulders (see photo 1 and 2).

- **Blasted area** :
  - From 0+166 to 0+148 (Inlet of the channel) : Following verification by AEM, the vibration recorded by the blast monitor devices respect the limit of vibration.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments
Esker placement	Station 0+688 to 0+640	Requires cleaning and removal the big cobbles / Boulders
West side of the slope of SWTC	Station 0+640 to 0+600	Requires cleaning and removal the big cobbles / Boulders

SAFE AND SAFETY REMARKS

You need a handkerchief with you, because after the field visit with the extreme cold, you sometimes have to blow your nose.

Issued by :	Hamza Abdel-Aziz Signature	27-02-2020 Date
Verified by :	 Signature	 Date

PHOTOS/PICTURES

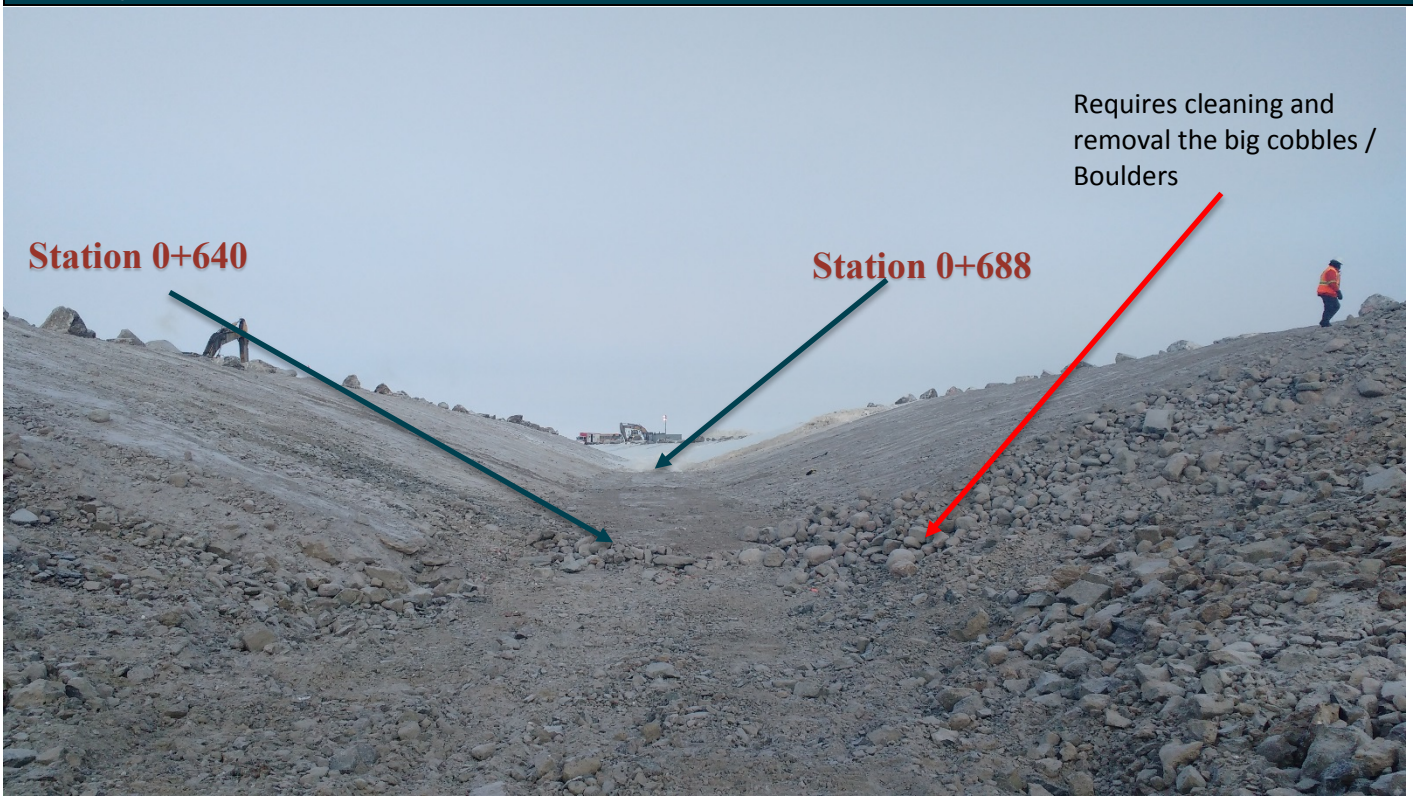


Photo 1: Esker placement from station 0+640 to 0+688 (photo taken looking North)

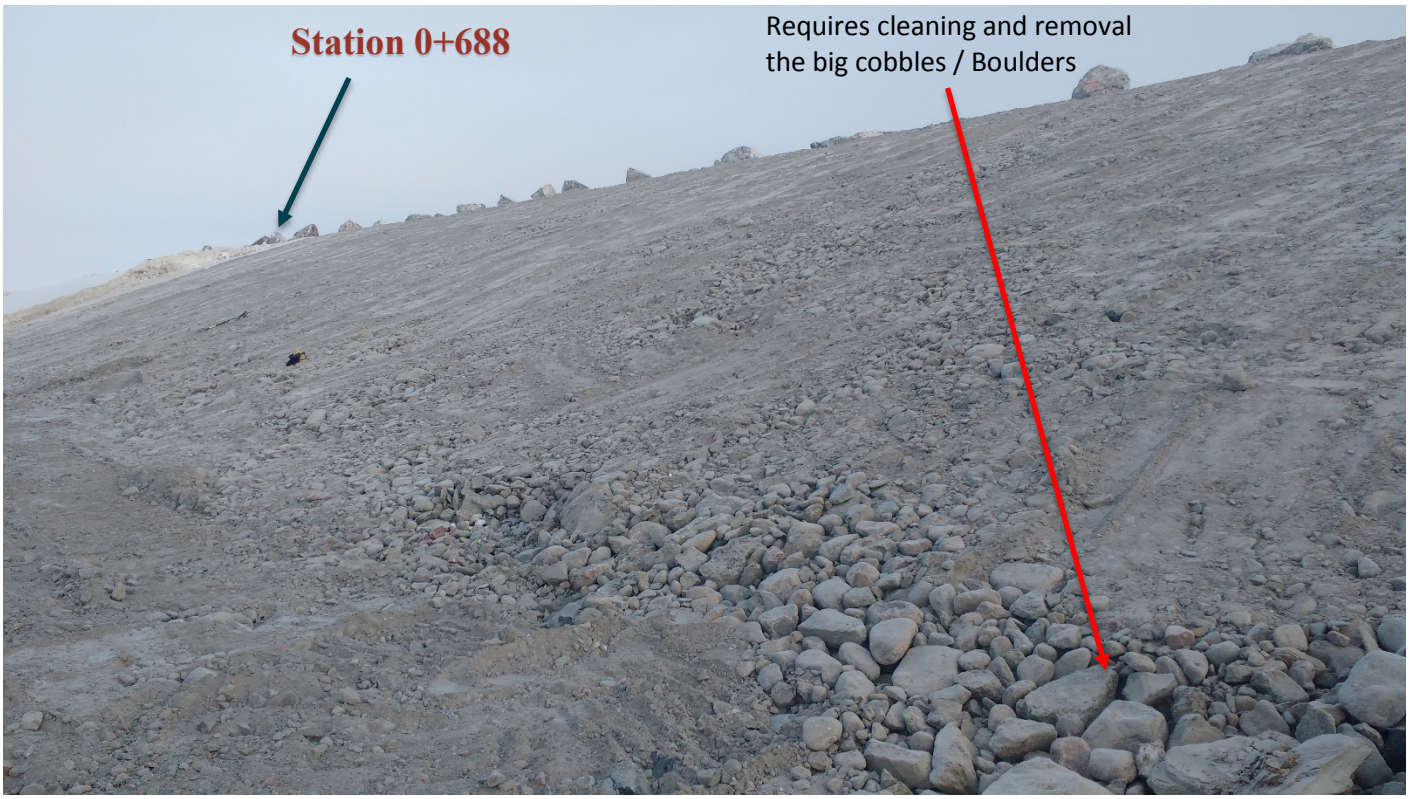


Photo 2: Esker placement from station 0+640 to 0+688 (photo taken looking East)

SNC·LAVALIN

SITE REPORT
(Detailed)

20200228-DS-SR45
Document number (YYYYMMDD-DS-SR)

2020-02-28	6 :30 AM – 6 :30 PM	667648	Hamza Abdel-Aziz (HAA)
Visit date	Time (Start/End)	Project No.	Prepared by

South Whale Tale Diversion Channel Construction	Agnico Eagle
Project	Client

SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☒None ☐Light ☐Moderate ☐Strong, gusts

Temperature: -30 °C

Comments:

Appendix: ☒Yes ☐No Pictures ☒Yes ☐No Inspection report or other: Attached

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting ;
  HAA attended the Whale Tail Daily Construction Meeting on February 28, 2020 During the daily construction meeting, there was a discussion on approval form. The approval method which is accepted by the team in the field (AEM, entrepreneur, QC and QA) is as follows:

  - 1st approval form – Foundation approval (trench bottom and slopes) : This approval is provided in the case we have an overcut to allow the contractor to use the backfill material (esker) to correct the trench bottom and slopes of the excavation. The esker placement will be the same day or evening.

  - 2nd approval form – Fill placement approval – Esker material (backfill material) and Foundation approve for filter placement : This approval will only be provided when the fine filter is ready to be installed and a final survey statement for this step is issued.

  - 3rd approval form – Fill placement approval – Fine filter
  - 4th approval form – Fill placement approval – Coarse filter
  - 5th approval form – Fill placement approval – Rip rap (100-300 mm)

  The approval forms will be provided only if the technical specifications and recommendations of the designer are met.

- **Gradation results** for AMQ-IP-010 at station 0+600 (see appendix A) ;
  The moisture content of the sample AMQ-IP-009 is 18,5 % less than the moisture (20%) defined in the design report.

- **Foundation approval** from station 0+640 to 0+600 : Free ice / snow / water ; cleaning of excavation bottom (see appendix B – 20200228-DS-06_Foundation Approval).

  Note:
  - Finish grades may need a final leveling and cleaning prior to fine filter placement as the finish grade/foundation material will be exposed to freezing and snow weather conditions.
  - In this area, the foundation is a transition from poor bedrock and overburden. Since the bedrock is not continuous in the bottom of excavation, the fine filter, coarse filter and rip rap (100-300 mm) layers as defined in the construction plans in section A-A must be placed.

- **Foundation approval** from station 0+600 to 0+565 : Free ice / snow / water ; cleaning of excavation bottom (see appendix C – 20200228-DS-07_Foundation Approval).

  Note:
  - Finish grades may need a final leveling and cleaning prior to fine filter placement as the finish grade/foundation material will be exposed to freezing and snow weather conditions.

- **Following esker placement** from station 0+688 to 0+640 :
  Corrections have not yet been made but as to be done before filter placement.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments
Free ice / snow / water	Station 0+640 to 0+565	Require verification for snow cleaning before filter placement
Cleaning of excavation bottom	Station 0+640 to 0+565	
As buil survey	Station 0+640 to 0+565	Require backfill for overcut area and the compaction of the backfill material to be checked before filter placement.

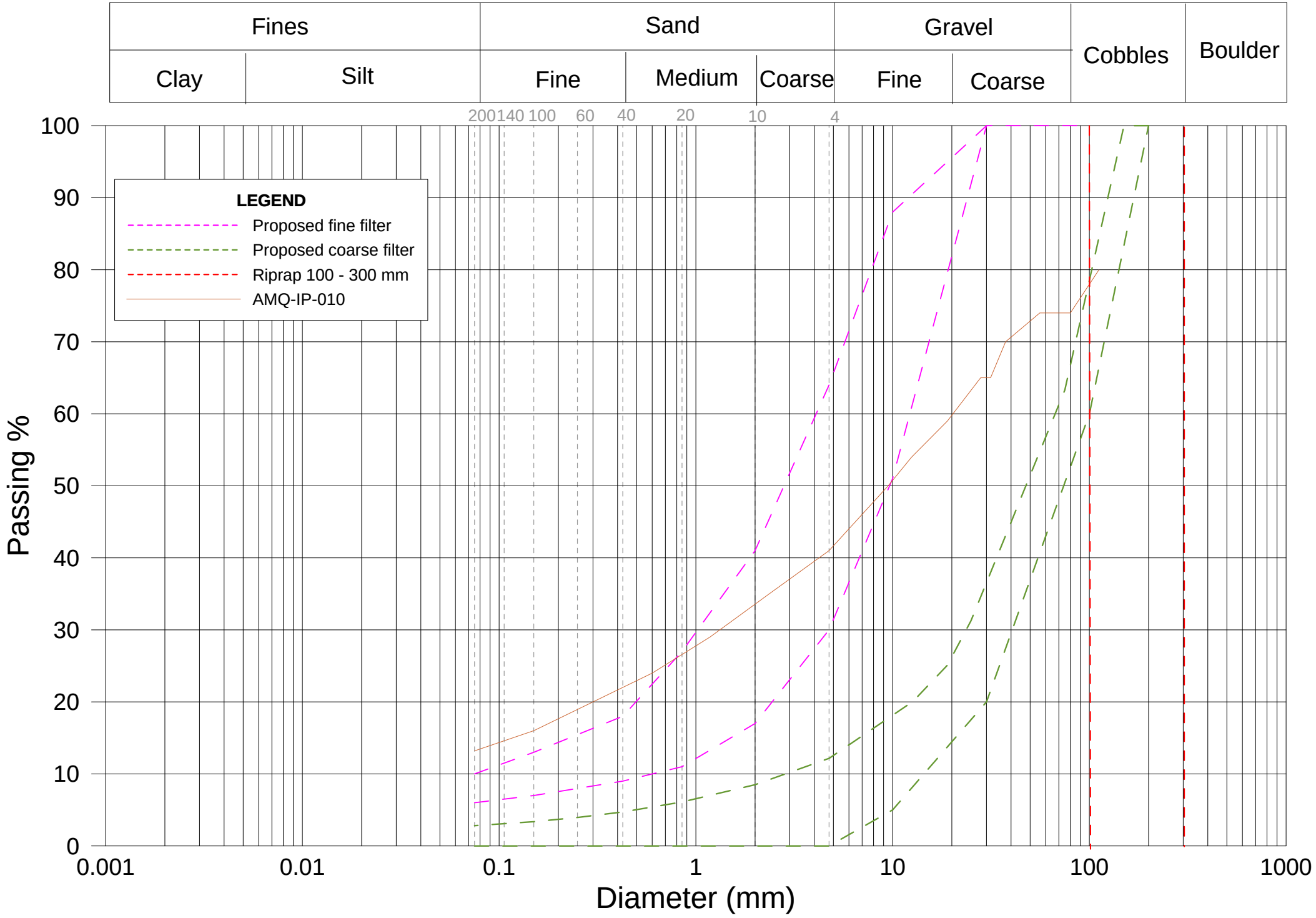
SAFE AND SAFETY REMARKS

Be careful when walking on the construction site. You have to use crampons.

Issued by : Hamza Abdel-Aziz (Signature) — 28-02-2020 (Date)

Verified by : (Signature) — (Date)

PHOTOS/PICTURES


Fines
Clay
Silt
Sand
Fine
Medium
Coarse
Gravel
Fine
Coarse
Cobbles
Boulder
200 140 100 60 40 20 10 4
LEGEND
Proposed fine filter
Proposed coarse filter
Riprap 100 - 300 mm
AMQ-IP-010
Passing %
100
90
80
70
60
50
40
30
20
10
0
0.001
0.01
0.1
1
10
100
1000
Diameter (mm)

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11202247-B1

Sample N°: AMQ-IP-010

Projet: Derivation channel

Sampling Date: 2020-02-27

Sampled by: Stéphane Dorvélus

Description of Material: Soil in place

Origin: In place

Location of Sampling: ST. 0+600

Proposed Use: Foundation

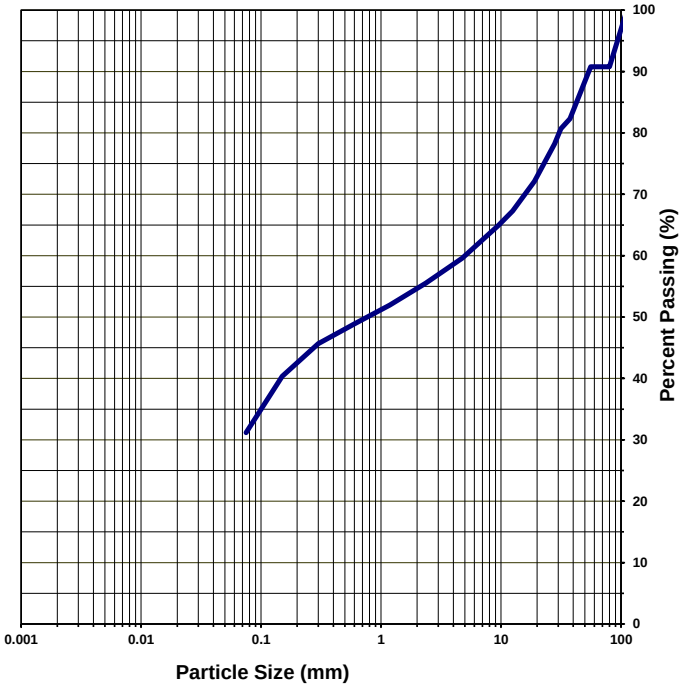
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	91	91	82	81	78	72	67	65	60	56	52	49	46	40	31.2
Require-ments	min.																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	18.50%		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m³)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
31	29	40

Remarks

Prepared by: Yaotree Amegnran Date : 2020-02-28 Verified by: Date:

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

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Fax: (514) 390-2765
www.snclavalin.com

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DOCUMENT #: 20200928-DS-06
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 2020-09-28

TIME: 05:00 PM
(24 hour clock)

APPROVAL FOR :

- ☑ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☐ Other: _____

LOCATION

Station 0+640 to 0+600

Inclination:

ELEVATION: ☐ varies _____ m

PREVIOUS APPROVALS

Station: 0+917 to 0+640

Details:

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					—
5. Placement (lift thickness, segregation, etc.)					—
6. Compaction					—
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

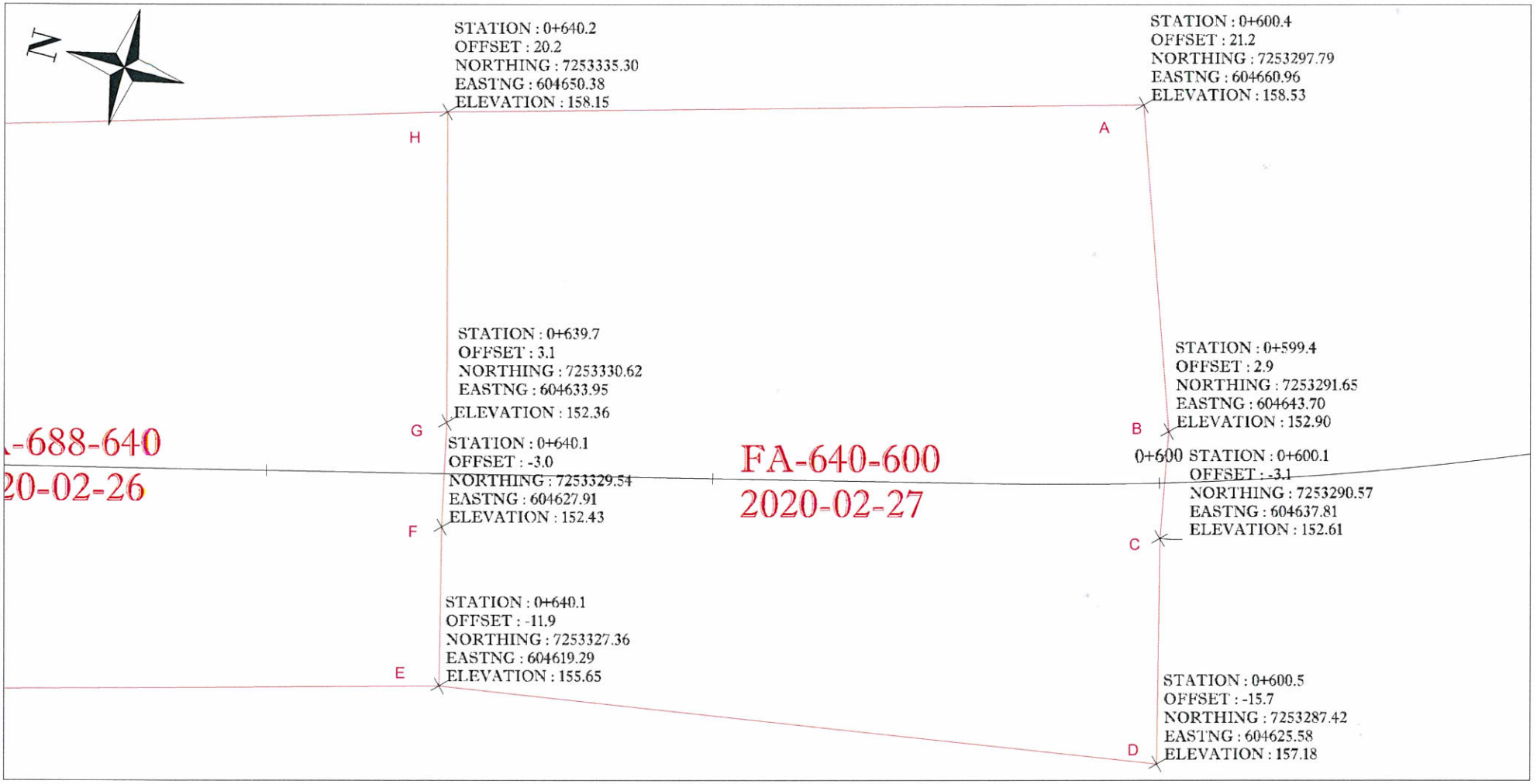
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
2	Require verification for snow removal before placement if any accumulation of snow, by snow fall or by wind				
7	Require backfill for overcut area and the composition of the backfill material to be checked before filter placement				
ALL	Finish grades may need a final leveling and cleaning prior to geo filter placement as the finish grade/foundation material will be exposed to freezing and snow weather conditions.				

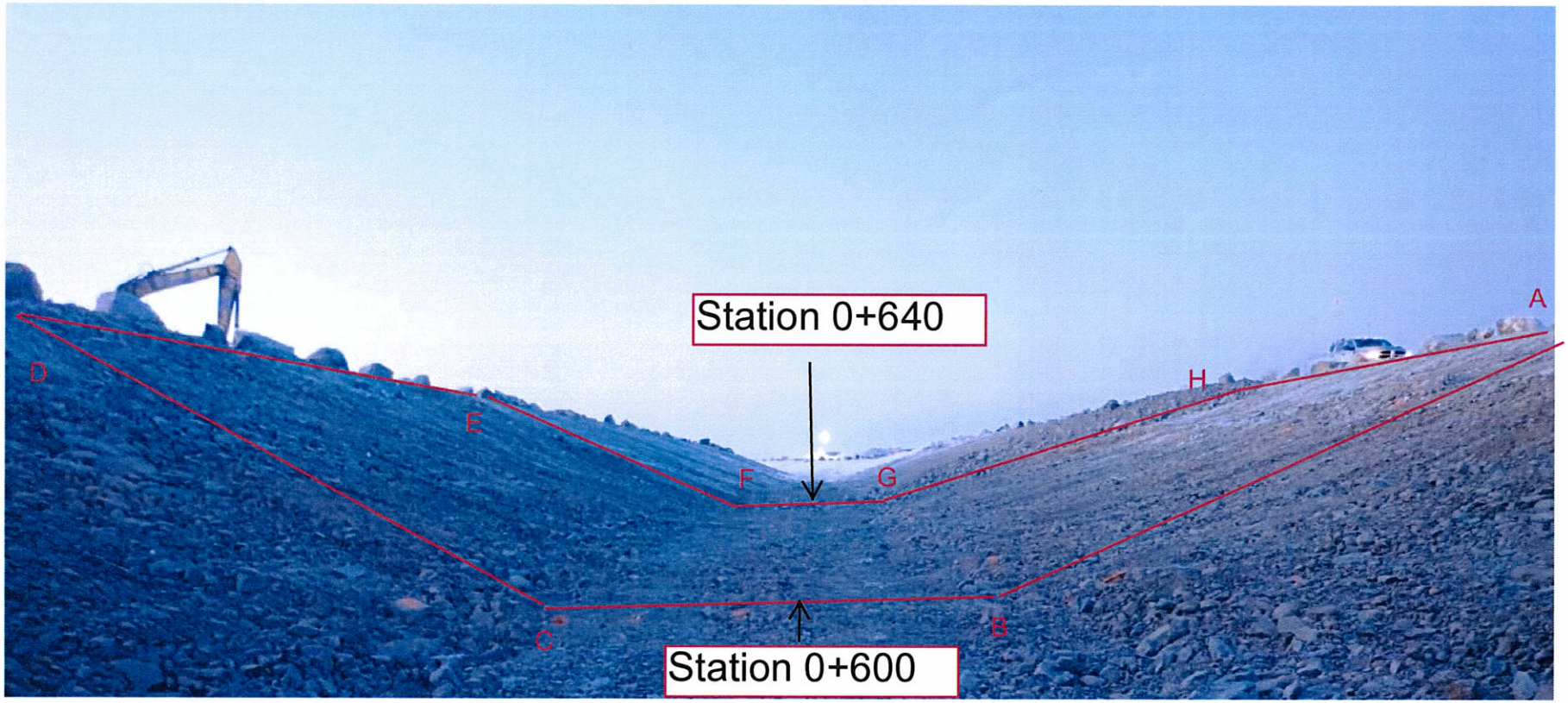
APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	STEPHANE DORVÉLUS		28/02/2020
QA REPRESENTATIVE			
OWNER'S REPRESENTATIVE	Yannick Simard		28-02-2020.
CONTRACTOR'S REPRESENTATIVE	Nicolas Tremblay		28-02-2020
AEM ENG	Pier-Eric McDonald		29-02-2020

FOUNDATION APPROVAL - 0+640 @ 0+600
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : FRANCIS PAULIN
DATE : 28-02-2020
CON-FD-244



Note: refer the sketch below for the coordinates of A, B, C, D, E, F, G, H

Picture 1 – Approximate approved foundation area

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www.snclavalin.com

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DOCUMENT #: 20200928-DS-07
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 2020-09-28

TIME: 05:00 PM
(24 hour clock)

APPROVAL FOR :

- ☑ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☐ Other: _____

LOCATION

Station 0+600 to 0+565

Inclination:

ELEVATION: ☐ varies _____ m

PREVIOUS APPROVALS

Station: 0+917 to 0+600

Details: as

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					—
5. Placement (lift thickness, segregation, etc.)					—
6. Compaction					—
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

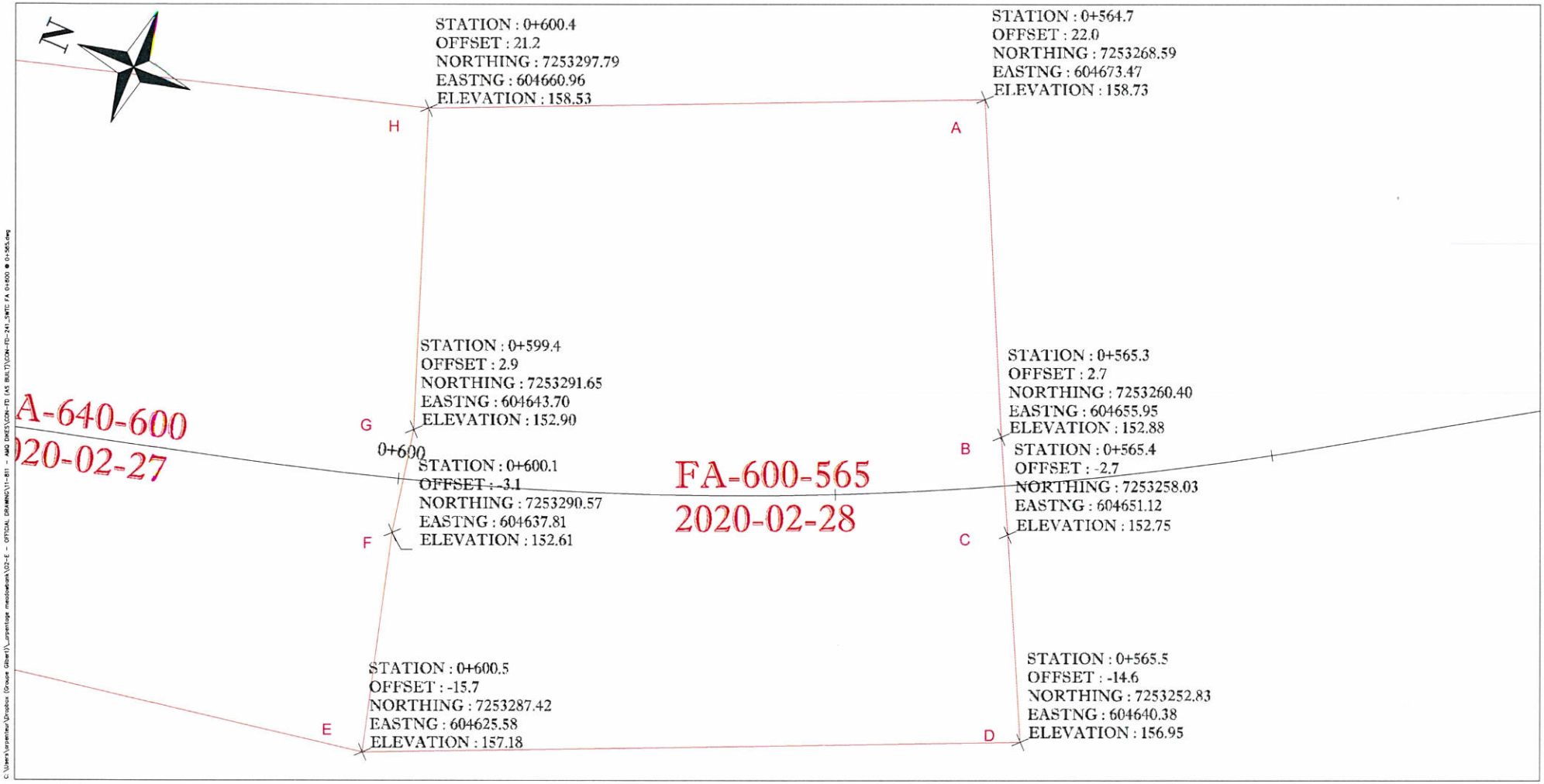
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
2	Require Verification for snow removal before statement if any accumulation of snow, by snow fall or by Wind				
7	Require backfill for overcut area and the composition of the backfill material to be cheked before filter placement				
ALL	Finish grades may need a final leveling and cleaning prior to fine filter placement as the finish grade / foundation material will be exposed to freezing and snow weather conditions				

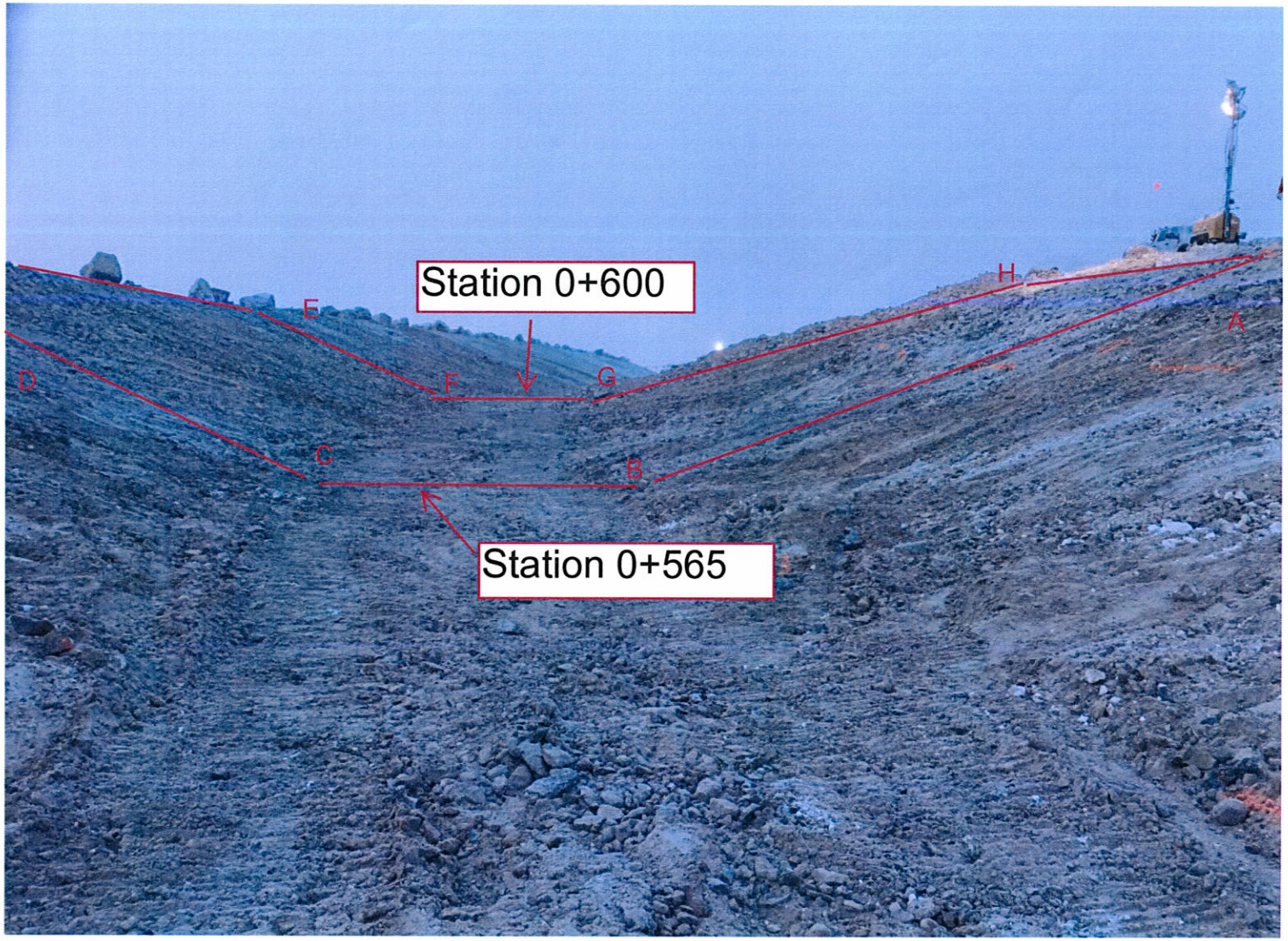
APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	STEPHANIE DORVÉLUS		28/02/2020
QA REPRESENTATIVE			
OWNER'S REPRESENTATIVE	Yannick Simard		28-02-2020.
CONTRACTOR'S REPRESENTATIVE	Nicolas Tremblay		28-02-2020
AEM ENG	Dien-Eric McDonald		29-02-2020

FOUNDATION APPROVAL - 0+600 @ 0+565
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : FRANCIS PAULIN
DATE : 28-02-2020
CON-FD-246



Note: refer the sketch below for the coordinates of A, B, C, D, E, F, G, H

Picture 1 – Approximate approved foundation area

SNC·LAVALIN

SITE REPORT
(Detailed)

20200229-DS-SR46
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-02-29	6 :30 AM – 6 :30 PM	667648	Hamza Abdel-Aziz (HAA)

Project	Client
South Whale Tale Diversion Channel Construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☒Snow ☐Glaze

Wind: ☒None ☐Light ☐Moderate ☐Strong, gusts

Temperature: -25 °C

Comments: **Light snow**

Appendix: ☒Yes ☐No Pictures ☒Yes ☐No Inspection report or other: Attached

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting ;

- **Visit to the SWTC from 0+545 to 0+500 (lake A45)** :
  - Ice lenses were observed at the top Western slope between stations 0+520 and 0+500 (see photos 1 , 2 and 3). These ice lenses must be removed before the foundation approval.
  - Other searches will be done tomorrow on the east side and bottom of slopes between stations 0+545 and 0+500.
  - AEM requests to inform the designer for the transition zone which contains ice at the top of the slope between the lake A45 and the channel in order to propose solutions.

- **Sampling esker material :**
  - AMQ-ES-012 on western slope at station 0+670 ;
  - AMQ-ES-013 on eastern slope at station 0+620.

- **Foundation approval** from station 0+565 to 0+545 : Free ice / snow / water ; cleaning of excavation bottom (see appendix A – 20200229-DS-08_Foundation Approval).
  - Finish grades may need a final leveling and cleaning prior to fine filter placement as the finish grade/foundation material will be exposed to freezing and snow weather conditions.

- **Following esker placement** :
  - From station 0+600 to 0+640 : some areas needs to be reworked, since the Esker placed was not well graded (see photo 4).
  - From station 0+640 to 0+688 : The corrections already mentioned have not yet been made.
  - AEM would like to have the designer's input before making these corrections.

- **Blasted area** :
  - From 0+148 to 0+115 : blasting have been carried out. AEM is verifying if the limit of vibration is respected.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments
Free ice / snow / water	Station 0+565 to 0+545	Require verification for snow cleaning before placement
Cleaning of excavation bottom	Station 0+565 to 0+545	
As buil survey	Station 0+565 to 0+545	Require backfill for overcut area and the compaction of the backfill material to be checked before filter placement.
Esker placement	Station 0+688 to 0+600	Requires cleaning and removal the big cobbles / Boulders

SAFE AND SAFETY REMARKS

Issued by :	Hamza Abdel-Aziz	29-02-2020
	Signature	Date
Verified by :		
	Signature	Date

PHOTOS/PICTURES



Photo 1: Ice lenses at top western slope at station 0+500 (photo taken looking West)



Photo 2: Ice lenses at top western slope at station 0+520 (photo taken looking West)



Photo 3: Ice lenses at top western slope at station 0+520 (photo taken looking West)

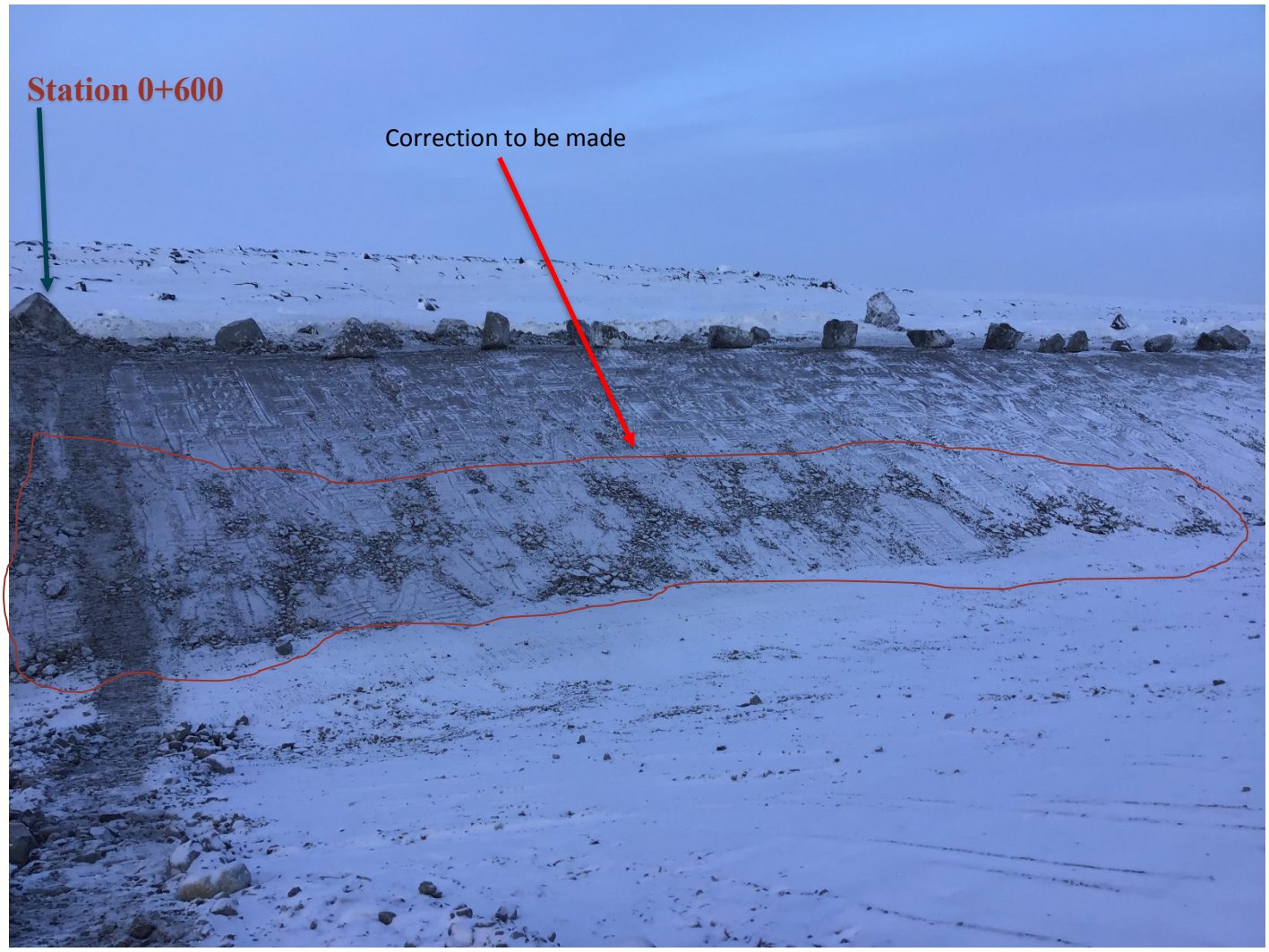


Photo 4: Esker placement at station 0+640 to 0+600 (photo taken looking West)

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Canada H3A 1M8

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Fax: (514) 390-2765
www.snclavalin.com

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DOCUMENT #: 20200229-DS-08
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 2020-02-29

TIME: _____
(24 hour clock)

APPROVAL FOR :

☑ Foundation approval (trench bottom and slopes)

☐ Fill placement approval: _____

☐ Other: _____

LOCATION

Station 0+565 to 0+545

Inclination: _____

ELEVATION: ☐ varies _____ m

PREVIOUS APPROVALS

Station: 0+917 to 0+565

Details: _____

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:
(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					—
5. Placement (lift thickness, segregation, etc.)					—
6. Compaction					—
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
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14.					
15.					
16.					
17.					

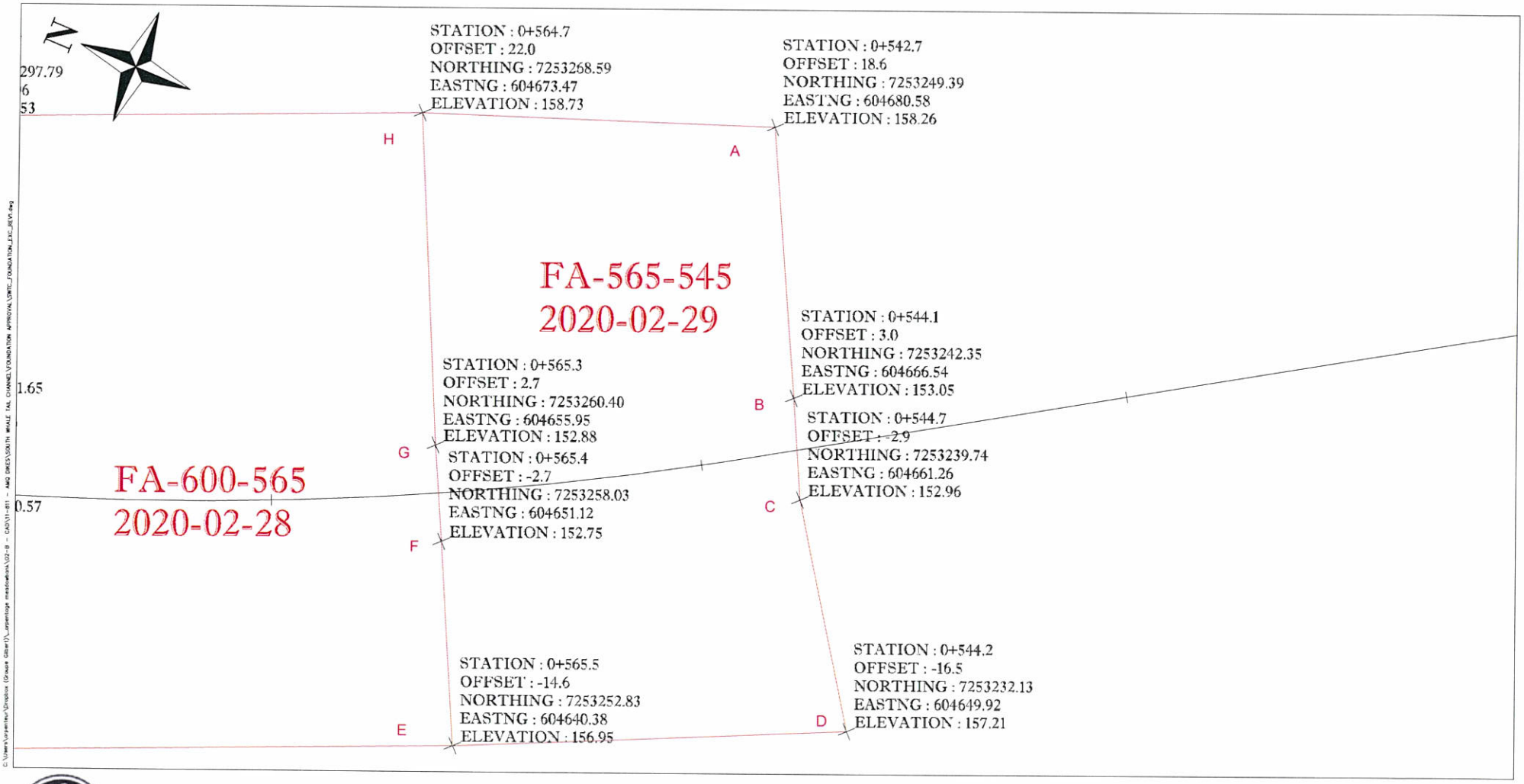
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
2	Require verification for snow removal before placement if any accumulation of snow by snow fall or by wind.				
7	Require backfill for overcut area and the composition of the backfill material to be checked before filter placement				
All	Finish grades may need a final leveling and cleaning prior to fine filter placement as the finish grade foundation material will be exposed to freezing and snow weather conditions.				

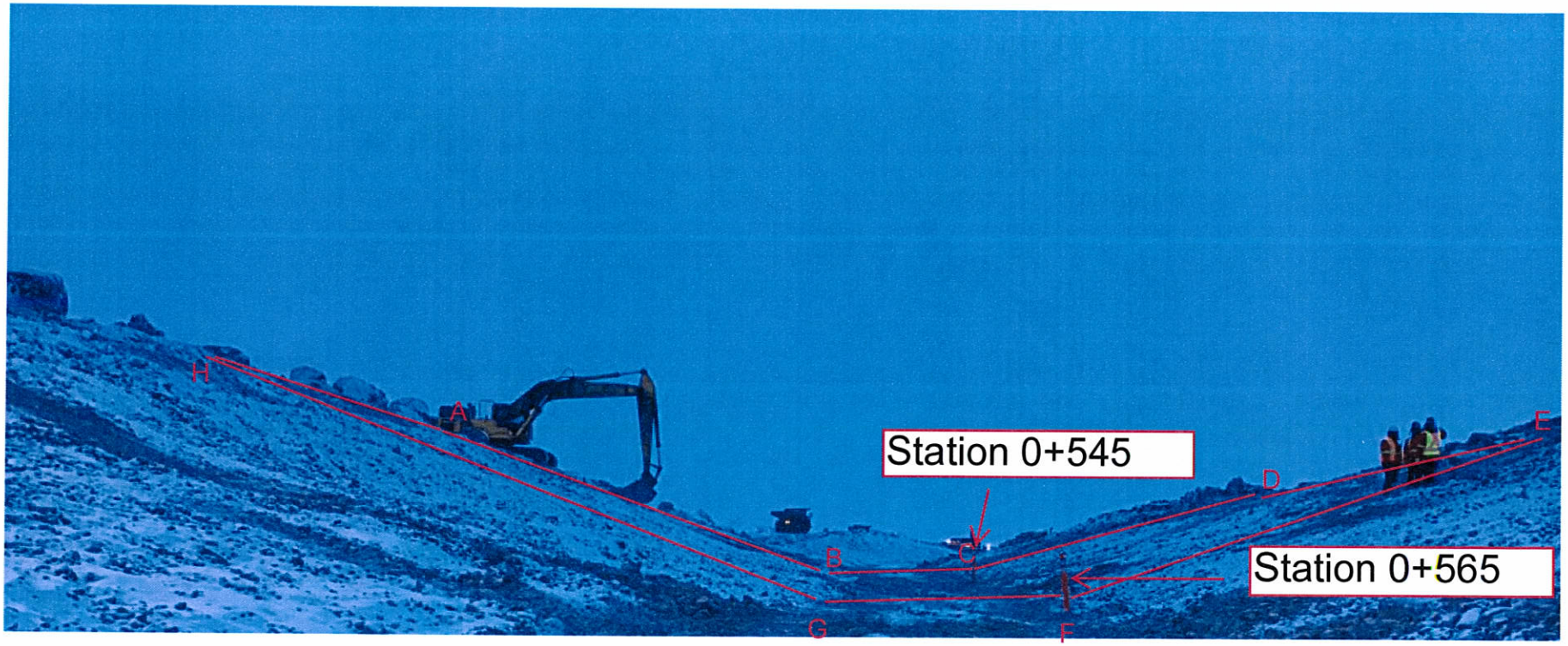
APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	STEPHANE DORVÉLUS		2020-02-29
QA REPRESENTATIVE	HAMZA ABDEL-AZIZ		2020-02-29
OWNER'S REPRESENTATIVE	YANICK SIMARD		2020-02-29
CONTRACTOR'S REPRESENTATIVE	[redacted] Nicolas Tremblay		2020-02-29
	Pier-Eric McDonald		2020-02-29

FOUNDATION APPROVAL - 0+565 @ 0+545
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : FRANCIS PAULIN
DATE : 01-03-2020
CON-FD-249



Note: refer the sketch below for the coordinates of A, B, C, D, E, F, G, H

Picture 1 – Approximate approved foundation area

SNC·LAVALIN

SITE REPORT
(Detailed)

20200301-DS-SR47
Document number (YYYYMMDD-DS-SR)

2020-03-01	6 :30 AM	6 :30 PM	667648	Hamza Abdel-Aziz (HAA)
Visit date	Time (Start/End)		Project No.	Prepared by

South Whale Tale Diversion Channel Construction	Agnico Eagle
Project	Client
SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☒Snow ☐Glaze

Wind: ☒None ☐Light ☐Moderate ☐Strong, gusts

Temperature: -32 °C

Comments: **Light snow in the morning**

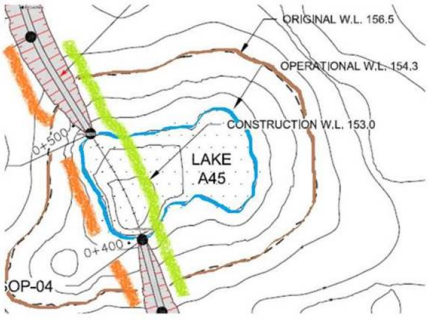
Appendix: ☐Yes ☒No Pictures ☒Yes ☐No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting ;

- **Ice lenses**
  Following the ice lenses observed yesterday in the west slope at station 0 + 520 as indicated in the daily report 20200229-DS-SR46, another investigation was made today from station 0 + 545 to 0 + 500 :
  - We also observed the ice lenses on top eastern slope at station 0 + 520 (see photo 1). Theses ice lenses observed in this area can probably be explained because the lake A45 was originally at El. 156.5 m (see figure below).



  - An investigation was also made at the bottom of the slope, no lenses were observed. We also took a samples with the excavator bucket (see photos 2 and 4) at the top and bottom of the slope to see if the soil is frozen and contains a moister content higher than 20%.
  - AEM requests to inform the designer for the transition zone which contains ice at the top of the slope between the lake A45 and the channel in order to propose solutions.

- **Sampling foundation soil in place**
  - AMQ-IP-011 on top eastern slope at station 0+530 (see photo 2 and 3) ;
  - AMQ-IP-012 on bottom eastern slope at station 0+530 (see photo 2);
  - AMQ-IP-013 on bottom western slope at station 0+520 (see photo 4) .

- **Sampling Esker material**
  - AMQ-ES-014 on bottom eastern slope at station 0+580 ;

- **Following esker placement**
  - From station 0+565 to 0+600 : Some areas requires cleaning and removal the big cobbles / boulders, since the Esker placed was not well graded (see photo 5) ;
  - From station 0+600 to 0+640 : The corrections already mentioned have not yet been made.
  - From station 0+640 to 0+688 : The corrections already mentioned have not yet been made.

- **Blasted area** :
  - From 0+115 to 0+079 : Blasting have been carried out. AEM is verifying if the limit of vibration is respected.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments
Esker placement	Station 0+688 to 0+565	Requires cleaning and removal the big cobbles / Boulders
Ice lenses	Station 0+545 to the lake A 45	Ice lenses were observed and must be removed before the foundation approval.

SAFE AND SAFETY REMARKS

Cover your face well against the cold and wind

Issued by : Hamza Abdel-Aziz (Signature) — 01-03-2020 (Date)

Verified by : (Signature) — (Date)

PHOTOS/PICTURES



Photo 1: Ice lenses on bottom eastern slope at station 0+520 (photo taken looking East)



Photo 2: Sampling foundation soil on top and bottom eastern slope at station 0+530 (photo taken looking East)

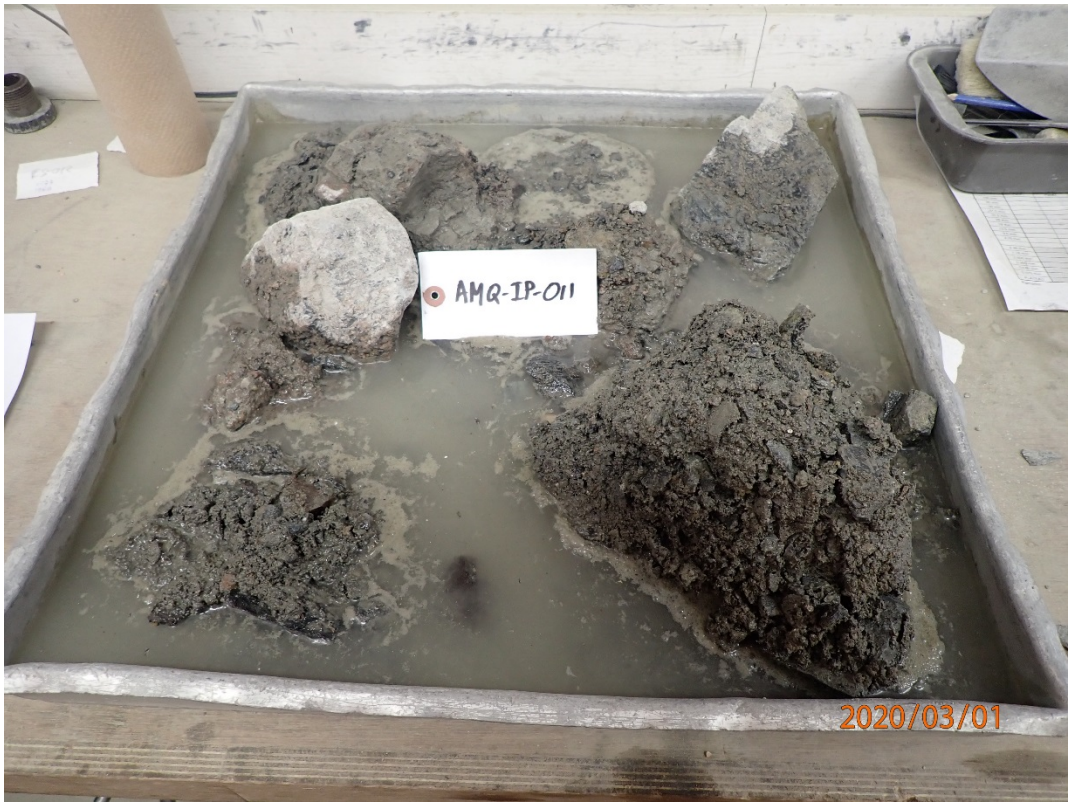


Photo 3: Sample foundation soil on top eastern slope at station 0+530



Photo 4: Sampling foundation soil on bottom western slope at station 0+520 (photo taken looking West)



Photo 5: Esker placement from station 0+600 to 0+560

SNC·LAVALIN

SITE REPORT
(Detailed)

20200302-DS-SR48
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-03-02	6 :30 AM – 6 :30 PM	667648	Hamza Abdel-Aziz (HAA)

Project	Client
South Whale Tale Diversion Channel Construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☐Sunny ☒Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☐Moderate ☐Strong, gusts

Temperature: -38 °C

Comments:

Appendix: ☒Yes ☐No Pictures ☐Yes ☒No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting ;

- **Esker placement – Gradation results :**
  - AMQ-ES-012 on western slope at station 0+670 ;
  - AMQ-ES-013 on eastern slope at station 0+620.

Sample ID	Fines-Sand-Gravel	Moisture Content	Station	Location of sampling	Date of sampling	Sample by	Date of testing	Test by	Placement area	Uc	Cc	Comment
AMQ-ES-012	7 - 27 - 66	7.8%	0+670	Slope east of channel	29/02/2020	SD	02/03/2020	YA	[0+688 - 0+640]	165	1.4	Well Graded
AMQ-ES-013	4 - 26 - 70	4.8%	0+620	Slope west of channel	29/02/2020	SD	02/03/2020	YA	[0+640 - 0+600]	129	0.9	Poorly Graded

The gradation result along with moisture content is summarized in Table above. The plot of the gradation test result is shown in **appendix A**. The gradation result indicated the esker material has fine content less than the soil used to design the filter. The gradation result for AMQ-ES-012 indicates the material was well graded (Coefficient of curvature (Cc) = 1.4) , or for AMQ-ES-013 indicates the material was poorly graded (Coefficient of curvature (Cc) = 0.9). However, considering the material was used for leveling over-excavated area, it was accepted. In addition to that, some parts need to be corrected as mentioned in the previous report. it will also help to have a well graded.
Following AEM's request, SNC confirms that its areas of segregation observed following the esker placed must be corrected before the installation of the filters.

- **Visit to the SWTC** :
  - From 0+054 (inlet of the channel) to 0+340 : Excavating, hammering and cleaning in progress. Some parts of this area is very rocky.
  - Form 0+340 to lake A45 : we have observed some ice lenses ;

- **Lake A45 with the transition zone which contains ice from 0+545 to 0+340** : the designer is presently looking for solutions.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments
Esker placement	Station 0+688 to 565	Requires cleaning and removal the big cobbles / Boulders
Ice lenses	Station 0+545 to 0+340	The designer's looking at solutions.

SAFE AND SAFETY REMARKS

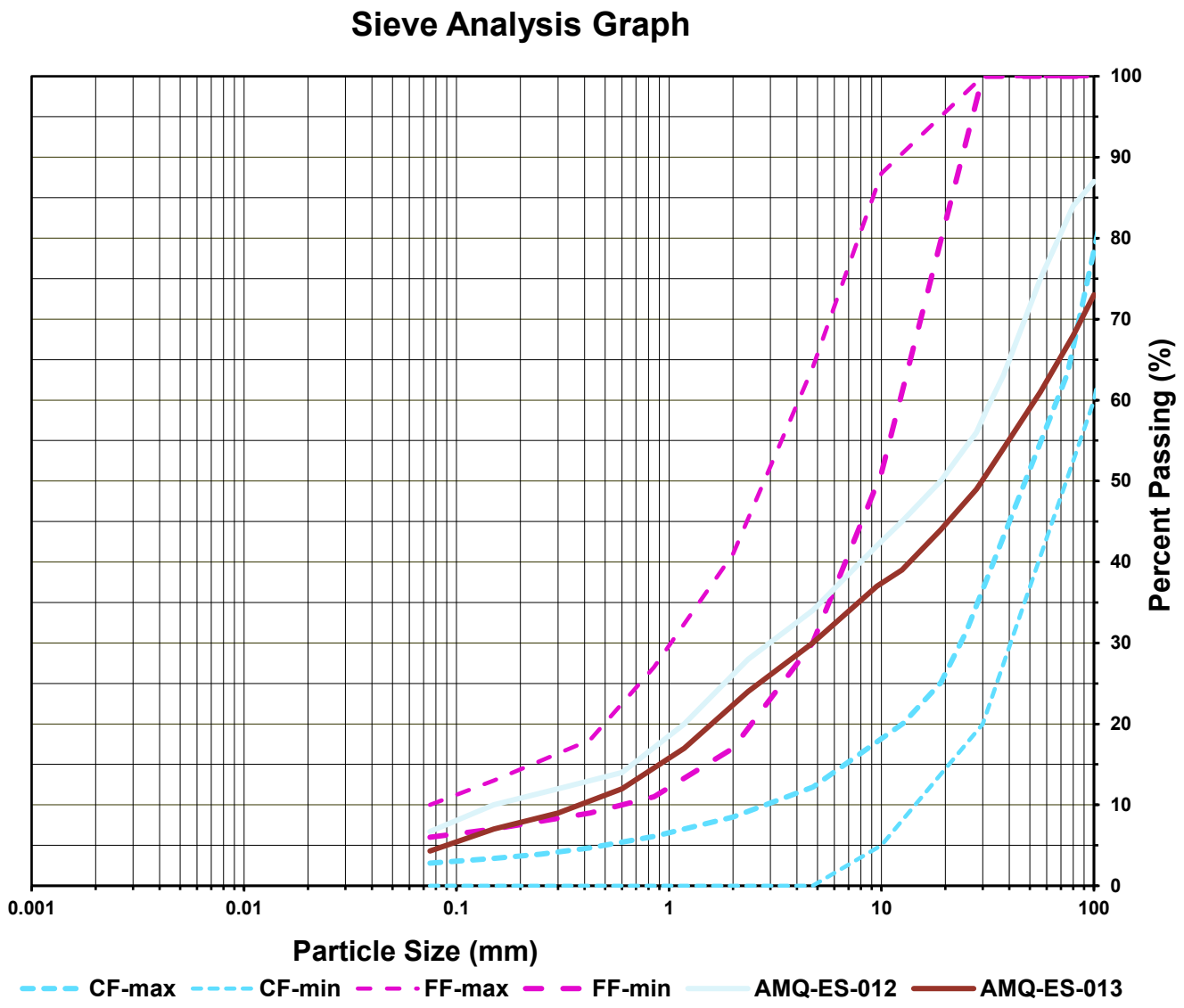
Be very careful when walking on the slope of the SWTC

Issued by : Hamza Abdel-Aziz (Signature) 02-03-2020 (Date)

Verified by : (Signature) (Date)

PHOTOS/PICTURES

APPENDIX A : THE GRADATION RESULTS FOR AMQ-ES-12 AND AMQ-ES-13



SNC·LAVALIN

SITE REPORT
(Detailed)

20200303-DS-SR49
Document number (YYYYMMDD-DS-SR)

2020-03-03	6 :30 AM – 6 :30 PM	667648	Hamza Abdel-Aziz (HAA)
Visit date	Time (Start/End)	Project No.	Prepared by

South Whale Tale Diversion Channel Construction	Agnico Eagle
Project	Client
SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☐Moderate ☐Strong, gusts

Temperature: -33 °C

Comments:

Appendix: ☒Yes ☐No Pictures ☐Yes ☒No Inspection report or other:

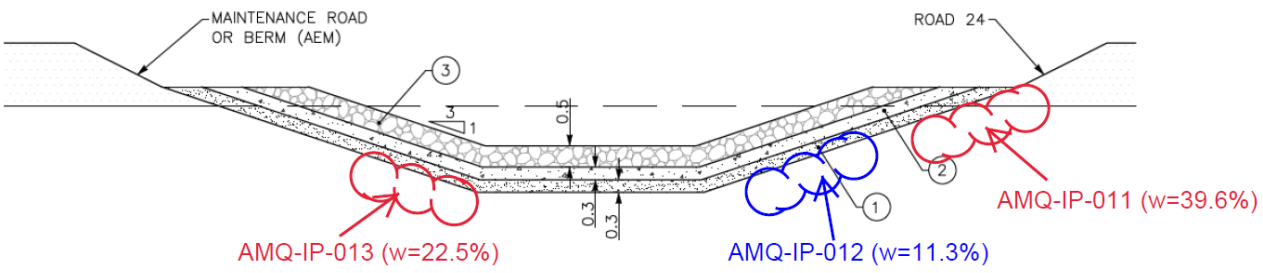
Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting ;

- **Gradation results** :
  - AMQ-IP-011 on top eastern slope at station 0+530 ;
  - AMQ-IP-012 on bottom eastern slope at station 0+530 ;
  - AMQ-IP-013 on bottom western slope at station 0+520.

Sample ID	Fines-Sand-Gravel	Moisture Content	Station	Location of sampling	Date of sampling	Sample by	Date of testing	Test by
AMQ-IP-011	13 - 28 - 59	39.6%	0+530	Top of eastern slope	01/03/2020	SD	02/03/2020	YA
AMQ-IP-012	21 - 37 - 42	11.3%	0+530	Bottom of eastern slope	01/03/2020	SD	02/03/2020	YA
AMQ-IP-013	30 - 39 - 32	22.5%	0+520	Bottom of western slope	01/03/2020	SD	02/03/2020	YA



The gradation result along with moisture content is summarized in Table above. The figure describes the approximate location of the samples taken. The plot of the gradation test result is shown in **appendix A.**

Following the result, we notice AMQ-IP-011 and AMQ-IP-013 on water content greater than 20% and ice lenses were observed at the top of the slope. The designer's looking at solutions.

- **Visit to the SWTC** form 0+340 to 0+310 : hammering and cleaning in progress.

- **Sampling of foundation soil in place :**
  - AMQ-IP-014 on bottom western slope at station 0+520.

- Following the Esker placement from 0+565 to 0+545 : requires cleaning and removal the big cobbles / boulders, since the Esker placed was not well graded. The esker seems to have been placed in a foundation not approved between 0+545 to 0+540 (to check with the surveyor today).

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments
Esker placement	Station 0+688 to 545	Requires cleaning and removal the big cobbles / Boulders
Ice lenses	Station 0+545 to 0+340	The designer's looking at solutions.

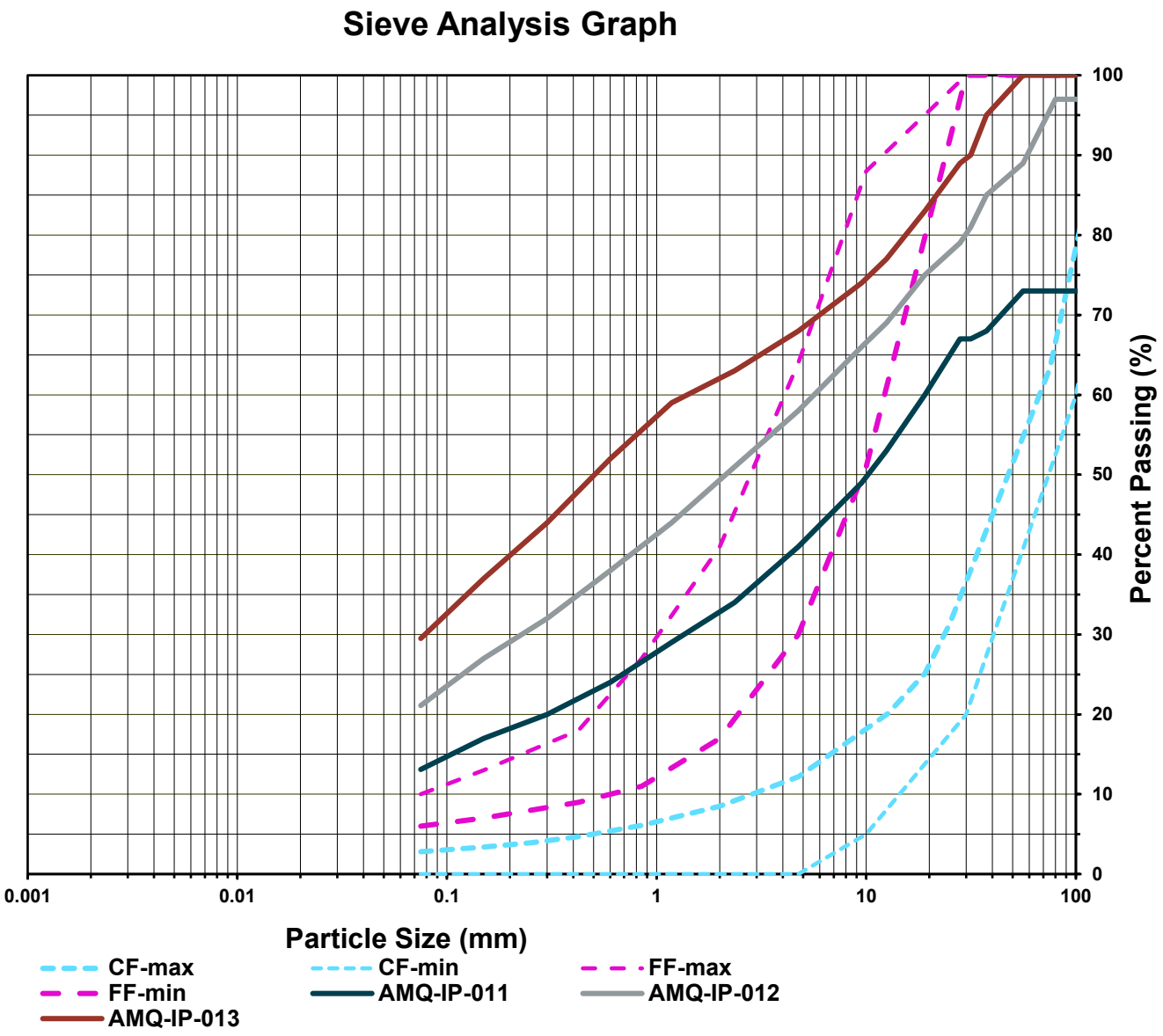
SAFE AND SAFETY REMARKS

Park well when you get to the SWTC

Issued by :	Hamza Abdel-Aziz	03-03-2020
	Signature	Date
Verified by :		
	Signature	Date

PHOTOS/PICTURES

APPENDIX A : THE GRADATION RESULTS FOR AMQ-IP-011, AMQ-IP-012 AND AMQ-IP-013



SNC·LAVALIN

SITE REPORT
(Detailed)

20200304-DS-SR50
Document number (YYYYMMDD-DS-SR)

2020-03-04	6 :30 AM	6 :30 PM	667648	Hamza Abdel-Aziz (HAA)
Visit date	Time (Start/End)		Project No.	Prepared by

South Whale Tale Diversion Channel Construction	Agnico Eagle
Project	Client

SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☐Light ☒Moderate ☐Strong, gusts Temperature: -33 °C

Comments:

Appendix: ☒Yes ☐No Pictures ☐Yes ☒No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting ;

- **Gradation results** :
  - AMQ-ES-014 on bottom eastern slope at station 0+580 ;

  The test result is shown in appendix A. The gradation result indicated the esker material has fine content less than the soil used to design the filter. The gradation result for AMQ-ES-014 indicates the material was poorly graded (Coefficient of curvature (Cc) = 0.8). However, some parts need to be corrected as mentioned in the previous report. it will also help to have a well graded.

  - AMQ-IP-014 on bottom western slope at station 0+320 ;

  The test result is shown in appendix A. The moisture content of the sample AMQ-IP-014 is 6.8 % less than the moisture (20%) defined in the design report.

- **Visit to the SWTC** form 0+340 to 0+310 : Cleaning in progress.

- **Discussion with SNC and AEM about Ice lenses.**
  - Proposals will be made by SNC, as requested by AEM.

- **Sampling esker placed :**
  - AMQ-ES-015 on bottom western slope at station 0+555.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments
Esker placement	Station 0+688 to 545	No correction have yet been made, but will be done.

SAFE AND SAFETY REMARKS

Issued by : Hamza Abdel-Aziz (Signature) — 04-03-2020 (Date)

Verified by : (Signature) — (Date)

PHOTOS/PICTURES

APPENDIX A : THE GRADATION RESULTS FOR AMQ-ES-014, AMQ-IP-014

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-ES-014
Projet:	Derivation channel	**Sampling Date:**	2020-03-01
		Sampled by:	Stéphane Dorvelus
Description of Material:	Esker as used on slope		
Origin:	Esker in place	**Location of Sampling:**	SWTC Eastern slope ST.0+580
Proposed Use:	Backfill before Fine filter placement		

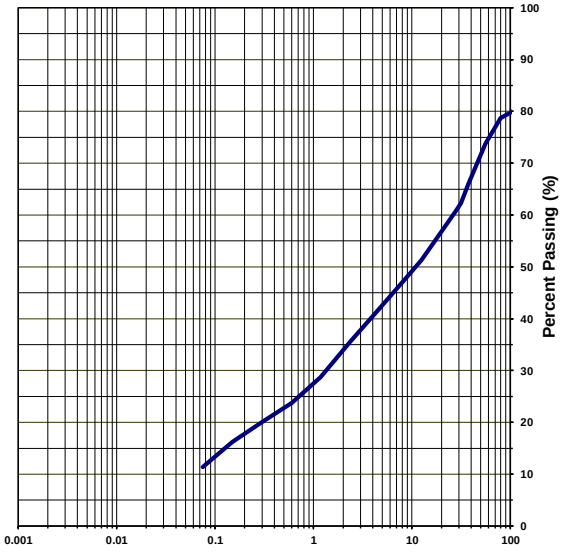
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		80	79	74	66	62	61	56	51	49	42	36	29	24	20	16	11.4
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	5.70%		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**#REF!** **(kg/m³)**
Optimum Moisture Content	**#REF!** **(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
11	31	58

Remarks _____

Prepared by: Stephane Dorvelus Date: 2020-03-03 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

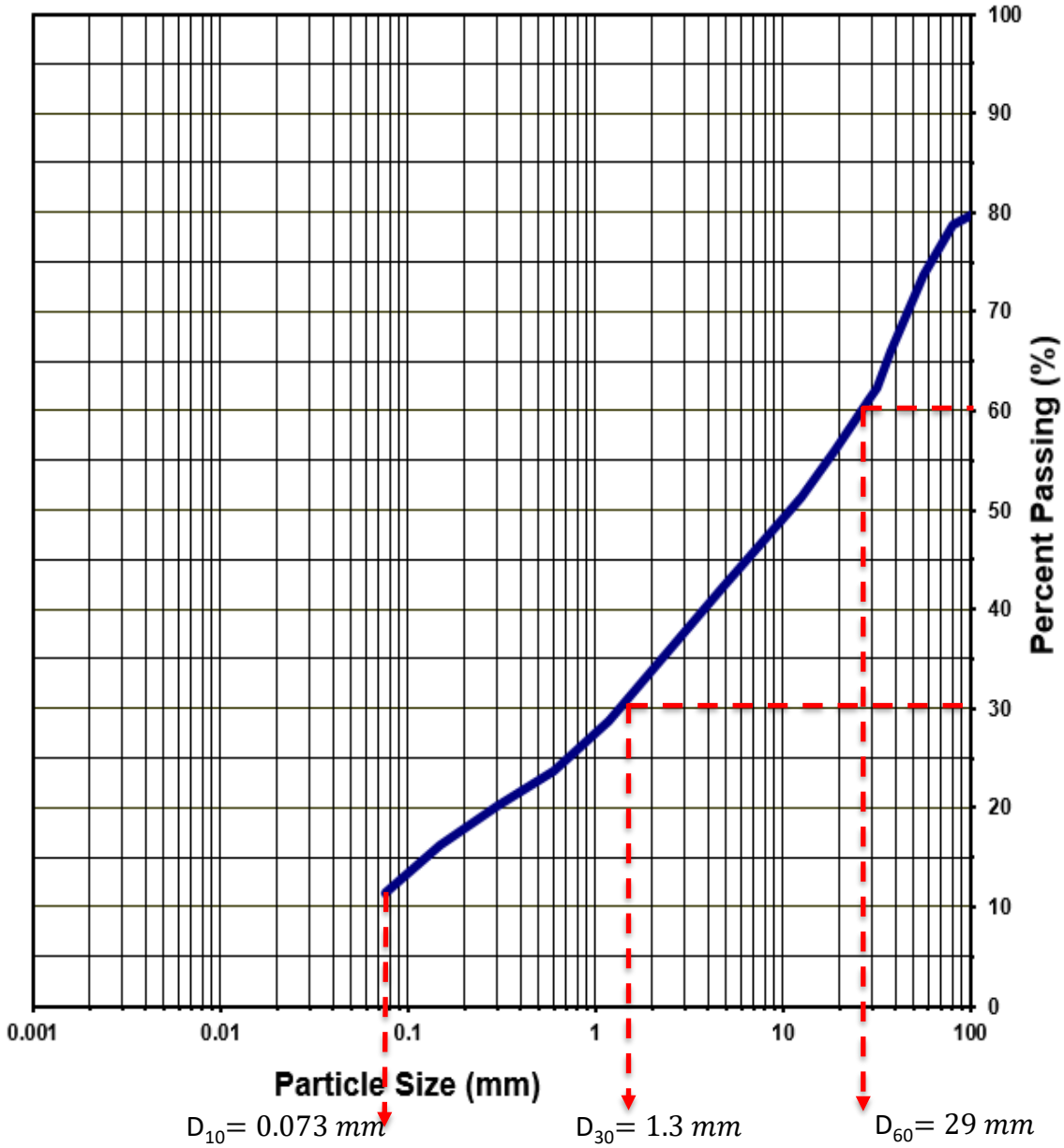
ESTIMATION OF UNIFORMITY AND CONFORMITY COEFFICIENTS

Sample N°: AMQ-ES-014

Processed Yaotree Amegnran

Date: 3/3/2020

Sieve Analysis Graph



D_{10}	D_{30}	D_{60}	Uniformity coefficient $C_u = \frac{D_{60}}{D_{10}}$	Conformity coefficient $C_c = \frac{D_{30}^2}{D_{60} x D_{10}}$
0.073	1.3	29	C_u= **397**	C_c= **0.8**

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11202247-B1

Sample N°: AMQ-IP-014

Projet: Derivation channel

Sampling Date: 2020-03-03

Sampled by: Stéphane Dorvélus

Description of Material: Soil in place

Origin: In place

Location of Sampling: SWTC : ST. 0+320 Western slope

Proposed Use: Foundation

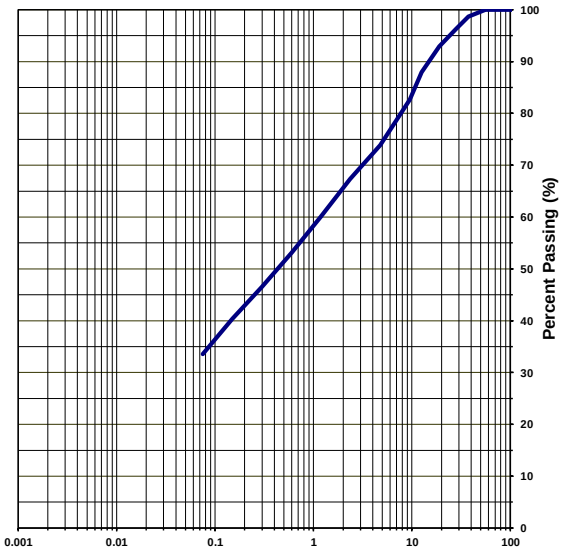
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	99	97	96	93	88	83	74	67	60	53	47	40	33.6
Require-ments	min.																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	6.80%		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m³)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
34	40	26

Remarks _____

Prepared by: Yaotree Amegnran Date : 2020-03-04 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

SNC·LAVALIN

SITE REPORT
(Detailed)

20200305-DS-SR51
Document number (YYYYMMDD-DS-SR)

2020-03-05	6 :30 AM	6 :30 PM	667648	Hamza Abdel-Aziz (HAA)
Visit date	Time (Start/End)		Project No.	Prepared by

South Whale Tale Diversion Channel Construction	Agnico Eagle
Project	Client

SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☐Light ☒Moderate ☐Strong, gusts Temperature: -30 °C

Comments:

Appendix: ☒Yes ☐No Pictures ☒Yes ☐No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting ;

- **Gradation results** :
  - AMQ-ES-015 on bottom western slope at station 0+555 ;

The test result is shown in appendix A. The gradation result indicated the esker material has fine content less than the soil used to design the filter. Some parts need to be corrected as mentioned in the previous report. it will also help to have a well graded.

- **Visit to the SWTC**
  - Fom 0+340 to 0+280 : During the visit an ice lens was observed at the bottom of the slope at station 0+335 (see photo 1). An investigation was made with the hammer in the presence of the QC, QA, site supervisor, owner's representative and contractor. Following this investigation, it is a surface ice (see photo 2). However, this area (0+340 to 0+335) has not been approved, cleaning is required and final inspection will be made before its approval.
  - From 0+280 to 0+210 : Cleaning in progress.
  - We also note that the maintenance roads and road 24 under construction end at the trench, their foundations are not adequately cleaned, it is important to note that the approvals are made only for the trench. however, the recommendations is to make sure that the blocks and the road at the top of the slope do not affect the trench.

- **Foundation approval** from station 0+335 to 0+280 : Free ice / snow / water ; cleaning of excavation bottom (see appendix B – 20200305-DS-09_Foundation Approval).

    - Finish grades may need a final leveling and cleaning prior to fine filter placement as the finish grade/foundation material will be exposed to freezing and snow weather conditions.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments
Esker placement	Station 0+688 to 545	No correction have yet been made, but will be done.
Free ice / snow / water	Station 0+335 to 0+280	Require verification for snow cleaning before placement.
Cleaning of excavation bottom	Station 0+335 to 0+280	
As buil survey	Station 0+335 to 0+280	Require backfill for overcut area and the compaction of the backfill material to be checked before filter placement.

SAFE AND SAFETY REMARKS

Do not stay behind heavy machinery

Issued by : Hamza Abdel-Aziz (Signature) — 05-03-2020 (Date)

Verified by : (Signature) — (Date)

PHOTOS/PICTURES



Photo 1: Ice lenses on bottom western slope at station 0+335 (photo taken looking West)



Photo 2: After hammering is done on bottom western slope at station 0+335 (photo taken looking West)

APPENDIX A : THE GRADATION RESULTS FOR AMQ-ES-015

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-ES-015
Projet:	Derivation channel	**Sampling Date:**	2020-03-04
		Sampled by:	Stéphane Dorvelus
Description of Material:	Esker as used on slope		
Origin:	Esker in place	**Location of Sampling:**	SWTC Western slope ST.0+555
Proposed Use:	Backfill before Fine filter placement		

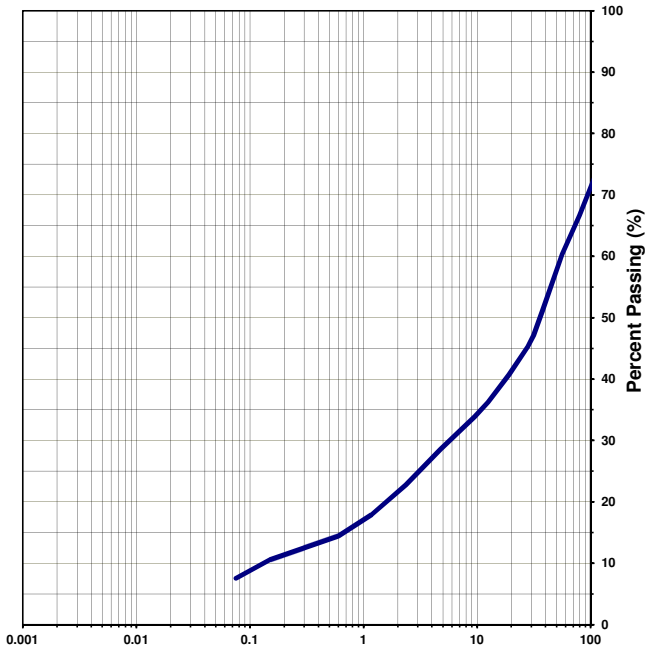
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		74	67	60	51	47	45	41	36	34	29	23	18	14	12	11	7.6
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.0%		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**#REF!** (kg/m³)
Optimum Moisture Content	**#REF!** (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
8	21	71

Remarks _____

Prepared by: Yaotree Amegnran Date: 2020-03-04 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

APPENDIX B : 20200305-DS-09_Foundation Approval (from 0+335 to 0+280)

SNC·LAVALIN

Sustaining capital
Mining & Metallurgy
1140 Maisonneuve boul. West
Montreal (Québec)
Canada H3A 1M8

Telephone: (514) 393-8000
Fax: (514) 390-2765
www.snclavalin.com

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-03-05

DOCUMENT #: 20200305-DS-09 **TIME:** 09:00 PM

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☑ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+335 to 0+280	**Station:**	0+917 to 0+545
Inclination:		**Details:**	
ELEVATION:	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY:				
	QA		**QC**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					–
5. Placement (lift thickness, segregation, etc.)					–
6. Compaction					–
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

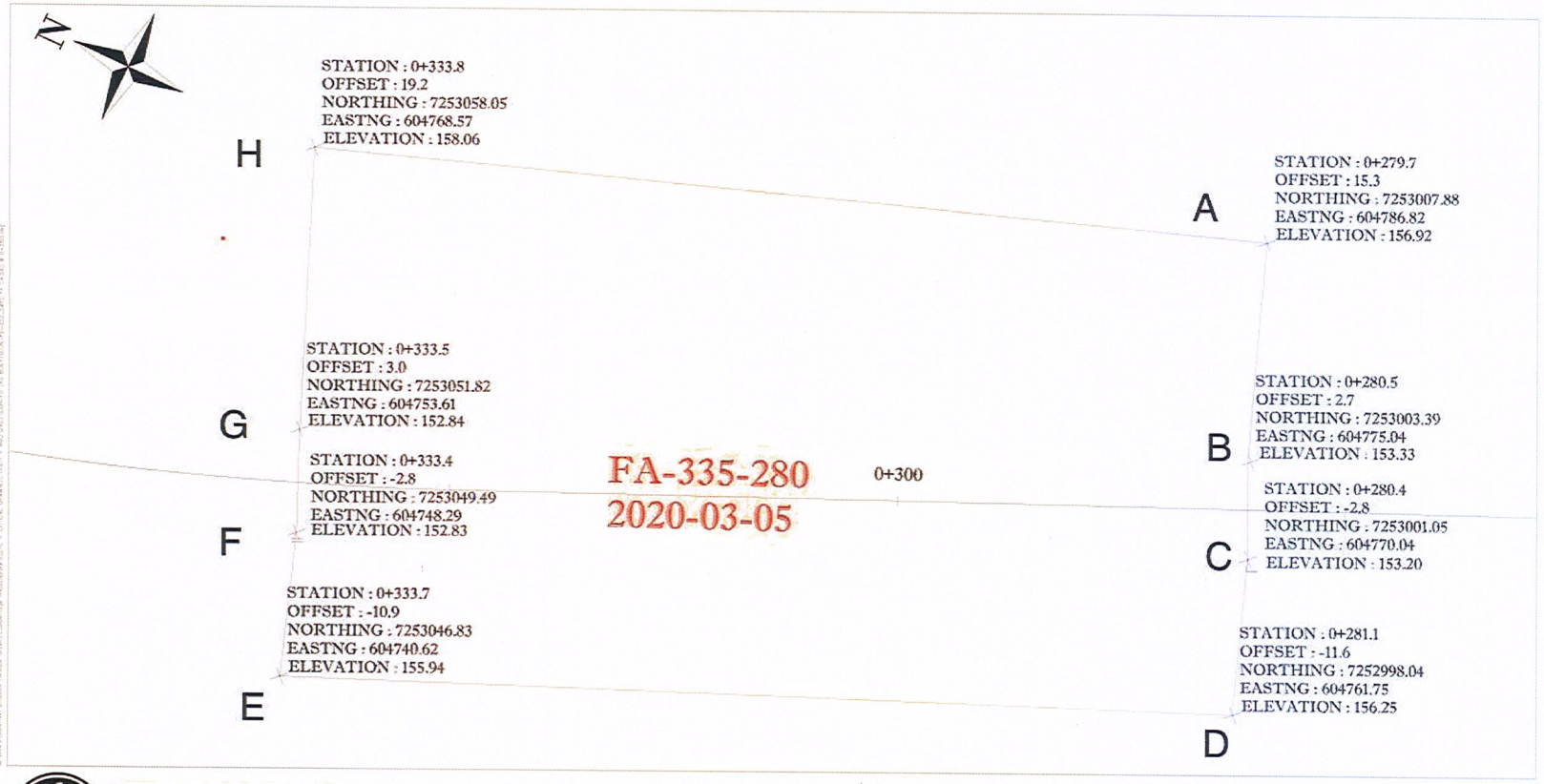
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
2	Require verification for snow removal before placement if any accumulation of snow by snow fall or by wind.				
7	Require back fill for overcut area and the composition of back fill material to be checked before filter placement				
ALL	Finish grades may need a final leveling and cleaning prior to zinc filter placement as the finish grades foundation material will be exposed to freezing and snow weather conditions.				

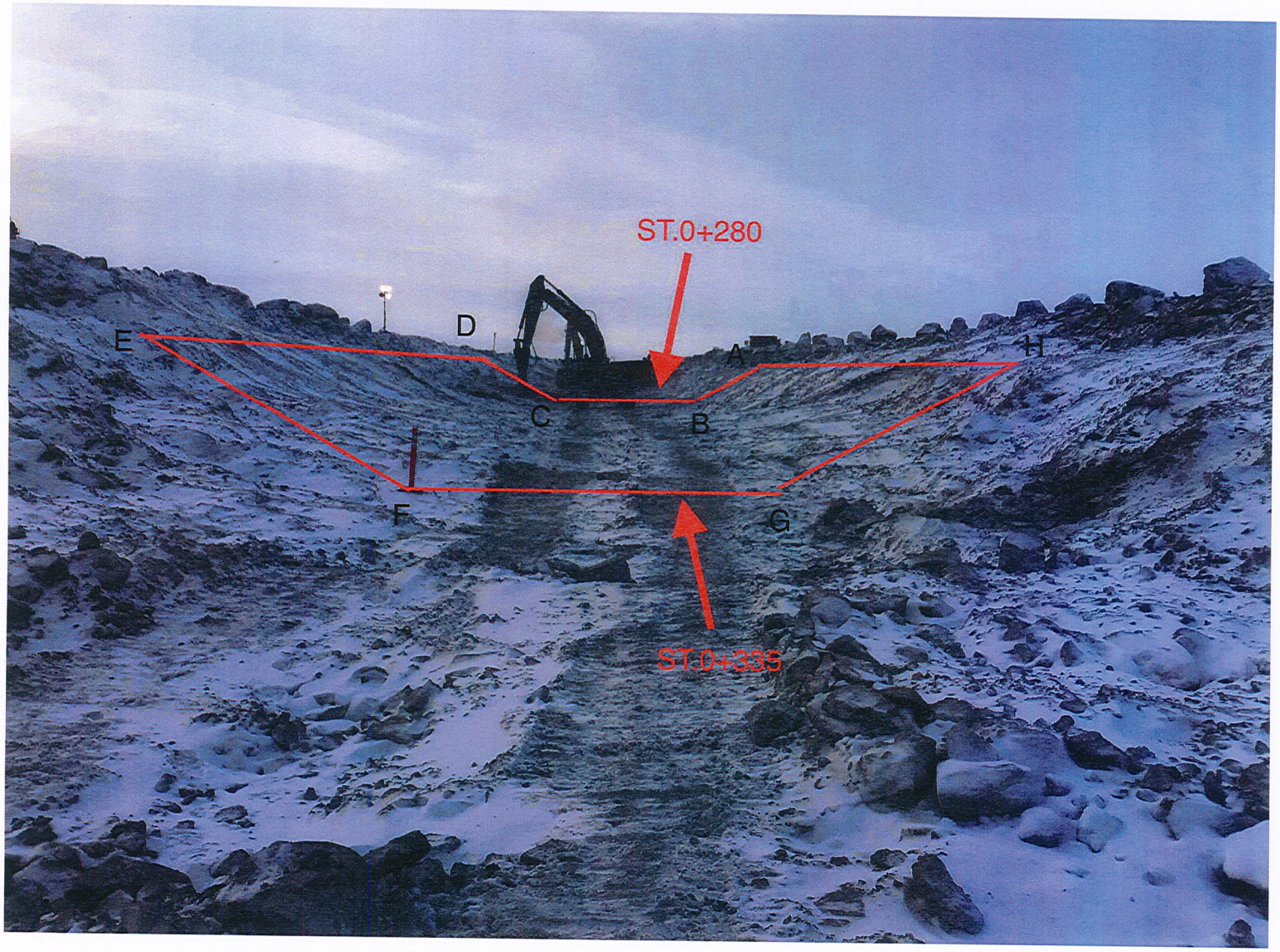
APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	STÉPHANE DORVÉLUS		2020-03-05
QA REPRESENTATIVE	HAMZA ABDEL-AZIZ		2020-03-05
OWNER'S REPRESENTATIVE	MARION HABERSETZER		2020-03-05
CONTRACTOR'S REPRESENTATIVE	Nicolas Tremblay		2020-03-05

FOUNDATION APPROVAL - 0+335 @ 0+280
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : FRANCIS PAULIN
DATE : 06-03-2020
CON-FD-252



Note: refer the sketch below for the coordinates of A, B, C, D, E, F, G, H

Picture 1 – Approximate approved foundation area

SNC·LAVALIN

SITE REPORT
(Detailed)

20200306-DS-SR52
Document number (YYYYMMDD-DS-SR)

2020-03-06	6 :30 AM	6 :30 PM	667648	Hamza Abdel-Aziz (HAA)
Visit date	Time (Start/End)		Project No.	Prepared by

South Whale Tale Diversion Channel Construction	Agnico Eagle
Project	Client

SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☐Sunny ☒Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☐Light ☒Moderate ☐Strong, gusts

Temperature: -42 °C

Comments:

Appendix: ☒Yes ☐No Pictures ☐Yes ☒No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting ;

- **Sampling 0-3/4 (road)**
  - AMQ-RD-001 at the stockpile. Following the request of AEM, this samples was taken to see if it can be use as a fine filters ;

- **Sampling foundation soil** :
  - AMQ-IP-015 on bottom western slope at station 0+220 ;

- **Gradation results** :
  - AMQ-IP-015 on bottom western slope at station 0+220 ;
    The test result is shown in appendix A. The moisture content of the sample AMQ-IP-015 is 17.5 % less than the moisture (20%) defined in the design report.

- **Foundation approval** from station 0+280 to 0+210 : Free ice / snow / water ; cleaning of excavation bottom (see appendix B – 20200306-DS-10_Foundation Approval).

  - Finish grades may need a final leveling and cleaning prior to fine filter placement as the finish grade/foundation material will be exposed to freezing and snow weather conditions.

- **Following the esker placed from 0+335 to 0+280**
  Since the entrepreneur follows the method proposed last week, everything has been going well. The placement of the esker was done according to the recommendations. Visual inspection shows that the esker placed is well graded (see photo 1). Always use the correct method when loading and placing. Here are some points to remember, but not limited to :
  - When loading, use the bucket instead of the loader ;
  - Avoid unloading on slopes because it is the source of segregation ;
  - Placement should be made during the day, if possible. If the placement is done at night, make sure you have adequate lighting and the presence of QC ;
  - And use the good practices.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments
Esker placement	Station 0+688 to 545	No correction have yet been made, but will be done.
Free ice / snow / water	Station 0+280 to 0+210	Require verification for snow cleaning before placement.
Cleaning of excavation bottom	Station 0+280 to 0+210	
As buil survey	Station 0+280 to 0+210	Require backfill for overcut area and the compaction of the backfill material to be checked before filter placement.

SAFE AND SAFETY REMARKS

Sometimes slippery slope use crampons

Issued by : Hamza Abdel-Aziz (Signature) — 06-03-2020 (Date)

Verified by : (Signature) — (Date)

PHOTOS/PICTURES



Photo 1: Esker placement at station 0+335 to 0+280 (photo taken looking North)

APPENDIX A : THE GRADATION RESULTS FOR AMQ-IP-015

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11202247-B1

Sample N°: AMQ-IP-015

Projet: Derivation channel

Sampling Date: 6/3/2020

Sampled by: Stéphane Dorvélus

Description of Material: Soil in place

Origin: In place

Location of Sampling: SWTC : ST. 0+220 Western slope

Proposed Use: Soil in place

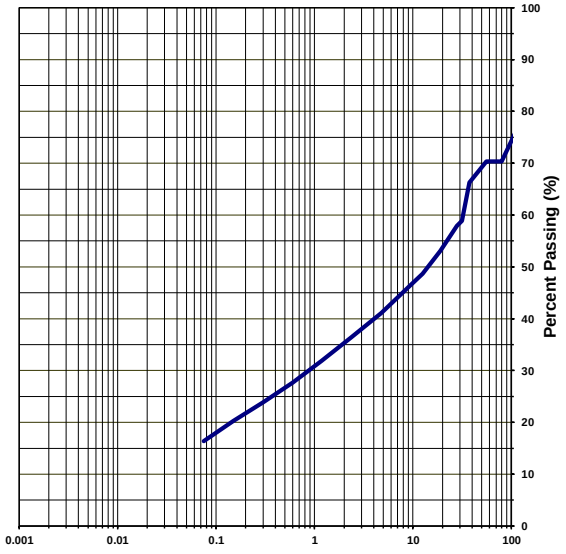
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		76	70	70	66	59	58	53	49	46	41	36	32	28	24	20	16.4
Require-ments	min.																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	17.50%		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m³)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
16	25	59

Remarks

Prepared by: Yaotree Amegnran Date : 6/3/2020 Verified by: Date:

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

APPENDIX B : 20200306-DS-10_Foundation Approval (from 0+280 to 0+210)

SNC·LAVALIN

Sustaining capital
Mining & Metallurgy
1140 Maisonneuve boul. West
Montreal (Québec)
Canada H3A 1M8

Telephone: (514) 393-8000
Fax: (514) 390-2765
www.snclavalin.com

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DOCUMENT #: 20200306-DS-10
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 2020-03-06

TIME: 08:00 AM (0+280 to 0+230)
(24 hour clock)
06:00 pm (0+230 to 0+210)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☐ Other: _____

LOCATION

Station 0+280 to 0+210

Inclination:

ELEVATION: ☐ varies _____ m

PREVIOUS APPROVALS

Station: 0+917 to 0+545 AND 0+335 to 0+280

Details:

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					—
5. Placement (lift thickness, segregation, etc.)					—
6. Compaction					—
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

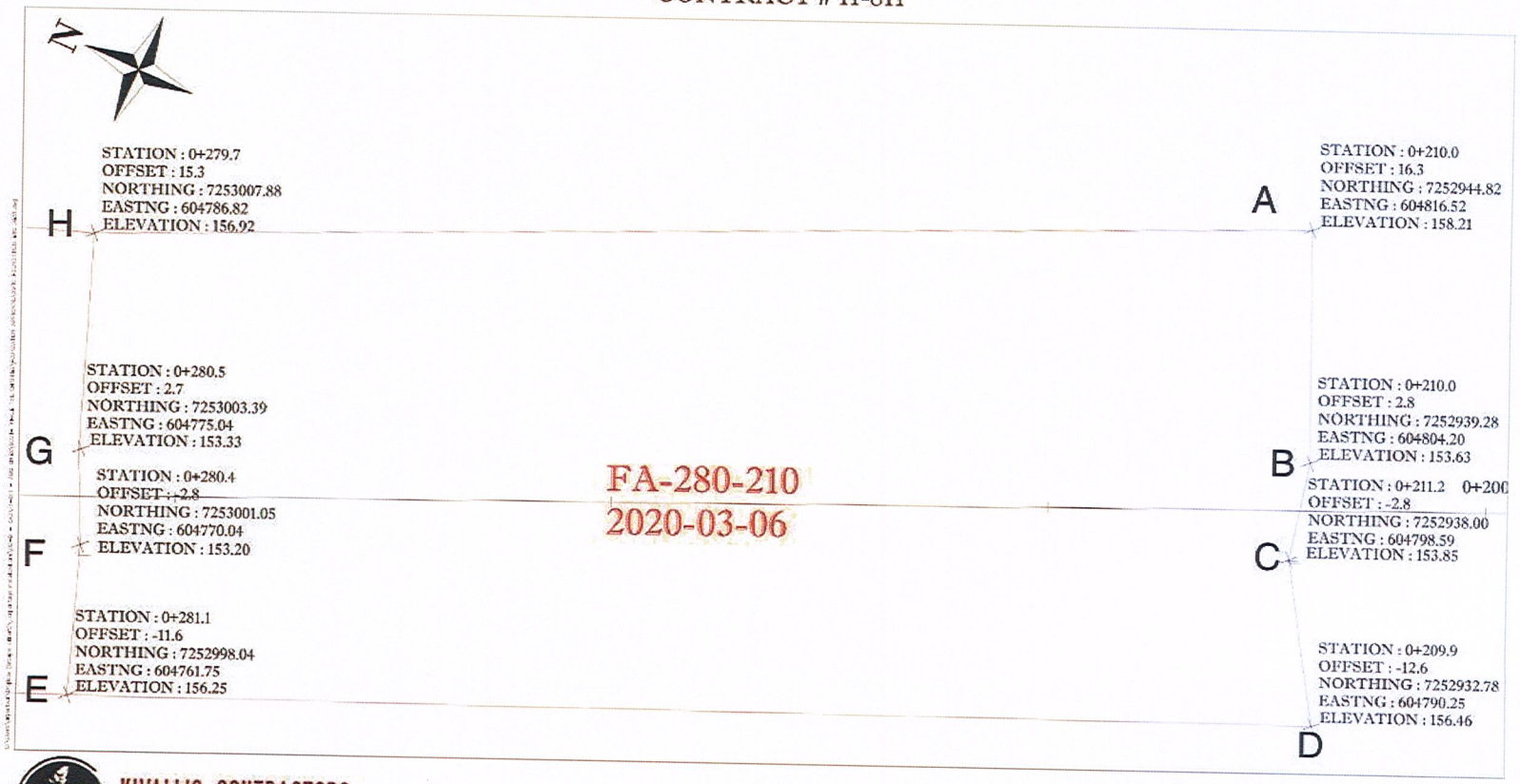
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
2.	Require verification for snow removal before placement if any accumulation of snow fall or by wind.				
7	Require back fill for overcut area and the composition of the backfill material to be checked before filter placement				
All	Finish grades may need a final leveling and cleaning prior to fine filter placement as the finish grades foundation material will be exposed to freezing and snow weather conditions.				

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	STÉPHANE DORVÉLUS		2020-03-06
QA REPRESENTATIVE	HAMZ ABDEL-AZIZ		2020-03-06
OWNER'S REPRESENTATIVE	MARION HABERSETZER		2020-03-06
CONTRACTOR'S REPRESENTATIVE	Nicolas Tremblay		2020-03-06

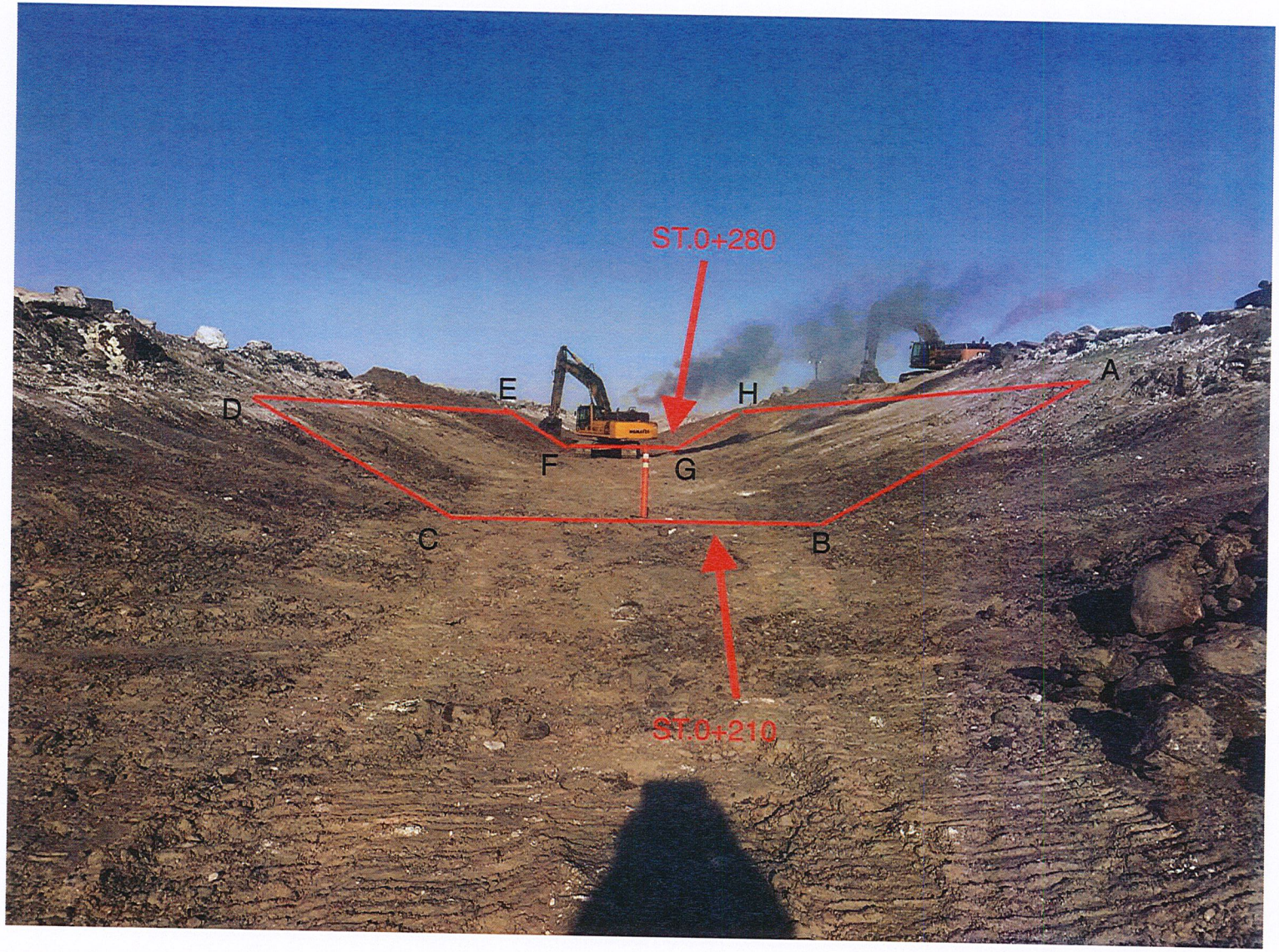
FOUNDATION APPROVAL - 0+280 @ 0+210
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



FA-280-210
2020-03-06

KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : FRANCIS PAULIN
DATE : 06-03-2020
CON-FD-255



Note: refer the sketch below for the coordinates of A, B, C, D, E, F, G, H

Picture 1 – Approximate approved foundation area

SNC·LAVALIN

SITE REPORT
(Detailed)

20200307-DS-SR53
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-03-07	6 :30 AM – 6 :30 PM	667648	Hamza Abdel-Aziz (HAA)

Project	Client
South Whale Tale Diversion Channel Construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☐ Sunny ☐ Cloudy ☐ Rain ☐ Storm ☒ Snow ☐ Glaze

Wind: ☐ None ☐ Light ☐ Moderate ☒ Strong, gusts

Temperature: -38 °C

Comments: **Blizzard at the morning**

Appendix: ☐ Yes ☒ No

Pictures ☐ Yes ☒ No

Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting ;

- Work at the channel SWTC is pending due at the blizzard ;

- AEM asks to evaluate the possibility of replacing the fine filter with the esker, if the esker already placed is sufficient ;

- Site visit following the esker placement from station 0+335 to 0+280 :
  - The placement of the esker was done according to the recommendations. Visual inspection shows that the esker placed is well graded just some little adjustment to make ;
  - The surveyor's records will be checked for no placement of esker material should be done above the fine filter limit, to ensure the fine filter thickness of 0.3 m (after compaction) as per specifications.

- Sampling of esker material :
  - AMQ-ES-016 on bottom eastern slope at station 0+280 ;

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments
Esker placement	Station 0+688 to 545	No correction have yet been made, but will be done during snow removal.

SAFE AND SAFETY REMARKS

Issued by : Hamza Abdel-Aziz — Signature — 07-03-2020 — Date

Verified by : Signature — Date

PHOTOS/PICTURES

SNC·LAVALIN

SITE REPORT
(Detailed)

20200210-DS-55
Document number (YYYYMMDD-DS-SR)

2020-03-09	6 :30 AM	6 :30 PM	667648	Daniel Meles
Visit date	Time (Start/End)		Project No.	Prepared by

South Whale Tale Diversion Channel Construction	Agnico Eagle
Project	Client

SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☐Sunny ☒Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☐Light ☒Moderate ☐Strong, gusts

Temperature: -42 °C

Comments:

Appendix: ☐Yes ☒No Pictures ☐Yes ☒No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Travel to site: Flew from Montreal to Meadowbank and took a bus from Meadowbank to Amaruq.
- Meet AEM representative and went for a quick site visit to see foundation approved around the inlet area. During site visit esker placement was on progress and the excavation area is free from frozen material, boulders and ice;

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Issued by : Daniel Meles — Signature — 09-03-2020 — Date

Verified by : Signature — Date

Photos

SNC·LAVALIN

SITE REPORT
(Detailed)

20200310-DS-SR56
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-03-10	6 :30 AM – 6 :30 PM	667648	Daniel Meles (DM)

Project	Client
South Whale Tale Diversion Channel Construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☐Moderate ☐Strong, gusts

Temperature: -20 (-28 with wind chill) °C

Comments:

Appendix: ☐Yes ☐No Pictures ☐Yes ☒No Inspection report or other: Attached

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting;
- **Sampled esker with QC (**see photo 1);
  - Esker AMQ-ES-017 was sampled from east slope at station 0+77 for the esker placed between station 0+135 to 0+56;
- **Visited SWTC from station 0+135 to 0+056;**
  - Completed esker placement in the area.
- **Esker placement approval from station 0+058 to 0+330**
  - Esker placed from station 0+056 to station 0+200 was free from ice/snow/water. There were very few locations where segregation of cobbles observed at the toe of the slope during approval. The contractor corrected the segregation by the end of the shift and the area was approved for filter placement during the night shift. Photo 2 shows esker placed approximately between station 0+056 to 0+200.
  - Esker placed from Station 0+200 to 0+330 was approved for the excavation bottom and east slope. The west slope of on very few locations had snow accumulation that require additional cleaning before filter placement. The area that require additional cleaning had been marked on site and communicated with the night shift QC to check the cleaning and take photos if filter placement during night shift progressed to the area. Photo 3 shows overall view of the area approximately between station 0+200 and 0+330. Photo 4 shows close up view west slope that require additional snow cleaning;
  - Visually the esker placed between station 0+056 and 0+135 doesn't seem to have fine content more than the soil used to design (35%) filter. This will be verified when the gradation test result for AMQ-ES-017 is available; and

- The esker placed as built has not received at the time of approval and the esker grade will be verified if it as per SNC recommendation for esker placement.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments
Esker placement	Station 0+056 to 0+200	As built has not been received at the time of approval.
Esker placement	Station 0+200 to 0+330	As built has not received at the time approval and west slope on very few locations require additional snow cleaning

SAFE AND SAFETY REMARKS

Use hand radio, it's very important.

Issued by : Daniel Meles — Signature — 10-03-2020 — Date

Verified by : Signature — Date

PHOTOS/PICTURES



Photo 1: AMQ-ES-017 esker sample (east slope at station 0+077)

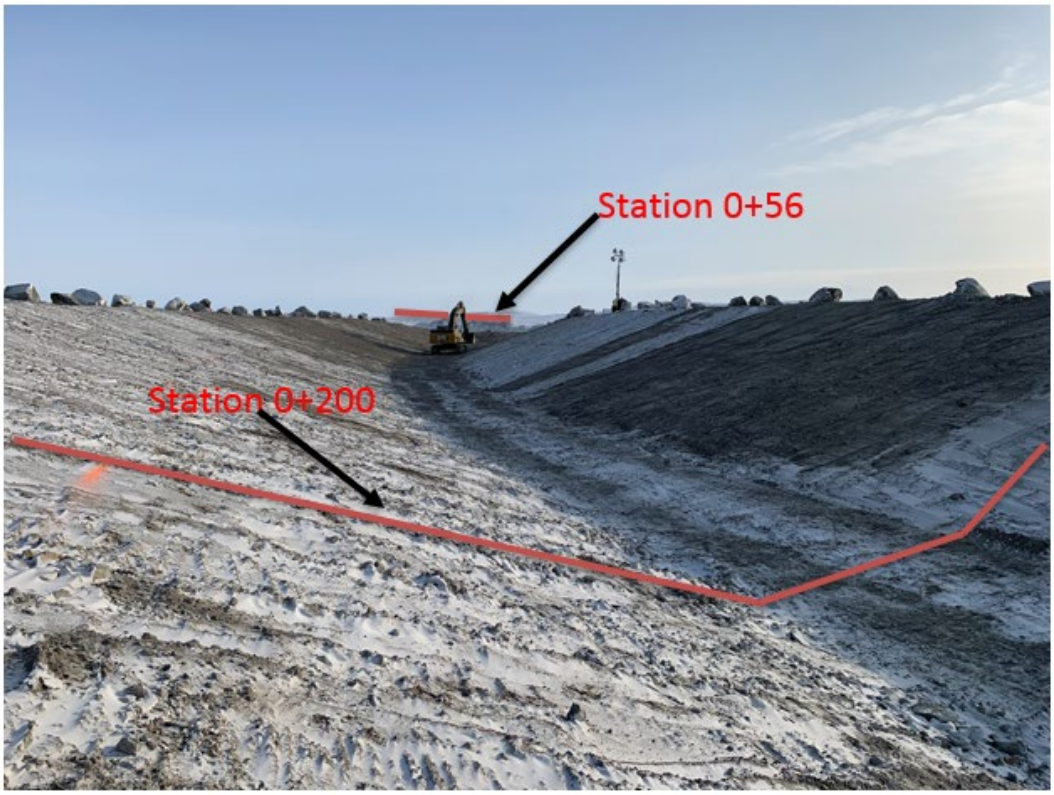


Photo 2: View of esker approvaed approximately beween staion 0+056 and 0+200



Photo 3: View of esker approvaed approximately beween staion 0+200 and 0+330

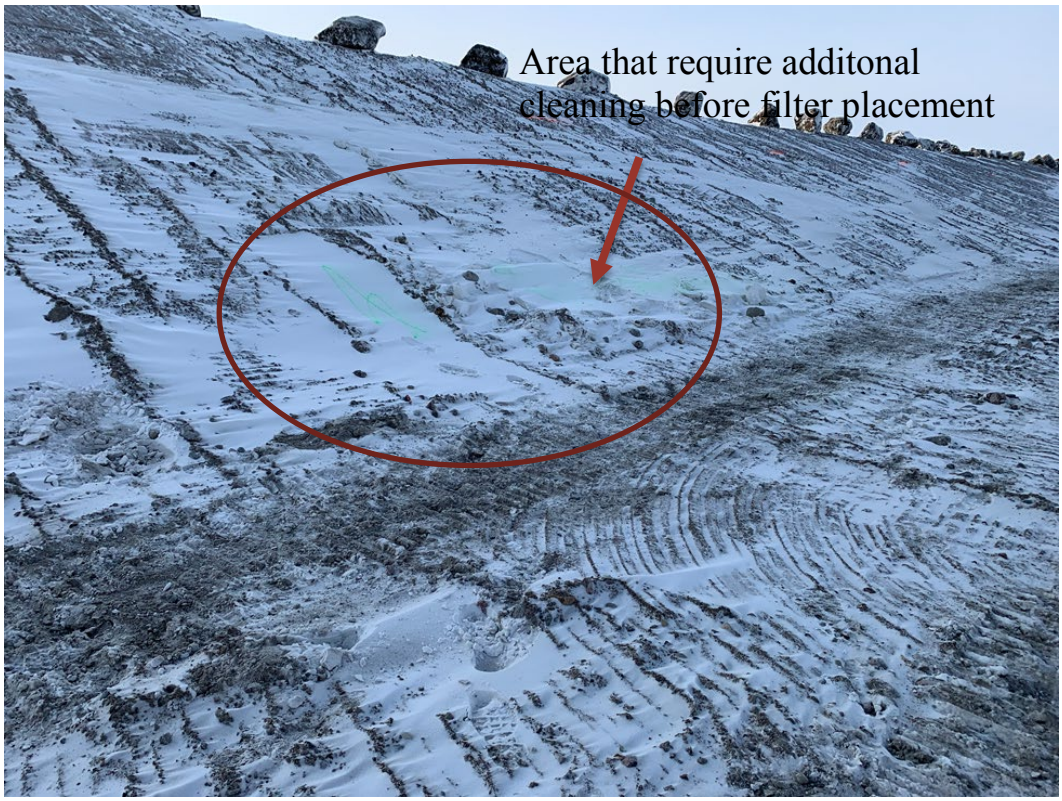


Photo 4: Example photo of wet slope that require additional snow cleaning (photo taken looking West)

SNC·LAVALIN

SITE REPORT
(Detailed)

20200311-DS-SR57
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-03-11	6 :30 AM – 6 :30 PM	667648	Daniel Meles (DM)

Project	Client
South Whale Tale Diversion Channel Construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☒Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☐Moderate ☐Strong, gusts

Temperature: -21 (-35 with wind chill) °C

Comments:

Appendix: ☐Yes ☐No Pictures ☐Yes ☒No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting;
- **Sampled fine filter with QC:** a total of 10 samples (8 during day shift and 2 during night shift and reviewed gradation tests results of four samples completed during day shift:
  - AMQ-FF-006 at Sta. 0+060 from center of channel;
  - AMQ-FF-007 at Sta. 0+310 from center centre of channel;
  - AMQ-FF-008 at Sta. 0+327 from west slope; and
  - AMQ-FF-009 at Sta. 0+100 from east slope.

Summary of the test results is shown in figure 1.

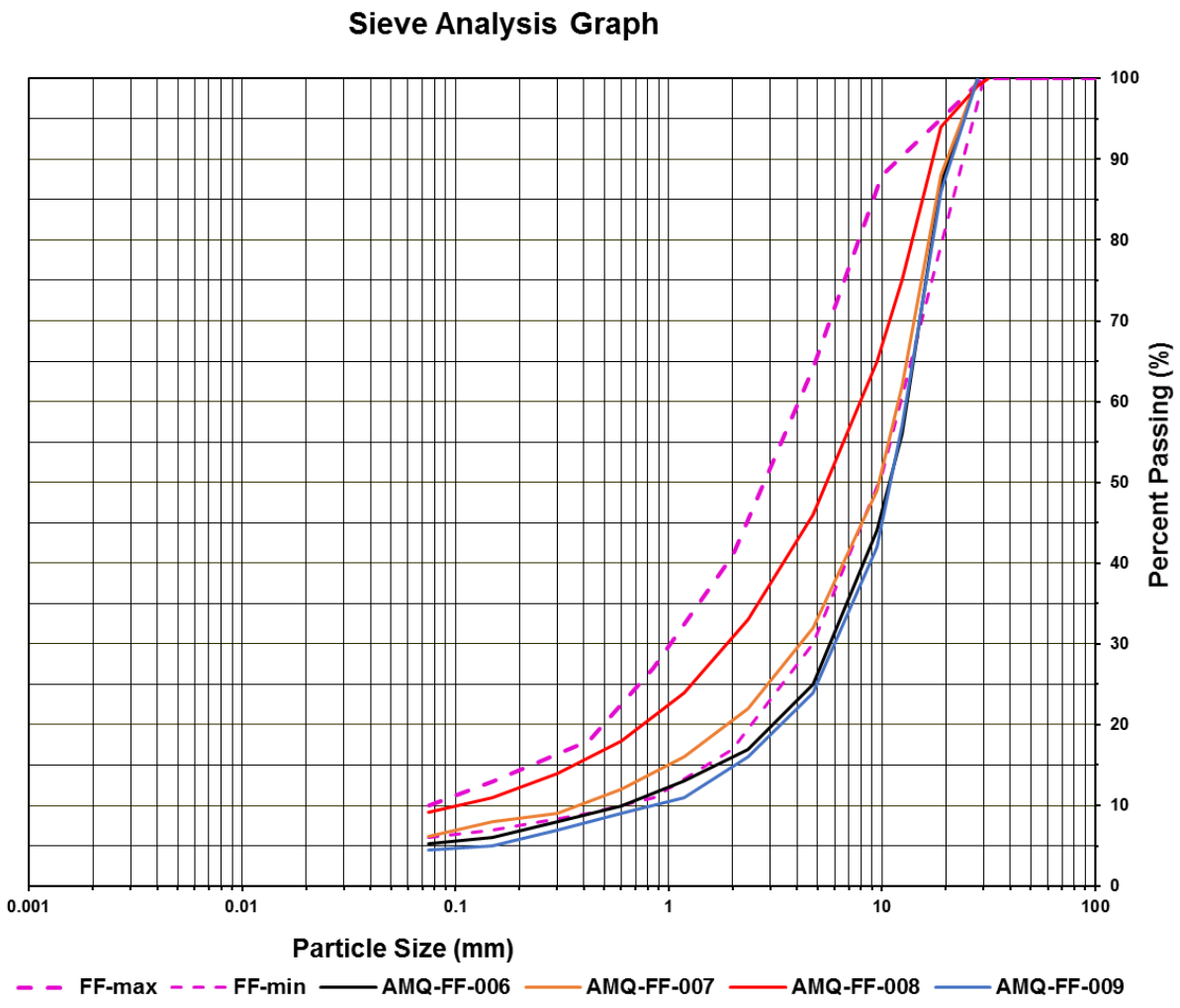


Figure 1: summary of fine filter gradation result available at the time of fine filter approval

- **Fine filter approval;**

DM in the presence of the Owner's representative, QC day shift, site supervisor, and contractor representative went to site for fine filter approval from from Sta. 0+60 to 0+180 and from Sta. 0+330 to 0+220. At the time of approval only four gradation test results out of approximately 12 tests result required by specification were available. As shown in figure 1, two of the samples meet the specification and two of the samples deviate a little from the specification. The approval is still pending waiting SNC comment if there is any concern regarding the devation on the number of samples completed during approval and a little devation on the two of the samples from the specification.

However, discussing with AEM representative and taking into consideration the following factor

1. the fine filter is designed for soil with fine content about 35%,
2. the presence of esker underneath the fine filter and the in-situ soil fine content less than the soil used to design the filter;
3. The presence of geotextile which was not part of the previous design on top of the coarse filter for additional protection ; and
4. The fine filter in the site being free from frozen material, compacted well and no segregation observed.

As the contractor wants to put coarse filter during the night shift to avoid snow accumulation and cleaning, AEM representative decided to continue placement of the coarse filter while waiting quick response if SNC has any concern.

Example photos of the filter placemnt is shown in photo 1-4.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Use hand radio, it's very important.

Issued by :	Daniel Meles	11-03-2020
	Signature	Date
Verified by :		
	Signature	Date

PHOTOS/PICTURES



Photo 1: View of bucket compaction



Photo 2: View of fine filter placement



Photo 3: View of fine filter placement



Photo 4: close up view of fine filter placement



Photo 4: view of fine filter placement

SNC·LAVALIN

SITE REPORT
(Detailed)

20200312-DS-SR58
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-03-12	6 :30 AM – 6 :30 PM	667648	Daniel Meles (DM)

Project	Client
South Whale Tale Diversion Channel Construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☒Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☐Moderate ☐Strong, gusts

Temperature: -37 °C

Comments:

Appendix: ☐Yes ☐No Pictures ☐Yes ☒No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting;
- Visited work site to follow:
    - Coarse filter placement approximately from Station 0+065 to Station 0+220 (Photo 1);

Observation:

- **Truck unloaded coarse filter material on horizontal ground;**
- **Excavator carefully placed coarse filter on slope; and**
- **Material placed were compacted with the bucket of the excavator**

The contractor used reasonable practice to avoid segregation of material during placement.

    - Snow removal for fine filter placement from station 0+555 to 0+700 and 0+906 to 0+867.
- **Sampled coarse filter with QC:** one sample at station 0+160 from coarse filter placed from station 0+65 to 0+265 (Photo 2)

- **Approval:**

  DM in the presence of the Owner's representative, QC day shift, site supervisor, and contractor representative went to site for fine filter approval from from Sta. 0+180 to 0+220 and snow removal approval for fine filter placement from Station 0+555 to 0+700 and Station 0+867 to 0+906.

  - **Fine filter approval (Photo 3)**

  For fine filter approval, AEM requested reducing the frequency of fine filter sampling because of the rapid progress of the filter placement for the fine filter sampling. SNC recommend, recommend maintaining the sampling as per specifications (5/100m; 1 every 20 m) and use the available completed results at the time of approval. Sample results reviewed will be indicated in the approval form. The remaining testing will be completed by the QC staff when possible.

  Thus, fine filter approval from station 0+065 to 0+325 was completed based on four available gradation tests result out of fifteen fine filter material sampled from the area during the approval. By end of today QC completed nine gradation test results except two of the gradation all the remaining tests result meet the specification.

  - **Snow removal approval for fine filter placement**

  Station 0+555 to 0+700 (Photo 4)

  In general, the area is clean from snow/ice but there is very limited area that require additional cleaning of snow and removal of segregation material on the esker. The night shift QC will confirm the before fine filter placement in those area. Photo will be taken after the cleaning.

  Station 0+867 to 0+906 (Photo 5)

  The east and west slope of these area is free from snow/ice/boulders, but the bottom of the excavation requires additional snow cleaning. The area will be cleaned during the night shift or tomorrow morning depending on the contractor progress of the fine filter placement. The cleaning must be confirmed either by QC during night shift or QA/QC during day shift. Photo will be taken after the cleaning.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments
Fine filter approval	Sta. 0+065 to 0+325	
Snow removal approval for fine filter placement	Station 0+555 to 0+700	Require additional snow cleaning and cobbles segregation on the esker
Snow removal approval for fine filter placement	Station 0+867 to 0+906	Bottom of excavation require additional snow cleaning

SAFE AND SAFETY REMARKS

Use hand radio, it's very important.

Issued by : Daniel Meles (Signature) — 12-03-2020 (Date)

Verified by : (Signature) — (Date)

PHOTOS/PICTURES



Photo 1: View placed coarse filter



Photo 2: snw removal from Station 0+555 to 0+700



Photo 3: snow removal from Station 0+867 to 0+906

SNC·LAVALIN

SITE REPORT
(Detailed)

20200313-DS-SR59
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-03-13	6 :30 AM – 6 :30 PM	667648	Daniel Meles (DM)

Project	Client
South Whale Tale Diversion Channel Construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☒Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☐Moderate ☐Strong, gusts

Temperature: -30 (-52 with wind chill) °C

Comments:

Appendix: ☐Yes ☐No Pictures ☐Yes ☒No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting;
- Visited work site to follow:
    - Fine filter placement approximately from Station 0+555 to Station 0+700 (Photo 1);

Observation:

- **Truck unloaded fine filter material on horizontal ground;**
- **Excavator carefully placed fine filter on slope; and**
- **Material placed were compacted with the bucket of the excavator**

The contractor used reasonable practice to avoid segregation of material during placement. The bottom of the channel was very dense compared to the slope because of the additional compaction from the truck using the area for loading and unloading material.

    - Snow removal for fine filter placement from station 0+867 to 0+700 (photo 2)
- **Sampled fine filter with QC:** three sample from fine filter. A total of 23 fine filter sampled. A summary and sampling location is shown in Table 1.

Table 1: Summary and location fine filter sampled

Sample ID	Fines-Sand-Gravel	Moisture Content	Station	ocation of samplin	Date of sampling	Sample by	Date of testing	Test by
AMQ-FF-006	5-20-75	4.1%	0+327	West Slope	2020/0310	RJ	2020/03/11	MC
AMQ-FF-007	6-26-68	4.6%	0+310	Centre	2020/03/10	RJ	2020/03/11	MC
AMQ-FF-008	9-37-54	5.6%	0+060	Centre	2020/03/11	MC	2020/03/11	MC
AMQ-FF-009	5-20-76	4.7%	0+100	East Slope	2020/03/11	MC	2020/03/11	MC
AMQ-FF-010	9-33-58	6.1%	0+140	West Slope	2020/03/11	MC	2020/03/12	MC
AMQ-FF-011	7-31-62	5.6%	0+270	East Slope	2020/03/11	MC	2020/03/12	MC
AMQ-FF-012	7-24-69	5.1%	0+230	Centre	2020/03/11	RJ	2020/03/12	MC
AMQ-FF-013	7-27-66	4.6%	0+190	East Slope	2020/03/11	RJ	2020/03/12	MC
AMQ-FF-014	7-29-64	4.0%	0+170	Centre	2020/03/12	RJ	2020/03/12	MC
AMQ-FF-015	6-28-66	4.4%	0+080	West Slope	2020/03/11	MC	2020/03/14	MC
AMQ-FF-016	8-31-61	5.0%	0+120	Centre	2020/03/11	MC	2020/03/14	RJ
AMQ-FF-017	8-30-63	5.7%	0+290	Centre	2020/03/11	RJ	2020/03/14	RJ
AMQ-FF-018	8-31-61	4.3%	0+210	West Slope	2020/03/12	RJ	2020/03/14	RJ-MC
AMQ-FF-019	9-34-57	5.3%	0+250	West Slope	2020/03/11	MC	2020/03/13	RJ
AMQ-FF-020	9-43-58	4.0%	0+160	West Slope	2020/03/12	RJ	2020/03/13	RJ
AMQ-FF-021	8-36-56	4.7%	0+560	West Slope	2020/03/13	RJ	2020/03/13	RJ
AMQ-FF-022	10-40-50	7.0%	0+580	East Slope	2020/03/13	RJ	2020/03/13	MC
AMQ-FF-023	8-33-59	4.3%	0+600	Centre	2020/03/13	MC	2020/03/14	MC-RJ
AMQ-FF-024	7-33-61	4.3%	0+900	East Slope	2020/03/13	MC	2020/03/13	MC
AMQ-FF-025	7-34-59	4.7%	0+620	West Slope	2020/03/13	MC	2020/03/13	MC
AMQ-FF-026	7-28-66	3.8%	0+640	East Slope	2020/03/13	RJ	2020/03/14	RJ
AMQ-FF-027	10-38-52	4.7%	0+660	Centre	2020/03/13	RJ	2020/03/14	MC
AMQ-FF-028			0+680	West Slope	2020/03/13	RJ	2020/03/15	MC

- **Review of gradation test results completed by QC: summary of the gradation tests completed so far is shown in Figure 1. As shown in Figure 1, seven (7) out nine(9) sampled meet the specification. Even the two samples shows minor devation from the specification.**

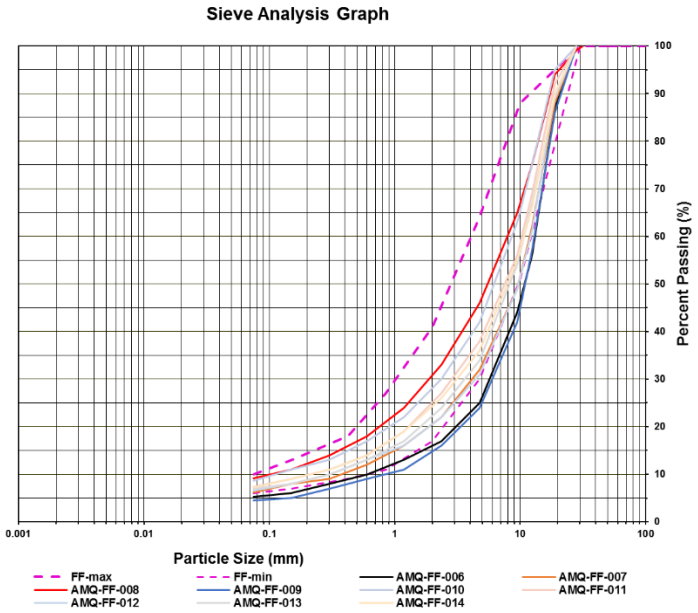


Figure 1: Summary of gradation test result of fine filter completed

- **Visited fine filter and coarse filter stock pile (photo 3)**

- **Approval:**

  DM in the presence of the Owner's representative, QC day shift, site supervisor, and contractor representative went to site for fine filter approval from from Sta. 0+180 to 0+220 and snow removal approval for fine filter placement from Station 0+867 to 0+700 and Station 0+867 to 0+906.

  - **Fine filter approval (photo 4)**

  The fine filter placed from station 0+065 to 0+325 was approved for coarse filter placement. At the time of approval nine (9) gradation test results from other area and three (3) from the approved area was available. Three of the sample from the approved area and seven of the samples from the previous approved area meet the specification. Based on visual inspection, compaction, lift thickness, segregation and gradation of the fill material is in compliance with the technical specification.

  - **Snow removal approval for fine filter placement (photo 5)**

  The area from station 0+555 to 0+700 was approved for fine filter placement. The area is free from snow/ice/water.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments
Fine filter approval	Sta. 0+555 to 0+700	Approved
Snow removal approval for fine filter placement	Station 0+867 to 0+772	Approved for filter placement

SAFE AND SAFETY REMARKS

Use hand radio, it's very important.

Issued by : Daniel Meles — Signature — 13-03-2020 — Date

Verified by : Signature — Date

PHOTOS/PICTURES



Photo 1: View fine filter placement



Photo 2: view of snow removal



Photo 3: view of fine filter stock pile

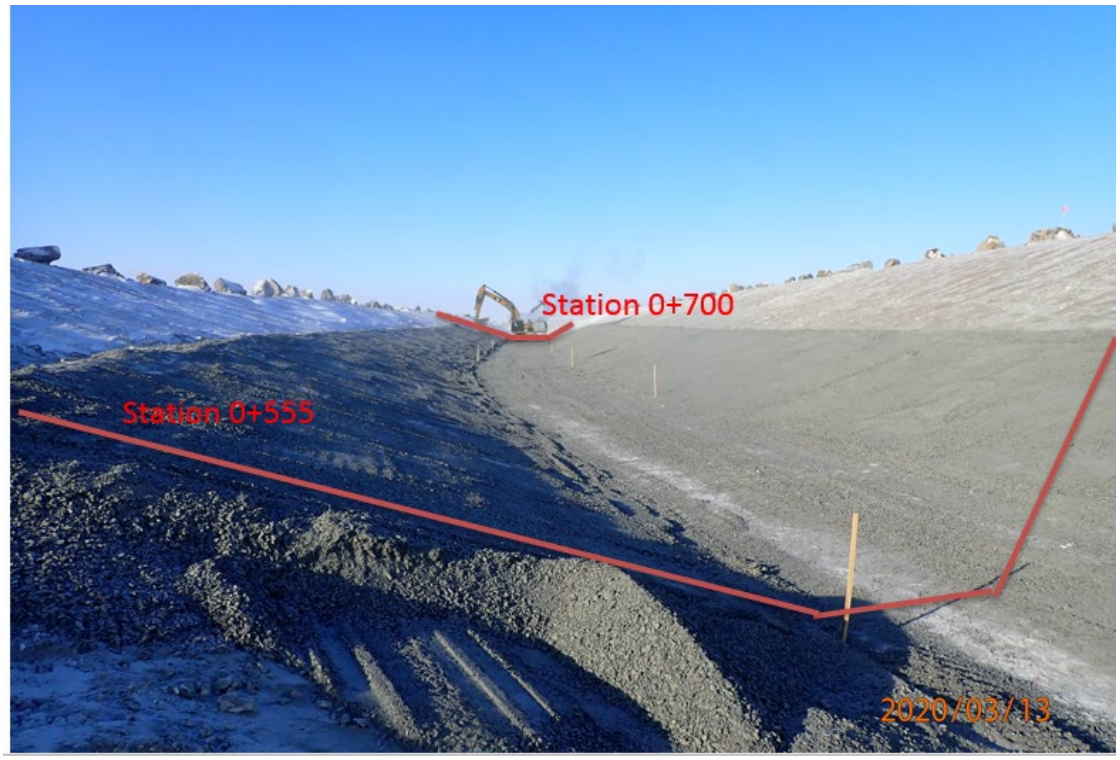


Photo 4: Approximate area of approved fine filter area



Photo 5: Approximate area of snow cleaning approval for fine filter placement

SNC·LAVALIN

SITE REPORT
(Detailed)

20200314-DS-SR60
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-03-14	6 :30 AM – 6 :30 PM	667648	Daniel Meles (DM)

Project	Client
South Whale Tale Diversion Channel Construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☐Sunny ☒Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☐Light ☒Moderate ☐Strong, gusts

Temperature: -22 (-42 with wind chill) °C

Comments: **Blizzard weather condition starting 1:30 PM**

Appendix: ☐Yes ☒No Pictures ☐Yes ☒No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting;
- Visited work site to follow:
  - Continue coarse filter placement on areas approved for coarse filter placement from station 0+630 to 0+700 (photo 1);
  - Start fine filter placement at station 0+ 700 continue towards north and at station 0+ 867 towards south;

Observation:

- **Truck unloaded fine/coarse filter material on horizontal ground;**
- **Excavator carefully placed fine/coarse filter on slope; and**
- **Material placed were compacted with the bucket of the excavator**

The contractor used reasonable practice to avoid segregation of material during placement. The bottom of the channel was very dense compared to the slope because of the additional compaction from the truck using the area for loading and unloading material.

  - Snow removal for fine filter placement from station 0+750 to 0+700 (photo 2)
- **Sampled one coarse filter with QC:** One coarse filter was sampled from 0+580 west slope. A total of 23 fine filter and 2 coarse filter sampled so far. A summary fine and coarse filter sampling location is shown in Table 1 and 2 respectively.

Table 1: Summary and location fine filter sampled

Sample ID	Fines-Sand-Gravel	Moisture Content	Station	ocation of samplin	Date of sampling	Sample by	Date of testing	Test by
AMQ-FF-006	5-20-75	4.1%	0+327	West Slope	2020/0310	RJ	2020/03/11	MC
AMQ-FF-007	6-26-68	4.6%	0+310	Centre	2020/03/10	RJ	2020/03/11	MC
AMQ-FF-008	9-37-54	5.6%	0+060	Centre	2020/03/11	MC	2020/03/11	MC
AMQ-FF-009	5-20-76	4.7%	0+100	East Slope	2020/03/11	MC	2020/03/11	MC
AMQ-FF-010	9-33-58	6.1%	0+140	West Slope	2020/03/11	MC	2020/03/12	MC
AMQ-FF-011	7-31-62	5.6%	0+270	East Slope	2020/03/11	MC	2020/03/12	MC
AMQ-FF-012	7-24-69	5.1%	0+230	Centre	2020/03/11	RJ	2020/03/12	MC
AMQ-FF-013	7-27-66	4.6%	0+190	East Slope	2020/03/11	RJ	2020/03/12	MC
AMQ-FF-014	7-29-64	4.0%	0+170	Centre	2020/03/12	RJ	2020/03/12	MC
AMQ-FF-015	6-28-66	4.4%	0+080	West Slope	2020/03/11	MC	2020/03/14	MC
AMQ-FF-016	8-31-61	5.0%	0+120	Centre	2020/03/11	MC	2020/03/14	RJ
AMQ-FF-017	8-30-63	5.7%	0+290	Centre	2020/03/11	RJ	2020/03/14	RJ
AMQ-FF-018	8-31-61	4.3%	0+210	West Slope	2020/03/12	RJ	2020/03/14	RJ-MC
AMQ-FF-019	9-34-57	5.3%	0+250	West Slope	2020/03/11	MC	2020/03/13	RJ
AMQ-FF-020	9-43-58	4.0%	0+160	West Slope	2020/03/12	RJ	2020/03/13	RJ
AMQ-FF-021	8-36-56	4.7%	0+560	West Slope	2020/03/13	RJ	2020/03/13	RJ
AMQ-FF-022	10-40-50	7.0%	0+580	East Slope	2020/03/13	RJ	2020/03/13	MC
AMQ-FF-023	8-33-59	4.3%	0+600	Centre	2020/03/13	MC	2020/03/14	MC-RJ
AMQ-FF-024	7-33-61	4.3%	0+900	East Slope	2020/03/13	MC	2020/03/13	MC
AMQ-FF-025	7-34-59	4.7%	0+620	West Slope	2020/03/13	MC	2020/03/13	MC
AMQ-FF-026	7-28-66	3.8%	0+640	East Slope	2020/03/13	RJ	2020/03/14	RJ
AMQ-FF-027	10-38-52	4.7%	0+660	Centre	2020/03/13	RJ	2020/03/14	MC
AMQ-FF-028			0+680	West Slope	2020/03/13	RJ	2020/03/15	MC

Table 1: Summary and location coarse filter sampled

Sample ID	nes-Sand-Grav	loisture Conter	Station	ocation of samplin	late of sampling	Sample by	late of testing	Test by
AMQ-CF-003	3 - 5 - 92	1.70%	0+160	East Slope	2020/03/12	MC	2020/03/13	RJ
AMQ-CF-004			0+580	West slope	2020/03/14	MC		

- **Review of gradation test results completed by QC: summary of the gradation tests completed so far is shown in Figure 1. As shown in Figure 1, all except two of the gradation test result meet the specification. Even the two samples show minor deviation from the specification. The gradation of the coarse filter sampled at sta. 0+160 also meets the specification.**

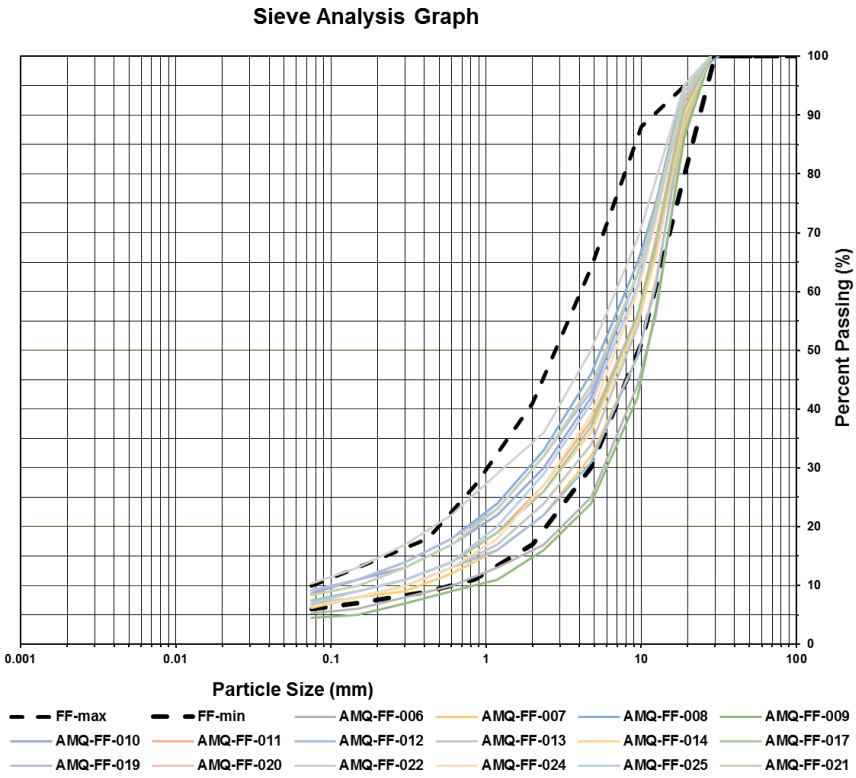


Figure 1: Summary of gradation test result for fine filter

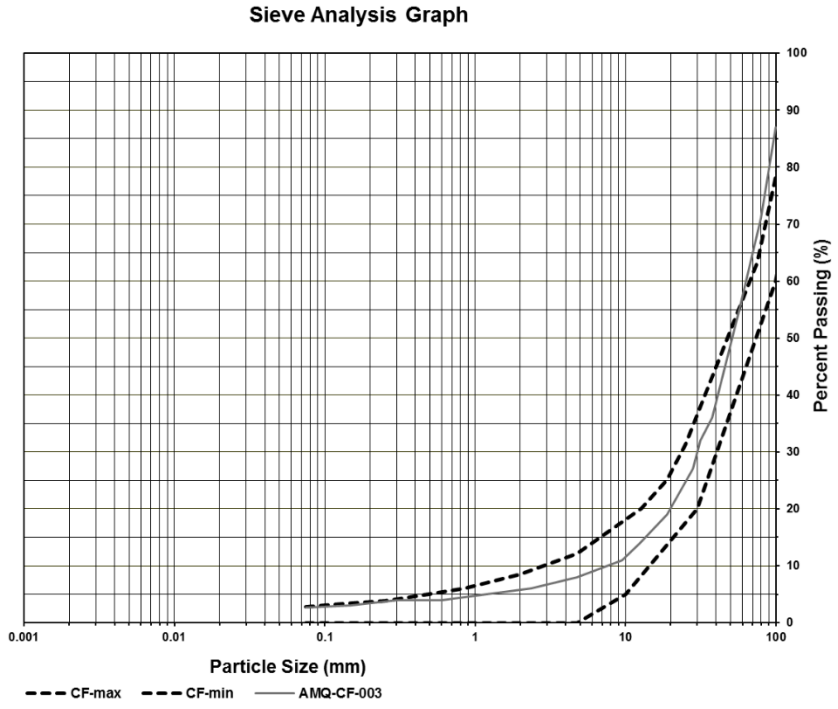


Figure 2: Summary of gradation test result of for coarse filter

- **Approval:**
    - **Snow removal approval for fine filter placement (photo 2)**

  The area from station 0+750 to 0+700 was approved for fine filter placement. The area is free from snow/ice/water.

- **The site shut down around 1:30 due to blizzard snow weather condition. Snow cleaning will be reassessed before the placement of either fine or coarse filter placement on previously approved area.**

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments
Snow removal approval for fine filter placement	Station 0+750 to 0+700	Approved for filter placement

SAFE AND SAFETY REMARKS

Use hand radio, it's very important.

Issued by :	Daniel Meles	14-03-2020
	Signature	Date
Verified by :		
	Signature	Date

PHOTOS/PICTURES



Photo 1: view of coarse filter

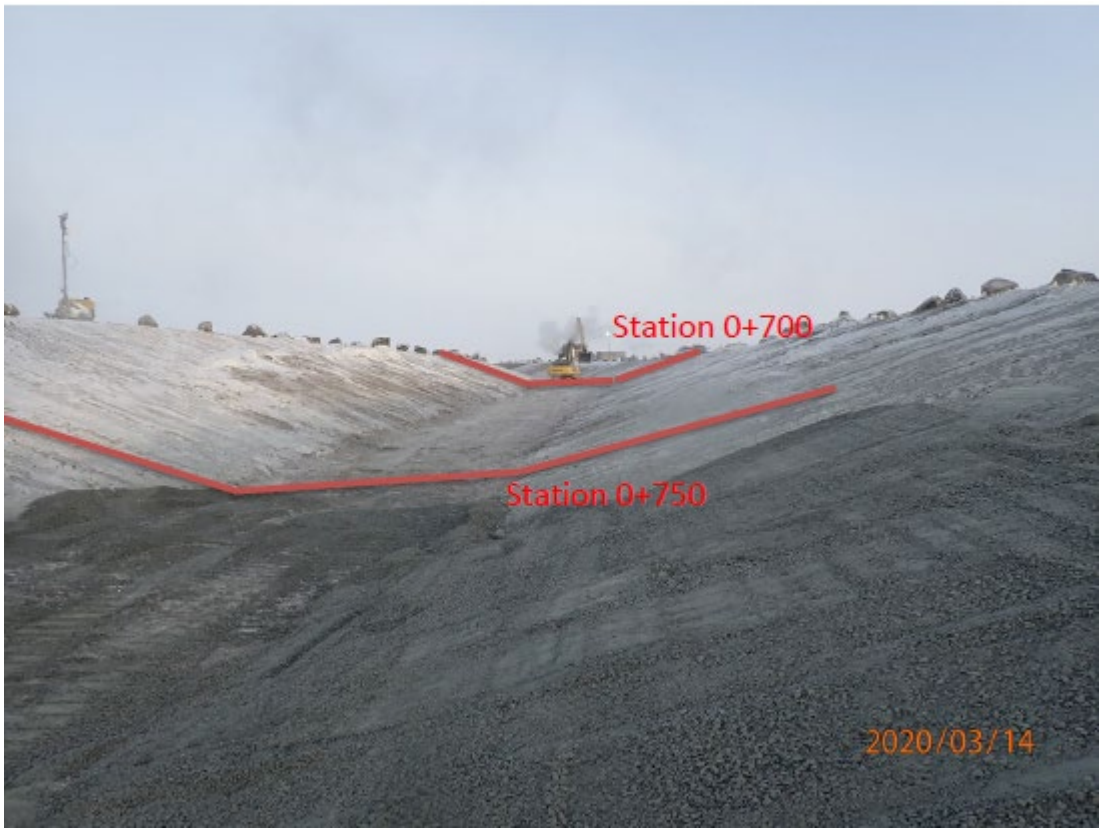


Photo 2: Approximate area of snow cleaning approval for fine filter placement

SNC·LAVALIN

SITE REPORT
(Detailed)

20200315-DS-SR61
Document number (YYYYMMDD-DS-SR)

2020-03-15	6 :30 AM	6 :30 PM	667648	Daniel Meles (DM)
Visit date	Time (Start/End)		Project No.	Prepared by

South Whale Tale Diversion Channel Construction	Agnico Eagle
Project	Client
SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☐Sunny ☒Cloudy ☐Rain ☐Storm ☒Snow ☐Glaze

Wind: ☐None ☐Light ☒Moderate ☐Strong, gusts

Temperature: -10 (-26 with wind chill) °C

Comments:

Appendix: ☐Yes ☒No Pictures ☐Yes ☒No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting;
- Inspected snow cleaning from yesterday blizzard weather condition and monitor fine filter placement:
    - Because of blizzard weather forecast: the contractor preferred to clean small area, once snow cleaning completed the area will then be inspected by QA/QC and start fine filter placement on the inspected area. At the end of each inspection QA/QC will take picture of the inspected area. Fine filter placement then continues starting at station 0+710 to 0+747 and from station 0+867 to 0+815. QA/QC was available on the work site for most of the day to monitor the cleaning and fine filter placement.

Observation:

Fine filter placement

- **Truck unloaded fine/coarse filter material on horizontal ground;**
- **Excavator carefully placed fine/coarse filter on slope; and**
- **Material placed were compacted with the bucket of the excavator**

The contractor used reasonable practice to avoid segregation of material during placement. The bottom of the channel was very dense compared to the slope because of the additional compaction from the truck using the area for loading and unloading material.

Snow cleaning (Photo 1 &2)

- **Snow from previously approved esker was cleaned and the area had been inspected by QA/QC before fine filter placement. See example photo 1 and 2 for snow cleaning before fine filter placement.**

- **Sampled five fine filter with QC:** Three (3) fine filter was sampled. A total of 26 fine filter and 2 coarse filter sampled so far. A summary fine and coarse filter sampling location is shown in Table 1 and 2 respectively.

Table 1: Summary and location fine filter sampled

Sample ID	Fines-Sand-Gravel	Moisture Content	Station	.ocation of samplin	Date of sampling	Sample by	Date of testing	Test by
AMQ-FF-006	5-20-75	4.1%	0+327	West Slope	2020/0310	RJ	2020/03/11	MC
AMQ-FF-007	6-26-68	4.6%	0+310	Centre	2020/03/10	RJ	2020/03/11	MC
AMQ-FF-008	9-37-54	5.6%	0+060	Centre	2020/03/11	MC	2020/03/11	MC
AMQ-FF-009	5-20-76	4.7%	0+100	East Slope	2020/03/11	MC	2020/03/11	MC
AMQ-FF-010	9-33-58	6.1%	0+140	West Slope	2020/03/11	MC	2020/03/12	MC
AMQ-FF-011	7-31-62	5.6%	0+270	East Slope	2020/03/11	MC	2020/03/12	MC
AMQ-FF-012	7-24-69	5.1%	0+230	Centre	2020/03/11	RJ	2020/03/12	MC
AMQ-FF-013	7-27-66	4.6%	0+190	East Slope	2020/03/11	RJ	2020/03/12	MC
AMQ-FF-014	7-29-64	4.0%	0+170	Centre	2020/03/12	RJ	2020/03/12	MC
AMQ-FF-015	6-28-66	4.4%	0+080	West Slope	2020/03/11	MC	2020/03/14	MC
AMQ-FF-016	8-31-61	5.0%	0+120	Centre	2020/03/11	MC	2020/03/14	RJ
AMQ-FF-017	8-30-63	5.7%	0+290	Centre	2020/03/11	RJ	2020/03/14	RJ
AMQ-FF-018	8-31-61	4.3%	0+210	West Slope	2020/03/12	RJ	2020/03/14	RJ-MC
AMQ-FF-019	9-34-57	5.3%	0+250	West Slope	2020/03/11	MC	2020/03/13	RJ
AMQ-FF-020	9-43-58	4.0%	0+160	West Slope	2020/03/12	RJ	2020/03/13	RJ
AMQ-FF-021	8-36-56	4.7%	0+560	West Slope	2020/03/13	RJ	2020/03/13	RJ
AMQ-FF-022	10-40-50	7.0%	0+580	East Slope	2020/03/13	RJ	2020/03/13	MC
AMQ-FF-023	8-33-59	4.3%	0+600	Centre	2020/03/13	MC	2020/03/14	MC-RJ
AMQ-FF-024	7-33-61	4.3%	0+900	East Slope	2020/03/13	MC	2020/03/13	MC
AMQ-FF-025	7-34-59	4.7%	0+620	West Slope	2020/03/13	MC	2020/03/13	MC
AMQ-FF-026	7-28-66	3.8%	0+640	East Slope	2020/03/13	RJ	2020/03/14	RJ
AMQ-FF-027	10-38-52	4.7%	0+660	Centre	2020/03/13	RJ	2020/03/14	MC
AMQ-FF-028			0+680	West Slope	2020/03/13	RJ	2020/03/15	MC
AMQ-FF-029			0+700	West Slope	2020/03/15	MC	2020/03/16	RJ
AMQ-FF-030			0+720	East Slope	2020/03/15	MC	2020/03/15	MC
AMQ-FF-031			0+740	Centre	2020/03/15	MC	2020/03/17	RJ

Table 1: Summary and location coarse filter sampled

Sample ID	nes-Sand-Grav	loisture Conter	Station	ocation of samplin	late of sampling	Sample by	late of testing	Test by
AMQ-CF-003	3 - 5 - 92	1.70%	0+160	East Slope	2020/03/12	MC	2020/03/13	RJ
AMQ-CF-004			0+580	West slope	2020/03/14	MC		

- **Review of gradation test results completed by QC: summary of the gradation tests completed so far is shown in Figure 1. As shown in Figure 1, all except two of the gradation test result all gradation test results meet fine filter specification. Even the two samples show minor deviation from the specification. The gradation of the coarse filter sampled at sta. 0+160 also meets the specification.**

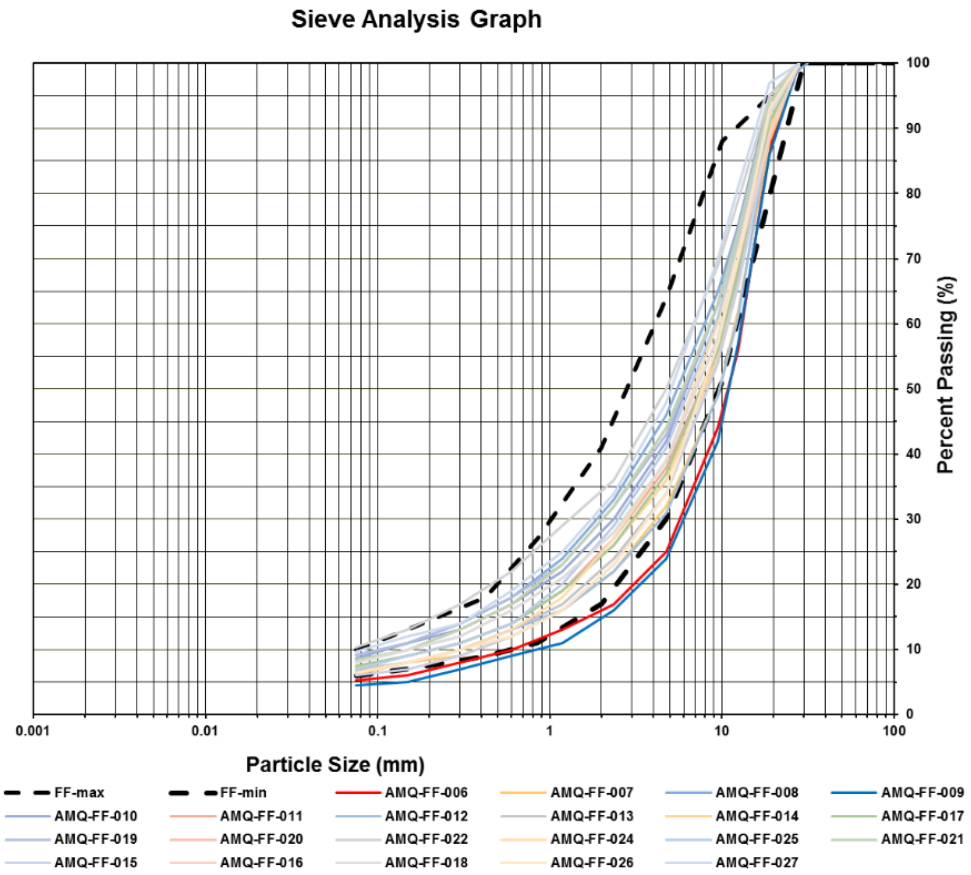


Figure 1: Summary of gradation test result for fine filter

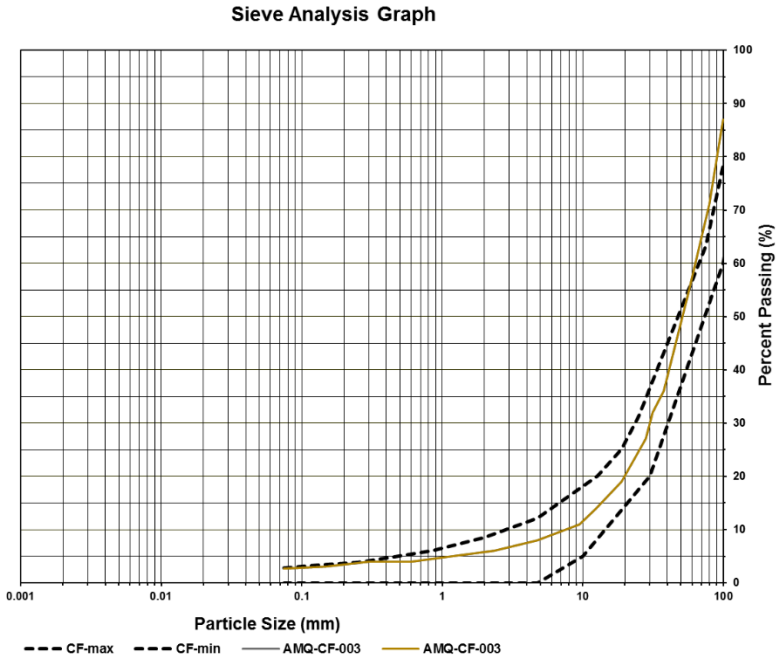


Figure 2: Summary of gradation test result of for coarse filter

- **Approval:**
    - **Fine filter approval (photo 3 and 4)**

The fine filter placed from station 0+700 to 0+747 and 0+906 to 0+815 was approved. At the time of approval gradation test result of one sample from the approved area and twenty-one (21) from previously approved area were available. Except two gradation test result, all gradation meets the specification. Based on visual inspection, compaction, lift thickness, segregation and gradation of the fill material is in compliance with the technical specification. It should be noted that snow on the fine filter should be cleaned and inspected by QA/QC before coarse filter placement. Photo 3 and 4 show approval from station 0+815 to 0+906 and from Station 0+747 to 0+700 respectively.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments
Fine filter placement	Station 0+747 to 0+700	Approved but require snow removal inspection before coarse filter placement.
Fine filter placement	Station 0+906 to 0+815	Approved but require snow removal inspection before coarse filter placement.

SAFE AND SAFETY REMARKS

Minimized visibility from blowing snow

Issued by : Daniel Meles (Signature) 15-03-2020 (Date)

Verified by : (Signature) (Date)

PHOTOS/PICTURES



Photo 1: view of cleaning and fine filter placement (Photo taken looking south)



Photo 2: view snow cleaning before fine filter placement



Photo 3: View of approximate area fine filter placement approval



Photo 4: View of approximate area fine filter placement approval

SNC·LAVALIN

SITE REPORT
(Detailed)

20200316-DS-SR62
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-03-16	6 :30 AM – 6 :30 PM	667648	Daniel Meles (DM)

Project	Client
South Whale Tale Diversion Channel Construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☐Sunny ☒Cloudy ☐Rain ☐Storm ☒Snow ☐Glaze

Wind: ☐None ☐Light ☒Moderate ☒Strong, gusts

Temperature: -29 (-33 with wind chill) °C

Comments: **Blizzard**

Appendix: ☐Yes ☒No Pictures ☐Yes ☒No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting;
- Snow cleaning from previously approved esker placement and filter placement between station 0+805 and 0+770. Fine filter placement has been completed except between 0+330 to 0+400 at A45 outlet and 0+555 to 0+500 – at A45 inlet. See example photo 1 for snow cleaning and fine filter placement in the area.
- Site shut down due to limited visibility from blizzard weather around 3:00 PM

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Minimized visibility from blowing snow

Issued by : Daniel Meles — Signature — 16-03-2020 — Date

Verified by : Signature — Date

PHOTOS/PICTURES



Photo 1: view of cleaning and fine filter placement (Photo taken looking south)

SNC·LAVALIN

SITE REPORT
(Detailed)

20200317-DS-SR63
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-03-17	6 :30 AM – 6 :30 PM	667648	Daniel Meles (DM)

Project	Client
South Whale Tale Diversion Channel Construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☒Cloudy ☐Rain ☐Storm ☒Snow ☐Glaze

Wind: ☐None ☐Light ☒Moderate ☒Strong, gusts

Temperature: -24 (-40 with wind chill) °C

Comments:

Appendix: ☐Yes ☒No Pictures ☐Yes ☒No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting;
- Inspected snow cleaning from previously approved fine filter area for coarse filter placement.
    - The contractor preferred to clean small area, once the snow cleaning is completed the area will then be inspected by QA/QC and placement of coarse filter on the inspected area continued. At the end of each inspection QA/QC took photo of the inspected area.
    - Placement of coarse filter approximately from staion 0+885 to 820

Observation:

1. **Coarse filter placement :**
    - **Truck unloaded coarse filter material on horizontal ground;**
    - **Excavator carefully placed coarse filter on slope; and**
    - **Material placed were compacted with the bucket of the excavator**

The contractor used reasonable practice to avoid segregation of material during placement. The bottom of the channel was very dense compared to the slope because of the additional compaction from the truck using the area for loading and unloading material.

2. **Snow cleaning (Photo 1 &2)**

    - **Snow from previously approved fine filter area was cleaned and inspected by QA/QC before coarse filter placement. See example photo 1 for snow cleaning before fine filter placement.**

- **Review of gradation test results completed by QC: summary of the gradation tests completed so far is shown in Figure 1. As shown in Figure 1, all except two of the gradation test results meet fine filter specification. Even the two samples show minor deviation from the specification.**

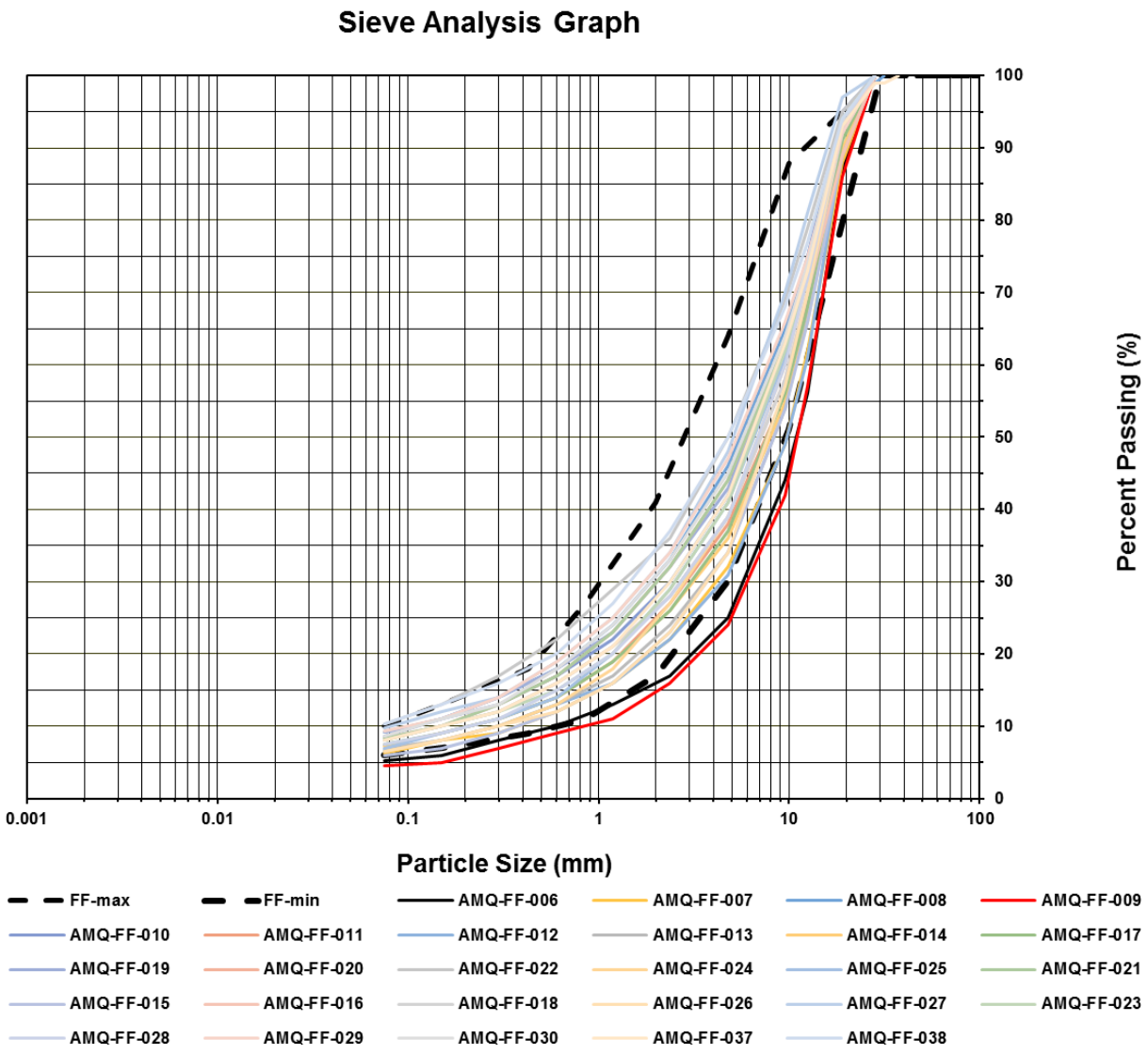


Figure 1: Summary of gradation test result for fine filter

- **Approval:**

    - **Fine filter approval (photo 3 and 4)**

    The fine filter placed from station 0+747 to 0+815 was approved. At the time of approval gradation test result of three (3) samples from the approved area and twenty-seven (27) from previously approved area were available. Based on visual inspection: compaction, lift thickness, segregation and gradation of the fill material is in compliance with the technical specification. It should be noted that snow on the fine filter should be cleaned and inspected by QA/QC before coarse filter placement. Photo 2 show approval from station 0+747 to 0+815.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments
Fine filter placement	Station 0+747 to 0+815	

SAFE AND SAFETY REMARKS

Minimized visibility from blowing snow

Issued by : Daniel Meles — Signature — 17-03-2020 — Date

Verified by : Signature — Date

PHOTOS/PICTURES



Photo 1: view of cleaning and before coarse filter placement (Photo taken looking north)

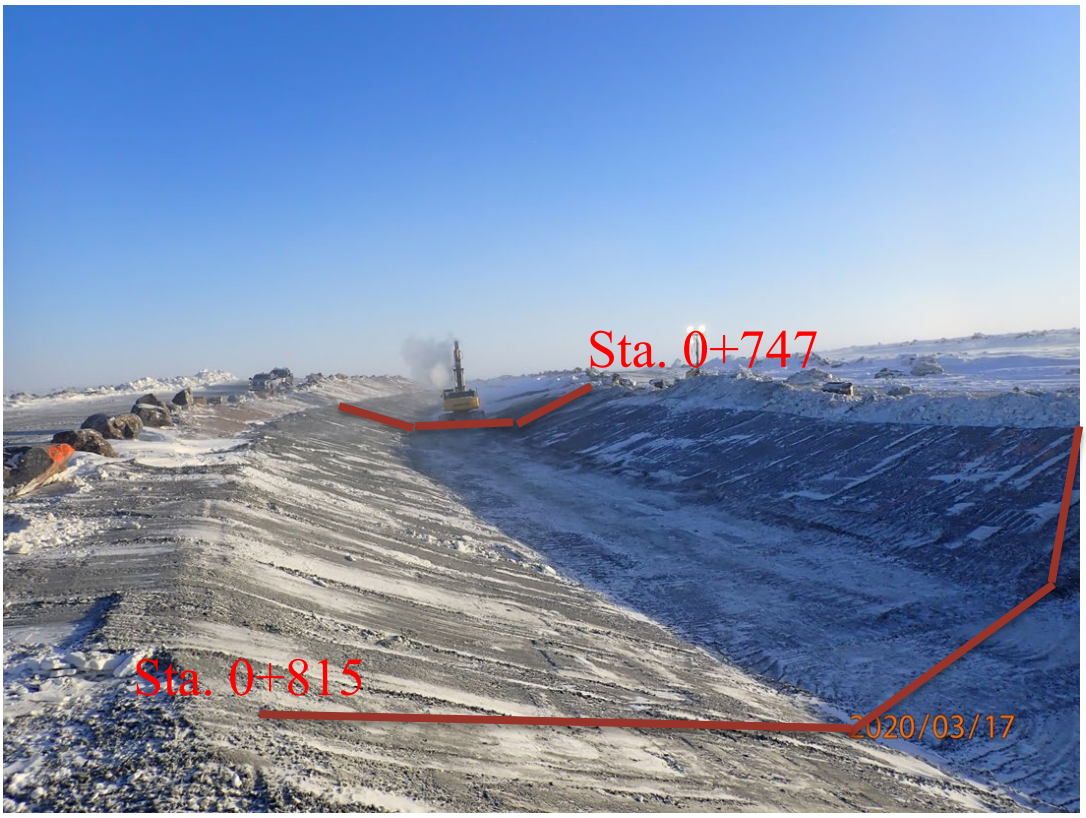


Photo 2: View of approximate area for fine filter placement approval

SNC·LAVALIN

SITE REPORT
(Detailed)

20200318-DS-SR64
Document number (YYYYMMDD-DS-SR)

2020-03-18	6 :30 AM	6 :30 PM	667648	Daniel Meles (DM)
Visit date	Time (Start/End)		Project No.	Prepared by

South Whale Tale Diversion Channel Construction	Agnico Eagle
Project	Client

SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☒Snow ☐Glaze

Wind: ☐None ☐Light ☒Moderate ☐Strong, gusts

Temperature: -31 (-38 with wind chill) °C

Comments:

Appendix: ☐Yes ☒No Pictures ☐Yes ☒No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting;
- Site visit to check snow cleaning and coarse filter placement (See photo 1);
- Site shut down because of missing blast hole from lunch until 5:30 PM.
- Review of gradation test results completed by QC: gradation test of all fine filter sampled from the channel is now completed. Summary of the gradation tests is shown in Figure 1. As shown in Figure 1, all except two of gradation tests result meet fine filter specification. Even the two samples show minor deviation from the specification.

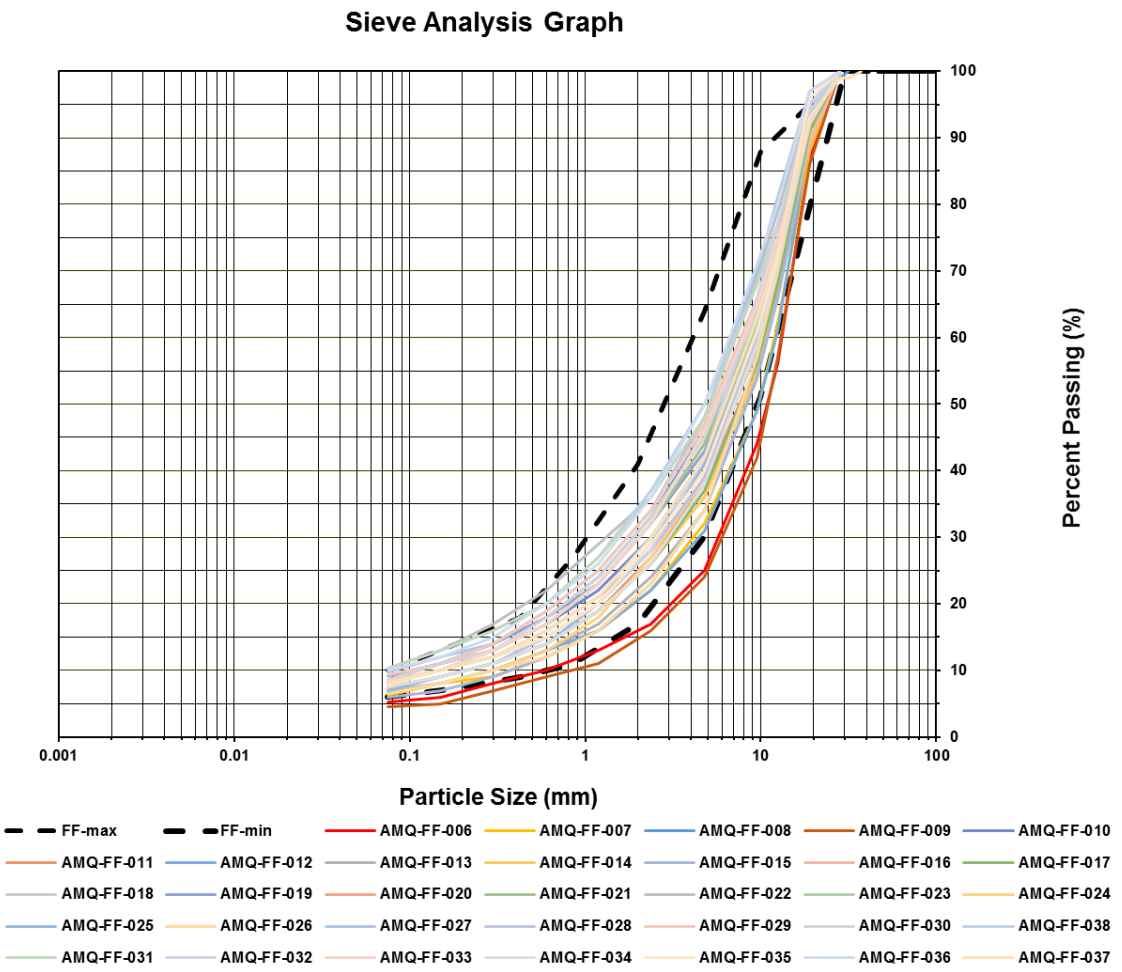


Figure 1: Summary of gradation test result for fine filter

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Issued by :	Daniel Meles	18-03-2020
	Signature	Date
Verified by :		
	Signature	Date

PHOTOS/PICTURES



Photo 1: view of cleaning and before coarse filter placement (photo taken looking south)

SNC·LAVALIN

SITE REPORT
(Detailed)

20200319-DS-SR65
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-03-19	6 :30 AM – 6 :30 PM	667648	Daniel Meles (DM)

Project	Client
South Whale Tale Diversion Channel Construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☒Cloudy ☐Rain ☐Storm ☒Snow ☐Glaze

Wind: ☐None ☐Light ☒Moderate ☒Strong, gusts

Temperature: -34 (-39 with wind chill) °C

Comments:

Appendix: ☐Yes ☒No Pictures ☐Yes ☒No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting:
    - During the construction meeting, there was a discussion about the construction method for geotextile and rip rap placement and approval procedure:

Construction method for geotextile and rip rap placement

To avoid damage on the geotextile by excavator working on top of geotextile or rip rap, two panel of the geotextile will be placed on the coarse filter followed by the placement of rip rap at the bottom part of the channel first followed by placement on slopes.

Geotextile and rip approval

As construction will be continuous (placing two panel of geotextile followed by rip rap placement), geotextile and rip rap placement approval will be completed one for area north of A45 lake and one for area south of A45 lake or area completed before QA/QC cross shift. QA/QC will be on site to inspect and follow up geotextile and rip rap placement.

- Approval**:**

    - **Coarse filter approval (photo 1 and 2)**

  The coarse filter placed from station 0+906 to 0+660 was approved.

- Observed snow cleaning from coarse filter in preparation for geotextile and rip rap placement
- Follow up and observed geotextile and rip rap placement starting at staion 0+755 with the work progressed towards north. At the end of the day geotextile and rip rap on the bottom of the channel was placed for about 40 m. Seee photo 3 to 8;

  Observation;

    - 500 mm minimum overlap with upstream sheet over the downstream sheet.
    - No geotextile damage except at one place where the geotextile damaged while placing the rip rap. However, a piece of geotextile was placed underneath the damaged geotextile.
    - Rip rap was placed carefully;
    - No boulders or rock on the coarse filter before placing the geotextile as it may damage the geotexyile when the rip rap is placed;
    - Visually the rip rap rocks were irregular and eleongated in shape with at least the longest side between 100 to 300 mm.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments
Coarse filter placement	Station 0+906 to 0+660	

SAFE AND SAFETY REMARKS

Minimized visibility from blowing snow

Issued by :	Daniel Meles	19-03-2020
	Signature	Date
Verified by :		
	Signature	Date

PHOTOS/PICTURES



Photo 1: Approximate are of approved filter between Sta. 0+760 and 0+906



Photo 2: Approximate are of approved filter between Sta. 0+760 and 0+660



Photo 3: View of geotextile placement



Photo 4: View of geotextile placement



Photo 5: View of geotextile placement



Photo 6: View of geotextile placement (overlap check)



Photo 7: View of rip rap placement



Photo 8: View of rip rap (glove is approximately 25 cm)

SNC·LAVALIN

SITE REPORT
(Detailed)

20200320-DS-SR66
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-03-20	6 :30 AM – 6 :30 PM	667648	Daniel Meles (DM)

Project	Client
South Whale Tale Diversion Channel Construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☒Snow ☐Glaze

Wind: ☐None ☐Light ☒Moderate ☐Strong, gusts

Temperature: -28 (-37 with wind chill) °C

Comments:

Appendix: ☐Yes ☒No Pictures ☐Yes ☒No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting:

- Observed snow cleaning from coarse filter in preparation for geotextile and rip rap placement (photo 1)
- Follow up and observed geotextile and rip rap placement from staion 0+840 to 0+906. Rip rap was placed on bottom part of the channel (Photo 2-4);

Observation;

  - At the end of each role the geotextile may be short to place the geotextile go all the way along the channel. In such case, the contractor used another geotextile to cover the remaining part by overlapping the geotextile minimimu 1 m length (Photo 5);
  - No geotextile damage except at one place where the geotextile damaged while placing the rip rap. However, a piece of geotextile was placed underneath the damaged geotextile (photo 6);
  - 0.5 m minimum overlap with upstream sheet over the downstream sheet (Photo 7);
  - Rip rap was placed carefully;
  - No boulders or rock on the coarse filter before placing the geotextile as it may damage the geotextile when the rip rap is placed;
  - Visually the rip rap rocks were irregular and elongated in shape with at least the longest side between 100 to 300 mm.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Minimized visibility from blowing snow

Issued by :	Daniel Meles	20-03-2020
	Signature	Date
Verified by :		
	Signature	Date

PHOTOS/PICTURES



Photo 1:View snow cleaning from coarse filter in the area south of A45 lake



Photo 2:View of rip rap and geotextile placement fro station 0+840 to 0+906



Photo 3:View of rip rap and geotextile placement fro station 0+840 to 0+906



Photo 4:View the progress of rip rap and geotextile placement fro station 0+840 to 0+906



Photo 5: view of overlap for geotextile placed perpendicular to the channel (min overlap 1m)



Photo 6: View of geotextile placed underneath the damaged geotextile



Photo 7: Overlap parallel to the channel (min = 0.5 m)

SNC·LAVALIN

SITE REPORT
(Detailed)

20200321-DS-SR67
Document number (YYYYMMDD-DS-SR)

2020-03-21	6 :30 AM	6 :30 PM	667648	Daniel Meles (DM)
Visit date	Time (Start/End)		Project No.	Prepared by

South Whale Tale Diversion Channel Construction	Agnico Eagle
Project	Client

SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☐Sunny ☐Cloudy ☐Rain ☐Storm ☒Snow ☐Glaze

Wind: ☐None ☐Light ☒Moderate ☐Strong, gusts

Temperature: -9 (-18 with wind chill) °C

Comments:

Appendix: ☐Yes ☒No Pictures ☐Yes ☒No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting;
- Site visit to check snow cleaning in area between Station 0+325 to 0+065;
- Review of gradation test results of coarse filter completed by QC: The gradation test of coarse filter completed so far are summerized in Figure 1. The sample location is summerized in Table 1. As shown in Figure 1, some of the samples deviate a little from the coarse filter specification. Considering the presence of geotextile on top of the coarse filter which provide additional erosion protection, such devation could be accepted.

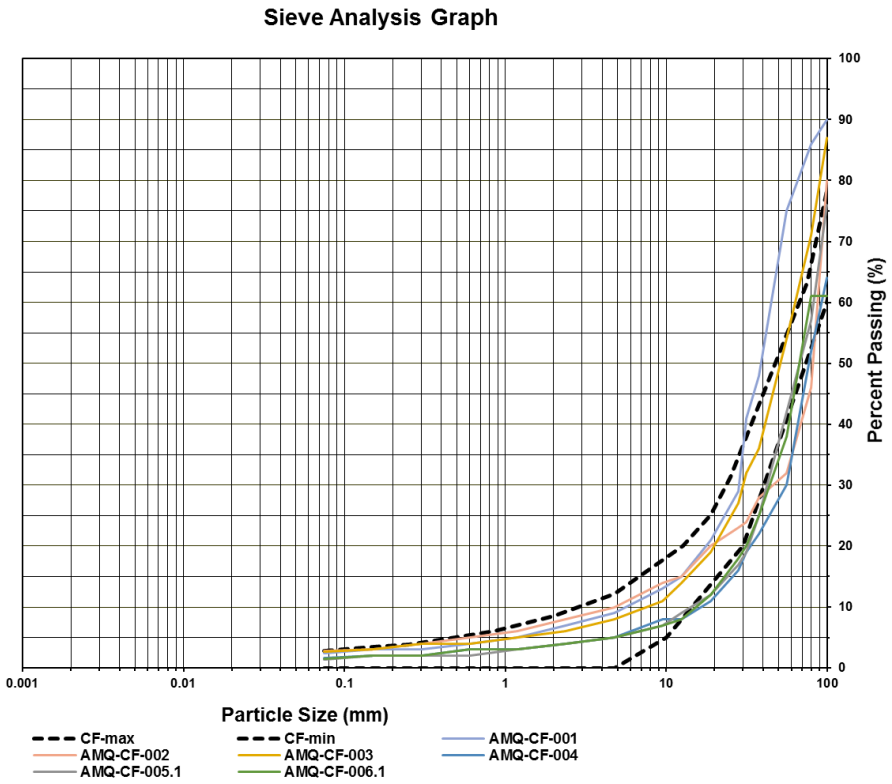


Figure 1: Summary of gradation test result for fine filter

Table 1: Summary of sampling location for the coarse filter

Sample ID	nes-Sand-Grav	loisture Conter	Station	ocation of samplin	ate of sampling	Sample by	ate of testing	Test by
AMQ-CF-001	2 - 7 - 91	2.40%	-	Stock pile	2020/01/21	MC	2020/01/22	MC
AMQ-CF-002	3 - 7 - 90	6.80%	-	Stock pile	2020/01/22	MC	2020/01/23	MC
AMQ-CF-003	3 - 5 - 92	1.70%	0+160	East Slope	2020/03/12	MC	2020/03/13	RJ
AMQ-CF-004	2-3-95	1.60%	0+580	West slope	2020/03/14	MC	2020/03/14	MC
AMQ-CF-005.1	1-4-95	2.40%	0+890	East slope	2020/03/20	MC	2020/03/21	MC
AMQ-CF-006.1	2-4-95	0.70%	0+780	West slope	2020/03/20	RJ	2020/03/21	MC

- **Approval:**
    - **Esker placement approval (photo 1)**

The esker plaed between station 0+555 to 0+545 was approved for fine filter placement.

- **Fine filter approval (Photo 2)**

The fine filter placed from station 0+555 to 0+545 was approved. Based on visual inspection: compaction, lift thickness, segregation and gradation of the fill material is in compliance with the technical specification.

- **Request for foundation approval between station 0+545 to 0+490**

  There was a request by KCG for the foundation approval between station 0+545 to 0+490. During the site visit the snow was not properly cleaned to make visual observation of the excavation bottom for any ice lences in the area and going forward AEM suggested:

  - Cleaning of the slopes for a proper observation
  - Assessment by me and AEM representative of ice lenses extent – I will prepare a short photo report
  - If the amount of work required to comply to the latest memo is up to a few days (hammer, etc.), proceed as is.
  - If the amount of work and delays are significant for removing the ice lenses as per the memo from SNC, we'll have to sit all together and reassess. do propoer observation cleaning was not Previous as contractor requested

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments
Esker placement approval	0+555 to 0+545	
Fine filter placement approval	0+555 to 0+545	

SAFE AND SAFETY REMARKS

Issued by : Daniel Meles — Signature — 21-03-2020 — Date

Verified by : Signature — Date

PHOTOS/PICTURES



Photo 1: view of approximate area for esker approval for fine filter placement

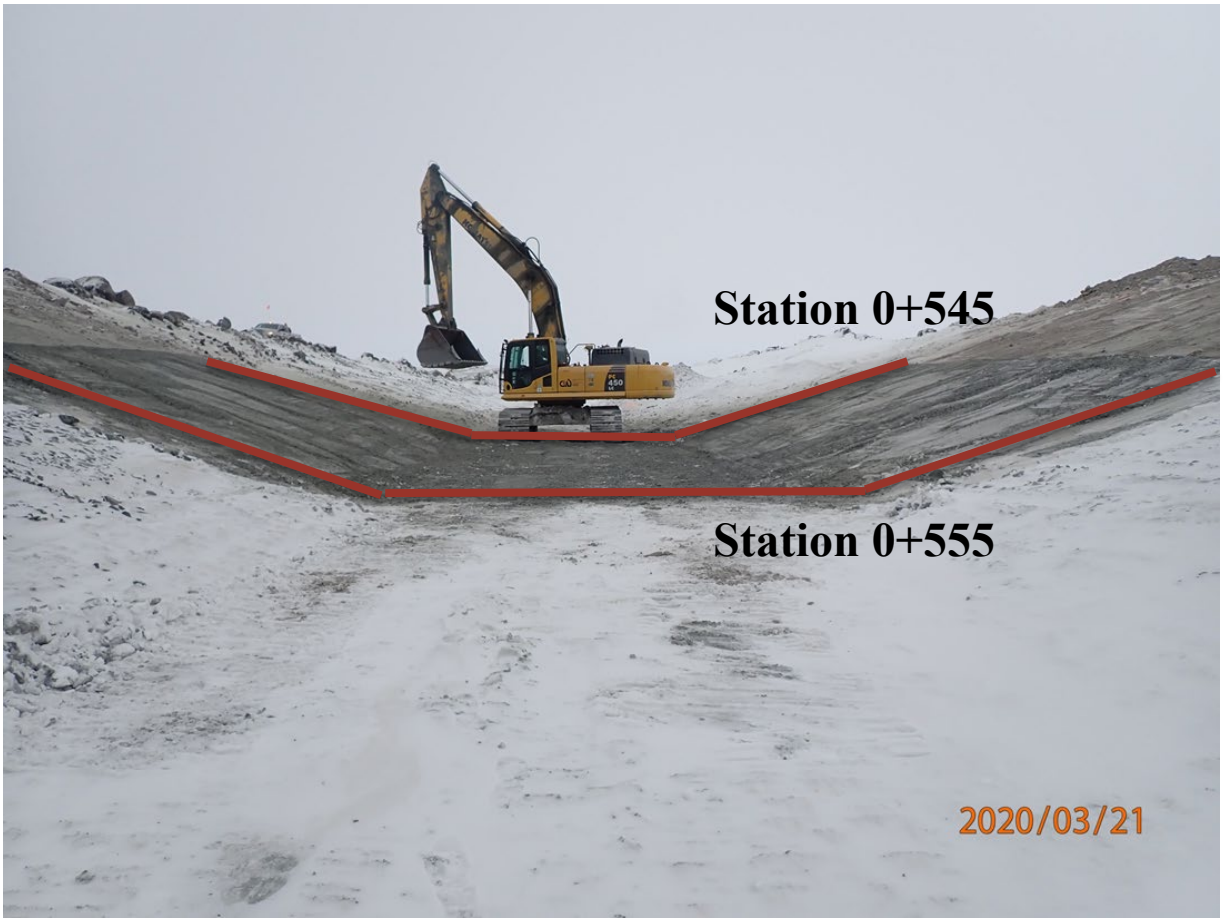


Photo 1: view of approximate area for fine filter approval

SNC·LAVALIN

SITE REPORT
(Detailed)

20200322-DS-SR68
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-03-22	6 :30 AM – 6 :30 PM	667648	Daniel Meles (DM)

Project	Client
South Whale Tale Diversion Channel Construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☐Sunny ☐Cloudy ☐Rain ☐Storm ☒Snow ☐Glaze

Wind: ☐None ☐Light ☒Moderate ☐Strong, gusts

Temperature: -14 (-21 with wind chill) °C

Comments:

Appendix: ☐Yes ☒No Pictures ☐Yes ☒No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting;
- Follow up and observed geotextile and rip rap placement from station 0+640 to 0+670.

Observation;

- 0.5 m minimum overlap with upstream sheet over the downstream sheet (Photo 7);
- Rip rap was placed carefully;
- No boulders or rock on the coarse filter before placing the geotextile as it may damage the geotextile when the rip rap is placed;
- Visually the rip rap rocks were irregular and elongated in shape with at least the longest side between 100 to 300 mm; and
- As indicated in the email on March 22, 2020, rip rap placed during the night shift was not clean, in some locations there was some fine material mixed with the rip rap. The issue was communicated with AEM, KCG and SNC. See the note below

Note regarding fine material observed approximately from Station 0+740 to 0+700

During the morning site visit, DM noticed the rip rap placed during the night was not clean and even some of the truck loads coming to site contained rip rap mixed with fine. DM notified AEM representative and KCG that the rip rap should be clean. After discussion in the presence of AEM and KCG representative on-site, KCG stop hauling, return trucks that were brought to site and contained rip rap mixed with fine to re-assess the condition and hold the area for further discussion to AEM and SNC. DM notified SNC by email and at the same time discussed with AEM. Various options were discussed to correct the situation and KCG then decided to mark the area that visually contain fine material mixed with rip and to manually remove rip rap and clean the area. DM in the presence of AEM representative check the cleaning and re-assess the area. It looks better. The correction measure taken was then discussed with SNC. Considering the area being small (40 – 60 m), the additional correction measure taken by KCG to clean the area and based on the assumption that good quality rip will be used for the remain section, SNC agree to continue the placement. See photo 1-4 for the view area before cleaning and example of photo of the cleaned area in Photo 4.

- **Approval:**
    - **Coarse filter approval (photo 5)**

The coarse filter placed between station 0+555 to 0+547 was approved for geotextile and rip rap placement.

- **Coarse filter approval (photo 6 and 7)**

The coarse filter placed between station 0+065 to 0+325 was approved for geotextile and rip rap placement.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments
Coarse filter placement approval	0+555 to 0+547	
Coarse filter placement approval	0+065 to 0+325	Require snow cleaning during the placement of geotextile and rip rap

SAFE AND SAFETY REMARKS

Issued by :	Daniel Meles	22-03-2020
	Signature	Date
Verified by :		
	Signature	Date

PHOTOS/PICTURES



Photo 1View fine material mixed with rip



Photo 2 View fine material mixed with rip



Photo 3 Overall view of the area



Photo 4 Example photo of area with the fine cleaned from the rip rap



Photo 5: Approximate area of approved coarse filter between station 0+555 to 0+543

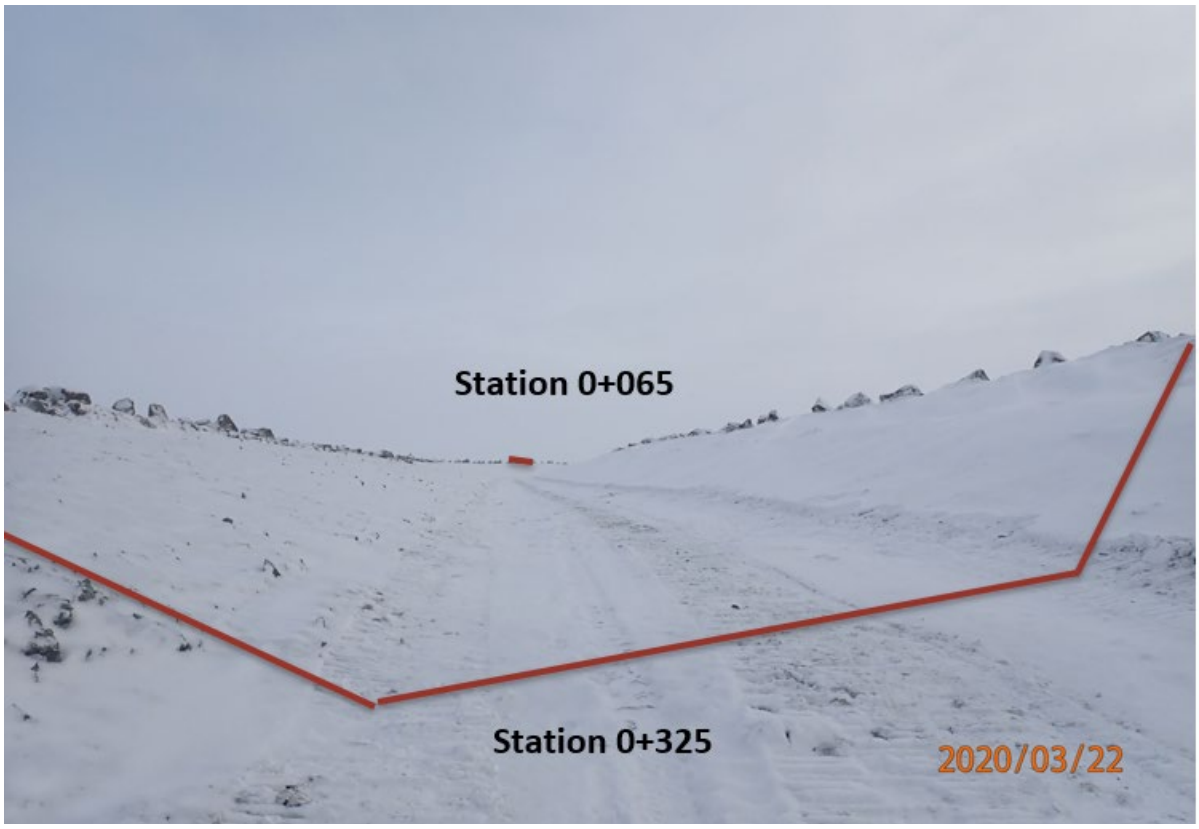


Photo 6: Approximate area of approved coarse filter between station 0+555 to 0+543

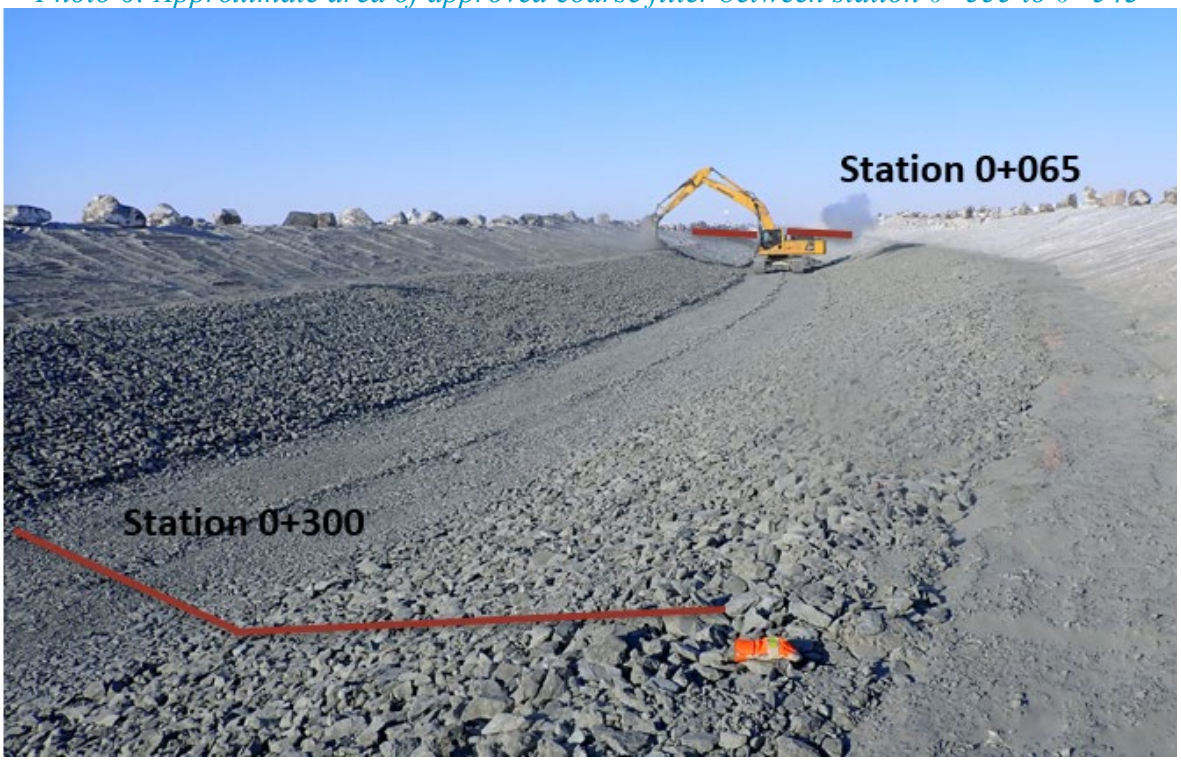


Photo 7: View of the coarse filter placement in area between station 0+065 to 0+325 (Photo taken after placement on March 12, 2020)

SNC·LAVALIN

SITE REPORT
(Detailed)

20200323-DS-SR69
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-03-23	6 :30 AM – 6 :30 PM	667648	Daniel Meles (DM)

Project	Client
South Whale Tale Diversion Channel Construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☐Light ☒Moderate ☐Strong, gusts

Temperature: -18 (-33 with wind chill) °C

Comments:

Appendix: ☐Yes ☒No Pictures ☐Yes ☒No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting;
- Follow up and observed geotextile and rip rap placement from station 0+600 to 0+580. (Photo 1-3)

Observation;

  - 0.5 m minimum overlap with upstream sheet over the downstream sheet;
  - Rip rap was placed carefully;
  - No boulders or rock on the coarse filter before placing the geotextile as it may damage the geotextile when the rip rap is placed;
  - Visually the rip rap rocks were irregular and elongated in shape with at least the longest side between 100 to 300 mm; and
  - No damage observed on the geotextile.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Issued by :	Daniel Meles	23-03-2020
	Signature	Date
Verified by :		
	Signature	Date

PHOTOS/PICTURES



Photo 1 View of rip rap placement



Photo 2 View of rip placement on top of the geotextile



Photo 3 Example photos of overlap (length of tape measure 500 mm)

SNC·LAVALIN

SITE REPORT
(Detailed)

20200324-DS-SR70
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-03-24	6 :30 AM – 6 :30 PM	667648	Daniel Meles (DM)

Project	Client
South Whale Tale Diversion Channel Construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☒Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☐Light ☒Moderate ☐Strong, gusts

Temperature: -26 (-37 with wind chill) °C

Comments:

Appendix: ☐Yes ☒No Pictures ☐Yes ☒No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting;
- Follow up and observed geotextile and rip rap placement approximately from station 0+300 to 0+240. (Photo 1)

Observation;

  - 500 mm minimum overlap with upstream sheet over the downstream sheet;
  - Rip rap was placed carefully;
  - No boulders or rock on the coarse filter before placing the geotextile as it may damage the geotextile when the rip rap is placed;
  - Visually the rip rap rocks were irregular and elongated in shape with at least the longest side between 100 to 300 mm; and
  - No damage observed on the geotextile.

- **Approval:**
    - **Geotextile and rip rap placement approval (photo 2 and 3)**

  The geotextile and rip rap placed between staion 0+906 to 0+590 was approved.

    - **Foundation approval: See attached foundation approval note at the end of the report.**

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments
Geotextile and rip rap placement approval	0+906 to 0+590	At very limited location the geotextile pulled down slope and didn't cover the filter. QC to follow the correction during rockfill placement.

SAFE AND SAFETY REMARKS

Issued by : Daniel Meles (Signature) 24-03-2020 (Date)

Verified by : (Signature) (Date)

PHOTOS/PICTURES



Photo 1 View of rip rap placement south of Lake A45

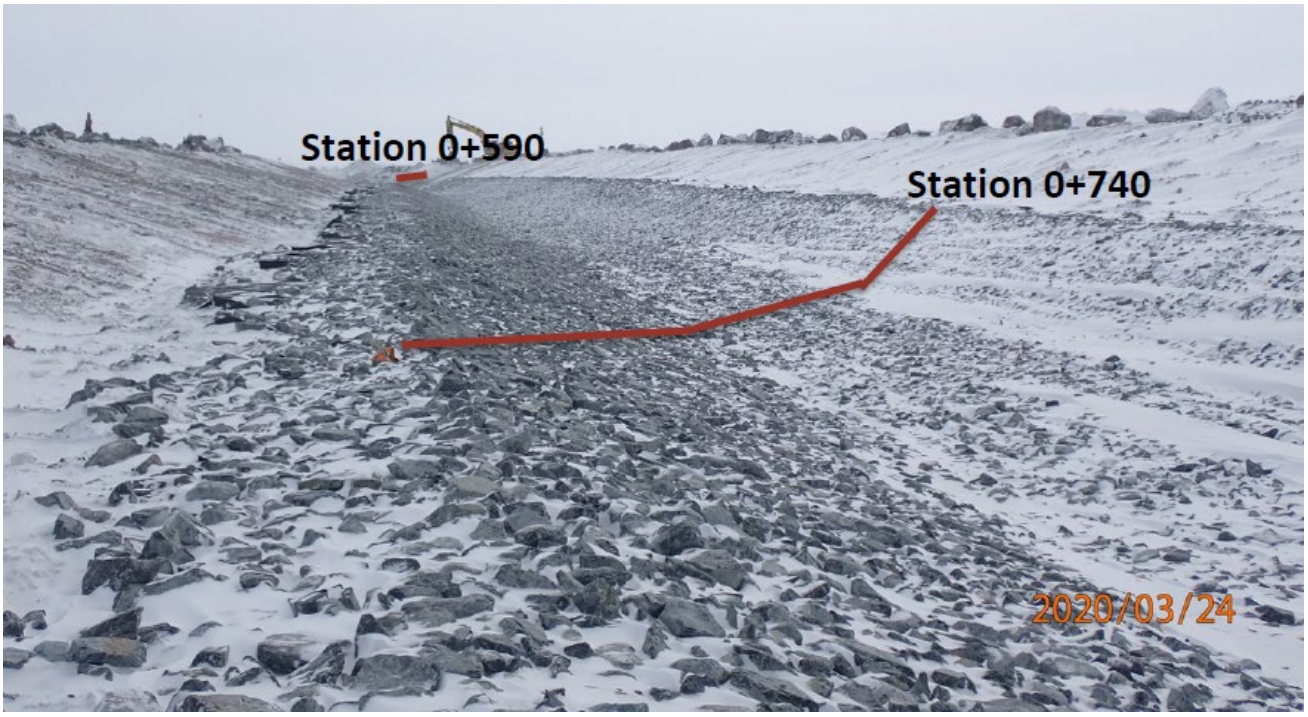


Photo 2 Approximate area approved for rip rap and geotextile placement (Sta. 0+740 to 0+590)

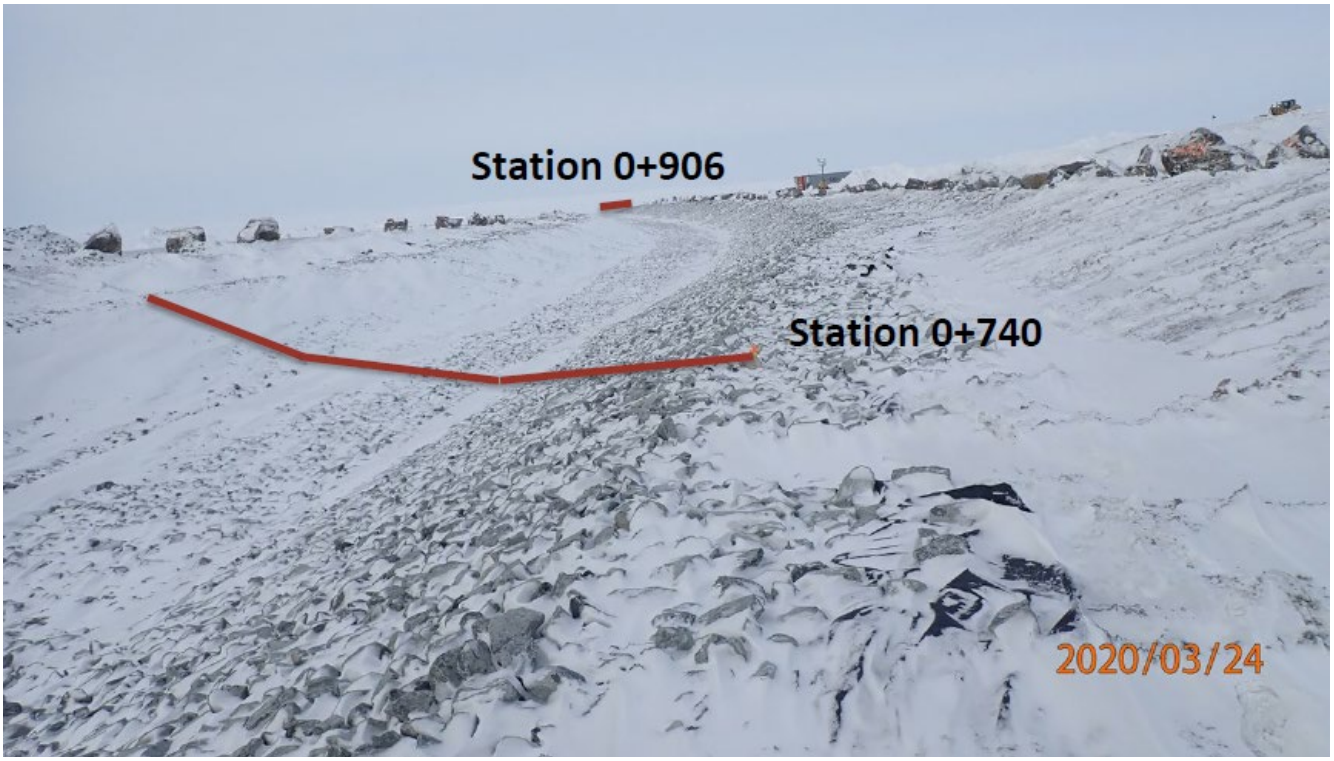
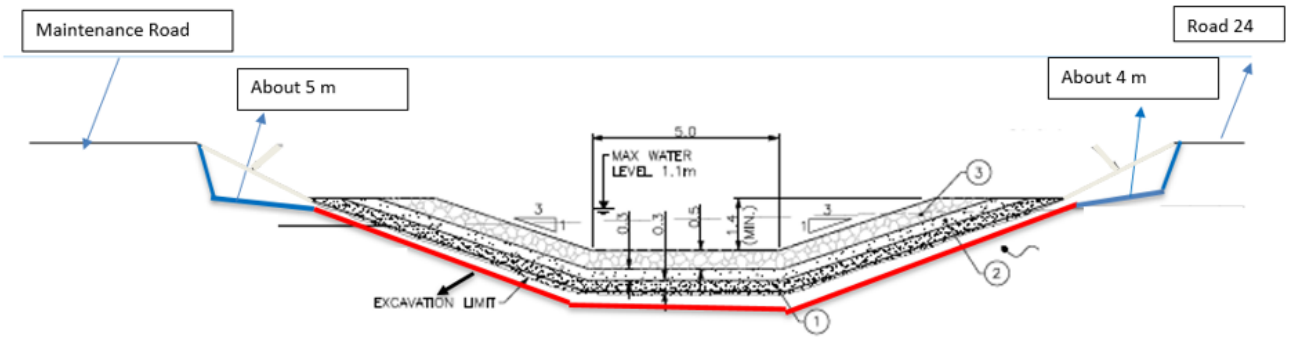


Photo 3 Approximate area approved for rip rap and geotextile placement (Sta. 0+740 to 0+96)

Note regarding foundation approval from Station 0+555 to 0+490

In general, the excavation in this area has an overcut of about 0.5 m to 0.6 m and even in some spots greater than 1 m. Typical sketch of the excavation in the area is shown in Figure 1. Detail excavation section will be provided by KCG tomorrow.



Observation

- **Excavation limit under the filter foundation (represented using red line in Figure 1): (photo 1-4)**
  - **Clean from ice/snow/water**
  - **Mainly fine sand material no ice lenses observed in this area**
- **Excavation outside the filter foundation**
  - **Filter foundation limit on the slope is about 4 m from Road 24;**
  - **Filter foundation limit on the slope is about 5 m for most part and about 1-2 m towards station 0+500;**
  - **Excavation shown with blue line mainly close to road 24 or maintenance road require additional cleaning of boulders or ice pieces and loose material (Phot 4-8).**

Thus, area under the channel section (shown red in Figure 1) is approved for esker placement. The area under the blue line require additional cleaning of loss material or boulder for the proper compaction of esker material. Moreover, the maintenance road and even road 24 in some section contains boulders with block of ice in between the boulders and placing esker material may later affect the slope placed against the road.

Recommendation

For area shown in photo 5 and 6 for east slope and Photo 7, 8 and 9 seem very difficult to properly compact esker material because of the boulders, and fine material of the esker may migrate in to the boulders when ice in between the big boulder rocks melts. Thus, I suggest AEM to check the possibility of using rock fill instead of esker material in those area.

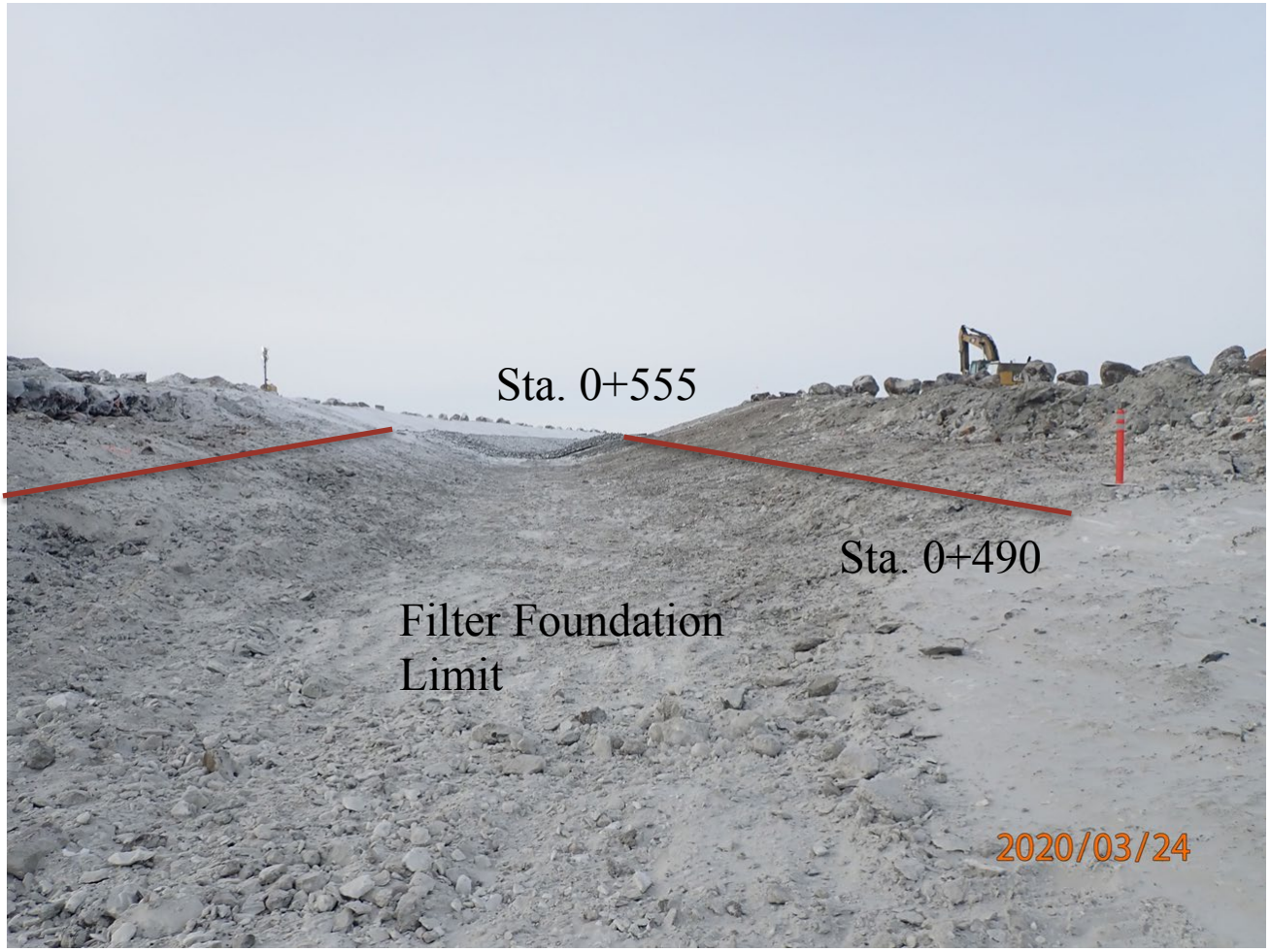


Photo 1 Excavation limit approved for esker placement

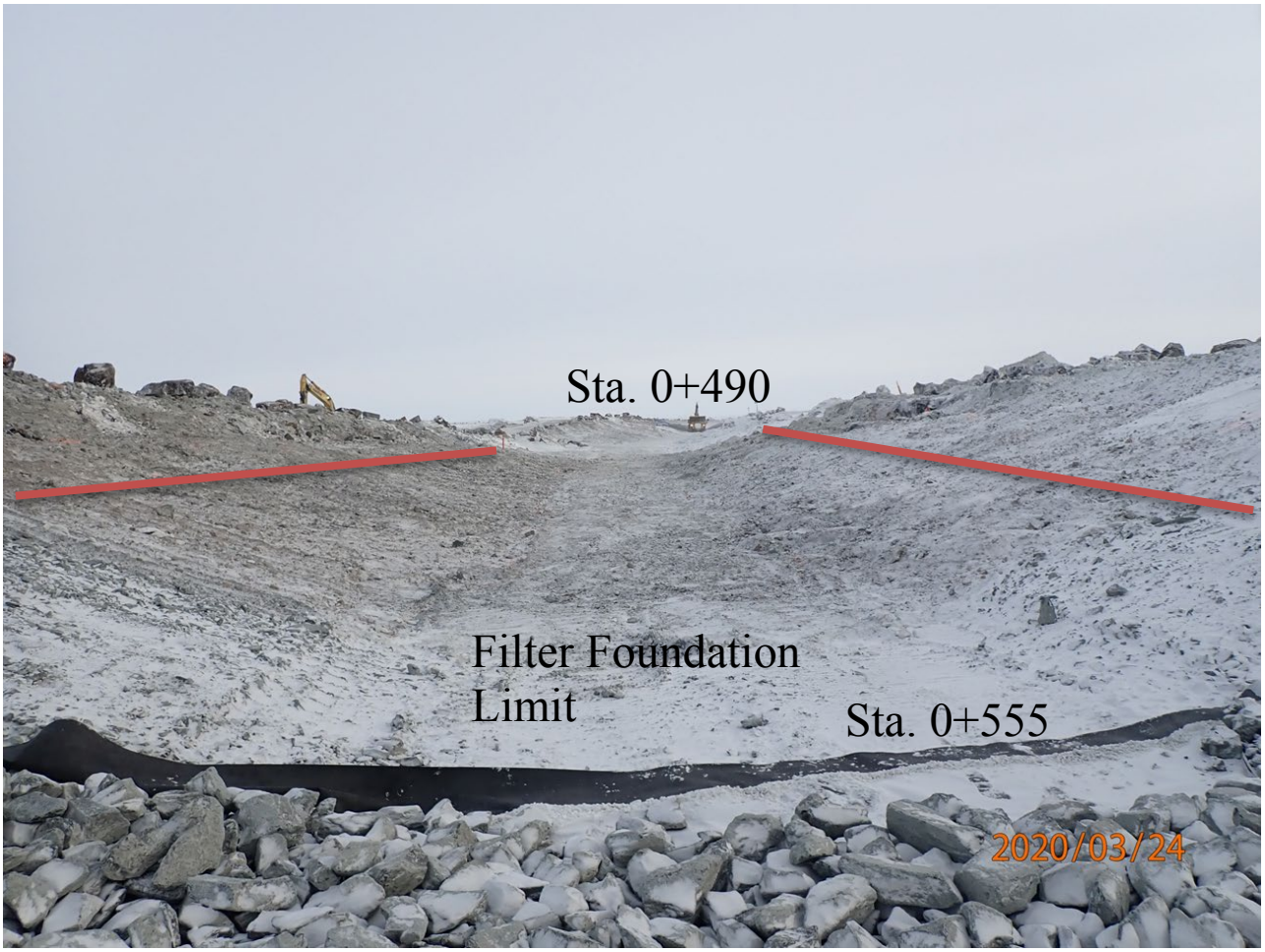


Photo 2 Excavation limit approved for esker placement



Photo 3 View of east slope of the excavation limit approved for esker placement



Photo 4 view of west and east slope of the excavation limit approved for esker placement



Photo 5 Loose material near the road 24 (require cleaning for proper placement of esker against the road)



Photo 6 Loose material near the road 24 (require cleaning for proper placement of esker against the road)



Photo 7 Loose material near the road 24 (require cleaning for proper placement of esker against the road)



Photo 8 Loose material near the road 24 (require cleaning for proper placement of esker against the road)



Photo 9 Loose material near the road 24 (require cleaning for proper placement of esker against the road)

SNC·LAVALIN

SITE REPORT
(Detailed)

20200326DS-SR71
Document number (YYYYMMDD-DS-SR)

2020-03-26	6 :30 AM	6 :30 PM	667648	Paul Yong (PY)
Visit date	Time (Start/End)		Project No.	Prepared by

South Whale Tale Diversion Channel Construction	Agnico Eagle
Project	Client

SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☐Sunny ☒Cloudy ☐Rain ☒Storm ☐Snow ☐Glaze

Wind: ☐None ☐Light ☒Moderate ☒Strong, gusts Temperature: -30 °C

Comments:

Appendix: ☐Yes ☒No Pictures ☐Yes ☒No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting;
- Switched from grouting QA inspection to channel QA inspection work;
- Followed up with SNC Lavalin project team on the progress of the construction work and the project requirements;
- Inspected the esker placement of the channel between sta. 0+495 and sta. 0+555.
  Observation;
  - Esker has been placed between the stations;
  - The surfaces were generally uniform, but required further shaping and compaction;
  - KCG night shift crew will carry out the work;
  - As the stretch is short, and KCG has two excavators working during the night, the esker placement may be completed during the night shift before midnight.
  - GHD technician will inspect the work during the night shift; If completed during the night, GHD technician may provide approval of the work, and KCG may proceed with the placement of fine filter during the night.
- **Approval:**
  - **Esker placement between 0+495 and 0+550 approval**

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments
Esker placement approval	0+495 to 0+550	Completed during the night shift, and approved by GHD.

SAFE AND SAFETY REMARKS

Issued by : Paul Yong — Signature — 26-03-2020 — Date

Verified by : Signature — Date

PHOTOS/PICTURES



Photo 1 View of esker placement between 0+500 and 0+555

SNC·LAVALIN

SITE REPORT
(Detailed)

20200327-DS-SR72
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-03-27	6 :30 AM – 6 :30 PM	667648	Paul Yong (PY)

Project	Client
South Whale Tale Diversion Channel Construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☐Light ☐Moderate ☒Strong, gusts

Temperature: -32 °C

Comments:

Appendix: ☐Yes ☒No

Pictures ☒Yes ☐No

Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting;
- Followed up **fine filter (3/4" minus)** placement during the night shift approximately from station 0+495 to 0+545. The inspection was conducted with the presence of AEM Pier-Eric and Vincent, and Patrice from KCG in the morning. The placement was inspected and approved in the morning. The finished fine filter surface was generally uniform and compacted.
- Inspected the placement of **coarse filter (6" minus)** on the same section in the afternoon. The coarse filter was placed, shaped and compacted using excavator bucket. The finished surface was generally uniform and relatively even. Some areas were noticed with insufficient thickness but corrected.
- Inspected the placement of **geotextile and riprap** on the same section in the afternoon. The placement will be continued during the night shift. The geotextile should be held in place with more weight such as the riprap stones or sand back especially during windy condition. The overlap between geotextile was good.
- GHD QC took one foundation soil sample (AMQ-IP-019) at around Sta. 0+380 for gradation and moisture content tests.
- Verified with SNC office regarding KCG question about the design configuration of the filters, riprap and rockfill when the filter height is above the existing ground (RFI-018).

- **Approval:**
    - **Fine filter placement approval** (sta. 0+495 to 0+545)
    - **Coarse filter placement approval** (sta. 0+495 to 0+545)

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments
Fine filter placement	sta. 0+495 to 0+545	No issue
Coarse filter placement	sta. 0+495 to 0+545	Some loose materials segregated and not compacted; but corrected

SAFE AND SAFETY REMARKS

Issued by : Paul Yong (Signature) — 27-03-2020 (Date)

Verified by : (Signature) — (Date)

PHOTOS/PICTURES



Photo 1 Fine Filter Placement between 0+495 and 0+545



Photo 2 Coarse Filter Placement between 0+495 and 0+545



Photo 3 Geotextile Placement between 0+495 and 0+545, removal of snow looking northeast



Photo 4 Geotextile Placement at 0+545 looking northeast



Photo 5 Riprap Placement at 0+545 looking southwest

SNC·LAVALIN

SITE REPORT
(Detailed)

20200328-DS-SR73
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-03-28	6 :30 AM – 6 :30 PM	667648	Paul Yong (PY)

Project	Client
South Whale Tale Diversion Channel Construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☐Light ☒Moderate ☒Strong, gusts

Temperature: -29 °C

Comments:

Appendix: ☐Yes ☒No Pictures ☒Yes ☐No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended Driving SOP Training in the morning at 7 am and did not attend the daily construction meeting;
- Followed up the **Geotextile and Riprap** placement carried out during the night shift approximately from station 0+495 to 0+545. The inspection was conducted in the morning with the presence of Vincent from AEM and Patrice from KCG. The finished riprap surface is generally well placed and uniform, and it is approved by PY.
- KCG was placing rockfill on the upper slope above the top of the channel roughly between Sta. 0+660 and Sta. 0+760. Top edge was excavated to remove any frozen material. The lift of rockfill was about 0.6m thick. Rockfill was placed, shaped and tamped using an excavator. The rockfill (muck) was of 300mm minus rock. The finished surface was generally uniform and even.
- KCG resumed cleaning up the area between 0+340 and 0+400 approximately. One to two pieces of rocks were noticed with ice adhering on top sporadically and not pervasive at around 0+349.
- Reviewed as-built surveying information provided by KCG.
- **Approval:**
    - **Geotextile and riprap placement approval, 20200328-DS-29,** (sta. 0+495 to 0+545)

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments
Geotextile and riprap placement	Sta. 0+495 to 0+545	The surface generally uniform, and well tamped

SAFE AND SAFETY REMARKS

Issued by : Paul Yong — Signature — 28-03-2020 — Date

Verified by : Signature — Date

PHOTOS/PICTURES

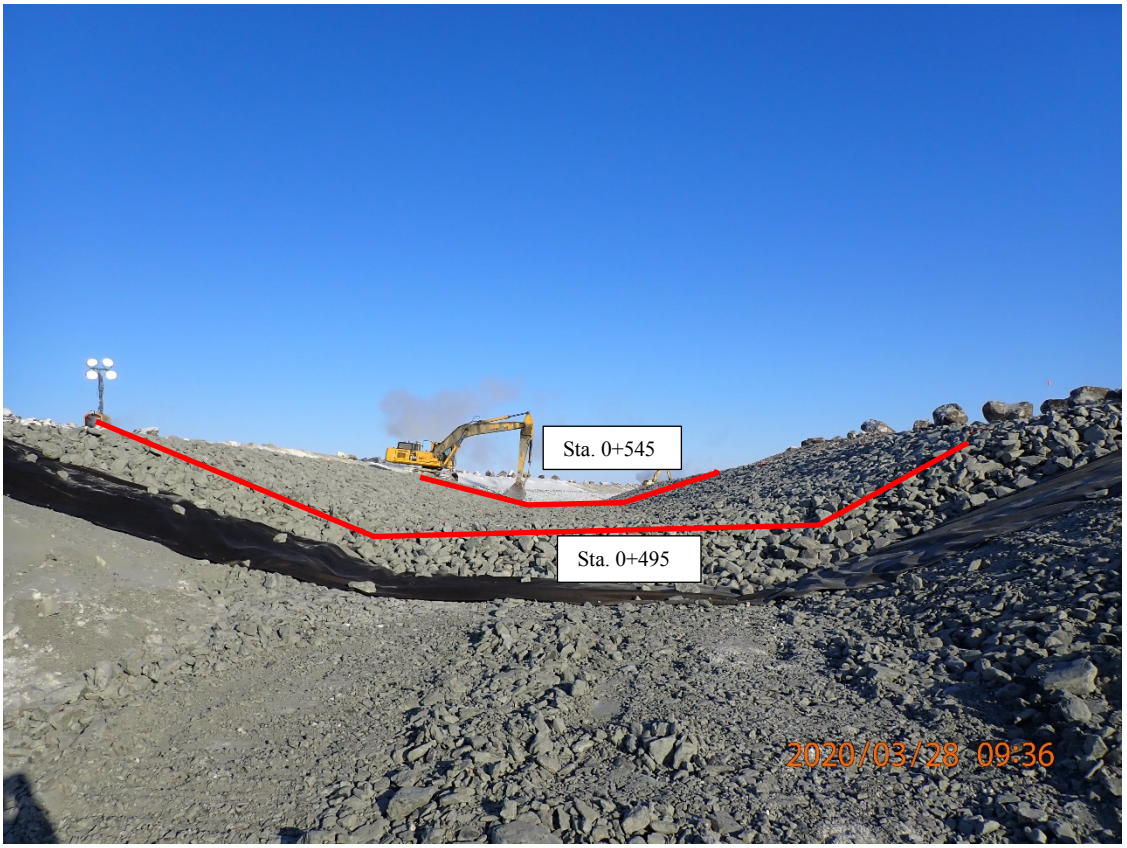


Photo 1 Riprap Placement between 0+495 and 0+545



Photo 2 Riprap Placement between 0+495 and 0+545 looking downstream and northwest



Photo 3 Placing rockfill on the west side upper slope between 0+660 and 0+760 approximately



Photo 4 Placing rockfill on the west side upper slope at 0+700 approximately looking northwest



Photo 5 foundation cleaning at 0+349 looking southwest



Photo 6 Ice adhering to rock found during foundation cleaning at 0+349

SNC·LAVALIN

SITE REPORT
(Detailed)

20200329-DS-SR74
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-03-29	6 :30 AM – 6 :30 PM	667648	Paul Yong (PY)

Project	Client
South Whale Tale Diversion Channel Construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☒Moderate ☐Strong, gusts

Temperature: -32 °C

Comments:

Appendix: ☐Yes ☒No Pictures ☒Yes ☐No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting.
- Still awaiting the finalization of channel details between Sta. 0+400 and Sta. 0+500.

- **Foundation preparation** between Sta. 0+330 and Sta. 0+400:
    - Inspected the foundation preparation in the morning with the company of Vincent from AEM.
    - Some sporadic rocks with adhering ice on top was observed, but not in significant amount. One sample (AMQ-IP-020) taken by GHD at Sta. 0+349 showed that ice content at 17% and moisture content at 42%. This is considered as ice rich soil. Another soil sample (AMQ-IP-019) taken at Sta. 0+380 showed that the soil is of Sandy Gravel with 21% of fines. Overall prepared area appears to be consisting of Sandy Gravel soils, with ice noticeable in some localized area.
    - It is noticed that the prepared foundation elevation varied from location to location. Overall the prepared foundation is considered acceptable, but some areas with ice rich soil will need to be removed. KCG will continue cleaning up the foundation during the night shift according to their planning.

- **Foundation preparation between Sta. 0+450 and Sta. 0+500**:
    - There are areas with patches of ice observed. KCG will continue removing ice rich soils and ice from the area, which is the bottom of Lake A45 before intercepted by the A20 road.

- **Preparing the upper slope for rockfill placement:**

  - Cleanup on the slope from north to south direction along the east bank. Overall cleaning on the slope is acceptable, some area with still some accumulation of snow was asked to remove before placement of rockfill.

- **Rockfill placement on the upper slope over the east bank**
  - Rockfil placement roughly between Sta. 0+800 and Sta. 0+680, and between Sta. 0+500 and Sta. 0+540.
  - Top edge was excavated to remove any frozen and loose materials. The lift of rockfill was about 0.6m thick. Rockfill or muck (300 mm minus but with some oversize) was placed, shaped and tamped using an excavator. The finished surface was generally uniform. KCG supervisor was alerted about the oversize rock to be controlled from the source. KCG agreed to fix the oversize rock problem.

- **Surveying information**:
  - Reviewed as-built **surveying information** provided by KCG. The thickness of the rockfill on the upper slope of the west bank appears to be varying with some areas less than 0.5m. The surveyor has been alerted about this discrepancy.

- **Approval:**

  - None.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Issued by : Paul Yong — Signature — 29-03-2020 — Date

Verified by : Signature — Date

PHOTOS/PICTURES

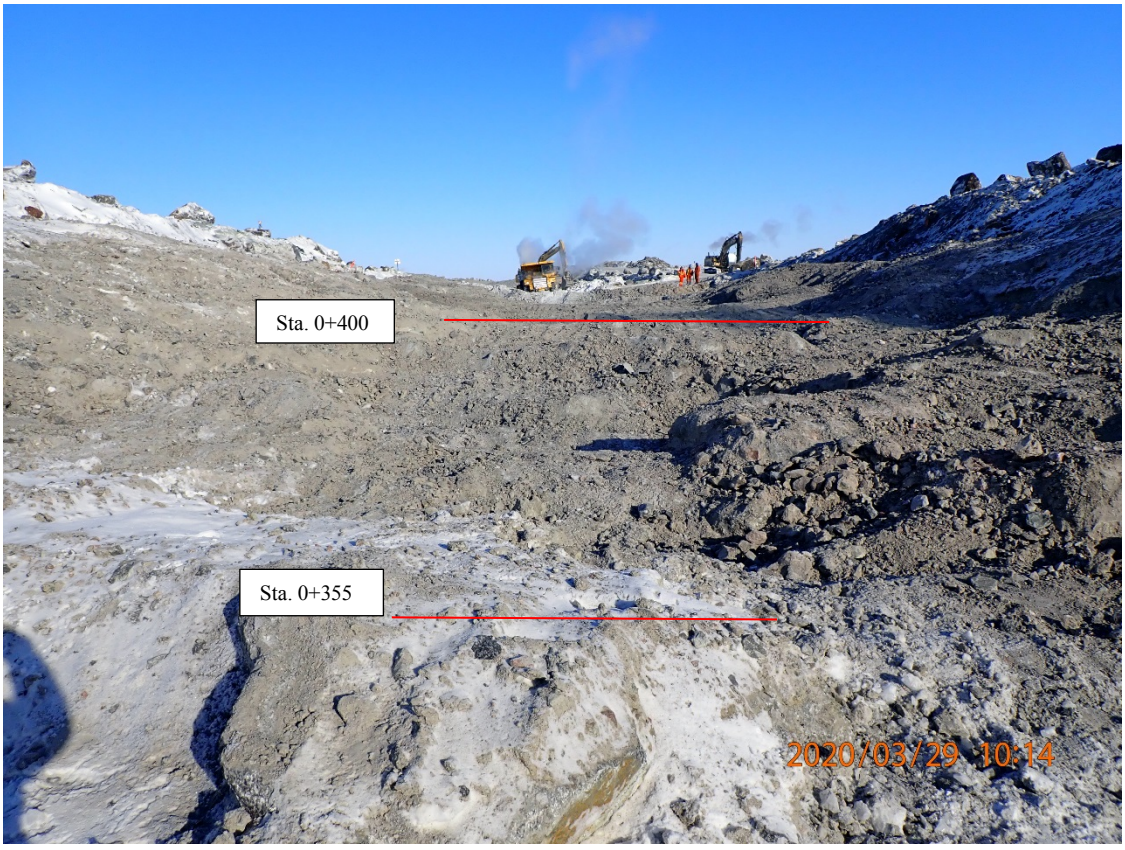


Photo 1 Foundation preparation between 0+355 and 0+400 looking northwest

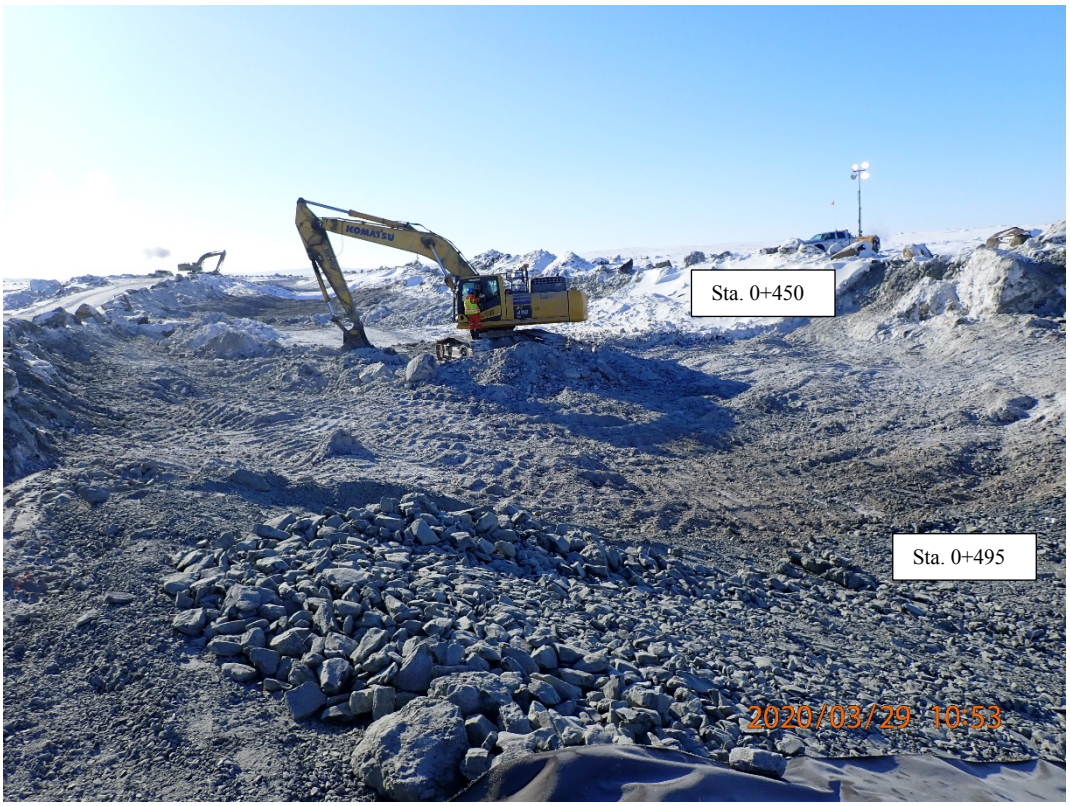


Photo 2 Foundation Preparation for the Channel between 0+450 and 0+495 looking southwest



Photo 3 Preparing slope for rockfill placement on the east bank from Sta. 320 southward



Photo 4 Rockfill Placement on the east bank upper slope at 0+660 approximately looking northeast



Photo 5 Rockfill Placement on the east bank upper slope at 0+660 approximately looking northwest

SNC·LAVALIN

SITE REPORT
(Detailed)

20200330-DS-SR75
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-03-30	6 :30 AM – 6 :30 PM	667648	Paul Yong (PY)

Project	Client
South Whale Tale Diversion Channel Construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☒Moderate ☐Strong, gusts

Temperature: -33 °C

Comments:

Appendix: ☐Yes ☒No Pictures ☒Yes ☐No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting.
- Still awaiting the finalization of channel details between Sta. 0+400 and Sta. 0+500.

- **Foundation preparation** between Sta. 0+330 and Sta. 0+400:

  - KCG put a priority on cleaning up the foundation and the side slopes within the footprint of the channel using excavators and rock hammer.
  - Random check on the elevations in this area with the help of KCG surveyor showed that the elevations varied from location to location with a range of 152.64m to 153.26m. According to the borehole info, SWTC-19-04, brown sand and gravel should be around 152.6m around this area.
  - The finished surface was hard, and mainly consisting of sandy gravel till (frozen).

- **Rockfill placement on the upper slope over the east bank**
  - Rockfill placement southward roughly between Sta. 0+610 and Sta. 0+540.
  - Top edge was excavated to remove any frozen and loose materials. The lift of rockfill was about 0.6m thick. Rockfill or muck (300 mm minus but with some oversize) was placed, shaped and tamped using an excavator. The finished surface was generally uniform. However, there are still some oversize rock in a few of the loads, KCG supervisor was alerted about the oversize rock to be controlled from the source. KCG agreed to fix the oversize rock problem.
  - It is also noticed some loads contained rockfill with lot of fines. That should be controlled at the source.

- **Surveying information**:
    - Reviewed as-built **surveying information** provided by KCG.

- **Approval:**

    - None.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Issued by :	Paul Yong	30-03-2020
	Signature	Date
Verified by :		
	Signature	Date

PHOTOS/PICTURES



Photo 1 Foundation preparation between 0+330 and 0+400 looking southeast



Photo 2 preparing the east bank slope using rock hammer at Sta. 0+400 looking southeast

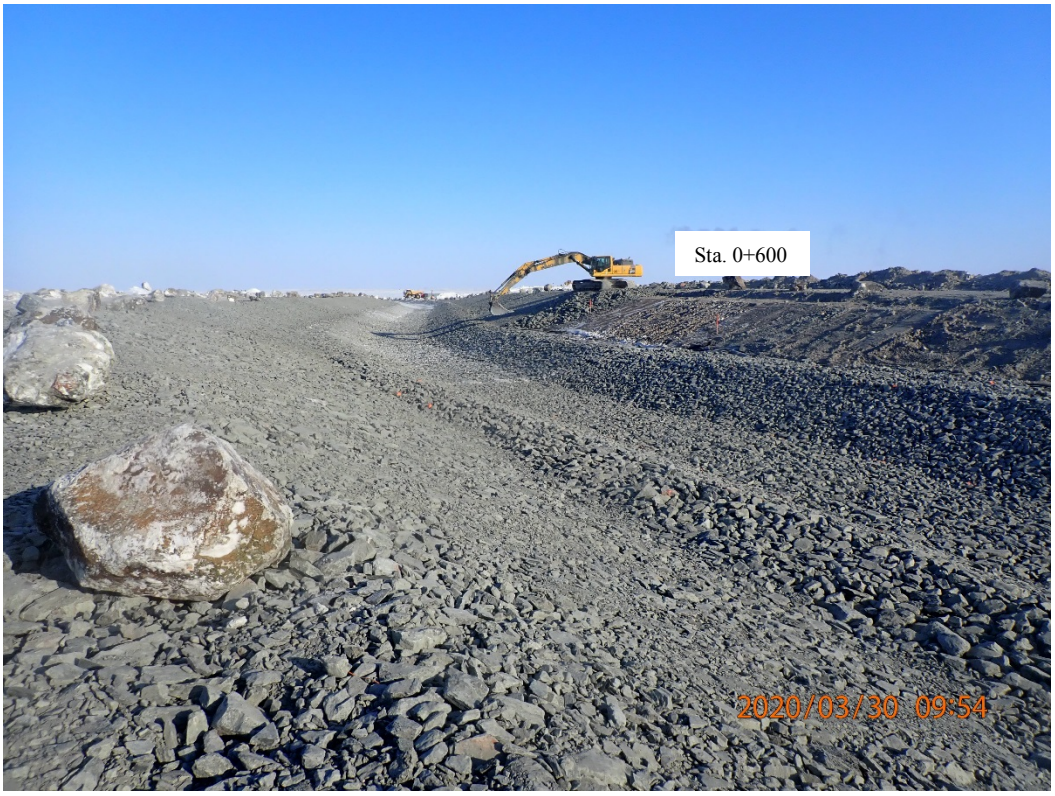


Photo 3 Rockfill placement on the east bank from Sta. 0+600 southward looking northeast



Photo 4 Rockfill Placement on the east bank upper slope at 0+600 approximately looking northeast

SNC·LAVALIN

SITE REPORT
(Detailed)

20200331-DS-SR76
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-03-31	6 :30 AM – 6 :30 PM	667648	Paul Yong (PY)

Project	Client
South Whale Tale Diversion Channel Construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☐Moderate ☐Strong, gusts

Temperature: -32 °C

Comments:

Appendix: ☐Yes ☒No Pictures ☒Yes ☐No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting.
- Inspected the site and approved the foundation preparation of the area between 0+331 and 0+400.
- Attended the meeting regarding transition to AEM and remote QA Activities between 8:30 and 9:15 in Amaruq camp office.
- Still awaiting the finalization of channel details between Sta. 0+400 and Sta. 0+500.

- **Foundation preparation** and approval between Sta. 0+331 and Sta. 0+400:

  - Inspected the finished foundation preparation in this area with the company of AEM Representatives (Vincent Duranleau, Christian Tremblay, Thomas Dahm), KCG (Sabin Larouche and Patrice Ouellett).
  - The finished foundation surface was uneven due to presence of some boulders sporadically. The surface was hard and frozen, but there is no noticeable ice on the surface. There were a few boulders with insignificant amount of adhering ice as compared with the overall prepared surface.
  - The sideslopes were uneven due to presence of boulders which also have some insignificant amount of adhering ice. The slopes were hard and frozen.
  - Generally, the finished surface within the footprint of the channel was acceptable and approved to proceed with esker placement.

  - Top edge had been excavated to remove any frozen and loose materials. The lift of rockfill was about 0.6m thick. Rockfill or muck (300 mm minus but with some oversize) was placed, shaped and tamped using an excavator. The finished surface was generally uniform.

- **Esker placement between 0+330 and 0+400**
  - Esker placement along the channel bottom and both sideslopes was started between Sta. 0+330 and Sta. 0+400.
  - Esker was placed in thin lifts to fill the holes of the uneven surfaces both on the channel bottom and the sideslopes by two excavators, one along the channel bottom and one on the slopes.
  - One esker soil sample was taken along the channel at sta. 0+380 approximately for moisture content and gradation test.
  - The esker was placed and compacted using the bucket of the excavators.

- Rockfill placement between 0+200 and 0+180
  - Placed and compacted rockfill on upper slope of east bank between Sta. 0+200 and Sta. 0+180.

- **Soil Sampling:**
  - One esker soil sample was taken at 0+380.
  - Test pits were carried out separately at Sta. 0+480 and Sta. 0+450 near Lake A45.
  - Two samples were at depths 0.3m and 0.6m at Sta. 0+480.
  - 4 samples were taken at depths 0.3m, 0.6m, 1m, and 1.3m at Sta. 0+450.
  - Visible ice was observed from ground surface up to 1 m approximately at Sta. 0+450.
  - Samples will be tested for moisture content and gradation distribution.

- **Surveying information**:
  - KCG surveyor provided survey information of the finished foundation surface between 0+330 and 0+400.
  - Reviewed as-built surveying information provided by KCG.

- **Approval:**

  - Foundation preparation approval (20200331-DS-30).

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Issued by : Paul Yong — Signature — 31-03-2020 — Date

Verified by : Signature — Date

PHOTOS/PICTURES



Photo 1 Finished surface of Foundation preparation between 0+330 and 0+400 looking southeast



Photo 2 Esker placement along the channel bottom and sideslopes between Sta. 0+330 and Sta. 0+400 looking northeast



Photo 3 Esker placement – surface compacted with excavator bucket between Sta. 0+330 and Sta. 0+400 looking northwest



Photo 4 Rockfill Placement on the east bank upper slope at 0+190 approximately looking north



Photo 5 Taking two soil samples at Sta. 0+490 looking northeast



Photo 6 Taking four soil samples at Sta. 0+440 looking south

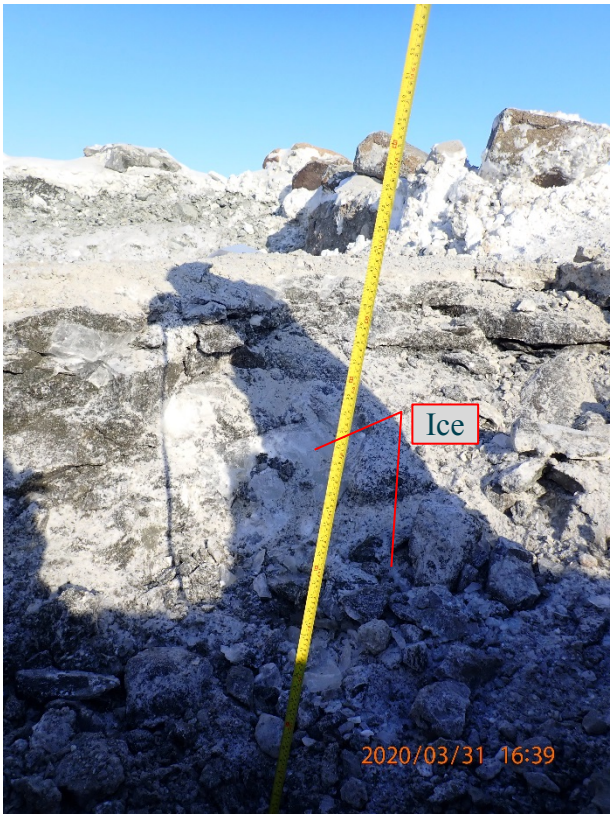


Photo 7 Taking four soil samples at Sta. 0+440 looking east (Note: visible ice up to 1m)

SNC·LAVALIN

SITE REPORT
(Detailed)

20200401-DS-SR77
Document number (YYYYMMDD-DS-SR)

Visit date	Time (Start/End)	Project No.	Prepared by
2020-04-01	6 :30 AM – 6 :30 PM	667648	Paul Yong (PY)

Project	Client
South Whale Tale Diversion Channel Construction	Agnico Eagle

Consultant	Contractor
SNC-Lavalin	KCG

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☒Moderate ☐Strong, gusts

Temperature: -32 °C

Comments:

Appendix: ☐Yes ☒No Pictures ☒Yes ☐No Inspection report or other:

Pictures in the folder

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

- Attended daily construction meeting.
- Inspected the site and approved esker placement between 0+331 and 0+400 with conditions.
- Inspected the two holes sampled yesterday at Sta. 0+490 (corrected from 0+480) and Sta. 440 with the company of AEM representatives (Christian Tremblay, Thomas Dahm, Vincent Duranleau) and KCG Patrice Ouellette.
- PY suggested to do several more test pits between the Sta. 440 and Sta. 490 to establish a soil profile of ice or ice rich soil in the area.
- Noticed a hole at Sta. 0+450 with water flowing in after removal of a boulder according to the excavator operator. It may be due to trapped water pocket or lake water connection. Further investigation required. PY suggested remove the water from the hole and observe if there is anymore water flowing in.
- Took two more samples from a test pit at Sta. 0+467.
- Still awaiting the finalization of channel details between Sta. 0+400 and Sta. 0+500.

- **Esker placement between 0+331 and 0+400**
  - Esker placement along the channel bottom and both side slopes continued and close to completion at the end of day shift.
  - Esker was placed in thin lifts in general from Sta. 0+331 to Sta. 0+400; however, it was observed several loads of esker were end-dumped from the top edge of the channel around Sta. 0+370 northwards toward Sta. 0+400 on the east bank close to the end of day shift. The materials were pushed over the slope with area more than 1m thick without proper compaction. KCG site supervisor and site superintendent were alerted about this unacceptable work. KCG promised to rectify the work during night shift.

- At Sta. 0+331 where the edge of previously placed fine filter was covered with snow. KCG was asked to remove the snow before placing new lift of fine filter proceeding from that point.
- GHD was instructed to watch out for the rectification work and the snow removal during the night shift.
- PY approved to proceed with fine filter placement from Sta. 0+331 to 0+370 during the night shift; but should not proceed further until the unacceptable work is rectified.

- **Foundation preparation or Cleanup between Sta. 0+440 and 0+490**
  - the frozen soils and boulders in the area were removed using a rock hammer and an excavator.
  - At Sta. 0+450, there was water flowing into a hole after a boulder was removed.

- **Soil Sampling:**
  - One test pit was carried out at Sta. 0+467 and two samples were taken at elevations 152.4m and 152.1m with ground elevation at 153.2 m.
  - More test pits will be carried out to establish a profile of ice and ice rich soil in the area between 0+400 and 0+490. This area has been the bottom of Lake A45.

- **Surveying information**:
  - Reviewed as-built surveying information provided by KCG.

- **Approval:**

  - Fine filter placement approval between sta. 0+495 and 0+545 (20200325-DS-27).
  - Coarse filter placement approval between sta. 0+495 and 0+545 (20200325-DS-28)
  - Geotextile and riprap placement approval between sta. 0+495 and 0+545 (20200325-DS-29)
  - Foundation preparation approval between sta. 0+545 and 0+590 (20200401-DS-31)
  - Geotextile and riprap placement approval between sta. 0+075 and 0+320 (20200401-DS-32)

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Issued by : Paul Yong — Signature — 01-04-2020 — Date

Verified by : Signature — Date

PHOTOS/PICTURES



Photo 1 Compacting esker material on eastern side slope between 0+331 and 0+400 looking northeast



Photo 2 Esker placement along the channel bottom and sideslopes between Sta. 0+331 and Sta. 0+400 looking north



Photo 3 Esker placement – surface compacted with excavator bucket between Sta. 0+331 and Sta. 0+400 looking northwest



Photo 4 Esker Placement on the west bank close to 0+400 approximately looking southwest

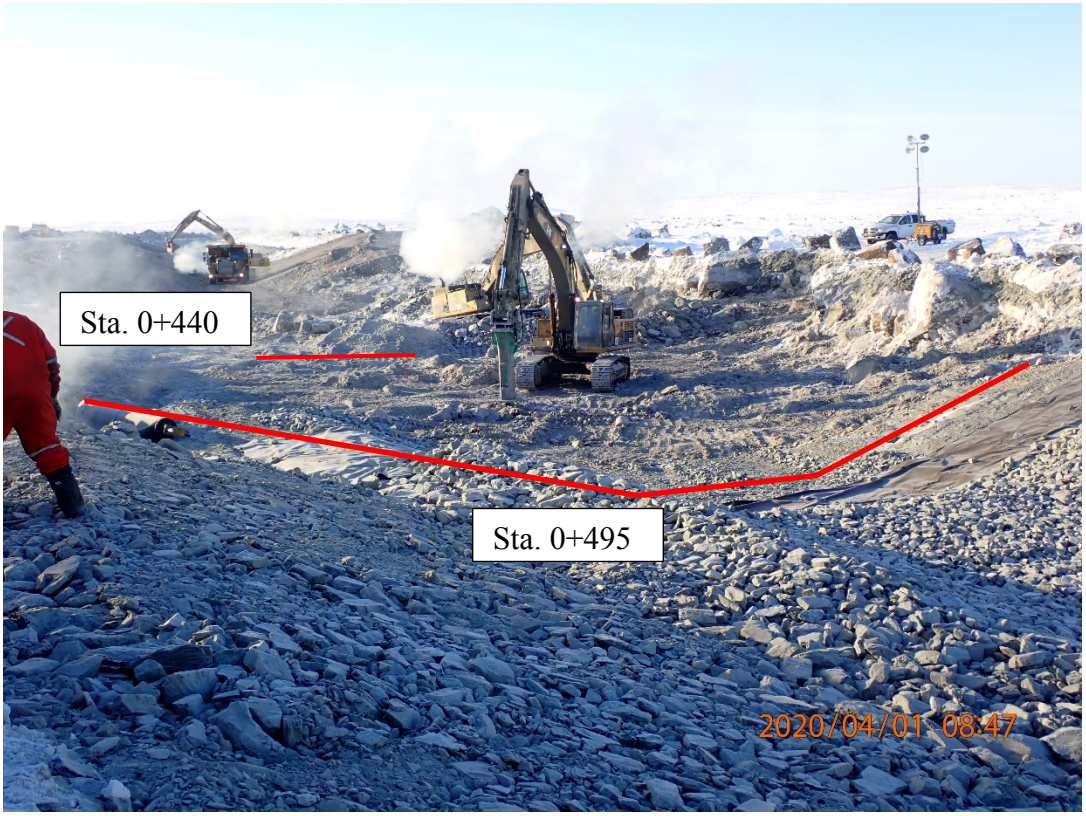


Photo 5 Continued foundation preparation between 0+440 and 0+495 looking southwest



Photo 6 A hole at Sta. 0+450 with water flowing in from side wall looking east



Photo 7 Taking two soil samples at Sta. 0+467 looking north

Appendix F-2

QA Daily Report (AEM)

SNC·LAVALIN

AGNICO EAGLE

SITE REPORT(Detailed)

20200402DS-SR78
Document number (YYYYMMDD-DS-SR)

2020-04-02	6 :30 AM	6 :30 PM	667648	Christian Tremblay, P.Eng
Visit date	Time (Start/End)		Project No.	Prepared by

South Whale Tale Diversion Channel Construction	Agnico Eagle
Project	Client

SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☐Sunny ☐Cloudy ☐Rain ☒Storm ☒ Snow ☐Glaze

Wind: ☐None ☐Light ☐Moderate ☒Strong, gusts Temperature : -16 °C

Comments : **Blizzard conditions. The construction stopped at 8h30.**

Appendix: ☐Yes ☒No Pictures: ☒Yes ☐No Inspection report or other:

Pictures in the folder ☒Yes ☐ No

	ACTIVITIES PERFORMED BY AEM QA REPRESENTATIVE (indicate if test forms were used)		
Activities		Approximate location	Visual observation during field visit [1]
Excavation	☒Yes ☐No	0+450	Continue to hammer the foundation around 0+450. Water is flowing (Photo 1). Investiguation will be performed tomorrow.
Snow cleaning	☐Yes ☒No		
Esker placement	☒Yes ☐No	0+374 to 0+400	Esker placement at night (Photo 2)
Fine filter placement	☒Yes ☐No	0+331 to 0+360	Fine filter placement at night and in the morning before the construction stopped due to blizzard conditions. Snow to be removed before continuing placing the material (Photo 2).
Coarse filter placement	☐Yes ☒No		
Geotextile and rip rap	☐Yes ☒No		
Rock fill	☐Yes ☒No		

Approval	☐Yes ☒No		
Sampling	☐Yes ☒No		
RFI completed	☐Yes ☒No		
Other	☐Yes ☒No		

[1] Note: Visual observation during field visit may include a check

1. Segregation, compaction, presence of frozen material and etc for esker, fine and coarse filter placement;
2. Minimum overlap, geotextile damage, etc for geotextile;
3. Overall rock (100-300 mm), if the rocks are clean, etc for rip rap placement;
4. If there is too much fine content and presence of large rock size for rock placement; and
5. To support the observation with photos

ADDITIONNAL COMMENTS:

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Issued by : Christian Tremblay Digitally signed by Christian Tremblay Date: 2020.04.02 17:26:42 -05'00' — Signature — 2020-04-02 — Date

Verified by : Signature — Date

PHOTOS/PICTURES



Photo 1: Water inflow around 0+450 (Looking south)

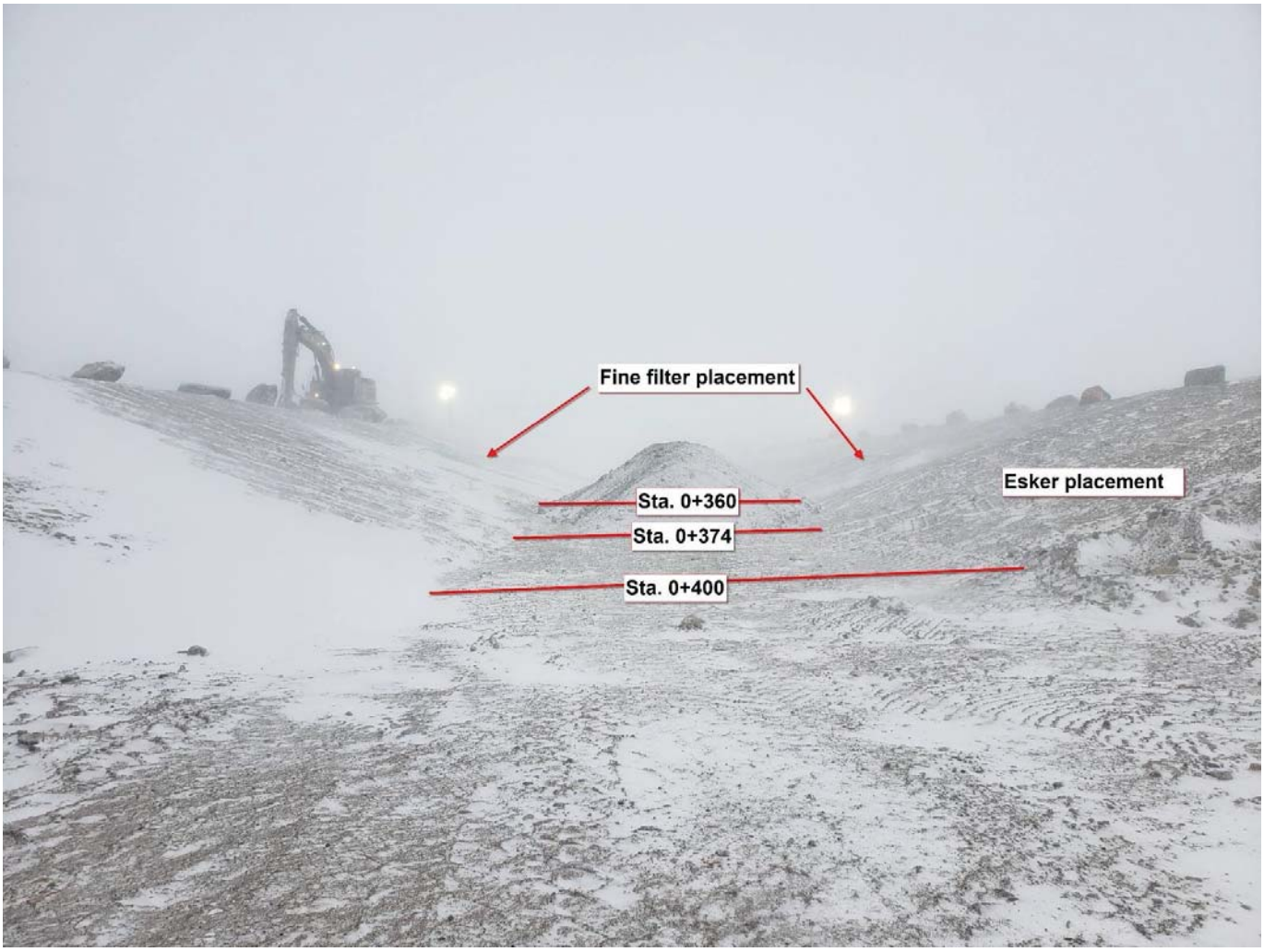


Photo 2: Esker placement between 0+374 and 0+400 on west slope. Fine filter placement between 0+331 to 0+360 on both slopes. (Looking south)

INFORMATION PROVIDED TO SNC-LAVALIN

Elements	Yes/No	Description/Comments
AEM Daily Meeting Report	Yes	
AEM QC Daily Report	Yes	
QC Sample Test Result	No	
Approval Form	No	
Photos	No	
As-built data (PDF)	No	
RFI	No	
Other document	No	

Issued by AEM QA Representative :	Christian Tremblay Digitally signed by Christian Tremblay Date: 2020.04.02 17:27:22 -05'00'	2020-04-02
	Signature	Date
Reviewed by SNC-Lavalin (Designer) :	2020.04.03 10:11:14 -04'00'	
	Signature	Date

SNC-LAVALIN (DESIGNER) DAILY NOTES ON REMOTE SUPPORT

PY (SNC) left site in the morning. QA tasks are now completed by AEM QA Representative

SNC·LAVALIN

AGNICO EAGLE

SITE REPORT(Detailed)

20200403DS-SR79
Document number (YYYYMMDD-DS-SR)

2020-04-03	6 :30 AM	6 :30 PM	667648	Christian Tremblay, P.Eng
Visit date	Time (Start/End)		Project No.	Prepared by

South Whale Tale Diversion Channel Construction	Agnico Eagle
Project	Client

SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☐Light ☐Moderate ☒Strong, gusts Temperature : -15 °C

Comments :

Appendix: ☐Yes ☒No Pictures: ☐Yes ☒No Inspection report or other:

Pictures in the folder ☐Yes ☒No

	ACTIVITIES PERFORMED BY AEM QA REPRESENTATIVE (indicate if test forms were used)		
Activities		Approximate location	Visual observation during field visit [1]
Excavation	☐Yes ☒No		
Snow cleaning	☐Yes ☒No		
Esker placement	☐Yes ☒No		
Fine filter placement	☐Yes ☒No		
Coarse filter placement	☐Yes ☒No		
Geotextile and rip rap	☐Yes ☒No		
Rock fill	☐Yes ☒No		
Approval	☐Yes ☒No		

Sampling	☐Yes ☒No		
RFI completed	☐Yes ☒No		
Other	☐Yes ☒No		

[1] Note: Visual observation during field visit may include a check

1. Segregation, compaction, presence of frozen material and etc for esker, fine and coarse filter placement;
2. Minimum overlap, geotextile damage, etc for geotextile;
3. Overall rock (100-300 mm), if the rocks are clean, etc for rip rap placement;
4. If there is too much fine content and presence of large rock size for rock placement; and
5. To support the observation with photos

ADDITIONNAL COMMENTS:

No work was performed today due to crew change.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Issued by : Christian Tremblay Digitally signed by Christian Tremblay Date: 2020.04.03 18:02:54 -05'00' — Signature — 2020-04-03 — Date

Verified by : Signature — Date

PHOTOS/PICTURES

INFORMATION PROVIDED TO SNC-LAVALIN

Elements	Yes/No	Description/Comments
AEM Daily Meeting Report	Yes	
AEM QC Daily Report	Yes	
QC Sample Test Result	No	
Approval Form	No	
Photos	No	
As-built data (PDF)	No	
RFI	No	
Other document	No	

Issued by AEM QA Representative :	Christian Tremblay Digitally signed by Christian Tremblay Date: 2020.04.03 18:03:23 -05'00'	2020-04-03
	Signature	Date
Reviewed by SNC-Lavalin (Designer) :		
	Signature	Date

SNC-LAVALIN (DESIGNER) DAILY NOTES ON REMOTE SUPPORT

EV (SNC) attended daily morning meeting with AEM on April 3. Discuss on water observed in foundation the previous day; appears to be localised.

No discussion with QA as no activities in day shift due to crew change.

SNC·LAVALIN

AGNICO EAGLE

SITE REPORT(Detailed)

20200404DS-SR80
Document number (YYYYMMDD-DS-SR)

2020-04-03	6 :30 AM	6 :30 PM	667648	Christian Tremblay, P.Eng
Visit date	Time (Start/End)		Project No.	Prepared by

South Whale Tale Diversion Channel Construction	Agnico Eagle
Project	Client

SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☐Moderate ☐Strong, gusts Temperature : -15 °C

Comments :

Appendix: ☐Yes ☒No Pictures: ☐Yes ☒No Inspection report or other:

Pictures in the folder ☒Yes ☐No

	ACTIVITIES PERFORMED BY AEM QA REPRESENTATIVE (indicate if test forms were used)		
Activities		Approximate location	Visual observation during field visit [1]
Excavation	☒Yes ☐No	- 0+465 to 0+490 - 0+425 to 0+465	- Hammer and cleaning in A45 from. We reach a suitable foundation at this location (Photo 1). - Hammer and cleaning. A lot of ice still to be removed in this sector (Photo 2 & 3).
Snow cleaning	☒Yes ☐No	0+331 to 0+490	Normal snow removal operation after the blizzard conditions.
Esker placement	☐Yes ☒No		
Fine filter placement	☒Yes ☐No	0+331 to 0+374	Fine filter placement (Photo 4)
Coarse filter placement	☐Yes ☒No		
Geotextile and rip rap	☐Yes ☒No		
Rock fill	☒Yes ☐No	0+000 to 0+150 west slope	Rockfill placement on the west slope (Photo 5)

Approval	☒Yes ☐No	- 0+374 to 0+400 - 0+331 to 0+372	- Esker approval on the west slope (20200404-DS-33) - Fine filter approval (20200404-DS-34)
Sampling	☒Yes ☐No	TBD	Fine filter sampling every 20m (QC)
RFI completed	☐Yes ☒No		
Other	☐Yes ☒No		

[1] Note: Visual observation during field visit may include a check

1. Segregation, compaction, presence of frozen material and etc for esker, fine and coarse filter placement;
2. Minimum overlap, geotextile damage, etc for geotextile;
3. Overall rock (100-300 mm), if the rocks are clean, etc for rip rap placement;
4. If there is too much fine content and presence of large rock size for rock placement; and
5. To support the observation with photos

ADDITIONNAL COMMENTS:

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Issued by : Christian Tremblay — Digitally signed by Christian Tremblay Date: 2020.04.05 10:08:18 -05'00' — Signature — 2020-04-05 — Date

Verified by : Signature — Date

PHOTOS/PICTURES

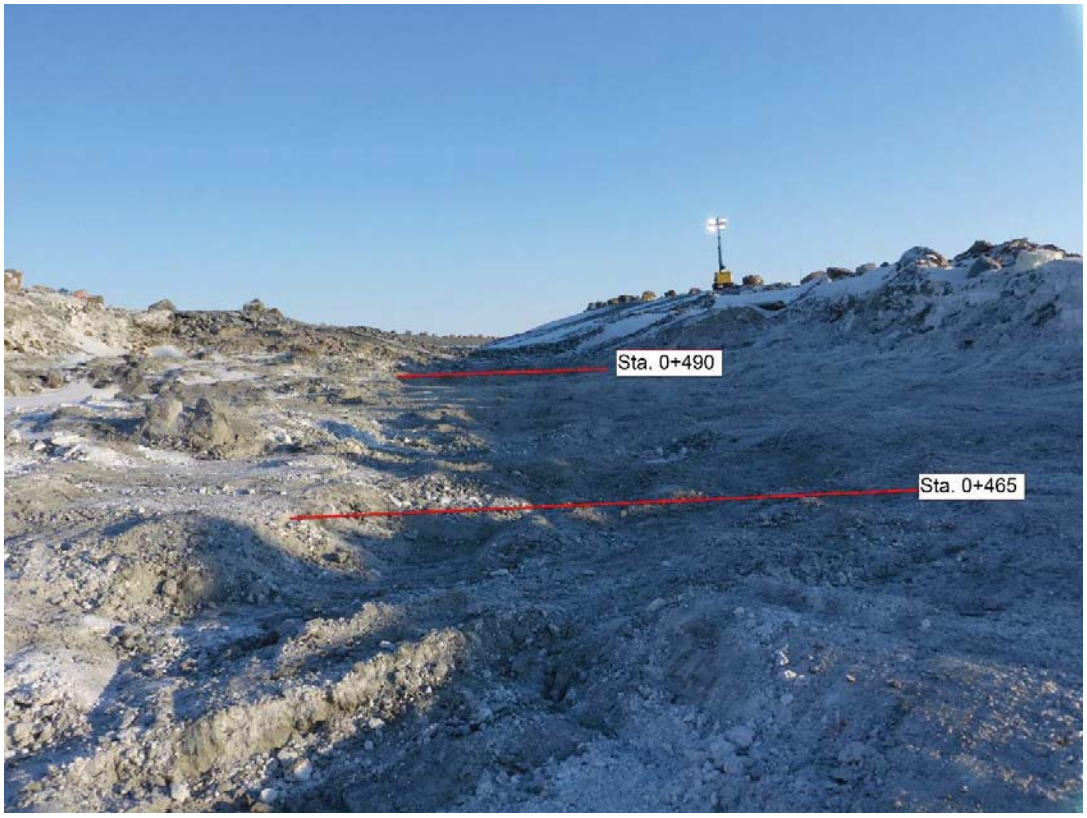


Photo 1: Foundation preparation between 0+465 to 0+490 (Looking north)



Photo 2 : Foundation preparation between 0+425 to 0+465 (Looking east)

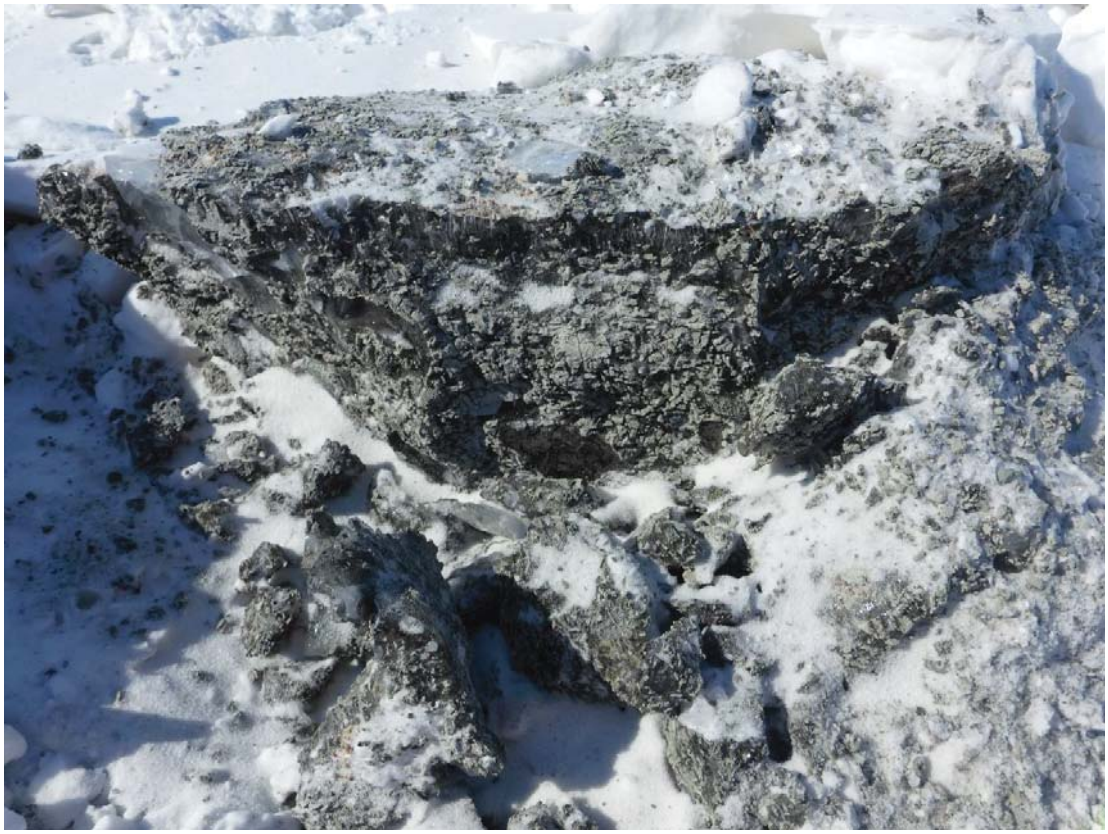


Photo 3 : Ice material from 0+425 to 0+465



Photo 4 : Fine filter placement from 0+331 to 0+374 (Looking south)

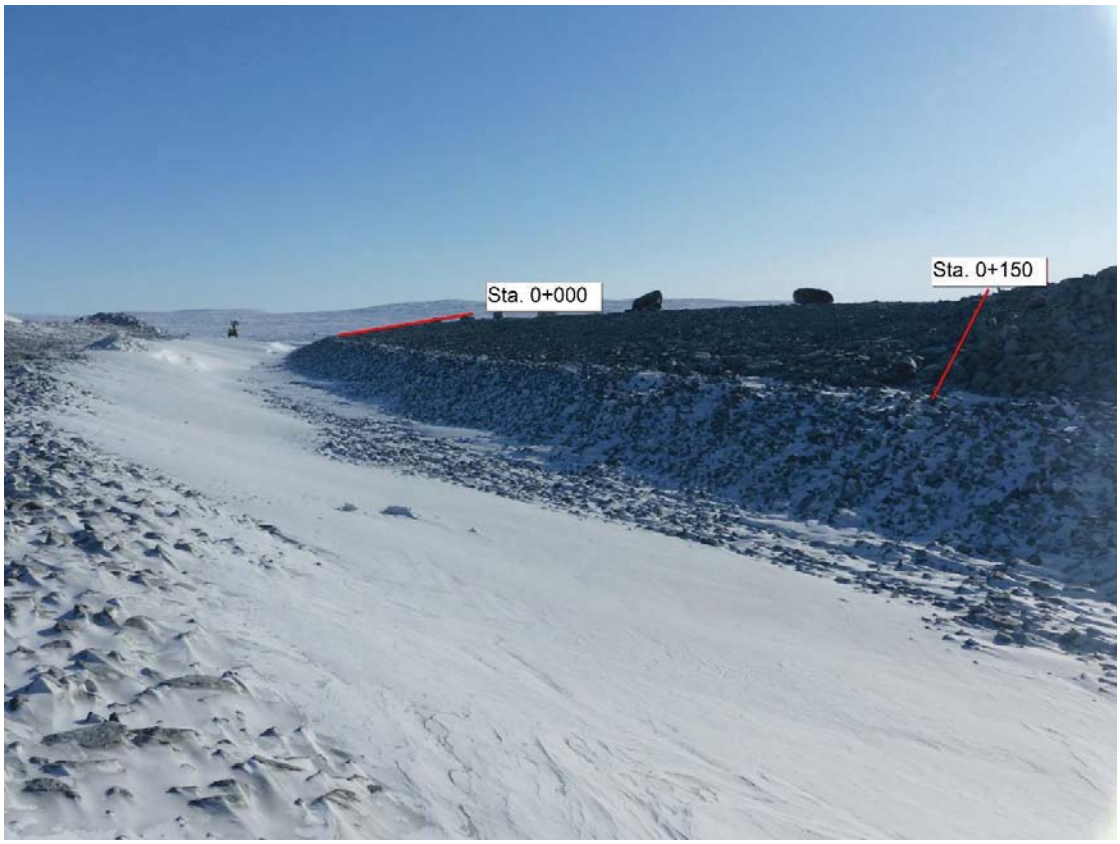


Photo 5 : Rockfill placement on the west slope from 0+000 to 0+150 (Looking south)

INFORMATION PROVIDED TO SNC-LAVALIN

Elements	Yes/No	Description/Comments
AEM Daily Meeting Report	Yes	
AEM QC Daily Report	Yes	
QC Sample Test Result	No	
Approval Form	No	
Photos	No	
As-built data (PDF)	No	
RFI	No	
Other document	No	

Issued by AEM QA Representative : Christian Tremblay Digitally signed by Christian Tremblay Date: 2020.04.05 10:08:55 -05'00' — Signature — 2020-04-02 — Date

Reviewed by SNC-Lavalin (Designer) : — Signature — 2020-04-05 — Date

SNC-LAVALIN (DESIGNER) DAILY NOTES ON REMOTE SUPPORT

EV (SNC) attended the daily morning meeting with AEM . EV reviewed daily activities planned with AEM.

No call with QA representative during the day.

SNC·LAVALIN

AGNICO EAGLE

SITE REPORT(Detailed)

20200405DS-SR81
Document number (YYYYMMDD-DS-SR)

2020-04-05	6 :30 AM	6 :30 PM	667648	Christian Tremblay, P.Eng
Visit date	Time (Start/End)		Project No.	Prepared by

South Whale Tale Diversion Channel Construction	Agnico Eagle
Project	Client

SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☐Moderate ☐Strong, gusts Temperature : -18 °C

Comments :

Appendix: ☐Yes ☒No Pictures: ☒Yes ☐No Inspection report or other:

Pictures in the folder ☒Yes ☐No

ACTIVITIES PERFORMED BY AEM QA REPRESENTATIVE (indicate if test forms were used)			
Activities		Approximate location	Visual observation during field visit [1]
Excavation	☐Yes ☒No		
Snow cleaning	☒Yes ☐No	0+460 to 0+490	Snow removal and foundation cleaning (Photo 1)
Esker placement	☐Yes ☒No		
Fine filter placement	☒Yes ☐No	0+374 to 0+400	Fine filter placement (Photo 2)
Coarse filter placement	☒Yes ☐No	0+331 to 0+400	Coarse filter placement (Photo 2)
Geotextile and rip rap	☒Yes ☐No	0+331 to 0+355	Geotextile and rip rap placement (Photo 3). Good overlap of the geotextile sheets.
Rock fill	☐Yes ☒No		
Approval	☒Yes ☐No	- 0+372 to 0+400 - 0+331 to 0+400	- Fine filter approval (20200405-DS-35) - Coarse filter approval (20200405-DS-36)
Sampling	☒Yes ☐No	0+340	Coarse filter sampling following the 1/200m frequency

RFI completed	☐Yes ☒No		
Other	☐Yes ☒No		

[1] Note: Visual observation during field visit may include a check

1. Segregation, compaction, presence of frozen material and etc for esker, fine and coarse filter placement;
2. Minimum overlap, geotextile damage, etc for geotextile;
3. Overall rock (100-300 mm), if the rocks are clean, etc for rip rap placement;
4. If there is too much fine content and presence of large rock size for rock placement; and
5. To support the observation with photos

ADDITIONNAL COMMENTS:

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Issued by : Christian Tremblay Digitally signed by Christian Tremblay Date: 2020.04.06 09:09:51 -05'00' — Signature — 2020-04-06 — Date

Verified by : — Signature — Date

PHOTOS/PICTURES

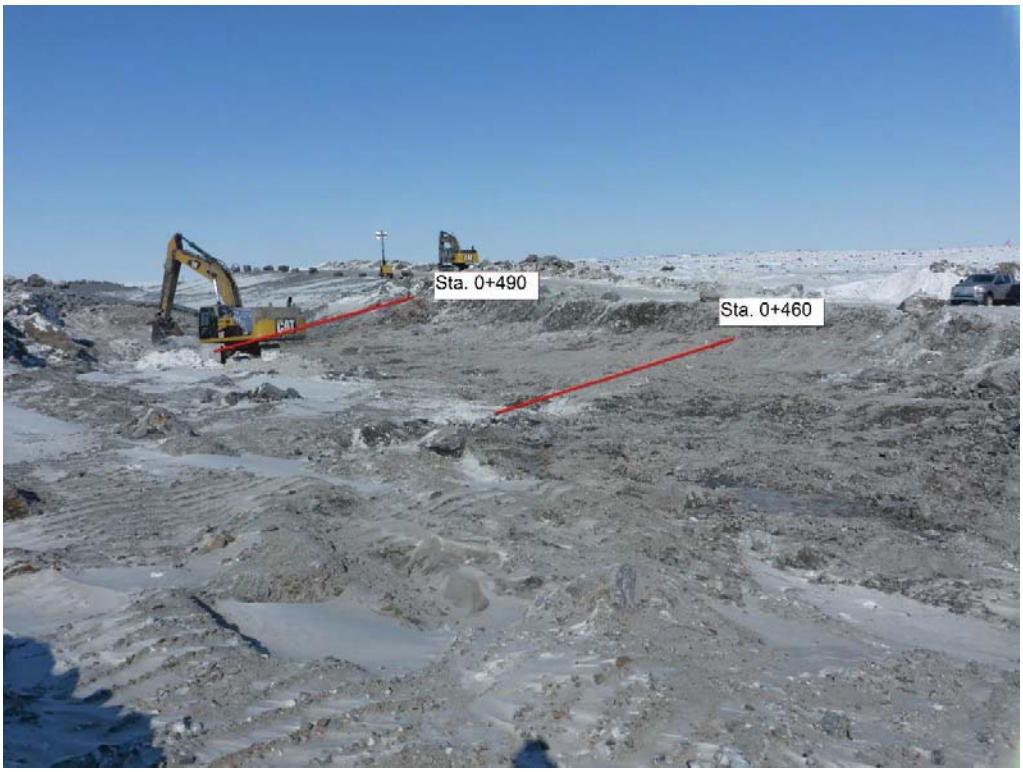


Photo 1: Foundation cleanup 0+460 to 0+490 (Looking northeast)



Photo 2: Fine and coarse filter placement between 0+331 to 0+400(Looking south)



Photo 3: Geotextile and rip rap placement 0+331 to 0+350 (Looking southwest)

INFORMATION PROVIDED TO SNC-LAVALIN

Elements	Yes/No	Description/Comments
AEM Daily Meeting Report	Yes	
AEM QC Daily Report	Yes	
QC Sample Test Result	No	
Approval Form	No	
Photos	No	
As-built data (PDF)	No	
RFI	No	
Other document	No	

Issued by AEM QA Representative : Christian Tremblay Digitally signed by Christian Tremblay Date: 2020.04.06 09:10:16 -05'00' — Signature — 2020-04-06 — Date

Reviewed by SNC-Lavalin (Designer) : — Signature — 2020-04-06 — Date

SNC-LAVALIN (DESIGNER) DAILY NOTES ON REMOTE SUPPORT

EV (SNC) attended the daily morning meeting with AEM. Review of the daily work plan. Dicussion on the QC samples - continued by AEM QC for coarse filter, fine filter and foundation when required .
Call with CT (AEM QA) - discussion for approvals (SNC would like to receive them as the work progress), review of moisture content (below 20%) for +465-+490. Discussion about fooundation preparation and esker placement in Lake A45; EV said that if foundation is approved, esker can be placed but it is important to closely follow with the survey to make sure to reach proper grade and not place too much material.

SNC·LAVALIN

AGNICO EAGLE

SITE REPORT(Detailed)

20200406DS-SR82
Document number (YYYYMMDD-DS-SR)

2020-04-06	6 :30 AM	6 :30 PM	667648	Christian Tremblay, P.Eng
Visit date	Time (Start/End)		Project No.	Prepared by

South Whale Tale Diversion Channel Construction	Agnico Eagle
Project	Client

SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☐Moderate ☐Strong, gusts Temperature : -21 °C

Comments :

Appendix: ☐Yes ☒No Pictures: ☒Yes ☐No Inspection report or other:

Pictures in the folder ☒Yes ☐No

ACTIVITIES PERFORMED BY AEM QA REPRESENTATIVE (indicate if test forms were used)

Activities		Approximate location	Visual observation during field visit [1]
Excavation	☒Yes ☐No	0+400 to 0+460	Lake bottom ice removal with hammer (Photo 1)
Snow cleaning	☒Yes ☐No	0+400 to 0+460	Cleaning the ice and ramp material at the bottom of the excavation. Still some work to do. (Photo 1)
Esker placement	☐Yes ☒No		
Fine filter placement	☐Yes ☒No		
Coarse filter placement	☐Yes ☒No		
Geotextile and rip rap	☐Yes ☒No		
Rock fill	☒Yes ☐No	0+150 to 0+400	Rockfill placement on the west slope (Photo 2)
Approval	☒Yes ☐No	0+331 to 0+400	Geotextile and rip rap approval (20200405-DS-36) (Photo 3)
Sampling	☐Yes ☒No		
RFI completed	☐Yes ☒No		
Other	☐Yes ☒No		

[1] Note: Visual observation during field visit may include a check

1. Segregation, compaction, presence of frozen material and etc for esker, fine and coarse filter placement;
2. Minimum overlap, geotextile damage, etc for geotextile;
3. Overall rock (100-300 mm), if the rocks are clean, etc for rip rap placement;
4. If there is too much fine content and presence of large rock size for rock placement; and
5. To support the observation with photos

ADDITIONNAL COMMENTS:

Little inflow and water from 0+430 to 0+450 (Photo 4)

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Issued by : Christian Tremblay Digitally signed by Christian Tremblay Date: 2020.04.07 10:51:02 -05'00' — Signature — 2020-04-07 — Date

Verified by : Signature — Date

PHOTOS/PICTURES



Photo 1: Foundation cleanup 0+400 to 0+440 (Looking south)



Photo 2: Rockfill placement between 0+150 to 0+400 on the west slope (Looking southwest)

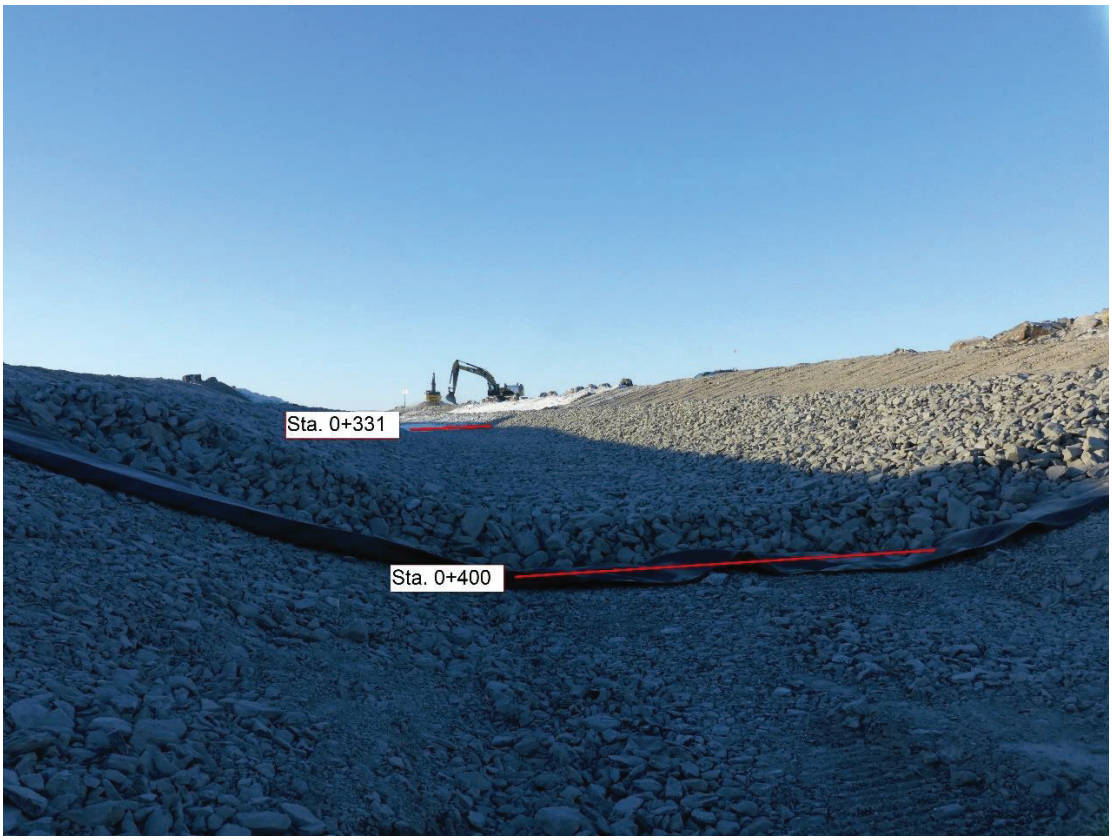


Photo 3: Geotextile and rip rap approval 0+331 to 0+400 (Looking south)



Photo 4: Little water inflow 0+430 to 0+450 (Looking east)

INFORMATION PROVIDED TO SNC-LAVALIN

Elements	Yes/No	Description/Comments
AEM Daily Meeting Report	Yes	
AEM QC Daily Report	Yes	
QC Sample Test Result	No	
Approval Form	Yes	
Photos	No	
As-built data (PDF)	No	
RFI	No	
Other document	No	

Issued by AEM QA Representative :	Christian Tremblay Digitally signed by Christian Tremblay Date: 2020.04.07 10:50:23 -05'00'	2020-04-07
	Signature	Date
Reviewed by SNC-Lavalin (Designer) :	M. Kh. A. Rana	04/20/2020
	Signature	Date

SNC-LAVALIN (DESIGNER) DAILY NOTES ON REMOTE SUPPORT

Discuss the issue of water flow at the foundation, AEM confirm it is localized

MT attended daily construction meeting

SNC·LAVALIN

AGNICO EAGLE

SITE REPORT(Detailed)

20200407DS-SR83
Document number (YYYYMMDD-DS-SR)

2020-04-07	6 :30 AM	6 :30 PM	667648	Christian Tremblay, P.Eng
Visit date	Time (Start/End)		Project No.	Prepared by

South Whale Tale Diversion Channel Construction	Agnico Eagle
Project	Client

SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☐Moderate ☐Strong, gusts Temperature : -21 °C

Comments :

Appendix: ☐Yes ☒No Pictures: ☒Yes ☐No Inspection report or other:

Pictures in the folder ☒Yes ☐No

ACTIVITIES PERFORMED BY AEM QA REPRESENTATIVE (indicate if test forms were used)

Activities		Approximate location	Visual observation during field visit [1]
Excavation	☒Yes ☐No	- 0+055 to 0+065 - 0+400 to 0+460	- Excavate and prepare the foundation of the inlet(Photo 1) - Foundation exacavation and clean up (Photo 2).
Snow cleaning	☐Yes ☒No		
Esker placement	☐Yes ☒No		
Fine filter placement	☐Yes ☒No		
Coarse filter placement	☐Yes ☒No		
Geotextile and rip rap	☐Yes ☒No		
Rock fill	☐Yes ☒No		
Approval	☒Yes ☐No	- 0+055 to 0+065	- Inlet foundation approval (20200407-DS-38)
Sampling	☐Yes ☒No		
RFI completed	☐Yes ☒No		
Other	☐Yes ☒No		

[1] Note: Visual observation during field visit may include a check

1. Segregation, compaction, presence of frozen material and etc for esker, fine and coarse filter placement;
2. Minimum overlap, geotextile damage, etc for geotextile;
3. Overall rock (100-300 mm), if the rocks are clean, etc for rip rap placement;
4. If there is too much fine content and presence of large rock size for rock placement; and
5. To support the observation with photos

ADDITIONNAL COMMENTS:

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Issued by : Christian Tremblay Digitally signed by Christian Tremblay Date: 2020.04.08 11:45:50 -05'00' — Signature — 2020-04-08 — Date

Verified by : Signature — Date

PHOTOS/PICTURES

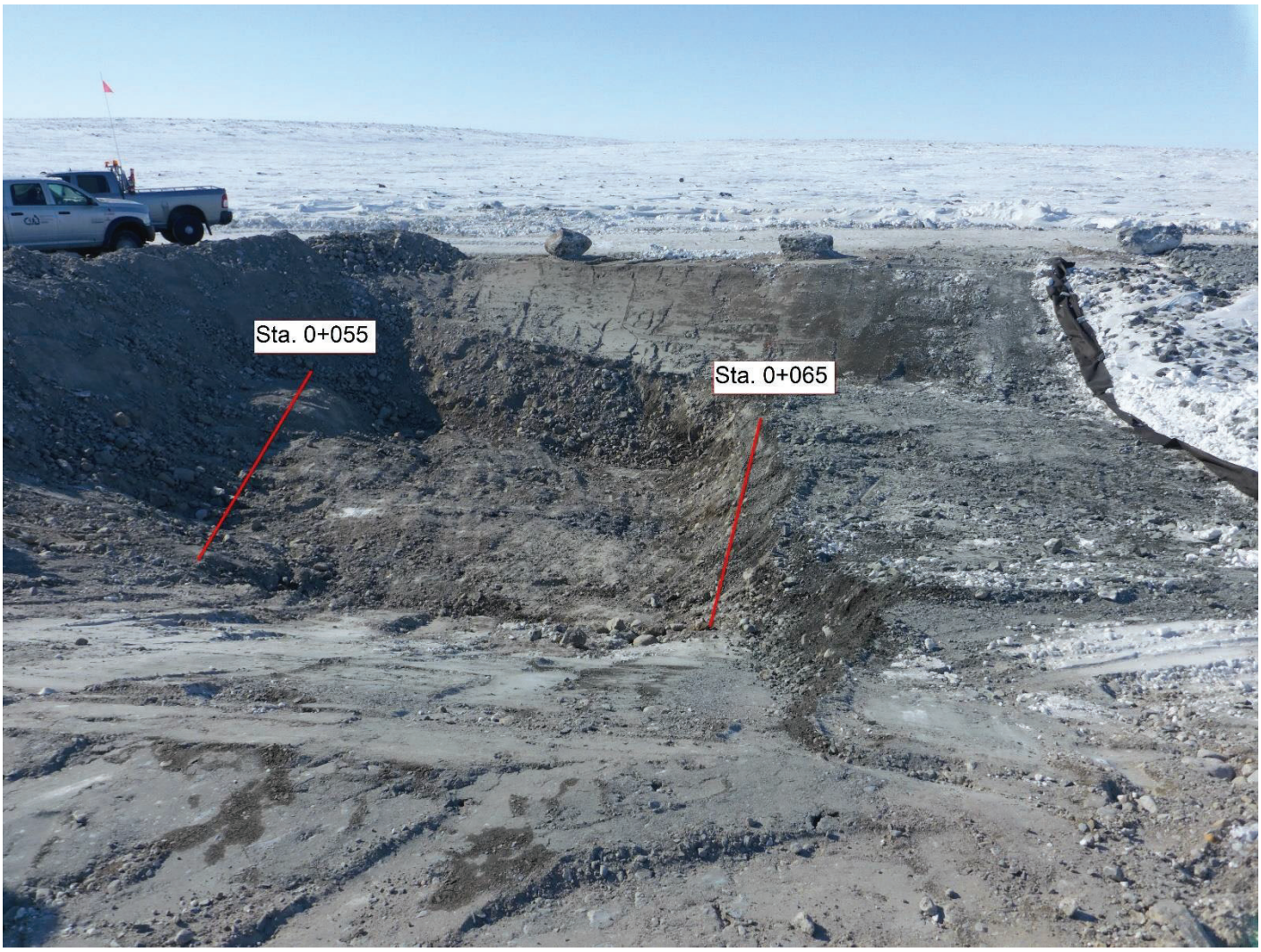


Photo 1: Inlet foundation preparation 0+055 to 0+065 (Looking west)

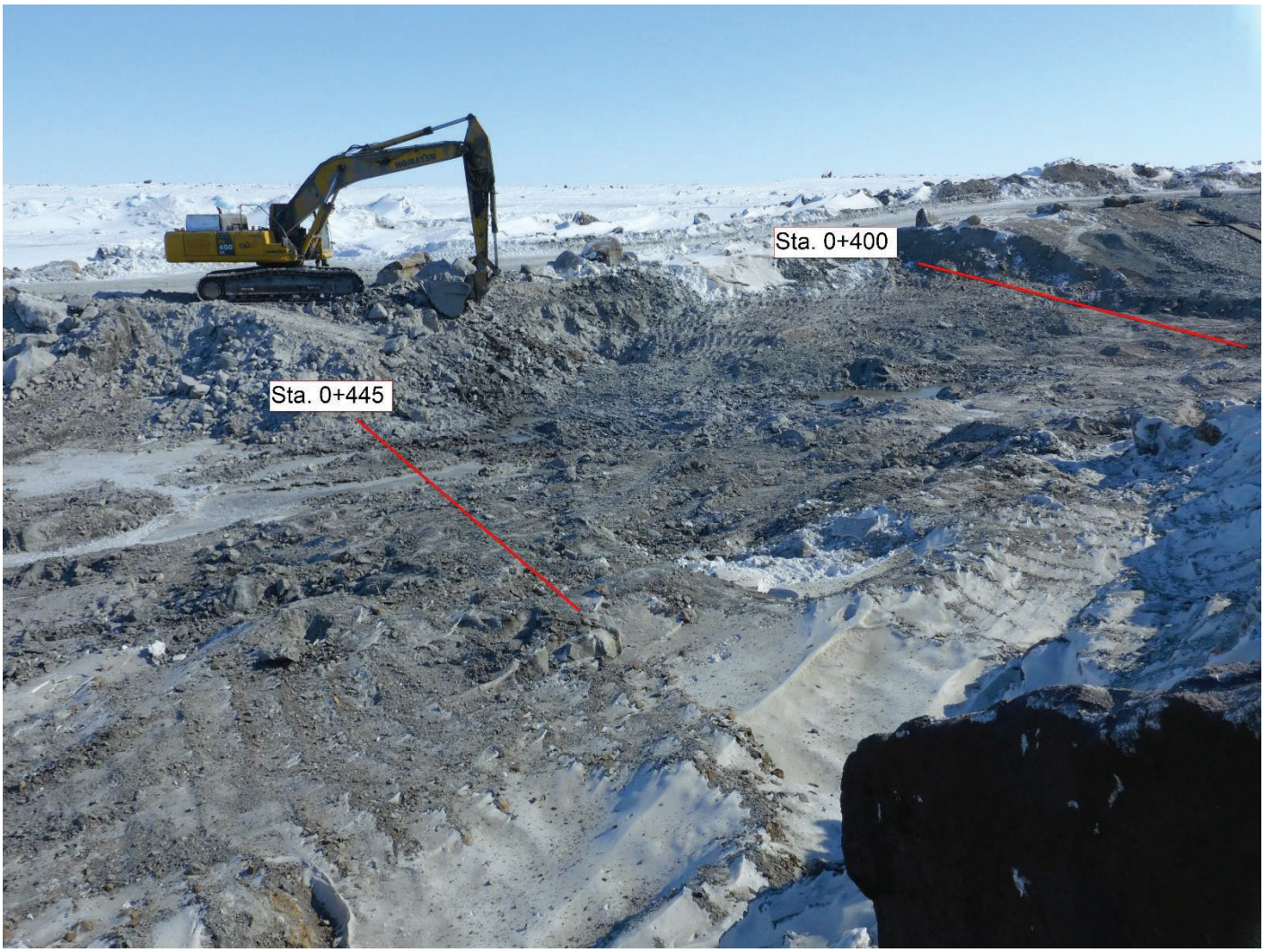


Photo 2: Foundation preparation 0+400 to 0+445 (Looking southeast)

INFORMATION PROVIDED TO SNC-LAVALIN

Elements	Yes/No	Description/Comments
AEM Daily Meeting Report	Yes	
AEM QC Daily Report	Yes	
QC Sample Test Result	No	
Approval Form	Yes	
Photos	No	
As-built data (PDF)	No	
RFI	No	
Other document	No	

Issued by AEM QA Representative :	Christian Tremblay Digitally signed by Christian Tremblay Date: 2020.04.08 11:47:50 -05'00'	2020-04-08
	Signature	Date
Reviewed by SNC-Lavalin (Designer) :	M. Kh. A. Rana	04/20/2020
	Signature	Date

SNC-LAVALIN (DESIGNER) DAILY NOTES ON REMOTE SUPPORT

More cleaning and foundation preparation is required between 0 + 400 to 0 +445

MT attended daily construction meeting

SNC·LAVALIN

AGNICO EAGLE

SITE REPORT(Detailed)

20200407DS-SR84
Document number (YYYYMMDD-DS-SR)

2020-04-08	6 :30 AM – 6 :30 PM	667648	Christian Tremblay, P.Eng
Visit date	Time (Start/End)	Project No.	Prepared by

South Whale Tale Diversion Channel Construction	Agnico Eagle
Project	Client
SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☐Moderate ☐Strong, gusts Temperature : -15 °C

Comments :

Appendix: ☐Yes ☒No Pictures: ☒Yes ☐No Inspection report or other:

Pictures in the folder ☒Yes ☐No

ACTIVITIES PERFORMED BY AEM QA REPRESENTATIVE (indicate if test forms were used)

Activities		Approximate location	Visual observation during field visit [1]
Excavation	☐Yes ☒No		
Snow cleaning	☒Yes ☐No	Access road	
Esker placement	☐Yes ☒No		
Fine filter placement	☒Yes ☐No	0+055 to 0+065	Fine filter placement at the inlet (Photo 1)
Coarse filter placement	☒Yes ☐No	0+055 to 0+065	Coarse filter placement at the inlet (Photo 1)
Geotextile and rip rap	☒Yes ☐No	0+055 to 0+065	Geotextile and rip rap placement at the inlet (Photo 2)
Rock fill	☐Yes ☒No		
Approval	☒Yes ☐No	- 0+060 - 0+400 to 0+495	- Fine filter (20200408-DS-39) Coarse filter (20200408-DS-40) - A45 foundation approval (20200408-DS-41) (Photo 3)
Sampling	☒Yes ☐No	- 0+060 - 0+430	- Fine filter and coarse filter - In place A45 foundation material (Photo 4) = AMQ-IP-30 **(WC = 14%)**

		- 0+438	- In place A45 foundation material = AMQ-IP-29 **(WC = 12.2%)**
RFI completed	☐Yes ☒No		
Other	☐Yes ☒No		

[1] Note: Visual observation during field visit may include a check

1. Segregation, compaction, presence of frozen material and etc for esker, fine and coarse filter placement;
2. Minimum overlap, geotextile damage, etc for geotextile;
3. Overall rock (100-300 mm), if the rocks are clean, etc for rip rap placement;
4. If there is too much fine content and presence of large rock size for rock placement; and
5. To support the observation with photos

ADDITIONNAL COMMENTS:

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Issued by :	Christian Tremblay Digitally signed by Christian Tremblay Date: 2020.04.09 16:06:44 -05'00'	2020-04-09	
	Signature	Date	
Verified by :			
	Signature	Date	

PHOTOS/PICTURES



Photo 1: Inlet filter placement 0+055 to 0+065 (Looking southwest)



Photo 2: Inlet final construction (Looking north)



Photo 3: A45 foundation approval (Looking south)



Photo 4: A45 foundation material

INFORMATION PROVIDED TO SNC-LAVALIN		
Elements	Yes/No	Description/Comments
AEM Daily Meeting Report	Yes	
AEM QC Daily Report	Yes	
QC Sample Test Result	No	
Approval Form	Yes	
Photos	No	
As-built data (PDF)	No	
RFI	No	
Other document	No	

Issued by AEM QA Representative :	Christian Tremblay Digitally signed by Christian Tremblay Date: 2020.04.09 16:07:17 -05'00'	2020-04-09
	Signature	Date
Reviewed by SNC-Lavalin (Designer) :	M. Kh. A. Rana	04/20/2020
	Signature	Date

SNC-LAVALIN (DESIGNER) DAILY NOTES ON REMOTE SUPPORT

Foundation preparation is not completed between 0 + 400 to 0 +460

MT attended daily construction meeting

SNC·LAVALIN

AGNICO EAGLE

SITE REPORT(Detailed)

20200409DS-SR85
Document number (YYYYMMDD-DS-SR)

2020-04-09	6 :30 AM	6 :30 PM	667648	Christian Tremblay, P.Eng
Visit date	Time (Start/End)		Project No.	Prepared by

South Whale Tale Diversion Channel Construction	Agnico Eagle
Project	Client

SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☐Moderate ☐Strong, gusts Temperature : -18 °C

Comments :

Appendix: ☐Yes ☒No Pictures: ☒Yes ☐No Inspection report or other:

Pictures in the folder ☒Yes ☐No

ACTIVITIES PERFORMED BY AEM QA REPRESENTATIVE (indicate if test forms were used)

Activities		Approximate location	Visual observation during field visit [1]
Excavation	☐Yes ☒No		
Snow cleaning	☒Yes ☐No	Access road	
Esker placement	☐Yes ☒No		
Fine filter placement	☐Yes ☒No		
Coarse filter placement	☐Yes ☒No		
Geotextile and rip rap	☐Yes ☒No		
Rock fill	☐Yes ☒No		
Approval	☐Yes ☒No		-
Sampling	☐Yes ☒No		
RFI completed	☐Yes ☒No		
Other	☐Yes ☒No		

[1] Note: Visual observation during field visit may include a check

1. Segregation, compaction, presence of frozen material and etc for esker, fine and coarse filter placement;
2. Minimum overlap, geotextile damage, etc for geotextile;
3. Overall rock (100-300 mm), if the rocks are clean, etc for rip rap placement;
4. If there is too much fine content and presence of large rock size for rock placement; and
5. To support the observation with photos

ADDITIONNAL COMMENTS:

Only snow removal on the access road. Nothing to report.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Issued by :	Christian Tremblay Digitally signed by Christian Tremblay Date: 2020.04.10 12:43:44 -05'00'	2020-04-10	
	Signature	Date	
Verified by :			
	Signature	Date	

PHOTOS/PICTURES

INFORMATION PROVIDED TO SNC-LAVALIN

Elements	Yes/No	Description/Comments
AEM Daily Meeting Report	Yes	
AEM QC Daily Report	Yes	
QC Sample Test Result	No	
Approval Form	Yes	
Photos	No	
As-built data (PDF)	No	
RFI	No	
Other document	No	

Issued by AEM QA Representative :	Christian Tremblay — Digitally signed by Christian Tremblay Date: 2020.04.10 12:44:13 -05'00'	2020-04-10
	Signature	Date
Reviewed by SNC-Lavalin (Designer) :	Daniel Meles 	2020-04-10
	Signature	Date

SNC-LAVALIN (DESIGNER) DAILY NOTES ON REMOTE SUPPORT

DM (SNC) attended daily morning meeting with AEM on April 10.

SNC·LAVALIN

AGNICO EAGLE

SITE REPORT(Detailed)

20200410DS-SR86
Document number (YYYYMMDD-DS-SR)

2020-04-10	6 :30 AM	6 :30 PM	667648	Christian Tremblay, P.Eng
Visit date	Time (Start/End)		Project No.	Prepared by

South Whale Tale Diversion Channel Construction	Agnico Eagle
Project	Client

SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☒Light ☐Moderate ☐Strong, gusts Temperature : -20 °C

Comments :

Appendix: ☐Yes ☒No Pictures: ☒Yes ☐No Inspection report or other:

Pictures in the folder ☒Yes ☐No

ACTIVITIES PERFORMED BY AEM QA REPRESENTATIVE (indicate if test forms were used)

Activities		Approximate location	Visual observation during field visit [1]
Excavation	☐Yes ☒No		
Snow cleaning	☐Yes ☒No		
Esker placement	☒Yes ☐No	0+400 to 0+490	Esker placement in lake A45 (Photo 1)
Fine filter placement	☐Yes ☒No		
Coarse filter placement	☐Yes ☒No		
Geotextile and rip rap	☐Yes ☒No		
Rock fill	☐Yes ☒No		
Approval	☐Yes ☒No		
Sampling	☒Yes ☐No	0+460	Esker sampling
RFI completed	☐Yes ☒No		
Other	☐Yes ☒No		

[1] Note: Visual observation during field visit may include a check

1. Segregation, compaction, presence of frozen material and etc for esker, fine and coarse filter placement;
2. Minimum overlap, geotextile damage, etc for geotextile;
3. Overall rock (100-300 mm), if the rocks are clean, etc for rip rap placement;
4. If there is too much fine content and presence of large rock size for rock placement; and
5. To support the observation with photos

ADDITIONNAL COMMENTS:

1. Esker lift thickness = 300m
2. Each esker lift was compacted by the excavator tracks and the loaded trucks for the central part. For the slopes, it was compacted with the bucket of the excavator. The same compaction method was applied for the FF and the CF lift.
3. The ice was removed before placing any material. Some water was present.
4. No segregation.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Issued by :	Christian Tremblay Digitally signed by Christian Tremblay Date: 2020.04.11 14:58:16 -05'00'	2020-04-11
	Signature	Date
Verified by :		
	Signature	Date

PHOTOS/PICTURES



Photo 1: A45 esker placement 0+495 to 0+450 (Looking southeast)

INFORMATION PROVIDED TO SNC-LAVALIN

Elements	Yes/No	Description/Comments
AEM Daily Meeting Report	Yes	
AEM QC Daily Report	Yes	
QC Sample Test Result	No	
Approval Form	Yes	
Photos	No	
As-built data (PDF)	No	
RFI	No	
Other document	No	

Issued by AEM QA Representative : Christian Tremblay

Digitally signed by Christian Tremblay
Date: 2020.04.11 14:58:38 -05'00'

Signature | Date: 2020-04-11

Reviewed by SNC-Lavalin (Designer) :



Signature | Date: 2020-04-11

SNC-LAVALIN (DESIGNER) DAILY NOTES ON REMOTE SUPPORT

DM (SNC) attended daily morning meeting with AEM on April 10.

SNC·LAVALIN

AGNICO EAGLE

SITE REPORT(Detailed)

20200411DS-SR87
Document number (YYYYMMDD-DS-SR)

2020-04-11	6 :30 AM	6 :30 PM	667648	Christian Tremblay, P.Eng
Visit date	Time (Start/End)		Project No.	Prepared by

South Whale Tale Diversion Channel Construction	Agnico Eagle
Project	Client

SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☐Light ☒Moderate ☐Strong, gusts Temperature : -20 °C

Comments :

Appendix: ☐Yes ☒No Pictures: ☒Yes ☐No Inspection report or other:

Pictures in the folder ☒Yes ☐No

	ACTIVITIES PERFORMED BY AEM QA REPRESENTATIVE (indicate if test forms were used)		
Activities		Approximate location	Visual observation during field visit [1]
Excavation	☐Yes ☒No		
Snow cleaning	☐Yes ☒No		
Esker placement	☒Yes ☐No	0+400 to 0+495	Esker placement in lake A45 (Photo 1)
Fine filter placement	☒Yes ☐No	0+400 to 0+495	Fine filter placement in lake A45 (Photo 2)
Coarse filter placement	☒Yes ☐No	0+400 to 0+495	Coarse filter placement in lake A45 (Photo 3)
Geotextile and rip rap	☐Yes ☒No		
Rock fill	☒Yes ☐No	0+400 to 0+495	Rockfill placement in lake A45 on the west slope (Photo 1)
Approval	☒Yes ☐No	- 0+400 to 0+495 - 0+400 to 0+495	- Esker (20200411-DS-42) - Fine Filter (20200411-DS-43)
Sampling	☒Yes ☐No	0+400 to 0+495	- Fine filter as per frequency (1/ 20m) - Coarse filter as per frequency (1/200m)
RFI completed	☐Yes ☒No		
Other	☐Yes ☒No		

[1] Note: Visual observation during field visit may include a check

1. Segregation, compaction, presence of frozen material and etc for esker, fine and coarse filter placement;
2. Minimum overlap, geotextile damage, etc for geotextile;
3. Overall rock (100-300 mm), if the rocks are clean, etc for rip rap placement;
4. If there is too much fine content and presence of large rock size for rock placement; and
5. To support the observation with photos

ADDITIONNAL COMMENTS:

1. Esker lift thickness = 300m
2. Each esker lift was compacted by the excator tracks and the loaded trucks for the central part. For the slopes, it was bucket compacted. The same compaction method was applied for the FF and the CF lift.
3. The ice was removed before placing any material. Some water was present.
4. No segregation.
5. Good transition between the shapes design (U to ∩) of the filter. (Photo 4)

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Issued by : Christian Tremblay Digitally signed by Christian Tremblay Date: 2020.04.12 14:02:19 -05'00' — Signature — 2020-04-12 — Date

Verified by : Signature — Date

PHOTOS/PICTURES



Photo 1: A45 esker and rockfill placement 0+400 to 0+495 (Looking north)



Photo 2: A45 fine filter placement 0+400 to 0+440 (Looking southeast)



Photo 3: A45 Coarse filter placement 0+400 to 0+495 (Looking north)



Photo 4: A45 Filter shape designs transition U to ∩ at 0+400 (Looking southeast)

INFORMATION PROVIDED TO SNC-LAVALIN

Elements	Yes/No	Description/Comments
AEM Daily Meeting Report	Yes	
AEM QC Daily Report	Yes	
QC Sample Test Result	No	
Approval Form	Yes	
Photos	No	
As-built data (PDF)	No	
RFI	No	
Other document	No	

Issued by AEM QA Representative :	Christian Tremblay Digitally signed by Christian Tremblay Date: 2020.04.12 14:01:52 -05'00'	2020-04-12	
	Signature	Date	
Reviewed by SNC-Lavalin (Designer) :		2020-04-13	
	Signature	Date	

SNC-LAVALIN (DESIGNER) DAILY NOTES ON REMOTE SUPPORT

EV assisted to the morning daily construction meeting. The work completed was discussed. Placement of esker (thickness and compaction) was mentionned by EV, and if samples were taken as it is recommended to ensure well graded esker with suitable fine %. Sampling will be completed by QC.

SNC·LAVALIN

AGNICO EAGLE

SITE REPORT(Detailed)

20200412DS-SR88
Document number (YYYYMMDD-DS-SR)

2020-04-12	6 :30 AM	6 :30 PM	667648	Christian Tremblay, P.Eng
Visit date	Time (Start/End)		Project No.	Prepared by

South Whale Tale Diversion Channel Construction	Agnico Eagle
Project	Client

SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☐Sunny ☐Cloudy ☐Rain ☒Storm ☐Snow ☐Glaze

Wind: ☐None ☐Light ☐Moderate ☒Strong, gusts Temperature : -24 °C

Comments :

Appendix: ☐Yes ☒No Pictures: ☒Yes ☐No Inspection report or other:

Pictures in the folder ☒Yes ☐No

	ACTIVITIES PERFORMED BY AEM QA REPRESENTATIVE (indicate if test forms were used)		
Activities		Approximate location	Visual observation during field visit [1]
Excavation	☐Yes ☒No		
Snow cleaning	☐Yes ☒No		
Esker placement	☐Yes ☒No		
Fine filter placement	☐Yes ☒No		
Coarse filter placement	☐Yes ☒No		
Geotextile and rip rap	☐Yes ☒No		
Rock fill	☒Yes ☐No	0+400 to 0+495	Rockfill placement in lake A45 on the west slope (Photo 1)
Approval	☒Yes ☐No	0+400 to 0+495	Coarse filter (20200412-DS-44)
Sampling	☐Yes ☒No		
RFI completed	☐Yes ☒No		
Other	☐Yes ☒No		

[1] Note: Visual observation during field visit may include a check

1. Segregation, compaction, presence of frozen material and etc for esker, fine and coarse filter placement;
2. Minimum overlap, geotextile damage, etc for geotextile;
3. Overall rock (100-300 mm), if the rocks are clean, etc for rip rap placement;
4. If there is too much fine content and presence of large rock size for rock placement; and
5. To support the observation with photos

ADDITIONNAL COMMENTS:

1. Coarse filter lift = 300m and rockfill lift ≈1m
2. Each lift was compacted by the excator tracks and the loaded trucks for the central part. For the slopes, it was bucket compacted.
3. The ice was removed before placing any material. Some water was present.
4. No segregation.

The work stopped at 11h00 due to blizzard conditons.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Issued by : Christian Tremblay — Digitally signed by Christian Tremblay, Date: 2020.04.13 14:04:53 -05'00' (Signature) — 2020-04-13 (Date)

Verified by : (Signature) (Date)

PHOTOS/PICTURES



Photo 1: Rock fill placement on the west slope 0+400 to 0+495 (Looking northwest)

INFORMATION PROVIDED TO SNC-LAVALIN

Elements	Yes/No	Description/Comments
AEM Daily Meeting Report	Yes	
AEM QC Daily Report	Yes	
QC Sample Test Result	No	
Approval Form	Yes	
Photos	No	
As-built data (PDF)	No	
RFI	No	
Other document	No	

Issued by AEM QA Representative : Christian Tremblay — Digitally signed by Christian Tremblay Date: 2020.04.13 14:05:16 -05'00' — 2020-04-13 (Date)

Reviewed by SNC-Lavalin (Designer) : Signature — Date

SNC-LAVALIN (DESIGNER) DAILY NOTES ON REMOTE SUPPORT

EV assisted at the morning daily construction meeting. Discussed the work completed and planned.
EV contacted FB to discuss the placement of rockfill and foundation preparation under the rockfill.
Meeting is planned on April 13 to discuss foundation preparation under rockfill for the SWTDC-LA45S.

SNC·LAVALIN

AGNICO EAGLE

SITE REPORT(Detailed)

20200413DS-SR89
Document number (YYYYMMDD-DS-SR)

2020-04-13	6 :30 AM	6 :30 PM	667648	Christian Tremblay, P.Eng
Visit date	Time (Start/End)		Project No.	Prepared by

South Whale Tale Diversion Channel Construction	Agnico Eagle
Project	Client

SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☐Light ☐Moderate ☒Strong, gusts Temperature : -24 °C

Comments :

Appendix: ☐Yes ☒No Pictures: ☒Yes ☐No Inspection report or other:

Pictures in the folder ☒Yes ☐No

ACTIVITIES PERFORMED BY AEM QA REPRESENTATIVE (indicate if test forms were used)

Activities		Approximate location	Visual observation during field visit [1]
Excavation	☐Yes ☒No		
Snow cleaning	☐Yes ☒No		
Esker placement	☐Yes ☒No		
Fine filter placement	☐Yes ☒No		
Coarse filter placement	☐Yes ☒No		
Geotextile and rip rap	☐Yes ☒No		
Rock fill	☒Yes ☐No	0+400 to 0+495	Rockfill placement in lake A45 on the west slope (Photo 1)
Approval	☐Yes ☒No		
Sampling	☐Yes ☒No		
RFI completed	☐Yes ☒No		
Other	☐Yes ☒No		

[1] Note: Visual observation during field visit may include a check

1. Segregation, compaction, presence of frozen material and etc for esker, fine and coarse filter placement;
2. Minimum overlap, geotextile damage, etc for geotextile;
3. Overall rock (100-300 mm), if the rocks are clean, etc for rip rap placement;
4. If there is too much fine content and presence of large rock size for rock placement; and
5. To support the observation with photos

ADDITIONNAL COMMENTS:

1. Rockfill lift ≈1m
2. Each lift was compacted by the excator tracks and the loaded trucks for the central part. For the slopes, it was bucket compacted.
3. The ice was removed before placing any material. Some water was present.
4. No segregation.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Issued by : Christian Tremblay Digitally signed by Christian Tremblay Date: 2020.04.14 06:56:48 -05'00' — Signature — 2020-04-14 — Date

Verified by : Signature — Date

PHOTOS/PICTURES

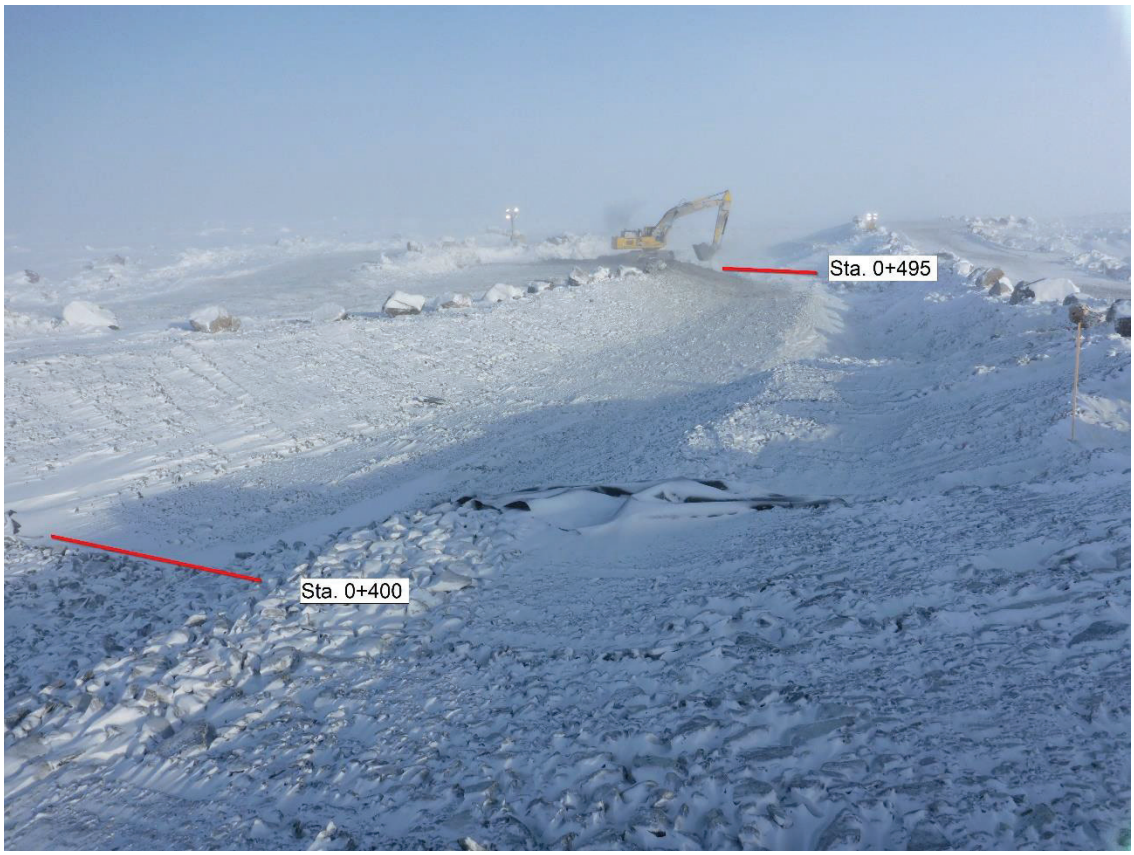


Photo 1: Rock fill placement on the west slope 0+400 to 0+495 (Looking northwest)

INFORMATION PROVIDED TO SNC-LAVALIN

Elements	Yes/No	Description/Comments
AEM Daily Meeting Report	Yes	
AEM QC Daily Report	Yes	
QC Sample Test Result	No	
Approval Form	No	
Photos	No	
As-built data (PDF)	No	
RFI	No	
Other document	No	

Issued by AEM QA Representative : Christian Tremblay — Digitally signed by Christian Tremblay Date: 2020.04.14 06:57:07 -05'00' — Signature — 2020-04-14 — Date

Reviewed by SNC-Lavalin (Designer) : Mazin Toma — Signature — 2020-04-20 — Date

SNC-LAVALIN (DESIGNER) DAILY NOTES ON REMOTE SUPPORT

Remove snow accumulation from last night blizzard

No Foundation clean up

SNC·LAVALIN

AGNICO EAGLE

SITE REPORT(Detailed)

20200414DS-SR90
Document number (YYYYMMDD-DS-SR)

2020-04-13	6 :30 AM	6 :30 PM	667648	Pier-Eric, P.Eng
Visit date	Time (Start/End)		Project No.	Prepared by

South Whale Tale Diversion Channel Construction	Agnico Eagle
Project	Client

SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☐Light ☒Moderate ☐Strong, gusts Temperature : -13 °C

Comments :

Appendix: ☐Yes ☒No Pictures: ☒Yes ☐No Inspection report or other:

Pictures in the folder ☒Yes ☐No

	ACTIVITIES PERFORMED BY AEM QA REPRESENTATIVE (indicate if test forms were used)		
Activities		Approximate location	Visual observation during field visit [1]
Excavation	☐Yes ☒No		
Snow cleaning	☒Yes ☐No		Snow cleaning was ongoing on the east of the east berm (road 24) to widen the road and make sure the toe is not in the ice/snow.
Esker placement	☐Yes ☒No		
Fine filter placement	☐Yes ☒No		
Coarse filter placement	☐Yes ☒No		
Geotextile and rip rap	☒Yes ☐No	Finger drain (west side)	Geotextile On-going on finger drain slope, as per design modification
Rock fill	☒Yes ☐No	0+400 to 0+495	Rockfill placement in lake A45 on the East berm over road 24. Shaping the finger drains.
Approval	☐Yes ☒No		
Sampling	☐Yes ☒No		
RFI completed	☐Yes ☒No		

Other	☐Yes ☒No		

[1] Note: Visual observation during field visit may include a check

1. Segregation, compaction, presence of frozen material and etc for esker, fine and coarse filter placement;
2. Minimum overlap, geotextile damage, etc for geotextile;
3. Overall rock (100-300 mm), if the rocks are clean, etc for rip rap placement;
4. If there is too much fine content and presence of large rock size for rock placement; and
5. To support the observation with photos

ADDITIONNAL COMMENTS:

1. Rockfill lift ≈1m
2. Each lift was compacted by the excator tracks and the loaded trucks for the central part. For the slopes, it was bucket compacted.
3. The ice was removed before placing any material. Some water was present.
4. No segregation.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments
Rockfill size		In the 0-1000 range

SAFE AND SAFETY REMARKS

Issued by : Pier-Eric McDonald — Signature — 4/14/2020 — Date

Verified by : Signature — Date

PHOTOS/PICTURES



Photo 1: Rock fill placement on the east slope 0+400 to 0+495 and West berm finger drain bedding in red (Looking Southeast)



Photo 2: Rock fill placement on the west slope and snow removal to widen road, 0+400 to 0+495 (Looking East)

INFORMATION PROVIDED TO SNC-LAVALIN

Elements	Yes/No	Description/Comments
AEM Daily Meeting Report	Yes	
AEM QC Daily Report	Yes	
QC Sample Test Result	No	
Approval Form	No	
Photos	No	
As-built data (PDF)	No	
RFI	No	
Other document	No	

Issued by AEM QA Representative :	Pier-Eric McDonald Signature	4/14/2020 Date
Reviewed by SNC-Lavalin (Designer) :	M. Kh. A. Rma Signature	04/20/2020 Date

SNC-LAVALIN (DESIGNER) DAILY NOTES ON REMOTE SUPPORT

Rock fill placed out side the center with no foundation preparation along Lake A45 section
MT attended daily construction meeting

SNC·LAVALIN

AGNICO EAGLE

SITE REPORT(Detailed)

20200416DS-SR92
Document number (YYYYMMDD-DS-SR)

2020-04-16	6 :30 AM	6 :30 PM	667648	Pier-Eric, P.Eng
Visit date	Time (Start/End)		Project No.	Prepared by

South Whale Tale Diversion Channel Construction	Agnico Eagle
Project	Client

SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☐Light ☒Moderate ☐Strong, gusts Temperature : -14 °C

Comments :

Appendix: ☐Yes ☒No Pictures: ☒Yes ☐No Inspection report or other:

Pictures in the folder ☒Yes ☐No

	ACTIVITIES PERFORMED BY AEM QA REPRESENTATIVE (indicate if test forms were used)		
Activities		Approximate location	Visual observation during field visit [1]
Excavation	☐Yes ☒No		
Snow cleaning	☐Yes ☒No		
Esker placement	☐Yes ☒No		
Fine filter placement	☐Yes ☒No		
Coarse filter placement	☐Yes ☒No		
Geotextile and rip rap	☒Yes ☐No	Lake section	Geotextile On-going as per revised drawing
Rock fill	☐Yes ☒No		
Approval	☐Yes ☒No		
Sampling	☐Yes ☒No		
RFI completed	☐Yes ☒No		
Other	☐Yes ☒No		

[1] Note: Visual observation during field visit may include a check

1. Segregation, compaction, presence of frozen material and etc for esker, fine and coarse filter placement;
2. Minimum overlap, geotextile damage, etc for geotextile;
3. Overall rock (100-300 mm), if the rocks are clean, etc for rip rap placement;
4. If there is too much fine content and presence of large rock size for rock placement; and
5. To support the observation with photos

ADDITIONNAL COMMENTS:

SPECIFIC ELEMENTS VERIFIED

Elements		Location	Scope and comments
Placement method		Lake section	compliant

SAFE AND SAFETY REMARKS

Issued by : Pier-Eric McDonald — Signature — 4/16/2020 — Date

Verified by : Signature — Date

PHOTOS/PICTURES



Photo 1: Geotextile and rip rap installation and placement in the lake section

INFORMATION PROVIDED TO SNC-LAVALIN

Elements	Yes/No	Description/Comments
AEM Daily Meeting Report	Yes	
AEM QC Daily Report	Yes	
QC Sample Test Result	No	
Approval Form	No	
Photos	No	
As-built data (PDF)	No	
RFI	No	
Other document	No	

Issued by AEM QA Representative : Pier-Eric McDonald — Signature — 4/16/2020 — Date

Reviewed by SNC-Lavalin (Designer) : M. Kh. A. Rona — Signature — 04/20/2020 — Date

SNC-LAVALIN (DESIGNER) DAILY NOTES ON REMOTE SUPPORT

500 - 2000 mm boulders were placed on the French Drains with in Lake A45 berms

MT attended daily construction meeting

SNC·LAVALIN

AGNICO EAGLE

SITE REPORT(Detailed)

20200417DS-SR93
Document number (YYYYMMDD-DS-SR)

2020-04-17	6 :30 AM	6 :30 PM	667648	Pier-Eric, P.Eng
Visit date	Time (Start/End)		Project No.	Prepared by

South Whale Tale Diversion Channel Construction	Agnico Eagle
Project	Client

SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☐Light ☐Moderate ☒Strong, gusts Temperature : -20 °C

Comments :

Appendix: ☐Yes ☒No Pictures: ☒Yes ☐No Inspection report or other:

Pictures in the folder ☒Yes ☐No

	ACTIVITIES PERFORMED BY AEM QA REPRESENTATIVE (indicate if test forms were used)		
Activities		Approximate location	Visual observation during field visit [1]
Excavation	☐Yes ☒No		
Snow cleaning	☐Yes ☒No		
Esker placement	☐Yes ☒No		
Fine filter placement	☐Yes ☒No		
Coarse filter placement	☐Yes ☒No		
Geotextile and rip rap	☒Yes ☐No	Lake section	Geotextile and Rip Rap outlay as per revised drawing.
Rock fill	☐Yes ☒No		
Approval	☐Yes ☒No		
Sampling	☐Yes ☒No		
RFI completed	☐Yes ☒No		
Other	☐Yes ☒No		

[1] Note: Visual observation during field visit may include a check

1. Segregation, compaction, presence of frozen material and etc for esker, fine and coarse filter placement;
2. Minimum overlap, geotextile damage, etc for geotextile;
3. Overall rock (100-300 mm), if the rocks are clean, etc for rip rap placement;
4. If there is too much fine content and presence of large rock size for rock placement; and
5. To support the observation with photos

ADDITIONNAL COMMENTS:

Blizzard, activities were shut down around 10 AM.
Works expected to finish within the next 24hrs.

It was discussed during 10 AM construction meeting that snow within A45 vicinity (mainly East side) will remain in place rather to be hauled since filtering berms are in place.

SPECIFIC ELEMENTS VERIFIED

Elements		Location	Scope and comments
Placement method		Lake section	compliant
Design compliance		Lake section	Geotextile and rip rap reach proper elevation as per drawing modif.

SAFE AND SAFETY REMARKS

Issued by : Pier-Eric McDonald — Signature — 4/17/2020 — Date

Verified by : Signature — Date

PHOTOS/PICTURES



Photo 1: Geotextile and rip rap installation and placement in the lake section. Transitions can be see on rip rap elevation inside and outside the lake.



Photo 2: Snow to remain in place in the vicinity of A45.



Photo 3: Geotextile and rip rap installation and placement in the lake section

INFORMATION PROVIDED TO SNC-LAVALIN		
Elements	Yes/No	Description/Comments
AEM Daily Meeting Report	Yes	
AEM QC Daily Report	Yes	
QC Sample Test Result	No	
Approval Form	No	
Photos	No	
As-built data (PDF)	No	
RFI	No	
Other document	No	

Issued by AEM QA Representative :	Pier-Eric McDonald Signature	4/17/2020 Date
Reviewed by SNC-Lavalin (Designer) :	M. Kh. A. Rana Signature	04/20/2020 Date

SNC-LAVALIN (DESIGNER) DAILY NOTES ON REMOTE SUPPORT

Clean Snow, continue with the construction activities with in Lake A45

MT attended Daily Construction Meeting

SNC·LAVALIN

AGNICO EAGLE

SITE REPORT(Detailed)

20200418DS-SR94
Document number (YYYYMMDD-DS-SR)

2020-04-17	6 :30 AM	6 :30 PM	667648	Pier-Eric, P.Eng
Visit date	Time (Start/End)		Project No.	Prepared by

South Whale Tale Diversion Channel Construction	Agnico Eagle
Project	Client

SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☐None ☐Light ☐Moderate ☒Strong, gusts Temperature : -20 °C

Comments :

Appendix: ☐Yes ☒No Pictures: ☒Yes ☐No Inspection report or other:

Pictures in the folder ☒Yes ☐No

	ACTIVITIES PERFORMED BY AEM QA REPRESENTATIVE (indicate if test forms were used)		
Activities		Approximate location	Visual observation during field visit [1]
Excavation	☐Yes ☒No		
Snow cleaning	☐Yes ☒No		
Esker placement	☐Yes ☒No		
Fine filter placement	☐Yes ☒No		
Coarse filter placement	☐Yes ☒No		
Geotextile and rip rap	☒Yes ☐No		
Rock fill	☐Yes ☒No		
Approval	☐Yes ☒No		
Sampling	☐Yes ☒No		
RFI completed	☐Yes ☒No		
Other	☐Yes ☒No		

[1] Note: Visual observation during field visit may include a check

1. Segregation, compaction, presence of frozen material and etc for esker, fine and coarse filter placement;
2. Minimum overlap, geotextile damage, etc for geotextile;
3. Overall rock (100-300 mm), if the rocks are clean, etc for rip rap placement;
4. If there is too much fine content and presence of large rock size for rock placement; and
5. To support the observation with photos

ADDITIONNAL COMMENTS:

Blizzard all day, no activitiy.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

SAFE AND SAFETY REMARKS

Issued by : Pier-Eric McDonald — Signature — 4/17/2020 — Date

Verified by : Signature — Date

PHOTOS/PICTURES

INFORMATION PROVIDED TO SNC-LAVALIN

Elements	Yes/No	Description/Comments
AEM Daily Meeting Report	Yes	
AEM QC Daily Report	Yes	
QC Sample Test Result	No	
Approval Form	No	
Photos	No	
As-built data (PDF)	No	
RFI	No	
Other document	No	

Issued by AEM QA Representative : Pier-Eric McDonald — Signature — 4/18/2020 — Date

Reviewed by SNC-Lavalin (Designer) : M. Kh. A. Rma — Signature — 04/20/2020 — Date

SNC-LAVALIN (DESIGNER) DAILY NOTES ON REMOTE SUPPORT

Could not connect to join construction meeting

SNC·LAVALIN

AGNICO EAGLE

SITE REPORT(Detailed)

20200419DS-SR95
Document number (YYYYMMDD-DS-SR)

2020-04-19	6 :30 AM	6 :30 PM	667648	Pier-Eric, P.Eng
Visit date	Time (Start/End)		Project No.	Prepared by

South Whale Tale Diversion Channel Construction	Agnico Eagle
Project	Client

SNC-Lavalin	KCG
Consultant	Contractor

Weather: ☒Sunny ☐Cloudy ☐Rain ☐Storm ☐Snow ☐Glaze

Wind: ☒None ☐Light ☐Moderate ☐Strong, gusts Temperature : -15 °C

Comments :

Appendix: ☐Yes ☒No Pictures: ☒Yes ☐No Inspection report or other:

Pictures in the folder ☒Yes ☐No

	ACTIVITIES PERFORMED BY AEM QA REPRESENTATIVE (indicate if test forms were used)		
Activities		Approximate location	Visual observation during field visit [1]
Excavation	☐Yes ☒No		
Snow cleaning	☐Yes ☒No		
Esker placement	☐Yes ☒No		
Fine filter placement	☐Yes ☒No		
Coarse filter placement	☐Yes ☒No		
Geotextile and rip rap	☐Yes ☒No		
Rock fill	☒Yes ☐No	0+800	Rockfill placement on channel crest to protect exposed filters.
Approval	☐Yes ☒No		
Sampling	☐Yes ☒No		
RFI completed	☐Yes ☒No		
Other	☐Yes ☒No		

[1] Note: Visual observation during field visit may include a check

1. Segregation, compaction, presence of frozen material and etc for esker, fine and coarse filter placement;
2. Minimum overlap, geotextile damage, etc for geotextile;
3. Overall rock (100-300 mm), if the rocks are clean, etc for rip rap placement;
4. If there is too much fine content and presence of large rock size for rock placement; and
5. To support the observation with photos

ADDITIONNAL COMMENTS:

Construction of the SWTC is finished for the earthwork portion. Turbidity barriers are remaining.

Works were undertaken to protect filters at around 0+800 going North as requested by an email exchange on March 20th between Toma Mazin and Marion Habersetzer.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments
Filters are not exposed	➢ 0+800	Visual assessment, compliant

SAFE AND SAFETY REMARKS

Issued by : Pier-Eric McDonald — Signature — 4/19/2020 — Date

Verified by : Signature — Date

PHOTOS/PICTURES

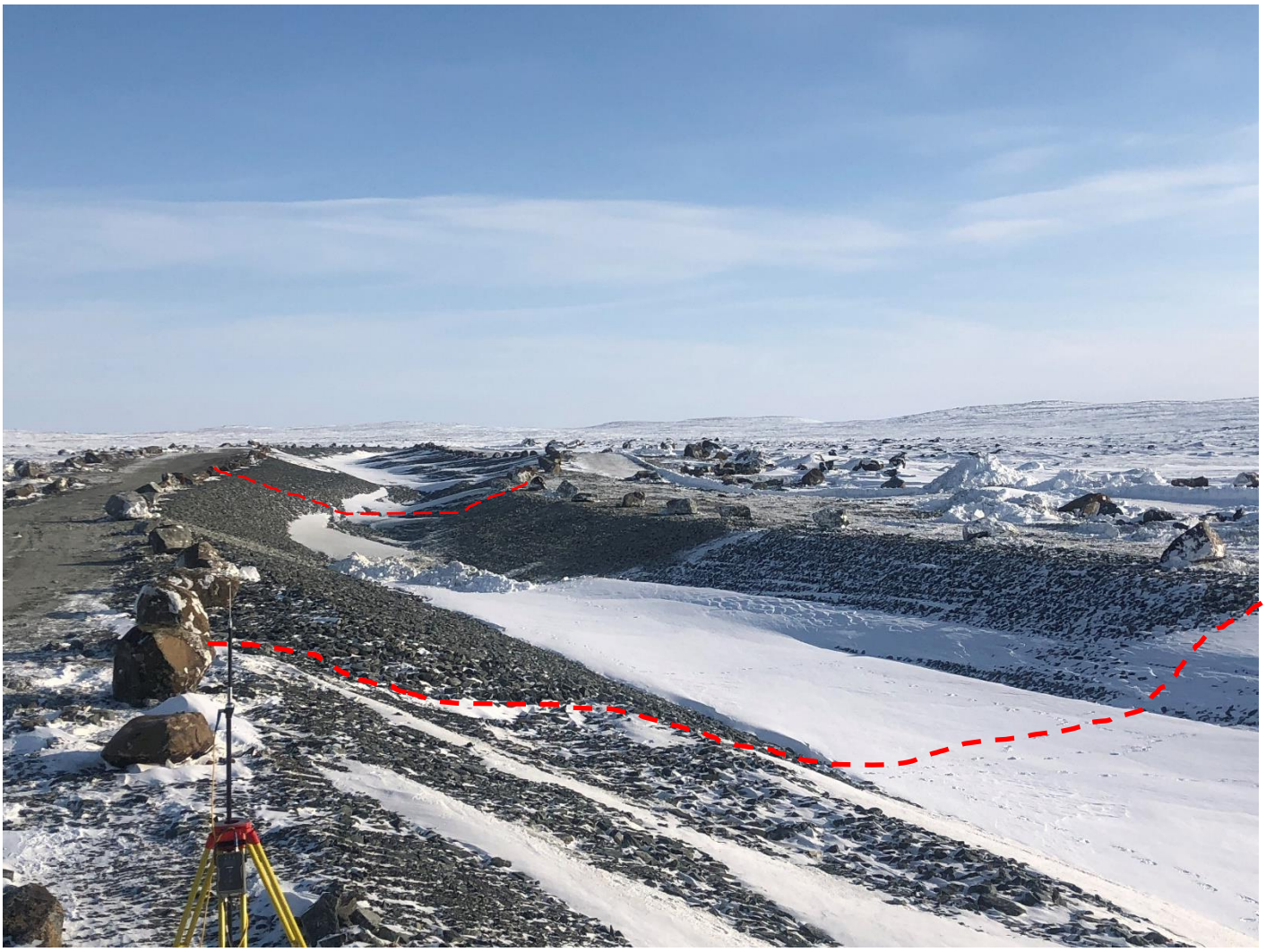


Photo 1: Overview of A45 lake section. Red dashed line indicates transition zone at around 0+490 on the front of the photo.



Photo 2: 0.5m protective rockfill over exposed filters at around 0+800



Photo 3: aerial drone overview of SWTC. Purple circle depicts outlet.

INFORMATION PROVIDED TO SNC-LAVALIN		
Elements	Yes/No	Description/Comments
AEM Daily Meeting Report	Yes	
AEM QC Daily Report	Yes	
QC Sample Test Result	No	
Approval Form	No	
Photos	No	
As-built data (PDF)	No	
RFI	No	
Other document	No	

Issued by AEM QA Representative : Pier-Eric McDonald — Signature — 4/19/2020 — Date

Reviewed by SNC-Lavalin (Designer) : M. Kh. A. Rana — Signature — 04/20/2020 — Date

SNC-LAVALIN (DESIGNER) DAILY NOTES ON REMOTE SUPPORT

Clean Snow from April 18, 2020 blizzard, Most of the construction activities with in Lake A45 were completed

MT attended Daily Construction Meeting

Appendix F-3

QA Weekly Reports

SNC·LAVALIN

WEEKLY REPORT

20200119-WR
Document number

2020-01-13 to 2020-01-19	667648	Daniel Meles (DM)
Date	Project No.	Prepared by
South Whale Tale Diversion Channel Construction	Agnico Eagle	
Project	Client	
SNC-Lavalin	KCG	
Consultant	Contractor	

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

The main activities during the week ending January 19, 2020 were:

- Complete site induction and SOA driving training;
- Attend daily construction meeting;
- Periodic visual observation of channel excavation activity;
- Visit coarse and fine stock pile;
- Observe QC during sampling fine filter from stock pile and in-situ soil from channel foundation for gradation test; and
- Visit of on-site laboratory facility.

Foundation approval, filter gradation and fill placement and compaction have not been started during last week.

Complete Training

DM completed site induction at Meadowbank on January 13, 2020 and at Amaruq on January 14, 2020. DM also completed the SOA driving training on January 18, 2020.

Daily Construction Meeting

DM attended all Whale Tail Daily Construction Meeting except the January 18, 2020 meeting. DM missed the January 18 meeting to completed SOA driving training.

Channel Excavation

The overburden soil being frozen and due to the presence of boulders and bedrock, the construction method for the SWTDC include drill and blast followed by removing and stripping loose material using excavator and dozer. During the week ending January 20, 2020, channel excavation reached about Station 0+648 starting from channel outlet at Mammouth Lake. Example photos showing channel excavation are presented in Figure 1 and 2 below.

Laboratory Facility Visit

DM visited the on-site laboratory testing facility for the gradation test. From visual assessment of balance, mechanically operated stirring device and coarse and fine sieve, the facility appears to be in a good condition. However, the accuracy of the balance does not meet ASTM standard and the calibration sheet on the mechanical stirring devices and fine sieve indicated expired calibration date. Example photo of the on-site laboratory is shown in Figure 3.

Filter stock pile and Sampling for Gradation Test

During the week ending January 19, 2020, DM visited the filter stock pile and observed QC sampling from stock pile channel excavation bottom for the gradation test. For preliminary assessment of the stock pile, QC took one sample from the fine filter stock pile and two samples from the channel foundation soil. The gradation test for the sample from fine filter stock pile and one of the channel foundation soil were completed. Example photo showing the fine filter stock pile is shown in Figure 4.

SPECIFIC ELEMENTS VERIFIED

Elements	Location	Scope and comments

RFI

The list of RFI for the known deviations/changes is attached. Once again, all parties are requested to inform the agreed variations to the QA supervisor, to facilitate the documentation process for changes and deviations.

SAFE AND SAFETY REMARKS

Near miss – back to back contact between two haul trucks was reported by KCG during January 18, 2020 daily construction meeting. The incident happened on January 17, 2020.

PHOTOGRAPHIES



Figure 1: A view of the channel excavation (photo taken looking north)



Figure 2: A view of the channel (looking south)



Figure 3: A view of the laboratory facility



Figure 4: A view of fine filter stock pile

RFI Log

RFI #	Date Received	Date Responded	Status	Subject	Location	Notes
RFI-001	2019-08-13		*To be approved*	Change of outlet geometry, outlets were higher than topography	0+060, 0+390, 0+480, 0+900	Consists of having small filter tablets on topographic surface at crests to direct water flow towards Mammoth rather than have it spreaded
RFI-002	2019-08-13		*To be approved*	Change of inlet geometry. Not build buttress platforms used to get 1.3m depth i.e. disregard 1.3m min	On low topographic spots	This material was put in place to follow the 1.3m minimum but it would be rockfill i.e. draining material i.e. be useless. It would be used at the same time to facilitate constructability where road in not adjacent i..e close to A45
RFI-003	2019-08-13		*To be approved*	Having slope at 2.5:1 rather than 3:1 above max water level	TBD	Apply in section where rockfill is directly against slope as butress
RFI-004	2019-08-13		Field Fit	Modification of Road 24 alignment for construction access		Construction access to be field fitted
RFI-005	2019-08-13		Field Fit	Access to bottom of channel from both side		Will need to be field fitted with a slope to allow access within channel
RFI-006	2019-08-13		Approved	Use of 0-150 instead of 0-200 for coarse filter		Approved by changing 100-300 to 100-250
RFI-007	2019-08-13		Approved	Use of 100-300 instead of 100-250 for rip-rap		Condition for the approval of RFI-006
RFI-008	2019-09-05		Approved	Lowering the inelt of the channel by 0.5 m		New version of construction drawings and report were submitted by SNC in December 2019
RFI-009	2019-12-15		Pending	Turbidity concern on lake A45	A45	
RFI-010	2019-12-15		Rejected	Leaving the construciton road within the operational level of Lake A45 can stay there	A45	Env asked that the no road remain within the operation level of A45. Will ahve to be dismantled at the end of construction
RFI-011	2019-12-16	2020-01-17	Recommendation provided	Adding a geotextile above the corase filter to add robustnest to the design	Within Channel	SNC recommend to place the geotextile between the fine filter and the soil in place or alternatively between the fine filter and coarse filter. As the geotextile minimize the risk of soil or fine filter materia erosion. As requested by AEM, the geotextile can be placed between the coarse filter and the rip-rap material without affecting the performance of the channel. However, SNC believe that there could be a risk in damaging the geotextile during the placement of the rip-rap material over the geotextile, as the geotextile could shear and tear. If some parts of the geotextile are exposed, the geotextile could also be damaged during maintenance work of the channel. SNC recommends using special care during the placement of rip-rap material over the geotextile, as well as during cleanup, snow and ice removal in the channel, in order to avoid damaging the geotextile
RFI-012	2020-01-15		Sent for approval	Proposed inlet modification (see drawings)	Inlet's	Sent to SNC for approval
RFI-0-13	2020-01-15		Sent for approval	Modified inlet to have a 'fan' shape instead of rectangular to improve water conveyance	Inlet's	Sent to SNC for approval
RFI-014	2020-01-15	2020-01-17	Approved	Proposed outlet modification to Mammoth lake (see drawing)		The outlet to the Mammoth lake can be adjusted to the existing ground conditions. Ensure that there is no high point in the nearby topography downstream of the outlet to ensure proper flow towards the lake.

SNC·LAVALIN

WEEKLY REPORT

20200126-WR
Document number

2020-01-20 to 2020-01-26	667648	Daniel Meles
Date	Project No.	Prepared by
South Whale Tale Diversion Channel Construction	Agnico Eagle	
Project	Client	
SNC-Lavalin	KCG	
Consultant	Contractor	

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

The main activities during the week ending January 26, 2020 were:

- Attend daily construction meeting;
- Periodic visual observation of channel excavation activity;
- Observe QC while doing gradation test in the laboratory;
- Sampling fine filter from stock pile for gradation test and in-situ soil from channel foundation for gradation test and moisture content test; and
- Foundation approval from Station 0+917 (outlet to Mammouth lake) to Station 0+830.

Filter material placement has not been started during last week.

Daily Construction Meeting

DM attended all Whale Tail Daily Construction Meeting. During the daily construction meeting on January 25, there was a discussion on foundation approval procedure and type of backfill material in case there is significant over-cut encountered during overburden soil excavation.

Discussion summary

1. Foundation approval for the bottom of excavation will be completed when the excavation reaches to the excavation limit indicated in the construction drawing. A second foundation approval may be required before filter placement for areas that require significant backfill to reach the bottom elevation of the filter before fill placement.
2. Esker material (AMQ-ES-001 and AMQ-ES-002) with the gradation shown in Figure 1 will be used in case a significant backfill for over-cut in the overburden soil is identified during approval.

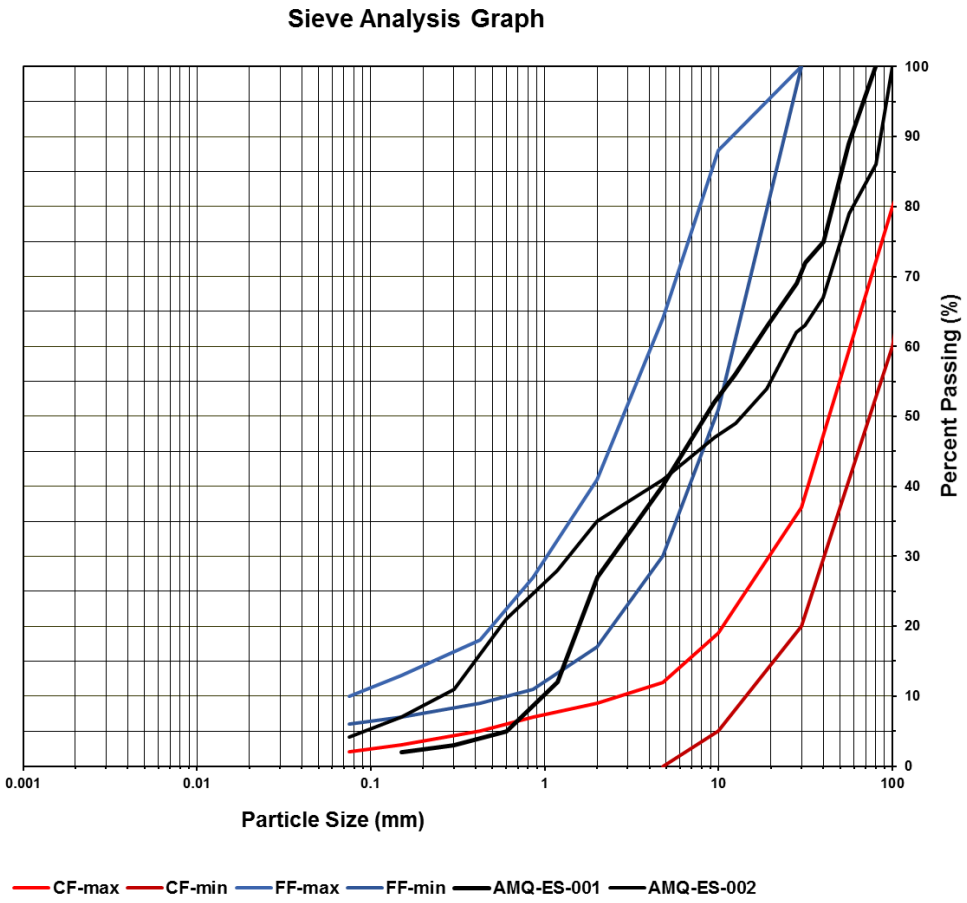


Figure 1: Gradation curve for Esker material (AMQ-ES-001 and AMQ-ES-002) proposed to use in case significant foundation soil backfill required during overburden soil excavation.

Channel Excavation

The overburden soil being frozen and due to the presence of boulders and bedrock, the construction method for the SWTDC include drill and blast followed by removing and stripping loose material using excavator and dozer. During the week ending January 26, 2020, channel excavation reached about Station 0+636 starting from channel outlet at Mammouth Lake. Detail of construction progress can be referred from the daily construction meeting report. Example photos showing channel excavation on January 26 is presented in Figure 2.



Figure 2 View of the site on January 26, 2020 (Photo taken looking North)

Laboratory Facility Visit

DM visited the on-site laboratory facility to observe QC doing gradation tests. The QC follows standard testing procedure. Example photos of gradation tests for the coarse sample is shown in Figure 3.



Figure 3 View gradation test on coarse material

Filter stock pile and foundation soil Sampling for Gradation and moisture content Tests

During the week ending January 26, 2020, DM observed QC sampling from stock pile for gradation test and foundation soil for gradation and moisture content test.

Additional stock pile sampling and gradation tests were completed by the QC for preliminary assessment of the fine filter stock pile. Preliminary gradation test results indicated that the fine filter stock pile gradation for most of the samples lies within the proposed filter gradation range. However, it should be noted gradation tests for QA/QC purpose will be completed from the site during filter material placement. Example photo and gradation test results from fine filter stock pile are shown in Figure 4 and 5 respectively.

During last week, one additional soil sample near the outlet to Mammouth lake, and gradation test results for previously sampled foundation soil (AMQ-IP-001, AMQ-IP-002, AMQ-IP-003 and AMQ-IP-004) were completed. The gradation test results of the samples are shown in Figure 6. Review of the filter design for the sample AMQ-IP-001, AMQ-IP-002 and AMQ-IP-003 were completed by SNC. Based on gradation test results of the three samples, SNC recommended no further modification is required for the filter design. SNC also recommended to do additional foundation samples as excavation progress and continue the review as test results completed. The result for AMQ-IP-004 was sent to SNC for review. The sampling and gradation test for AMQ-IP-004 (which was located near the outlet to Mammouth lake) was delayed as the area was covered with snow until January 25, 2020.

Beside visual observation for ice/ice rich soil, during last week three foundation soil samples were collected for moisture content tests. Typical soil block sample taken for moisture content tests is shown in Figure 7. The moisture content test result is shown in Figure 8. The test result indicated the moisture content of the three samples are less than 20% (defined as ice rich soil in the report).



Figure 4 View of fine filter in the stock pile

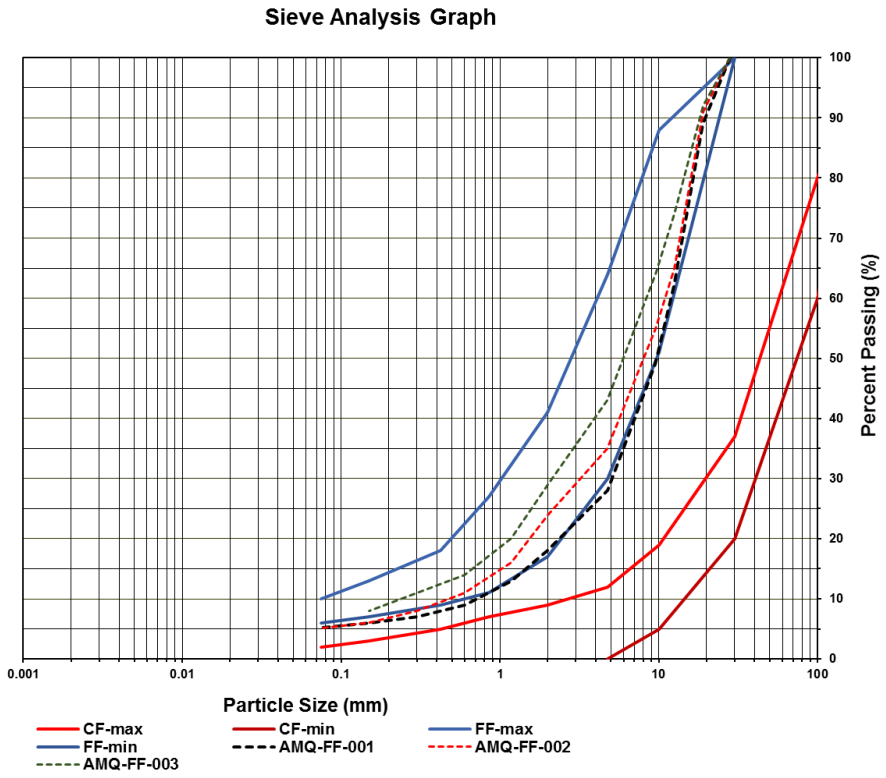


Figure 5 Gradation test results of samples from fine filter stock pile

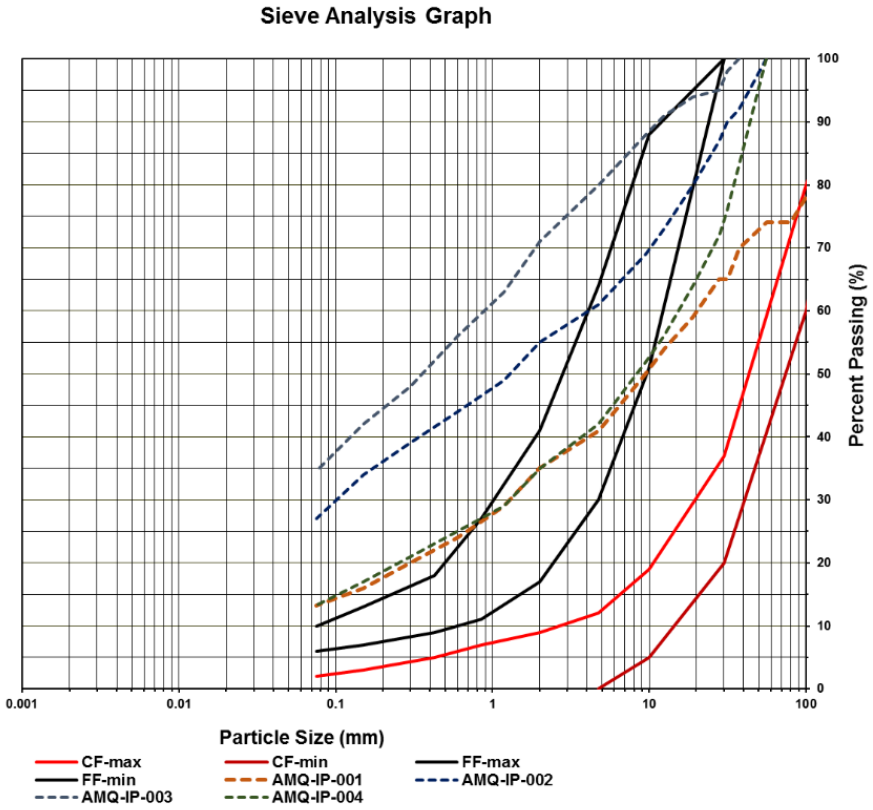


Figure 6 Gradation test result for the foundation soil



Figure 7 Example photos of soil block sampled during excavation for the moisture content tests

Sample number	Till-001
Mass of moist soil	2693
Mass of dry soil	2469
Moisture content	9.07%

Sample number	Till-002
Mass of moist soil	1257
Mass of dry soil	1150
Moisture content	9.30%

Sample number	Till-003
Mass of moist soil	1980
Mass of dry soil	1769
Moisture content	11.93%

Figure 8 Moisture content results for sample taken during excavation

Foundation Approval

During last week, DM completed foundation approval from Station 0+917 (outlet to Mammouth Lake) to Station 0+830. See attachment 1 for the detail of the foundation approval completed last week.

RFI

The list of RFI for the known deviations/changes is attached. Once again, all parties are requested to inform the agreed variations to the QA supervisor, to facilitate the documentation process for changes and deviations. See attachment 2 for the updated RFI log attached.

A technical memo will be issued by SNC Lavalin including the details on the use of geotextile between the rip rap and the coarse filter (RFI-011), the filter design review (RFI-014) and the inlets design change (RFI-012 and 013).

SAFE AND SAFETY REMARKS

Extreme cold and dress appropriately

Attachement 1 : Approval form

SNC·LAVALIN

Sustaining capital
Mining & Metallurgy
1140 Maisonneuve boul. West
Montreal (Québec)
Canada H3A 1M8

Telephone: (514) 393-8000
Fax: (514) 390-2765
www.snclavalin.com

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-01-26

DOCUMENT #: 20200126-DS-01 **TIME:** 3:15 PM

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☒ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+916 to 0+830	**Station:**	NA
Inclination:		**Details:**	
ELEVATION:	☐ varies _____ m		

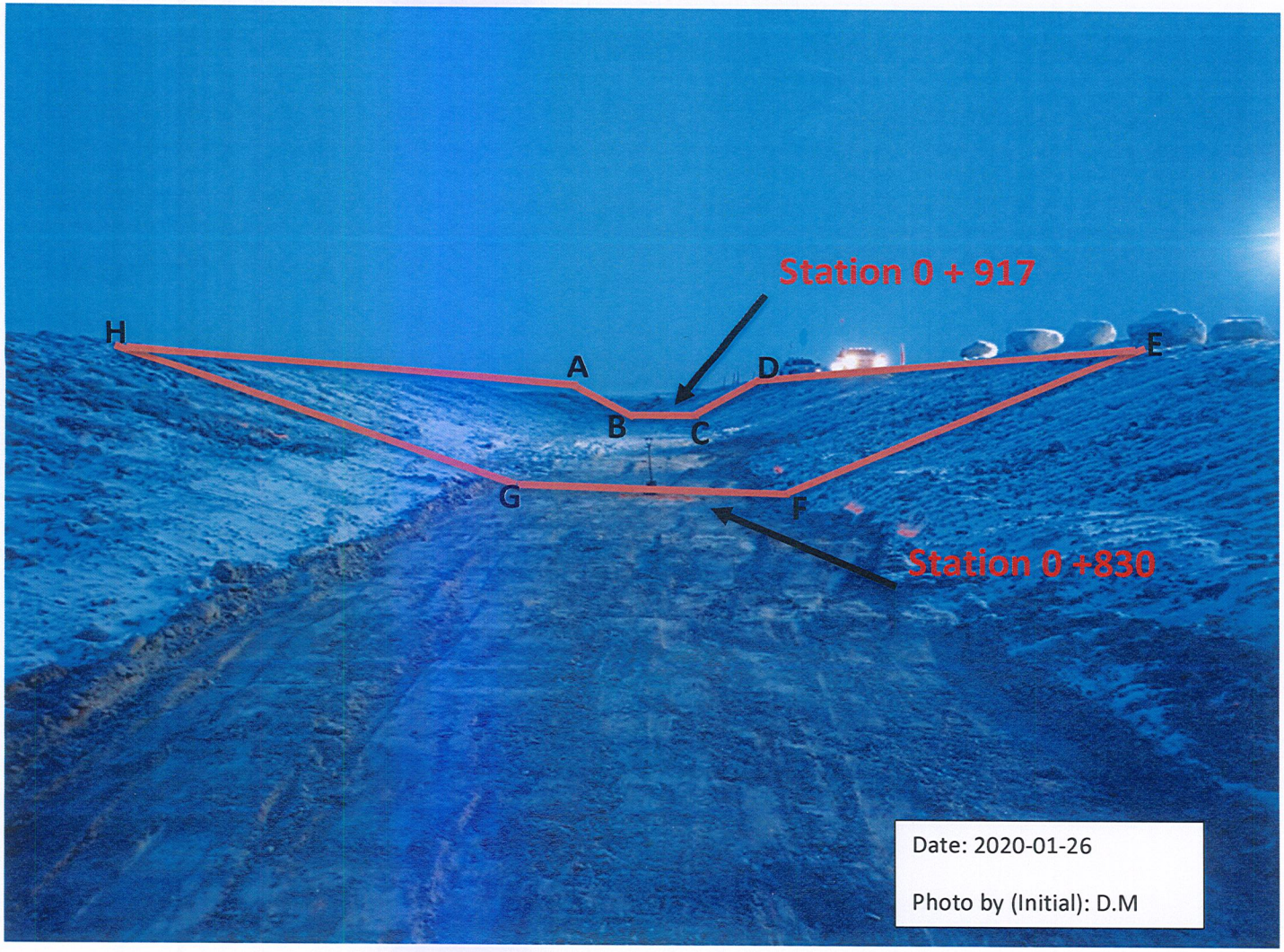
COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades			✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					—
5. Placement (lift thickness, segregation, etc.)					—
6. Compaction					
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS (Refer to list above for item #)		APPROVED BY:			
		QA		QC	
ITEM		Y	N	Y	N
2	require verification for snow cleaning before placement & snow falls before placement	✓		✓	
3		✓		✓	

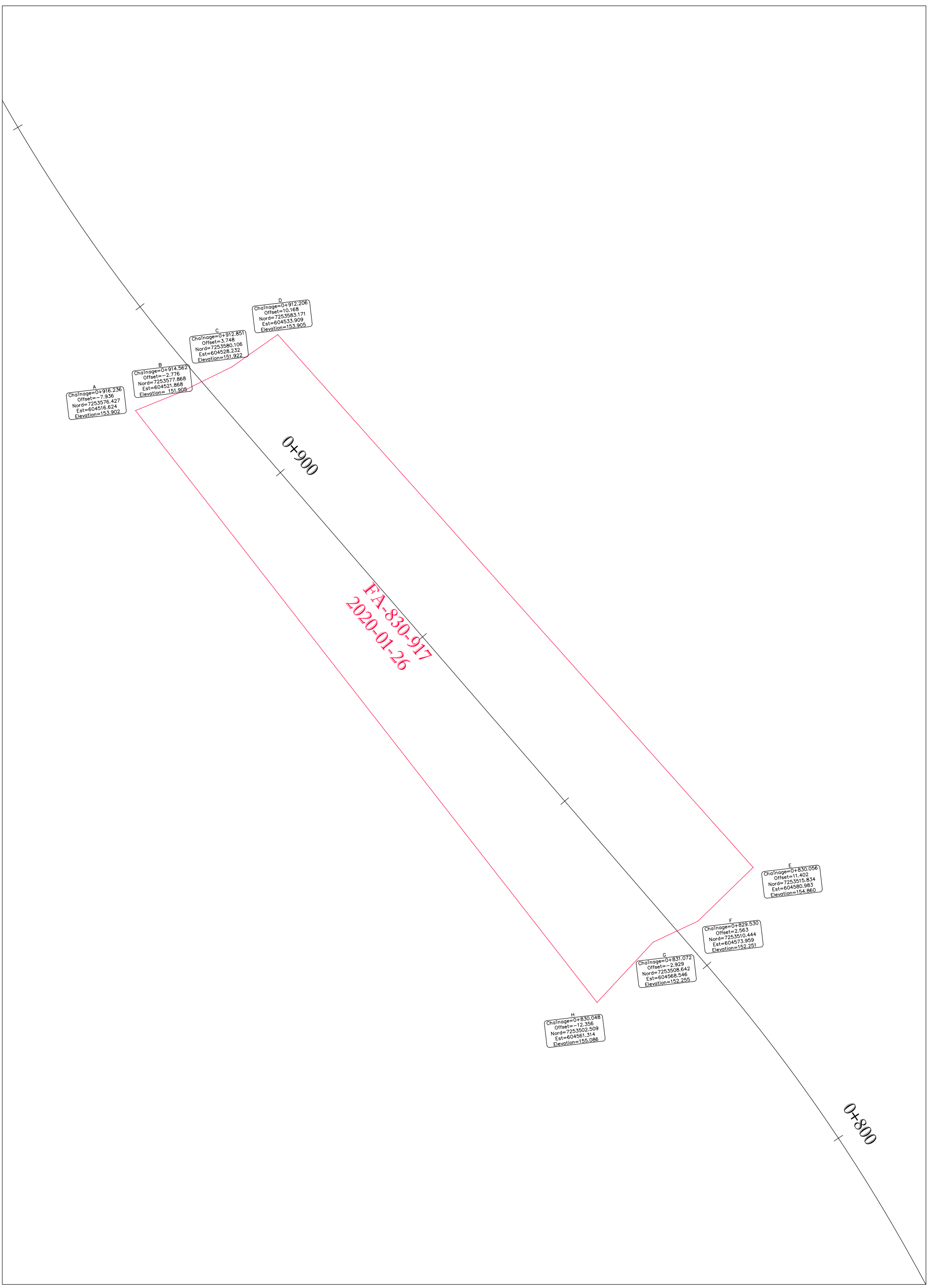
APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Mathieu Côté		26-01-2020
QA REPRESENTATIVE	Daniel Meles		26-01-2020
OWNER'S REPRESENTATIVE	Yanick Simard		27-01-2020
CONTRACTOR'S REPRESENTATIVE	Marie-Pier Cargnon		27-01-2020



Note: refer the sketch below for the coordinates of A, B, C, D, E, F, G, H

Picture 1 – Approximate approved foundation area

FA-830-917
SWTC FOUNDATION APPROVAL
CONTRACT # 11-811



C:\Users\arpenteur\Dropbox (Groupe Gilbert)_arpentage meadowbank\02-B - CAD\11-811 - AMQ DIKES\SOUTH WHALE TAIL CHANNEL\FOUNDATION ACCEPTABLE\SWTC_FOUNDATION_EXC.dwg

KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : MARIE-PIER GAGNON
DATE : 27-01-2020
CON-FD-228

Attachement 2 : RFI log

RFI Log

RFI #	Date Received	Date Responded	Status	Subject	Location	Notes
RFI-001	2019-08-13		*To be approved*	Change of outlet geometry, outlets were higher than topography	0+060, 0+390, 0+480, 0+900	Consists of having small filter tablets on topographic surface at crests to direct water flow towards Mammoth rather than have it spreaded
RFI-002	2019-08-13		*To be approved*	Change of inlet geometry. Not build buttress platforms used to get 1.3m depth i.e. disregard 1.3m min	On low topographic spots	This material was put in place to follow the 1.3m minimum but it would be rockfill i.e. draining material i.e. be useless. It would be used at the same time to facilitate constructability where road in not adjacent i..e close to A45
RFI-003	2019-08-13		*To be approved*	Having slope at 2.5:1 rather than 3:1 above max water level	TBD	Apply in section where rockfill is directly against slope as butress
RFI-004	2019-08-13		Field Fit	Modification of Road 24 alignment for construction access		Construction access to be field fitted
RFI-005	2019-08-13		Field Fit	Access to bottom of channel from both side		Will need to be field fitted with a slope to allow access within channel
RFI-006	2019-08-13		Approved	Use of 0-150 instead of 0-200 for coarse filter		Approved by changing 100-300 to 100-250
RFI-007	2019-08-13		Approved	Use of 100-300 instead of 100-250 for rip-rap		Condition for the approval of RFI-006
RFI-008	2019-09-05		Approved	Lowering the inelt of the channel by 0.5 m		New version of construction drawings and report were submitted by SNC in December 2019
RFI-009	2019-12-15		Pending	Turbidity concern on lake A45	A45	
RFI-010	2019-12-15		Rejected	Leaving the construciton road within the operational level of Lake A45 can stay there	A45	Env asked that the no road remain within the operation level of A45. Will ahve to be dismantled at the end of construction
RFI-011	2019-12-16	2020-01-17	Recommendation provided	Adding a geotextile above the corase filter to add robustnest to the design	Within Channel	SNC recommend to place the geotextile between the fine filter and the soil in place or alternatively between the fine filter and coarse filter. As the geotextile minimize the risk of soil or fine filter materia erosion. As requested by AEM, the geotextile can be placed between the coarse filter and the rip-rap material without affecting the performance of the channel. However, SNC believe that there could be a risk in damaging the geotextile during the placement of the rip-rap material over the geotextile, as the geotextile could shear and tear. If some parts of the geotextile are exposed, the geotextile could also be damaged during maintenance work of the channel. SNC recommends using special care during the placement of rip-rap material over the geotextile, as well as during cleanup, snow and ice removal in the channel, in order to avoid damaging the geotextile
RFI-012	2020-01-15		Sent for approval	Proposed inlet modification (see drawings)	Inlet's	Sent to SNC for approval
RFI-0-13	2020-01-15		Sent for approval	Modified inlet to have a 'fan' shape instead of rectangular to improve water conveyance	Inlet's	Sent to SNC for approval
RFI-014	2020-01-15	2020-01-17	Field fit	Proposed outlet modification to Mammoth lake (see drawing)	outlet to Mammouth lake	The outlet to the Mammoth lake can be adjusted to the existing ground conditions. Ensure that there is no high point in the nearby topography downstream of the outlet to ensure proper flow towards the lake.
RFI-014	2020-01-15	2020-01-26	Review continue as excavation progress	Revise filter design for existing foundation soil		Based on gradation test results from sample AMQ-IP-001, AMQ-IP-002 and AMQ-IP-003, no filter design modification required. Foundation soil sampling and review of filter design continue as excavation progress

SNC·LAVALIN

WEEKLY REPORT

20200202-WR03
Document number

2020-01-27 to 2020-02-02	667648	Hamza Abdel-Aziz (HAA)
Date	Project No.	Prepared by
South Whale Tale Diversion Channel Construction	Agnico Eagle	
Project	Client	
SNC-Lavalin	KCG	
Consultant	Contractor	

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

The main activities for the QA representative regarding the construction of the south whail tail diversion channel (SWTDC) during the week ending February 02, 2020 were:

- Complete site induction and SOP driving training ;
- Presentation of the working team ;
- Daily construction meeting ;
- Scope of work on site SWTDC ;
- Fondation approval ;
- Sampling and test laboratory ;
- Esker placement.

Complete site induction and SOP driving training

When we arrived at the camp we received induction, health and safety and training to drive in the camp :

- Induction at Meadowbank on January 27, 2020 ;
- Induction at Amaruq on January 28, 2020 ;
- SOP driving training on January 31, 2020.

Presentation of the working team

During this week, the work team on the site consisted of :

- Owner's representative (AEM) : Pier-Eric McDonald and Marion Habersetzer ;
- Site supervisor (AEM) : Yannick Simard ;
- QA (SNC-Lavalin) : Hamza Abdel-Aziz ;
- QC day shift (GHD) : Stéphane Dovelus ;
- QC night shift (GHD) : Yaotree amegnran ;
- Contractor : Goupe Gilbert.

Daily Construction Meeting

HAA attended the Whale Tail Daily Construction Meeting on February 01, 2020 During the daily construction meeting, there was a discussion on the use of geotextile, he owern's representative (Pier-Eric McDonald) reconfirmed informed us that AEM will use a geotextile between rip rap and corase filter for construction of the south whail tail diversion channel (RFI-011) , following a risk assessment from AEM ; SNC-Lavalin should verify the impact of the geotextile and choise of the backfill material.

Scope of work on site SWTDC

During this week, several drilling, blasting, excavation and cleaning works have been carried out.
Here are presented the field work sequences carried out and the work in progress :

- Sequences 1, 2 and 3 (From station 0+917 to 0+580) : The excavation work has been completed. Backfill for over-cut in the overburden soil with esker material to be made and required verification for snow cleaning before placement.
- Sequence 4 (from station 0+580 to 0+489) : Already blasted, the excavation work in progress and probably other blast work will be required because the limit is not yet reached confirmed by AEM. We notice the presence of frozen soil which must be removed and rock in this area.
- Sequence 5 (from station 0+410 to 0+285) : Drilling and blasting have been carried out in this area. During the blast in this area, there was an excess of vibration recorded by the blast monitor devices.
- Sequence 6 (from station 0+285 to 0+243) : Drilling in progress.

Please note that the work plans with station of each sequence are being prepared. This plan will be presented in the next weekly report.

Foundation Approval

On 2020-01-29, the Owner's representative, QA, QC day shift, site supervisor, and contractor representative were on site for foundation approval :

- From station 0+830 to 0+775 : Approval of the channel foundation : free ice / snow / water ; cleaning of excavation bottom (see ***appendix A*** - 20200129-DS-02_Foundation Approval).
- Foundation was inspected and met the requirements for approval as per the specifications.

  Note : Required verification for snow cleaning before placement and backfill for over-cut in the overburden soil to be made. The material that will be used for backfilling must respect the technical specification requirement and the designer recommandations.

Sampling and test laboratory

During the inspection on 2020-02-01, the visual gradation of the backfill for foundation overcut (esker material) used for placement from station 0+830 to 0+775 in this areawas considered too fine. HAA told them to stop using this esker material for backfill. An analysis of esker material and the choise of the backfill material is required ;
Given that the esker placed in this area seems to be very fine by observation, samples were taken during the placement.

Summarize of esker samples took see ***table 1*** and ***appendix B*** for the gradation results :

- AMQ-ES-003 : Esker sampling at stock pile on 2020-01-31 ;
- AMQ-ES-004 : Esker sampling on the western slope of the channel at station 0+820 by QC (Night shift) on 2020-02-01 ;
- AMQ-ES-005 : Esker sampling on the eastern slope of the channel at station 0+820 on 2020-02-01.
- AMQ-ES-003.1 : Esker sampling at stock pile on 2020-02-02 to remplace sample AMQ-ES-003 losted when the machine for gradation was damaged, gradation result is in progress for this sample.

Table 1: Summary table of esker samples

Description of material	Origin	ID sample	Fines-Sand-Gravel	Station	Localisation of sampling	Date of sampling	Date of testing	Placement area
Esker	Pit (Stock pile 1)	AMQ-ES-001	1 - 39 - 60	-	Stock pile 1	17/01/2020	17/01/2020	[0+917 - 0+830]
Esker	Pit (Stock pile 1)	AMQ-ES-002	4 - 37 - 59	-	Stock pile 1	17/01/2020	18/01/2020	[0+917 - 0+830]
Esker	Pit (Stock pile 2)	AMQ-ES-003	- -	-	Stock pile 2	31/01/2020	Lost sample	[0+830 - 0+775]
Esker	Pit (Stock pile 2)	AMQ-ES-003.1	40 - 60 - 0	-	Stock pile 2	02/02/2020	in progress	[0+830 - 0+775]
Esker	Pit (Stock pile 2)	AMQ-ES-004	7 - 25 - 68	0+820	Slope west of channel	01/02/2020	02/02/2020	[0+830 - 0+775]
Esker	Pit (Stock pile 2)	AMQ-ES-005	21 - 50 - 29	0+820	Slope east of channel	01/02/2020	02/02/2020	[0+830 - 0+775]
Note : The samples taken in the stockpile are not always representative of materials placed								

Esker placement

During the excavation work, there was an overcut in the overbordun between the station 0 + 917 to 0 + 775. The backfilling required a lift arround 20 cm – 60 cm for to respect the line and grade. The esker material was used for the backfilling, this esker was compacted with the bucket a leaving a 10 cm limit before placing the fine filter.

Summarize of esker in place of the channel :

- From station 0+917 to 0+830 : Esker placement on the slope of the channel because there was an overcut during the excavation. This esker was taken from stockpile 1 (AMQ-ES-001 and AMQ-ES-002) and placed at night during our cross-shifting. See ***figure 1*** for the picture and ***appendix C*** for the as built and the thickness of esker placed in this area ;



Figure 1: View of site from 0+830 to 0+917 (photo taken looking north)

- From station 0+830 to 0+775 : Esker placement on the slope of the channel because there was an overcut during the excavation. This esker was taken from stockpile 2 and placed at night between on 2020-01-31 and 2020-02-01. See ***figure 2*** for the picture and ***appendix C*** for the as built and the thickness of esker placed in this area ;



Figure 2: View of site from 0+775 to 0+830 (photo taken looking north)

The visual gradation of the esker used for placement is considered too fine. An analysis of the gradation results for the esker material will be necessary, considering the use of the geotextile as requested by AEM.

The use of the esker material will be discussed with the designer to determine the caracteristics required for material to be used, Details of the discussion will be included in the next weekly report.

RFI

During the daily construction meeting on February 01, 2020, the owern's representative (Pier-Eric McDonald) reconfirmed that AEM will use a geotextile between rip rap and corase filter for construction of the south whail tail diversion channel (RFI-011) , following a risk assessment from AEM ; SNC-Lavalin should verify the impact of the geotextile and choise of the backfill material. A field instruction memo will be issued by SNC regaring the use of the geotextile.

Memos will also be issued by SNC including the details on the filter design review (RFI-014) and the esker material, and the inlets design change (RFI-012 and 013). See ***appendix D*** for RFI.

SAFE AND SAFETY REMARKS

Weather condition : White out on January 30, 2020, the site was closed around 11 am because of the poor visibility from blizzard ;

APPENDIX A : Approval form

SNC·LAVALIN

Sustaining capital
Mining & Metallurgy
1140 Maisonneuve boul. West
Montreal (Québec)
Canada H3A 1M8

Telephone: (514) 393-8000
Fax: (514) 390-2765
www.snclavalin.com

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DATE: 2020-01-29

DOCUMENT #: 20200129-DS-02

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

TIME: 04:00 PM

(24 hour clock)

APPROVAL FOR :

- ☒ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+830 to 0+775	**Station:**	~~NA~~ 0+917 to 0+830
Inclination:		**Details:**	
ELEVATION:	☐ varies _____ m		

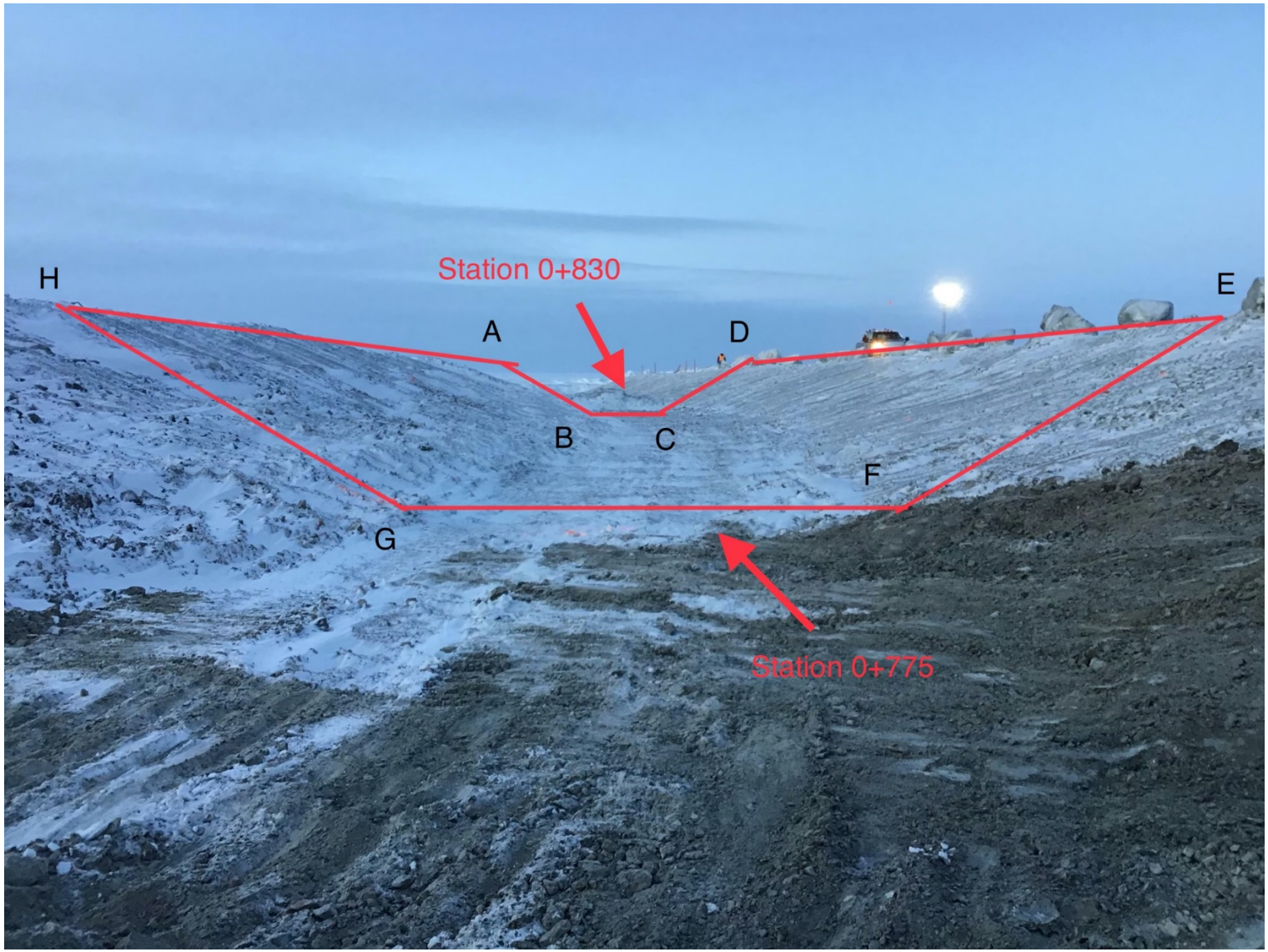
COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY:				
	QA		**QC**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					—
5. Placement (lift thickness, segregation, etc.)					—
6. Compaction					—
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS (Refer to list above for item #)		APPROVED BY:			
		QA		QC	
ITEM		Y	N	Y	N
2	Require verification for snow removal before placement if any accumulation of snow, by snow fall or by wind.				

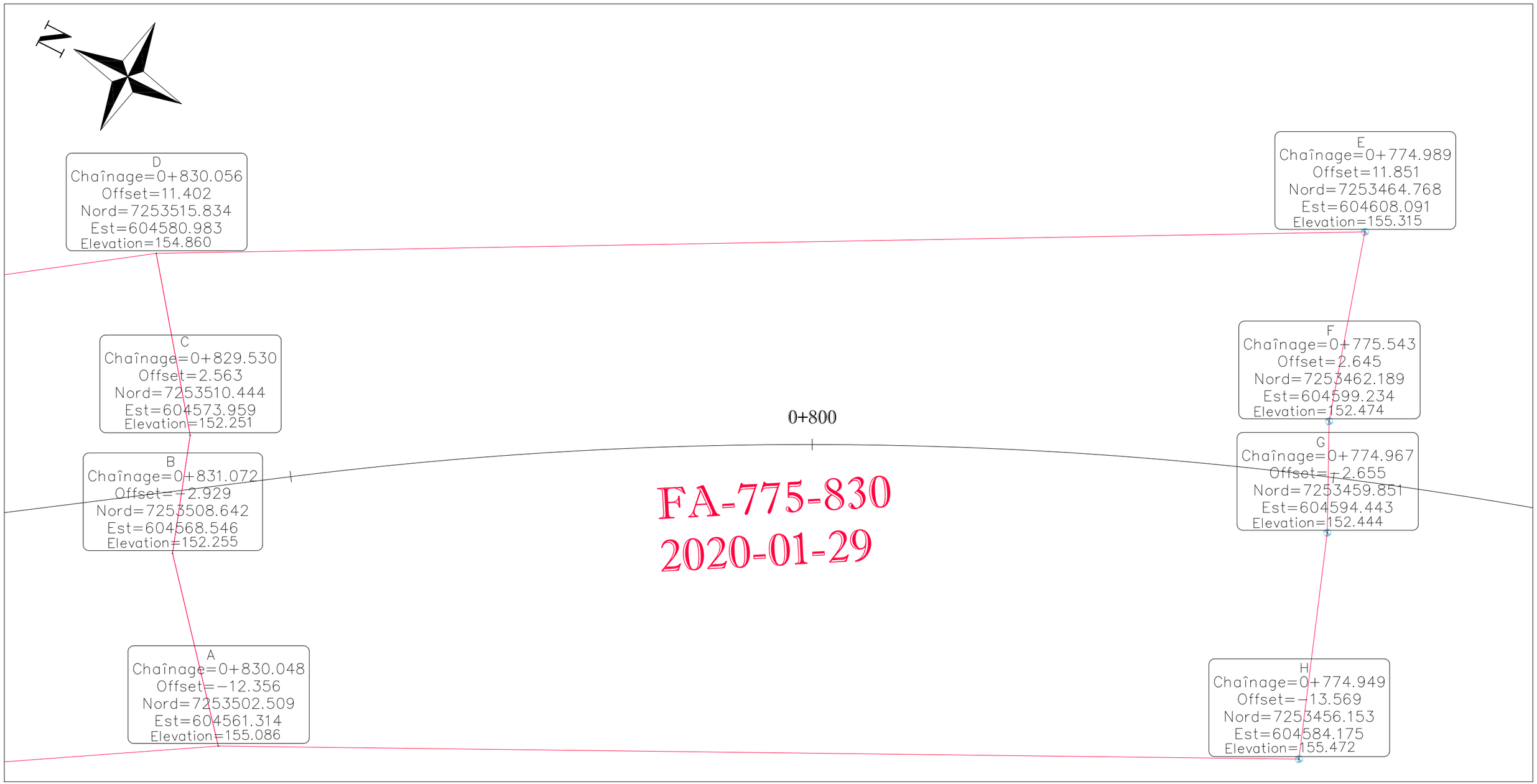
APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	STEPHANE DORVÉLUS		2020-01-29
QA REPRESENTATIVE	HAMZA ABDEL-AZIZ		2020-01-29
OWNER'S REPRESENTATIVE	Pier-Eric McDonald		2020-01-30
CONTRACTOR'S REPRESENTATIVE	Marie-Pier Cagnon		2020-01-30



Note: refer the sketch below for the coordinates of A, B, C, D, E, F, G, H

Picture 1 – Approximate approved foundation area

FA-775-830
SWTC FOUNDATION APPROVAL
CONTRACT # 11-811



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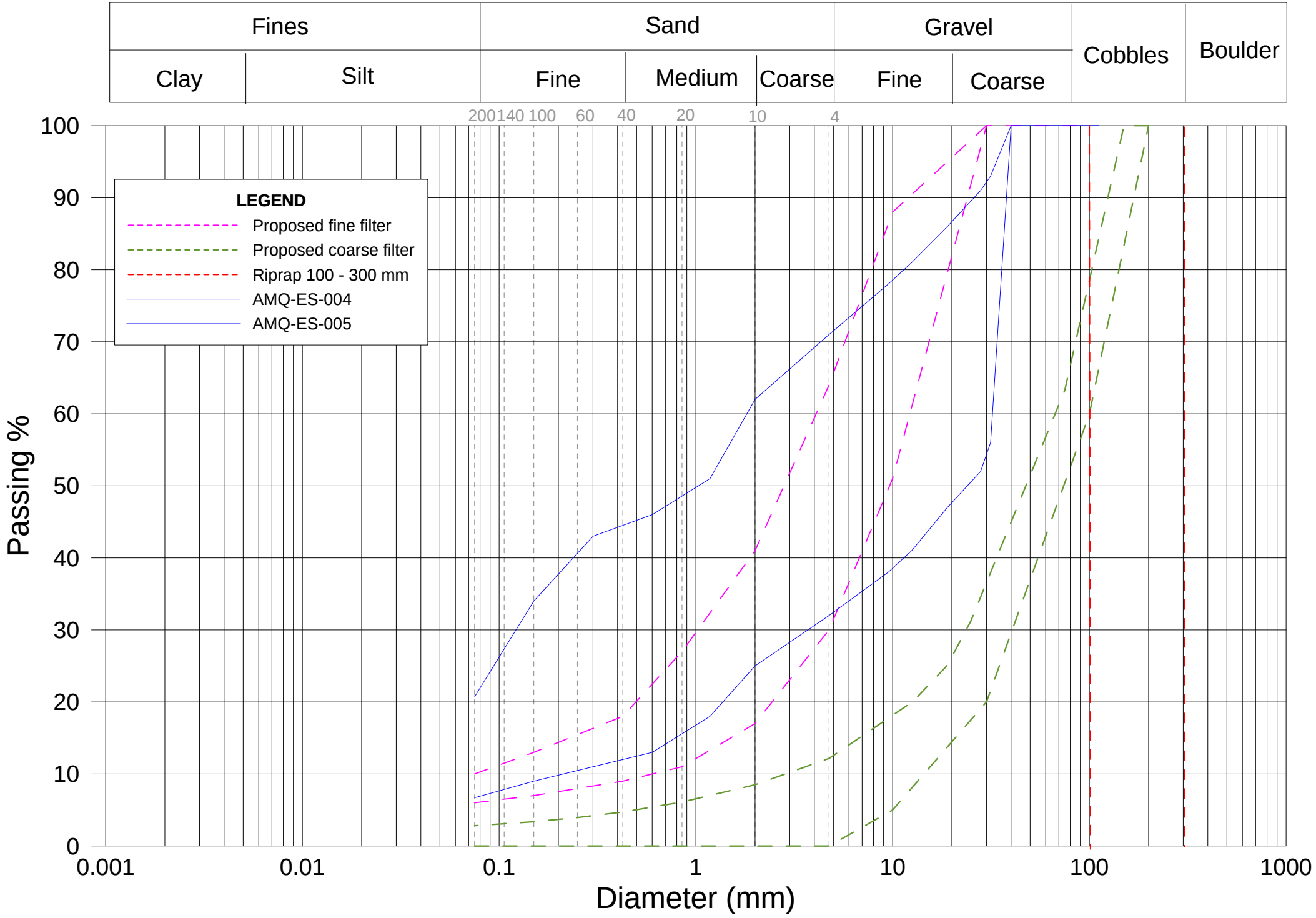
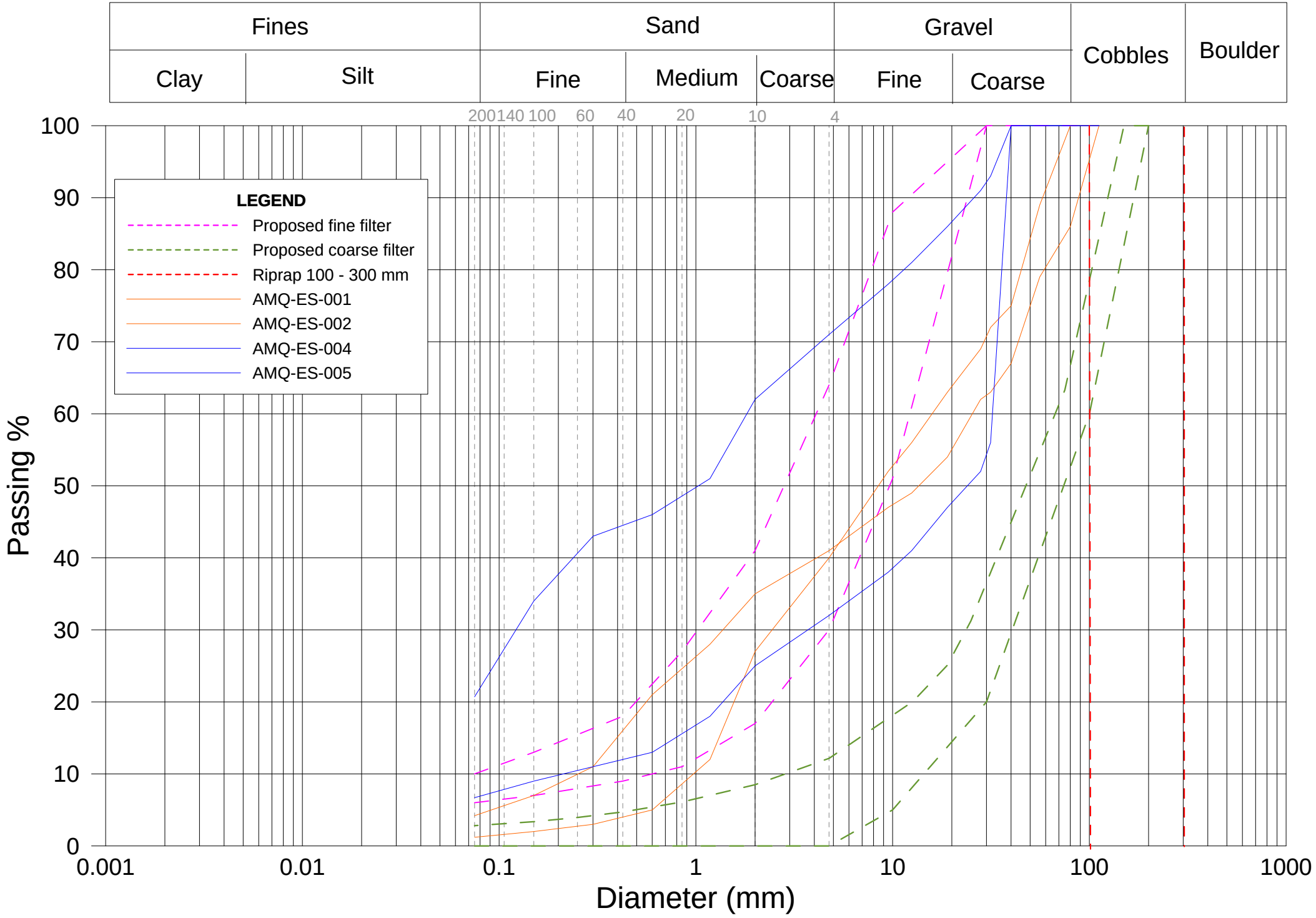
KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MARC-ANDRÉ BLACKBURN
DATE : 29-01-2019
CON-FD-229

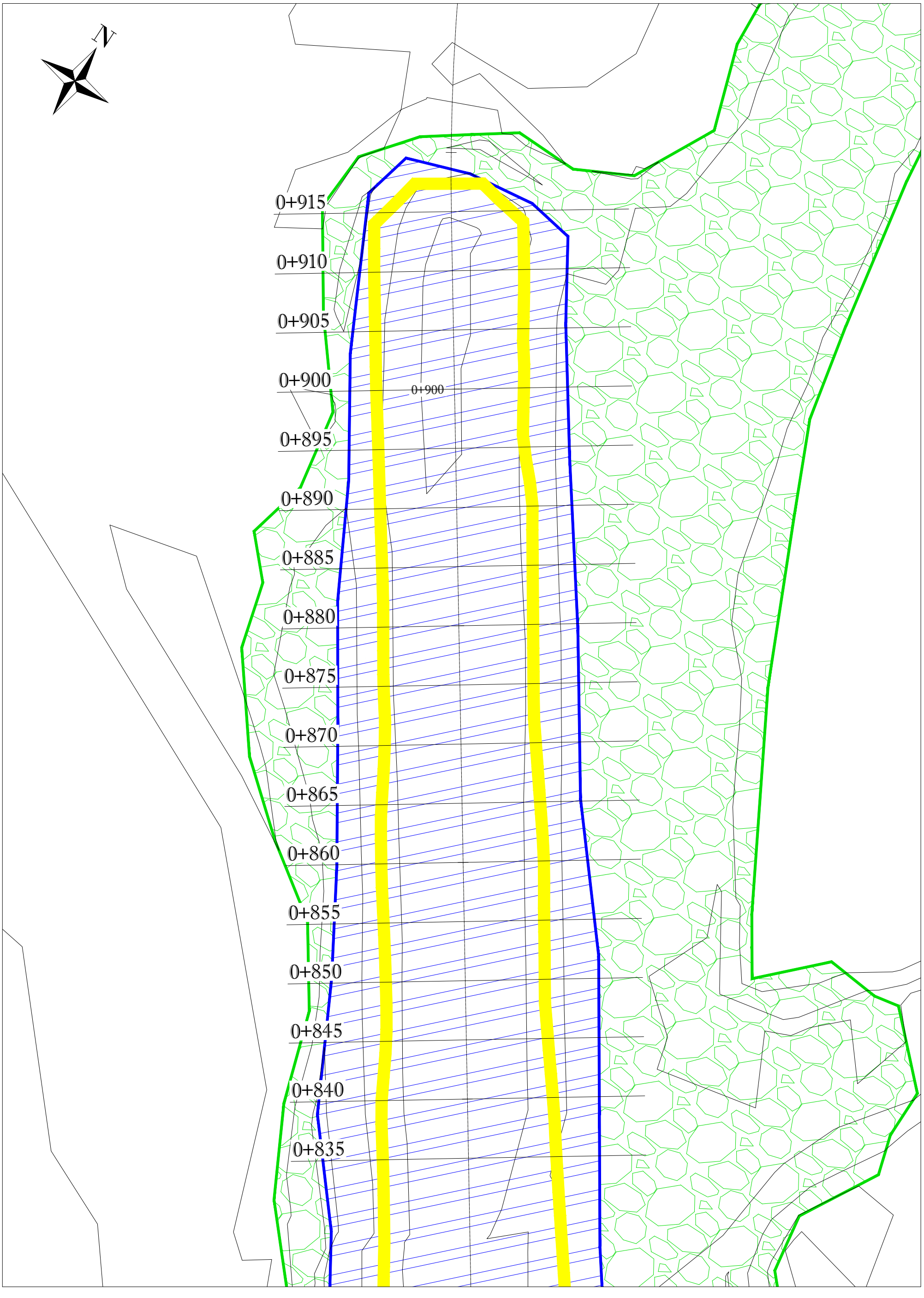
APPENDIX B : Gradation results


Fines
Clay
Silt
Sand
Fine
Medium
Coarse
Gravel
Fine
Coarse
Cobbles
Boulder
200
140
100
60
40
20
10
4
LEGEND
Proposed fine filter
Proposed coarse filter
Riprap 100 - 300 mm
AMQ-ES-004
AMQ-ES-005
Passing %
100
90
80
70
60
50
40
30
20
10
0
0.001
0.01
0.1
1
10
100
1000
Diameter (mm)


Fines
Clay
Silt
Sand
Fine
Medium
Coarse
Gravel
Fine
Coarse
Cobbles
Boulder
200
140
100
60
40
20
10
4
LEGEND
Proposed fine filter
Proposed coarse filter
Riprap 100 - 300 mm
AMQ-ES-001
AMQ-ES-002
AMQ-ES-004
AMQ-ES-005
Passing %
100
90
80
70
60
50
40
30
20
10
0
0.001
0.01
0.1
1
10
100
1000
Diameter (mm)

APPENDIX C : As built

SECTION VIEW FOR ESKER 0+830 TO 0+915
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



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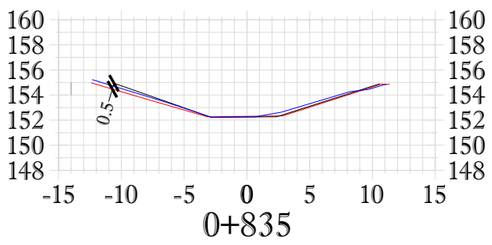
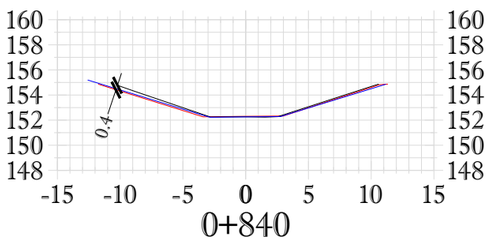
KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MARC-ANDRÉ BLACKBURN
DATE : 02-02-2020
CON-FD-231

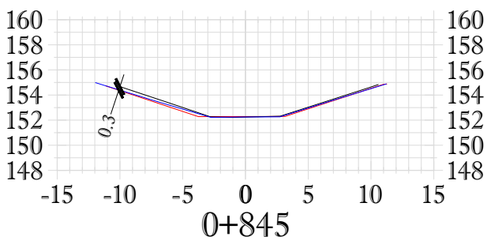
SECTION VIEW FOR ESKER 0+830 TO 0+915
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



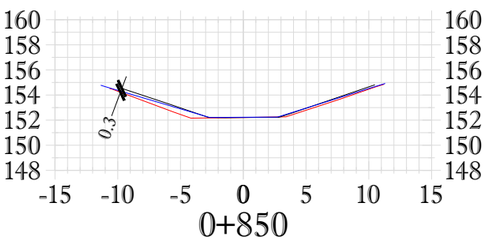
0+835



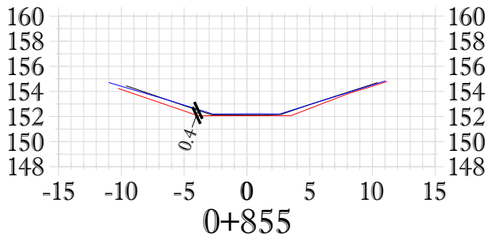
0+840



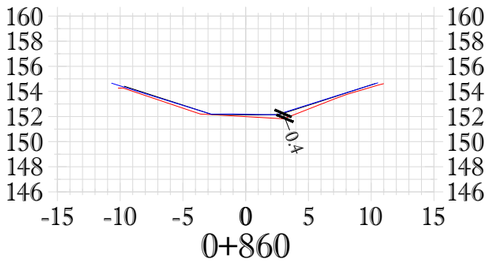
0+845



0+850



0+855



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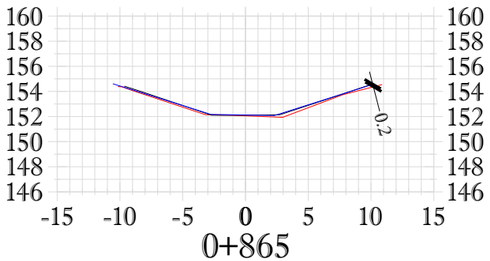

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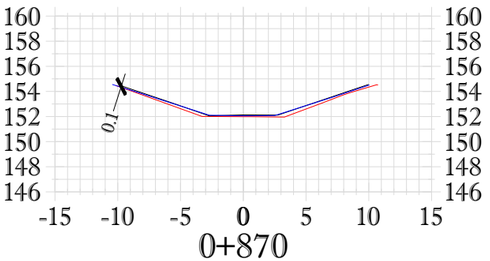
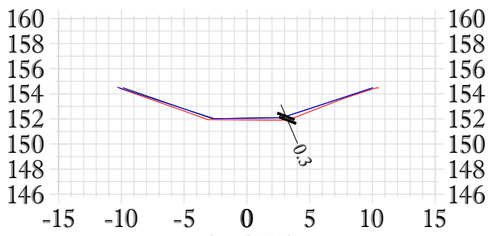


0+870



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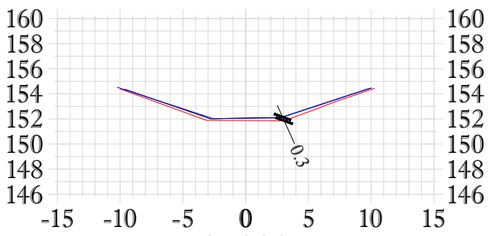
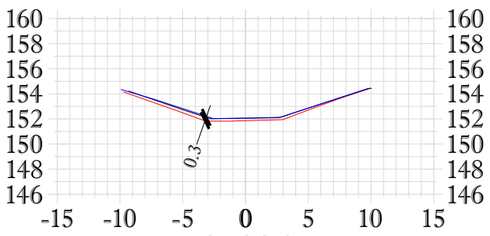


0+880



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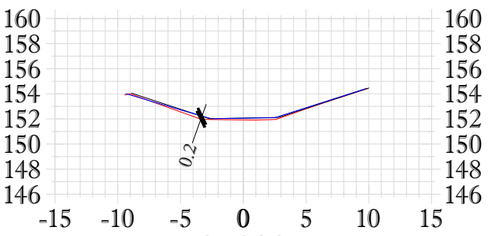

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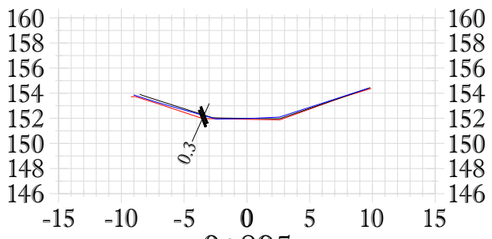

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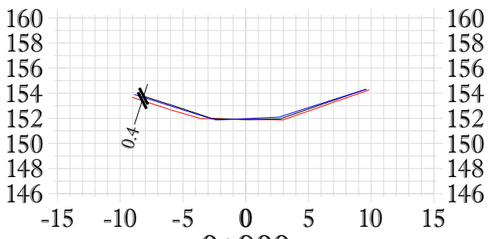
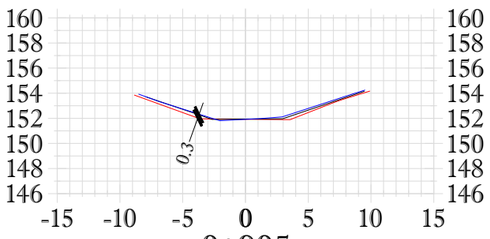
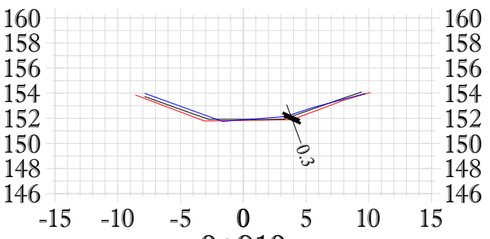


0+900



0+905



0+910

KIVALLIQ CONTRACTORS GROUP LTD

EXCAVATION

THEORICAL EXCAVATION

ESKER

PREPARED BY : MARC-ANDRÉ BLACKBURN
DATE : 02-02-2020
CON-FD-231

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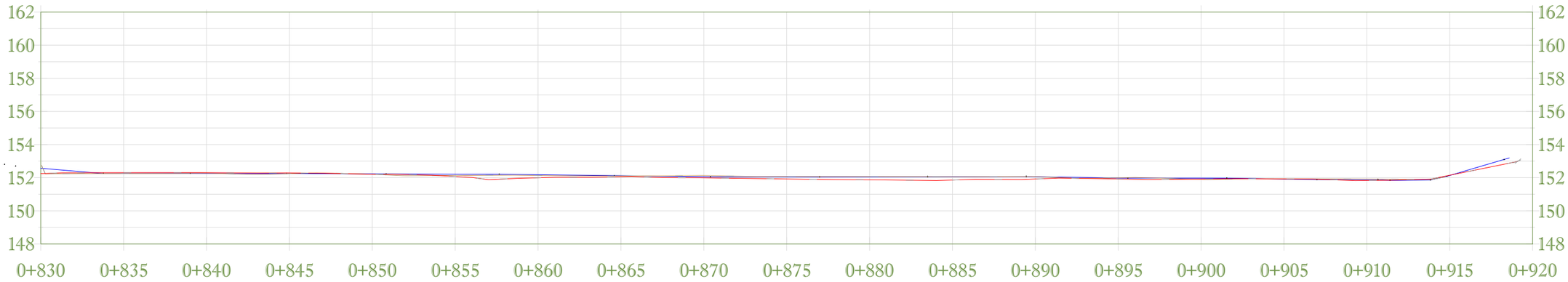
ESKER SECTION VIEW
SOUTH WHALE TAIL CHANNEL
CONTRACT # 11-811

SWTC PROFILE



CUT / FILL	-0.057	-0.036	-0.048	-0.004	0.066	0.142	0.052	0.137	0.150	0.202	0.201	0.147	0.074	-0.021	0.016	0.082

KIVALLIQ CONTRACTORS GROUP LTD

THEORICAL EXCAVATION

AS BUILT EXCAVATION

AS BUILT ESKER

PREPARED BY : MARC-ANDRÉ BLACKBURN
DATE : 02-02-2020
CON-FD-231

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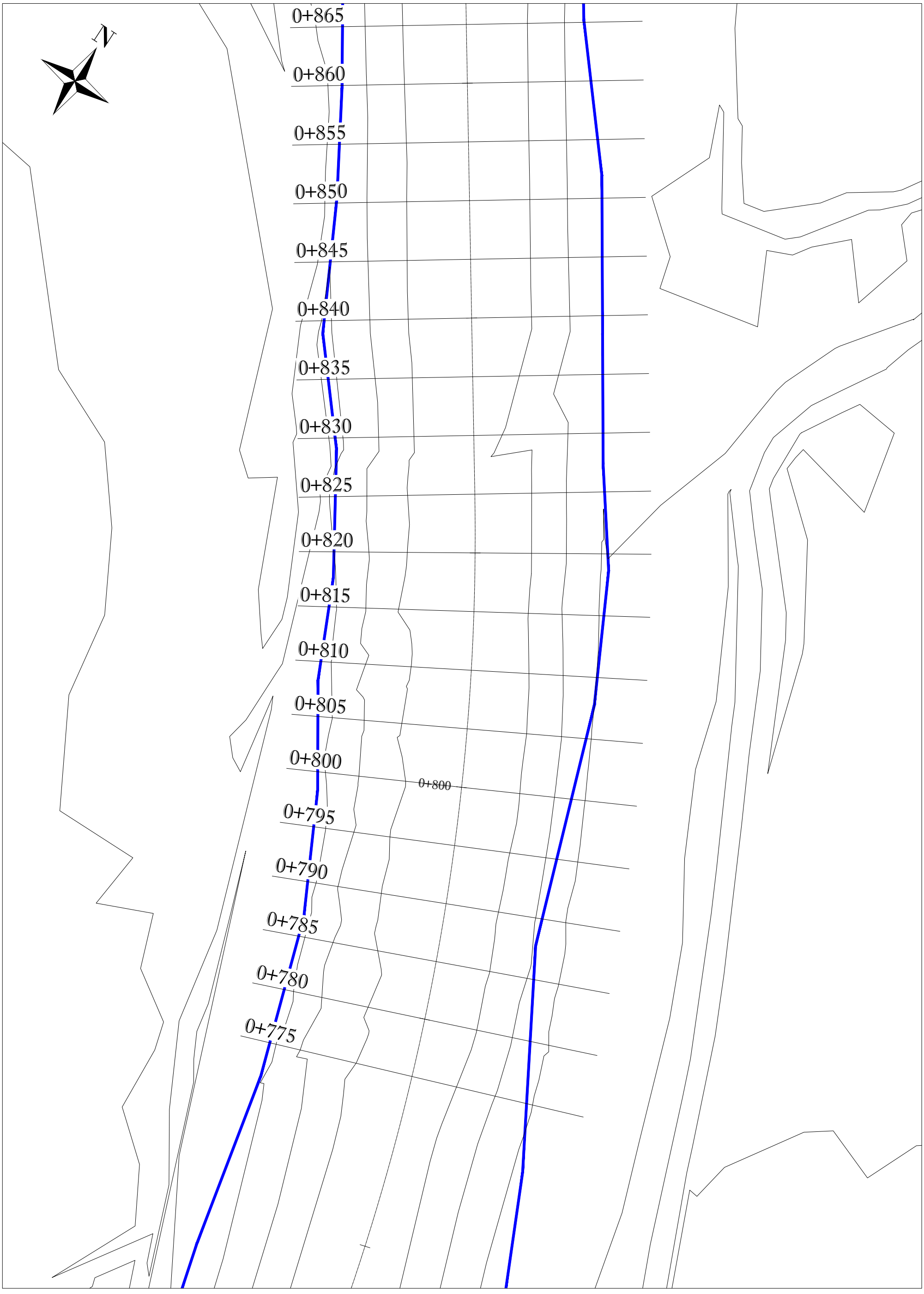
ALL VIEW FOR ESKER 0+775 TO 0+830
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS GROUP LTD

CENTERLINE

EXCAVATION LIMIT

PREPARED BY : MARC-ANDRÉ BLACKBURN
DATE : 04-02-2020
CON-FD-234

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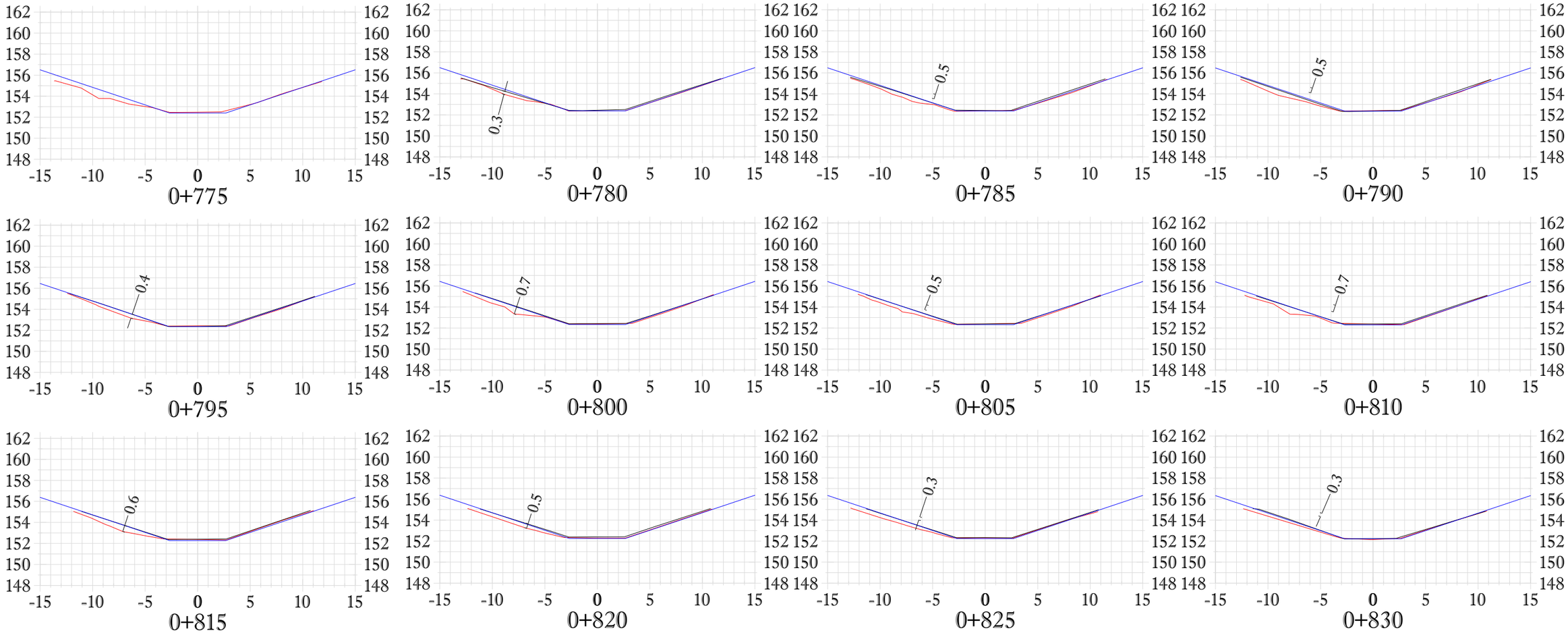
SECTION VIEW FOR ESKER 0+775 TO 0+830
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS GROUP LTD

EXCAVATION

THEORICAL EXCAVATION

ESKER

PREPARED BY : MARC-ANDRÉ BLACKBURN
DATE : 04-02-2020
CON-FD-231

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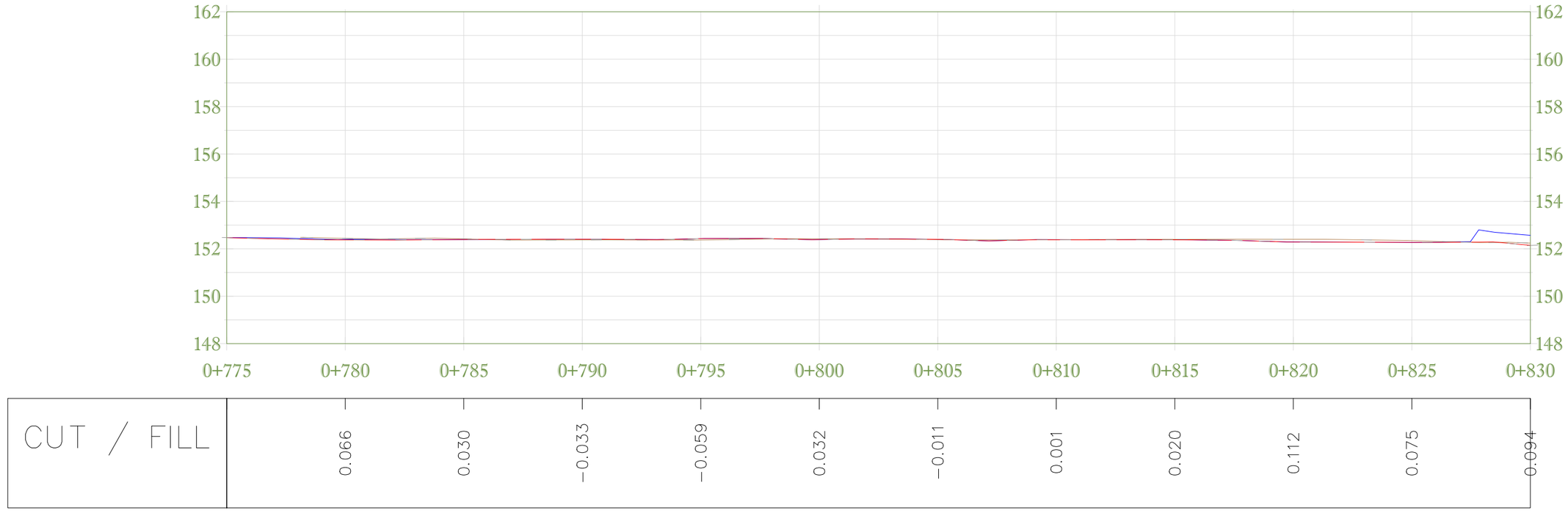
ESKER PROFILE VIEW 0+775 TO 0+830
SOUTH WHALE TAIL CHANNEL
CONTRACT # 11-811

SWTC PROFILE



CUT / FILL	0.066	0.030	-0.033	-0.059	0.032	-0.011	0.001	0.020	0.112	0.075	0.094

KIVALLIQ CONTRACTORS GROUP LTD

THEORICAL EXCAVATION

AS BUILT EXCAVATION

AS BUILT ESKER

PREPARED BY : MARC-ANDRÉ BLACKBURN
DATE : 04-02-2020
CON-FD-234

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APPENDIX D : RFI log

RFI Log

RFI #	Date Received	Date Responded	Status	Subject	Location	Notes
RFI-001	2019-08-13		*To be approved*	Change of outlet geometry, outlets were higher than topography	0+060, 0+390, 0+480, 0+900	Consists of having small filter tablets on topographic surface at crests to direct water flow towards Mammoth rather than have it spreaded
RFI-002	2019-08-13		*To be approved*	Change of inlet geometry. Not build buttress platforms used to get 1.3m depth i.e. disregard 1.3m min	On low topographic spots	This material was put in place to follow the 1.3m minimum but it would be rockfill i.e. draining material i.e. be useless. It would be used at the same time to facilitate constructability where road in not adjacent i..e close to A45
RFI-003	2019-08-13		*To be approved*	Having slope at 2.5:1 rather than 3:1 above max water level	TBD	Apply in section where rockfill is directly against slope as butress
RFI-004	2019-08-13		Field Fit	Modification of Road 24 alignment for construction access		Construction access to be field fitted
RFI-005	2019-08-13		Field Fit	Access to bottom of channel from both side		Will need to be field fitted with a slope to allow access within channel
RFI-006	2019-08-13		Approved	Use of 0-150 instead of 0-200 for coarse filter		Approved by changing 100-300 to 100-250
RFI-007	2019-08-13		Approved	Use of 100-300 instead of 100-250 for rip-rap		Condition for the approval of RFI-006
RFI-008	2019-09-05		Approved	Lowering the inelt of the channel by 0.5 m		New version of construction drawings and report were submitted by SNC in December 2019
RFI-009	2019-12-15		Pending	Turbidity concern on lake A45	A45	
RFI-010	2019-12-15		Rejected	Leaving the construciton road within the operational level of Lake A45 can stay there	A45	Env asked that the no road remain within the operation level of A45. Will ahve to be dismantled at the end of construction
RFI-011	2019-12-16	2020-01-17	Recommendation provided	Adding a geotextile above the corase filter to add robustnest to the design	Within Channel	SNC recommend to place the geotextile between the fine filter and the soil in place or alternatively between the fine filter and coarse filter. As the geotextile minimize the risk of soil or fine filter materia erosion. As requested by AEM, the geotextile can be placed between the coarse filter and the rip-rap material without affecting the performance of the channel. However, SNC believe that there could be a risk in damaging the geotextile during the placement of the rip-rap material over the geotextile, as the geotextile could shear and tear. If some parts of the geotextile are exposed, the geotextile could also be damaged during maintenance work of the channel. SNC recommends using special care during the placement of rip-rap material over the geotextile, as well as during cleanup, snow and ice removal in the channel, in order to avoid damaging the geotextile
RFI-012	2020-01-15		Sent for approval	Proposed inlet modification (see drawings)	Inlet's	Sent to SNC for approval
RFI-0-13	2020-01-15		Sent for approval	Modified inlet to have a 'fan' shape instead of rectangular to improve water conveyance	Inlet's	Sent to SNC for approval
RFI-014	2020-01-15	2020-01-17	Approved	Proposed outlet modification to Mammoth lake (see drawing)	Outlet to Mammoth lake	The outlet to the Mammoth lake can be adjusted to the existing ground conditions. Ensure that there is no high point in the nearby topography downstream of the outlet to ensure proper flow towards the lake.
RFI-014	2020-01-15	2020-01-26	Review continue as excavation progress	Revise filter design for existing foundation soil		Based on gradation test results from sample AMQ-IP-001, AMQ-IP-002 and AMQ-IP-003, no filter design modification required. Foundation soil sampling and review of filter design continue as excavation progress

SNC·LAVALIN

WEEKLY REPORT

20200209-WR04
Document number

2020-02-03 to 2020-02-09	667648	Hamza Abdel-Aziz (HAA)
Date	Project No.	Prepared by
South Whale Tale Diversion Channel Construction	Agnico Eagle	
Project	Client	
SNC-Lavalin	KCG	
Consultant	Contractor	

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

The main activities for the QA representative regarding the construction of the south whail tail diversion channel (SWTDC) during the week ending February 09, 2020 were:

1. Presentation of the working team ;
2. Daily construction meeting ;
3. Scope of work on site SWTDC ;
4. Fondation approval ;
5. Sampling and laboratory test ;
6. Esker placement ;
7. The lake A45 mitigation plan.

1. Presentation of the working team

During this week, the work team on the site consisted of :

- Owner's representative (AEM) : Pier-Eric McDonald (from 2020 February 02 to 04) and Frederick Bolduc (from 2020 February 05 to 09) ;
- Site supervisor (AEM) : Yannick Simard (from 2020 February 02 to 05) and Jean-Francois Beland (from 2020 February 06 to 09) ;
- QA (SNC-Lavalin) : Hamza Abdel-Aziz ;
- QC day shift (GHD) : Stéphane Dovelus ;
- QC night shift (GHD) : Yaotree Amegnran ;
- Contractor : Goupe Gilbert-KCG.

2. Daily Construction Meeting

HAA attended the Whale Tail Daily Construction Meeting from February 03 to 09. During the daily construction meeting of February 09, 2020, there was a discussion about when the excavation limit is reached, what type of material in the foundation is acceptable. This question was asked by the excavation operator, as he had reached the limit of excavation at station 0 + 275 in soft and loose material. The excavation limit had been reached at this location and there were always loose materials (see photo 9 in ***appendix A***). Reference should be made to section 3.2, giving a definition of the materials to be excavated or not. Adding samples to this can also be taken for laboratory testing. The definitions presented in the technical specification are :

- ‘’Sound’’ or ‘’Suitable’’ fill materials are defined as being free from deleterious matter, having a gradation which permits compaction or placement to a stable state, and having the characteristics specified for the particular materials after handling, re-handling, processing and reprocessing have taken place.
- ‘’Unstable’’ or ‘’Unsuitable’’ fill materials are defined as being too wet, containing oversized or segregated particles, organic or other deleterious matter, such as ice or snow, or having poor characteristics which may result in undesirable settlement or other movement of the fill or within the fill, or otherwise not meeting the requirements of the specifications. However, this definition permits drying, dewatering, watering, screening, raking and any other processing or reprocessing to make the material stable and suitable prior to incorporating it into the fill.

Sample foundation soil AMQ-IP-008 of channel at station 0+270, was taken on 2020-02-09 to know the caracteristics of the soil and the moisture content. The test are in progress and will be presented in the next weekly report.

3. Scope of work on site SWTDC

During this week, several drilling, blasting, excavating and cleaning works have been carried out.
Here are presented the field work sequences carried out and the work in progress :

- From station 0+917 to 0+830 : Foundation approval, esker placed, no filter has been put already (see photos 1 and 2) ;
- From station 0+830 to 0+775 : Foundation approval, esker placed, no filter has been put already (see photo 1, 2 and 3);
- From station 0+775 to 0+735 : Foundation approval, backfill for over-cut in the overburden soil to be made (see photo 4) ;
- From station 0+735 to 0+640 : Cleaning and profiling the slopes (see photos 4 and 5) ;
- From station 0+640 to 0+573 : Reblasting in progress, the limit has not been reached (see photos 5 and 6);
- From station 0+573 to 0+490 : Zone excavating, cleaning, hammering (see photo 8) ;
- From station 0+410 to 0+285 (sequence 5) : Excavation in progress, hammering (see photo 9) ;
- From station 0+285 to 0+243 (sequence 6) : Drilling and blasting have been carried out in this area. During the blast this week in this area, there was an excess of vibration recorded by the blast monitor devices (see photo 10);
- From station 0+243 to 0+166 (sequence 7) : drilling in progress (see photo 10).

Please find in ***appendix A*** the photos for all the work progression and ***appendix B*** the work plans for the weekly progress and drill & blast progression for the construction of the south whale tail diversion channel.

4. Foundation Approval

On February 03, 2020, the Owner’s representative, QA, QC day shift, site supervisor, and contractor representative were on site for foundation approval :

- From station 0+775 to 0+735 : Approval of the channel foundation : free ice / snow / water ; cleaning of excavation bottom (see ***appendix C*** - 20200203-DS-03_Foundation Approval).
- Foundation was inspected and met the requirements for approval as per the specifications.

Note :

1- Required verification for snow cleaning before placement ;
2- Backfill for over-cut in the overburden soil to be made, the material that will be used for backfilling must respect the technical specification requirement and the designer recommandations (see section below) ;
3- Finish grades may need a final leveling and cleaning prior to fine filter placement as the finish grade/foundation material will be exposed to freezing and snow weather conditions.

See **table 1** for tracking approval form :

Table 1: Tracking approval form

Date	Document #	Localisation	Approval for
26/01/2020	20200126-DS-01	From 0+917 to 0+830	Foundation approval
29/01/2020	20200129-DS-02	From 0+830 to 0+775	Foundation approval
03/02/2020	20200203-DS-03	From 0+775 to 0+735	Foundation approval

5. Sampling and laboratory test

During the last week, AMQ-ES-0003.1 was sampled at the stockpile 2 to remplace AMQ-ES-003 (sample was lost and not processed). But the sample AMQ-ES-003.1 wasn't representative of the stock pile 2, since no gravel from stock pile has not been sampled by QC. So we took many other samples of esker material placed in the station from 0+917 to 0+775 to make sure the material respect the technical specification requirement. It is important to note that there have been two different types of esker that have already been placed in the channel. From station 0 + 917 to 0 + 830 the esker placed comes from stock pile 1 and station 0+830 to 0+775 from stock pile 2 such as mentioned in the last weekly report.

Summary of esker material samples took during this week, see ***table 2*** for esker samples and ***appendix D*** for the gradation results :

Table 2: Summary table of esker samples

Sample ID	Fines-Sand-Gravel	Moisture Content	Station	Location of sampling	Date of sampling	Sample by	Date of testing	Test by	Placement area
AMQ-ES-003.1	40 - 60 - 0	12.50%	-	Stock pile 2	02/02/2020	SD	04/02/2020	YA	[0+830 - 0+775]
AMQ-ES-006	27 - 48 - 25	11.80%	0+800	Slope east of channel	04/02/2020	SD	04/02/2020	YA	[0+830 - 0+775]
AMQ-ES-007	8 - 56 - 36	15.80%	0+780	Slope west of channel	04/02/2020	SD	05/02/2020	SD	[0+830 - 0+775]
AMQ-ES-008	2 - 25 - 73	11.00%	0+860	Slope east of channel	04/02/2020	SD	05/02/2020	YA	[0+917 - 0+830]

We also took samples of the foundation soil in place (foundation) to review with the filter design and to confirm that the moisture content is less than 20% as specified in the technical specification. Summary of foundation soil in place samples took during this week see ***table 3*** for foundation soil samples and ***appendix D*** for the gradation results :

Table 3: Summary results of foundation soil

Sample ID	Fines-Sand-Gravel	Moisture Content	Station	Location of sampling	Date of sampling	Sample by	Date of testing	Test by
AMQ-IP-005	14 - 30 - 56	-	0+750	Bottom of excavation	03/02/2020	YA	05/02/2020	YA
AMQ-IP-006	17 - 26 - 58	16%	0+765	Bottom of excavation	04/02/2020	SD	06/02/2020	YA
AMQ-IP-007	20 - 33 - 47	10%	0+500	Bottom of excavation	07/02/2020	SD	07/02/2020	YA
AMQ-IP-008	In progress		0+270	Bottom of excavation	09/02/2020	SD	In progress	

The tests results indicated in ***table 3*** also presented the moisture content of the two samples for the foundation soil in place. Thoose results indicated that the moisture content are less than 20%, as recommend in the report.

See ***appendix D*** for summary of all the gradation results and moisture contents since construction of the SWTDC started.

6. Esker placement

Following the esker placed during the past week, an analysis of esker material and the choise of the backfill material considering the use of geotextile have been realised by the designer, refer to the last weekly report (20200202-WR03) for the location and thickness of the esker placed from station 0 + 917 to 0 + 775.
The esker placed will be left in place. However for the next use of esker, it would be important that the esker material always meets the technical specification requirement and the designer recommandations which are :

- The esker material should not include too much fine (not more % fine than the soil in place, therefore be on the coarse side) ;
- To be well graded as much as possible ;
- Free of frozen/ice soil , snow and big cobbles/boulders ;
- Compacted appropriately with the bucket, leaving a 10 cm limit before placing the fine filter;
- Sampling esker during placement and in stockpile to ensure the material is appropriate.

7. The lake A45 mitigation plan.

Meeting was held on February 06, 2020, for the lake A45 mitigation plan with Frederick Bolduc (AEM), Jean-François Beland (AEM) and Sabin Larouche (Groupe Gilbert-KCG). The objectives of this meeting were to discuss strategy for lake A45 to ensure no lakebed sediment are left expose at freshet. Several ideas have been proposed such as : excavation work and backfilling with esker or using geotextile, etc...
A cost estimate must be prepared by the Groupe Gilbert-KCG. AEM will contact SNC-Lavalin regarding the lake A45 mitigation plan, if needed.

RFI

Following AEM's request regarding the inlets design change (RFI-012 and 013). In order to minimize the risk of ice jam and to facilitate water flowing, SNC agrees with the proposal of expending the width of the channel from 5 m to 15 m, along with a transition zone, between station 0+54 to 0+104. This is our understanding that the depth of the channel and the material placement (filters and rip rap) will remain the same in this section as per the original design.

In order to minimize the risk of erosion and to control the flow velocity in the transition between the 15 m and 5 m width, SNC recommends increasing the size of the rip rap between station 0+104 and 0+110. We recommend clean rip rap with particle size between 200 mm to 300 mm (instead of 100 mm to 300 mm) for this short section.

As for the area around the inlet (approximately station 0+00 to 0+54), we also recommend additional erosion protection, based on field condition. We recommend installing a geotextile over the natural soil, and to place rip rap material over the geotextile. See ***appendix E*** for RFI. Additionnal details will be included in the field instruction memo.

SAFE AND SAFETY REMARKS

During this week, we had a ***code 1*** in the AMARUQ camp, because a hall truck was in fire. So all activities were stoped during the AM.

APPENDIX A: PHOTOS

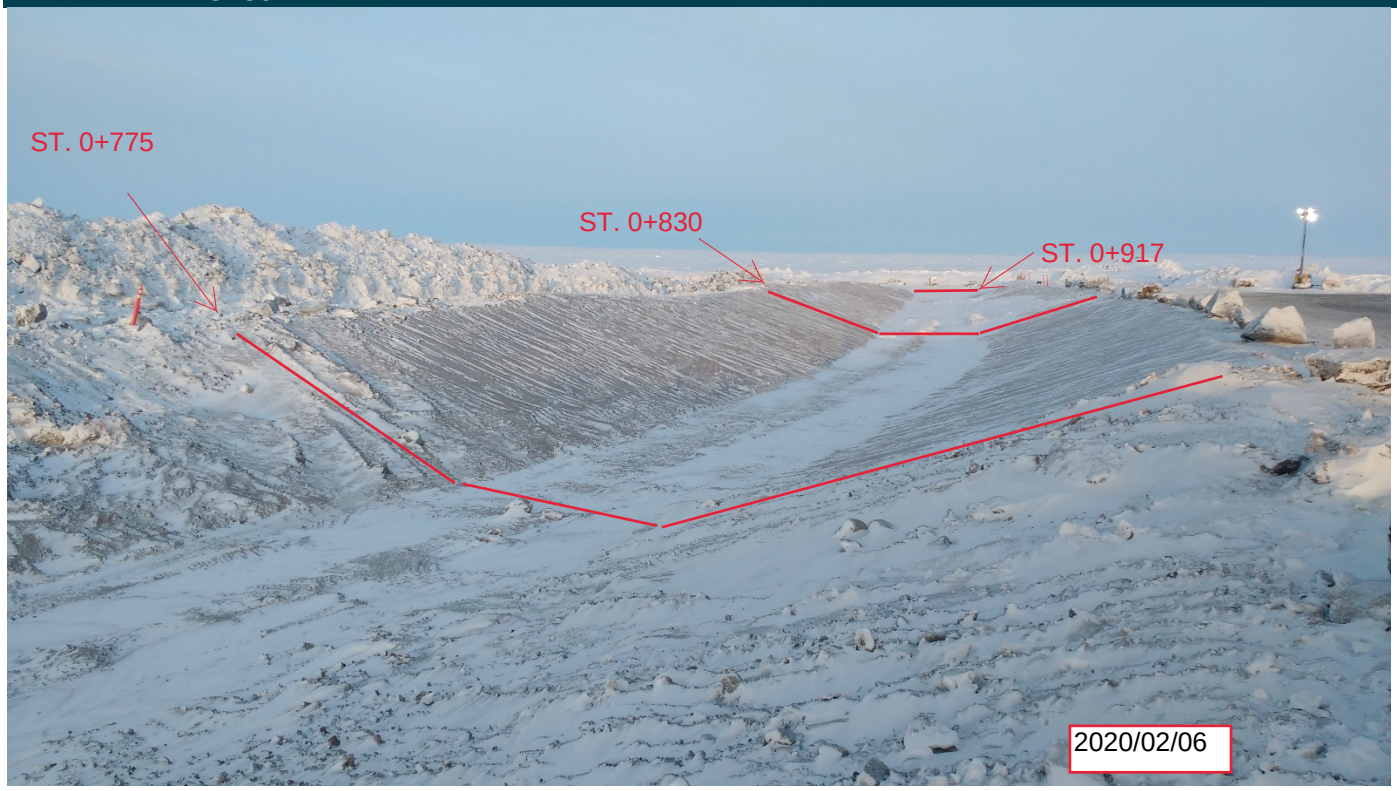


Photo 1: View at the site (photo taken looking north)



Photo 2: View at the site (photo taken looking south)

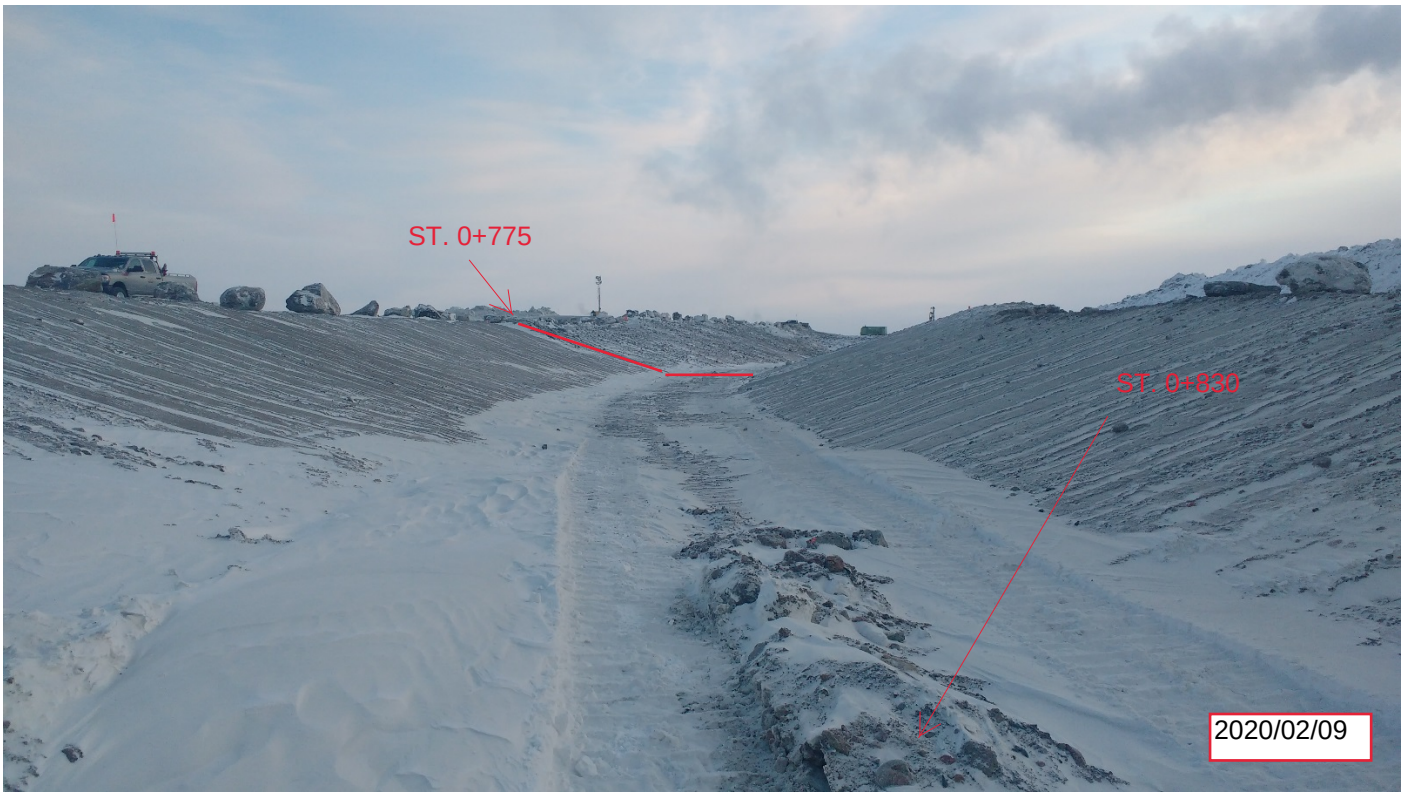


Photo 3: View at the site (photo taken looking south)



Photo 4: View at the site (photo taken looking south)



Photo 5: View at the site (photo taken looking north)



Photo 6: View at the site (photo taken looking south)



Photo 7: View at the site (photo taken looking south)



Photo 8: View at the site (photo taken looking south)



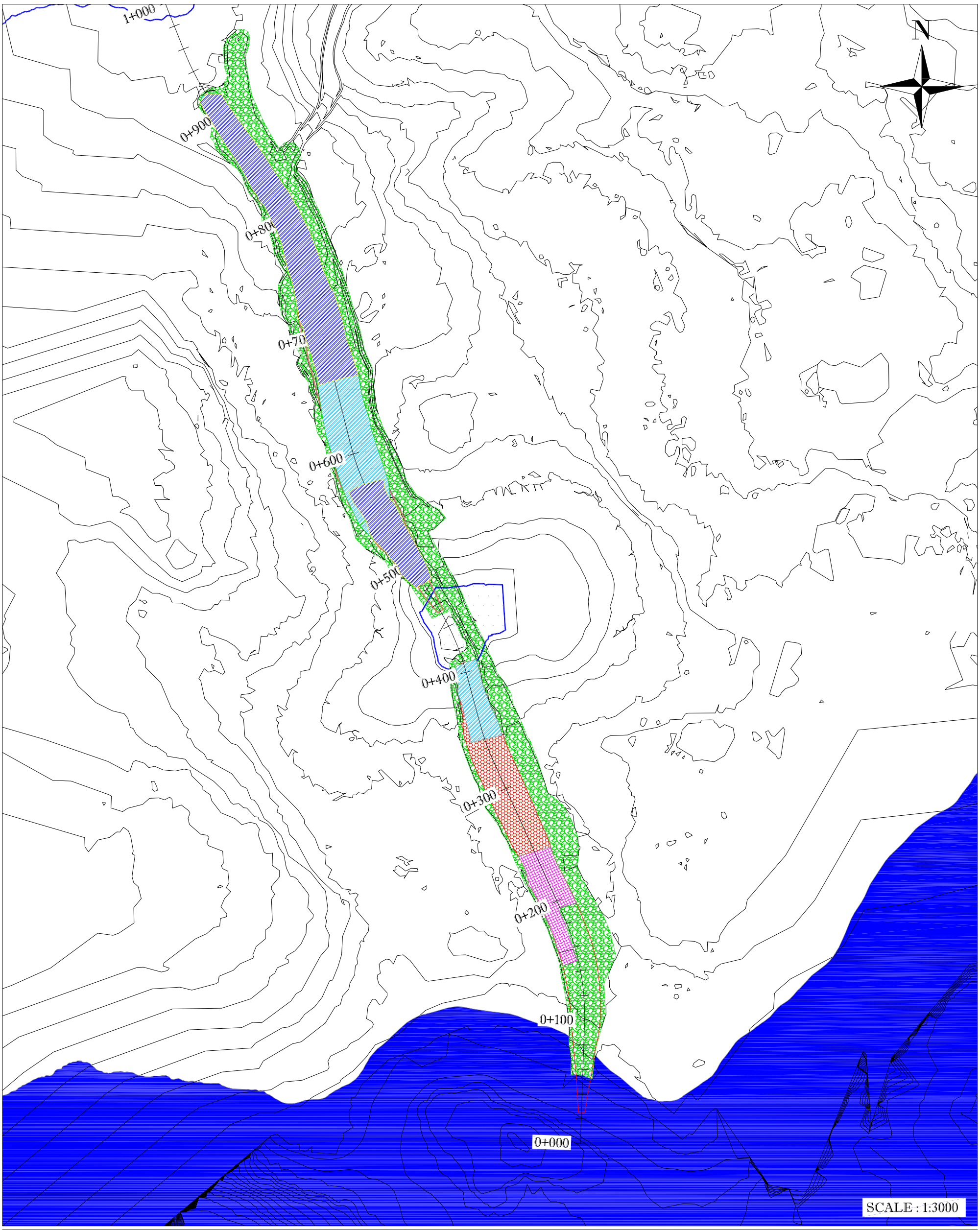
Photo 9: View at the site (photo taken looking north-east)



Photo 10: View at the site (photo taken looking south)

APPENDIX B : Weekly progress for the construction of SWTDC

WEEKLY PROGRESS
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



VOLUMETRY DETAIL

D&B BACKFILL : 28 537 m³

EXCAVATION : 31 137m³

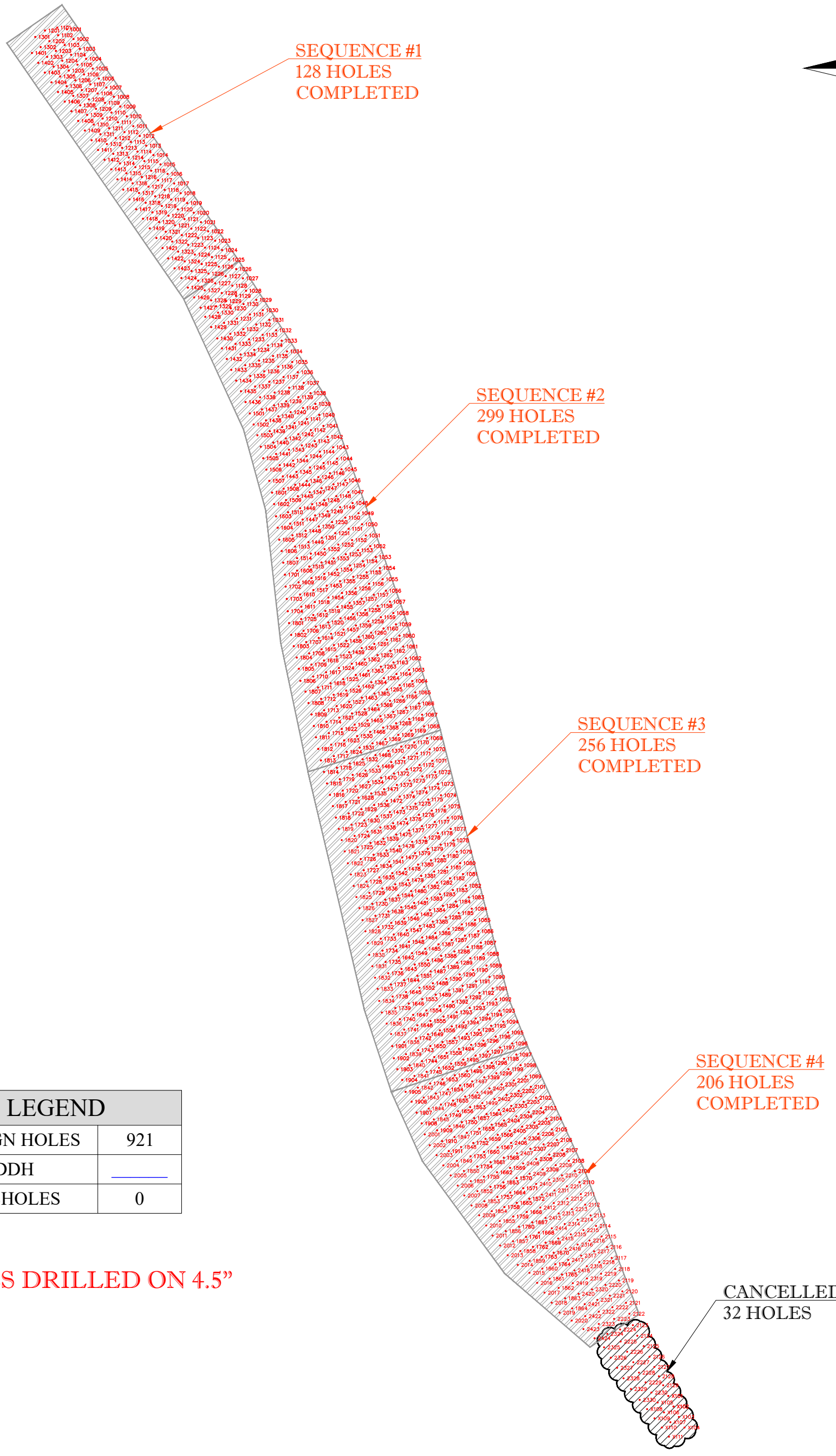
- D&B BACKFILL
- FINE FILTER — Not started yet
- FINAL EXCAVATION
- MASS EXCAVATION
- BLASTED AREA
- COARSE FILTER — Not started yet
- DRILLED AREA
- RIP RAP (100 - 300mm) — Not started yet

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MARC-ANDRÉ BLACKBURN
DATE : 07-02-2020
CON-QT-139

C:\Users\arpenteur\Dropbox (Groupe Gilbert)_arpentage meadowbank\02-E - OFFICIAL DRAWING\11-811 - AMQ DIKES\CON-QT (QUANTITY AND MONTHLY REPORT)\CON-QT-139_SWTC WEEKLY PROGRESS-07022020.dwg

DRILL & BLAST PROGRESSION
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



LEGEND	
DESIGN HOLES	921
DDH	_____
MISHOLES	0

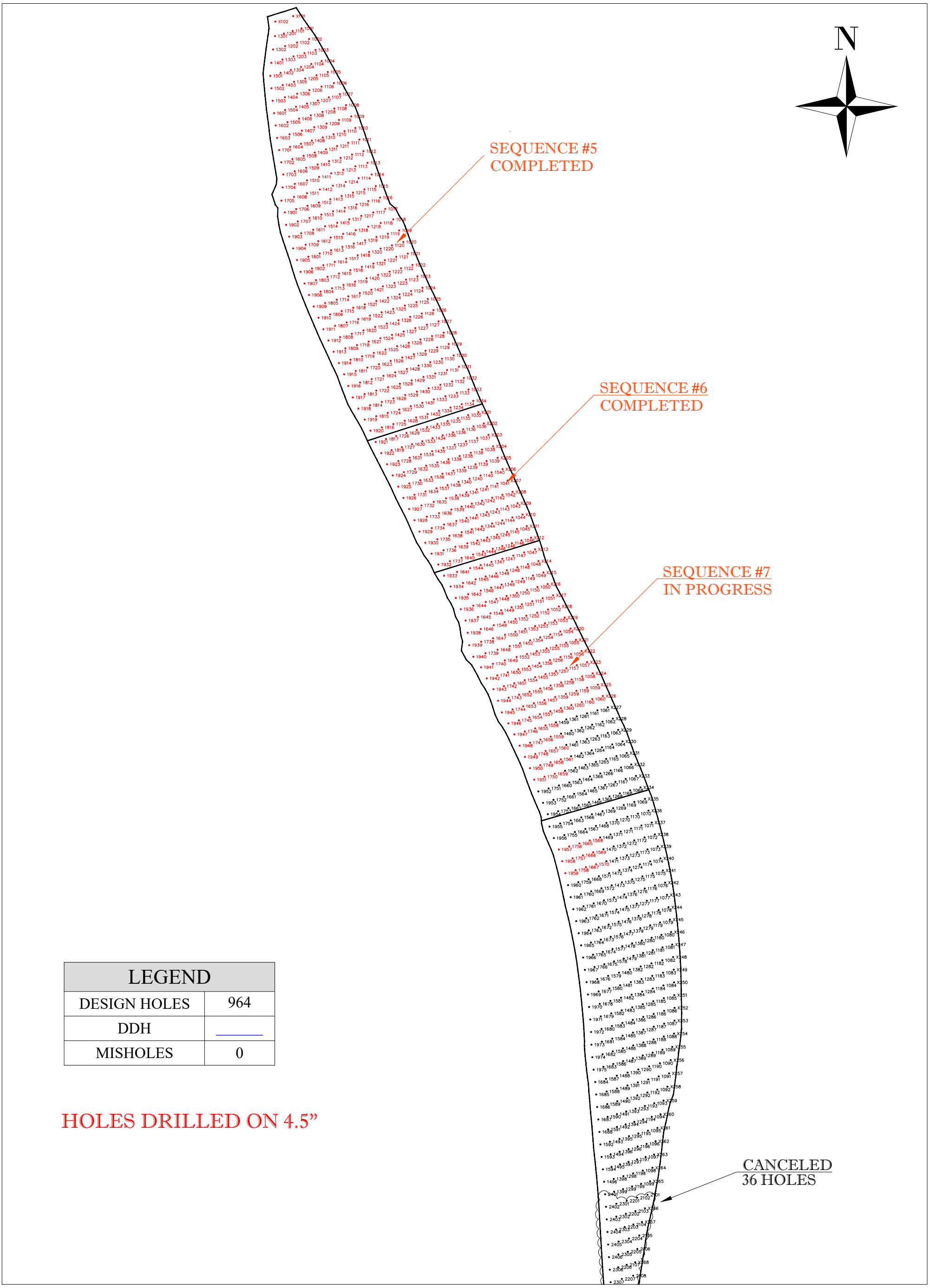
HOLES DRILLED ON 4.5”

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MARC-ANDRÉ BLACKBURN
DATE : 07-02-2020
CON-DR-099

C:\Users\arpenteur\Dropbox (Groupe Gilbert)_arpentage meadowbank\02-E - OFFICIAL DRAWING\11-811 - AMQ DIKES\CON-DR (INTERNAL NON OFFICIAL DRAWING)\CON-DR-099_SWTC D&B PROGRESSION07022020.dwg

DRILL & BLAST PROGRESSION
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



LEGEND	
DESIGN HOLES	964
DDH	_____
MISHOLES	0

HOLES DRILLED ON 4.5”

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MARC-ANDRÉ BLACKBURN
DATE : 07-02-2020
CON-DR-099

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APPENDIX C : Approval form

SNC·LAVALIN

Sustaining capital
Mining & Metallurgy
1140 Maisonneuve boul. West
Montreal (Québec)
Canada H3A 1M8

Telephone: (514) 393-8000
Fax: (514) 390-2765
www.snclavalin.com

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DOCUMENT #: 20200903 - DS - 03
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 2020-09-03

TIME: 01:30 PM
(24 hour clock)

APPROVAL FOR :

☑ Foundation approval (trench bottom and slopes)

☐ Fill placement approval: _____

☐ Other: _____

LOCATION

Station 0+775 to 0+735

Inclination:

ELEVATION: ☐ varies _____ m

PREVIOUS APPROVALS

Station: 0+830 to 0+775

Details:

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					—
5. Placement (lift thickness, segregation, etc.)					—
6. Compaction					—
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
21	Require verification for snow removal before placement if any accumulation of snow, by snow fall or by wind				
~~24~~					
7	backfill for overcut in the overburden soil to be made.				
	Finish grades may need a final leveling and cleaning prior to fine filter placement as the finish grade/foundation material will be exposed to freezing and snow weather conditions				

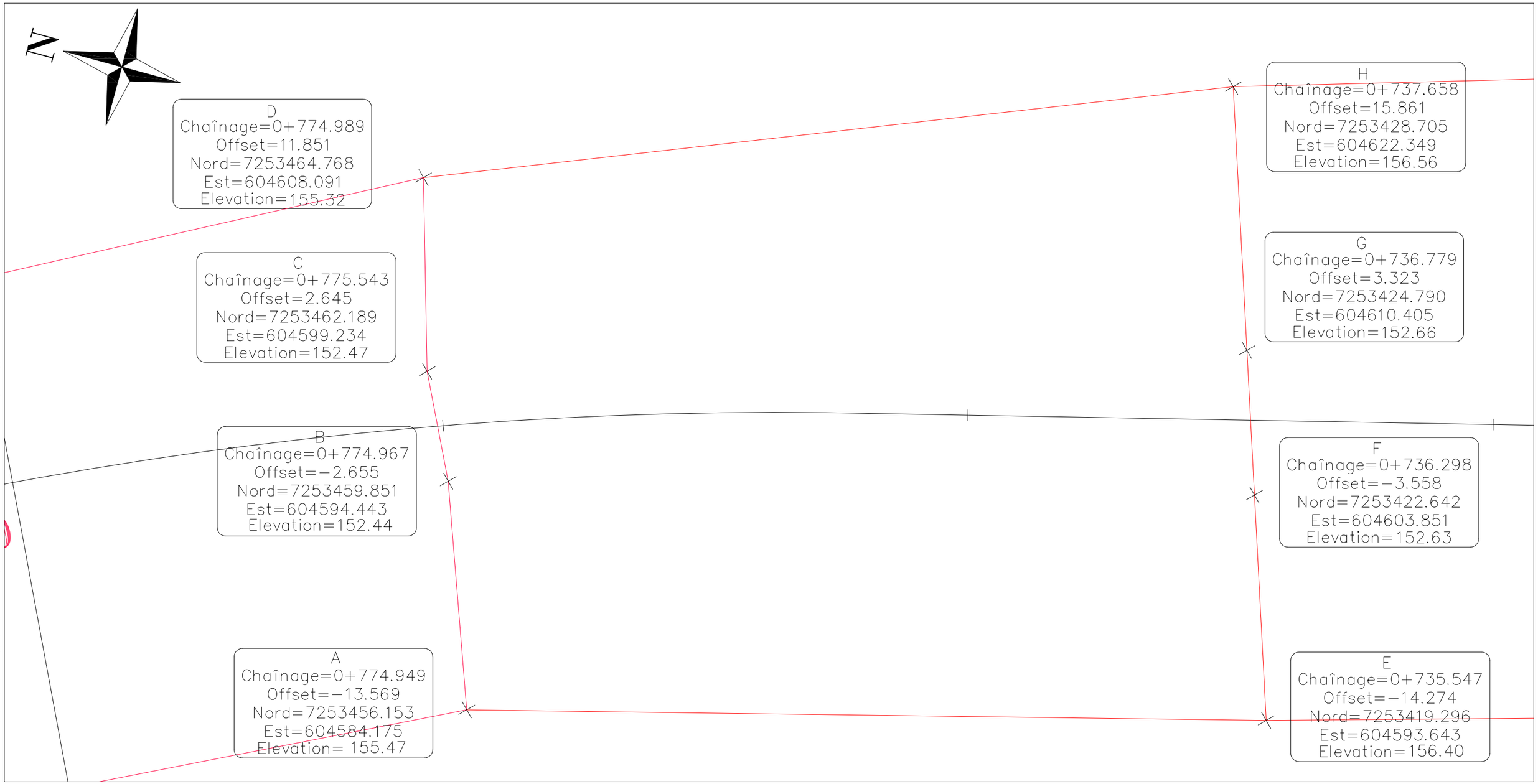
APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Nicolas Tremblay		02/04/2020
QC REPRESENTATIVE	STÉPHANE JORVÉLUS		02/04/2020
QA REPRESENTATIVE	HAMZA ABDEL-AZIZ		02/04/2020
OWNER'S REPRESENTATIVE	Pierre Eric McDonald		02/04/2020
CONTRACTOR'S REPRESENTATIVE	MARC ANDRE BLACKBURN		02/04/2020



Note: refer the sketch below for the coordinates of A, B, C, D, E, F, G, H

Picture 1 – Approximate approved foundation area

FA-775-735
STWC FOUNDATION APPROVAL
CONTRACT # 11-811



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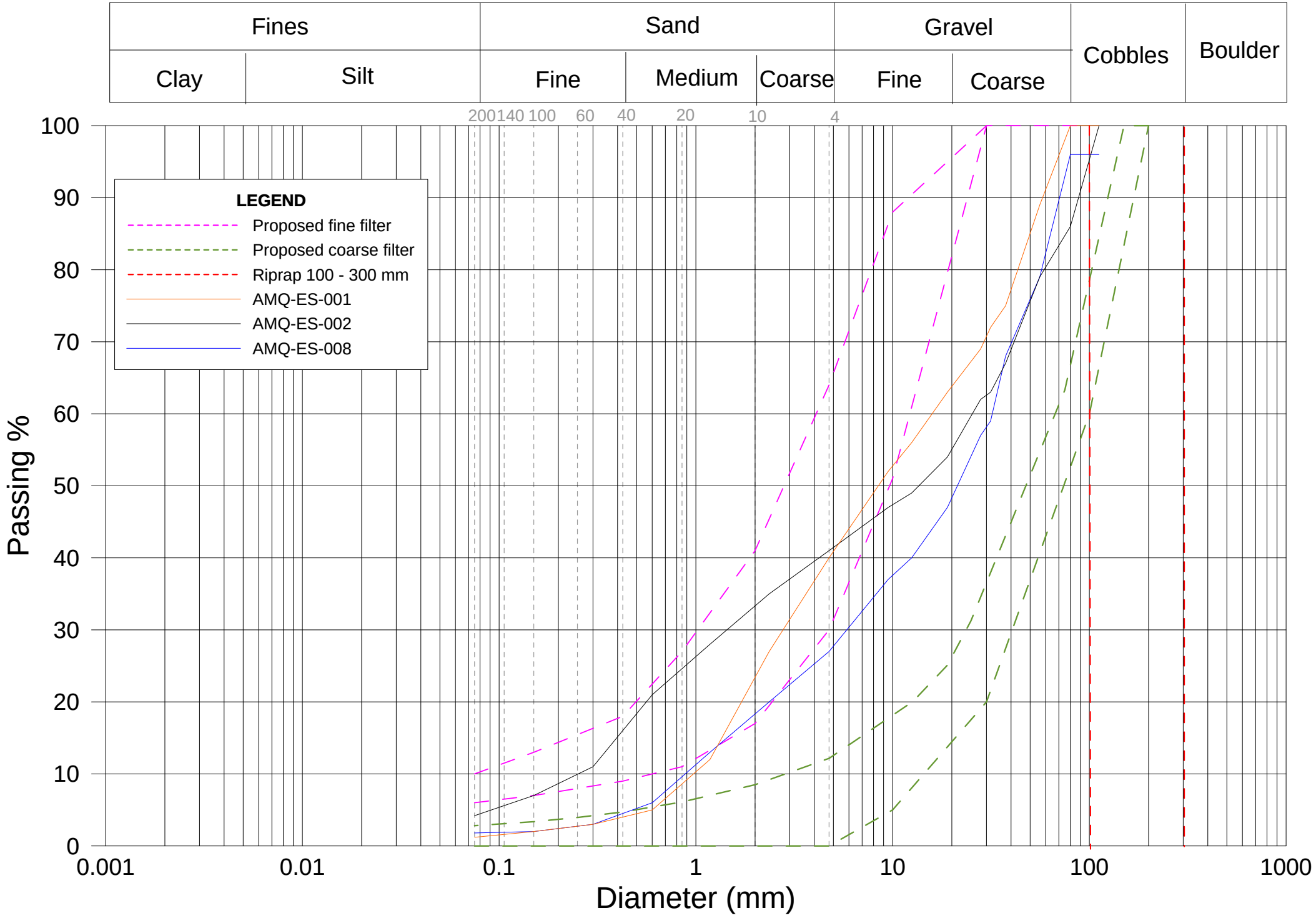
KIVALLIQ CONTRACTORS GROUP LTD

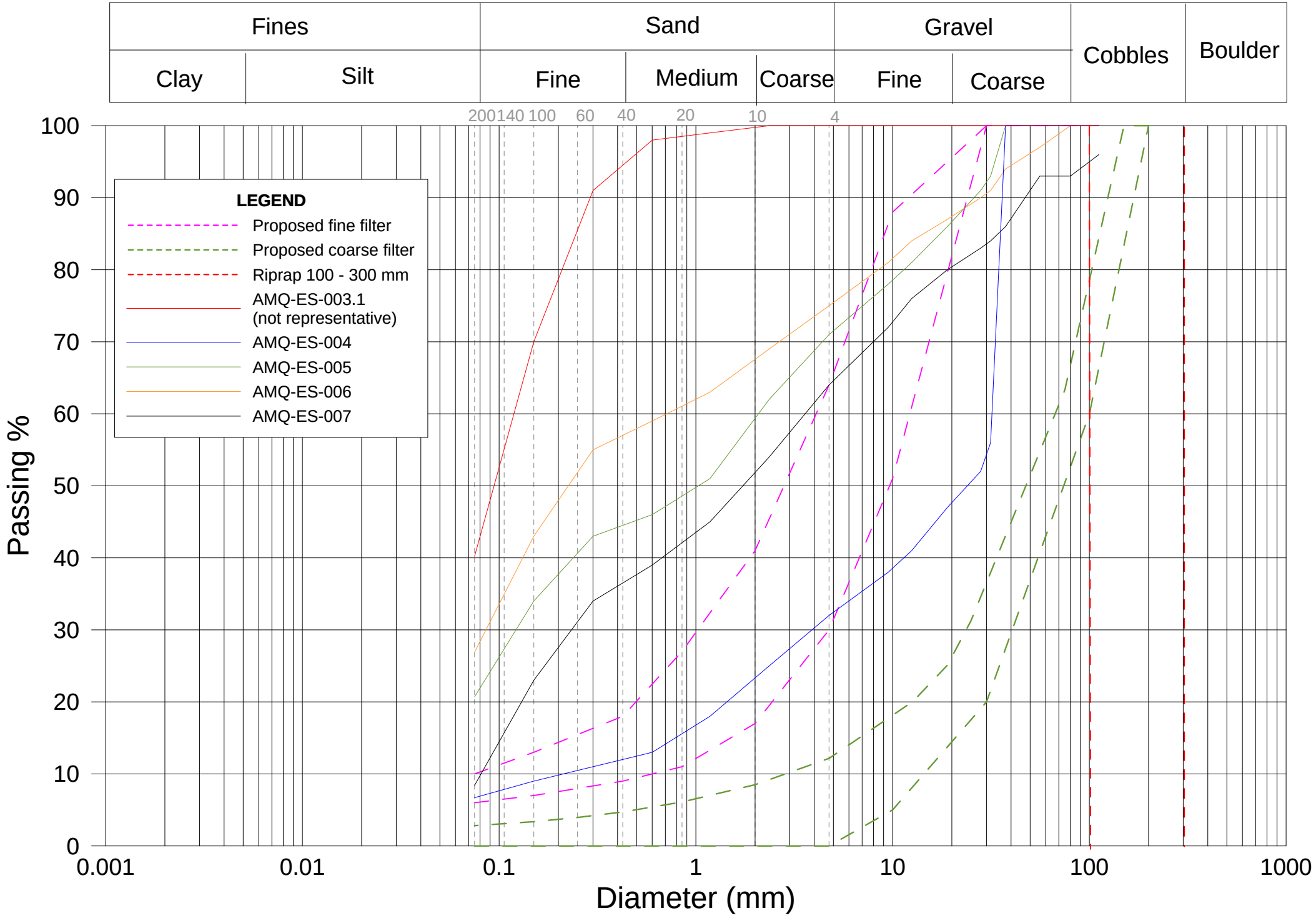
PREPARED BY : MARC-ANDRÉ BLACKBURN
DATE : 03-02-2020
CON-FD-233

APPENDIX D : Gradation results

1- Gradation results and moisture content for the esker

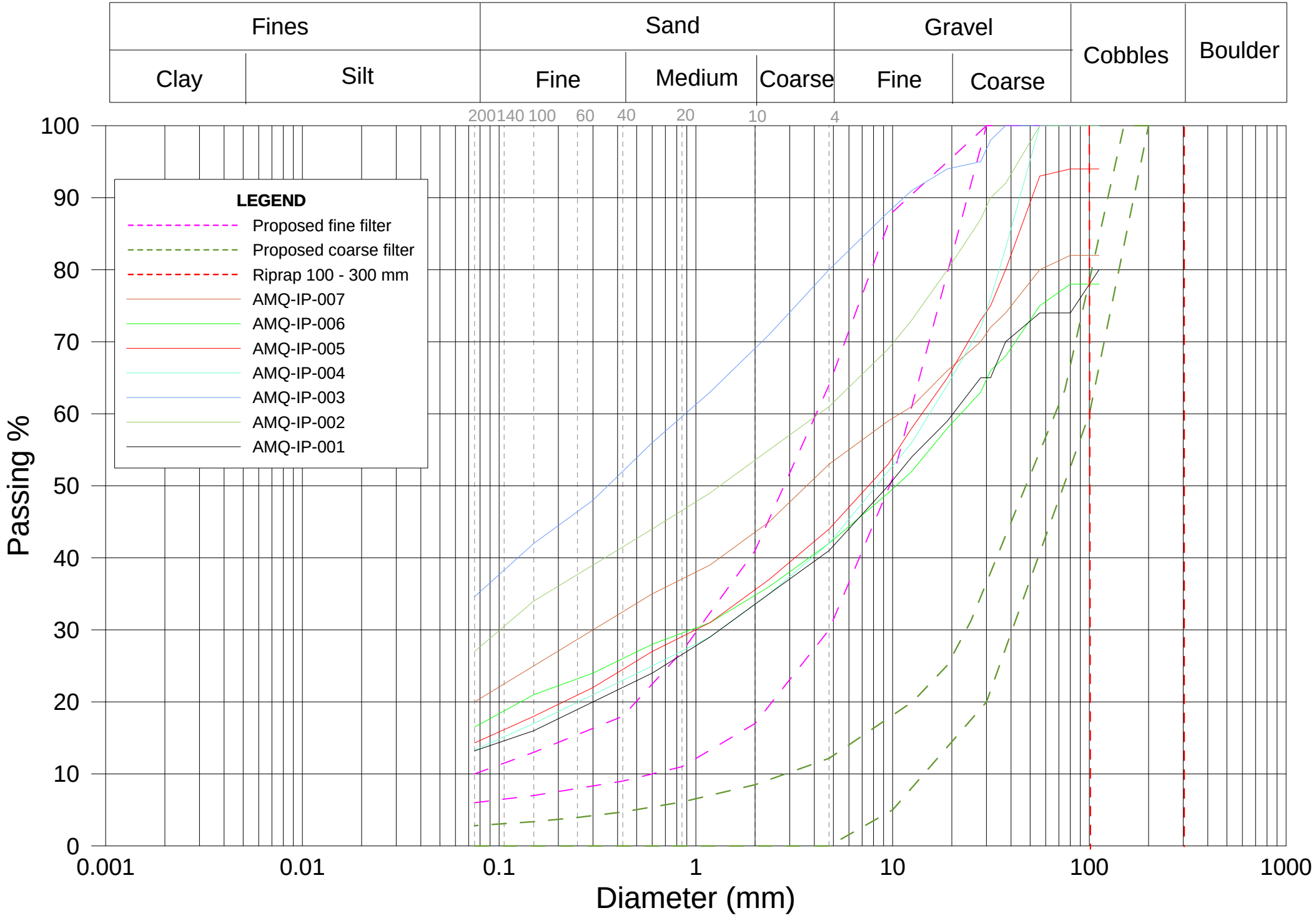
Sample ID	Fines-Sand-Gravel	Moisture Content	Station	Location of sampling	Date of sampling	Sample by	Date of testing	Test by	Placement area
AMQ-ES-001	1 - 39 - 60	1.40%	-	Stock pile 1	17/01/2020	MC	17/01/2020	MC	[0+917 - 0+830]
AMQ-ES-002	4 - 37 - 59	1.10%	-	Stock pile 1	17/01/2020	MC	18/01/2020	MC	[0+917 - 0+830]
AMQ-ES-003	-	-	-	Stock pile 2	31/01/2020	SD	Lost sample	-	[0+830 - 0+775]
AMQ-ES-003.1	40 - 60 - 0	12.50%	-	Stock pile 2	02/02/2020	SD	04/02/2020	YA	[0+830 - 0+775]
AMQ-ES-004	7 - 25 - 68	5.30%	0+820	Slope west of channel	01/02/2020	YA	02/02/2020	YA	[0+830 - 0+775]
AMQ-ES-005	21 - 50 - 29	6.70%	0+820	Slope east of channel	01/02/2020	SD	02/02/2020	YA	[0+830 - 0+775]
AMQ-ES-006	27 - 48 - 25	11.80%	0+800	Slope east of channel	04/02/2020	SD	04/02/2020	YA	[0+830 - 0+775]
AMQ-ES-007	8 - 56 - 36	15.80%	0+780	Slope west of channel	04/02/2020	SD	05/02/2020	SD	[0+830 - 0+775]
AMQ-ES-008	2 - 25 - 73	11.00%	0+860	Slope east of channel	04/02/2020	SD	05/02/2020	YA	[0+917 - 0+830]


Fines
Clay
Silt
Sand
Fine
Medium
Coarse
Gravel
Fine
Coarse
Cobbles
Boulder
200
140
100
60
40
20
10
4
LEGEND
Proposed fine filter
Proposed coarse filter
Riprap 100 - 300 mm
AMQ-ES-001
AMQ-ES-002
AMQ-ES-008
Passing %
100
90
80
70
60
50
40
30
20
10
0
0.001
0.01
0.1
1
10
100
1000
Diameter (mm)


Fines
Clay
Silt
Sand
Fine
Medium
Coarse
Gravel
Fine
Coarse
Cobbles
Boulder
200
140
100
60
40
20
10
4
LEGEND
Proposed fine filter
Proposed coarse filter
Riprap 100 - 300 mm
AMQ-ES-003.1
(not representative)
AMQ-ES-004
AMQ-ES-005
AMQ-ES-006
AMQ-ES-007
Passing %
100
90
80
70
60
50
40
30
20
10
0
0.001
0.01
0.1
1
10
100
1000
Diameter (mm)

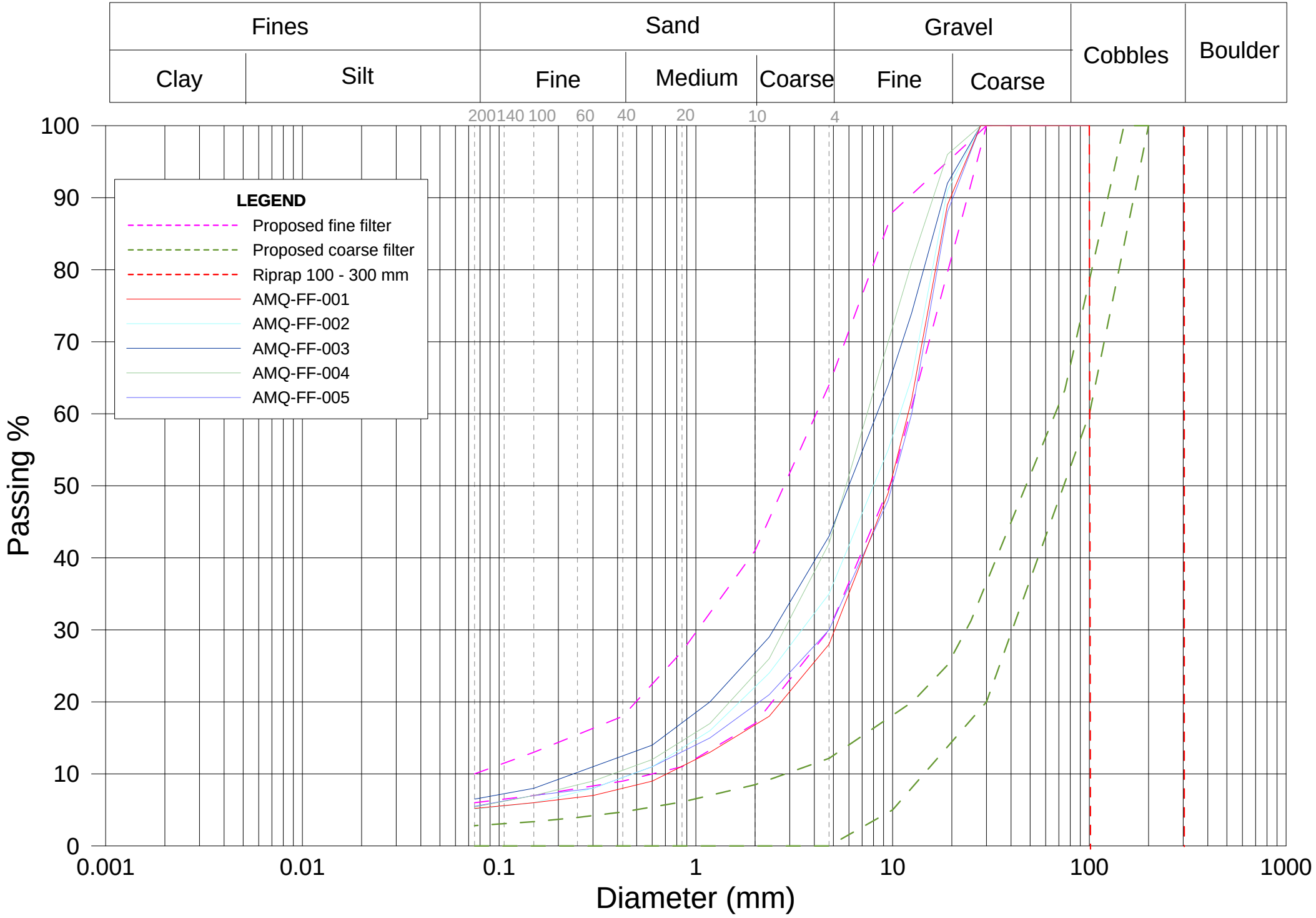
2- Gradation results and moisture content for the foundation soil in place

Sample ID	Fines-Sand-Gravel	Moisture Content	Station	Location of sampling	Date of sampling	Sample by	Date of testing	Test by
AMQ-IP-001	13 - 28 - 59	-	-	Bottom of excavation	15/01/2020	MC	16/01/2020	MC
AMQ-IP-002	27 - 34 - 39	-	0+700	Bottom of excavation	19/01/20120	MC	20/01/2020	MC
AMQ-IP-003	35 - 45 - 20	-	0+800	Bottom of excavation	20/01/2020	MC	21/01/2020	MC
AMQ-IP-004	13 - 29 - 58	-	0+900	Bottom of excavation	25/01/2020	MC	27/01/2020	MC
AMQ-IP-005	14 - 30 - 56	-	0+750	Bottom of excavation	03/02/2020	YA	05/02/2020	YA
AMQ-IP-006	17 - 26 - 58	16%	0+765	Bottom of excavation	04/02/2020	SD	06/02/2020	YA
AMQ-IP-007	20 - 33 - 47	10%	0+500	Bottom of excavation	07/02/2020	SD	07/02/2020	YA


Fines
Clay
Silt
Sand
Fine
Medium
Coarse
Gravel
Fine
Coarse
Cobbles
Boulder
200 140 100 60 40 20 10 4
LEGEND
Proposed fine filter
Proposed coarse filter
Riprap 100 - 300 mm
AMQ-IP-007
AMQ-IP-006
AMQ-IP-005
AMQ-IP-004
AMQ-IP-003
AMQ-IP-002
AMQ-IP-001
Passing %
100
90
80
70
60
50
40
30
20
10
0
0.001
0.01
0.1
1
10
100
1000
Diameter (mm)

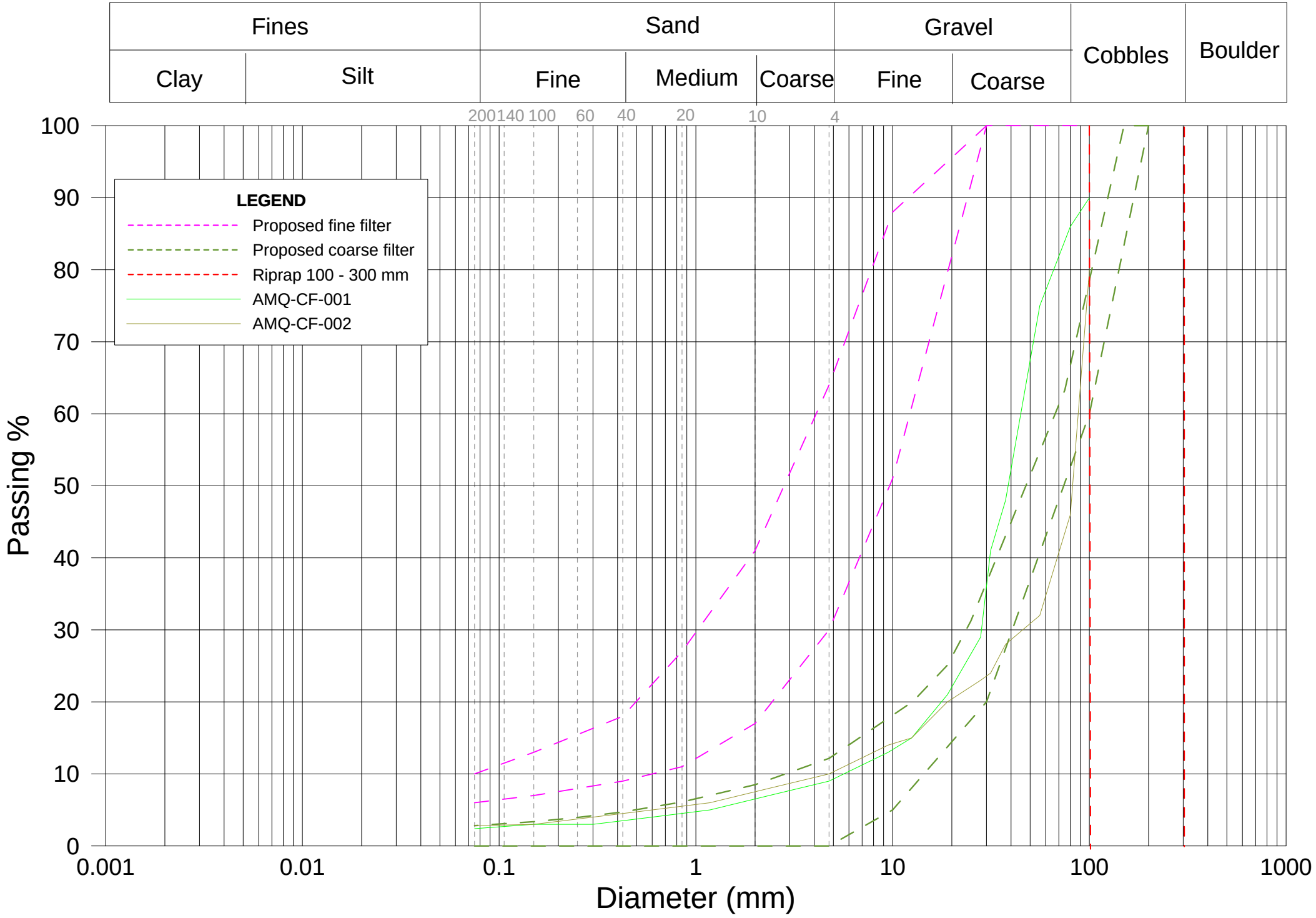
3- Gradation results and moisture content for the fine filter

Sample ID	Fines-Sand-Gravel	Moisture Content	Station	Location of sampling	Date of sampling	Sample by	Date of testing	Test by
AMQ-FF-001	5 - 23 - 72	2.30%	-	Stock pile	15/01/2020	MC	16/01/2020	MC
AMQ-FF-002	5 - 30 - 65	2.50%	-	Stock pile	15/01/2020	MC	16/01/2020	MC
AMQ-FF-003	7 - 37 - 57	3.70%	-	Stock pile	20/01/2020	MC	21/01/2020	MC
AMQ-FF-004	5 - 37 - 58	-	-	Stock pile	21/01/2020	MC	22/01/2020	MC
AMQ-FF-005	6 - 25 - 70	2.40%	-	Stock pile	24/01/2020	MC	30/01/2020	YA


Fines
Clay
Silt
Sand
Fine
Medium
Coarse
Gravel
Fine
Coarse
Cobbles
Boulder
200 140 100 60 40 20 10 4
LEGEND
Proposed fine filter
Proposed coarse filter
Riprap 100 - 300 mm
AMQ-FF-001
AMQ-FF-002
AMQ-FF-003
AMQ-FF-004
AMQ-FF-005
Passing %
100
90
80
70
60
50
40
30
20
10
0
0.001
0.01
0.1
1
10
100
1000
Diameter (mm)

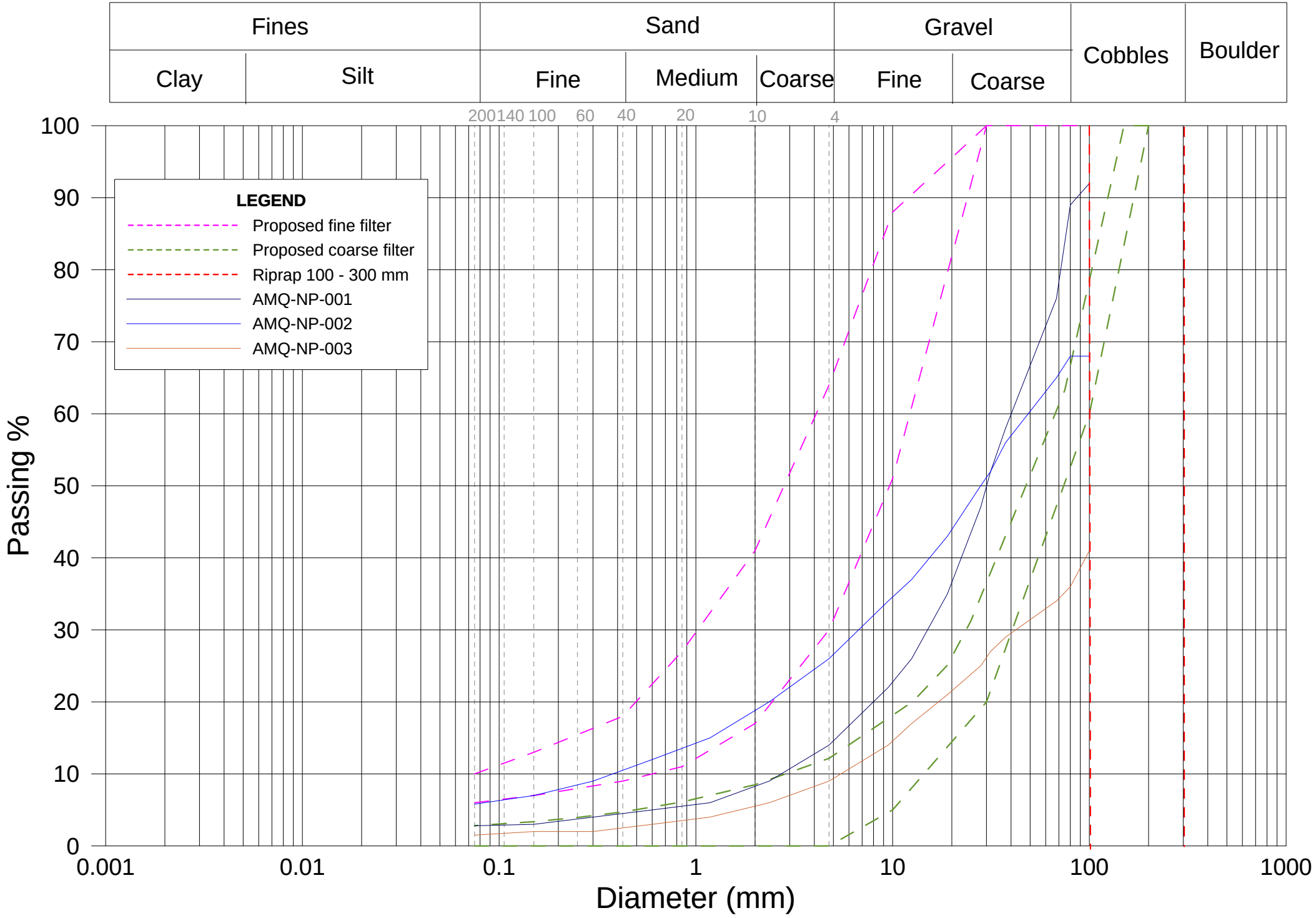
4- Gradation results and moisture content for the coarse filter

Sample ID	Fines-Sand-Gravel	Moisture Content	Station	Location of sampling	Date of sampling	Sample by	Date of testing	Test by
AMQ-CF-001	2 - 7 - 91	2.40%	-	Stock pile	21/01/2020	MC	22/01/2020	MC
AMQ-CF-002	3 - 7 - 90	6.80%	-	Stock pile	22/01/2020	MC	23/01/2020	MC


Fines
Clay
Silt
Sand
Fine
Medium
Coarse
Gravel
Fine
Coarse
Cobbles
Boulder
200
140
100
60
40
20
10
4
LEGEND
Proposed fine filter
Proposed coarse filter
Riprap 100 - 300 mm
AMQ-CF-001
AMQ-CF-002
Passing %
100
90
80
70
60
50
40
30
20
10
0
0.001
0.01
0.1
1
10
100
1000
Diameter (mm)

5- Gradation results and moisture content for the coarse filter

Sample ID	Fines-Sand-Gravel	Moisture Content	Station	Location of sampling	Date of sampling	Sample by	Date of testing	Test by
AMQ-NP-001	3 - 11 - 86	-	-	Stock pile	19/01/2020	MC	21/01/2020	MC
AMQ-NP-002	6 - 20 - 74		-	Stock pile	25/01/2020	MC	27/01/2020	MC
AMQ-NP-003	2 - 8 - 91	2.00%	-	Stock pile	25/01/2020	MC	30/01/2020	YA


Fines
Clay
Silt
Sand
Fine
Medium
Coarse
Gravel
Fine
Coarse
Cobbles
Boulder
200
140
100
60
40
20
10
4
LEGEND
Proposed fine filter
Proposed coarse filter
Riprap 100 - 300 mm
AMQ-NP-001
AMQ-NP-002
AMQ-NP-003
Passing %
100
90
80
70
60
50
40
30
20
10
0
0.001
0.01
0.1
1
10
100
1000
Diameter (mm)

APPENDIX E : RFI log

RFI Log

RFI #	Date Received	Date Responded	Status	Subject	Location	Notes
RFI-001	2019-08-13		*To be approved*	Change of outlet geometry, outlets were higher than topography	0+060, 0+390, 0+480, 0+900	Consists of having small filter tablets on topographic surface at crests to direct water flow towards Mammoth rather than have it spreaded
RFI-002	2019-08-13		*To be approved*	Change of inlet geometry. Not build buttress platforms used to get 1.3m depth i.e. disregard 1.3m min	On low topographic spots	This material was put in place to follow the 1.3m minimum but it would be rockfill i.e. draining material i.e. be useless. It would be used at the same time to facilitate constructability where road in not adjacent i..e close to A45
RFI-003	2019-08-13		*To be approved*	Having slope at 2.5:1 rather than 3:1 above max water level	TBD	Apply in section where rockfill is directly against slope as butress
RFI-004	2019-08-13		Field Fit	Modification of Road 24 alignment for construction access		Construction access to be field fitted
RFI-005	2019-08-13		Field Fit	Access to bottom of channel from both side		Will need to be field fitted with a slope to allow access within channel
RFI-006	2019-08-13		Approved	Use of 0-150 instead of 0-200 for coarse filter		Approved by changing 100-300 to 100-250
RFI-007	2019-08-13		Approved	Use of 100-300 instead of 100-250 for rip-rap		Condition for the approval of RFI-006
RFI-008	2019-09-05		Approved	Lowering the inelt of the channel by 0.5 m		New version of construction drawings and report were submitted by SNC in December 2019
RFI-009	2019-12-15		Pending	Turbidity concern on lake A45	A45	
RFI-010	2019-12-15		Rejected	Leaving the construciton road within the operational level of Lake A45 can stay there	A45	Env asked that the no road remain within the operation level of A45. Will ahve to be dismantled at the end of construction
RFI-011	2019-12-16	2020-01-17	Recommendation provided	Adding a geotextile above the corase filter to add robustnest to the design	Within Channel	SNC recommend to place the geotextile between the fine filter and the soil in place or alternatively between the fine filter and coarse filter. As the geotextile minimize the risk of soil or fine filter materia erosion. As requested by AEM, the geotextile can be placed between the coarse filter and the rip-rap material without affecting the performance of the channel. However, SNC believe that there could be a risk in damaging the geotextile during the placement of the rip-rap material over the geotextile, as the geotextile could shear and tear. If some parts of the geotextile are exposed, the geotextile could also be damaged during maintenance work of the channel. SNC recommends using special care during the placement of rip-rap material over the geotextile, as well as during cleanup, snow and ice removal in the channel, in order to avoid damaging the geotextile
RFI-012	2020-01-15		Sent for approval	Proposed inlet modification (see drawings)	Inlet's	Sent to SNC for approval
RFI-0-13	2020-01-15		Sent for approval	Modified inlet to have a 'fan' shape instead of rectangular to improve water conveyance	Inlet's	Sent to SNC for approval
RFI-014	2020-01-15	2020-01-17	Approved	Proposed outlet modification to Mammoth lake (see drawing)	Outlet to Mammoth lake	The outlet to the Mammoth lake can be adjusted to the existing ground conditions. Ensure that there is no high point in the nearby topography downstream of the outlet to ensure proper flow towards the lake.
RFI-015	2020-01-15	2020-01-26	Review continue as excavation progress	Revise filter design for existing foundation soil		Based on gradation test results from sample AMQ-IP-001, AMQ-IP-002 and AMQ-IP-003, no filter design modification required. Foundation soil sampling and review of filter design continue as excavation progress
RFI-016	2020-01-15	2020-02-07	Approved	Proposed inlet modification (see drawings) and Modified inlet to have a 'fan' shape instead of rectangular to improve water conveyance	Inlet's	SNC agrees with the proposal of expending the width of the channel from 5 m to 15 m, along with a transition zone, between station 0+54 to 0+104. This is our understanding that the depth of the channel and the material placement (filters and rip rap) will remain the same in this section as per the original design. And recommends increasing the size of the rip rap between station 0+104 and 0+110. We recommend clean rip rap with particle size between 200 mm to 300 mm (instead of 100 mm to 300 mm) for this short section. As for the area around the inlet (approximately station 0+00 to 0+54), we also recommend additional erosion protection, based on field condition. We recommend installing a geotextile over the natural soil, and to place rip rap material over the geotextile.

SNC·LAVALIN

WEEKLY REPORT

20200216-WR05
Document number

2020-02-10 to 2020-02-16	667648	Daniel Meles (DM)
Date	Project No.	Prepared by
South Whale Tale Diversion Channel Construction	Agnico Eagle	
Project	Client	
SNC-Lavalin	KCG	
Consultant	Contractor	

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

The main activities for the QA representative regarding the construction of the South Whail Tail Diversion Channel (SWTDC) during the week ending February 16, 2020 were:

- Attained daily construction meeting;
- Periodic visual observation of SWTDC work site;
- Foundation approval; and
- Sampling, and review and document laboratory test results completed by QC;

Daily Construction Meeting

DM attended all SWTDC daily Construction Meeting. Attendee of the daily construction meeting for the week ending February 16, 2020 include:

- Owner's representative (AEM): Marion Habersetzer and Patrice Gagnon;
- Site supervisor (AEM): Jean-Francois Beland;
- QA (SNC-Lavalin): Daniel Meles ;
- QC day shift (GHD): Mathieu Côté (Day shift) and Richard Jean Tremblay (February 10 to February 15);
- QC night shift (GHD): Richard Jean Tremblay (Night shift starting February 15); and
- Contractor: KCG

Periodic Visual Observation of SWTDC Work Site

During the week ending February 16, 2020, DM periodically visited SWTDC work site. The following were observed during the periodic site visit:

- From station 0+917 to 0+775: No activity (see Photo 1);
- From station 0+775 to 0+735: Placement of esker on over-excavated area (see Photo 2 & 3);
- From station 0+735 to 0+688: Foundation approval and placement of backfill for over-cut in the overburden soil (see photo 4);
- From station 0+688 to 0+560: Area prepared for re-blasting as the limit was not reached from previous blasting (see photos 5);
- From station 0+560 to 0+480: No activity. Final excavation that require cleaning.
- From station 0+590 to 0+260: Final excavation and cleaning (see photo 6);

- From station 0+260 to 0+170: Excavation of blasted material (see photo 7);
- From station 0+170 to inlet (sequence 8): Drilling in preparation for blasting (see photo 8).

Photos taken during site visit can be found in appendix A. Note that stations shown in the photos are approximate location. SWTC construction weekly progress from KCG for the week ending February 24, 2020 for excavation and drilling can be found in appendix B. Additional work completed on February 15 and 16, 2020 is included as a note on the weekly progress drawing.

Foundation Approval

During the week ending February 16, DM in the presence of the Owner's representative, QA, QC day shift, site supervisor, and contractor representative completed one (1) foundation approval. The channel excavation from Station 0+735 to 0+688 was inspected and the channel foundation was free of ice/snow/water and the excavation bottom was clean. See table 1 to track approval form and Appendix C for 20200216-DS-04_foundation approval. It should be noted that the foundation approval requires verification of snow removal before filter placement.

During field visit for foundation approval in the presence of Owner's representative, QA and QC, the owner's representative identifies a block of frozen soil with small portion of the block indicated layering on the sample block that seem as a result of ice layering. DM took the sample for moisture content test to check if it is an ice rich soil. The moisture content of the frozen block sample was 12.2% less than the moisture (20%) defined in the design report as ice rich that may result in significant settlement when unfrozen.

Table 1: Tracking approval form

Date	Document #	Localisation	Approval for
26/01/2020	20200126-DS-01	From 0+917 to 0+830	Foundation approval
29/01/2020	20200129-DS-02	From 0+830 to 0+775	Foundation approval
03/02/2020	20200203-DS-03	From 0+775 to 0+735	Foundation approval
17/02/2020	20200216-DS-04	From 0+735 to 0+688	Foundation approval

Note: the highlighted is completed during last week.

Sampling and Laboratory Test

During the las week, DM went with QC to sample esker (AMQ-ES-009) from station 0+760 and foundation soil for moisture content tests (AMQ-IP-008-1, AMQ-IP-008-2 and AMQ-IP-008-3).
AMQ-ES-009 was sampled to represent the esker placed between Station 0+775 to 0+735. AMQ-IP-008-1, AMQ-IP-008-2 and AMQ-IP-008-3 were sampled from Station 0+270 to verify if the foundation soil is ice rich.

Laboratory Testing on Foundation Soil

During last week, DM reviewed and documented laboratory test results for foundation soil sampled at station 0+270. The gradation of AMQ-IP-008 is shown in Figure 1. Table 2 summarize gradation and additional three (3) moisture content test results of foundation soil sampled at Station 0+270. As shown in Figure 1 and Table 2, gradation test results for AMQ-IP-008 indicate fine content of 22% less than the fine content of soil used to design filter. However, the moisture content for sample AMQ-IP-008 is greater than 20% that indicate ice rich foundation soil. Following the result, DM went with QC for visual assessment of the area for any ice rich foundation soil and took additional three samples for moisture content tests. DM didn't observe visible ice in the foundation soil. Moisture content results completed on three blocks of samples (see photo 4 in appendix A) taken from the same area (around station 0+270) also indicated moisture content less than 13.5% (not ice rich soil). Additional visual assessment of the foundation soil will be conducted at the time of foundation approval for the area.

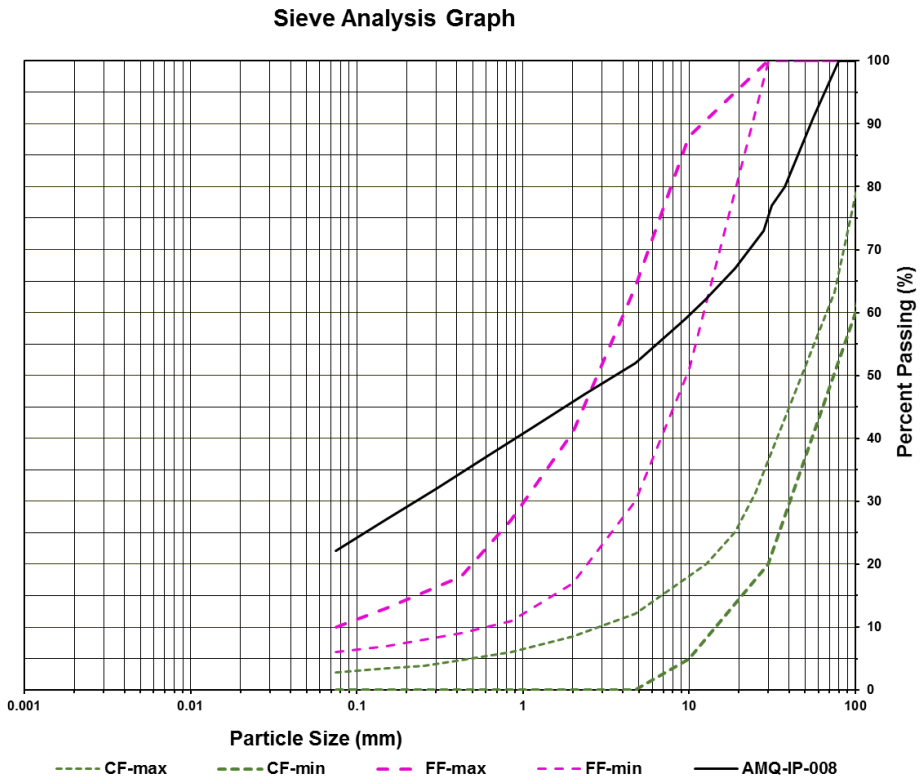


Figure 1: Gradation plot of foundation soil (AMQ-IP-008).

Table 2: Summary of laboratory test results completed on foundation soil

Sample ID	Fines-Sand-Gravel	Moisture Content	Station	Location of sampling	Date of sampling	Sample by	Date of testing	Test by
AMQ-IP-001	13 - 28 - 59	-	-	Bottom of excavation	2020/01/15	MC	2020/01/16	MC
AMQ-IP-002	27 - 34 - 39	-	0+700	Bottom of excavation	19/01/20120	MC	2020/01/20	MC
AMQ-IP-003	35 - 45 - 20	-	0+800	Bottom of excavation	2020/01/20	MC	2020/01/21	MC
AMQ-IP-004	13 - 29 - 58	-	0+900	Bottom of excavation	2020/01/25	MC	2020/01/27	MC
AMQ-IP-005	14 - 30 - 56	-	0+750	Bottom of excavation	2020/02/03	YA	2020/02/05	YA
AMQ-IP-006	17 - 26 - 58	16.4%	0+765	Bottom of excavation	04/02/2020	SD	2020/02/06	YA
AMQ-IP-007	20 - 33 - 47	10.0%	0+500	Bottom of excavation	2020/02/07	SD	2020/02/07	YA
AMQ-IP-008	22 - 30 - 48	21.8%	0+270	Bottom of excavation	2020/02/09	SD	2020/02/12	MC
AMQ-IP-008-1	NA	11.5%	0+270	Bottom of excavation	2020/02/13	MC	2020/02/14	MC
AMQ-IP-008-2	NA	8.1%		Bottom of excavation	2020/02/13	MC	2020/02/14	MC
AMQ-IP-008-3	NA	13.6%		Bottom of excavation	2020/02/13	MC	2020/02/14	MC

Note: the highlighted is completed during last week

Laboratory Testing on Esker

During last week, esker was placed between station 0+775 to Station 0+688. Following the placement, DM went with the QC to sample esker from station 0+760 for gradation and moisture content test. The summary of the gradation result along with moisture content is summarized in Table 3. The plot of the gradation test result is shown in Figure 2. The gradation result indicated the esker material has fine content less than the soil used to design the filter. The gradation results also indicated the material was poorley graded (Coefficient of curvature (Cc) = 0.8). However, considering the material was used for leveling over-excavated area, it was accepted. Visual observation of the placed esker material indicated the esker placed was free of frozen/ice soil, snow, cobbles/boulders and compacted appropriately. See photo 2 in appendix A for esker placed between station 0+755 and station 0+688.

Table 3: Summary of laboratory test results completed on esker

Sample ID	Fines-Sand-Gravel	Moisture Content	Station	Location of sampling	Date of sampling	Sample by	Date of testing	Test by	Placement area	Uc	Cc	Comment
AMQ-ES-001	1 - 39 - 60	1.4%	-	Stock pile 1	17/01/2020	MC	17/01/2020	MC	[0+917 - 0+830]	16	0.6	Poorly Graded
AMQ-ES-002	4 - 37 - 59	1.1%	-	Stock pile 1	17/01/2020	MC	18/01/2020	MC	[0+917 - 0+830]	8	0.3	Poorly Graded
AMQ-ES-003	-	-	-	Stock pile 2	31/01/2020	SD	Lost sample	-	[0+830 - 0+775]			
AMQ-ES-003.1	40 - 60 - 0	12.5%	-	Stock pile 2	02/02/2020	SD	2020/02/04	YA	[0+830 - 0+775]			
AMQ-ES-004	7 - 25 - 68	5.3%	0+820	Slope west of channel	01/02/2020	YA	02/02/2020	YA	[0+830 - 0+775]	100	1.8	Well Graded
AMQ-ES-005	21 - 50 - 29	6.7%	0+820	Slope east of channel	01/02/2020	SD	02/02/2020	YA	[0+830 - 0+775]			
AMQ-ES-006	27 - 48 - 25	11.8%	0+800	Slope east of channel	04/02/2020	SD	04/02/2020	YA	[0+830 - 0+775]			
AMQ-ES-007	8 - 56 - 36	15.8%	0+780	Slope west of channel	04/02/2020	SD	05/02/2020	SD	[0+830 - 0+775]	50	0.2	Poorly Graded
AMQ-ES-008	2 - 25 - 73	11.0%	0+860	Slope east of channel	04/02/2020	SD	05/02/2020	YA	[0+917 - 0+830]	30	1.2	Well Graded
AMQ-ES-009	3 - 29 - 68	3.4%	0+760	West slope of channel	11/02/2020	MC	13/02/2020	MC	[0+775 - 0+735]	20	0.8	Poorly Graded

Note: the highlighted is completed during last week

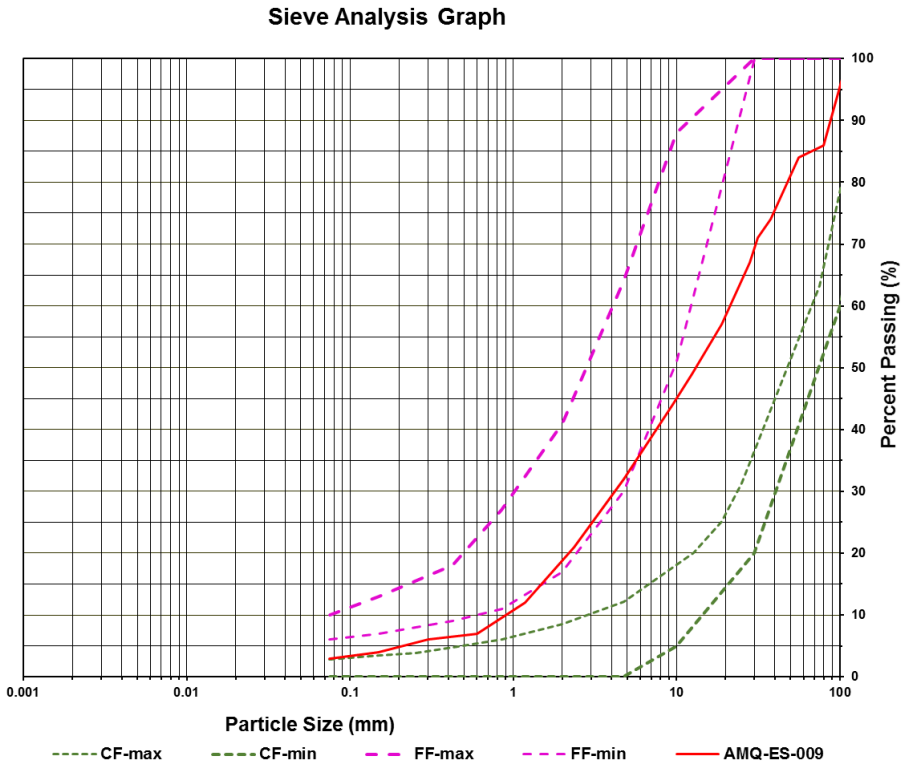


Figure 2: Gradation plot of esker (AMQ-ES-009).

Gradation results completed by QC is attached in Appendix D.

RFI

During last week, SNC Lavalin issued field memos (667648-2000-60NC-0002-PB_Field Work Instruction (RFI-011)_Geotextile and 667648-2000-60NC-0001-PB_Field Work Instruction (RFI-015)_Filters) for the geotextile and the filters design review (including discussion on the esker material). The list of RFI for the known deviations/changes is attached in Appendix E.

SAFE AND SAFETY REMARKS

During last week, potential near miss at the waste dump was reported.

APPENDIX A: PHOTOS



Photo 1: View of the site (photo taken looking north)

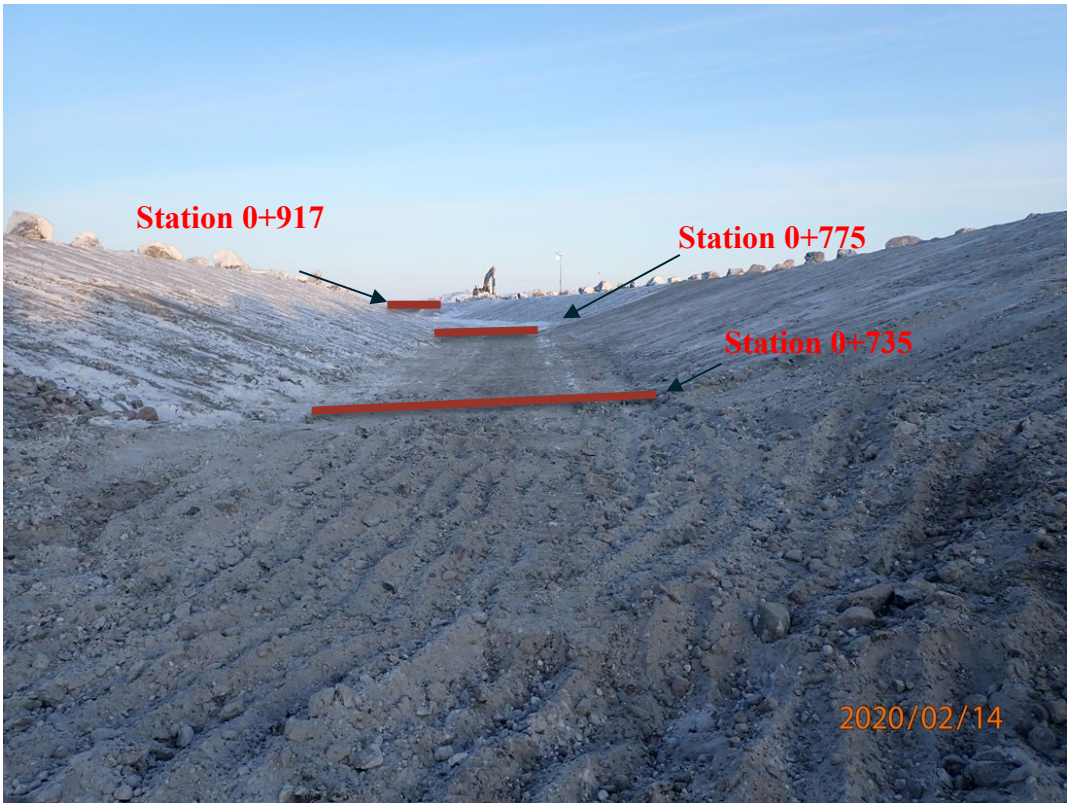


Photo 2: View of the site (photo taken looking north)



Photo 3: View of west slope after esker placement (photo taken looking west)

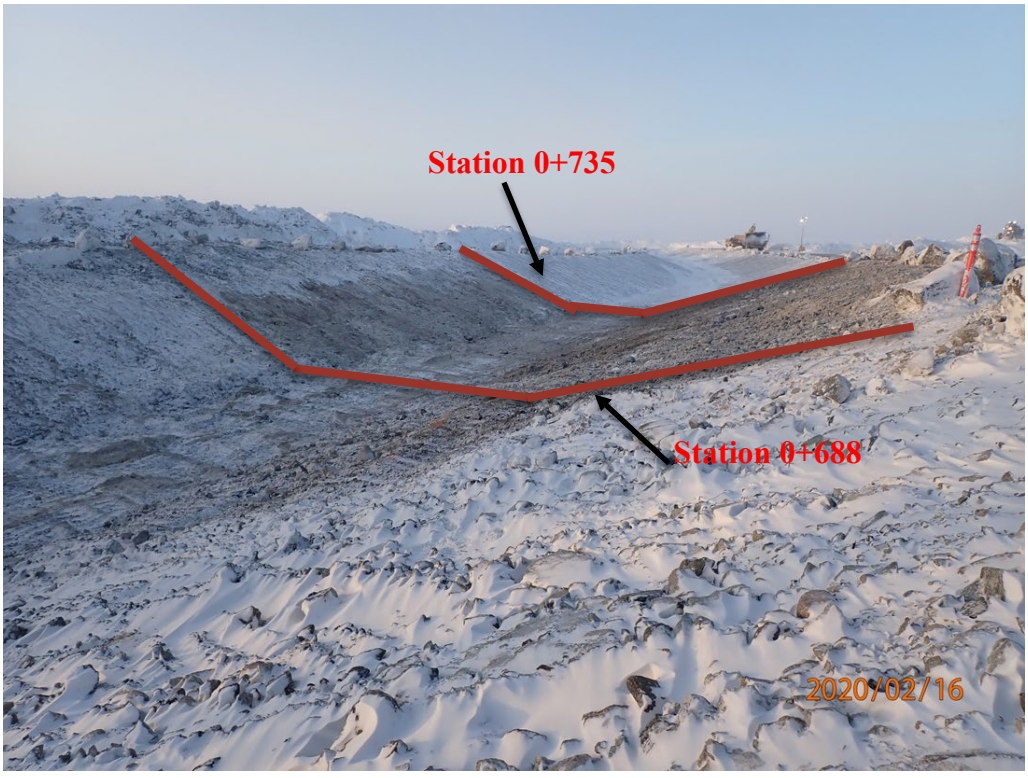


Photo 4: View of approved foundation (photo taken looking north)



Photo 5: View of preparation for re-blasting (photo taken looking south)

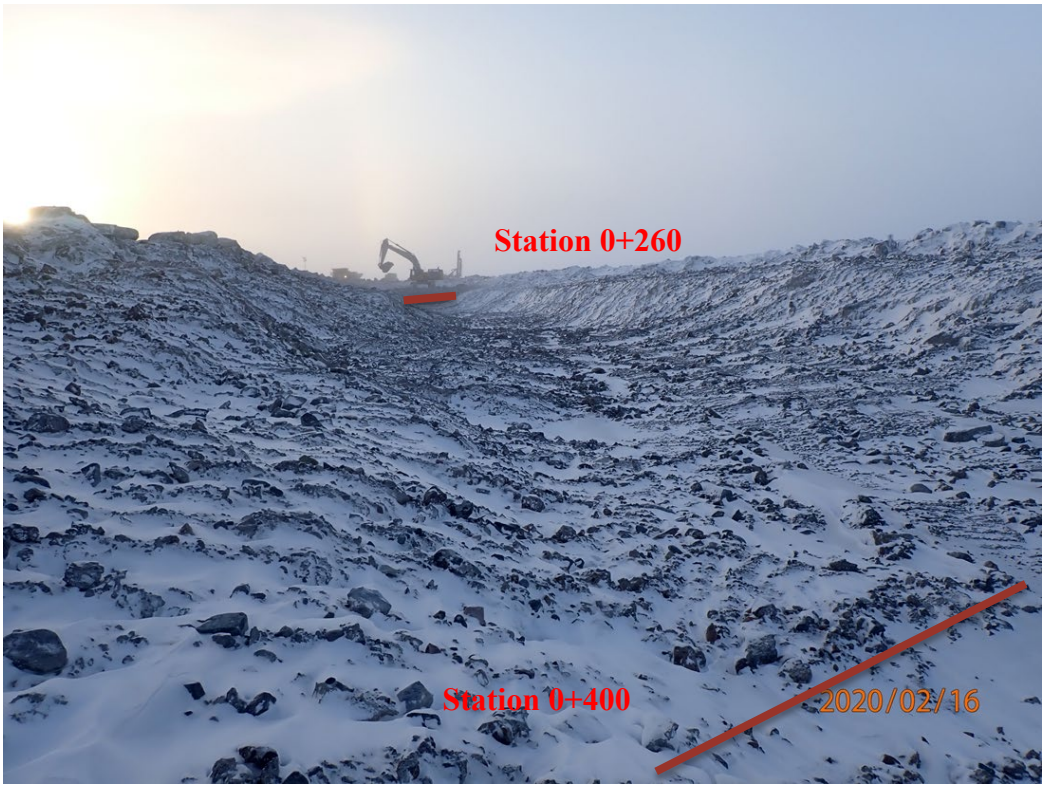


Photo 6: View of excavated area (photo taken looking south)



Photo 7: View of excavation of the blasted area between Station 0+260 and 0+170 (photo taken looking south)

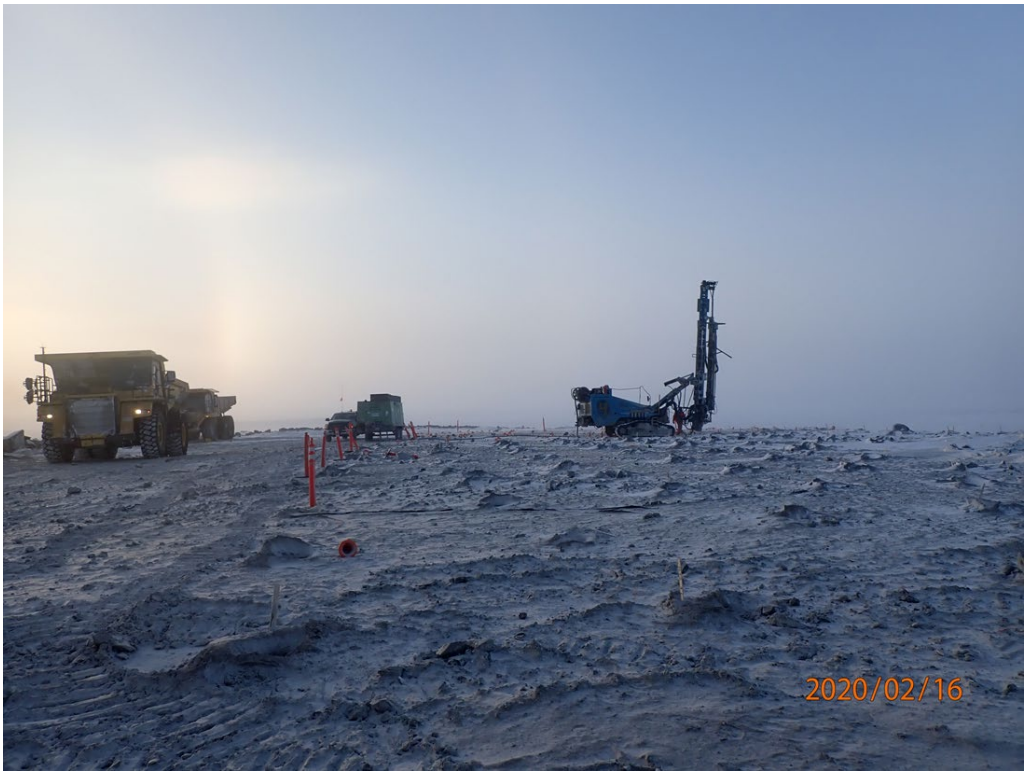


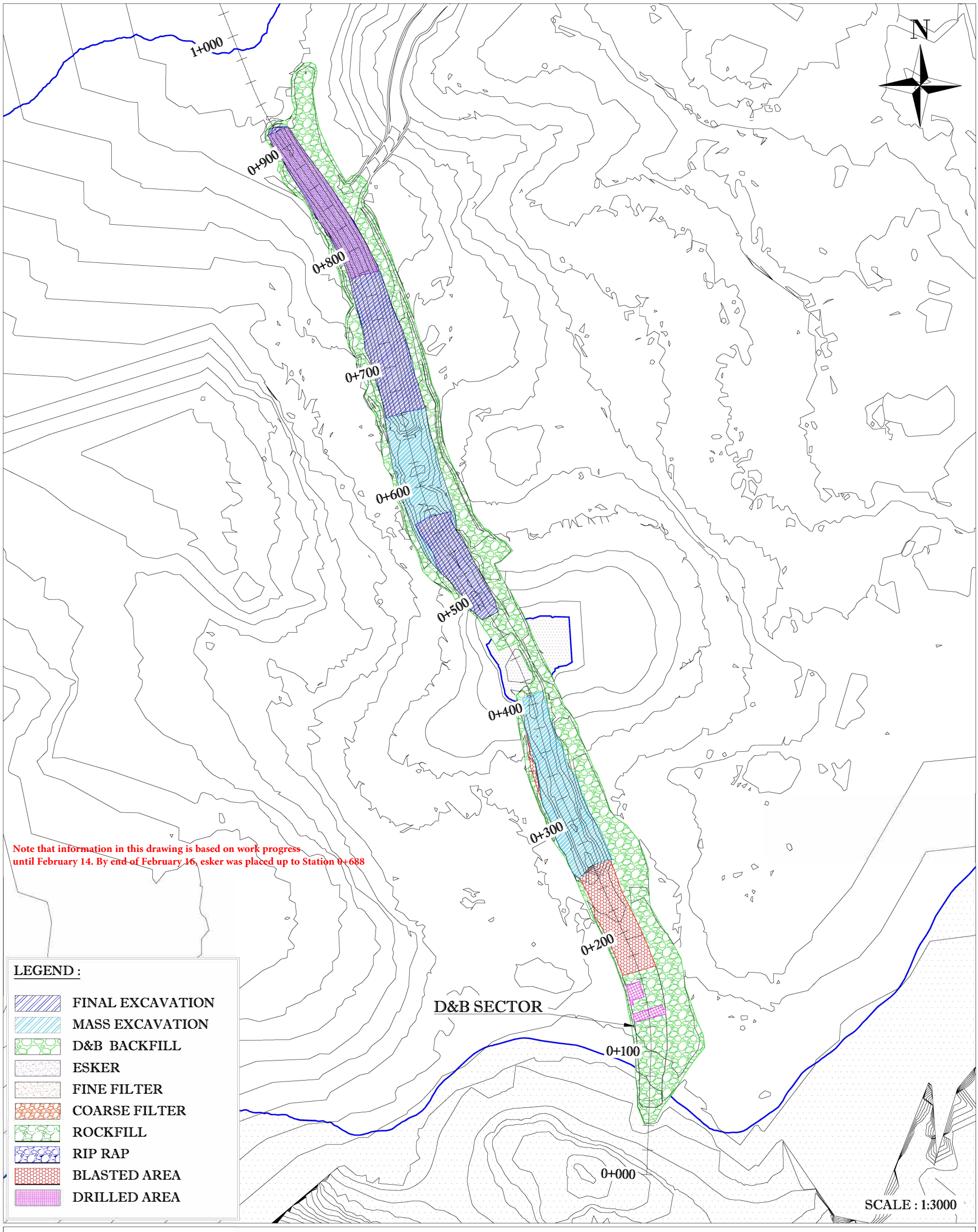
Photo 8: View of drilling activity (photo taken looking south)



Photo 9: View of frozen soil block samples taken for moisture content test.

APPENDIX B: Weekly progress for the construction of SWTDC

WEEKLY PROGRESS
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



Note that information in this drawing is based on work progress until February 14. By end of February 16, esker was placed up to Station 0+688

VOLUMETRY DETAIL

D&B BACKFILL : 30 343 m³

EXCAVATION : 40 386m³

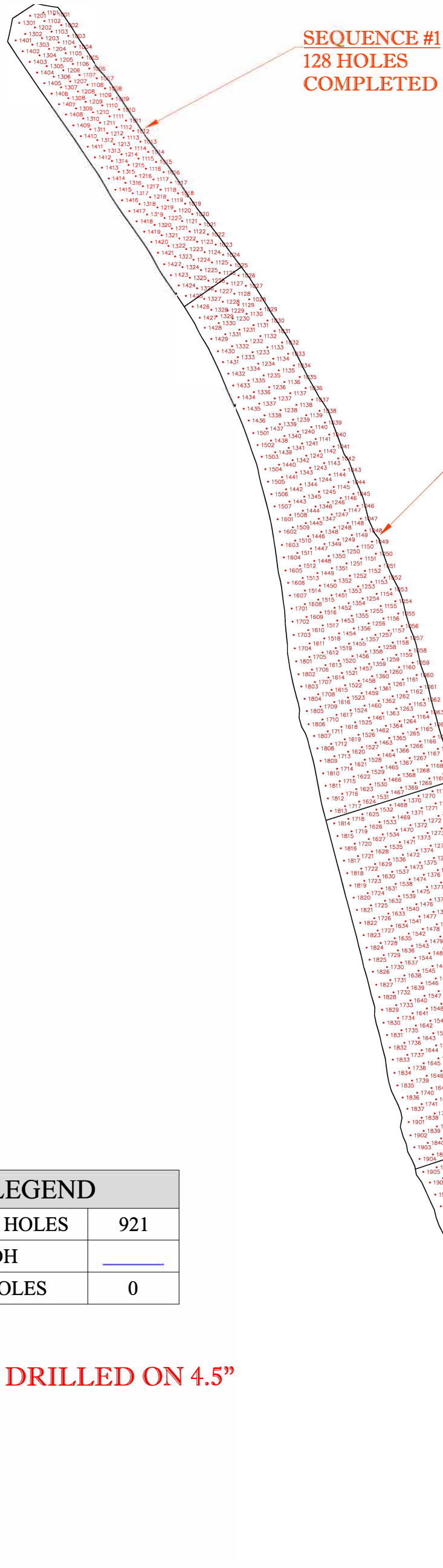
ESKER : 472m³

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 14-02-2020
CON-QT-141

C:\Users\Arpenteur\Dropbox (Groupe Gilbert)\...arpentage meadowbank\02-E - OFFICIAL DRAWING\11-811 - AMQ DIKES\CON-QT (QUANTITY AND MONTHLY REPORT)\CON-QT-141_SWTC WEEKLY PROGRESS_14022020.dwg

DRILL & BLAST PROGRESSION
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



N

LEGEND	
DESIGN HOLES	921
DDH	
MISHOLES	0

HOLES DRILLED ON 4.5”

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 14-02-2020
CON-DR-101-1

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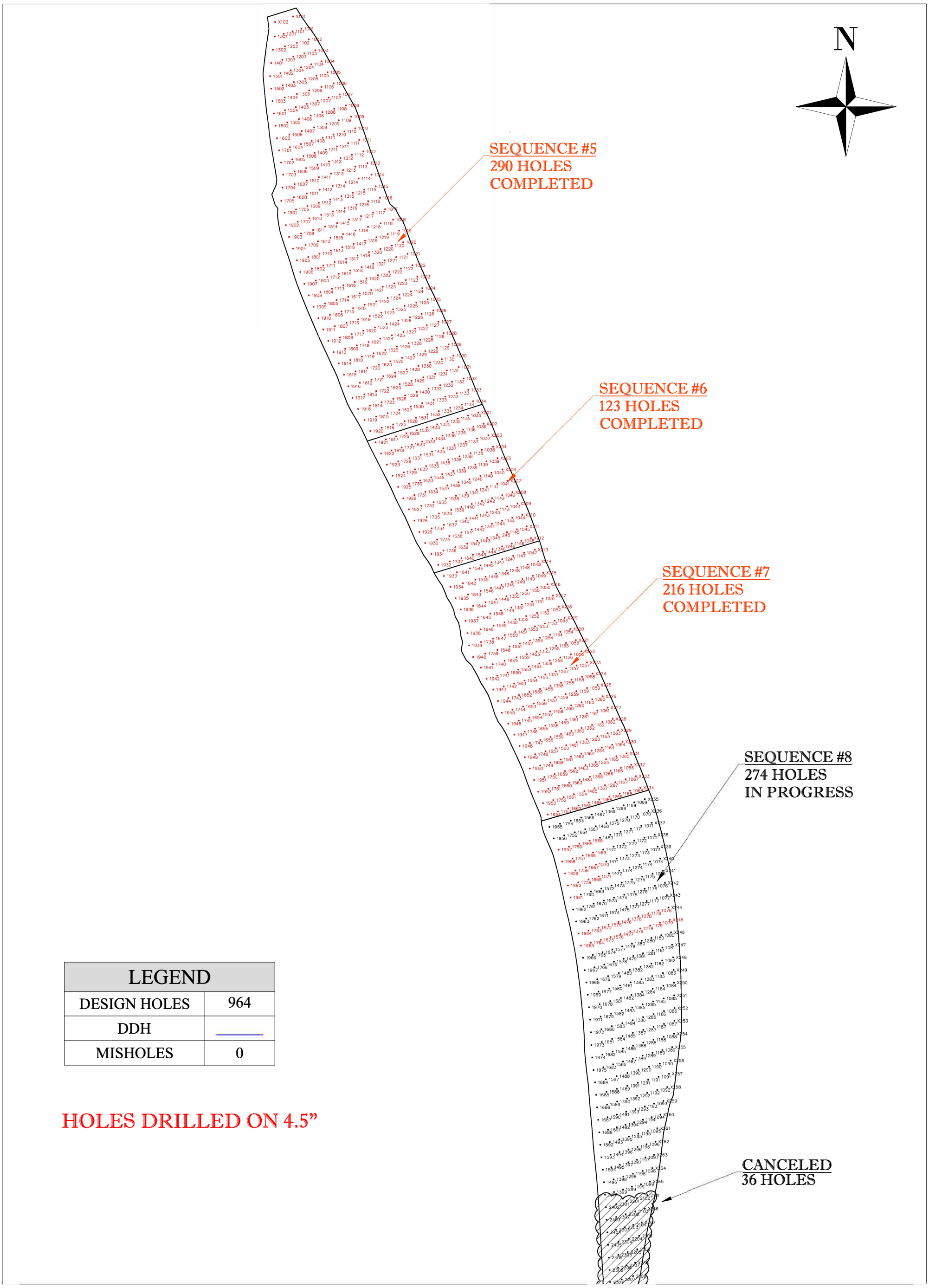
DRILL & BLAST PROGRESSION
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



LEGEND	
DESIGN HOLES	964
DDH	
MISHOLES	0

HOLES DRILLED ON 4.5”

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 14-02-2020
CON-DR-101-2

C:\Users\arpenteur\Dropbox (Groupe Gilbert)_arpentage meadowbank\02-E - OFFICIAL DRAWING\11-811 - AMQ DIKES\CON-DR (INTERNAL NON OFFICIAL DRAWING)\CON-DR-101_SWTC D&B PROGRESSION_14022020.dwg

APPENDIX C : Approval form

SNC·LAVALIN

Sustaining capital
Mining & Metallurgy
1140 Maisonneuve boul. West
Montreal (Québec)
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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DOCUMENT #: 20200203 - DS - 03
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 16 - 02 - 202

TIME: 16:00
(24 hour clock)

APPROVAL FOR :

- ☑ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☐ Other: _____

LOCATION

Station 0+735 to 0+688

Inclination:

ELEVATION: ☐ varies _____ m

PREVIOUS APPROVALS

Station: 0+917 to 0+735

Details:

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
2	Require verification for snow removal before filter placement if there is accumulation of by snow fall or by wind	✓		✓	
7	Require back fill for over-cut area and the compaction of the back fill material to be checked before filter placement.	✓		✓	
All	approved for back fill (esker) placement				

APPROVED BY:

	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Mathieu Côté		16-02-2020
QA REPRESENTATIVE	Daniel Meles		16-02-2020
OWNER'S REPRESENTATIVE	Patrice Gagnon		17-02-2020
CONTRACTOR'S REPRESENTATIVE	Jonathan Trichon		17-02-2020

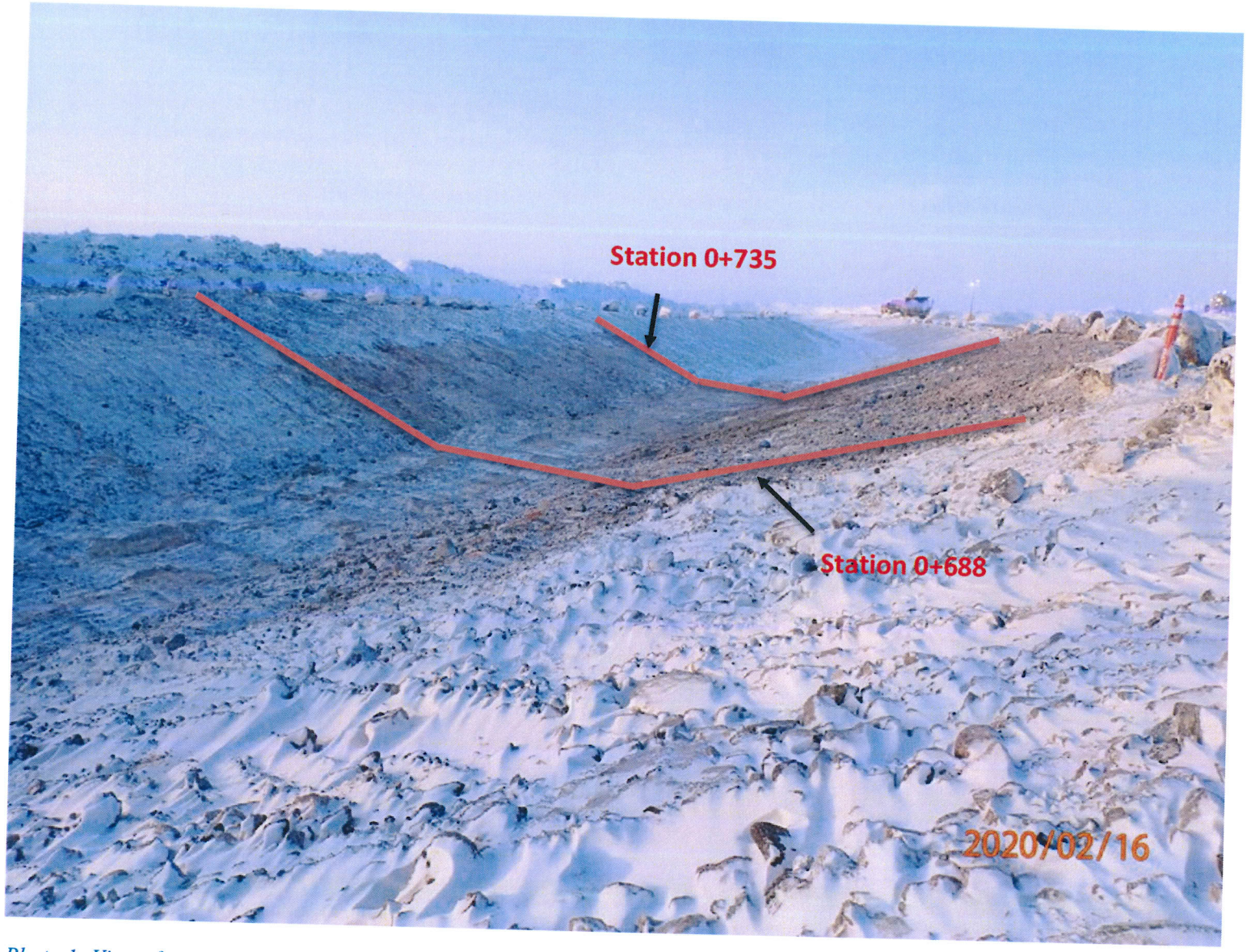
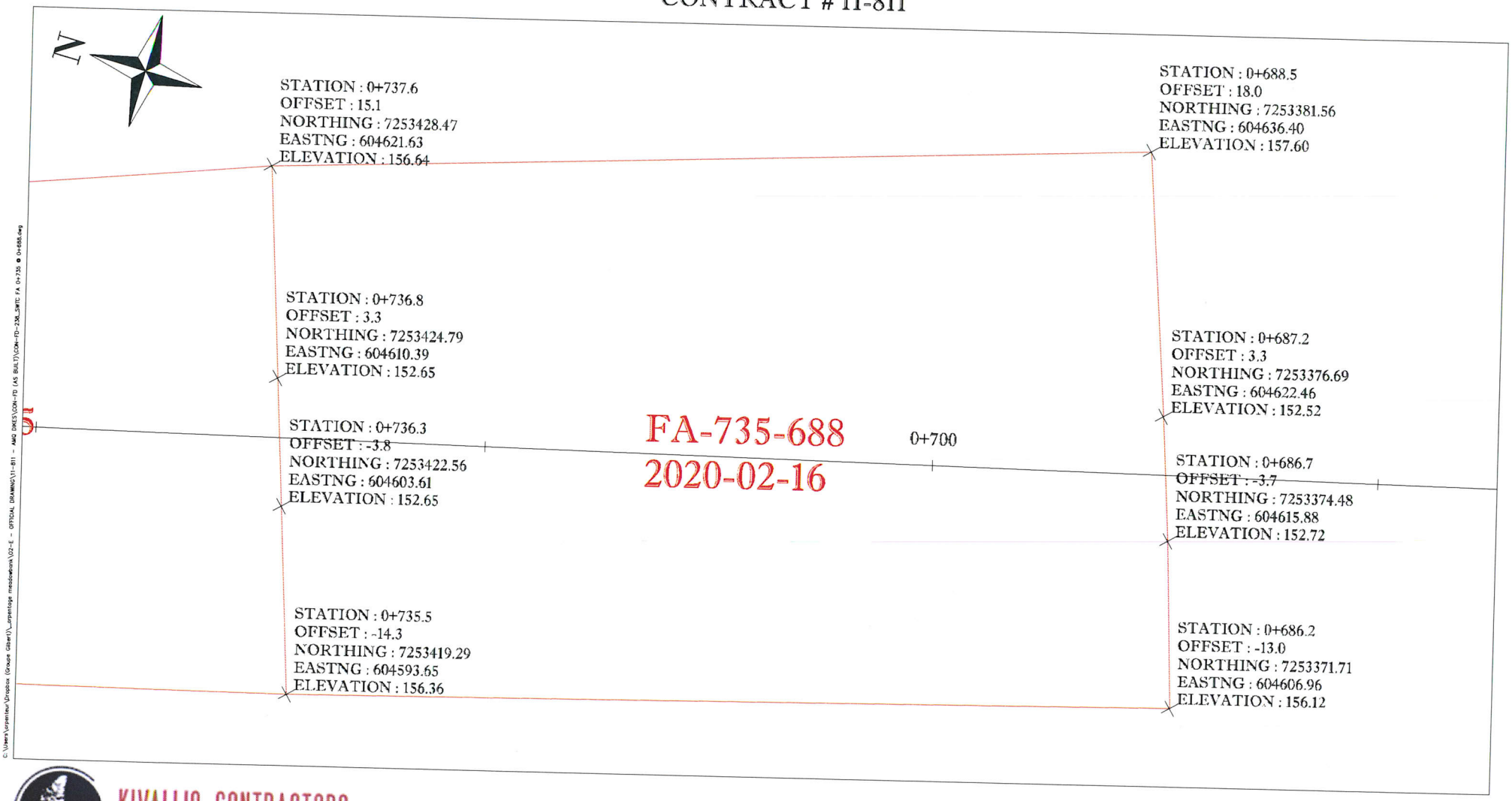


Photo 1: View of approved foundation on February 26, 20220 (photo taken looking north)

FOUNDATION APPROVAL - 0+735 @ 0+688
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 17-02-2020
CON-FD-238

APPENDIX D: Gradation results from QC

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11202247-B1

Sample N°: AMQ-ES-009

Projet: Derivation channel

Sampling Date: 11-02-2020

Sampled by: Mathieu côté

Description of Material: soil in place

Origin: Base fill

Location of Samplinç 0+760 W slope

Proposed Use: Foundation

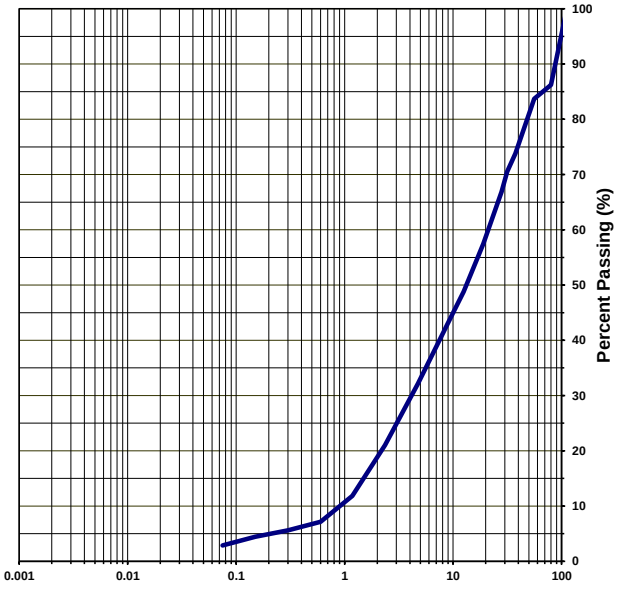
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	86	84	74	71	67	57	49	44	32	21	12	7	6	4	2.9
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	3.4		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	**#REF!** (kg/m^3)
Optimum Moisture Content	**#REF!** (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
3	29	68

Remarks

Prepared by: Mathieu Côté

Verified by:

Date: 13-02-2020

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-IP-008
Projet:	Derivation channel	**Sampling Date:**	2020-02-09
		Sampled by:	Mathieu côté
Description of Material:	soil in place		
Origin:	soil in place	**Location of Sampling:**	st. 0+270
Proposed Use:	foundation		

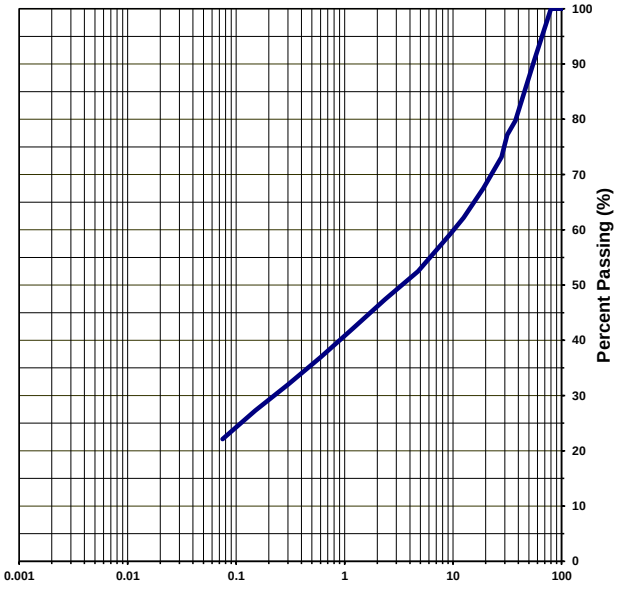
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	91	80	77	73	67	62	59	52	47	42	37	32	27	22.1
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	21.8		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m^3)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
22	30	48

Remarks _____

Prepared by: Mathieu Côté Verified by: _____ Date: 2020-02-12

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Moisture Content of Soils
(ASTM D 2216)

Client: AEM

Project no.: 11202247-B1 **Sample no.:** AMQ-IP-moisture content

Apparatus Used for Testing

Oven no.: 18-914 Scale no.: ranger

Sample No.	1	2	3					
Container no.	sag3	sag	102					
Mass of container + wet soil (g)	9609.0	13724.0	5406.0					
Mass of container + dry soil (g)	8779.0	12820.0	4870.0					
Mass of container (g)	1577.0	1591.0	915.0					
Mass of dry soil (g)	7202.0	11229.0	3955.0					
Mass of water (g)	830.0	904.0	536.0					
Moisture content (%)	11.5	8.1	13.6					
Sample No.								
Container no.								
Mass of container + wet soil (g)								
Mass of container + dry soil (g)								
Mass of container (g)								
Mass of dry soil (g)								
Mass of water (g)								
Moisture content (%)								

Remarks:

Analysed by: Mathieu Côté Richard Jean Tremblay **Date:** 14/02/2020

Verified by : **Date:**

APPENDIX E : RFI log

RFI Log

RFI #	Date Received	Date Responded	Status	Subject	Location	Notes
RFI-001	2019-08-13		*To be approved*	Change of outlet geometry, outlets were higher than topography	0+060, 0+390, 0+480, 0+900	Consists of having small filter tablets on topographic surface at crests to direct water flow towards Mammoth rather than have it spreaded
RFI-002	2019-08-13		*To be approved*	Change of inlet geometry. Not build buttress platforms used to get 1.3m depth i.e. disregard 1.3m min	On low topographic spots	This material was put in place to follow the 1.3m minimum but it would be rockfill i.e. draining material i.e. be useless. It would be used at the same time to facilitate constructability where road in not adjacent i..e close to A45
RFI-003	2019-08-13		*To be approved*	Having slope at 2.5:1 rather than 3:1 above max water level	TBD	Apply in section where rockfill is directly against slope as butress
RFI-004	2019-08-13		Field Fit	Modification of Road 24 alignment for construction access		Construction access to be field fitted
RFI-005	2019-08-13		Field Fit	Access to bottom of channel from both side		Will need to be field fitted with a slope to allow access within channel
RFI-006	2019-08-13		Approved	Use of 0-150 instead of 0-200 for coarse filter		Approved by changing 100-300 to 100-250
RFI-007	2019-08-13		Approved	Use of 100-300 instead of 100-250 for rip-rap		Condition for the approval of RFI-006
RFI-008	2019-09-05		Approved	Lowering the inelt of the channel by 0.5 m		New version of construction drawings and report were submitted by SNC in December 2019
RFI-009	2019-12-15		Pending	Turbidity concern on lake A45	A45	
RFI-010	2019-12-15		Rejected	Leaving the construciton road within the operational level of Lake A45 can stay there	A45	Env asked that the no road remain within the operation level of A45. Will ahve to be dismantled at the end of construction
RFI-011	2019-12-16	2020-01-17	Recommendation provided	Adding a geotextile above the corase filter to add robustnest to the design	Within Channel	See field memo: 667648-2000-60NC-0002-PB_Field Work Instruction (RFI-011)_Geotextile
RFI-012	2020-01-15		Sent for approval	Proposed inlet modification (see drawings)	Inlet's	Sent to SNC for approval
RFI-0-13	2020-01-15		Sent for approval	Modified inlet to have a 'fan' shape instead of rectangular to improve water conveyance	Inlet's	Sent to SNC for approval
RFI-014	2020-01-15	2020-01-17	Approved	Proposed outlet modification to Mammoth lake (see drawing)	Outlet to Mammoth lake	The outlet to the Mammoth lake can be adjusted to the existing ground conditions. Ensure that there is no high point in the nearby topography downstream of the outlet to ensure proper flow towards the lake.
RFI-015	2020-01-15	2020-01-26	Review continue as excavation progress	Revise filter design for existing foundation soil		See field memo: 667648-2000-60NC-0001-PB_Field Work Instruction (RFI-015)_Filters) for the geotextile and the filters design review
RFI-016	2020-01-15	2020-02-07	Approved	Proposed inlet modification (see drawings) and Modified inlet to have a 'fan' shape instead of rectangular to improve water conveyance	Inlet's	SNC agrees with the proposal of expending the width of the channel from 5 m to 15 m, along with a transition zone, between station 0+54 to 0+104. This is our understanding that the depth of the channel and the material placement (filters and rip rap) will remain the same in this section as per the original design. And recommends increasing the size of the rip rap between station 0+104 and 0+110. We recommend clean rip rap with particle size between 200 mm to 300 mm (instead of 100 mm to 300 mm) for this short section. As for the area around the inlet (approximately station 0+00 to 0+54), we also recommend additional erosion protection, based on field condition. We recommend installing a geotextile over the natural soil, and to place rip rap material over the geotextile.

SNC·LAVALIN

WEEKLY REPORT

20200223-WR06
Document number

2020-02-17 to 2020-02-23	667648	Daniel Meles (DM)
Date	Project No.	Prepared by
South Whale Tale Diversion Channel Construction	Agnico Eagle	
Project	Client	
SNC-Lavalin	KCG	
Consultant	Contractor	

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

The main activities for the QA representative regarding the construction of the South Whail Tail Diversion Channel (SWTDC) during the week ending February 23, 2020 were:

- Attained daily construction meeting;
- Periodic visual observation of SWTDC work site; and
- Sampling, review and document laboratory test results completed by QC;

Daily Construction Meeting

DM attended all SWTDC daily Construction Meeting. Attendees of the daily construction meeting for the week ending February 23, 2020 include:

- Owner's representative (AEM): Marion Habersetzer, Patrice Gagnon (from 2020 February 17 to February 18) and Pier-Eric McDonald (from 2020 February 19 to February 23);
- Site supervisor (AEM): Jean-Francois Beland (from 2020 February 17 to February 18) and Yannick Simard (from 2022 February 19 to February 23);
- QA (SNC-Lavalin): Daniel Meles ;
- QC day shift (GHD): Mathieu Côté (Day shift);
- QC night shift (GHD): Richard Jean Tremblay; and
- Contractor: KCG.

Periodic Visual Observation of SWTDC Work Site

During the week ending February 23, 2020, DM periodically visited SWTDC work site. The following were observed during the periodic site visit:

- From station 0+917 to 0+735: No activity (see photo 1)
  Area require snow cleaning, verification and approval of the snow cleaning before fine filter placement over foundation.
- From station 0+735 to 0+688: Placement of esker on over-excavated area (see Photo 2);
  Area require snow cleaning, verification and approval of the snow cleaning before fine filters placement over foundation.
- From station 0+640 to 0+573: Blasting and mass excavation of overburden soil (see photo 3). Cleaning of ice and loose material from this area started on February 23, 2020.

Area require cleaning of boulder, loose material and snow, and excavation on some spots and foundation approval

- From station 0+590 to 0+150: No activity (see photo 4);
  Area require cleaning and foundation approval
- From station 0+150 to 0+050 (sequence 8): Drilling completed (see Photo 5).
  Drill and blast area.

Photos showing site activities can be found in **appendix A.** The weekly channel excavation and drill & blast progression from KGC for the week ending February 21 can be found in **appendix B**.

Sampling and Laboratory Test

During the las week, QC sampled and completed gradation tests for AMQ-ES-010 and AMQ-ES-011on esker material placed between station 0+735 and 0+688. AMQ-ES-010 was sampled at station 0+700 and AMQ-ES-011 sampled from station 0+690. DM reviewed and document the laboratory test results for AMQ-ES-010 and AMQ-ES-11. The summary of laboratory tests completed on esker shown in Table 1.

Table 1: Summary table of esker samples

Sample ID	Fines-Sand-Gravel	Moisture Content	Station	Location of sampling	Date of sampling	Sample by	Date of testing	Test by	Placement area	Uc	Cc	Comment
AMQ-ES-001	1 - 39 - 60	1.4%	-	Stock pile 1	17/01/2020	MC	17/01/2020	MC	[0+917 - 0+830]	16	0.6	Poorly Graded
AMQ-ES-002	4 - 37 - 59	1.1%	-	Stock pile 1	17/01/2020	MC	18/01/2020	MC	[0+917 - 0+830]	8	0.3	Poorly Graded
AMQ-ES-003	-	-	-	Stock pile 2	31/01/2020	SD	Lost sample	-	[0+830 - 0+775]			
AMQ-ES-003.1	40 - 60 - 0	12.5%	-	Stock pile 2	02/02/2020	SD	2020/02/04	YA	[0+830 - 0+775]			
AMQ-ES-004	7 - 25 - 68	5.3%	0+820	Slope west of channel	01/02/2020	YA	02/02/2020	YA	[0+830 - 0+775]	100	1.8	Well Graded
AMQ-ES-005	21 - 50 - 29	6.7%	0+820	Slope east of channel	01/02/2020	SD	02/02/2020	YA	[0+830 - 0+775]			
AMQ-ES-006	27 - 48 - 25	11.8%	0+800	Slope east of channel	04/02/2020	SD	04/02/2020	YA	[0+830 - 0+775]			
AMQ-ES-007	8 - 56 - 36	15.8%	0+780	Slope west of channel	04/02/2020	SD	05/02/2020	SD	[0+830 - 0+775]	50	0.2	Poorly Graded
AMQ-ES-008	2 - 25 - 73	11.0%	0+860	Slope east of channel	04/02/2020	SD	05/02/2020	YA	[0+917 - 0+830]	30	1.2	Well Graded
AMQ-ES-009	3 - 29 - 68	3.4%	0+760	West slope of channel	11/02/2020	MC	13/02/2020	MC	[0+775 - 0+735]	20	0.8	Poorly Graded
AMQ-ES-010	6 - 36 - 58	7.3%	0+700	Slope west of channel	18/02/2020	RT	19/02/2020	RT	[0+735 - 0+688]	52	1.2	Well Graded
AMQ-ES-011	6 - 45 - 49	6.8%	0+690	Not Specified	18/02/2020	RT	20/02/2020	MC	[0+735 - 0+688]	56	1.7	Well Graded

Note: Highlighted samples are completed during last week.

Laboratory Test results

The gradation plot and computed Uniformity Coefficient (Uc) and Coefficient of Curvature (Cc) are presented in Figure 1. The gradation plot, UC and Cc values for AMQ-ES-010 and AMQ-ES-011 indicate both materials are well graded, with fine content less that fine content of the soil (35%) used to design the filter.

DM Comment: Both esker samples meet SNC-Lavalin recommendation of esker material to be used as backfill for over-excavated area in the overburden soil.

Gradation results completed by QC is attached in Appendix c.

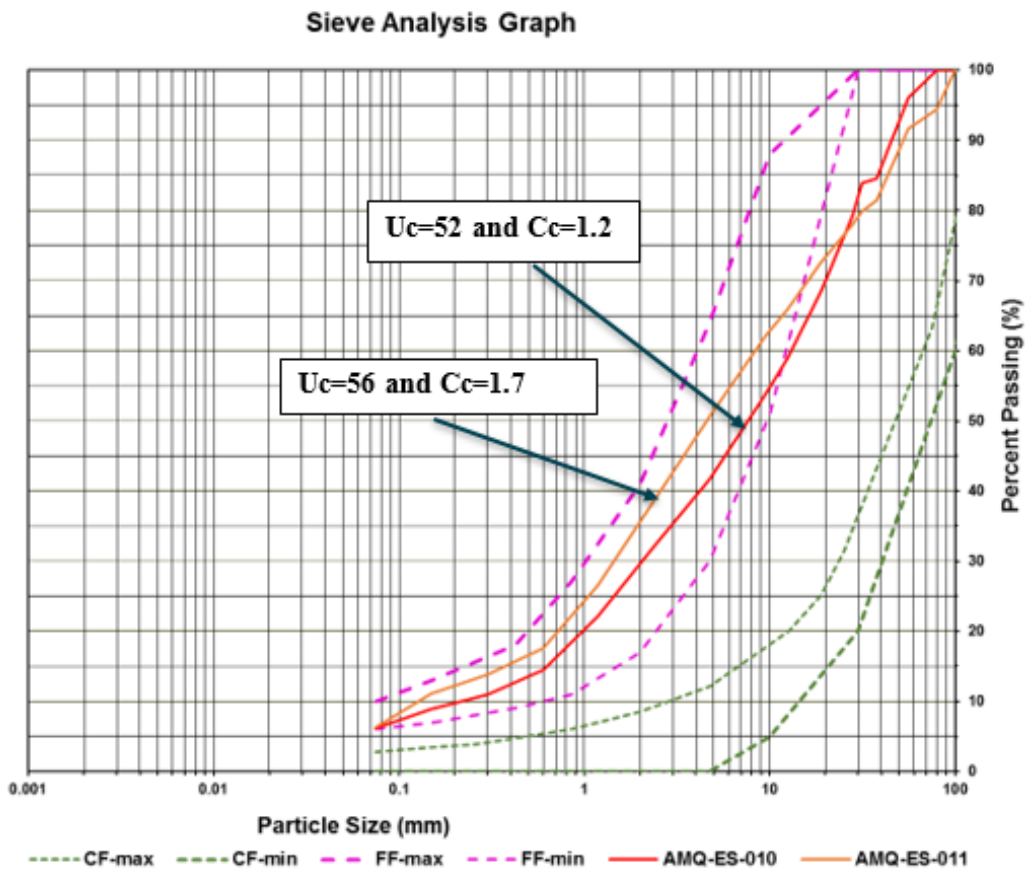


Figure 1: Gradation plot of AMQ-ES-010 and AMQ-ES-011

RFI

During last week, SNC-Lavalin issued final field memos (667648-2000-60NC-0002-00_Field Work Instruction (RFI-011)_Geotextile and 667648-2000-60NC-0001-00_Field Work Instruction (RFI-015)_Filters) for the geotextile and the filters design review (including discussion on the esker material). The list of RFI for the known deviations/ changes is attached in Appendix D.

SAFE AND SAFETY REMARKS

Blizzard weather condition on February 20, 2020.

APPENDIX A : PHOTOS

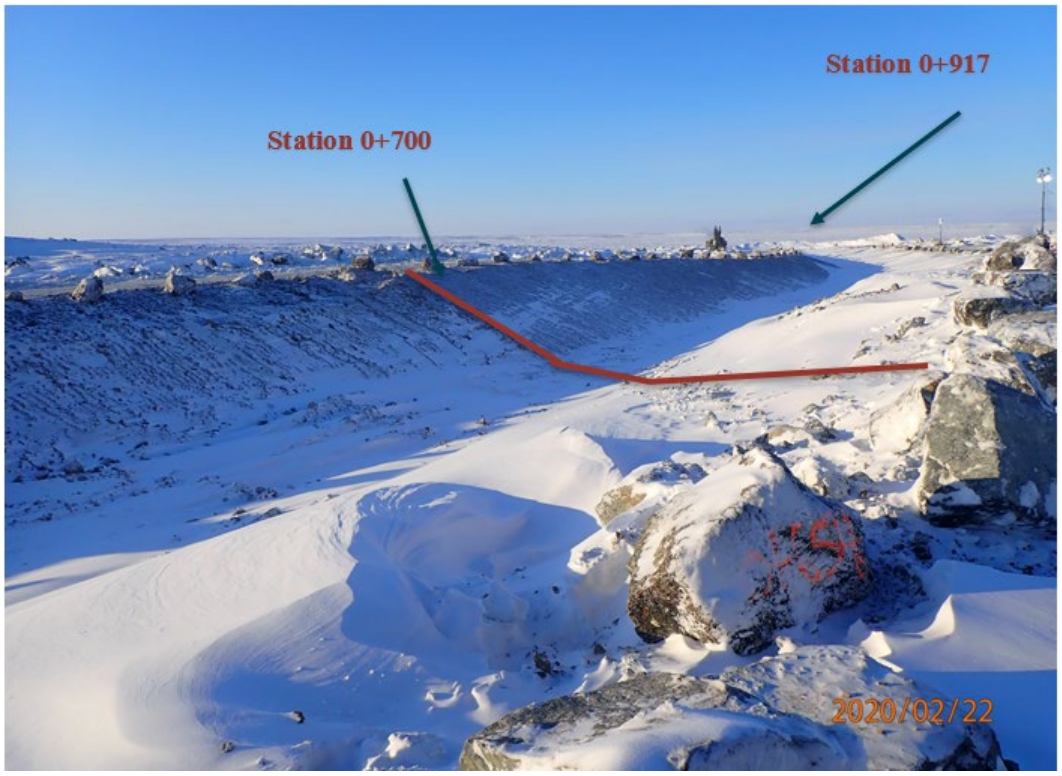


Photo 1: View of the site (photo taken looking North)

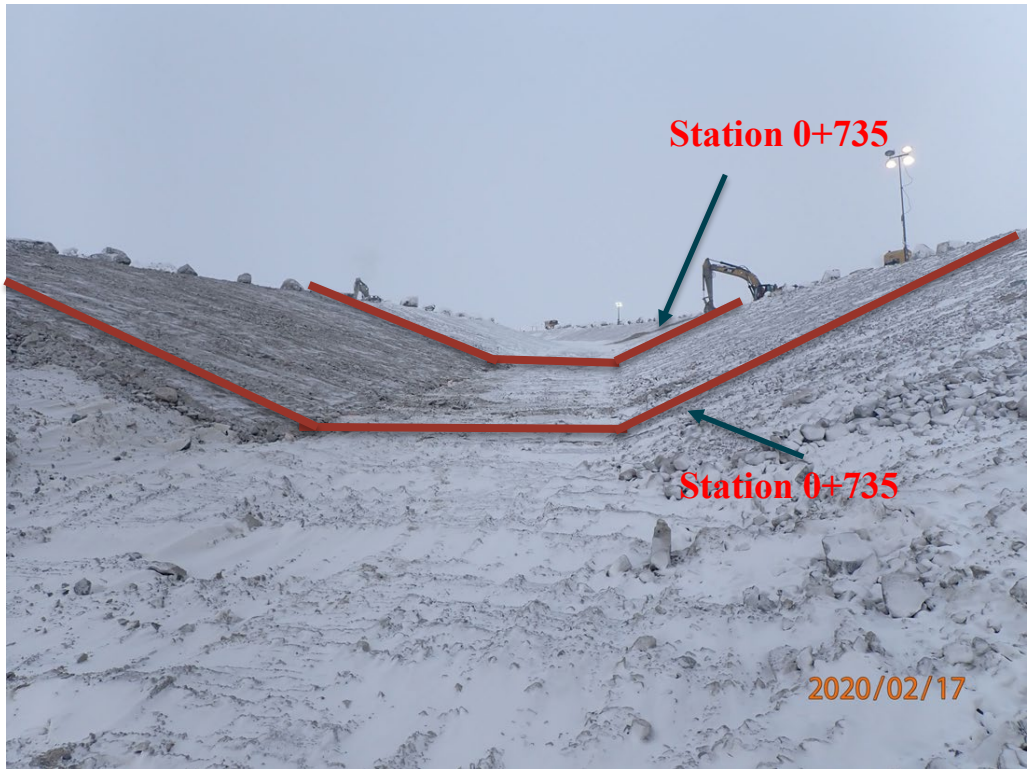


Photo 2: View of after placement of esker (photo taken looking North)



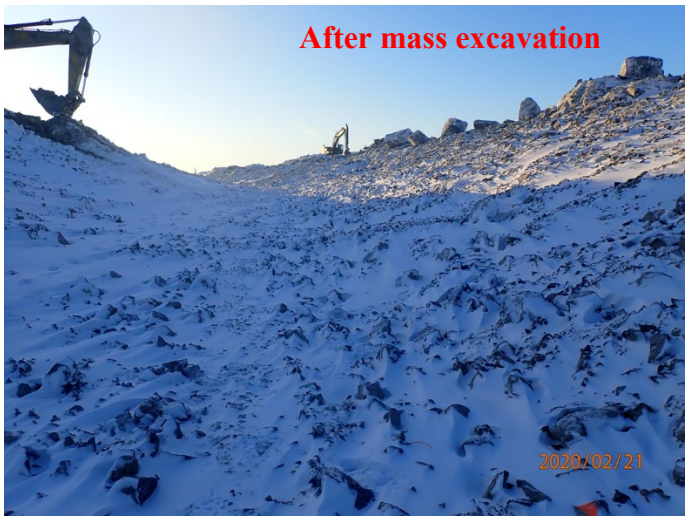


Photo 3: View of the area between station 0+640 to 0+573 (photo taken looking south)



Photo 4: View of the site (photo taken looking south)

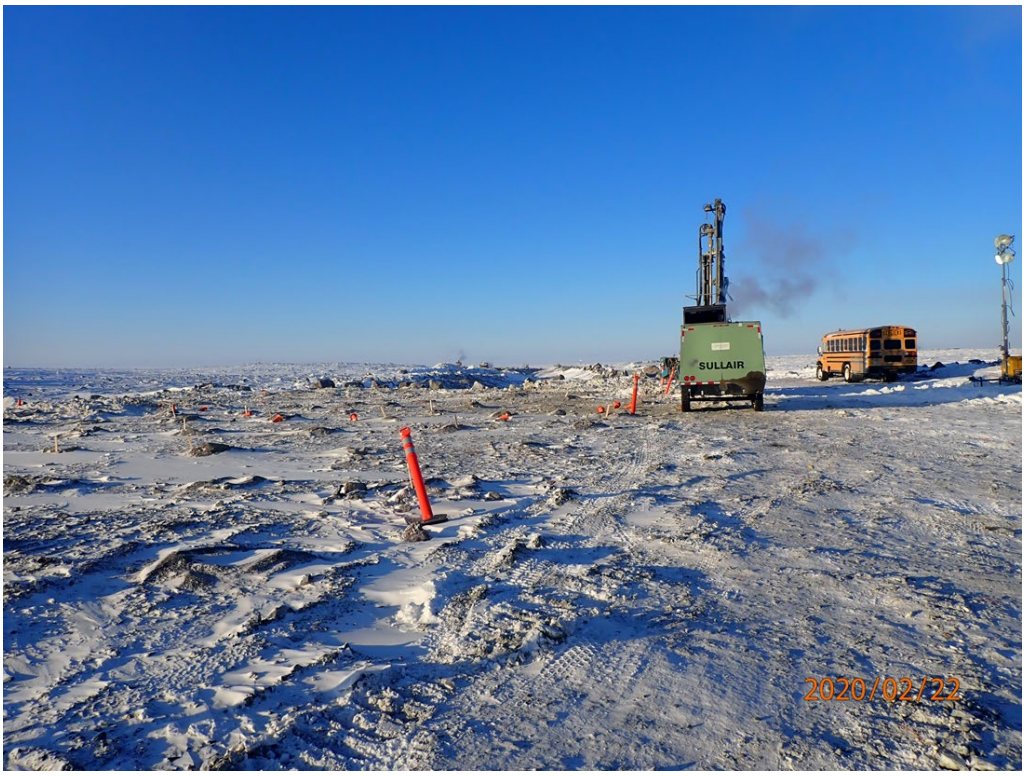
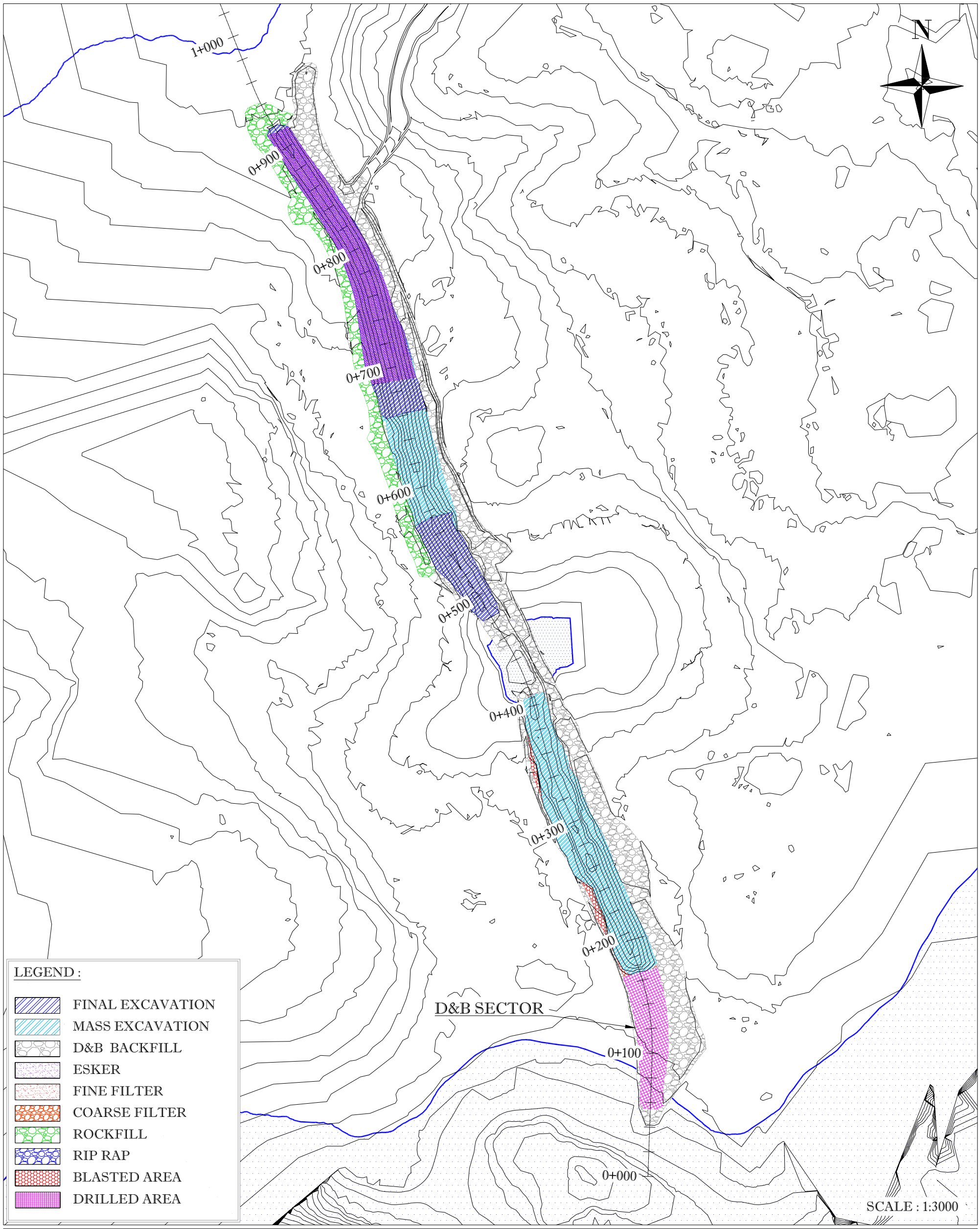


Photo 5: View of sequence 8 drill and blast area around SWT channel inlet (photo taken looking south)

APPENDIX B : Weekly progress for the construction of SWTDC

WEEKLY PROGRESS
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



VOLUMETRY DETAIL

D&B BACKFILL : 30 343 m³

EXCAVATION : 49 504m³

ESKER : 868m³

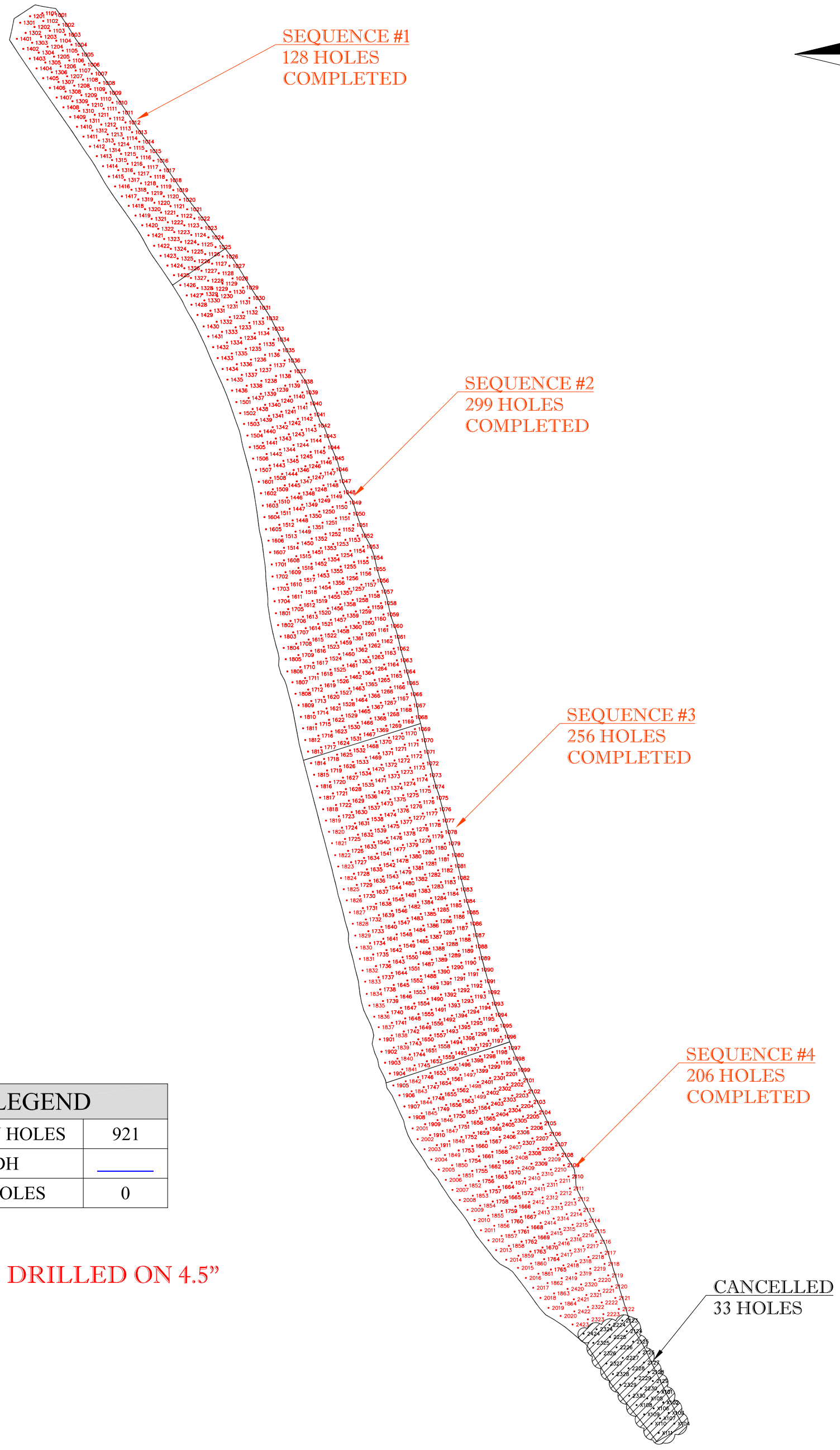
ROCKFILL ACCESS WEST SIDE : 850m³

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 21-02-2020
CON-QT-143

C:\Users\arpenteur\Dropbox (Groupe Gilbert)_arpentage meadowbank\02-E - OFFICIAL DRAWING\11-811 - AMQ DIKES\CON-QT (QUANTITY AND MONTHLY REPORT)\CON-QT-143_SWTC WEEKLY PROGRESS_21022020.dwg

DRILL & BLAST PROGRESSION
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



LEGEND	
DESIGN HOLES	921
DDH	_____
MISHOLES	0

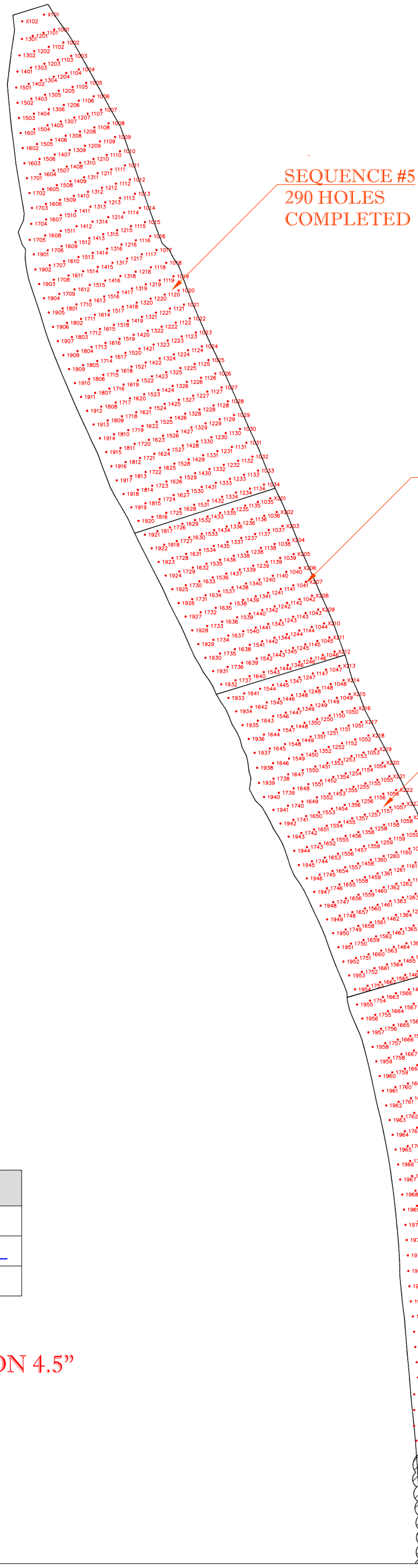
HOLES DRILLED ON 4.5”

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 20-02-2020
CON-DR-103-1

C:\Users\arpenteur\Dropbox (Groupe Gilbert)_arpentage meadowbank\02-E - OFFICIAL DRAWING\11-811 - AMQ DIKES\CON-DR (INTERNAL NON OFFICIAL DRAWING)\CON-DR-103_SWTC D&B PROGRESSION_20022020.dwg

DRILL & BLAST PROGRESSION
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



LEGEND	
DESIGN HOLES	948
DDH	_____
MISHOLES	0

HOLES DRILLED ON 4.5”

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 20-02-2020
CON-DR-103-2

C:\Users\arpenteur\Dropbox (Groupe Gilbert)_arpentage meadowbank\02-E - OFFICIAL DRAWING)\11-811 - AMQ DIKES)\CON-DR (INTERNAL NON OFFICIAL DRAWING)\CON-DR-103_SWTC D&B PROGRESSION_20022020.dwg

APPENDIX C : Gradation results

Analysis Report - Soils and Aggregates

Client: AEM

Projet: SWTC

Description of Material: Esker

Origin:

Proposed Use: Backfill in bottom excavation

Project N°: 11202247-B1

Sample N°: AMQ-ES-010

Sampling Date: 2020-02-18

Sampled by: Richard Jean Tremblay

Location of Sampling: 0+700 west slope

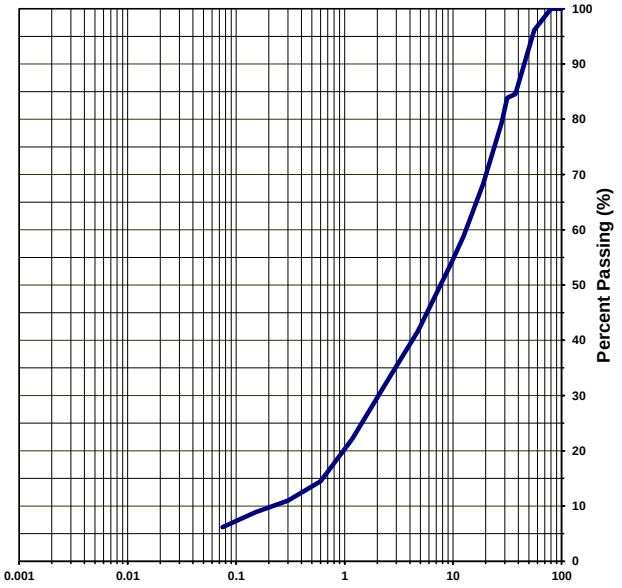
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	96	85	84	79	68	59	54	42	32	22	14	11	9	6.2
Require-ments	min.																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	7.3		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m^3)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
6	36	58

Remarks

Prepared by: Mathieu Côté et Richard Jean Tremblay

Verified by:

Date: 2020-02-19

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-ES-011
Projet:	Derivation channel	**Sampling Date:**	2020-02-18
		Sampled by:	Richard J.Tremblay
Description of Material:	soil in place		
Origin:	Esker stockpile	**Location of Sampling:**	SWTC ST.0+690
Proposed Use:	Backfill before Fine filter placement		

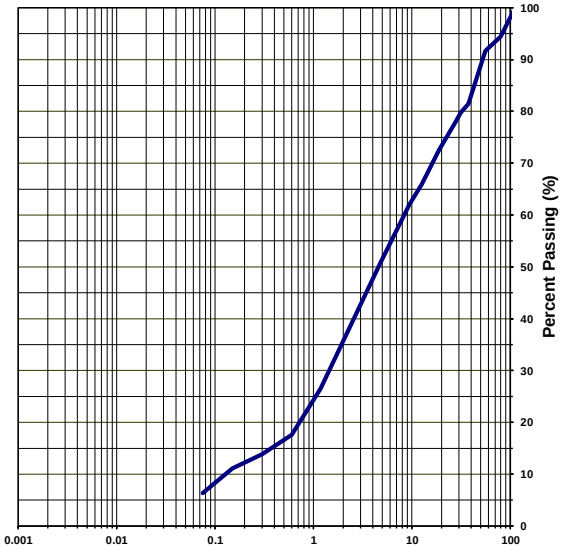
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	94	92	81	80	78	73	66	62	51	38	26	18	14	11	6.4
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	6.8		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**#REF!** **(kg/m³)**
Optimum Moisture Content	**#REF!** **(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
6	45	49

Remarks: Some fine material in separator

Prepared by: Mathieu Côté Verified by: _____ Date: 2020-02-20

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

APPENDIX D: RFI log

RFI Log

RFI #	Date Received	**Date Responded**	**Status**	**Subject**	**Location**	**Notes**
RFI-001	2019-08-13		*To be approved*	Change of outlet geometry, outlets were higher than topography	0+060, 0+390, 0+480, 0+900	Consists of having small filter tablets on topographic surface at crests to direct water flow towards Mammoth rather than have it spreaded
RFI-002	2019-08-13		*To be approved*	Change of inlet geometry. Not build buttress platforms used to get 1.3m depth i.e. disregard 1.3m min	On low topographic spots	This material was put in place to follow the 1.3m minimum but it would be rockfill i.e. draining material i.e. be useless. It would be used at the same time to facilitate constructability where road in not adjacent i..e close to A45
RFI-003	2019-08-13		*To be approved*	Having slope at 2.5:1 rather than 3:1 above max water level	TBD	Apply in section where rockfill is directly against slope as butress
RFI-004	2019-08-13		Field Fit	Modification of Road 24 alignment for construction access		Construction access to be field fitted
RFI-005	2019-08-13		Field Fit	Access to bottom of channel from both side		Will need to be field fitted with a slope to allow access within channel
RFI-006	2019-08-13		Approved	Use of 0-150 instead of 0-200 for coarse filter		Approved by changing 100-300 to 100-250
RFI-007	2019-08-13		Approved	Use of 100-300 instead of 100-250 for rip-rap		Condition for the approval of RFI-006
RFI-008	2019-09-05		Approved	Lowering the inelt of the channel by 0.5 m		New version of construction drawings and report were submitted by SNC in December 2019
RFI-009	2019-12-15		Pending	Turbidity concern on lake A45	A45	
RFI-010	2019-12-15		Rejected	Leaving the construciton road within the operational level of Lake A45 can stay there	A45	Env asked that the no road remain within the operation level of A45. Will ahve to be dismantled at the end of construction
RFI-011	2019-12-16	2020-01-17	Recommendation provided	Adding a geotextile above the corase filter to add robustnest to the design	Within Channel	See field memo: 667648-2000-60NC-0002-00_Field Work Instruction (RFI-011)_Geotextile
RFI-012	2020-01-15		Sent for approval	Proposed inlet modification (see drawings)	Inlet's	Sent to SNC for approval
RFI-0-13	2020-01-15		Sent for approval	Modified inlet to have a 'fan' shape instead of rectangular to improve water conveyance	Inlet's	Sent to SNC for approval
RFI-014	2020-01-15	2020-01-17	Approved	Proposed outlet modification to Mammoth lake (see drawing)	Outlet to Mammoth lake	The outlet to the Mammoth lake can be adjusted to the existing ground conditions. Ensure that there is no high point in the nearby topography downstream of the outlet to ensure proper flow towards the lake.
RFI-015	2020-01-15	2020-01-26	Review continue as excavation progress	Revise filter design for existing foundation soil		See field memo: 667648-2000-60NC-0001-00_Field Work Instruction (RFI-015)_Filters) for the geotextile and the filters design review
RFI-016	2020-01-15	2020-02-07	Approved	Proposed inlet modification (see drawings) and Modified inlet to have a 'fan' shape instead of rectangular to improve water conveyance	Inlet's	SNC agrees with the proposal of expending the width of the channel from 5 m to 15 m, along with a transition zone, between station 0+54 to 0+104. This is our understanding that the depth of the channel and the material placement (filters and rip rap) will remain the same in this section as per the original design. And recommends increasing the size of the rip rap between station 0+104 and 0+110. We recommend clean rip rap with particle size between 200 mm to 300 mm (instead of 100 mm to 300 mm) for this short section. As for the area around the inlet (approximately station 0+00 to 0+54), we also recommend additional erosion protection, based on field condition. We recommend installing a geotextile over the natural soil, and to place rip rap material over the geotextile.

SNC·LAVALIN

WEEKLY REPORT

20200301-WR07
Document number

2020-02-24 to 2020-03-01	667648	Hamza Abdel-Aziz (HAA)
Date	Project No.	Prepared by
South Whale Tale Diversion Channel Construction	Agnico Eagle	
Project	Client	
SNC-Lavalin	KCG	
Consultant	Contractor	

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

The main activities for the QA representative regarding the construction of the south whail tail diversion channel (SWTDC) during the week ending March 01, 2020 were:

1. Presentation of the working team ;
2. Daily construction meeting ;
3. Scope of work on site SWTDC ;
4. Fondation approval ;
5. Sampling and laboratory test ;
6. Esker placement ;
7. Ice lenses.

1. Presentation of the working team

During this week, the work team on the site consisted of :

- Owner's representative (AEM) : Pier-Eric McDonald ;
- Site supervisor (AEM) : Yannick Simard ;
- QA (SNC-Lavalin) : Hamza Abdel-Aziz ;
- QC day shift (GHD) : Stéphane Dovelus ;
- QC night shift (GHD) : Yaotree Amegnran ;
- Contractor : Goupe Gilbert-KCG.

2. Daily Construction Meeting

HAA attended all the Whale Tail Daily Construction Meetings from February 24 to March 01. During the daily construction meeting of February 28, 2020, there was a discussion about on approval form. The approval method which is accepted by the team in the field (AEM, entrepreneur, QC and QA) is as follows :

- 1st approval form – Foundation approval (trench bottom and slopes) : This approval is provided in the case we have an overcut to allow the contractor to use the backfill material (esker) to correct the trench bottom and slopes of the excavation. The esker placement will be done the same day or evening.
- 2nd approval form – Fill placement approval – Esker material (backfill material) or/and Foundation approval for filter placement : This approval will only be provided when the fine filter is ready to be installed and a final survey statement for this step is issued.
- 3rd approval form – Fill placement approval – Fine filter

- 4th approval form – Fill placement approval – Coarse filter
- 5th approval form – Fill placement approval – Rip rap (100-300 mm)

The approval forms will be provided only if the technical specifications and recommendations of the designer are met.

3. Scope of work on site SWTDC

During this week, several drilling, blasting, excavating and cleaning works have been carried out.
Here are presented the field work sequences carried out and the work in progress :

- From station 0+917 to 0+688 : No activity ;
- From station 0+688 to 0+565 : Cleaning and profiling the slopes with the backfill material (esker). Some areas require cleaning and removal the big cobbles / boulders, since the esker placed was not well graded. See photo 1.
- From station 0+565 to 0+545 : Hammering and cleaning.
- From station 0+540 to 0+340 : Ice lenses/layer observed in lake A45 area (see section 7 for more details)
- From station 0+340 to 0+166 : Hammering, excavating and cleaning in progress
- From station 0+166 to 0+054 (inlet of the channel) : Drilling and blasting have been carried out in this area, excavation and hammering in progress. Following verification by AEM, the vibration recorded by the blast monitor devices respect the limit of vibration.

Please find ***appendix B*** the work plans for the weekly progress and drill & blast progression for the construction of the south whale tail diversion channel.

4. Foundation Approval

During this week, the Owner's representative, QA, QC day shift, site supervisor, and contractor representative were on site for foundation approval. Four (4) foundation approvals from station 0+688 to 0+545 have been issued to reprofile the slopes of the channel with the esker material in the filters area following the recommendations in the field memo for RFI 015. The channel excavation from station 0+688 to 0+545 was inspected, the foundation was free of ice/snow/water and the excavation bottom was clean. See **table 1** to track approval form and **appendix C** for the four (4) foundation approvals.

Another inspection will be made when the filters are ready to be placed. The approval forms will be provided only if the technical specifications and recommendations of the designer are met. Here is some recommendations before placing the fine filter, but not limited to :

- Backfill for over-cut in the overburden soil to be made, the material that will be used for backfilling must respect the technical specification requirement and the designer recommandations (**see RFI015**) ;
- No placement of esker material should be done above the fine filter limit, to ensure the fine filter thickness of 0.3 m (after compaction) as per specifications ;
- Required verification for snow cleaning before placement ;
- Finish grades may need a final leveling and cleaning prior to fine filter placement as the finish grade/foundation material will be exposed to freezing and snow conditions.

Table 1: Tracking approval form

Date	Document #	Localisation	Approval for
26/01/2020	20200126-DS-01	From 0+917 to 0+830	Foundation approval for esker placement
29/01/2020	20200129-DS-02	From 0+830 to 0+775	Foundation approval for esker placement
03/02/2020	20200203-DS-03	From 0+775 to 0+735	Foundation approval for esker placement
16/02/2020	20200216-DS-04	From 0+735 to 0+688	Foundation approval for esker placement
26/02/2020	20200226-DS-05	From 0+688 to 0+640	Foundation approval for esker placement
28/02/2020	20200228-DS-06	From 0+640 to 0+600	Foundation approval for esker placement
28/02/2020	20200228-DS-07	From 0+600 to 0+565	Foundation approval for esker placement
29/02/2020	20200229-DS-08	From 0+565 to 0+545	Foundation approval for esker placement

Note : Highlighted yellow for the approvals from completed during this week

5. Sampling and laboratory test

During this week, samples of esker material placed in the station from 0+688 to 0+565 were taken to make sure the material respect the technical specification requirement. Summary of esker material samples took during this week, see ***table 2*** for esker samples and for the gradation results in progress and will be presented in next weekly report.

Table 2: Summary table of esker samples

Sample ID	Fines-Sand-Gravel	Moisture Content	Station	Location of sampling	Date of sampling	Sample by	Date of testing	Test by	Placement area	Uc	Cc	Comment
AMQ-ES-001	1 - 39 - 60	1.4%	-	Stock pile 1	17/01/2020	MC	17/01/2020	MC	[0+917 - 0+830]	16	0.6	Poorly Graded
AMQ-ES-002	4 - 37 - 59	1.1%	-	Stock pile 1	17/01/2020	MC	18/01/2020	MC	[0+917 - 0+830]	8	0.3	Poorly Graded
AMQ-ES-003	-	-	-	Stock pile 2	31/01/2020	SD	Lost sample	-	[0+830 - 0+775]			
AMQ-ES-003.1	40 - 60 - 0	12.5%	-	Stock pile 2	02/02/2020	SD	04/02/2020	YA	[0+830 - 0+775]			
AMQ-ES-004	7 - 25 - 68	5.3%	0+820	Slope west of channel	01/02/2020	YA	02/02/2020	YA	[0+830 - 0+775]	100	1.8	Well Graded
AMQ-ES-005	21 - 50 - 29	6.7%	0+820	Slope east of channel	01/02/2020	SD	02/02/2020	YA	[0+830 - 0+775]			
AMQ-ES-006	27 - 48 - 25	11.8%	0+800	Slope east of channel	04/02/2020	SD	04/02/2020	YA	[0+830 - 0+775]			
AMQ-ES-007	8 - 56 - 36	15.8%	0+780	Slope west of channel	04/02/2020	SD	05/02/2020	SD	[0+830 - 0+775]	50	0.2	Poorly Graded
AMQ-ES-008	2 - 25 - 73	11.0%	0+860	Slope east of channel	04/02/2020	SD	05/02/2020	YA	[0+917 - 0+830]	30	1.2	Well Graded
AMQ-ES-009	3 - 29 - 68	3.4%	0+760	Slope west of channel	11/02/2020	MC	13/02/2020	MC	[0+775 - 0+735]	20	0.8	Poorly Graded
AMQ-ES-010	6 - 36 - 58	7.3%	0+700	Slope west of channel	18/02/2020	RT	19/02/2020	RT	[0+735 - 0+688]	52	1.2	Well Graded
AMQ-ES-011	6 - 45 - 49	6.8%	0+690	Not Specified	18/02/2020	RT	20/02/2020	MC	[0+735 - 0+688]	56	1.7	Well Graded
AMQ-ES-012			0+670	Slope east of channel	29/02/2020	SD	In progress	YA	[0+688 - 0+640]			
AMQ-ES-013			0+620	Slope west of channel	29/02/2020	SD	In progress	YA	[0+640 - 0+600]			
AMQ-ES-014			0+580	Slope east of channel	01/03/2020	SD	In progress	YA	[0+600 - 0+565]			

Note : Highlighted yellow for the sampling during this week

We also took samples of the foundation soil in place for to confirm that the moisture content is less than 20% as specified in the technical specification. Summary of foundation soil in place samples took during this week are presented ***table 3*** for foundation soil samples.

Table 3: Summary results of foundation soil

Sample ID	Fines-Sand-Gravel	Moisture Content	Station	Location of sampling	Date of sampling	Sample by	Date of testing	Test by
AMQ-IP-001	13 - 28 - 59	-	-	Bottom of excavation	15/01/2020	MC	16/01/2020	MC
AMQ-IP-002	27 - 34 - 39	-	0+700	Bottom of excavation	19/01/20120	MC	20/01/2020	MC
AMQ-IP-003	35 - 45 - 20	-	0+800	Bottom of excavation	20/01/2020	MC	21/01/2020	MC
AMQ-IP-004	13 - 29 - 58	-	0+900	Bottom of excavation	25/01/2020	MC	27/01/2020	MC
AMQ-IP-005	14 - 30 - 56	-	0+750	Bottom of excavation	03/02/2020	YA	05/02/2020	YA
AMQ-IP-006	17 - 26 - 58	16.4%	0+765	Bottom of excavation	04/02/2020	SD	06/02/2020	YA
AMQ-IP-007	20 - 33 - 47	10.0%	0+500	Bottom of excavation	07/02/2020	SD	07/02/2020	YA
AMQ-IP-008	22 - 30 - 48	21.8%	0+270	Bottom of excavation	09/02/2020	SD	12/02/2020	MC
AMQ-IP-008-1	NA	11.5%	0+270	Bottom of excavation	13/02/2020	MC	14/02/2020	MC
AMQ-IP-008-2	NA	8.1%		Bottom of excavation	13/02/2020	MC	14/02/2020	MC
AMQ-IP-008-3	NA	13.6%		Bottom of excavation	13/02/2020	MC	14/02/2020	MC
AMQ-IP-009	17 - 25 - 59	15.4%	0+660	Bottom of excavation	25/02/2020	SD	26/02/2020	YA
AMQ-IP-010	31 - 29 - 40	18.5%	0+600	Bottom of excavation	27/02/2020	SD	28/02/2020	YA
AMQ-IP-011			0+530	Top of eastern slope	01/03/2020	SD	In progress	YA
AMQ-IP-012			0+530	Bottom of eastern slope	01/03/2020	SD	In progress	YA
AMQ-IP-013			0+520	Bottom of western slope	01/03/2020	SD	In progress	YA

Note : Highlighted yellow for the sampling during this week

The tests results for AMQ-IP-009 and AMQ-IP-010 presented in **table 3** indicated that the moisture content are less than 20%, as recommend in the specifications. See ***appendix D*** for the gradation results and moisture contents. For the others samples, the gradation results in progress and will be presented in next weekly report.

6. Esker placement

During this week, QA, QC day shift, site supervisor, and contractor representative visited esker's stockpile. The indications on the use of the esker have been mentioned as recommended by the designer. Following the esker placed during this week, from station 0+688 to 0+565 :

- Some areas requires cleaning and removal the big cobbles / boulders, since the Esker placed was not well graded (see photo 1).
- Some areas does not meet one point of the specification requirement (RFI 015) *«leaving a 10 cm limit before placing the fine filter as per specifications»*. Due to limitation of fine filter material, the esker material will be placed to the limit of the fine filter, ensuring a minimun thickness of the fine filter layer of 0.3m, as per the design. The reviewed field memo for RFI-015 (version 01) will be issued to reflect this change.

AEM would like to have the designer's input before making these corrections.

7. Ice lenses

Following a site visit on February 29, 2020 , ice lenses were observed on top western slope at station 0 + 520, another investigation was made March 01, 2020 from station 0 + 545 to 0 + 500. We also observed the ice lenses on top eastern slope at station 0 + 520, see photo 2 for approximative dimention of ice lences. Theses ice lenses observed in this area can probably be explained because the lake A45 was originally at El. 156.5 m (see **figure 1**).



Figure 1: lake A45

An investigation was also made at the bottom of the slope, no lenses were observed. We also took a samples with the excavator bucket (see photos 3 and 4) at the top and bottom of the slope to see if the soil is frozen and contains a moister content higher than 20%. AEM requests that we inform the designer about the transition zone which contains ice at the top of the slope between the lake A45 and the channel in order to propose solutions.

RFI

AEM requests the designer's input on the esker already placed and also asking a derogation for the phrase « *leaving a 10 cm limit before placing the fine filter as per specifications* » specified in RFI 015. The reviewed field memo for RFI-015 (version 01) will be issued to reflect this change.
AEM requests the designer's proposals about the transition zone which contains ice at the top of the slope between the lake A45 and the channel. The list of RFI for the known deviations/changes is attached in **Appendix E**.

SAFE AND SAFETY REMARKS

You need a handkerchief with you, because after the field visit with the extreme cold, you sometimes have to blow your nose.

APPENDIX A : PHOTOS



Photo 1: Esker placement from station 0+600 to 0+565



Photo 2: Ice lenses on top western slope at station 0+520 (photo taken looking West)



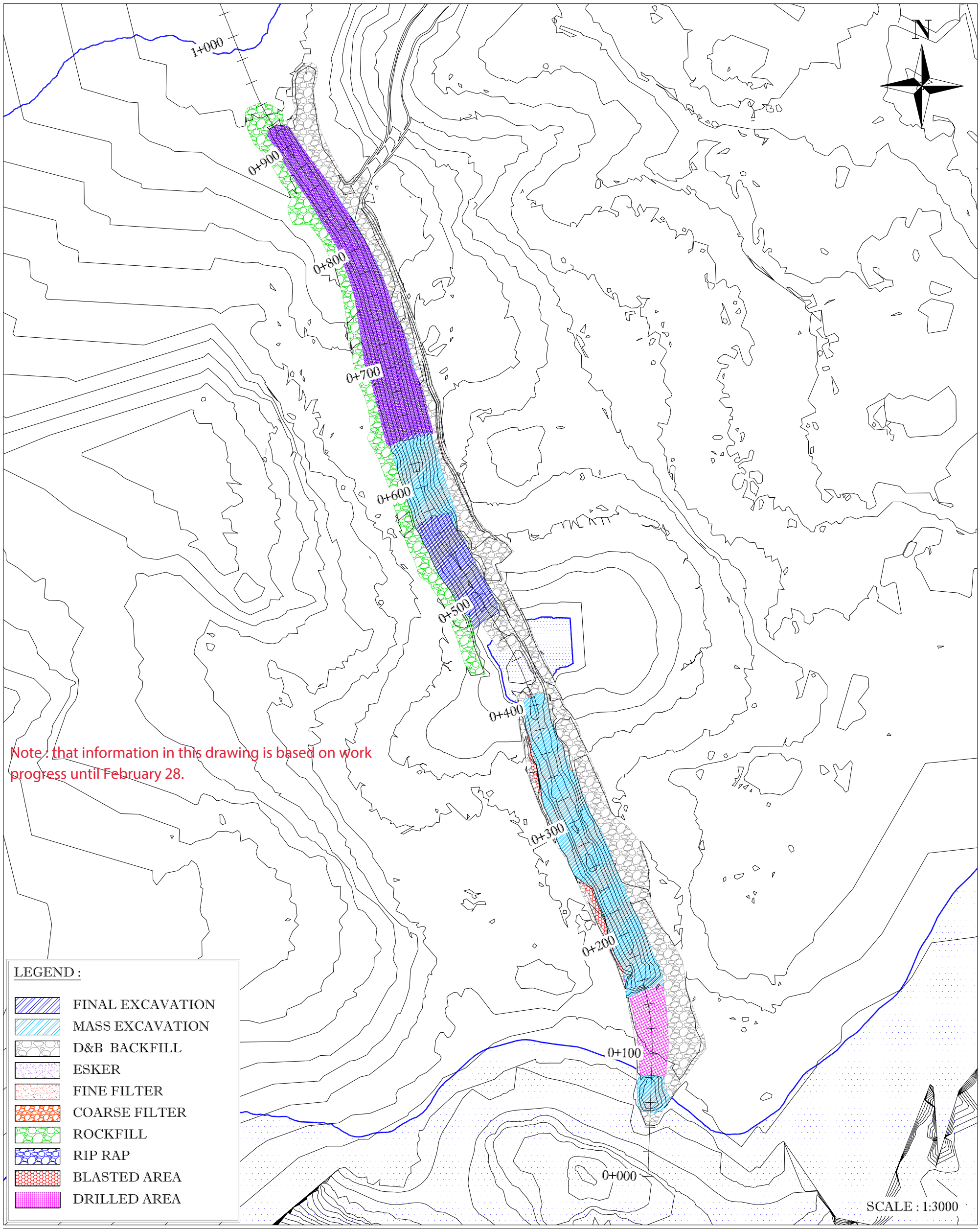
Photo 3: Sampling foundation soil on top and bottom eastern slope at station 0+530 (photo taken looking East)



Photo 4: Sampling foundation soil on bottom western slope at station 0+520 (photo taken looking West)

APPENDIX B : Weekly progress for the construction of SWTDC

WEEKLY PROGRESS
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



VOLUMETRY DETAIL

D&B BACKFILL : 30 343 m³

EXCAVATION : 51 922m³

ESKER : 1 348m³

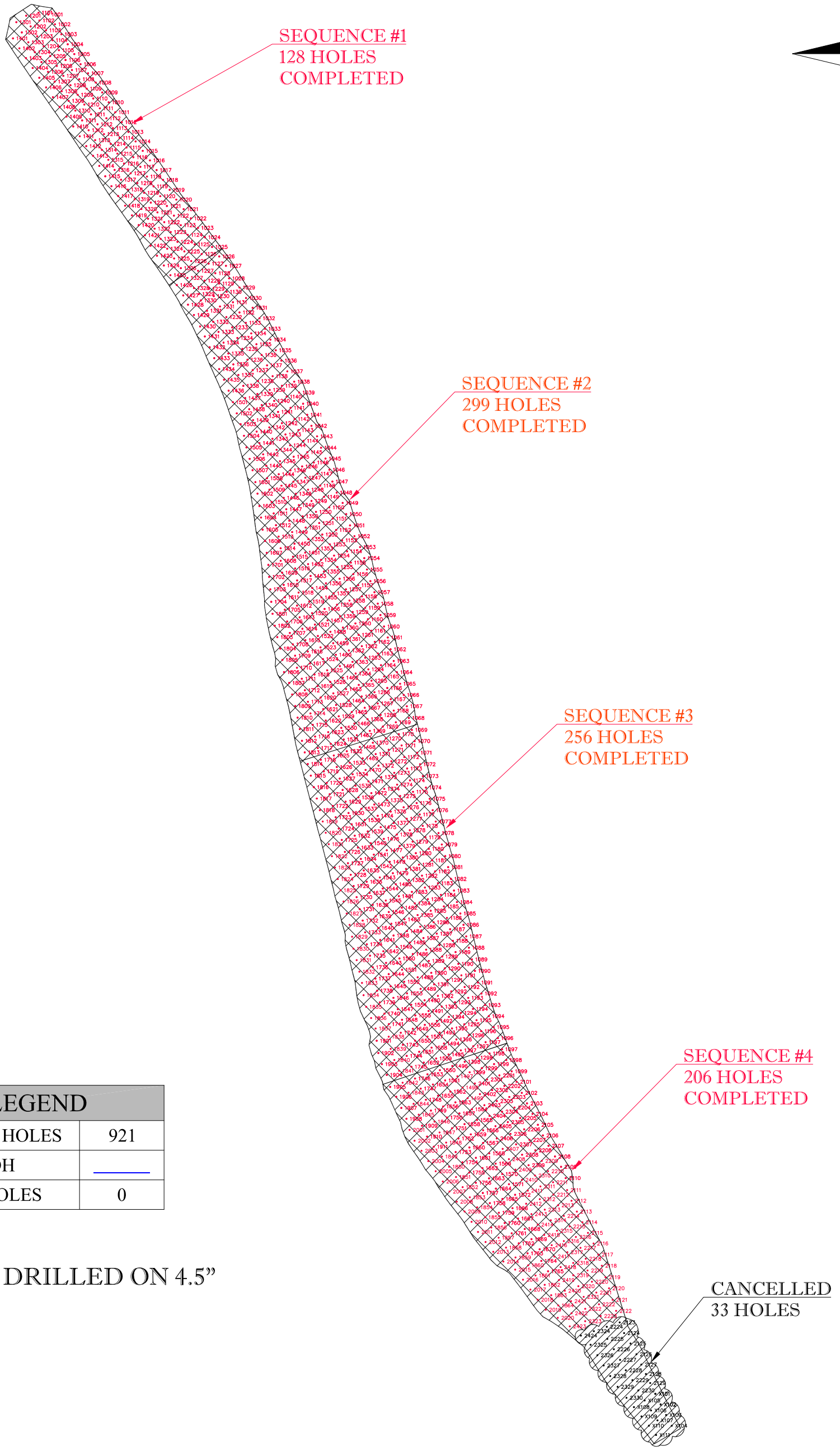
ROCKFILL ACCESS WEST SIDE : 1 916m³

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : FRANCIS PAULIN
DATE : 28-02-2020
CON-QT-145

C:\Users\arpenteur\Dropbox (Groupe Gilbert)_arpentage meadowbank\02-E - OFFICIAL DRAWING\11-811 - AMQ DIKES\CON-QT (QUANTITY AND MONTHLY REPORT)\CON-QT-145_SWTC WEEKLY PROGRESS_28022020.dwg

DRILL & BLAST PROGRESSION
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



LEGEND	
DESIGN HOLES	921
DDH	_____
MISHOLES	0

HOLES DRILLED ON 4.5”

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 28-02-2020
CON-DR-104-1

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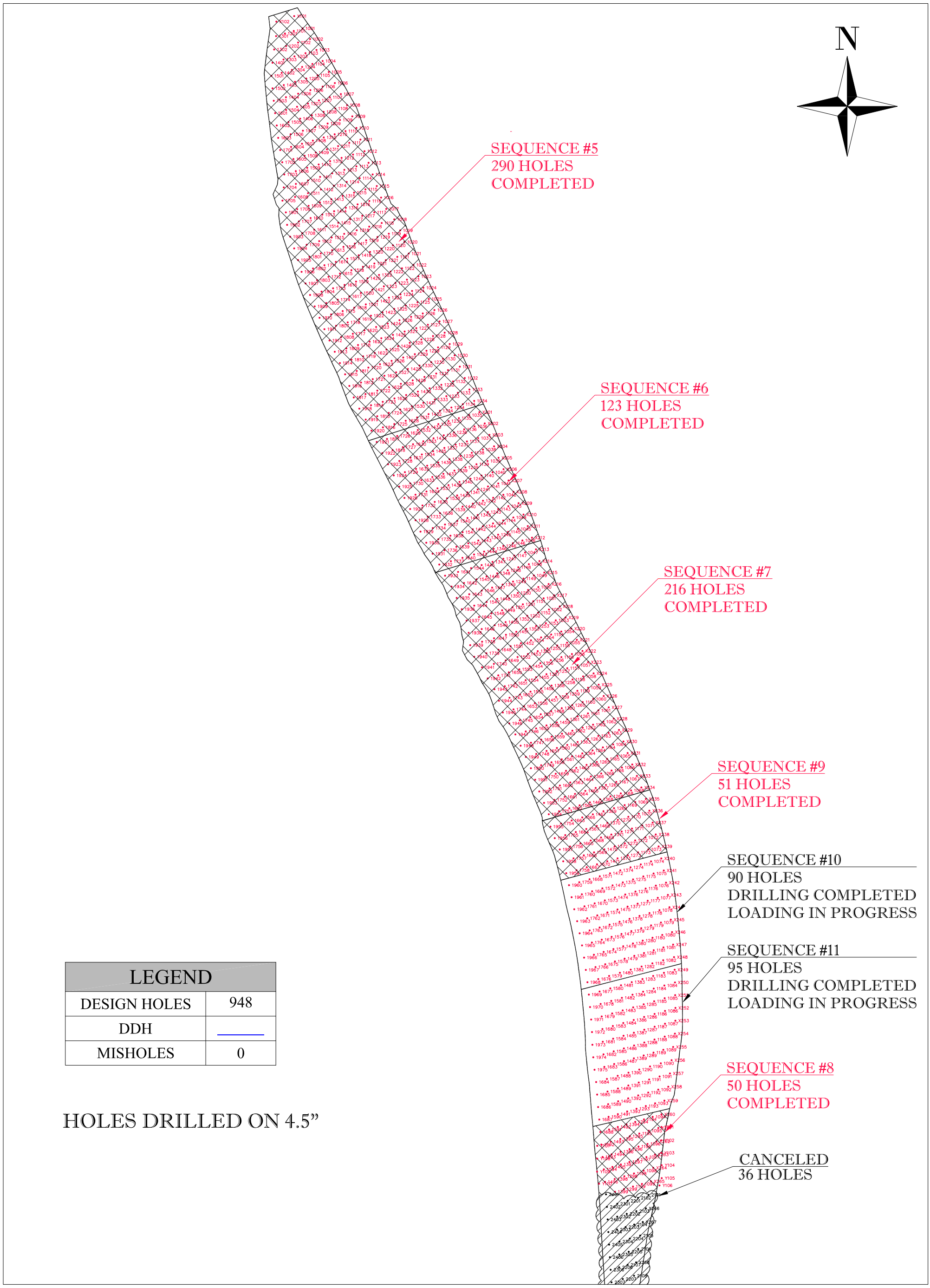
DRILL & BLAST PROGRESSION
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



LEGEND	
DESIGN HOLES	948
DDH	
MISHOLES	0

HOLES DRILLED ON 4.5”

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 28-02-2020
CON-DR-104-2

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APPENDIX C : Approval form

SNC·LAVALIN

Sustaining capital
Mining & Metallurgy
1140 Maisonneuve boul. West
Montreal (Québec)
Canada H3A 1M8

Telephone: (514) 393-8000
Fax: (514) 390-2765
www.snclavalin.com

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DATE: 2020-02-26

DOCUMENT #: 20200226-DS-05
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

TIME: 10:15 AM
(24 hour clock)

APPROVAL FOR :

- [x] Foundation approval (trench bottom and slopes)
- [ ] Fill placement approval: _____
- [ ] Other: _____

LOCATION	**PREVIOUS APPROVALS**
Station 0+688 to 0+640	**Station:** 0+317 to 0+688
Inclination:	**Details:**
ELEVATION: ☐ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

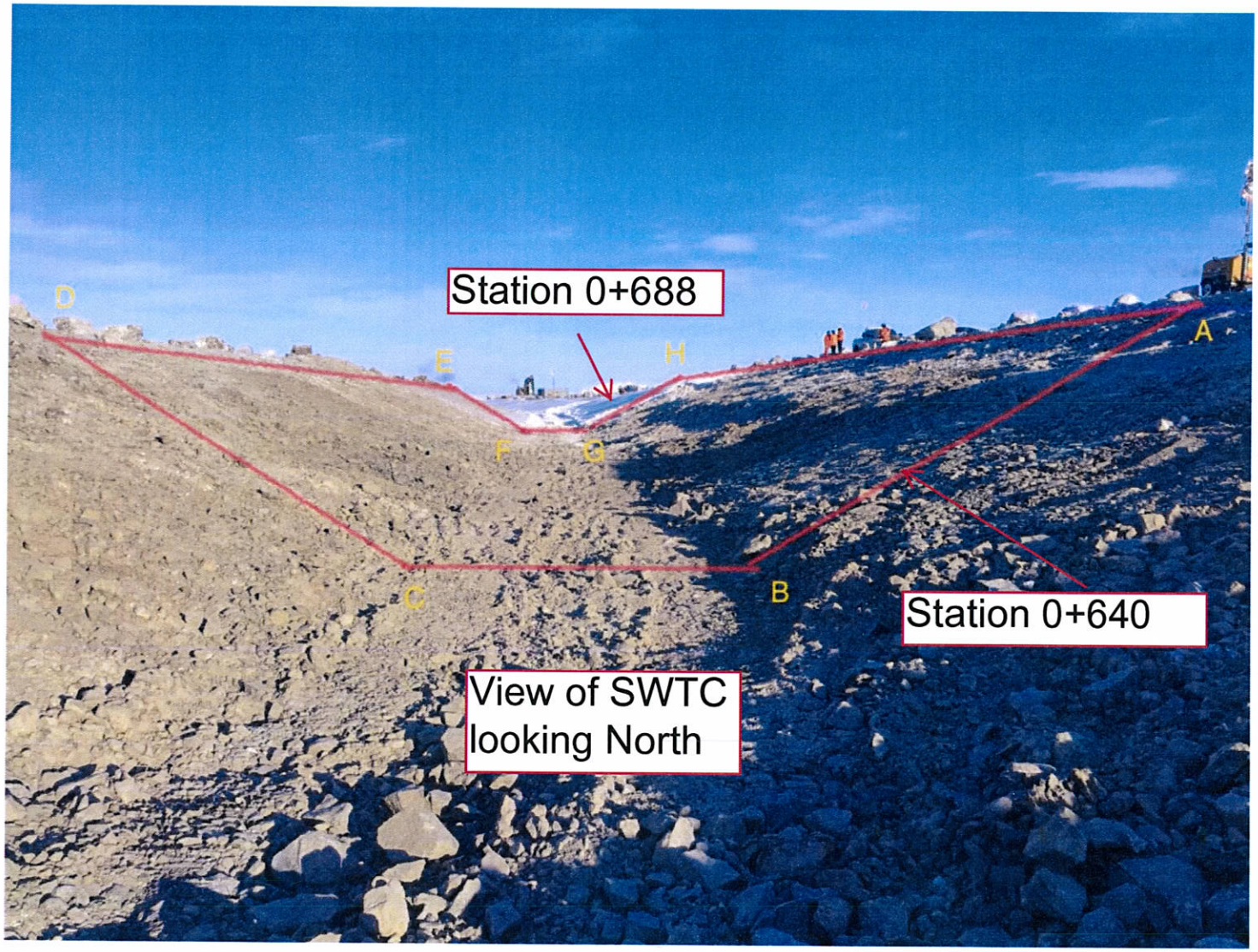
	VERIFICATIONS DONE BY:				
	QA		**QC**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					—
5. Placement (lift thickness, segregation, etc.)					—
6. Compaction					—
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
2	Require verification for snow removal before placement if any accumulation of snow, by snowfall or by wind				
7	~~Back~~ Require backfill for overcut area and the compaction of the backfill material to be checked before filter placement.				
ALL	Finish grades may need a final leveling and cleaning prior to fine filter placement as the finish grade/foundation material will be exposed to freezing and snow weather conditions				

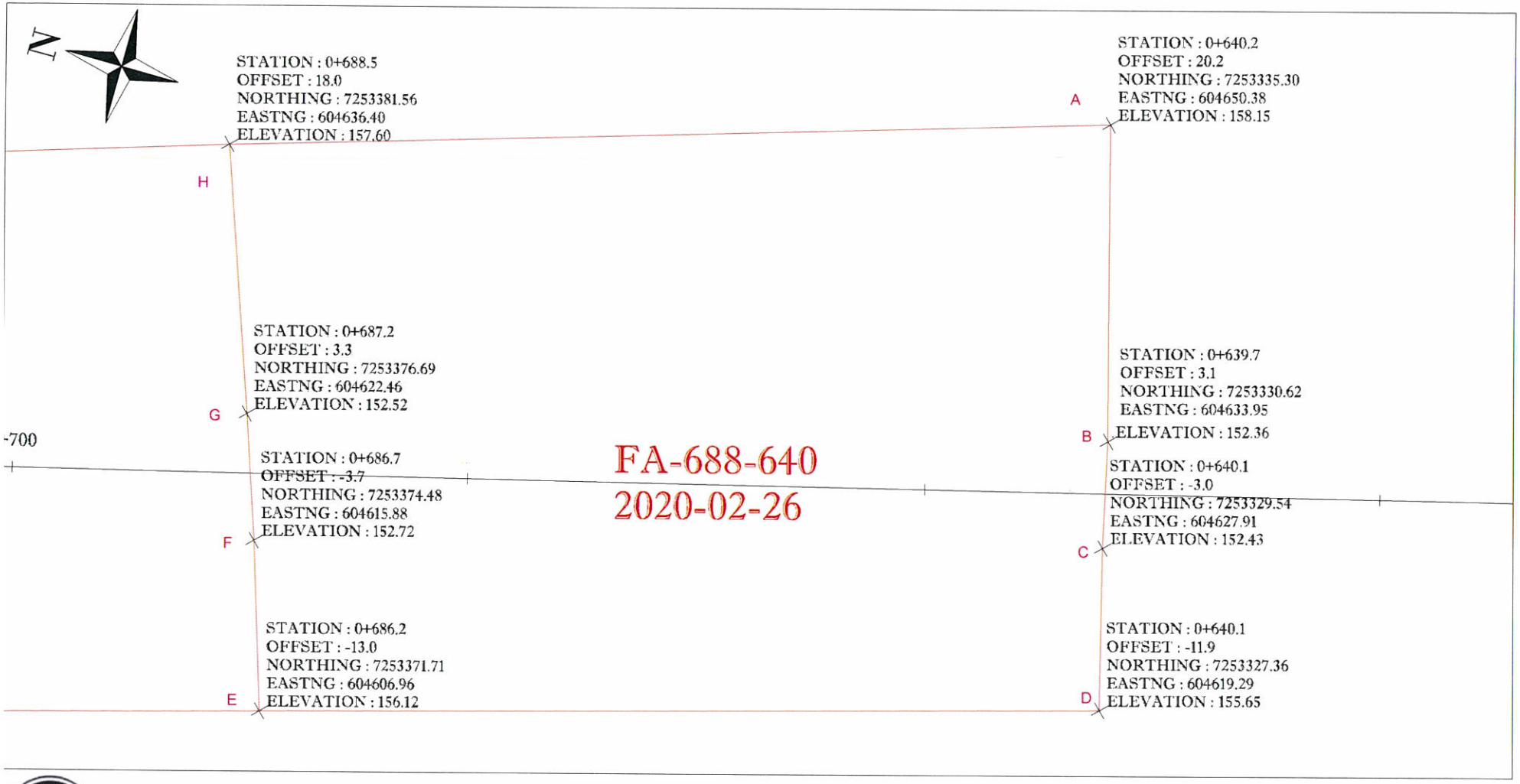
APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	STÉPHANIE DORVÉLUS		26/02/2020
QA REPRESENTATIVE	HAMZA ABDEL-AZIZ		2020/02/26
OWNER'S REPRESENTATIVE	Pier-Eric McDonald		2020/02/26
CONTRACTOR'S REPRESENTATIVE	Jonathan Truchon		2020/02/26



Note: refer the sketch below for the coordinates of A, B, C, D, E, F, G, H

Picture 1 – Approximate approved foundation area

FOUNDATION APPROVAL - 0+688 @ 0+640
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : FRANCIS PAULIN
DATE : 26-02-2020
CON-FD-241

SNC·LAVALIN

Sustaining capital
Mining & Metallurgy
1140 Maisonneuve boul. West
Montreal (Québec)
Canada H3A 1M8

Telephone: (514) 393-8000
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www.snclavalin.com

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DOCUMENT #: 20200928-DS-06
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 2020-09-28

TIME: 05:00 PM
(24 hour clock)

APPROVAL FOR :

- ☑ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☐ Other: _____

LOCATION

Station 0+640 to 0+600

Inclination:

ELEVATION: ☐ varies _____ m

PREVIOUS APPROVALS

Station: 0+917 to 0+640

Details:

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					—
5. Placement (lift thickness, segregation, etc.)					—
6. Compaction					—
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

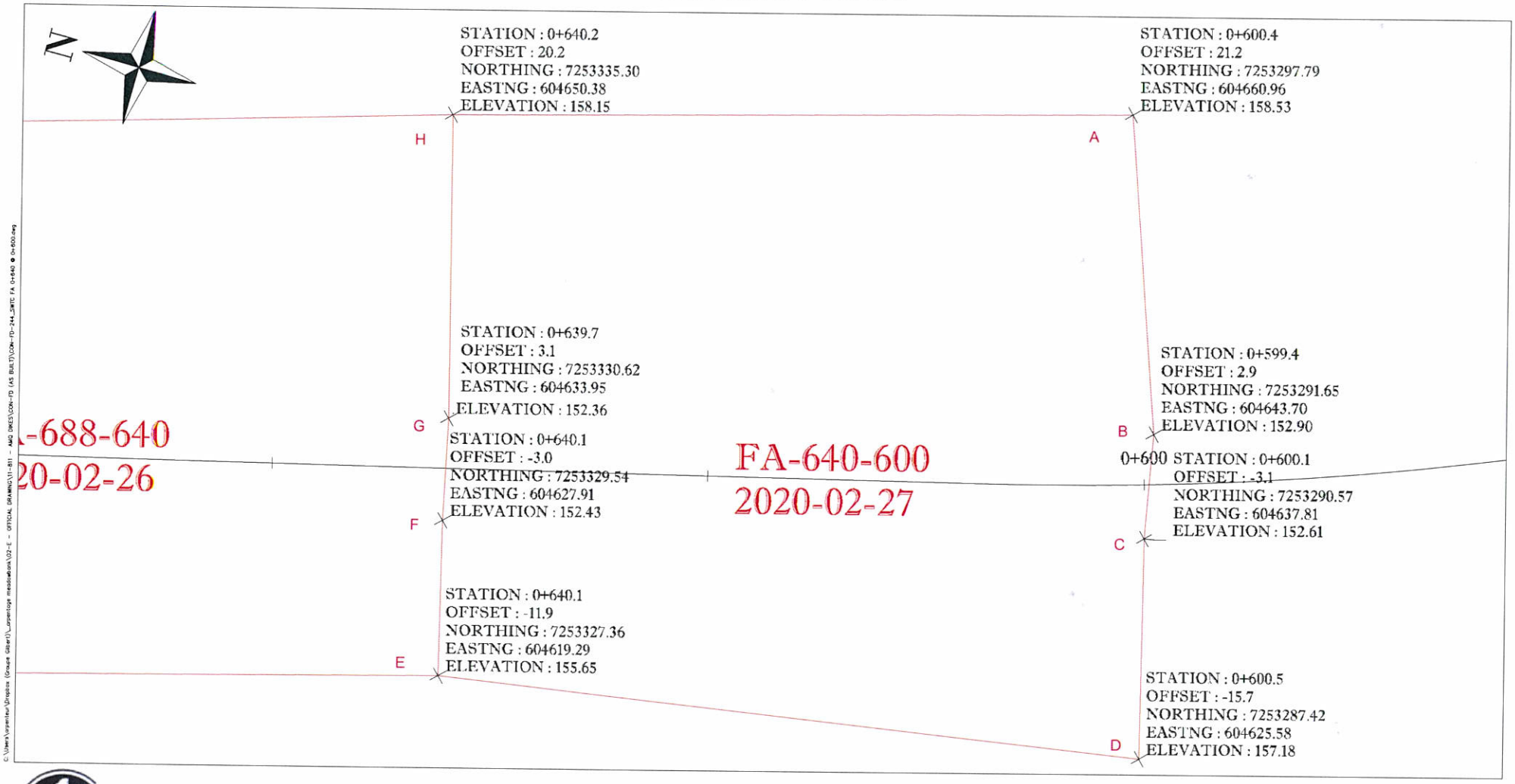
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
2	Require verification for snow removal before placement if any accumulation of snow, by snow fall or by wind				
7	Require backfill for overcut area and the composition of the backfill material to be checked before filter placement				
ALL	Finish grades may need a final leveling and cleaning prior to geo filter placement as the finish grade/foundation material will be exposed to freezing and snow weather conditions.				

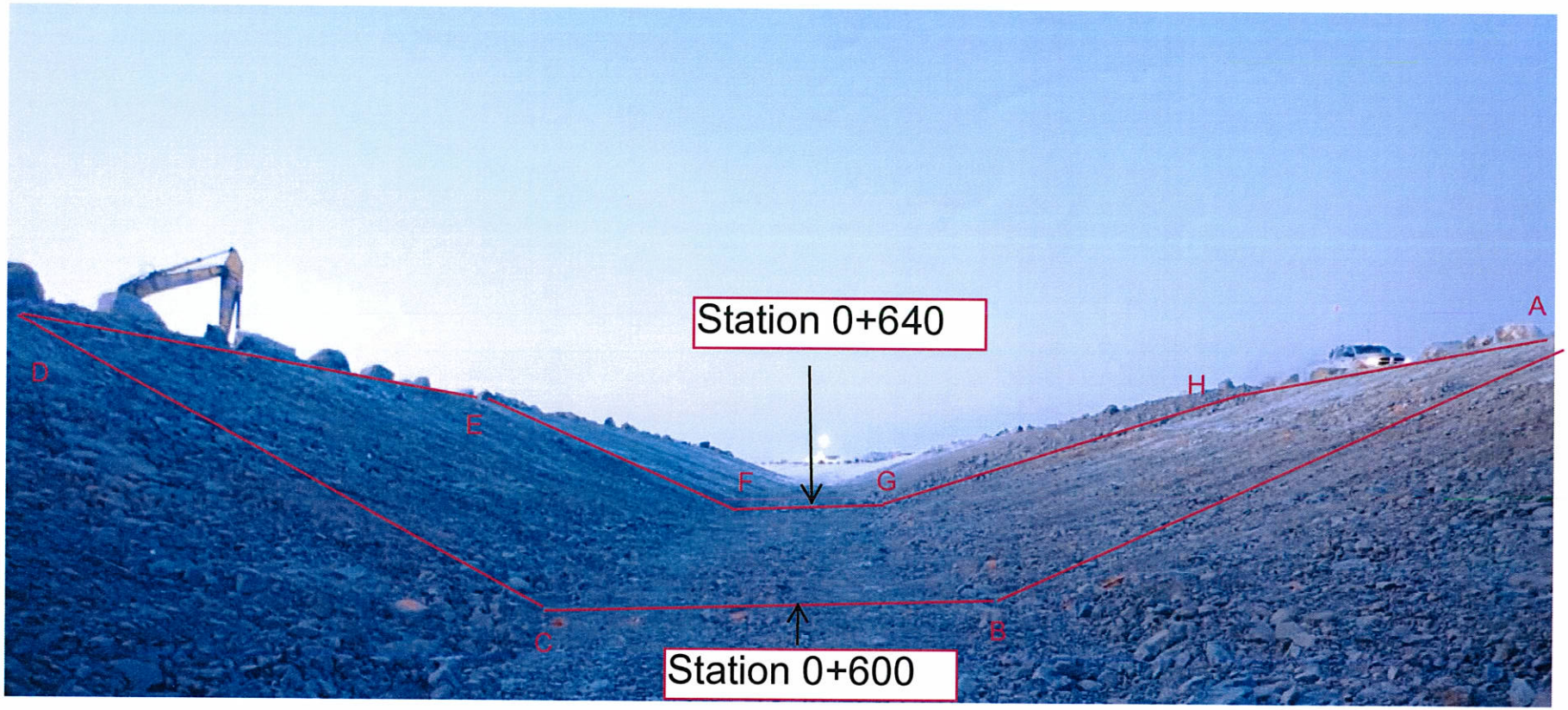
APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	STEPHANE DORVÉLUS		28/02/2020
QA REPRESENTATIVE			
OWNER'S REPRESENTATIVE	Yannick Simard		28-02-2020.
CONTRACTOR'S REPRESENTATIVE	Nicolas Tremblay		28-02-2020
AEM ENG	Pier-Eric McDonald		29-02-2020

FOUNDATION APPROVAL - 0+640 @ 0+600
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : FRANCIS PAULIN
DATE : 28-02-2020
CON-FD-244



Note: refer the sketch below for the coordinates of A, B, C, D, E, F, G, H

Picture 1 – Approximate approved foundation area

SNC·LAVALIN

Sustaining capital
Mining & Metallurgy
1140 Maisonneuve boul. West
Montreal (Québec)
Canada H3A 1M8

Telephone: (514) 393-8000
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www.snclavalin.com

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DOCUMENT #: 20200928-DS-07
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 2020-09-28

TIME: 05:00 PM
(24 hour clock)

APPROVAL FOR :

- ☑ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☐ Other: _____

LOCATION

Station 0+600 to 0+565

Inclination:

ELEVATION: ☐ varies _____ m

PREVIOUS APPROVALS

Station: 0+917 to 0+600

Details: as

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					—
5. Placement (lift thickness, segregation, etc.)					—
6. Compaction					—
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

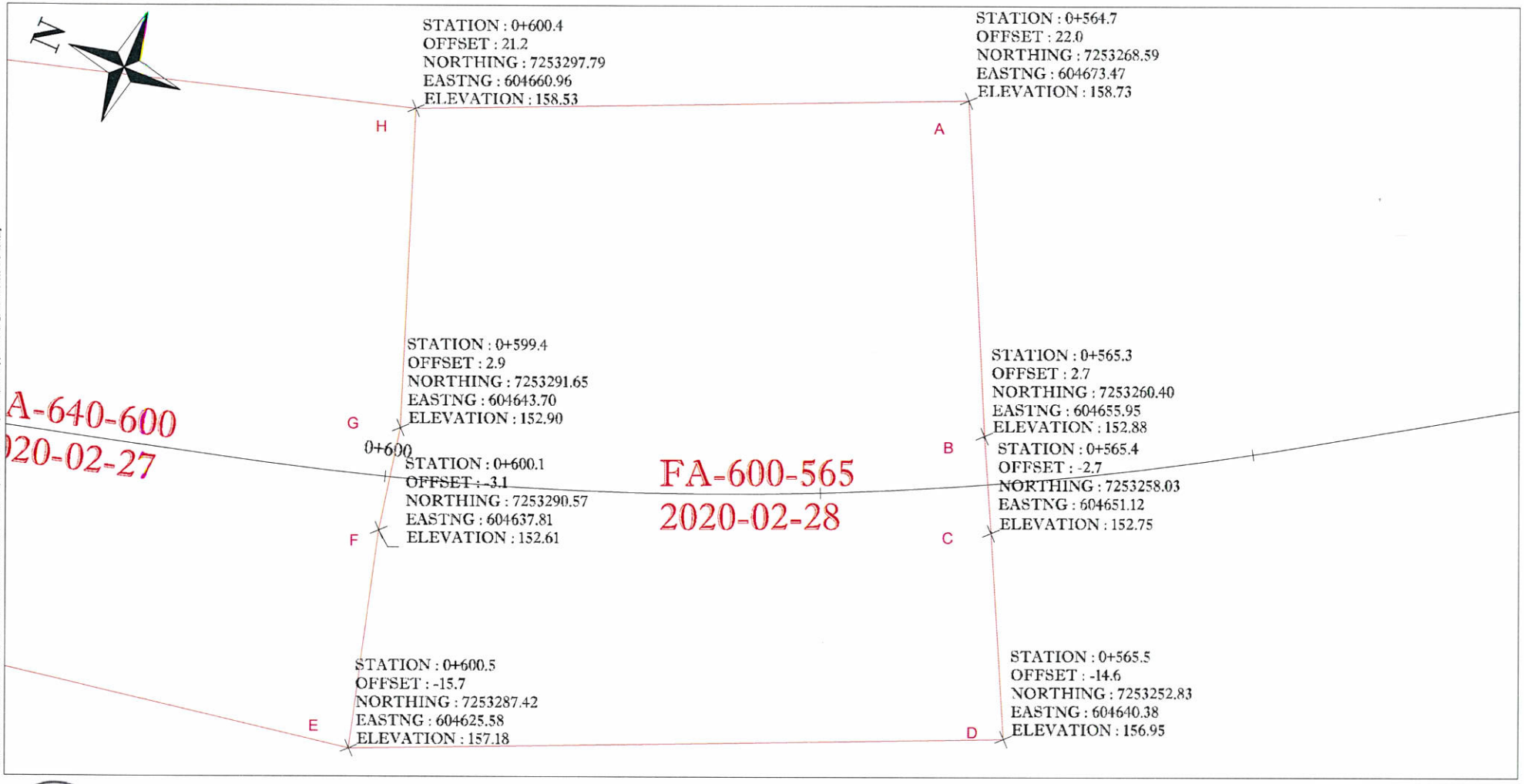
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
2	Require verification for snow removal before placement if any accumulation of snow, by snow fall or by wind				
7	Require backfill for overcut area and the composition of the backfill material to be cheked before filter placement				
ALL	Finish grades may need a final leveling and cleaning prior to fine filter placement as the finish grade / foundation material will be exposed to freezing and snow weather conditions				

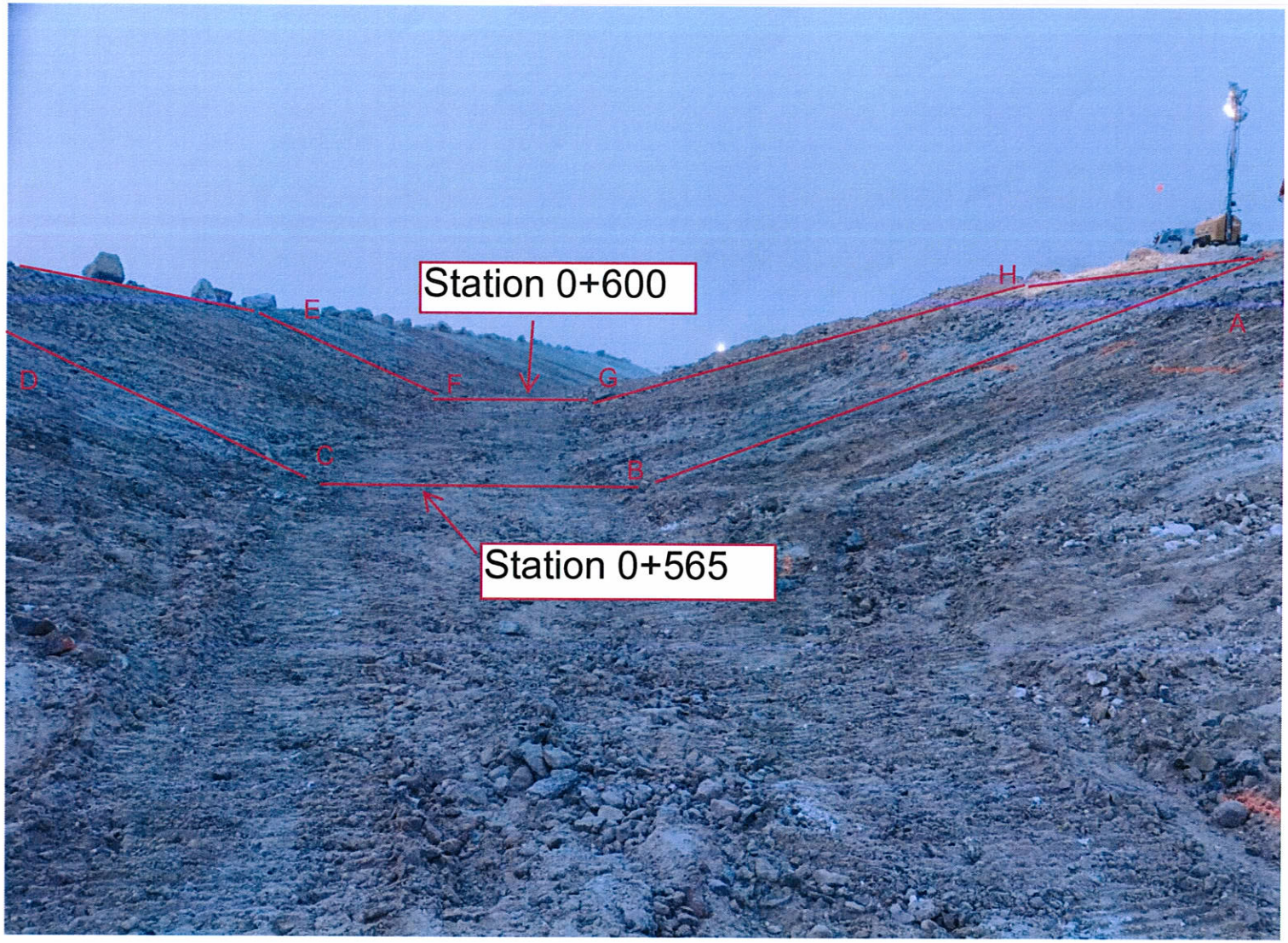
APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	STEPHANIE DORVÉLUS		28/02/2020
QA REPRESENTATIVE			
OWNER'S REPRESENTATIVE	Yannick Simard		28-02-2020.
CONTRACTOR'S REPRESENTATIVE	Nicolas Tremblay		28-02-2020
AEM ENG	Pier-Eric McDonald		29-02-2020

FOUNDATION APPROVAL - 0+600 @ 0+565
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : FRANCIS PAULIN
DATE : 28-02-2020
CON-FD-246



Note: refer the sketch below for the coordinates of A, B, C, D, E, F, G, H

Picture 1 – Approximate approved foundation area

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DOCUMENT #: 20200229-DS-08
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 2020-02-29

TIME: _____
(24 hour clock)

APPROVAL FOR :

☑ Foundation approval (trench bottom and slopes)

☐ Fill placement approval: _____

☐ Other: _____

LOCATION

Station 0+565 to 0+545

Inclination: _____

ELEVATION: ☐ varies _____ m

PREVIOUS APPROVALS

Station: 0+917 to 0+565

Details: _____

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:
(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					—
5. Placement (lift thickness, segregation, etc.)					—
6. Compaction					—
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

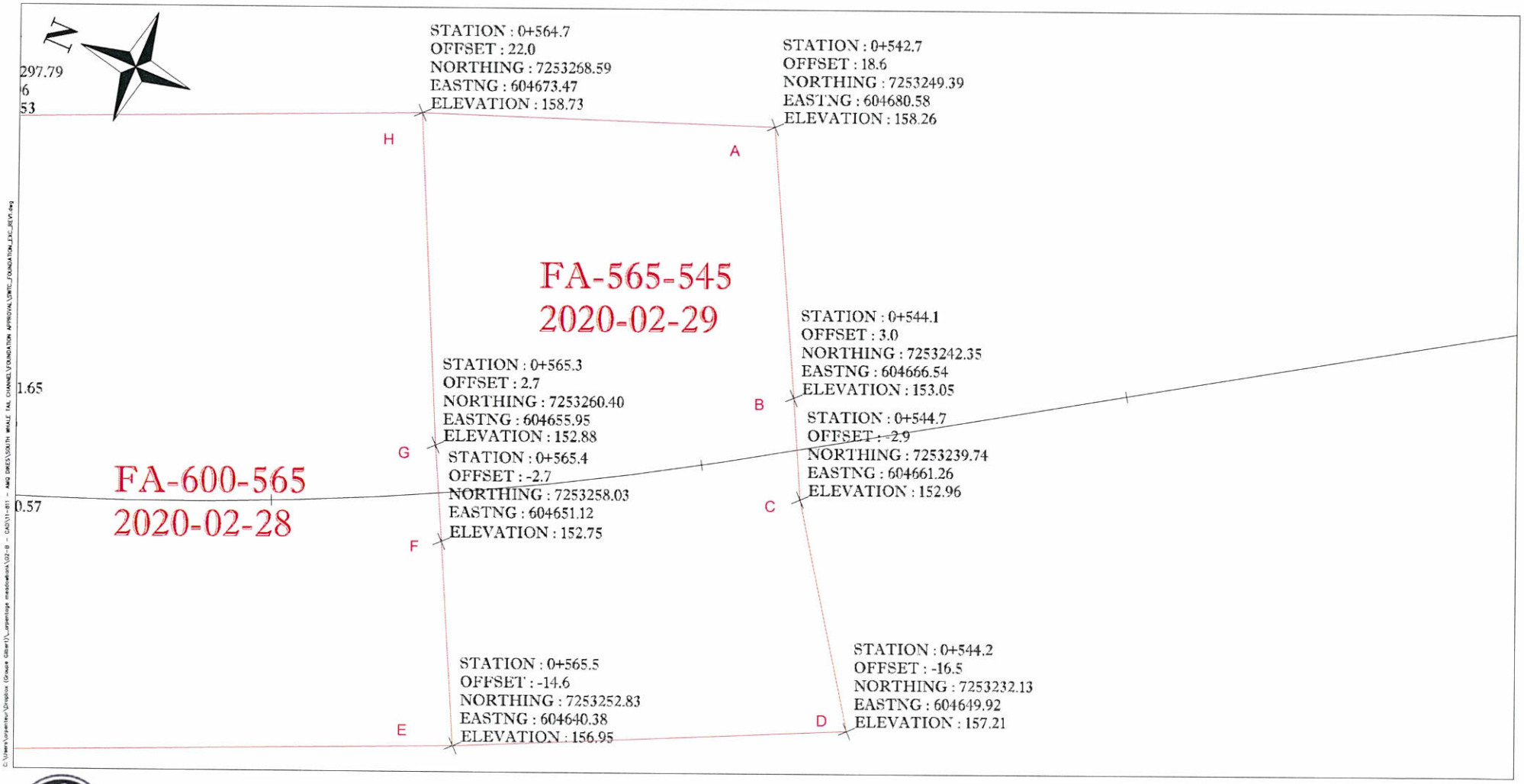
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
2	Require verification for snow removal before placement if any accumulation of snow by snow fall or by wind.				
7	Require backfill for overcut area and the composition of the backfill material to be checked before filter placement				
All	Finish grades may need a final leveling and cleaning prior to fine filter placement as the finish grade foundation material will be exposed to freezing and snow weather conditions.				

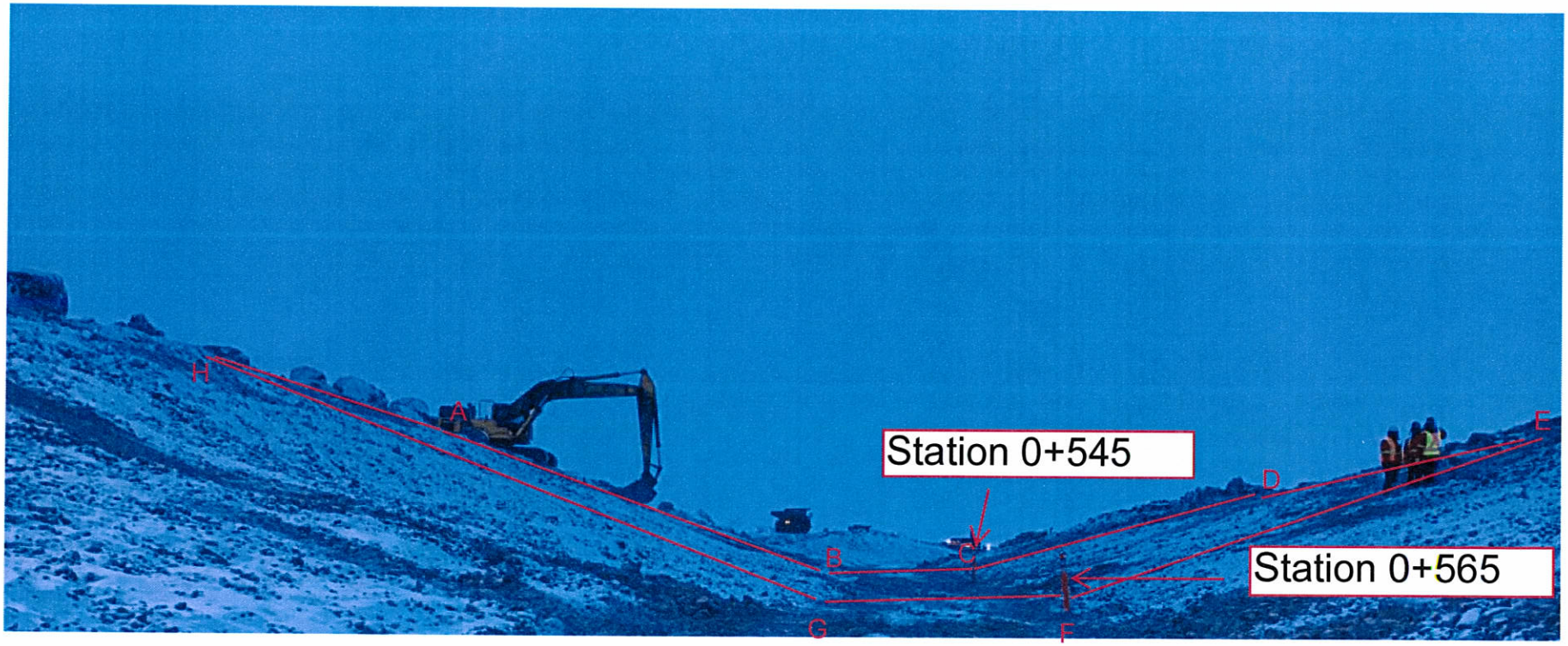
APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	STEPHANE DORVÉLUS		2020-02-29
QA REPRESENTATIVE	HAMZA ABDEL-AZIZ		2020-02-29
OWNER'S REPRESENTATIVE	YANICK SIMARD		2020-02-29
CONTRACTOR'S REPRESENTATIVE	[redacted] Nicolas Tremblay		2020-02-29
	Pier-Eric McDonald		2020-02-29

FOUNDATION APPROVAL - 0+565 @ 0+545
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

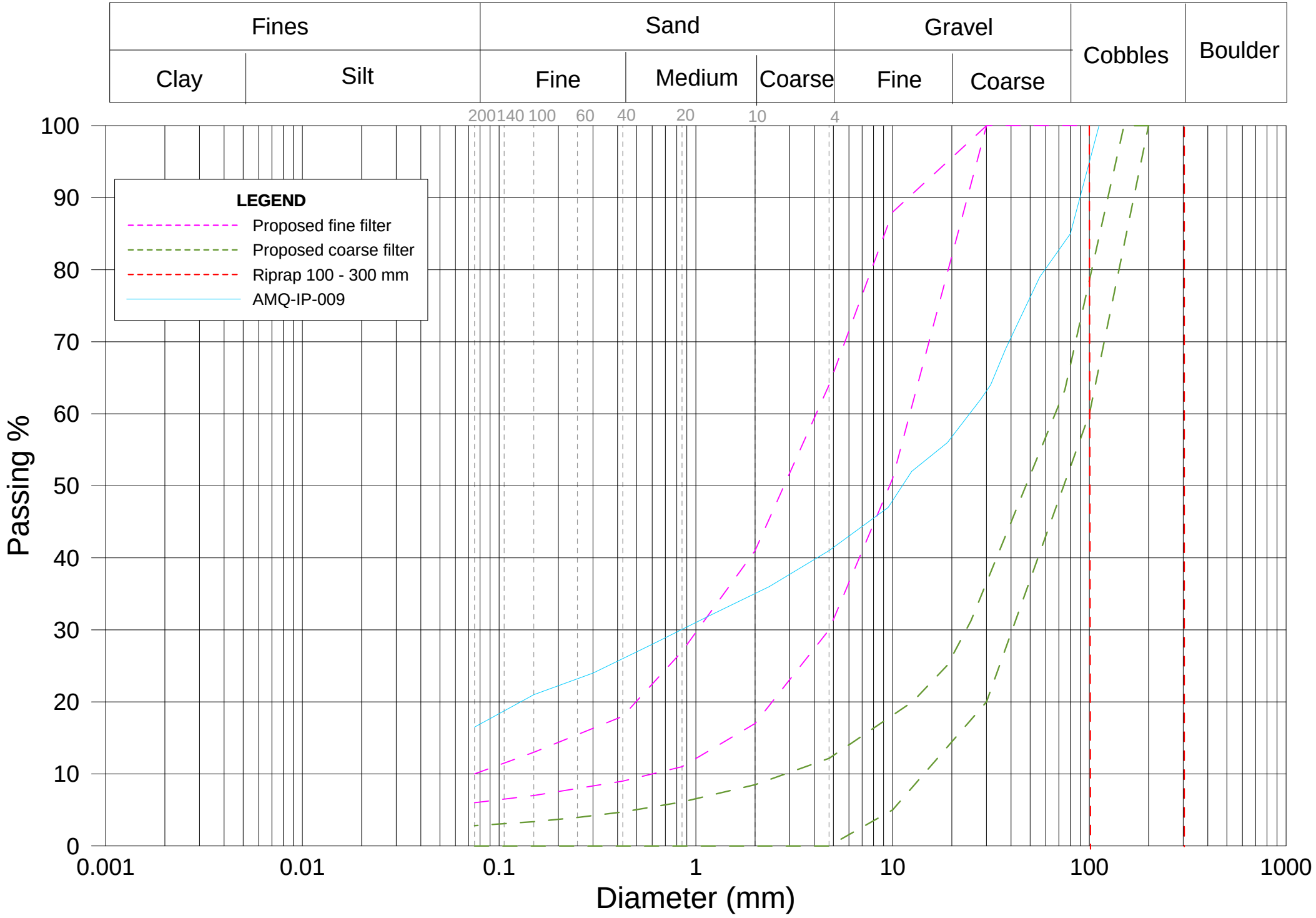
PREPARED BY : FRANCIS PAULIN
DATE : 01-03-2020
CON-FD-249

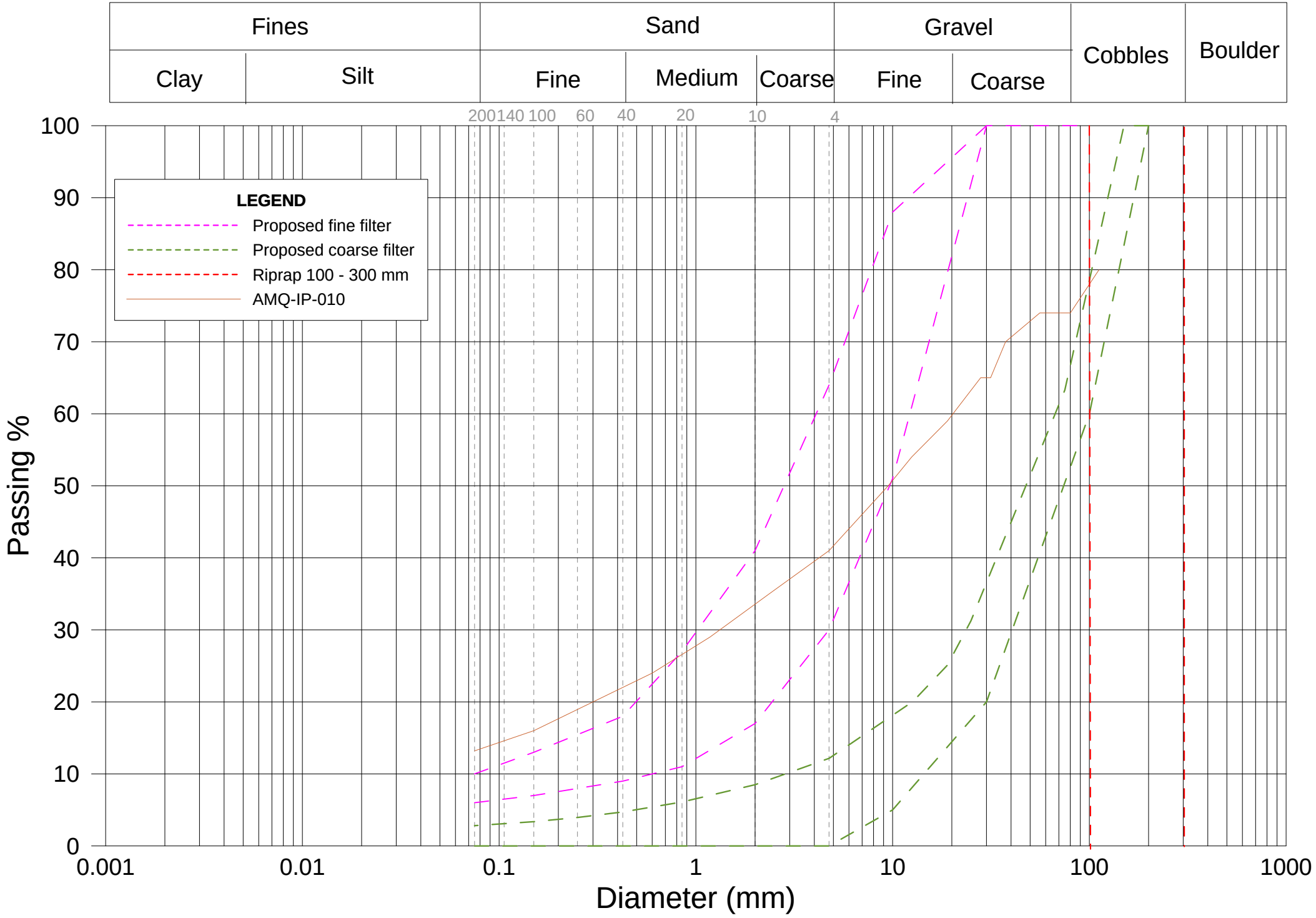


Note: refer the sketch below for the coordinates of A, B, C, D, E, F, G, H

Picture 1 – Approximate approved foundation area

APPENDIX D : Gradation results


Fines
Clay
Silt
Sand
Fine
Medium
Coarse
Gravel
Fine
Coarse
Cobbles
Boulder
200 140 100 60 40 20 10 4
LEGEND
Proposed fine filter
Proposed coarse filter
Riprap 100 - 300 mm
AMQ-IP-009
Passing %
100
90
80
70
60
50
40
30
20
10
0
0.001
0.01
0.1
1
10
100
1000
Diameter (mm)


Fines
Clay
Silt
Sand
Fine
Medium
Coarse
Gravel
Fine
Coarse
Cobbles
Boulder
200 140 100 60 40 20 10 4
LEGEND
Proposed fine filter
Proposed coarse filter
Riprap 100 - 300 mm
AMQ-IP-010
Passing %
100
90
80
70
60
50
40
30
20
10
0
0.001
0.01
0.1
1
10
100
1000
Diameter (mm)

APPENDIX E : RFI log

RFI Log

RFI #	Date Received	Date Responded	Status	Subject	Location	Notes
RFI-001	2019-08-13		*To be approved*	Change of outlet geometry, outlets were higher than topography	0+060, 0+390, 0+480, 0+900	Consists of having small filter tablets on topographic surface at crests to direct water flow towards Mammoth rather than have it spreaded
RFI-002	2019-08-13		*To be approved*	Change of inlet geometry. Not build buttress platforms used to get 1.3m depth i.e. disregard 1.3m min	On low topographic spots	This material was put in place to follow the 1.3m minimum but it would be rockfill i.e. draining material i.e. be useless. It would be used at the same time to facilitate constructability where road in not adjacent i..e close to A45
RFI-003	2019-08-13		*To be approved*	Having slope at 2.5:1 rather than 3:1 above max water level	TBD	Apply in section where rockfill is directly against slope as butress
RFI-004	2019-08-13		Field Fit	Modification of Road 24 alignment for construction access		Construction access to be field fitted
RFI-005	2019-08-13		Field Fit	Access to bottom of channel from both side		Will need to be field fitted with a slope to allow access within channel
RFI-006	2019-08-13		Approved	Use of 0-150 instead of 0-200 for coarse filter		Approved by changing 100-300 to 100-250
RFI-007	2019-08-13		Approved	Use of 100-300 instead of 100-250 for rip-rap		Condition for the approval of RFI-006
RFI-008	2019-09-05		Approved	Lowering the inelt of the channel by 0.5 m		New version of construction drawings and report were submitted by SNC in December 2019
RFI-009	2019-12-15		Pending	Turbidity concern on lake A45	A45	
RFI-010	2019-12-15		Rejected	Leaving the construciton road within the operational level of Lake A45 can stay there	A45	Env asked that the no road remain within the operation level of A45. Will ahve to be dismantled at the end of construction
RFI-011	2019-12-16	2020-01-17	Recommendation provided	Adding a geotextile above the corase filter to add robustnest to the design	Within Channel	See field memo: 667648-2000-60NC-0002-PB_Field Work Instruction (RFI-011)_Geotextile
RFI-012	2020-01-15		Sent for approval	Proposed inlet modification (see drawings)	Inlet's	Sent to SNC for approval
RFI-0-13	2020-01-15		Sent for approval	Modified inlet to have a 'fan' shape instead of rectangular to improve water conveyance	Inlet's	Sent to SNC for approval
RFI-014	2020-01-15	2020-01-17	Approved	Proposed outlet modification to Mammoth lake (see drawing)	Outlet to Mammoth lake	The outlet to the Mammoth lake can be adjusted to the existing ground conditions. Ensure that there is no high point in the nearby topography downstream of the outlet to ensure proper flow towards the lake.
RFI-015	2020-01-15	2020-01-26	Review continue as excavation progress	Revise filter design for existing foundation soil		See field memo: 667648-2000-60NC-0001-PB_Field Work Instruction (RFI-015)_Filters) for the geotextile and the filters design review
RFI-016	2020-01-15	2020-02-07	Approved	Proposed inlet modification (see drawings) and Modified inlet to have a 'fan' shape instead of rectangular to improve water conveyance	Inlet's	SNC agrees with the proposal of expending the width of the channel from 5 m to 15 m, along with a transition zone, between station 0+54 to 0+104. This is our understanding that the depth of the channel and the material placement (filters and rip rap) will remain the same in this section as per the original design. And recommends increasing the size of the rip rap between station 0+104 and 0+110. We recommend clean rip rap with particle size between 200 mm to 300 mm (instead of 100 mm to 300 mm) for this short section. As for the area around the inlet (approximately station 0+00 to 0+54), we also recommend additional erosion protection, based on field condition. We recommend installing a geotextile over the natural soil, and to place rip rap material over the geotextile.
RFI-015 (version 1)	2020-02-29		In progress	Segregation of the esker placed and limit before placing the fine filter.	Channel	AEM requests the designer's input on the esker already placed and also asking a derogation for the phrase « leaving a 10 cm limit before placing the fine filter as per specifications » specifier in RFI 015
RFI -017	2020-03-01		In progress	transition zone which contains ice at the top of the slope between the lake A45 and the channel.	Approx. from ST 0+545 to 0+335	AEM requests the designer's proposals about the transition zone which contains ice at the top of the slope between the lake A45 and the channel.

SNC·LAVALIN

WEEKLY REPORT

20200308-WR08
Document number

2020-03-02 to 2020-03-08	667648	Hamza Abdel-Aziz (HAA)
Date	Project No.	Prepared by
South Whale Tale Diversion Channel Construction	Agnico Eagle	
Project	Client	
SNC-Lavalin	KCG	
Consultant	Contractor	

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

The main activities for the QA representative regarding the construction of the south whail tail diversion channel (SWTDC) during the week ending March 08, 2020 were:

1. Presentation of the working team ;
2. Daily construction meeting ;
3. Scope of work on site SWTDC ;
4. Fondation approval ;
5. Sampling and laboratory test ;
6. Esker placement ;
7. Ice lenses.
8. Géotextile

1. Presentation of the working team

During this week, the work team on the site consisted of :

- Owner's representative (AEM) : Pier-Eric McDonald (from 2020 March 02 to 03) and Marion Habersetzer (from 2020 March 03 to 08) ;
- Site supervisor (AEM) : Yannick Simard (from 2020 March 02 to 04) and Jean-Francois Beland (from 2020 March 05 to 08) ;
- QA (SNC-Lavalin) : Hamza Abdel-Aziz ;
- QC day shift (GHD) : Stéphane Dovelus ;
- QC night shift (GHD) : Yaotree Amegnran ;
- Contractor : Goupe Gilbert-KCG.

2. Daily Construction Meeting

HAA attended all the Whale Tail Daily Construction Meetings from March 02 to March 08. During the daily construction meeting of March 08, 2020, there was a discussion about the information given in the field by contractor. After two attempts, we did not get the right information on the lines and grade. It was mentioned that we must have the correct information from the contractor and have his (surveyor) presence on the site during approvals.

3. Scope of work on site SWTDC

During this week, several drilling, blasting, excavating and cleaning works have been carried out.
Here are presented the field work sequences carried out and the work in progress :

- From station 0+917 to 0+688 : No activity ;
- From station 0+688 to 0+565 : No correction have yet been made, but will be done during snow removal ;
- From station 0+565 to 0+545 : Cleaning and profiling the slopes with the backfill material (esker) is done. Some areas require cleaning and removal the big cobbles / boulders, since the esker placed was not well graded ;
- From station 0+545 to 0+335 : Ice lenses/layer observed in lake A45 area (see section 7 for more details) ;
- From station 0+335 to 0+210 : Cleaning and profiling the slopes with the backfill material (esker), the esker placed as built has not yet been issued, this must be verified ;
- From station 0+210 to 0+185 : Cleaning is done, require esker backfill materiel ;
- From station 0+185 to 0+170 : Hammering in progress ;
- From station 0+170 to 0+135 : Cleaning is done, require esker backfill materiel ;
- From station 0+135 to 0+054 (inlet of the channel) : Cleaning in progress.

Please find ***appendix B*** the work plans for the weekly progress and drill & blast progression for the construction of the south whale tail diversion channel.

4. Foundation Approval

During this week, the Owner's representative, QA, QC day shift, site supervisor, and contractor representative were on site for foundation approval. Three (3) foundation approvals from station 0+335 to 0+185 and 0+170 to 0+135 have been issued to reprofile the slopes of the channel with the esker material in the filters area following the recommendations in the field memo for RFI 015. The channel excavation from station 0+335 to 0+185 and 0+170 to 0+135 was inspected, the foundation was free of ice/snow/water and the excavation bottom was clean. We also note that the maintenance roads and road 24 under construction end at the trench – the toe of the road embankment are at the limit of the channel excavation, The road foundations do not appears to be adequately cleaned and are not inspected or approved by the QA inspector (see photo 2), It is important to note that the approvals are made only for the trench of the SWTDC. AEM confirms that everything above natural terrain (outside of the channel footprint) is their responsibility. However, it is important to note that these big boulders at the top edge of the channel slopes may move role down the slope. See **table 1** to track approval form and **appendix C** for the three (3) foundation approvals.

Another inspection will be made when the fine filters are ready to be placed. The approval forms will be provided only if the technical specifications and recommendations of the designer are met. Here is some recommendations before placing the fine filter, but not limited to :

- Backfill for over-cut in the overburden soil to be made, the material that will be used for backfilling must respect the technical specification requirement and the designer recommandations (**see RFI015**) ;
- No placement of esker material should be done above the fine filter limit, to ensure the fine filter thickness of 0.3 m (after compaction) as per specifications ;
- Required verification for snow cleaning before placement ;
- Finish grades may need a final leveling and cleaning prior to fine filter placement as the finish grade/foundation material will be exposed to freezing and snow conditions.

Table 1: Tracking approval form

Date	Document #	Localisation	Approval for
26/01/2020	20200126-DS-01	From 0+917 to 0+830	Foundation approval for esker placement
29/01/2020	20200129-DS-02	From 0+830 to 0+775	Foundation approval for esker placement
03/02/2020	20200203-DS-03	From 0+775 to 0+735	Foundation approval for esker placement
16/02/2020	20200216-DS-04	From 0+735 to 0+688	Foundation approval for esker placement
26/02/2020	20200226-DS-05	From 0+688 to 0+640	Foundation approval for esker placement
28/02/2020	20200228-DS-06	From 0+640 to 0+600	Foundation approval for esker placement
28/02/2020	20200228-DS-07	From 0+600 to 0+565	Foundation approval for esker placement
29/02/2020	20200229-DS-08	From 0+565 to 0+545	Foundation approval for esker placement
05/03/2020	20200305-DS-09	From 0+335 to 0+280	Foundation approval for esker placement
06/03/2020	20200306-DS-10	From 0+280 to 0+210	Foundation approval for esker placement
08/03/2020	20200308-DS-11	From 0+210 to 0+185 and 0+170 to 0+135	Foundation approval for esker placement

Note : Highlighted yellow for the approvals from completed during this week

5. Sampling and laboratory test

During this week, samples of esker material placed in the station from 0+565 to 0+545 and 0+335 to 0+280 were taken to make sure the material respect the technical specification requirement. Summary of esker material samples took during this week and the last week, see ***table 2*** for the gradation results.

Table 2: Summary table of esker samples

Sample ID	Fines-Sand-Gravel	Moisture Content	Station	Location of sampling	Date of sampling	Sample by	Date of testing	Test by	Placement area	Cc	Comment
AMQ-ES-001	1 - 39 - 60	1.4%	-	Stock pile 1	17/01/2020	MC	17/01/2020	MC	[0+917 - 0+830]	0.6	Poorly Graded
AMQ-ES-002	4 - 37 - 59	1.1%	-	Stock pile 1	17/01/2020	MC	18/01/2020	MC	[0+917 - 0+830]	0.3	Poorly Graded
AMQ-ES-003	-	-	-	Stock pile 2	31/01/2020	SD	Lost sample	-	[0+830 - 0+775]		
AMQ-ES-003.1	40 - 60 - 0	12.5%	-	Stock pile 2	02/02/2020	SD	04/02/2020	YA	[0+830 - 0+775]		
AMQ-ES-004	7 - 25 - 68	5.3%	0+820	Slope west of channel	01/02/2020	YA	02/02/2020	YA	[0+830 - 0+775]	1.8	Well Graded
AMQ-ES-005	21 - 50 - 29	6.7%	0+820	Slope east of channel	01/02/2020	SD	02/02/2020	YA	[0+830 - 0+775]		
AMQ-ES-006	27 - 48 - 25	11.8%	0+800	Slope east of channel	04/02/2020	SD	04/02/2020	YA	[0+830 - 0+775]		
AMQ-ES-007	8 - 56 - 36	15.8%	0+780	Slope west of channel	04/02/2020	SD	05/02/2020	SD	[0+830 - 0+775]	0.2	Poorly Graded
AMQ-ES-008	2 - 25 - 73	11.0%	0+860	Slope east of channel	04/02/2020	SD	05/02/2020	YA	[0+917 - 0+830]	1.2	Well Graded
AMQ-ES-009	3 - 29 - 68	3.4%	0+760	Slope west of channel	11/02/2020	MC	13/02/2020	MC	[0+775 - 0+735]	0.8	Poorly Graded
AMQ-ES-010	6 - 36 - 58	7.3%	0+700	Slope west of channel	18/02/2020	RT	19/02/2020	RT	[0+735 - 0+688]	1.2	Well Graded
AMQ-ES-011	6 - 45 - 49	6.8%	0+690	Not Specified	18/02/2020	RT	20/02/2020	MC	[0+735 - 0+688]	1.7	Well Graded
AMQ-ES-012	7 - 27 - 66	7.8%	0+670	Slope east of channel	29/02/2020	SD	02/03/2020	YA	[0+688 - 0+640]	1.4	Well Graded
AMQ-ES-013	4 - 26 - 70	4.8%	0+620	Slope west of channel	29/02/2020	SD	02/03/2020	YA	[0+640 - 0+600]	0.9	Poorly Graded
AMQ-ES-014	11 - 31 - 58	5.7%	0+580	Slope east of channel	01/03/2020	SD	03/03/2020	YA	[0+600 - 0+565]	0.8	Poorly Graded
AMQ-ES-015	8 - 21 - 71	4.0%	0+555	Slope west of channel	04/03/2020	SD	04/03/2020	YA	[0+565 - 0+545]		
AMQ-ES-016	7 - 30 - 63	4.6%	0+280	Slope east of channel	07/03/2020	SD	08/03/2020	YA	[0+335 - 0+280]	1.1	Well Graded

Note : Highlighted yellow for the sampling during this week

The gradation result along with moisture content is summarized in **table 2**. The plot of the gradation test result is shown in **appendix A**. The gradation result indicated the esker material has fine content less than the soil used to design the filter. Some gradation results indicates the material was well graded , and others indicates the material was poorly graded. However, considering the material was used for leveling over-excavated area, it was accepted. In addition to that, some parts need to be corrected of segregation which was made between st 0+688 to 0+545 and st. 0+280 to 0+210 as mentioned in the previous report. It will also help to have a well graded .

We also took samples of the foundation soil in place for to confirm that the moisture content is less than 20% as specified in the technical specification. Summary of foundation soil in place samples took during this week are presented in ***table 3*** for foundation soil samples.

Table 3: Summary results of foundation soil

Sample ID	Fines-Sand-Gravel	Moisture Content	Station	Location of sampling	Date of sampling	Sample by	Date of testing	Test by
AMQ-IP-001	13 - 28 - 59	-	-	Bottom of excavation	15/01/2020	MC	16/01/2020	MC
AMQ-IP-002	27 - 34 - 39	-	0+700	Bottom of excavation	19/01/20120	MC	20/01/2020	MC
AMQ-IP-003	35 - 45 - 20	-	0+800	Bottom of excavation	20/01/2020	MC	21/01/2020	MC
AMQ-IP-004	13 - 29 - 58	-	0+900	Bottom of excavation	25/01/2020	MC	27/01/2020	MC
AMQ-IP-005	14 - 30 - 56	-	0+750	Bottom of excavation	03/02/2020	YA	05/02/2020	YA
AMQ-IP-006	17 - 26 - 58	16.4%	0+765	Bottom of excavation	04/02/2020	SD	06/02/2020	YA
AMQ-IP-007	20 - 33 - 47	10.0%	0+500	Bottom of excavation	07/02/2020	SD	07/02/2020	YA
AMQ-IP-008	22 - 30 - 48	21.8%	0+270	Bottom of excavation	09/02/2020	SD	12/02/2020	MC
AMQ-IP-008-1	NA	11.5%	0+270	Bottom of excavation	13/02/2020	MC	14/02/2020	MC
AMQ-IP-008-2	NA	8.1%		Bottom of excavation	13/02/2020	MC	14/02/2020	MC
AMQ-IP-008-3	NA	13.6%		Bottom of excavation	13/02/2020	MC	14/02/2020	MC
AMQ-IP-009	17 - 25 - 59	15.4%	0+660	Bottom of excavation	25/02/2020	SD	26/02/2020	YA
AMQ-IP-010	31 - 29 - 40	18.5%	0+600	Bottom of excavation	27/02/2020	SD	28/02/2020	YA
AMQ-IP-011	13 - 28 - 59	39.6%	0+530	Top of eastern slope	01/03/2020	SD	02/03/2020	YA
AMQ-IP-012	21 - 37 - 42	11.3%	0+530	Bottom of eastern slope	01/03/2020	SD	02/03/2020	YA
AMQ-IP-013	30 - 39 - 32	22.5%	0+520	Bottom of western slope	01/03/2020	SD	02/03/2020	YA
AMQ-IP-014	34 - 40 - 26	6.8%	0+320	Bottom of western slope	03/03/2020	SD	04/03/2020	YA
AMQ-IP-015	16 - 25 - 59	17.5%	0+220	Bottom of western slope	06/03/2020	SD	06/03/2020	YA

Note : Highlighted yellow for the sampling during this week

The tests results for AMQ-IP-012, AMQ-IP-014 and AMQ-IP-015 presented in **table 3** indicated that the moisture content are less than 20%, as recommend in the specifications. But we notice that AMQ-IP-011 and AMQ-IP-013 have a water content greater than 20% and ice lenses were observed at the top of the slope. Samples 011 and 013 are ice rich permafrost; ice rich permafrost must be removed from foundation as per specifications and design report. The designer is presently looking for solutions as requested by AEM. SNC will issue a memo for the ice layer at the surface of the old lake A45.The **figure 1** describes the approximate location of the samples taken. See ***appendix D*** for the gradation results and moisture contents.

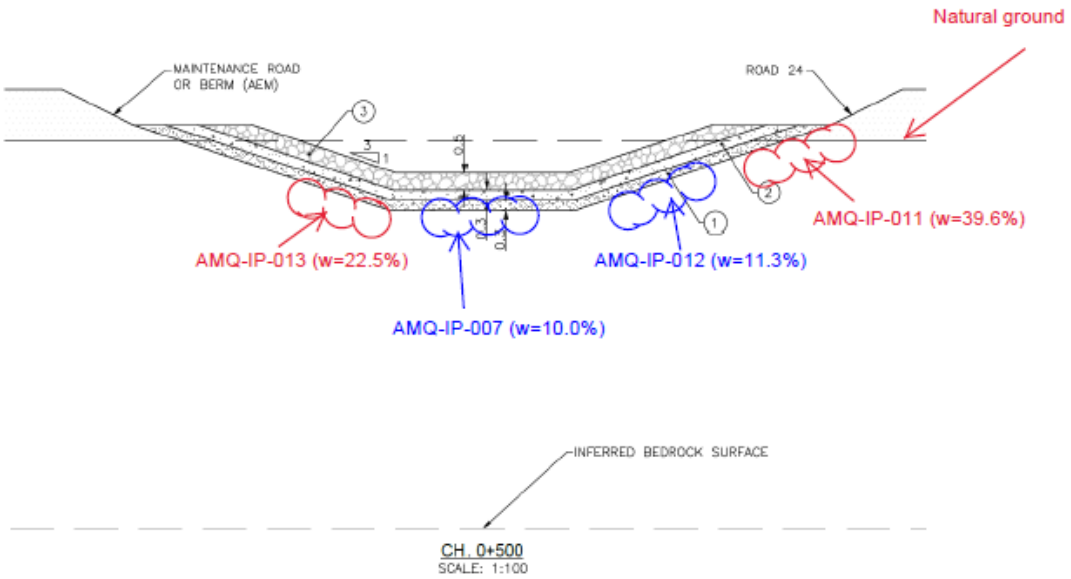


Figure 1: Approximate location of the samples

6. Esker placement

From Station 0+688 to 0+545 : Some areas requires cleaning and removal the big cobbles / boulders, since the esker placed was not well graded. Following AEM's request, SNC confirms that its areas of segregation observed following the esker placed must be corrected before the installation of the filters. The contractor plans to do so during snow removal. An inspection and photos will be required once the corrections have been completed.

From Station 0+335 to 0+280 since the entrepreneur follows the appropriate method,the work was completed as per specifications. The placement of the esker was done according to the recommendations. Visual inspection shows that the esker placed is well graded. Always use the correct method when loading and placing. Here are some points to remember, but not limited to :

- When loading, use the bucket instead of the loader ;
- Avoid unloading on slopes because it is the source of segregation ;
- Placement should be made during the day, if possible. If the placement is done at night, make sure you have adequate lighting and the presence of QC ;
- And use the good practices.

From station 0+280 to 0+210 : During the placement on March 07, 2020 at night, the appropriate method was not used by entrepreneur, because the bucket was broken. They used the lodder to charge the esker material, we see some corrections to make on the placed esker material because of segregation. Rock peak at station 0+242,5 (photo 1) , which is 140 mm higher than the theoretical limit of foundation was corrected during the night. The survey must be done as well as the clearing.

From station 0+335 to 0+210 : The esker placed as built has not yet been issued, this must be verified.

We had clarify with the contractor and the client the important thing to compact the backfill material (esker) to have a dense and more stable slope. This precision was also made to the QC night shift, because all the esker placements were in the evening.

7. Ice lenses

From Station 0+545 to 0+335 : Following the investigation made last week present in the weekly report 20200301-WR07. We notice that AMQ-IP-011 and AMQ-IP-013 have a water content greater than 20% and ice lenses were observed at the top of the slope. The **figure 1** describes the approximate location of the samples taken. The designer is presently looking for solutions as requested by AEM.

At Station 0+335 : Following a site visit on March 05, 2020, an ice lens was observed at the bottom of the slope at station 0+335 (see photo 3). An investigation was made with the hammer in the presence of the QC, QA, site supervisor, owner's representative and contractor. Following this investigation, it is a surface ice (see photo 4). However, this area (0+340 to 0+335) has not been approved, cleaning is required and final inspection will be made before its approval.

8. Geotextile

An approval form will be required for acceptance of the placement of the geotextile

RFI

Following AEM's request, SNC confirms that its areas of segregation observed as to be corrected and also asking a derogation for the phrase « *leaving a 10 cm limit before placing the fine filter as per specifications* » specified in RFI 015. The reviewed field memo for RFI-015 (version 01) issued March 03, 2020 to reflect this change.

AEM requests the designer's proposals about the transition zone which contains ice at the top of the slope between the lake A45 and the channel. the designer is presently looking for solutions as requested by AEM. (RFI 017)

Following AEM's request to evaluate the possibility of replacing the fine filter with the esker. Following a esker thickness check by AEM and SNC, already placed in the channel . AEM to ask not to open an RFI for the moment regarding this request because the thickness of esker placed at the bottom of the excavation is insufficient. A reevaluation will be done later during construction if we have a zone with overexcavated enough for this change to be an advantage. The list of RFI for the known deviations/changes is attached in **Appendix E**.

SAFE AND SAFETY REMARKS

Sometimes slippery slope use crampons.

APPENDIX A : PHOTOS

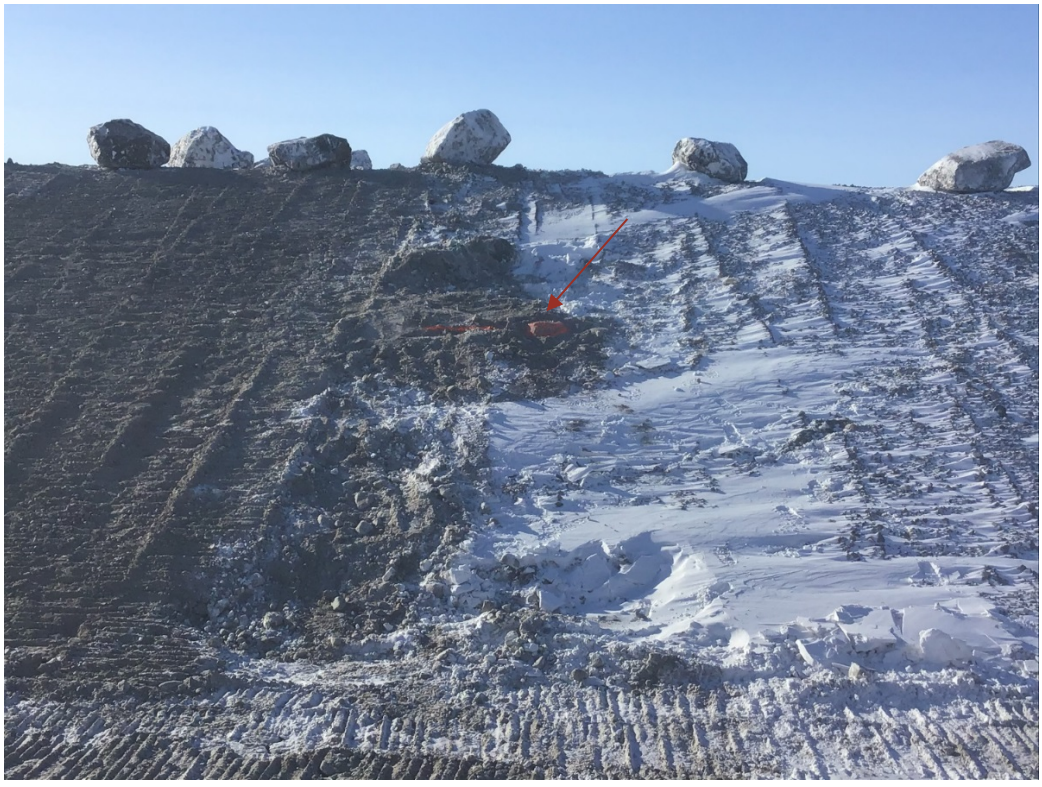


Photo 1: At station 0 + 242.5 - a peak bedrock

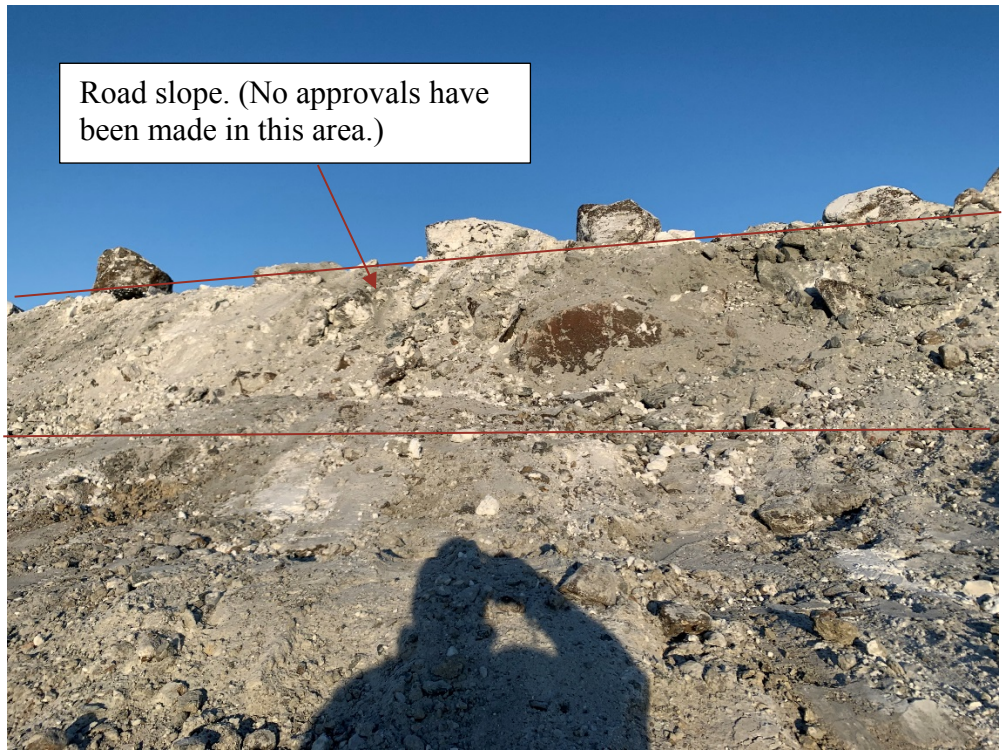


Photo 2: Road 24 (photo taken looking Est)



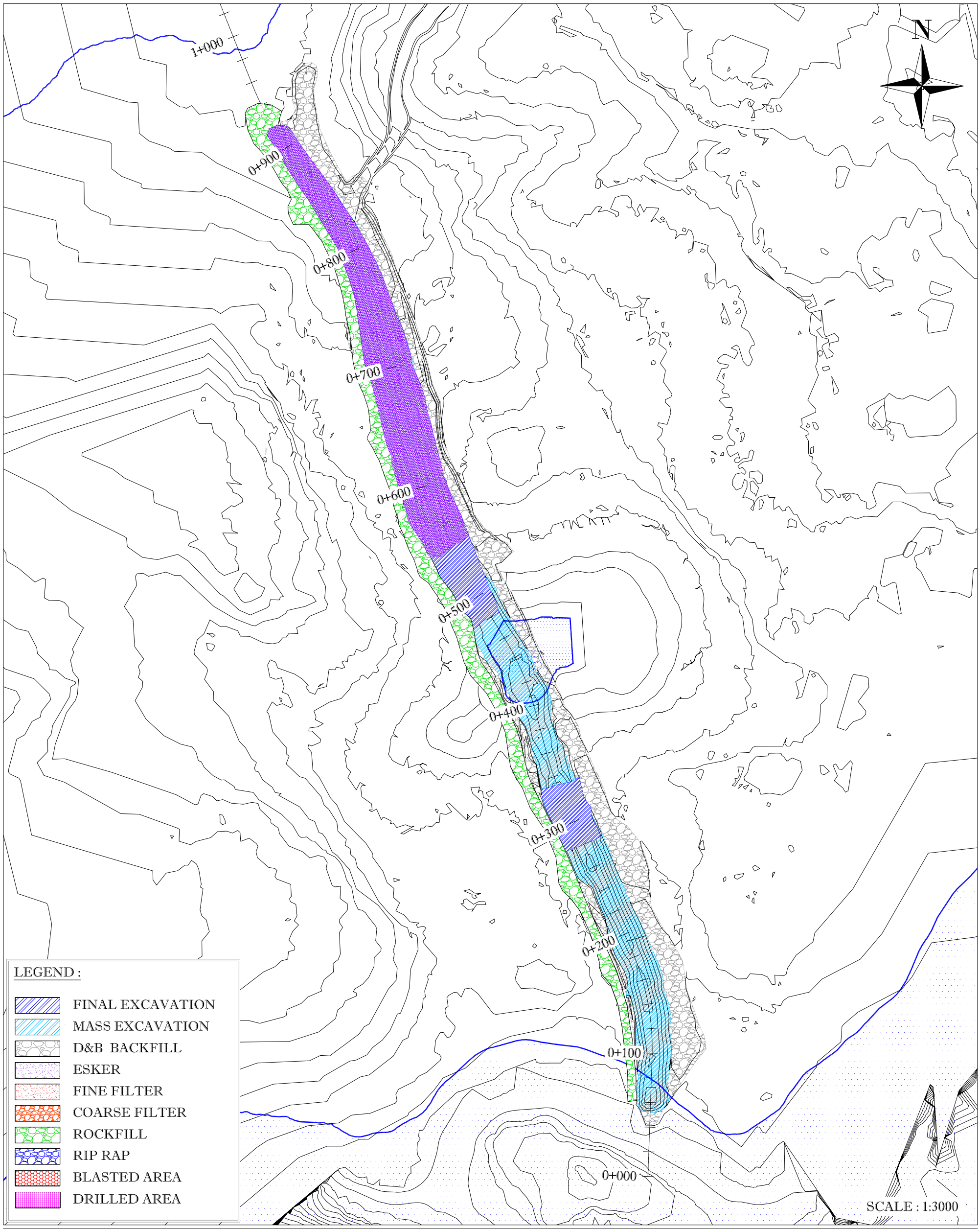
Photo 3: Ice lenses on bottom western slope at station 0+335 (photo taken looking West)



Photo 4: After hammering is done on bottom western slope at station 0+335 (photo taken looking West)

APPENDIX B : Weekly progress for the construction of SWTDC

WEEKLY PROGRESS
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



VOLUMETRY DETAIL

D&B BACKFILL : 30 343 m³

EXCAVATION : 60 568m³

ESKER : 2 157m³

ROCKFILL ACCESS WEST SIDE : 3 571m³

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : FRANCIS PAULIN
DATE : 06-03-2020
CON-QT-146

C:\Users\arpenteur\Dropbox (Groupe Gilbert)_arpentage meadowbank\02-E - OFFICIAL DRAWING\11-811 - AMQ DIKES\CON-QT (QUANTITY AND MONTHLY REPORT)\CON-QT-146_SWTC WEEKLY PROGRESS_06032020.dwg

APPENDIX C : Approval form

SNC·LAVALIN

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Fax: (514) 390-2765
www.snclavalin.com

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-03-05

DOCUMENT #: 20200305-DS-09 **TIME:** 09:00 PM

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☑ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+335 to 0+280	**Station:**	0+917 to 0+545
Inclination:		**Details:**	
ELEVATION:	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY:				
	QA		**QC**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					–
5. Placement (lift thickness, segregation, etc.)					–
6. Compaction					–
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

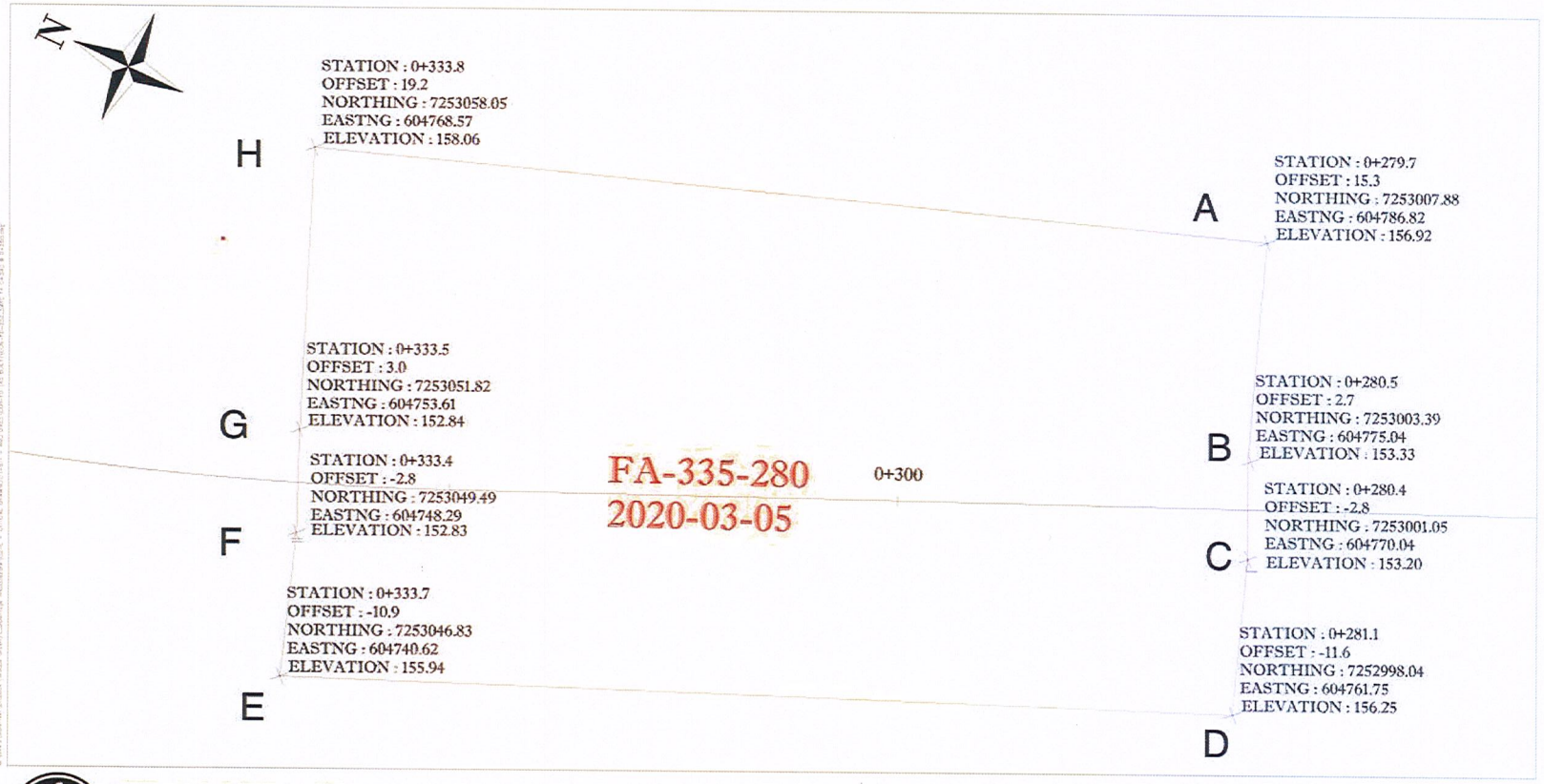
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
2	Require verification for snow removal before placement if any accumulation of snow by snow fall or by wind.				
7	Require back fill for overcut area and the composition of back fill material to be checked before filter placement				
ALL	Finish grades may need a final leveling and cleaning prior to zinc filter placement as the finish grades foundation material will be exposed to freezing and snow weather conditions.				

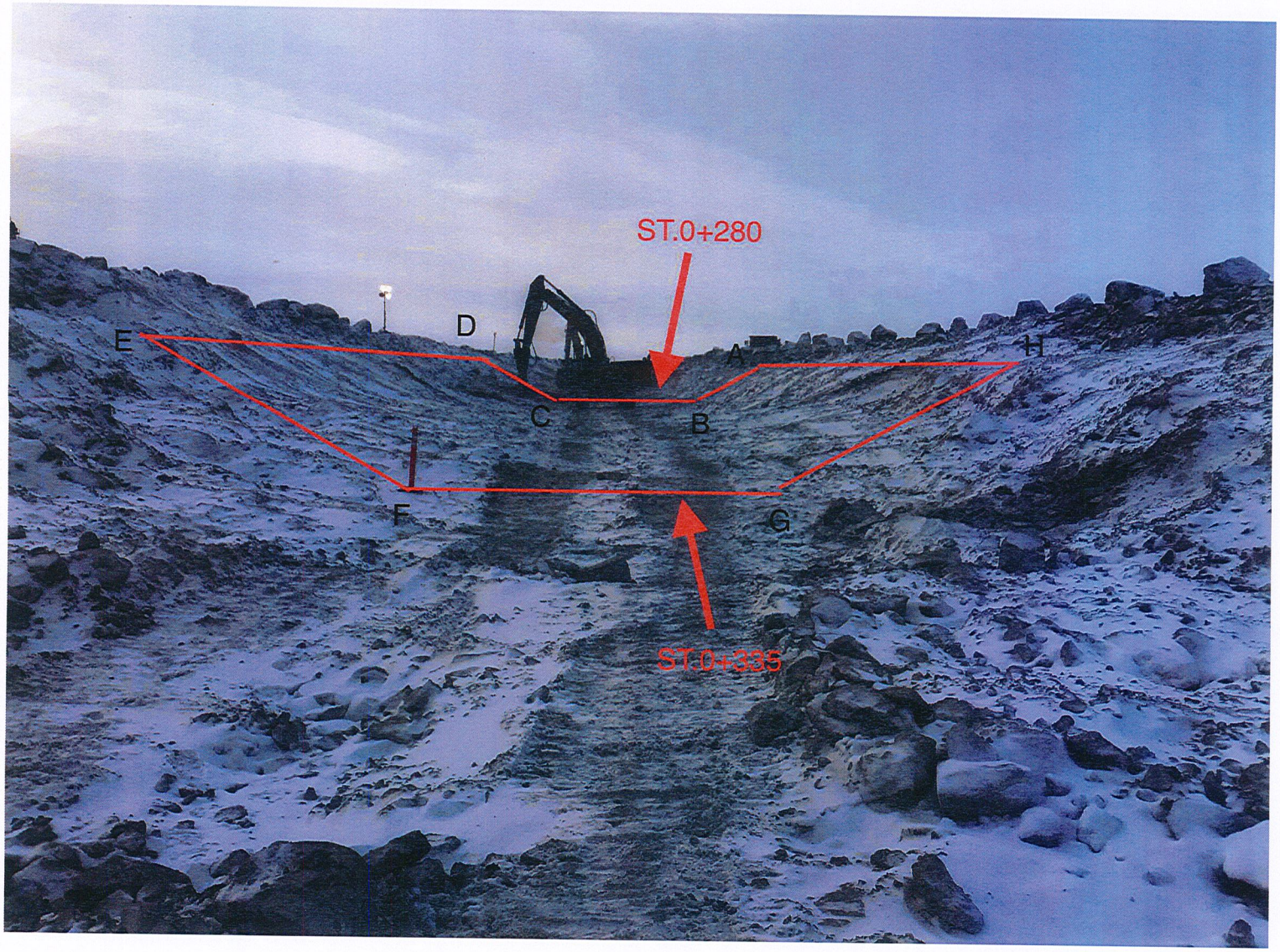
APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	STÉPHANE DORVÉLUS		2020-03-05
QA REPRESENTATIVE	HAMZA ABDEL-AZIZ		2020-03-05
OWNER'S REPRESENTATIVE	MARION HABERSETZER		2020-03-05
CONTRACTOR'S REPRESENTATIVE	Nicolas Tremblay		2020-03-05

FOUNDATION APPROVAL - 0+335 @ 0+280
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : FRANCIS PAULIN
DATE : 06-03-2020
CON-FD-252



Note: refer the sketch below for the coordinates of A, B, C, D, E, F, G, H

Picture 1 – Approximate approved foundation area

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DOCUMENT #: 20200306-DS-10
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 2020-03-06

TIME: 08:00 AM (0+280 to 0+230)
(24 hour clock)
06:00 pm (0+230 to 0+210)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☐ Other: _____

LOCATION

Station 0+280 to 0+210

Inclination:

ELEVATION: ☐ varies _____ m

PREVIOUS APPROVALS

Station: 0+917 to 0+545 AND 0+335 to 0+280

Details:

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					—
5. Placement (lift thickness, segregation, etc.)					—
6. Compaction					—
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

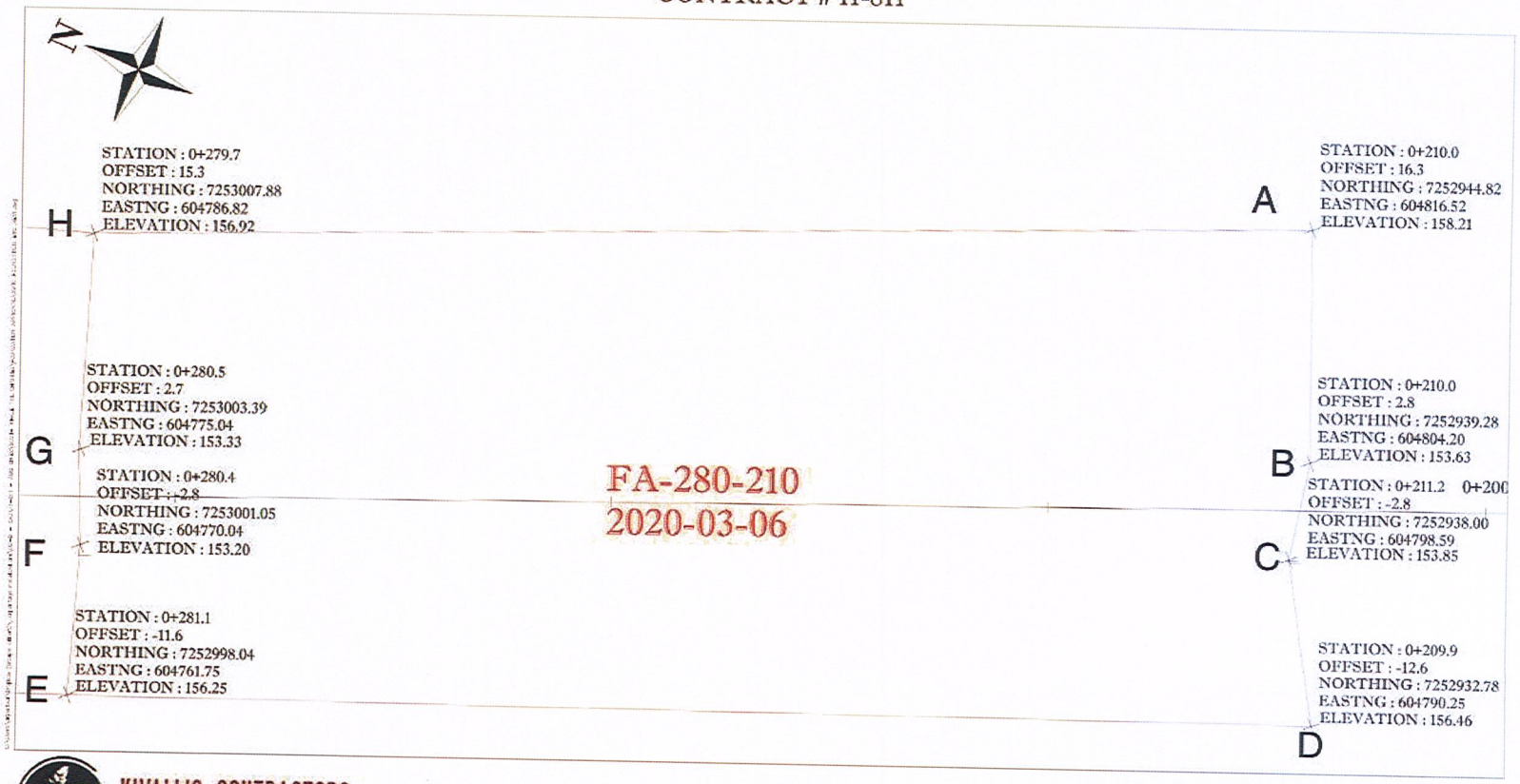
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
2.	Require verification for snow removal before placement if any accumulation of snow fall or by wind.				
7	Require back fill for overcut area and the composition of the backfill material to be checked before filter placement				
All	Finish grades may need a final leveling and cleaning prior to fine filter placement as the finish grades foundation material will be exposed to freezing and snow weather conditions.				

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	STÉPHANE DORVÉLUS		2020-03-06
QA REPRESENTATIVE	HAMZ ABDEL-AZIZ		2020-03-06
OWNER'S REPRESENTATIVE	MARION HABERSETZER		2020-03-06
CONTRACTOR'S REPRESENTATIVE	Nicolas Tremblay		2020-03-06

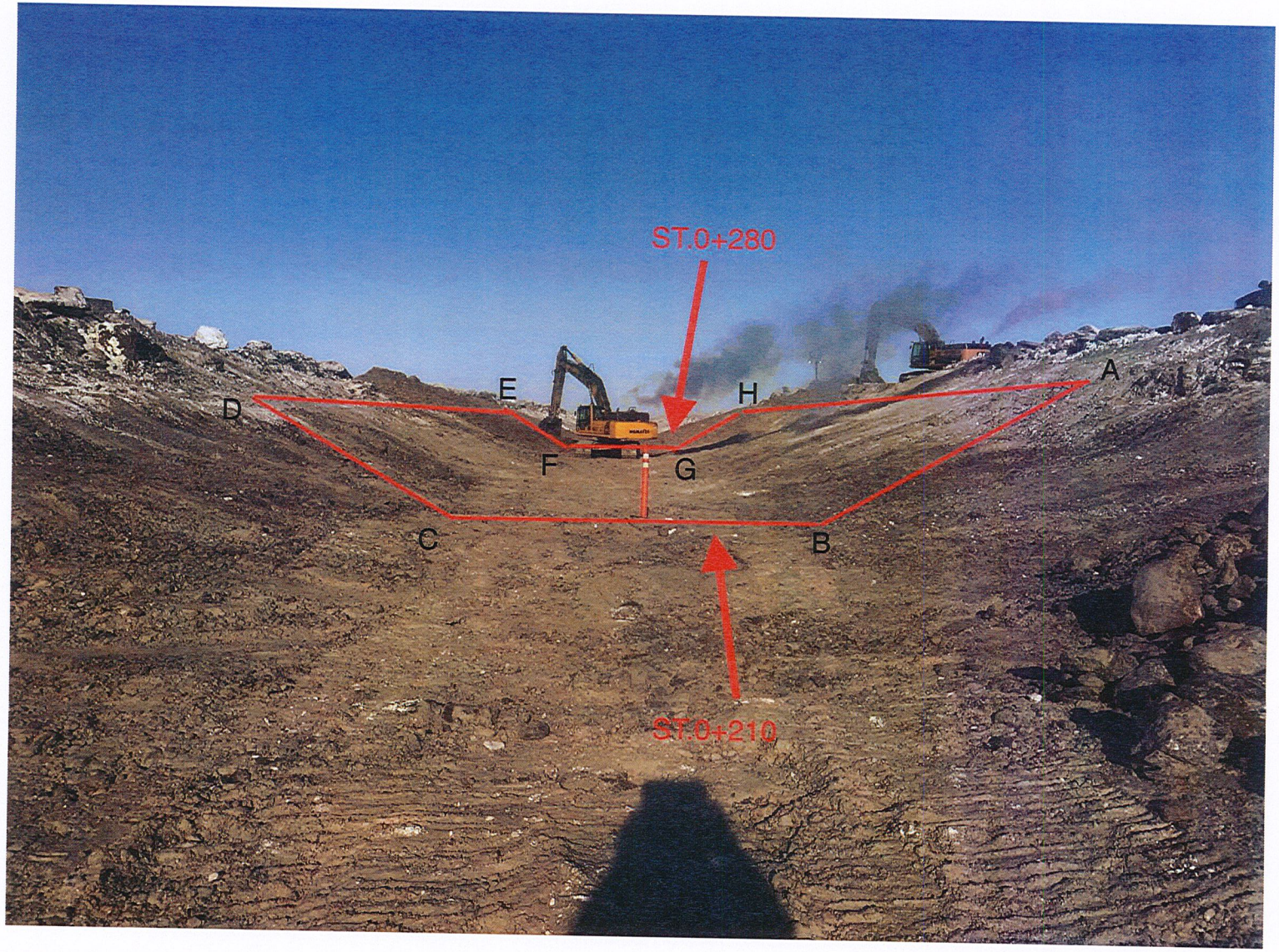
FOUNDATION APPROVAL - 0+280 @ 0+210
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



FA-280-210
2020-03-06

KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : FRANCIS PAULIN
DATE : 06-03-2020
CON-FD-255



Note: refer the sketch below for the coordinates of A, B, C, D, E, F, G, H

Picture 1 – Approximate approved foundation area

APPENDIX D : Gradation results

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-ES-012
Projet:	Derivation channel	**Sampling Date:**	2020-02-29
		Sampled by:	Stéphane Dorvelus
Description of Material:	Esker as used on slope		
Origin:	Esker in place	**Location of Sampling:**	SWTC ST.0+670 Eastern Slope of channel
Proposed Use:	Backfill before Fine filter placement		

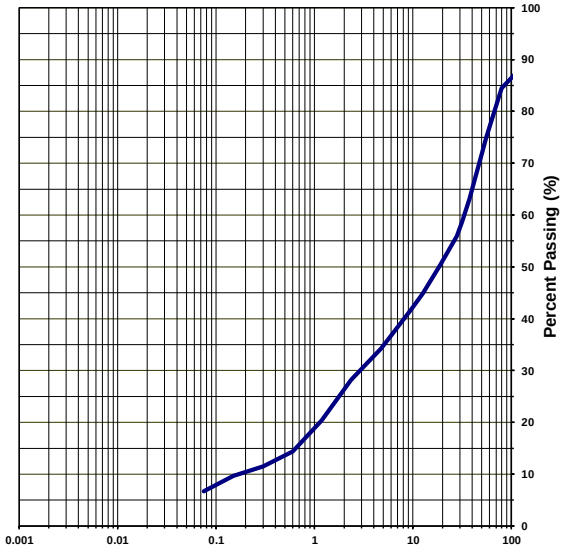
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		87	84	75	63	59	56	50	45	42	34	28	20	14	12	10	6.7
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	7.80%		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m³)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
7	27	66

Remarks _____

Prepared by: Yaotree Amegnran **Date:** Start : 2020-03-01 Finish : 2020-03-04 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-ES-013
Projet:	Derivation channel	**Sampling Date:**	2020-02-29
		Sampled by:	Stéphane Dorvelus
Description of Material:	Esker as used on slope		
Origin:	Esker in place	**Location of Sampling:**	SWTC ST.0+620 Western slope of channel
Proposed Use:	Backfill before Fine filter placement		

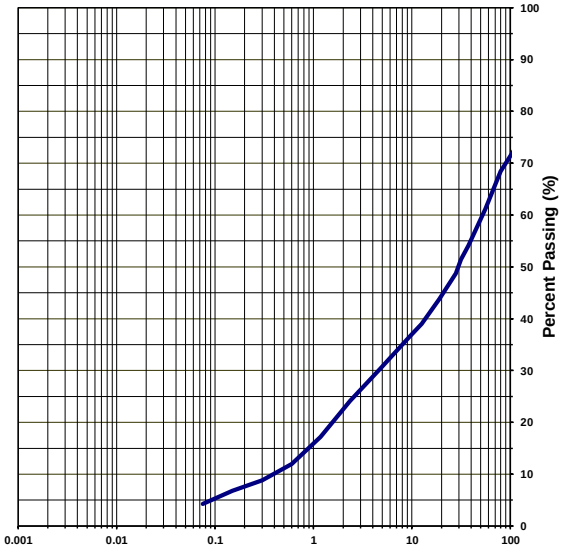
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		73	68	61	54	51	49	44	39	37	30	24	17	12	9	7	4.3
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.82%		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**#REF!** **(kg/m³)**
Optimum Moisture Content	**#REF!** **(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
4	26	70

Remarks _____

Prepared by: Yaotree Amegnran Date: Start: 2020-03-01 Finish : 2020-03-04 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-ES-014
Projet:	Derivation channel	**Sampling Date:**	2020-03-01
		Sampled by:	Stéphane Dorvelus
Description of Material:	Esker as used on slope		
Origin:	Esker in place	**Location of Sampling:**	SWTC Eastern slope ST.0+580
Proposed Use:	Backfill before Fine filter placement		

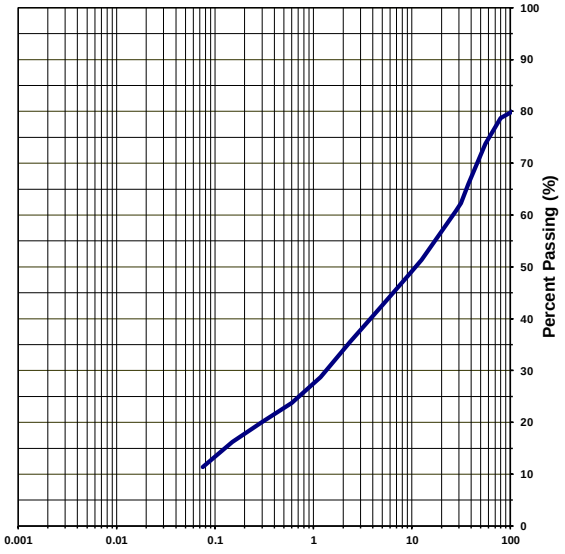
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		80	79	74	66	62	61	56	51	49	42	36	29	24	20	16	11.4
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	5.70%		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**#REF!** **(kg/m³)**
Optimum Moisture Content	**#REF!** **(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
11	31	58

Remarks _____

Prepared by: Stephane Dorvelus Date: 2020-03-03 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-ES-015
Projet:	Derivation channel	**Sampling Date:**	2020-03-04
		Sampled by:	Stéphane Dorvelus
Description of Material:	Esker as used on slope		
Origin:	Esker in place	**Location of Sampling:**	SWTC Eastern slope ST.0+555 Western slope
Proposed Use:	Backfill before Fine filter placement		

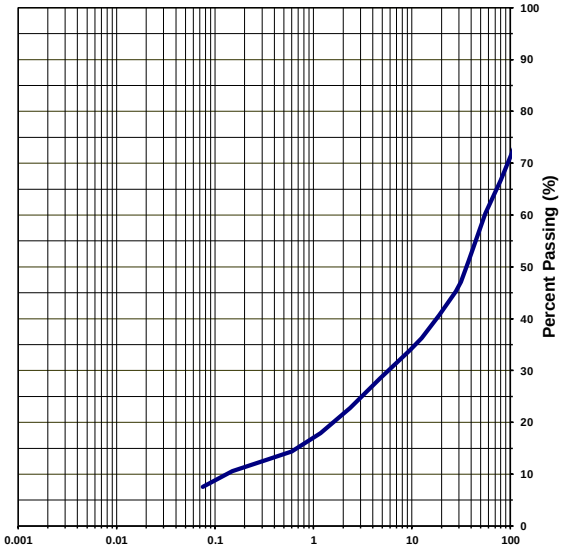
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		74	67	60	51	47	45	41	36	34	29	23	18	14	12	11	7.6
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.0%		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**#REF!** (kg/m³)
Optimum Moisture Content	**#REF!** (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
8	21	71

Remarks _____

Prepared by: Yaotree Amegnran Date: 2020-03-04 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-IP-011
Projet:	Derivation channel	**Sampling Date:**	2020-03-01
		Sampled by:	Stéphane Dorvélus
Description of Material:	Soil in place		
Origin:	In place	**Location of Sampling:**	ST. 0+530 (top of Eastern slope)
Proposed Use:	Foundation		

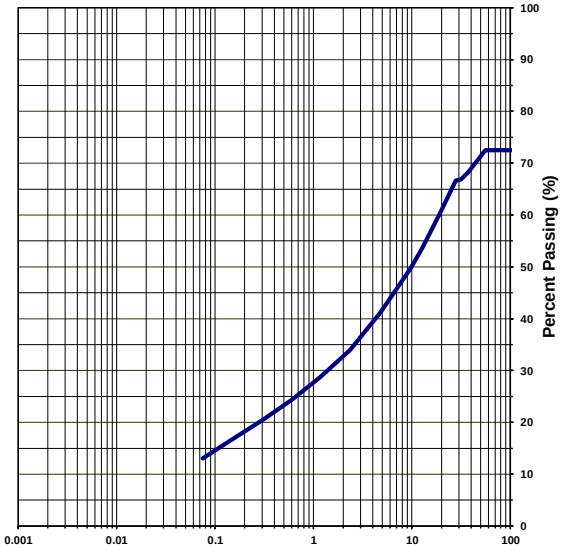
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		73	73	73	68	67	67	60	53	49	41	34	29	24	20	17	13.1
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	39.60%		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m³)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
13	28	59

Remarks: Excess water generated by the sample when stored in the lab at 23 degres temperature.

Prepared by: Yaotree Amegnran Date : 2020-02-03 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-IP-012
Projet:	Derivation channel	**Sampling Date:**	2020-03-01
		Sampled by:	Stéphane Dorvélus
Description of Material:	Soil in place		
Origin:	In place	**Location of Sampling:**	ST. 0+530 (Bottom of Eastern slope)
Proposed Use:	Foundation		

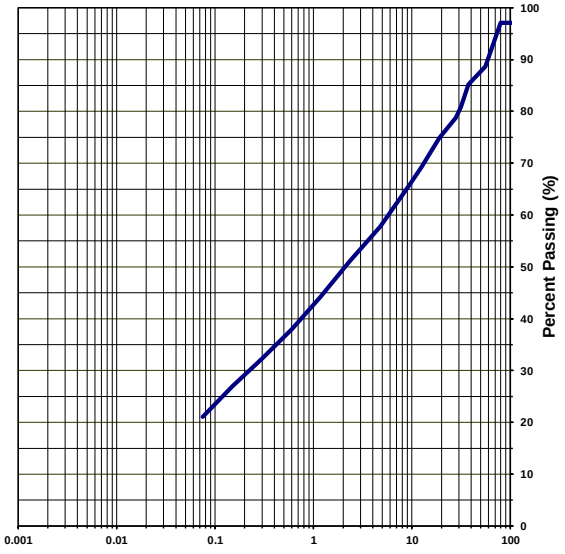
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		97	97	89	85	81	79	75	69	66	58	51	44	38	32	27	21.1
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	11.30%		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**#REF!** **(kg/m³)**
Optimum Moisture Content	**#REF!** **(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
21	37	42

Remarks _____

Prepared by: Yaotree Amegnran Date : 2020-02-03 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-IP-013
Projet:	Derivation channel	**Sampling Date:**	2020-03-01
		Sampled by:	Stéphane Dorvélus
Description of Material:	Soil in place		
Origin:	In place	**Location of Sampling:**	ST. 0+520 (Bottom of Western slope)
Proposed Use:	Foundation		

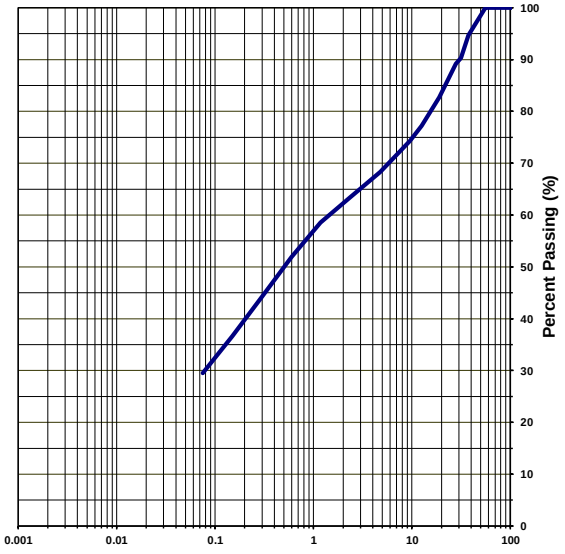
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	95	90	89	83	77	74	68	63	59	52	44	37	29.5
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	22.50%		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m³)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
30	39	32

Remarks _____

Prepared by: Yaotree Amegnran Date : 2020-02-03 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11202247-B1

Sample N°: AMQ-IP-014

Projet: Derivation channel

Sampling Date: 2020-03-03

Sampled by: Stéphane Dorvélus

Description of Material: Soil in place

Origin: In place

Location of Sampling: SWTC : ST. 0+320 Western slope

Proposed Use: Foundation

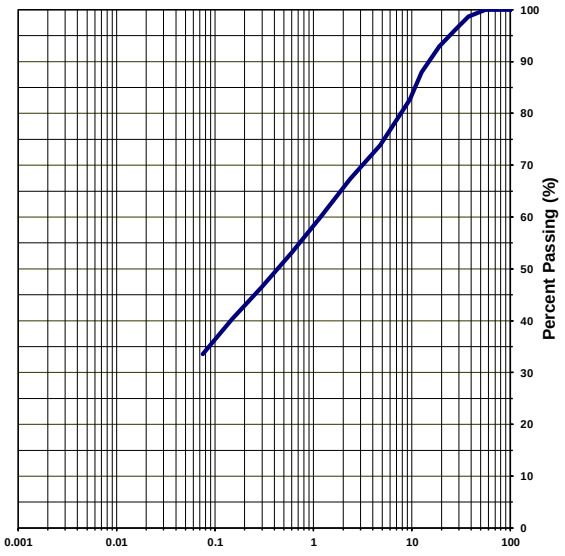
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	99	97	96	93	88	83	74	67	60	53	47	40	33.6
Require-ments	min.																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	6.80%		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m³)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
34	40	26

Remarks _____

Prepared by: Yaotree Amegnran Date : 2020-03-04 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11202247-B1

Sample N°: AMQ-IP-015

Projet: Derivation channel

Sampling Date: 6/3/2020

Sampled by: Stéphane Dorvélus

Description of Material: Soil in place

Origin: In place

Location of Sampling: SWTC : ST. 0+220 Western slope

Proposed Use: Soil in place

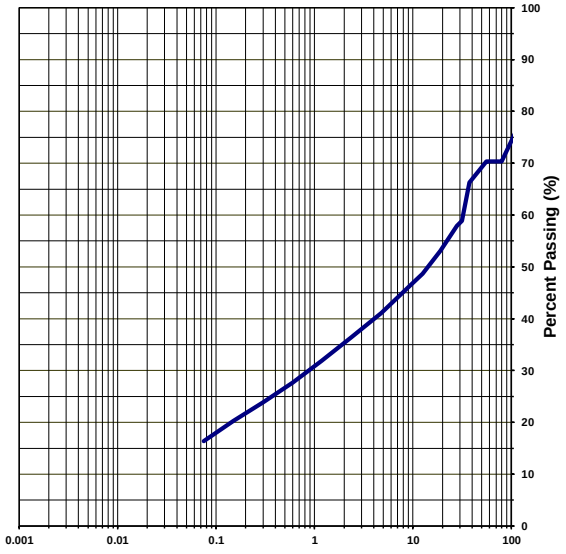
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		76	70	70	66	59	58	53	49	46	41	36	32	28	24	20	16.4
Require-ments	min.																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	17.50%		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m³)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
16	25	59

Remarks

Prepared by: Yaotree Amegnran Date : 6/3/2020 Verified by: Date:

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

APPENDIX E : RFI log

RFI Log

RFI #	Date Received	Date Responded	Status	Subject	Location	Notes
RFI-001	2019-08-13		*To be approved*	Change of outlet geometry, outlets were higher than topography	0+060, 0+390, 0+480, 0+900	Consists of having small filter tablets on topographic surface at crests to direct water flow towards Mammoth rather than have it spreaded
RFI-002	2019-08-13		*To be approved*	Change of inlet geometry. Not build buttress platforms used to get 1.3m depth i.e. disregard 1.3m min	On low topographic spots	This material was put in place to follow the 1.3m minimum but it would be rockfill i.e. draining material i.e. be useless. It would be used at the same time to facilitate constructability where road in not adjacent i..e close to A45
RFI-003	2019-08-13		*To be approved*	Having slope at 2.5:1 rather than 3:1 above max water level	TBD	Apply in section where rockfill is directly against slope as butress
RFI-004	2019-08-13		Field Fit	Modification of Road 24 alignment for construction access		Construction access to be field fitted
RFI-005	2019-08-13		Field Fit	Access to bottom of channel from both side		Will need to be field fitted with a slope to allow access within channel
RFI-006	2019-08-13		Approved	Use of 0-150 instead of 0-200 for coarse filter		Approved by changing 100-300 to 100-250
RFI-007	2019-08-13		Approved	Use of 100-300 instead of 100-250 for rip-rap		Condition for the approval of RFI-006
RFI-008	2019-09-05		Approved	Lowering the inelt of the channel by 0.5 m		New version of construction drawings and report were submitted by SNC in December 2019
RFI-009	2019-12-15		Pending	Turbidity concern on lake A45	A45	
RFI-010	2019-12-15		Rejected	Leaving the construciton road within the operational level of Lake A45 can stay there	A45	Env asked that the no road remain within the operation level of A45. Will ahve to be dismantled at the end of construction
RFI-011	2019-12-16	2020-01-17	Recommendation provided	Adding a geotextile above the corase filter to add robustnest to the design	Within Channel	See field memo: 667648-2000-60NC-0002-PB_Field Work Instruction (RFI-011)_Geotextile
RFI-012	2020-01-15		Sent for approval	Proposed inlet modification (see drawings)	Inlet's	Sent to SNC for approval
RFI-0-13	2020-01-15		Sent for approval	Modified inlet to have a 'fan' shape instead of rectangular to improve water conveyance	Inlet's	Sent to SNC for approval
RFI-014	2020-01-15	2020-01-17	Approved	Proposed outlet modification to Mammoth lake (see drawing)	Outlet to Mammoth lake	The outlet to the Mammoth lake can be adjusted to the existing ground conditions. Ensure that there is no high point in the nearby topography downstream of the outlet to ensure proper flow towards the lake.
RFI-015	2020-01-15	2020-01-26	Review continue as excavation progress	Revise filter design for existing foundation soil		See field memo: 667648-2000-60NC-0001-PB_Field Work Instruction (RFI-015)_Filters) for the geotextile and the filters design review
RFI-016	2020-01-15	2020-02-07	Approved	Proposed inlet modification (see drawings) and Modified inlet to have a 'fan' shape instead of rectangular to improve water conveyance	Inlet's	SNC agrees with the proposal of expending the width of the channel from 5 m to 15 m, along with a transition zone, between station 0+54 to 0+104. This is our understanding that the depth of the channel and the material placement (filters and rip rap) will remain the same in this section as per the original design. And recommends increasing the size of the rip rap between station 0+104 and 0+110. We recommend clean rip rap with particle size between 200 mm to 300 mm (instead of 100 mm to 300 mm) for this short section. As for the area around the inlet (approximately station 0+00 to 0+54), we also recommend additional erosion protection, based on field condition. We recommend installing a geotextile over the natural soil, and to place rip rap material over the geotextile.
RFI-015 (version 1)	2020-02-29	2020-03-03	Approved	AEM requests the designer's input on the esker already placed and also asking a derogation for the phrase « leaving a 10 cm limit before placing the fine filter as per specifications » specifier in RFI 015	Channel	SNC confirms that its areas of segregation observed as to be corrected and they accept the derogation but no placement of esker material should be done above the fine filter limit, to ensure the fine filter thickness of 0.3 m (after compaction) as per specifications ;
RFI -017	2020-03-01		In progress	transition zone which contains ice at the top of the slope between the lake A45 and the channel.	Approx. from ST 0+545 to 0+335	AEM requests the designer's proposals about the transition zone which contains ice at the top of the slope between the lake A45 and the channel.

SNC·LAVALIN

WEEKLY REPORT

20200315-WR09
Document number

2020-03-09 to 2020-03-15	667648	Daniel Meles (DM)
Date	Project No.	Prepared by
South Whale Tale Diversion Channel Construction	Agnico Eagle	
Project	Client	
SNC-Lavalin	KCG	
Consultant	Contractor	

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

The main activities for the QA representative regarding the construction of the South Whail Tail Diversion Channel (SWTDC) during the week ending March 15, 2020 were:

- Attained daily construction meeting;
- Periodic visual observation of SWTDC work site;
- Inspection and approval; and
- Sampling, and review and documented laboratory test results completed by QC.

Daily Construction Meeting

DM attended all SWTDC daily Construction Meeting. Attendee of the daily construction meeting for the week ending March 15, 2020 include:

- Owner's representative (AEM): Marion Habersetzer and Patrice Gagnon;
- Site supervisor (AEM): Jean-Francois Beland;
- QA (SNC-Lavalin): Daniel Meles ;
- QC day shift (GHD): Mathieu Côté;
- QC night shift (GHD): Richard Jean Tremblay; and
- Contractor: KCG

Periodic Visual Observation of SWTDC Work Site

During the week ending March 15, 2020, DM periodically visited SWTDC work site. The following were observed during the periodic site visit:

- Fine filter placement from station 0+065 to 0+325, 0+906 to 0+815, and 0+555 to 0+747: (see Photo 1-2);
- Coarse filter placement 0+065 to 0+325 and 0+555 to 0+700 (see photo 3);
- Inspect snow cleaning on previously approved area before placement when required (see photo 4-5);
- No activity between station 0+330 to 0+555 including A45 lake; and
- Observed QC Sampling for fine and coarse filter.

Observation on fine and coarse filter placement during site visits:

- **Truck unloaded fine/coarse filter material on horizontal ground;**
- **Excavator carefully placed fine/coarse filter on slope; and**
- **Material placed were compacted with the bucket of the excavator**

The contractor used reasonable practice to avoid segregation of material during placement. The bottom of the channel was very dense compared to the slope because of the additional compaction from the truck using the area for loading and unloading material.

Photos taken during site visit can be found in appendix A. Note that stations shown in the photos are approximate location. SWTC construction weekly progress from KCG for the week ending March 15, 2020 can be found in appendix B.

Approval

During the week ending March 15, DM in the presence of the Owner's representative, QA, QC day shift, site supervisor, and contractor representative completed five (5) approval. The following approvals were completed:

- Documented foundation approval completed on March 09, 2020 on behalf of the previous shift SNC-Lavalin QA from Station 0+185 to 0+170 and 0+135 to 0+058. Note on March 09, 2020, DM in the presence of owner representative and QC went for a short visit to check the excavation bottom around Staion 0+058. No boulders/snow/ice obvserved.
- Esker placement approval from Station 0+056 to 0+330;
- Fine filter approval from Station 0+065 to 0+325;
- Fine Filter approval from Station 0+700 to 0+555;
- Esker placement approval from Station 0+906 to 0+553. Note that esker from station 0+700 to 0+555 and 0+906 to 0+867 were approved on March 12, station 0+750 to 0+867 on March 13 and Station 0+700 to Station 0+750 on March 14; and
- Fine filter approval from station 0+700 to 0+747 and 0+906 to 0+815.

Approval form completed can be found in Appendix C.

Table 1: Tracking approval form

Date	Document #	Localisation	Approval for
2020/01/26	20200126-DS-01	From 0+917 to 0+830	Foundation approval for esker placement
2020/01/29	20200129-DS-02	From 0+830 to 0+775	Foundation approval for esker placement
2020/02/03	20200203-DS-03	From 0+775 to 0+735	Foundation approval for esker placement
2020/02/16	20200216-DS-04	From 0+735 to 0+688	Foundation approval for esker placement
2020/02/26	20200226-DS-05	From 0+688 to 0+640	Foundation approval for esker placement
2020/02/28	20200228-DS-06	From 0+640 to 0+600	Foundation approval for esker placement
2020/02/28	20200228-DS-07	From 0+600 to 0+565	Foundation approval for esker placement
2020/02/29	20200229-DS-08	From 0+565 to 0+545	Foundation approval for esker placement
2020/03/05	20200305-DS-09	From 0+335 to 0+280	Foundation approval for esker placement
2020/03/06	20200306-DS-10	From 0+280 to 0+210	Foundation approval for esker placement
2020/03/08	20200308-DS-11	From 0+210 to 0+185 and 0+170 to 0+135	Foundation approval for esker placement
2020/03/10	20200310-DS-12	From 0+185 to 0+170 and 0+135 to 0+058	Foundation approval for esker placement
2020/03/12	20200312-DS-13	From 0+056 to 0+330	Esker approval
2020/03/12	20200312-DS-14	From 0065 to 0+325	Fine Filter approval: Station 0+56 to 0+180 approved on March 11; Station 0+230 to 0+325 approved on March 11; and Station 0+230 to Station 0+180 approved on March 12;
2020/03/13	20200313-DS-15	From 0+700 to 0 555	Fine Filter placement approval
2020/03/14	20200314-DS-16	From 0+906 to 0553	Esker approval: Station 0+700 to 0+555 and 0+906 to 0+867 approved on March 12; Station 0+750 to 0+867 approved on March 13; and Station 0+700 to Station 0+750 approved on March 14;
2020/03/15	20200314-DS-17	From 0+700 to 0+747 and 0+906 to 0+058	Fine Filter placement approval

Note: the highlighted is completed during last week.

Sampling and Laboratory Test

During the las week, a total of twenty-nine (29) fine and two (2) coarse filter samples were taken from the in-place filter material. Summary and sampling location are shown in Table 1 and 2 for the fine and coarse filter respectively.

During March 11, 2020 construction meeting, AEM requested the frequency of fine filter sampling (5/100 m) is too much for the QC to handle in short period of time given the progress of fine filter placement. DM discussed with AEM the option of completing fine filter approval based on visual observation and available gradation test results completed by QC at the time of approval. The request was sent to SNC for comment. SNC recommend, maintaining the sampling as per specifications (5/100m; 1 every 20 m) and use the available completed results at the time of approval. Sample results reviewed will be indicated in the approval form. The remaining testing will be completed by the QC staff when possible.

Table 1: Summary and location fine filter sampled

Sample ID	Fines-Sand-Gravel	Moisture Content	Station	ocation of samplin	Date of sampling	Sample by	Date of testing	Test by
AMQ-FF-006	5-20-75	4.1%	0+327	West Slope	2020/0310	RJ	2020/03/11	MC
AMQ-FF-007	6-26-68	4.6%	0+310	Centre	2020/03/10	RJ	2020/03/11	MC
AMQ-FF-008	9-37-54	5.6%	0+060	Centre	2020/03/11	MC	2020/03/11	MC
AMQ-FF-009	5-20-76	4.7%	0+100	East Slope	2020/03/11	MC	2020/03/11	MC
AMQ-FF-010	9-33-58	6.1%	0+140	West Slope	2020/03/11	MC	2020/03/12	MC
AMQ-FF-011	7-31-62	5.6%	0+270	East Slope	2020/03/11	MC	2020/03/12	MC
AMQ-FF-012	7-24-69	5.1%	0+230	Centre	2020/03/11	RJ	2020/03/12	MC
AMQ-FF-013	7-27-66	4.6%	0+190	East Slope	2020/03/11	RJ	2020/03/12	MC
AMQ-FF-014	7-29-64	4.0%	0+170	Centre	2020/03/12	RJ	2020/03/12	MC
AMQ-FF-015	6-28-66	4.4%	0+080	West Slope	2020/03/11	MC	2020/03/14	MC
AMQ-FF-016	8-31-61	5.0%	0+120	Centre	2020/03/11	MC	2020/03/14	RJ
AMQ-FF-017	8-30-63	5.7%	0+290	Centre	2020/03/11	RJ	2020/03/14	RJ
AMQ-FF-018	8-31-61	4.3%	0+210	West Slope	2020/03/12	RJ	2020/03/14	RJ-MC
AMQ-FF-019	9-34-57	5.3%	0+250	West Slope	2020/03/11	MC	2020/03/13	RJ
AMQ-FF-020	9-43-58	4.0%	0+160	West Slope	2020/03/12	RJ	2020/03/13	RJ
AMQ-FF-021	8-36-56	4.7%	0+560	West Slope	2020/03/13	RJ	2020/03/13	RJ
AMQ-FF-022	10-40-50	7.0%	0+580	East Slope	2020/03/13	RJ	2020/03/13	MC
AMQ-FF-023	8-33-59	4.3%	0+600	Centre	2020/03/13	MC	2020/03/14	MC-RJ
AMQ-FF-024	7-33-61	4.3%	0+900	East Slope	2020/03/13	MC	2020/03/13	MC
AMQ-FF-025	7-34-59	4.7%	0+620	West Slope	2020/03/13	MC	2020/03/13	MC
AMQ-FF-026	7-28-66	3.8%	0+640	East Slope	2020/03/13	RJ	2020/03/14	RJ
AMQ-FF-027	10-38-52	4.7%	0+660	Centre	2020/03/13	RJ	2020/03/14	MC
AMQ-FF-028			0+680	West Slope	2020/03/13	RJ	2020/03/15	MC
AMQ-FF-029			0+700	West Slope	2020/03/15	MC	2020/03/16	RJ
AMQ-FF-030			0+720	East Slope	2020/03/15	MC	2020/03/15	MC
AMQ-FF-031			0+740	Centre	2020/03/15	MC	2020/03/17	RJ
AMQ-FF-036			0+840	West Slope	2020/03/15	MC	2020/03/17	MC-RJ
AMQ-FF-037			0+860	East Slope	2020/03/15	MC	2020/03/15	MC
AMQ-FF-038			0+880	Centre	2020/03/15	MC	2020/03/16	RJ

Table 2: Summary and location coarse filter sampled

Sample ID	nes-Sand-Grav	loisture Conter	Station	ocation of samplin	ate of sampling	Sample by	ate of testing	Test by
AMQ-CF-003	3 - 5 - 92	1.70%	0+160	East Slope	2020/03/12	MC	2020/03/13	RJ
AMQ-CF-004			0+580	West slope	2020/03/14	MC		

Laboratory Test result on fine and coarse filter

During last week, DM reviewed and documented gradation test results for twenty-two (22) for fine and two (2) coarse filter sampled from in-place fine and coarse filter material. Gradation results of the fine and coarse filter materials are shown in Figure 1 and 2, respectively.

As shown in Figure 1, all gradation test results except for two meet the fine filter specification. Even the two samples showed minor deviation from the specification. Gradation of the coarse filter shown in Figure 2. As shown in Figure 2, one sample meet the specification and the other shows minor deviation from the specification. For the sample that shows minor deviation, another sample will be taken from the nearby area to verify the results.

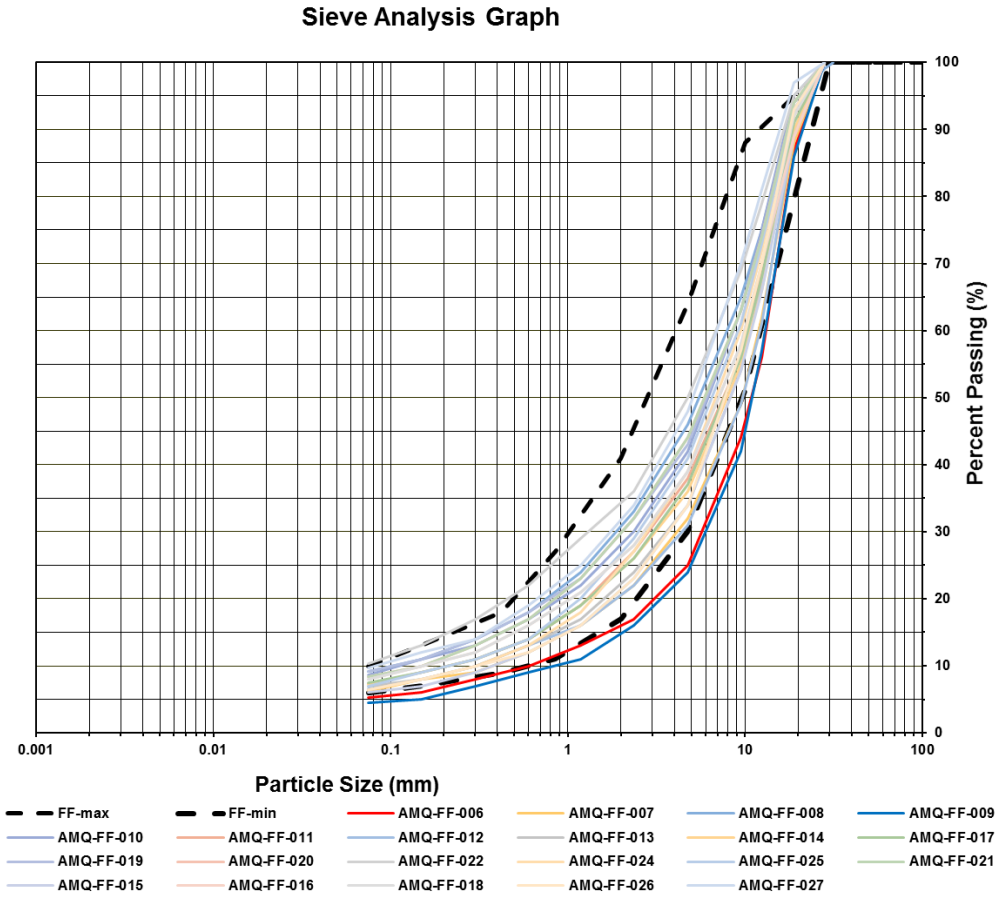


Figure 1: Summary of gradation test results completed on in-place fine filter

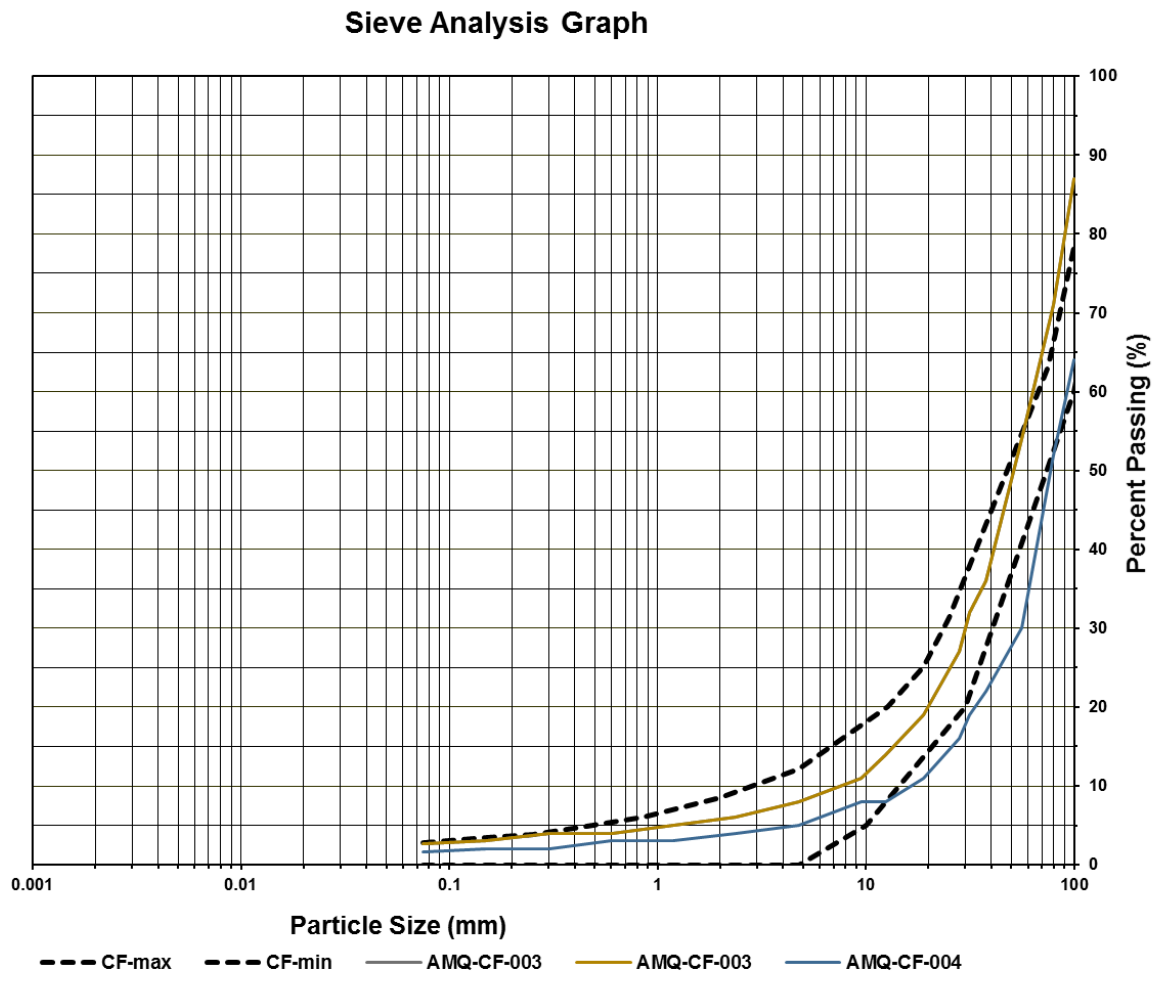


Figure 2: Summary of gradation test results completed on in-place coarse filter

Gradation results completed by QC can be found in Appendix D.

RFI

During last week, SNC Lavalin issued recommendation regarding the request for adjustment of the filter design against the road 24 embankment and issued field instruction version PC regarding transition zone which contains ice at the top of the slope between the lake A45 and the channel request:

- Filter design adjustment against Road 24 (RFI18): SNC agreed with the proposed design change based on the understanding that the road (Road 24 and the maintenance road) embankments are made of rockfill and agreed with the placement of rip rap against the road embankment (grey zone). SNC also agree with the placement of geotextile as proposed, going horizontally over the top of the filters below the rip rap as shown in Figure 3; and
- Transition zone which contain ice at the top of the slope between A45 lake and channel: SNC provide field note instruction version PC (667648-2000-60NC-0003-PC_Field Work Instruction (RFI-017))

The list of RFI for the known deviations/changes is attached in Appendix E.

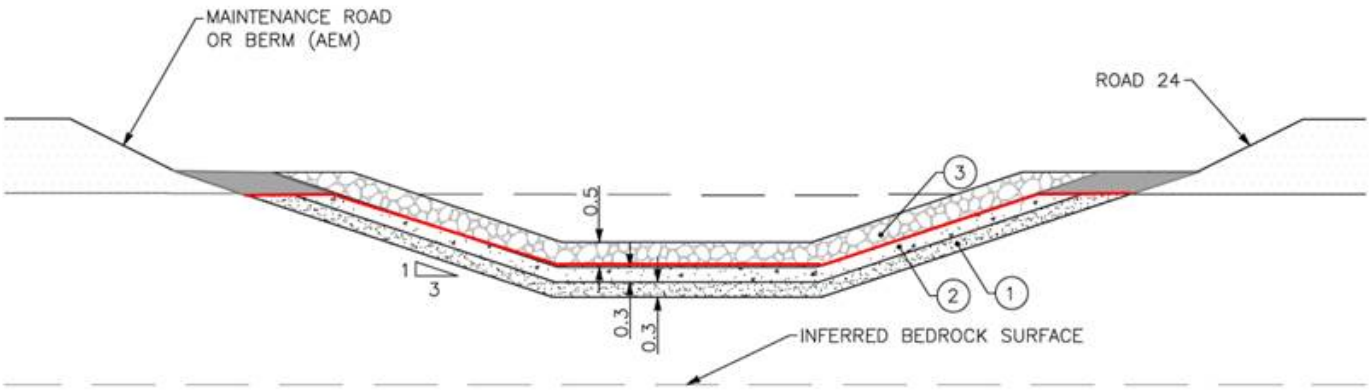


Figure 3: Proposed filter design adjustment against Road 24

SAFE AND SAFETY REMARKS

APPENDIX A: PHOTOS



Photo 1: View of fine filter placement and compaction using excavator bucket (photo taken looking north)



Photo 2: View of fine filter placement (photo taken looking south)



Photo 3: View of coarse filter placement (photo taken looking south)



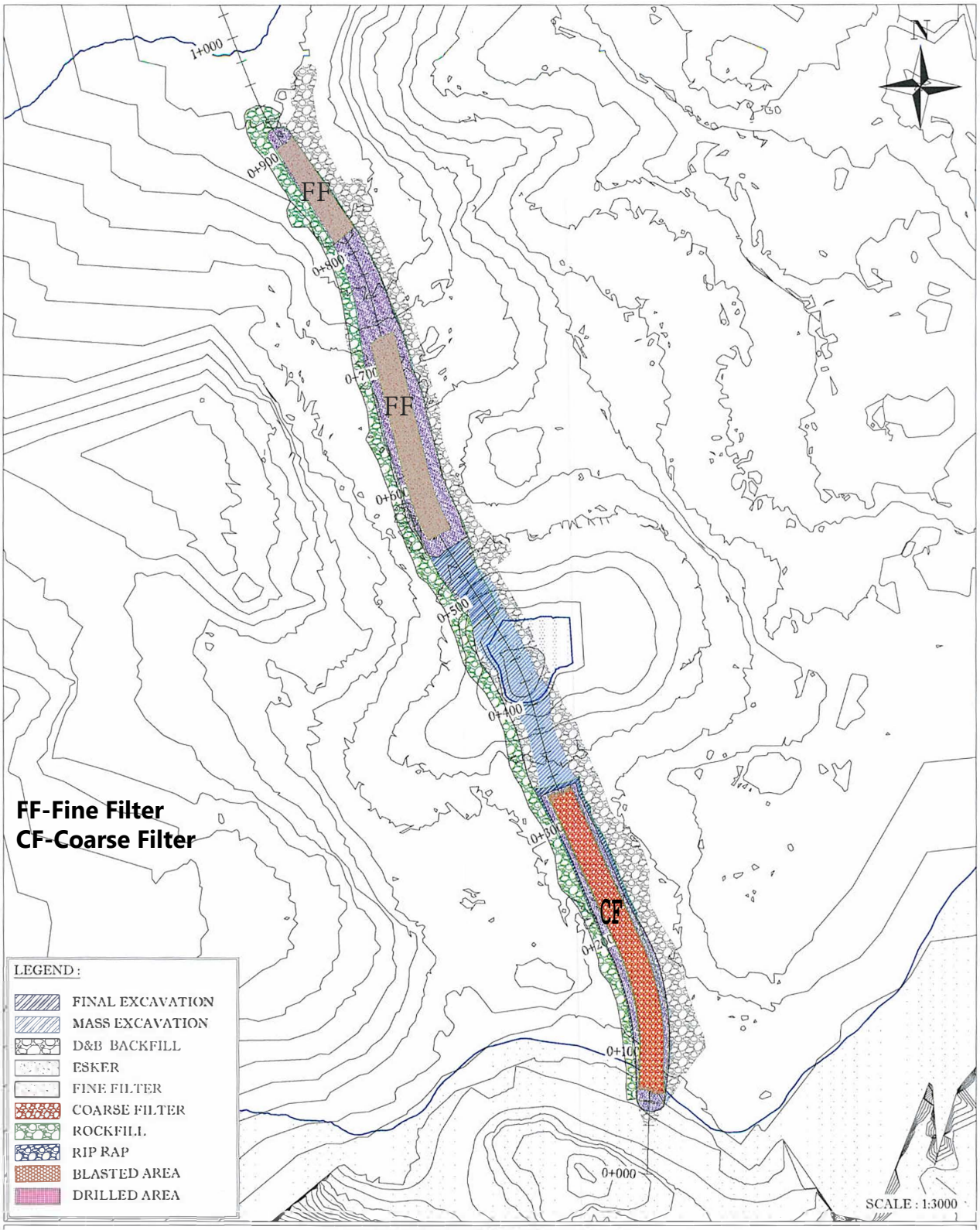
Photo 4: View of snow cleaning (photo taken looking south)



Photo 5: View of snow cleaning and fine filter placement (photo taken looking north)

APPENDIX B: Weekly progress for the construction of SWTDC

QUANTITY UPDATE
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



VOLUMETRY DETAIL

D&B BACKFILL : 30 343 m³ ROCKFILL ACCESS WEST SIDE : 3 571m³ ESKER : 5 428m³

EXCAVATION : 63 305/63 285m³ FINE FILTER : 3 258/ 4 236m³ COARSE FILTER : 1 318/ 3 713 m³

RIP RAP: /5 556 m³

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : LOUIS-PIERRE COLLARD
DATE : 15-03-2020
CON-QT-148

APPENDIX C : Approval form

SNC·LAVALIN

Sustaining capital
Mining & Metallurgy
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Canada H3A 1M8

Telephone: (514) 393-8000
Fax: (514) 390-2765
www.snclavalin.com

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DATE: 2020-03-09

DOCUMENT #: 20200309 - DS - 12
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

TIME: 09:00 AM
(24 hour clock)

APPROVAL FOR :

☑ Foundation approval (trench bottom and slopes)

☐ Fill placement approval: _____

☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+185 to 0+170 and 0+135 to 0+058	**Station:**	0+917 to 0+545, 0+335 to 0+185 and 0+170 to 0+135
Inclination:		**Details:**	
ELEVATION:	☐ varies _____ m		

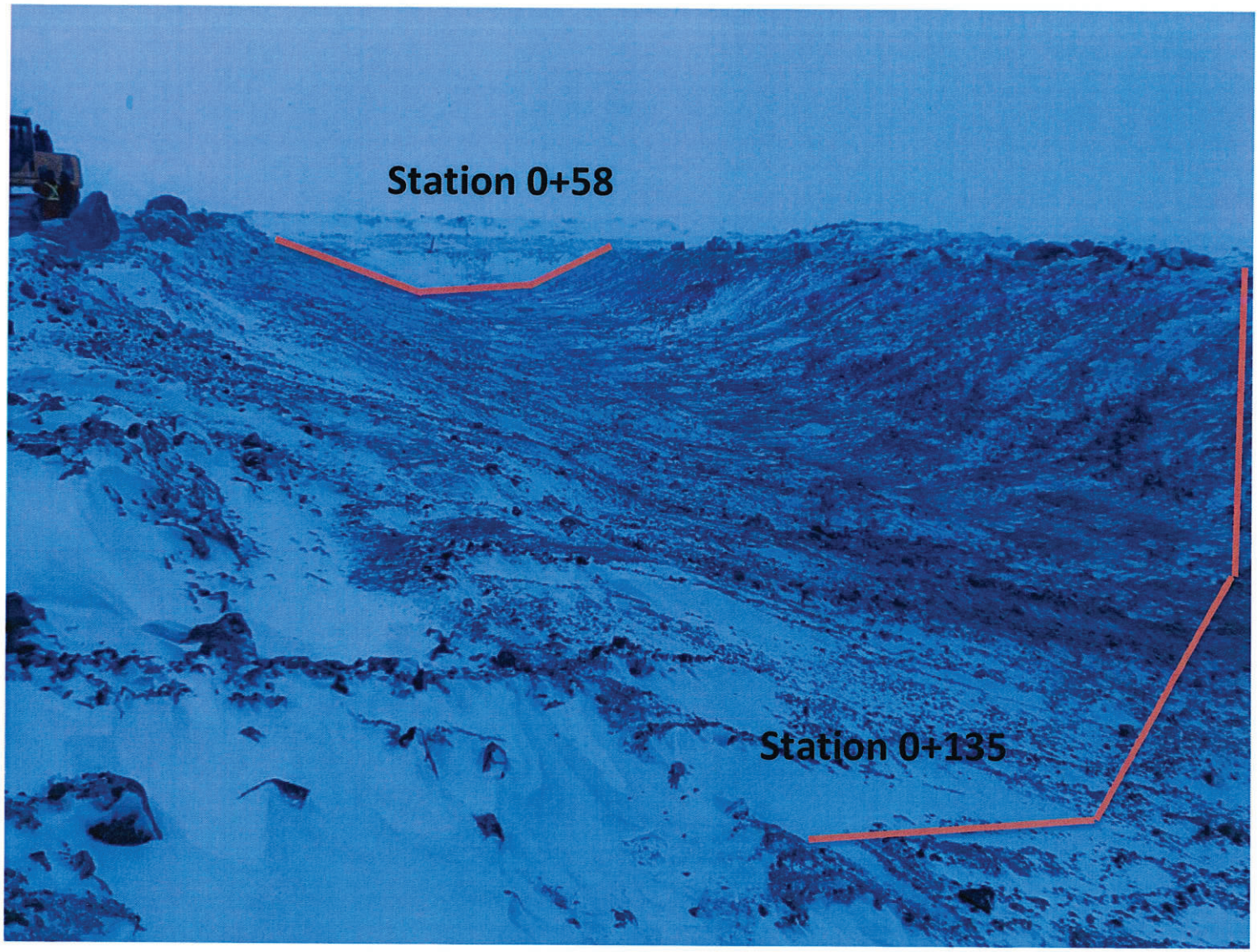
COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					—
5. Placement (lift thickness, segregation, etc.)					—
6. Compaction					—
7. As built survey completed					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

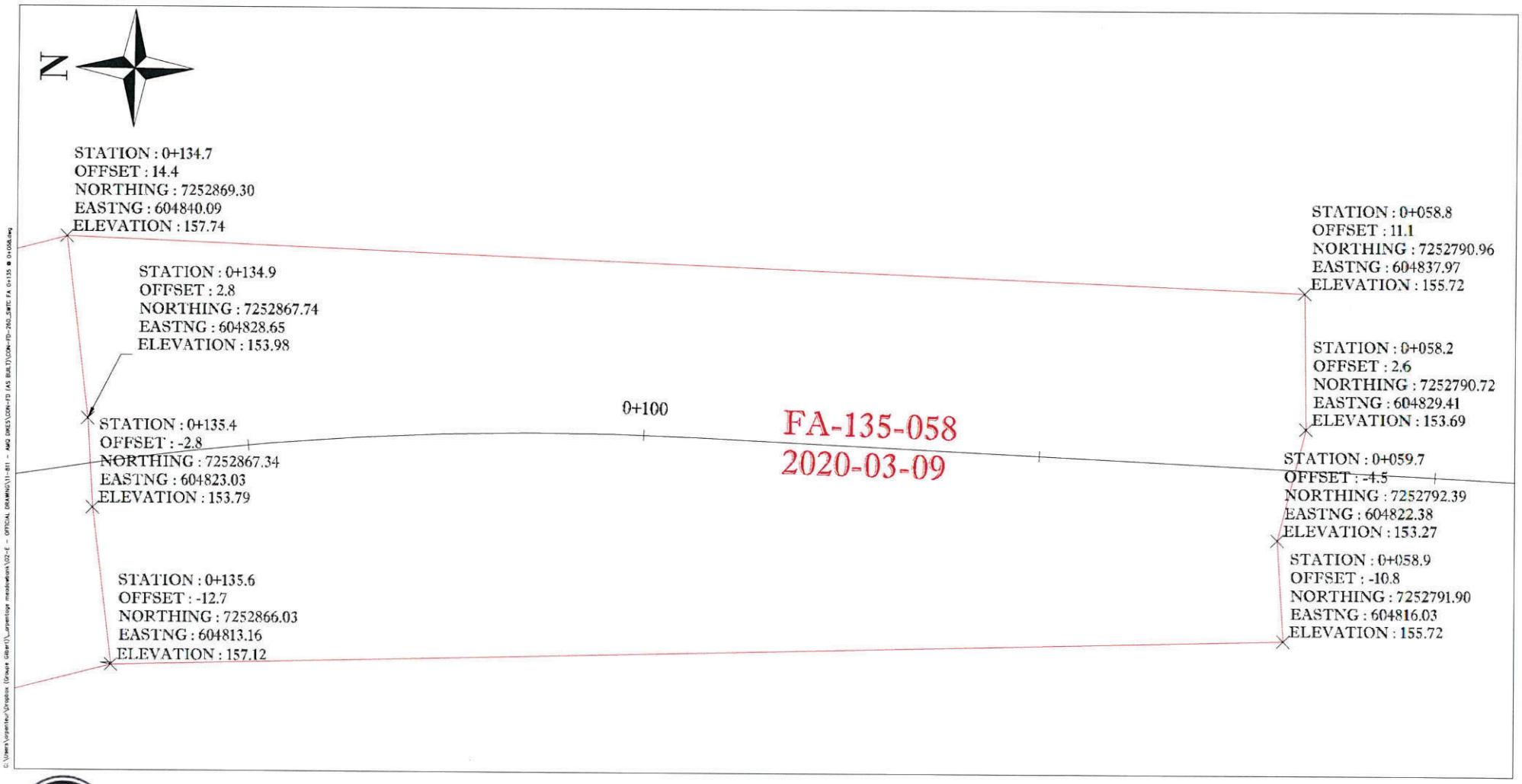
DETAILS (Refer to list above for item #)		APPROVED BY:			
		QA		QC	
ITEM		Y	N	Y	N
#2	Require verification for snow removal before placement if any snow accumulation by snow fall or wind				
#3	Require backfill for overcut area and sample backfill for gradation test to check fine content of the back fill material				

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Stephane Dorvelas	Mathieu G for Stephane	2020-03-10
QA REPRESENTATIVE	Houza Abdel-Aziz	Daniel Meles for Houza	2020-03-10
OWNER'S REPRESENTATIVE	MARION HABERSETZER		2020-03-10
CONTRACTOR'S REPRESENTATIVE	Nicolas Tremblay		2020-03-10



Picture 1: Approximate approved foundation area between Station 0+135 and 0+58 (170 (Photo obtained from AEM Supervisor)

FOUNDATION APPROVAL - 0+135 @ 0+058
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



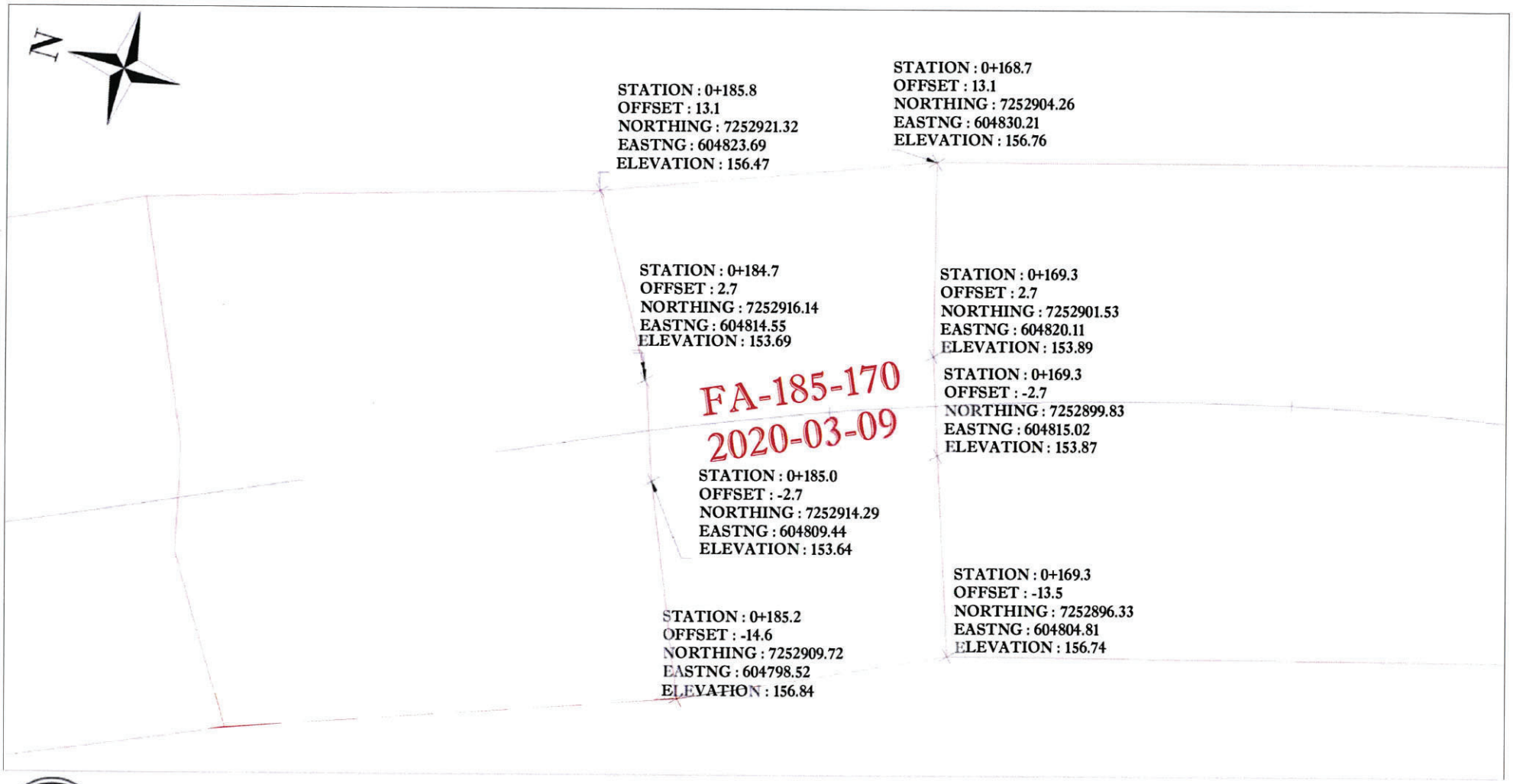
KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : LOUIS-PIERRE COLLARD
DATE : 09-03-2020
CON-FD-260



Picture 2: Approximate approved foundation area between Station 0+185 and 0+170 (Photo obtained from AEM)

FOUNDATION APPROVAL - 0+185 @ 0+170
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : LOUIS-PIERRE COLLARD
DATE : 09-03-2020
CON-FD-259

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www.snclavalin.com

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-03-10

DOCUMENT #: 20200310 – DS – 13 **TIME:** 3:00 PM

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Esker placement
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+050 to 0+330	**Station:**	
Inclination:		**Details:**	
ELEVATION:	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

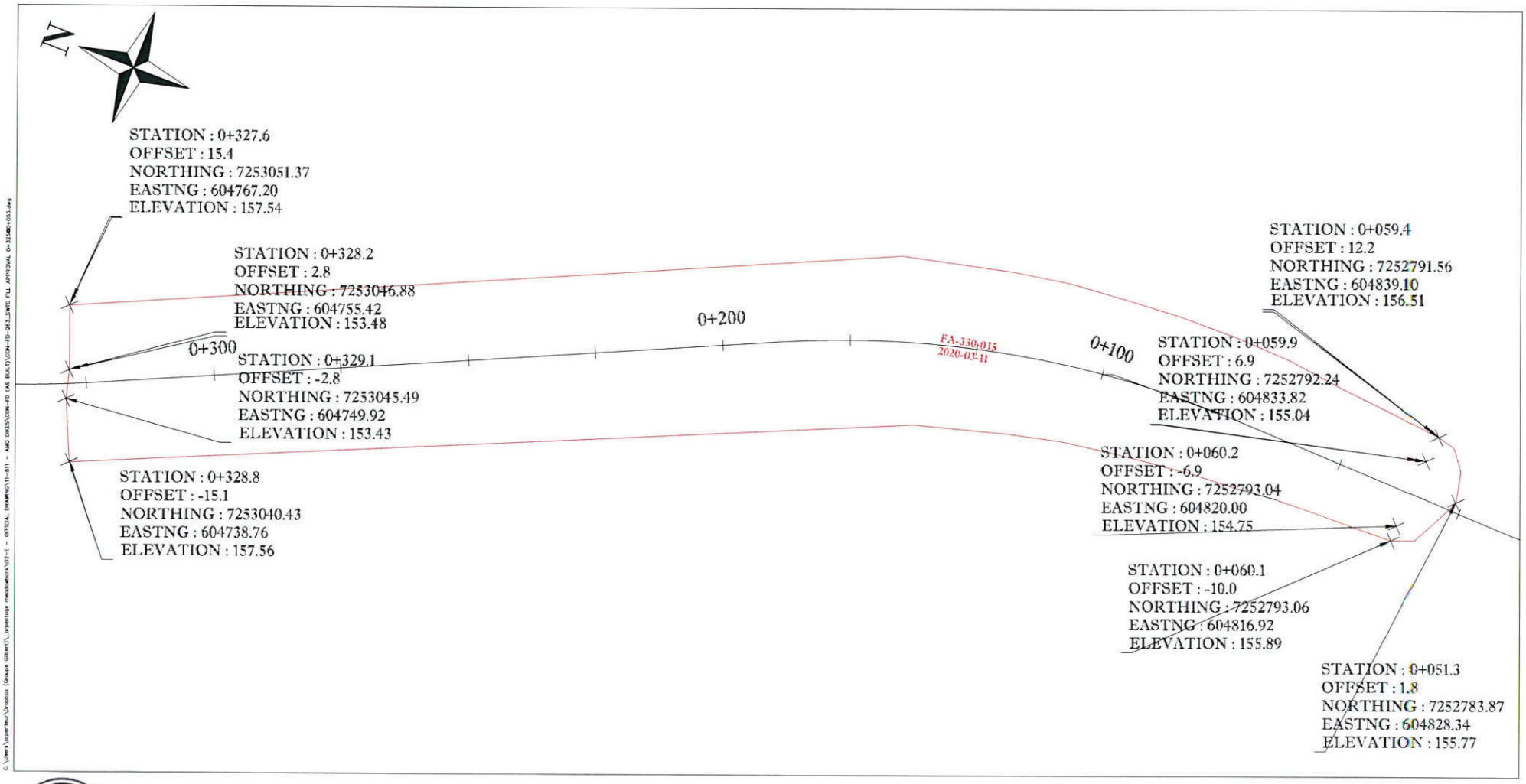
(Add additional items if needed)

	VERIFICATIONS DONE BY:				
	QA		**QC**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom					—
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		—
6. Compaction					—
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS (Refer to list above for item #)		APPROVED BY:			
		QA		QC	
ITEM		Y	N	Y	N
#4	Visual inspection and laboratory test result indicated the eskar placed in the area had fine content less than the fine content of the soil used to design the filter				
#	No segregation				

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Mathieu Côté	Mathieu Côté	2020-03-10
QA REPRESENTATIVE	Daniel Meles	Daniel	2020-03-10
OWNER'S REPRESENTATIVE	MARION HABERSETZER		2020-03-10
CONTRACTOR'S REPRESENTATIVE	Nicolas Tremblay		2020.03.10

ESKER PLACEMENT APPROVAL - 0+328 @ 0+050
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : LOUIS-PIERRE COLLARD
DATE : 11-03-2020
CON-FD-263

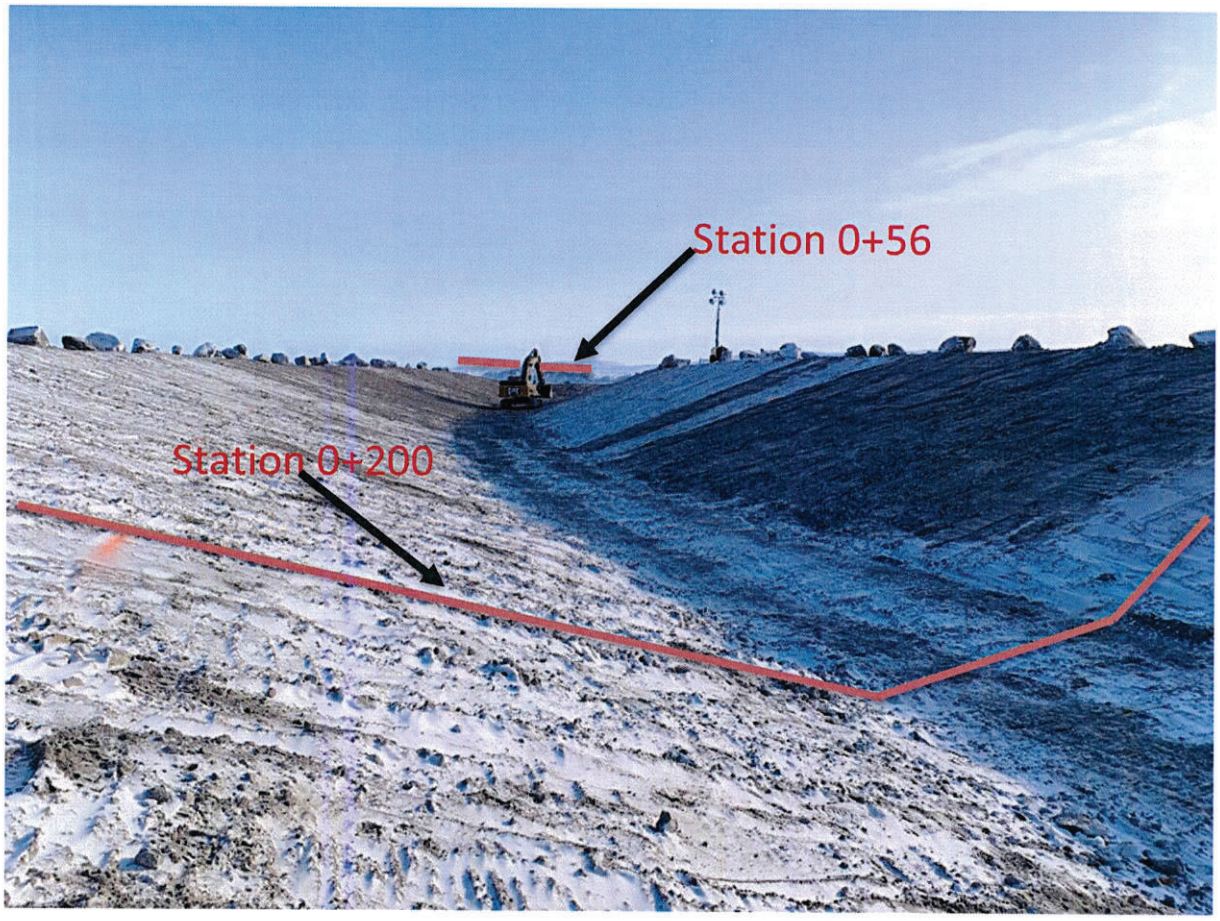


Photo 1 – View of approximate approved area for fine filter placement (Sta. 0+056 to Sta. 0+200)



Photo 2– View of approximate approved area for fine filter placement (Sta. 0+200 to Sta. 0+330)

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www.snclavalin.com

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DOCUMENT #: 20200312-DS-14
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 2020-03-11/12

TIME: 4:00 PM / 08:00 AM
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Fine Filter
- ☐ Other: _____

LOCATION	**PREVIOUS APPROVALS**
Station 0+065 to 0+325	**Station:** —
Inclination:	**Details:**
ELEVATION: ☐ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water					—
3. Cleaning of excavation bottom					—
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

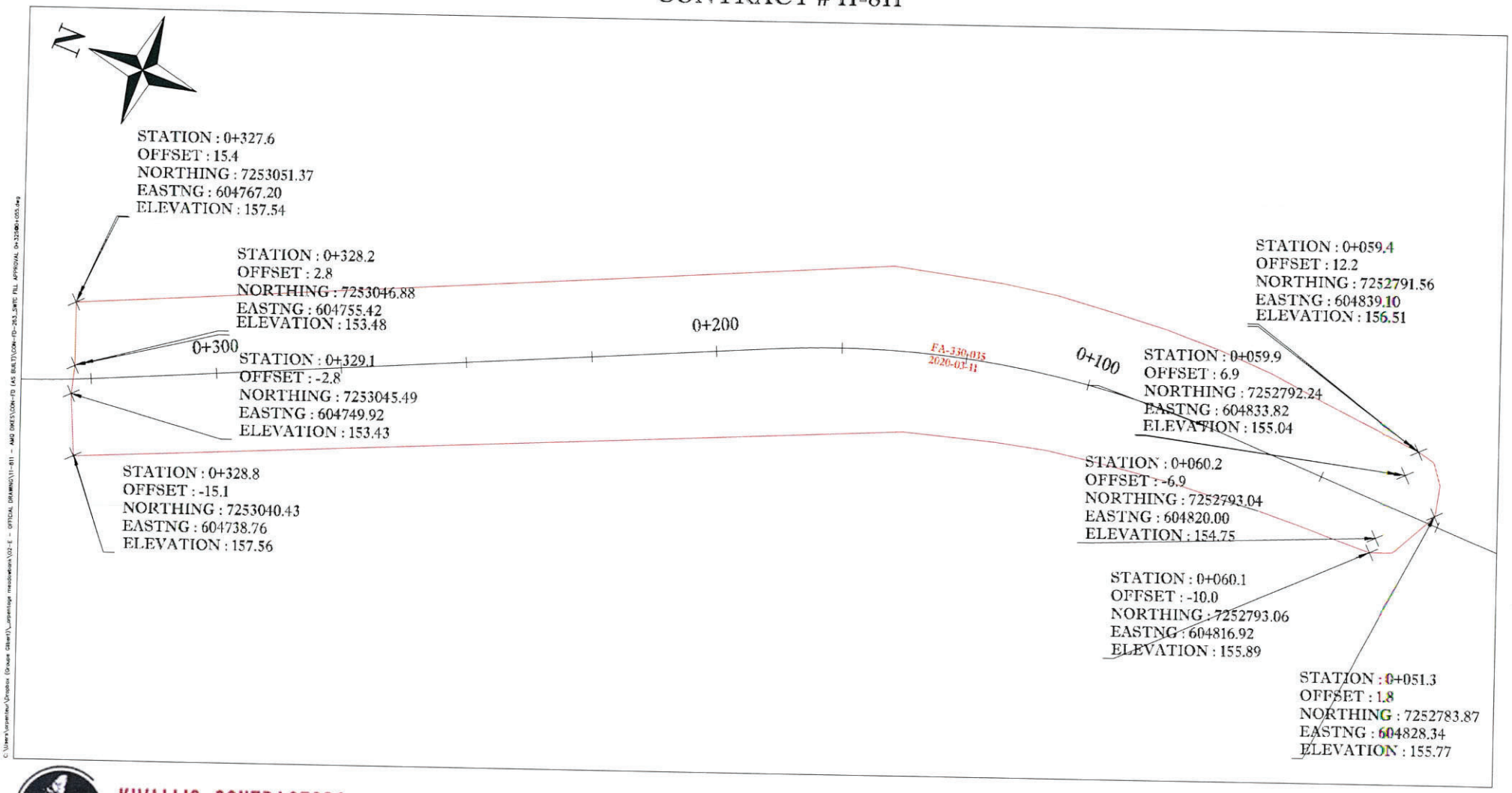
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
All	Based on Visual assessment				
	Gradation test result of four samples were available at the time of approval.				

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Mathieu Côté	Mathieu Côté	2020-03-12
QA REPRESENTATIVE	Daniel Meles		2020-03-12
OWNER'S REPRESENTATIVE	MARION HABERSETZER		2020-03-12
CONTRACTOR'S REPRESENTATIVE	Nicolas Tremblay		2020-03-12

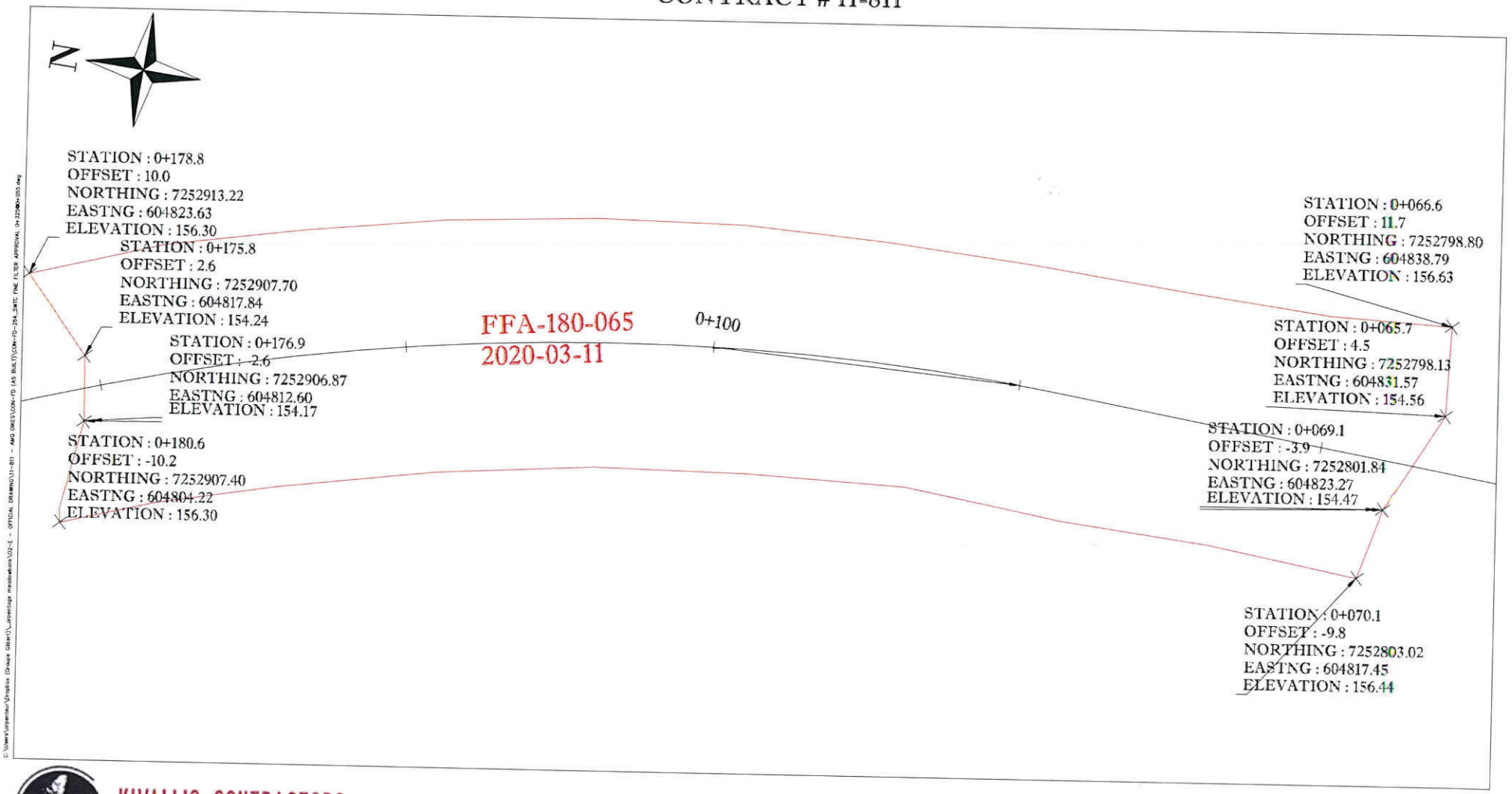
ESKER PLACEMENT APPROVAL - 0+328 @ 0+050
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : LOUIS-PIERRE COLLARD
DATE : 11-03-2020
CON-FD-263

FINE FILTER PLACEMENT APPROVAL - 0+180 @ 0+065
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : LOUIS-PIERRE COLLARD
DATE : 11-03-2020
CON-FD-264

FINE FILTER PLACEMENT APPROVAL - 0+325 @ 0+229
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



STATION : 0+324.4
OFFSET : 10.3
NORTHING : 7253046.59
EASTNG : 604763.80
ELEVATION : 155.90

STATION : 0+233.0
OFFSET : 10.2
NORTHING : 7252963.28
EASTNG : 604801.40
ELEVATION : 156.23

TATION : 0+325.0
OFFSET : 2.8
NORTHING : 7253043.96
EASTNG : 604756.70
ELEVATION : 153.75

STATION : 0+235.8
O FSET : 2.7
ORTHING : 7252962.72
ASTNG : 604793.51
ELEVATION : 154.01

0+300

FFA-325-229
2020-03-11

STATION : 0+229.0
OFFSET : -2.6
NORTHING : 7252954.40
EASTNG : 604791.47
ELEVATION : 154.00

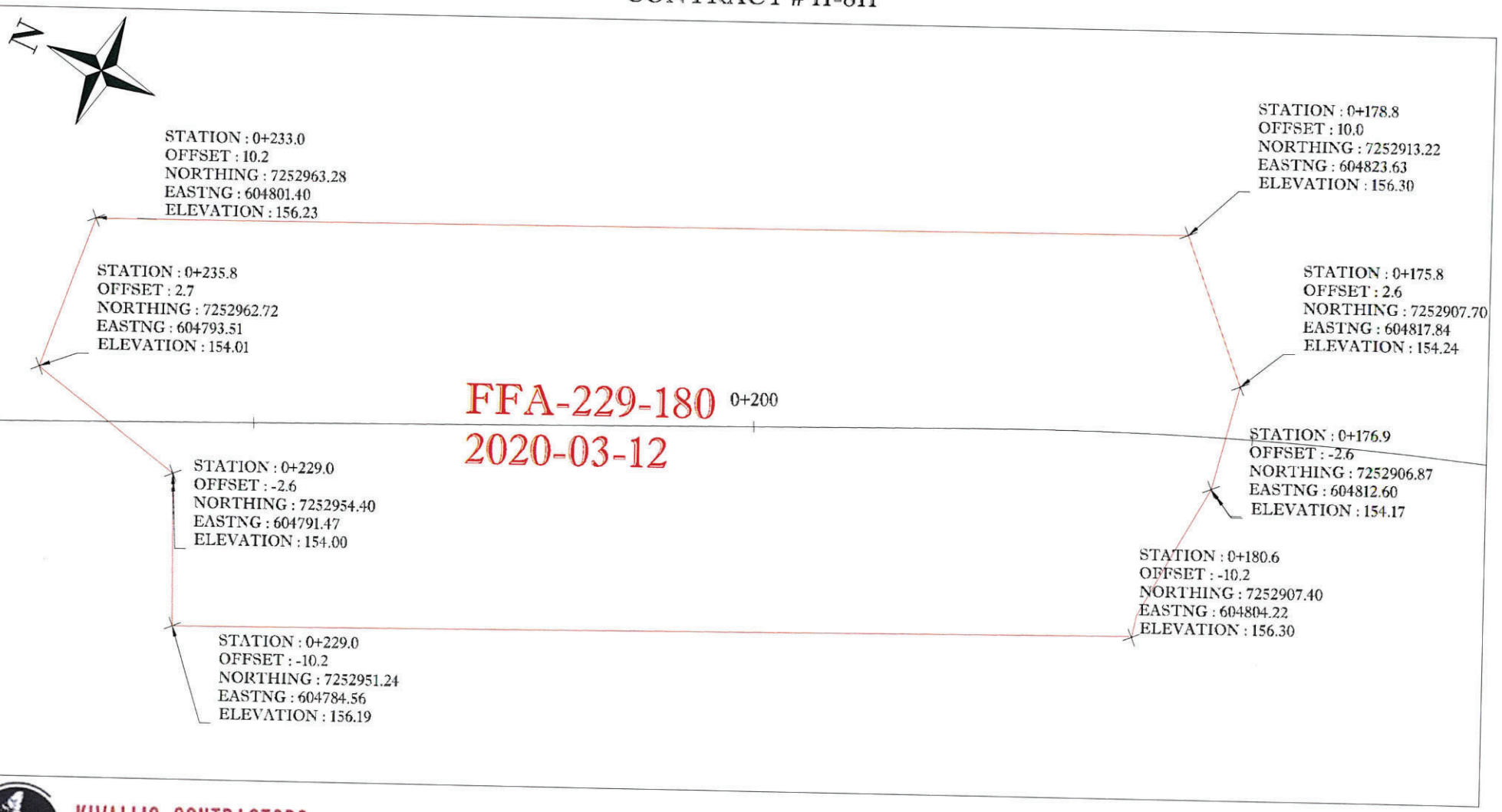
STATION : 0+326.4
OFFSET : -10.2
NORTHING : 7253040.06
EASTNG : 604744.27
ELEVATION : 155.95

STATION : 0+229.0
OFFSET : -10.2
NORTHING : 7252951.24
EASTNG : 604784.56
ELEVATION : 156.19

KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : LOUIS-PIERRE COLLARD
DATE : 11-03-2020
CON-FD-265

FINE FILTER PLACEMENT APPROVAL - 0+229@ 0+180
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : LOUIS-PIERRE COLLARD
DATE : 12-03-2020
CON-FD-267

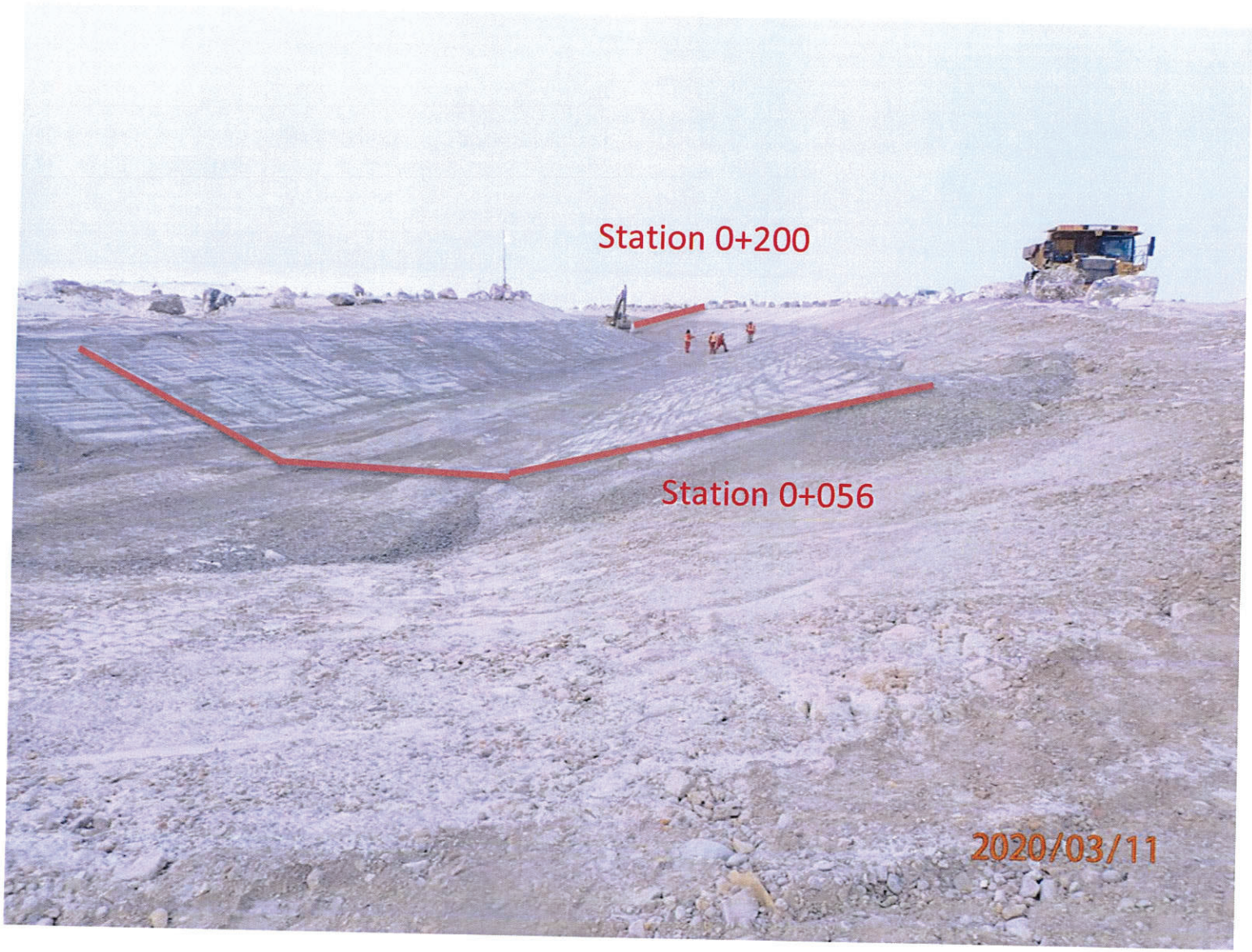


Photo 1 – View of approximate approved area of fine filter between Sta. 0+56 and Sta. 0+180

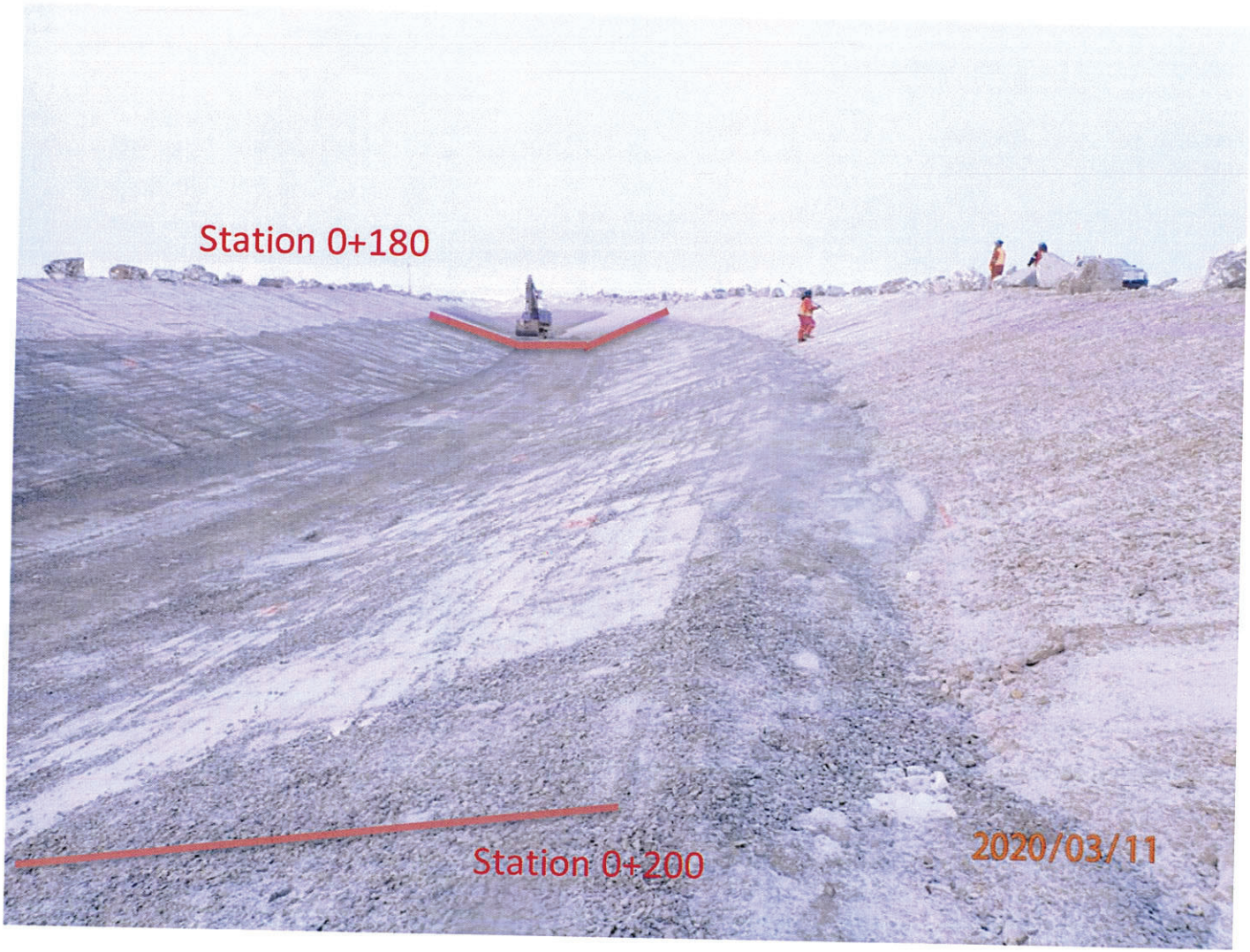


Photo 2 – View of approximate approved area of fine filter between Sta. 0+200 and Sta. 0+3330

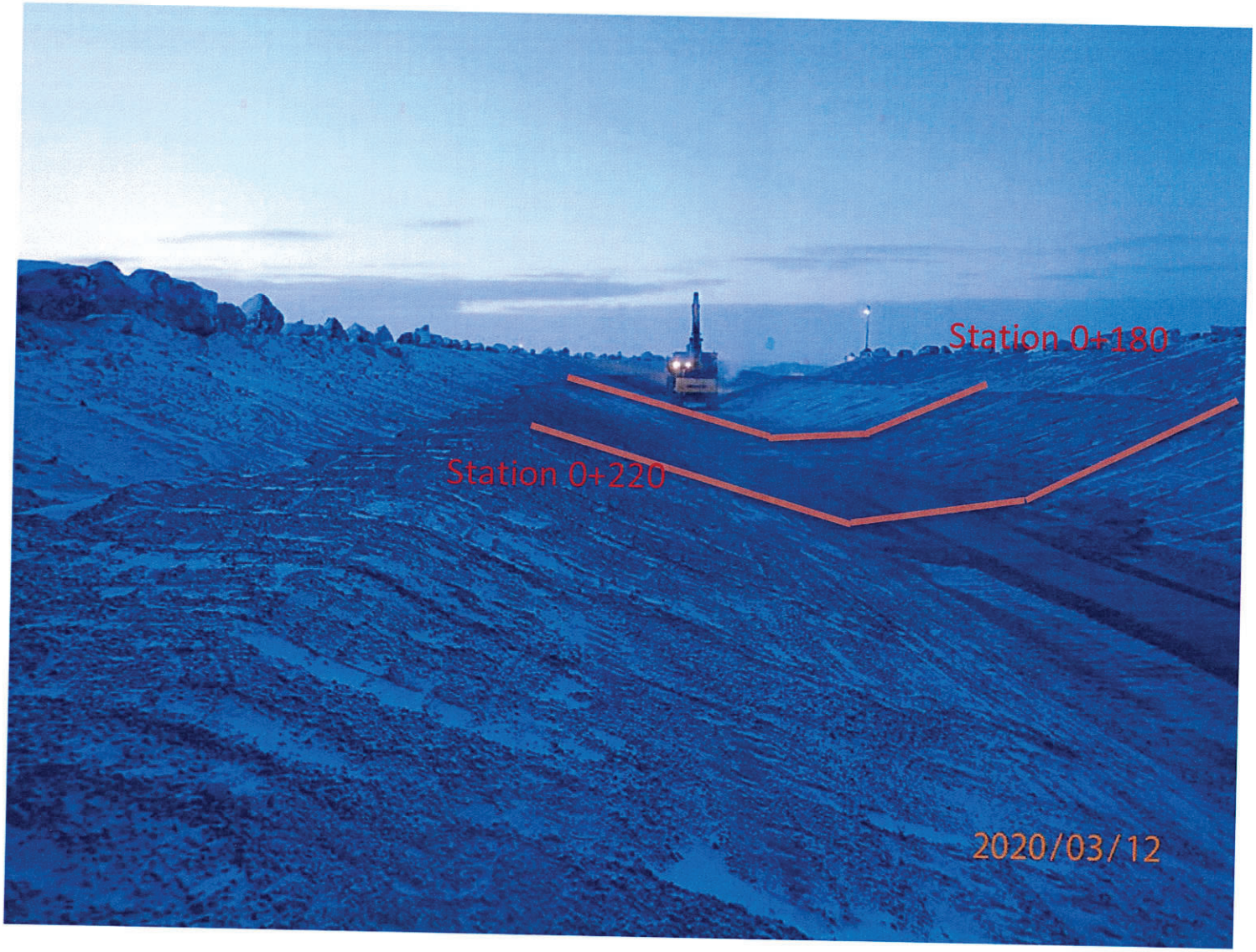


Photo 1 – View of approximate approved area of fine filter between Sta. 0+180 and Sta. 0+200

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DOCUMENT #: 20200313-DS-15
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 2020-03-13

TIME: 3:00 PM
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Fine Filter Placement
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+700 to 0+555	**Station:**	0+065 to 0+325
Inclination:		**Details:**	
ELEVATION: ☐ varies	_____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY:				
	QA		**QC**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water					
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS

(Refer to list above for item #)

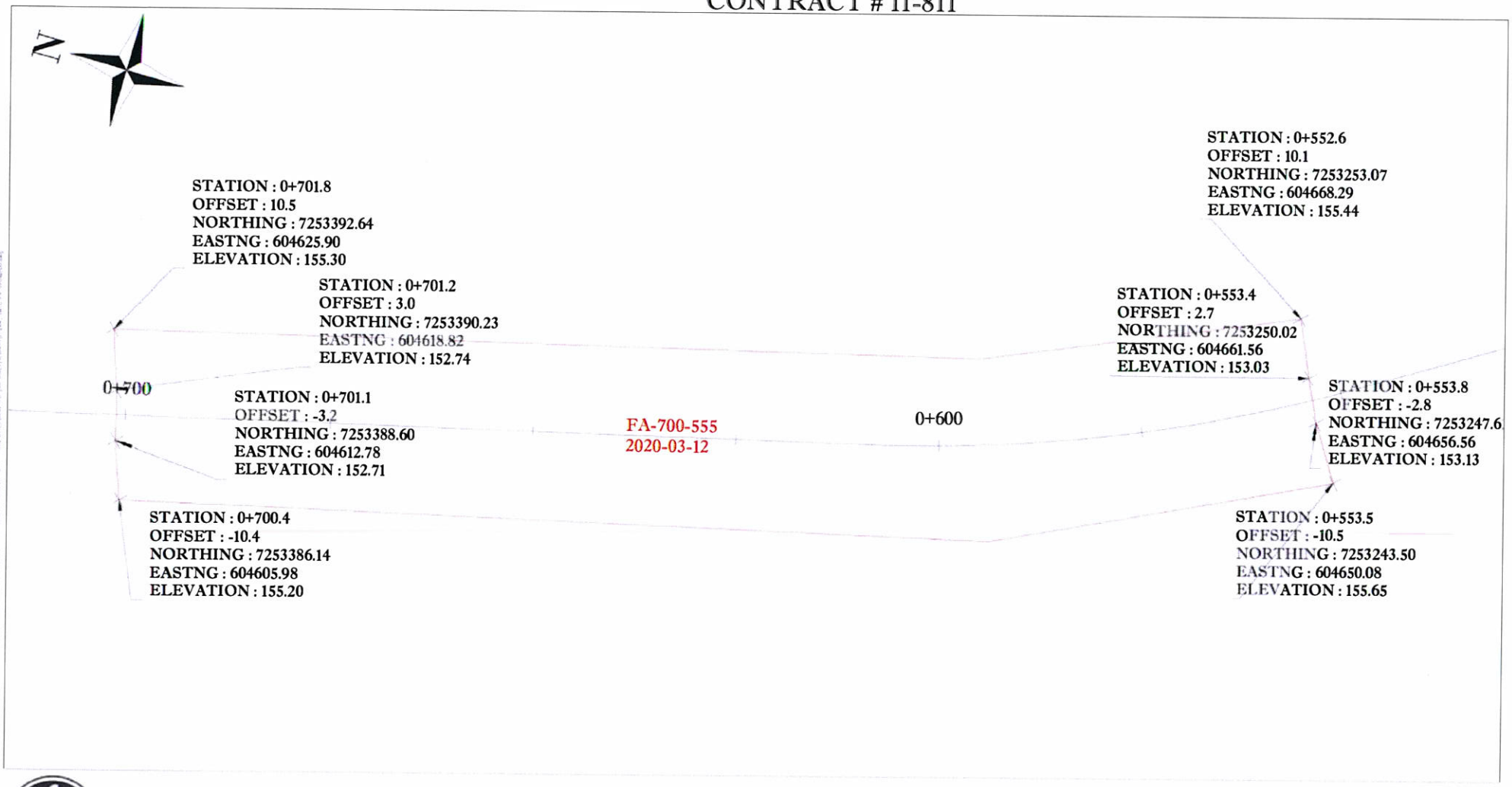
ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
All	Based on Visual assessment				
	Gradation test results of three from the area and nine from other area available at the time of approval				

APPROVED BY:

	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Mathieu Côté	Mathieu Côté	2020-03-14
QA REPRESENTATIVE	Daniel Meles	Daniel Meles	2020-03-14
OWNER'S REPRESENTATIVE	Patrice Gagnon	Patrice Gagnon	2020-03-14
CONTRACTOR'S REPRESENTATIVE	Nicolas Tremblay	Nicolas Tremblay	2020-03-14

FINE FILTER PLACEMENT APPROVAL 0+700 @ 0+555

SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : LOUIS-PIERRE COLLARD
DATE : 12-03-2020
CON-FD-268

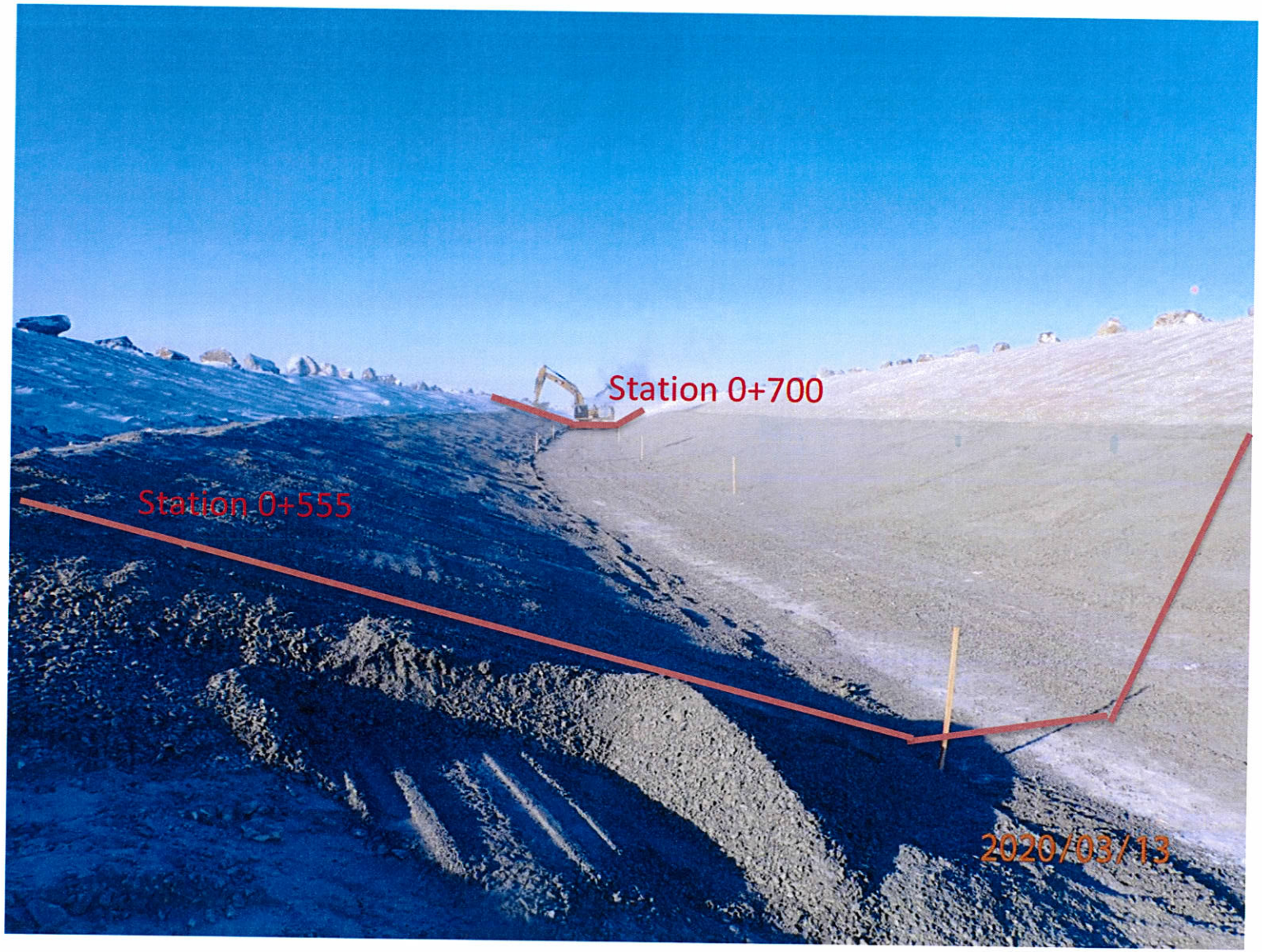


Photo 1: View of fine filter approval Sta. 0+555 to 0+700

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DOCUMENT #: 20200314-DS-16
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 2020/03/14

TIME: _____
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Esker
- ☐ Other: _____

LOCATION

Station 0+906 to 0+553

Inclination:

ELEVATION: ☐ varies _____ m

PREVIOUS APPROVALS

Station: 0+056 to 0+330

Details:

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom					—
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		—
6. Compaction					—
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS

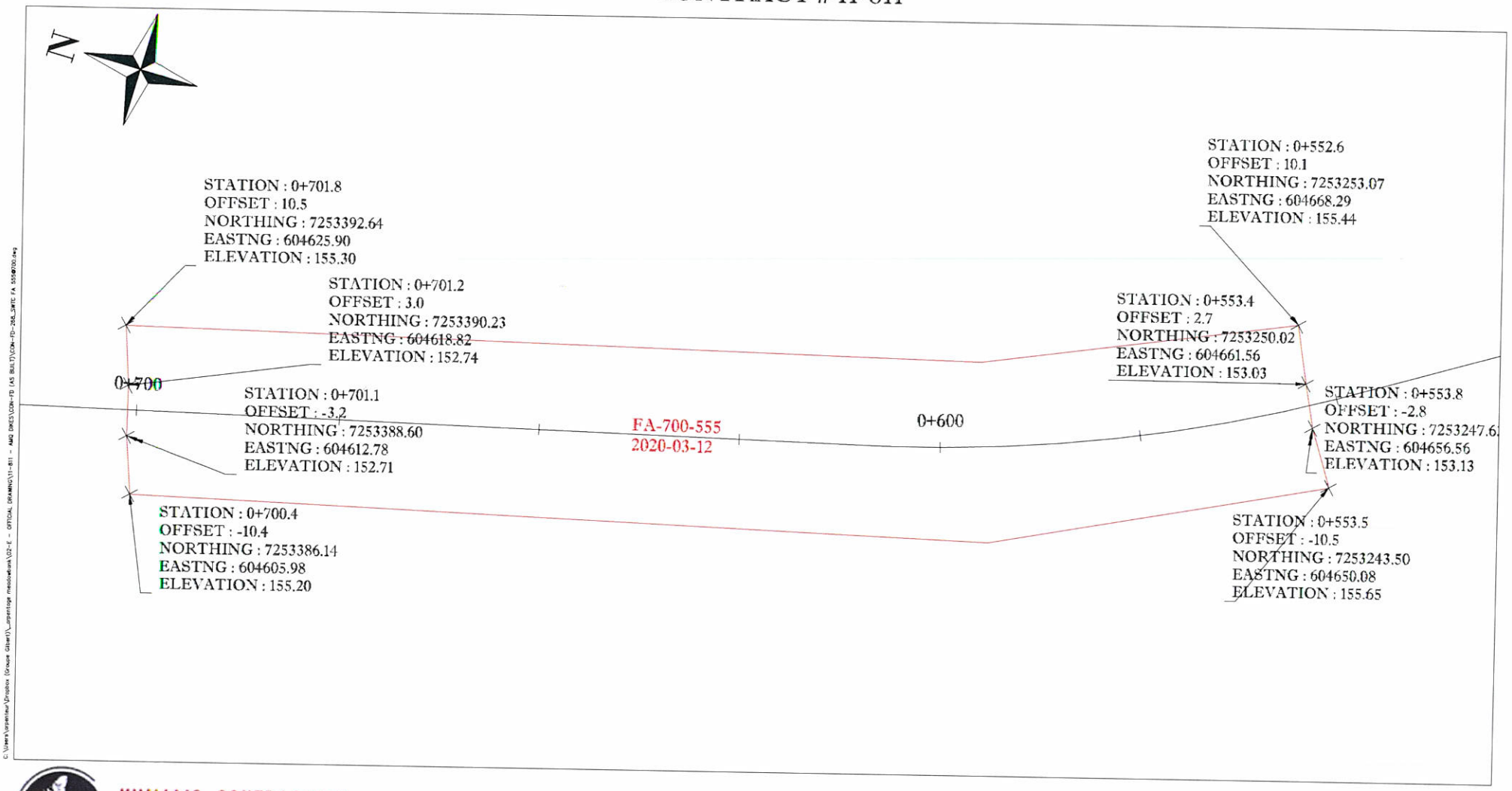
(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
All	Visual inspection				
#4	Visual inspection and laboratory test result indicated the esker placed in the area had fine content less than the fine content of the soil used to design the filter.				
#5	No segregation				
	If snow accumulation is observed from wind/snow fall between approval and placement, additional snow removal may be requested by QA/QC				

APPROVED BY:

	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Mathieu Côté	Mathieu Côté	2020-03-14
QA REPRESENTATIVE	Daniel Meles	Daniel	2020-03-14
OWNER'S REPRESENTATIVE	MARION HABERSETZER		2020-03-14
CONTRACTOR'S REPRESENTATIVE	Nicolas Tremblay		2020-03-14.

FOUNDATION APPROVAL - 0+700 @ 0+555
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : LOUIS-PIERRE COLLARD
DATE : 12-03-2020
CON-FD-268

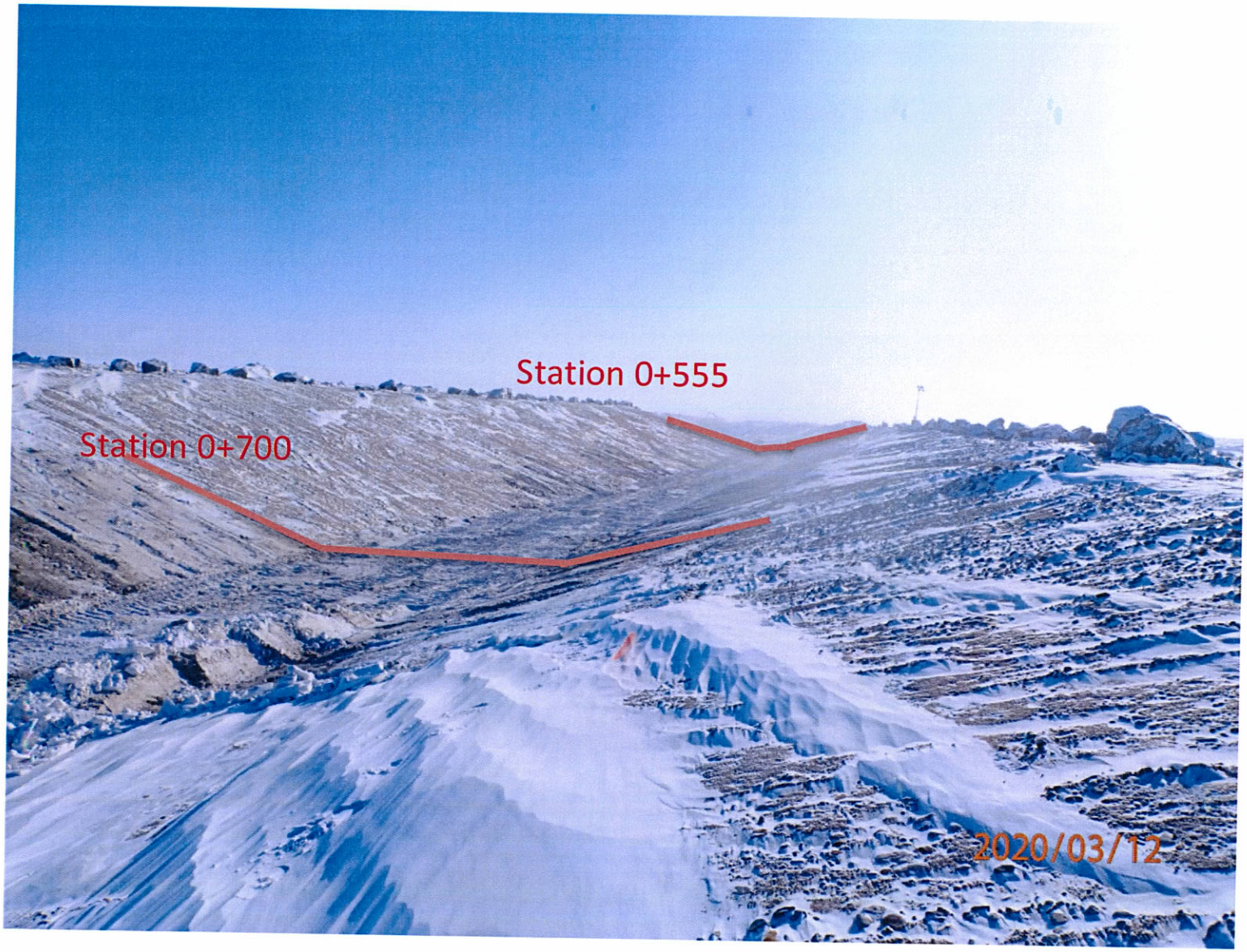
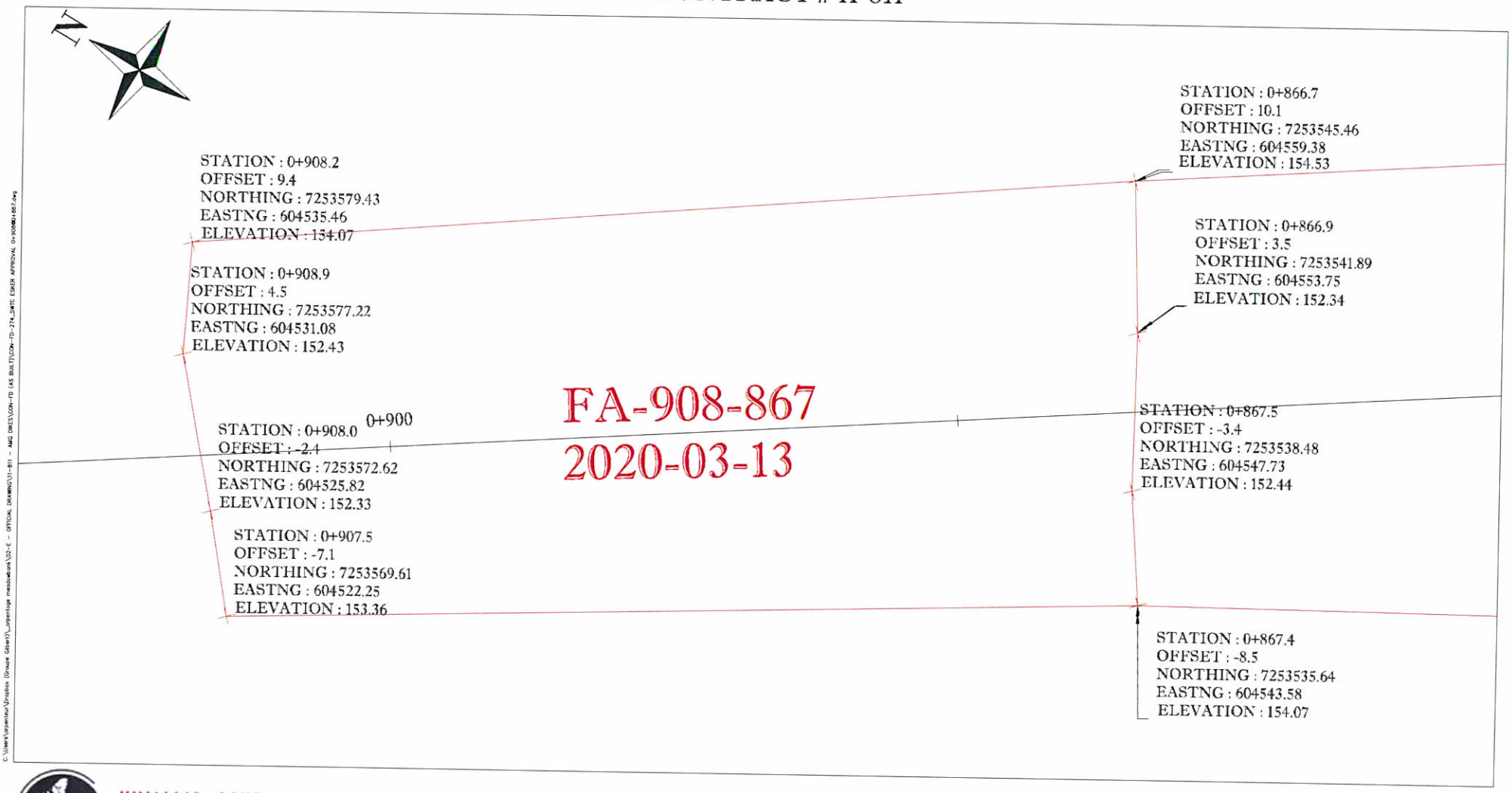


Photo 1: View of snow cleaning approval for fine filter placement between Sta. 0+555 to 0+700

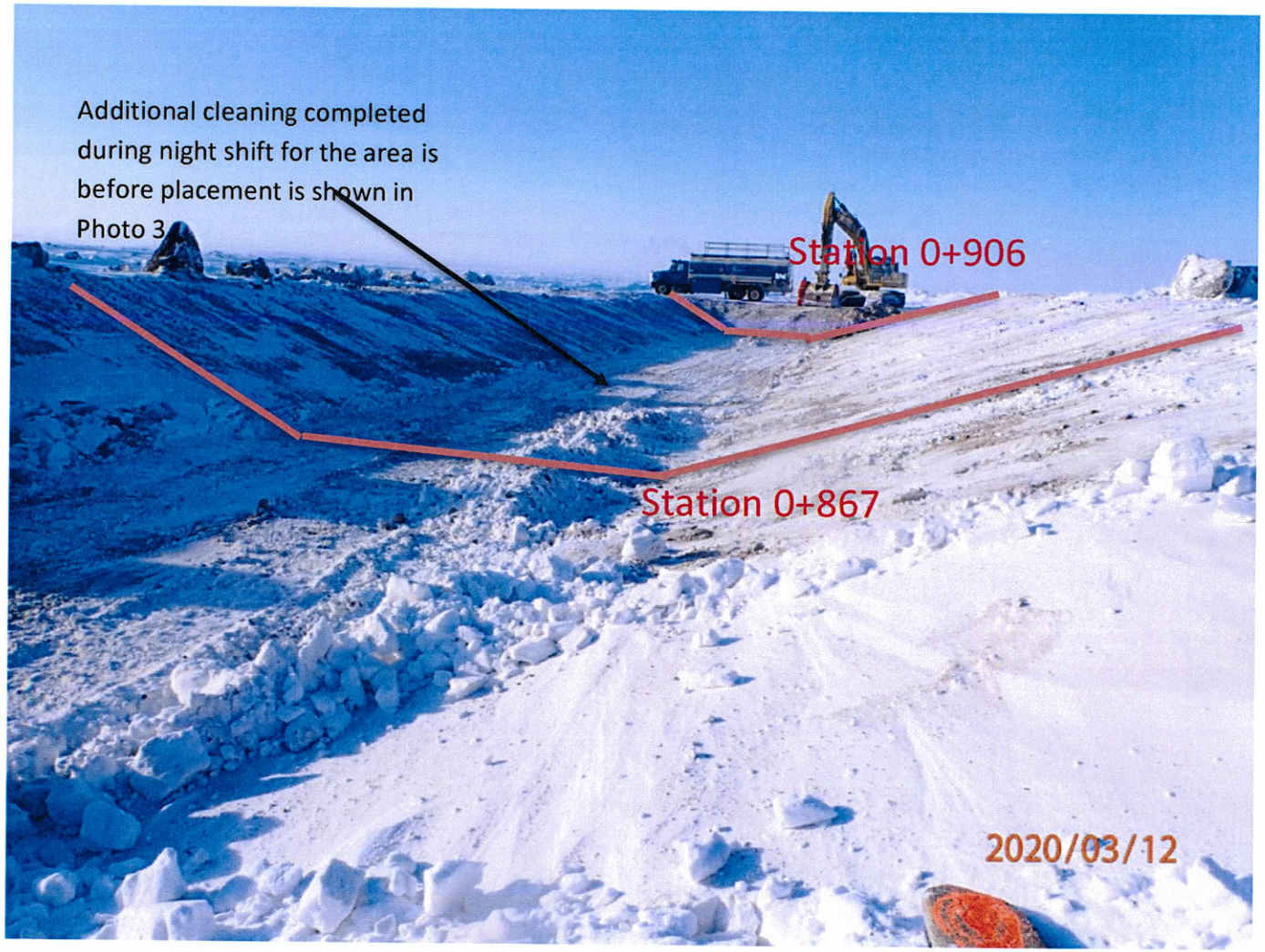
ESKER PLACEMENT APPROVAL - 0+908@ 0+867
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



FA-908-867
2020-03-13

KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : LOUIS-PIERRE COLLARD
DATE : 14-03-2020
CON-FD-274



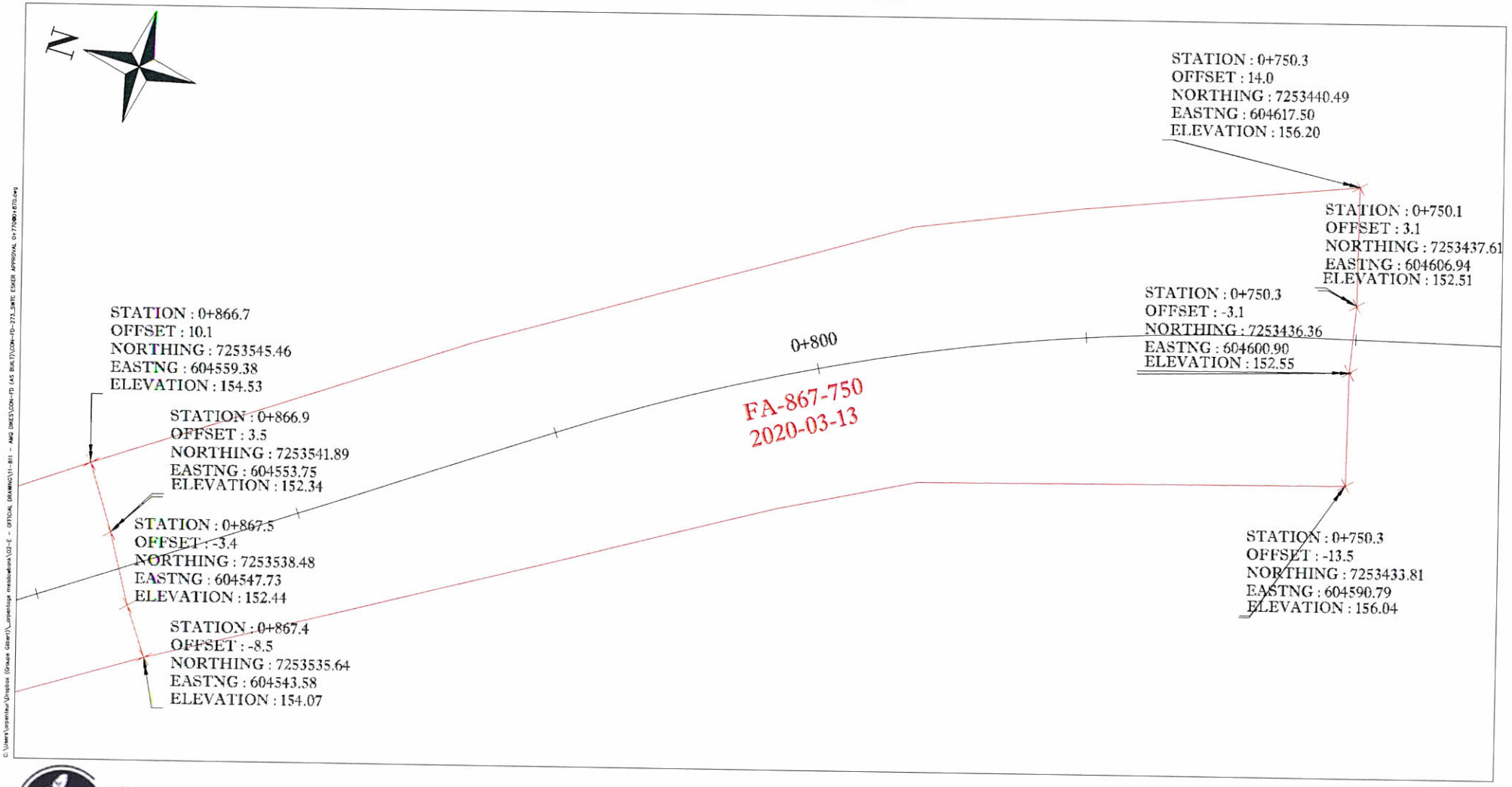
Note snow in the approved area was cleaned and before fine filter placement (see photo 3)

Photo 2: View of snow cleaning approval for fine filter placement between Sta. 0+867 to 0+906



Photo 3: Photo taken to confirm additional cleaning for snow removal before FF placement between station 0+867 to 0+906 (photo provided by AEM supervisor)

ESKER PLACEMENT APPROVAL - 0+867 @ 0+750
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : LOUIS-PIERRE COLLARD
DATE : 14-03-2020
CON-FD-273

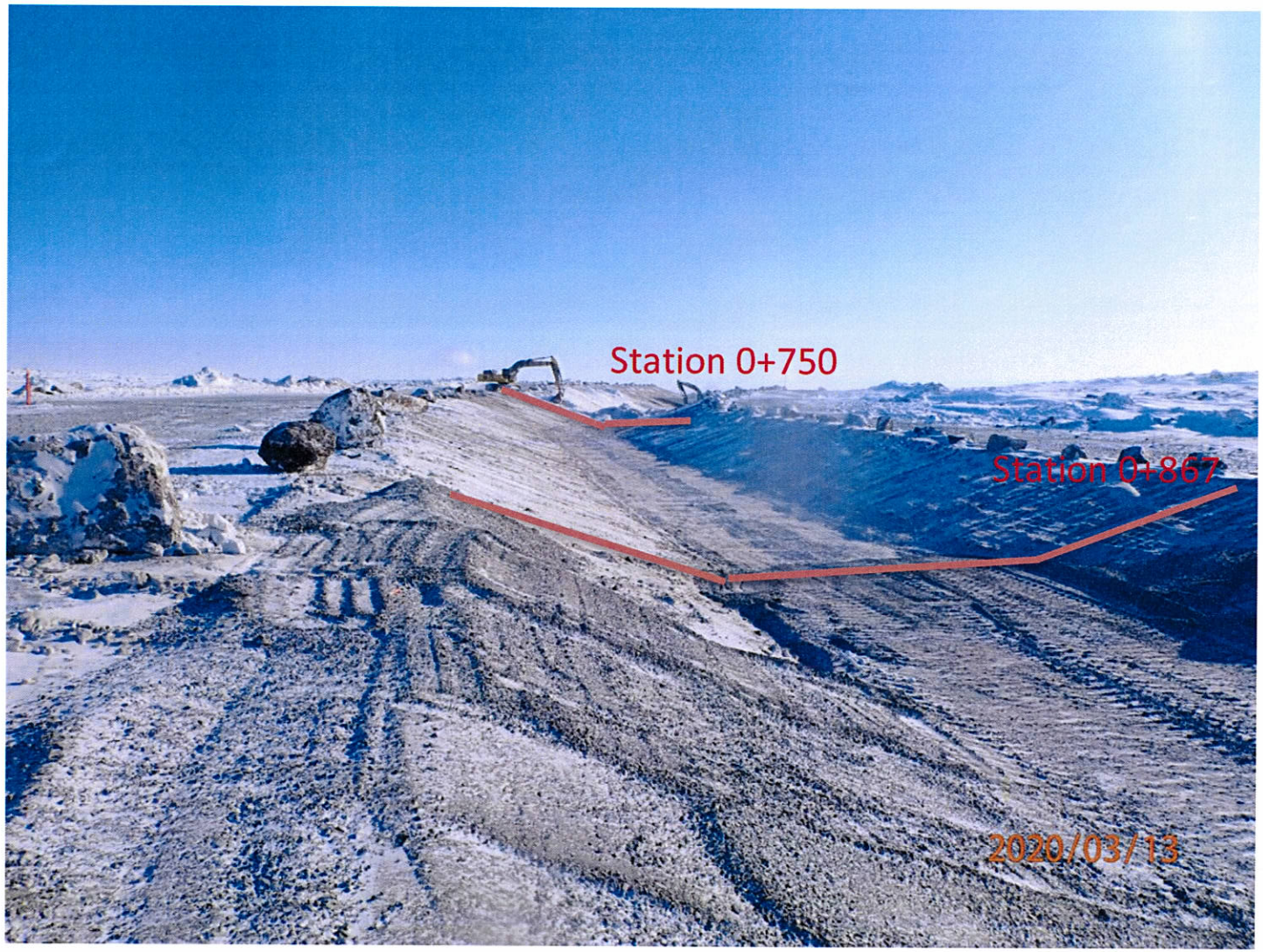
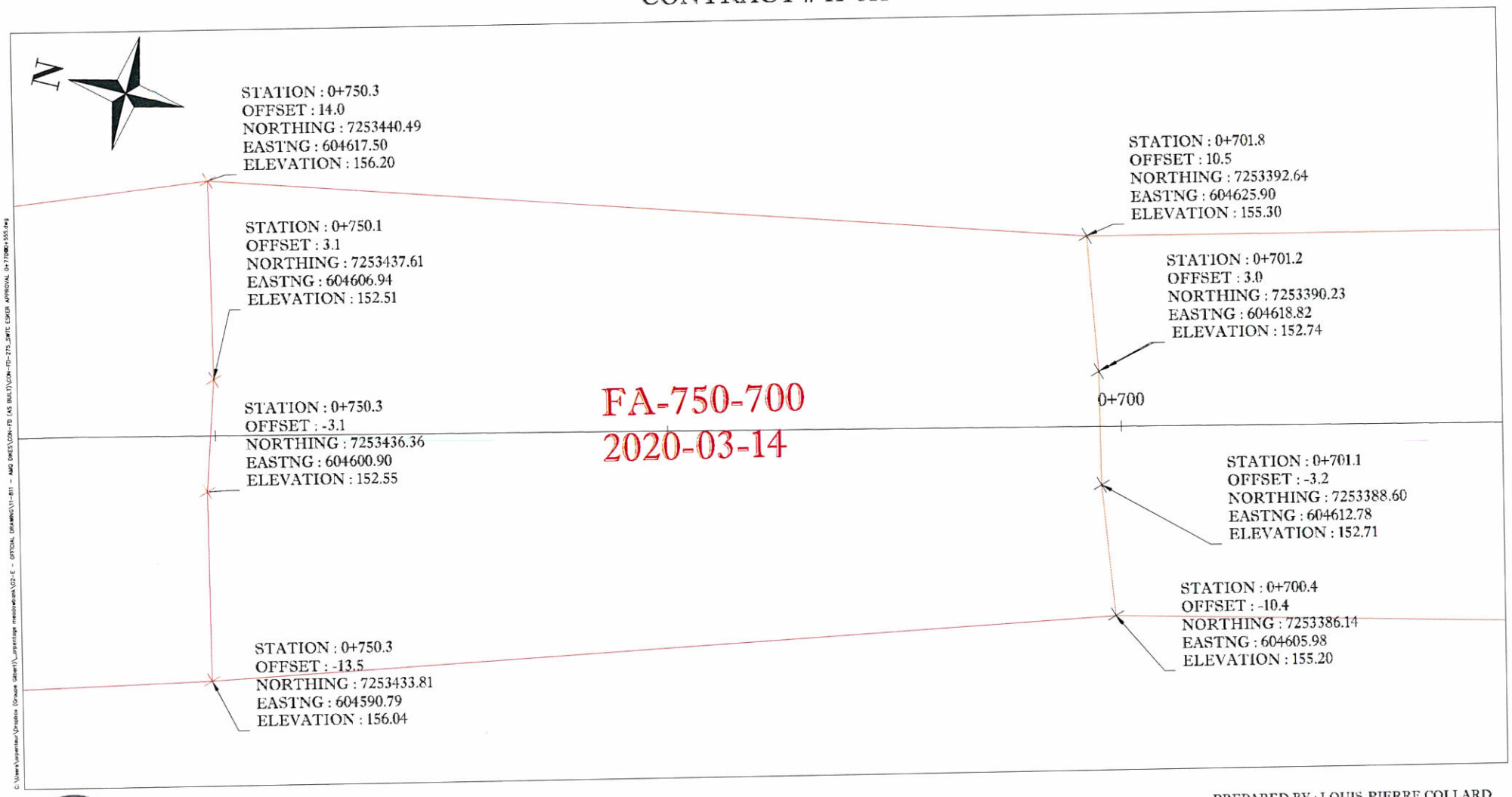


Photo 4: View of snow cleaning approval for fine filter placement between Sta. 0+867 to 0+772

ESKER PLACEMENT APPROVAL - 0+750@ 0+700
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



FA-750-700
2020-03-14

KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : LOUIS-PIERRE COLLARD
DATE : 14-03-2020
CON-FD-275



Photo 5: View of snow cleaning approval for fine filter placement between Sta. 0+750 to 0+700

APPENDIX D: Gradation results from QC

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-CF-003
Projet:	Derivation channel	**Sampling Date:**	2020-03-12
		Sampled by:	MC
Description of Material:	Coarse filter 0-6"		
Origin:	Stockpile	**Location of Sampling:**	0+160 East slope
Proposed Use:	Coarse filter		

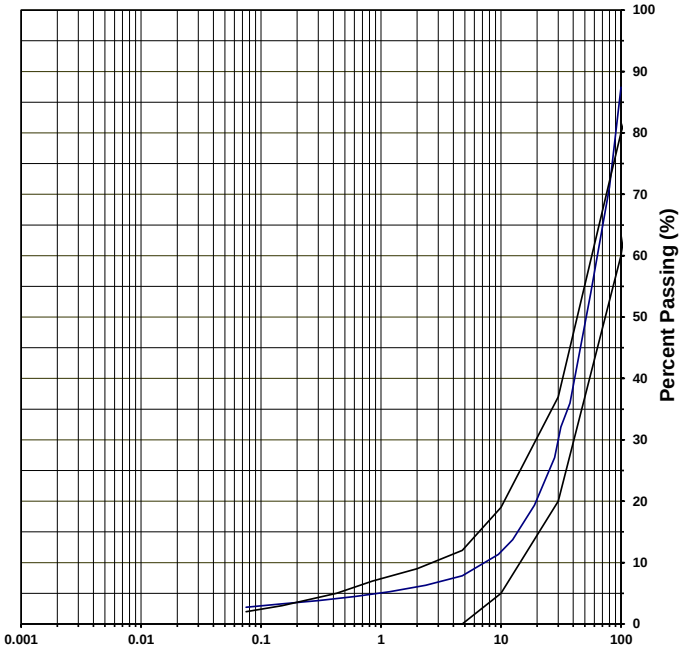
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		87	71	54	36	32	27	19	14	11	8	6	5	4	4	3	2.7
Require-ments	**min.**	60				21	19			5	0	0	0	0	0	0	0
	max.	80				38	36			19	24	13	8	6	4	3	2

Autres essais	Résultats	Exigences min.	Exigences max.
PSPI			
Moisture Content (%)	1.7		
Agreggate Density (Coarse)			
Absorption granulats (fins)			
Micro Deval (coarse)			
Los Angeles (Coarse)			
% Crushed Particles			
Methylene Blue Index			
Organic Matter Content			

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
3	5	92

Remarks: Requirement made by interpolation

Prepared by: Richard J. Tremblay Verified by: Date: 2020-03-12

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Analysis Report - Soils and Aggregates

Client: AEM

Projet: Derivation channel

Description of Material: Coarse filter

Origin: stockpile

Proposed Use: Coarse filter over fine filter

Project N°: 11202247-B1

Sample N°: AMQ-CF-004

Sampling Date: 2020-03-14

Sampled by: MC

Location of Sampling: 0+580 West slope

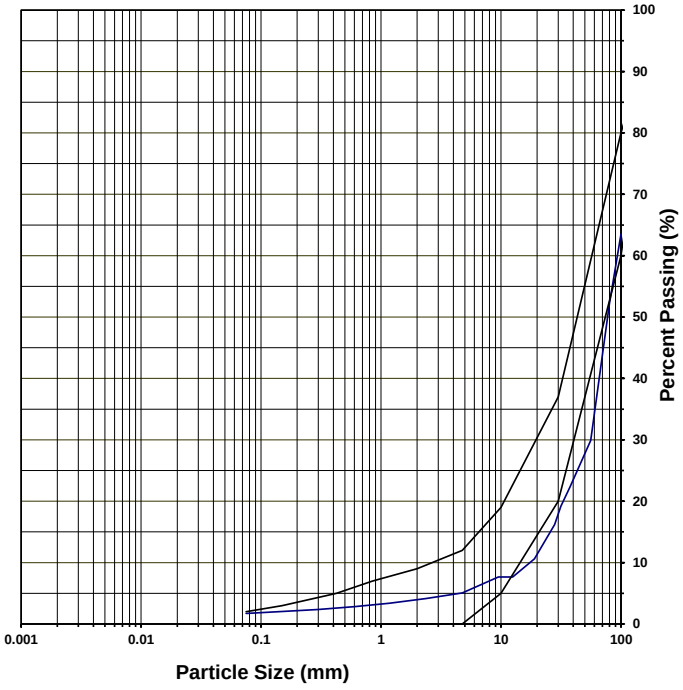
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		64	52	30	22	19	16	11	8	8	5	4	3	3	2	2	1.7
Require-ments	**min.**	60				21	19			5	0	0	0	0	0	0	0
	max.	80				38	36			19	24	13	8	6	4	3	2

Autres essais	Résultats	Exigences min.	Exigences max.
PSPI			
Moisture Content (%)	1.6		
Agreggate Density (Coarse)			
Absorption granulats (fins)			
Micro Deval (coarse)			
Los Angeles (Coarse)			
% Crushed Particles			
Methylene Blue Index			
Organic Matter Content			

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
2	3	95

Remarks: Requirement made by interpolation

Prepared by: Mathieu Côté and Richard J.Tremblay

Verified by:

Date: 2020-03-14

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11202247-B1

Sample N°: AMQ-FF-006

Projet: Derivation channel

Sampling Date: 2020-03-11

Sampled by: RJT

Description of Material: Fine filter

Origin: stockpile

Location of Sampling: 0+327 West slope

Proposed Use: Fine filter

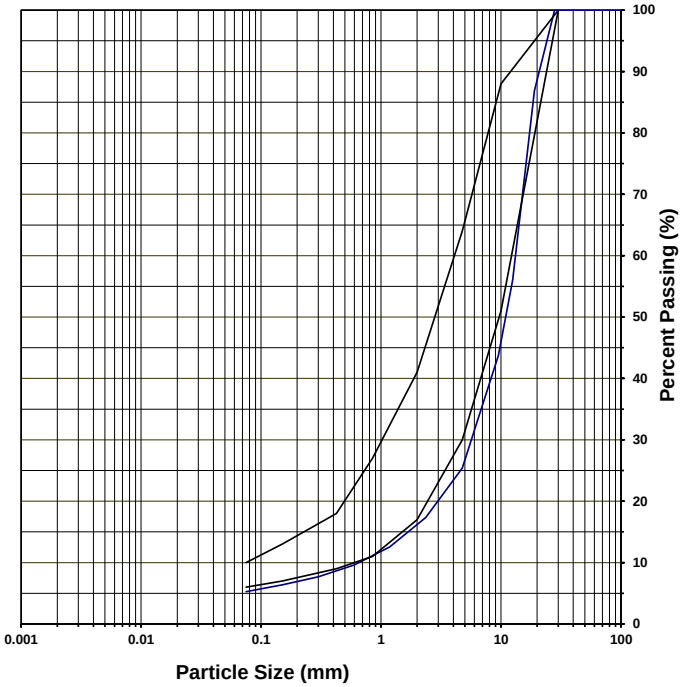
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	87	56	44	25	17	13	10	8	6	5.3
Require-ments	min.					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.1		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
5	20	75

Remarks

Prepared by: Mathieu Côté

Verified by:

Date: 2020-03-11

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Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-007
Projet:	Derivation channel	**Sampling Date:**	2020-03-10
		Sampled by:	RJT
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+310 C
Proposed Use:	Finefilter		

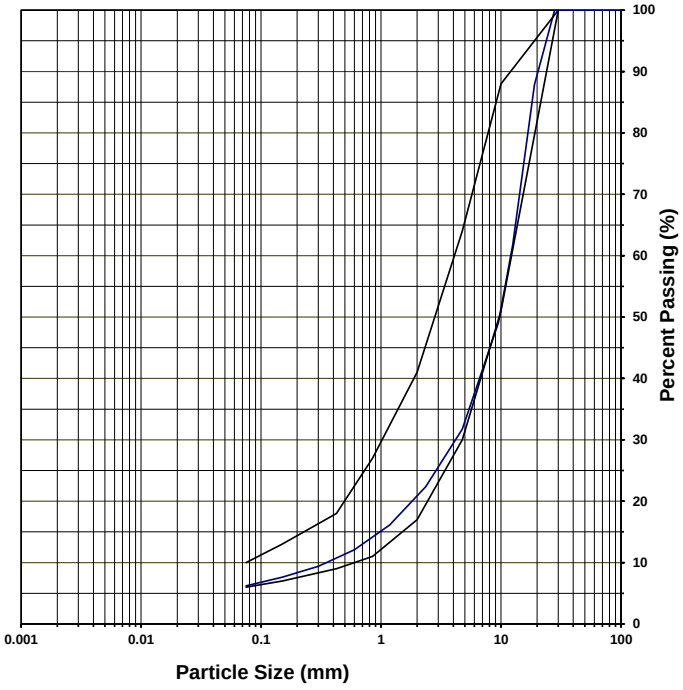
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	88	62	49	32	22	16	12	9	8	6.2
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.6		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
6	26	68

Remarks _____

Prepared by: Mathieu Côté Verified by: _____ Date: 2020-03-11

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Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-008
Projet:	Derivation channel	**Sampling Date:**	2020-03-11
		Sampled by:	mc
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+060 Center
Proposed Use:	Finefilter		

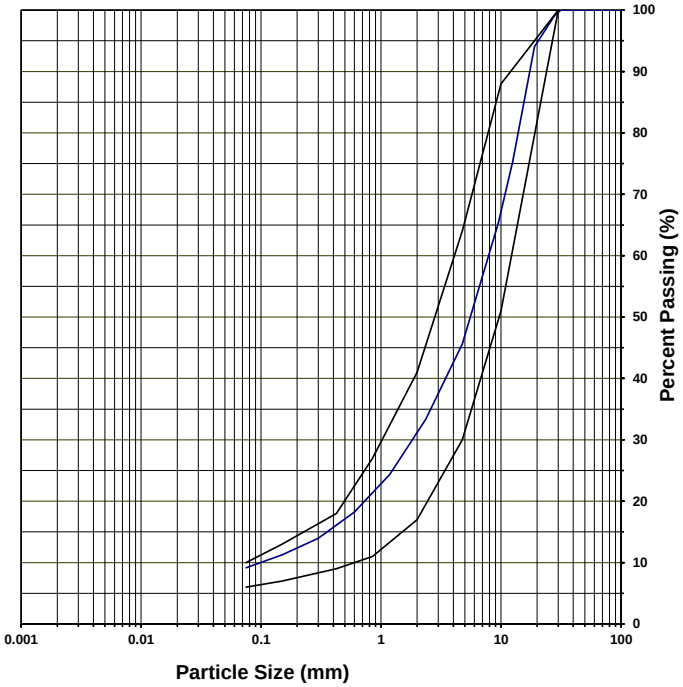
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	99	94	75	65	46	33	24	18	14	11	9.2
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	5.6		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
9	37	54

Remarks _____

Prepared by: Mathieu Côté Verified by: _____ Date: 2020-03-11

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Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-009
Projet:	Derivation channel	**Sampling Date:**	2020-03-11
		Sampled by:	mc
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+100 East slope
Proposed Use:	Finefilter		

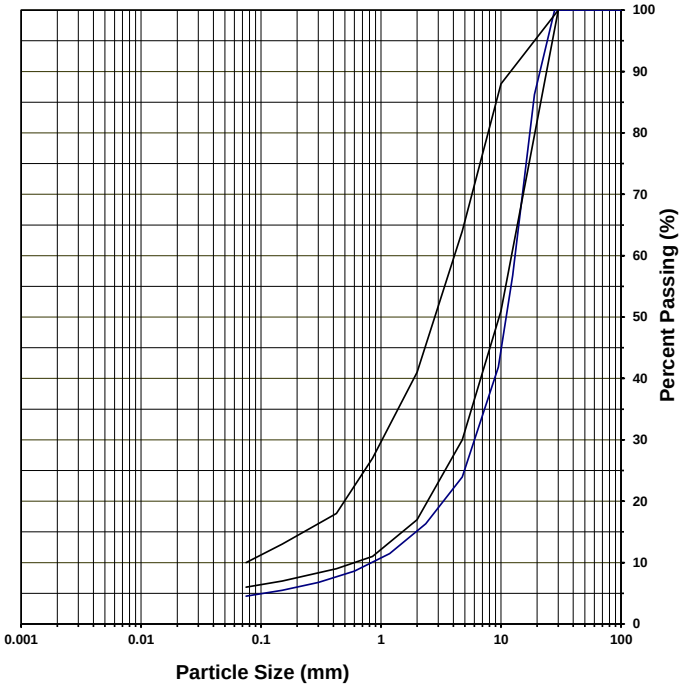
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	86	57	42	24	16	11	9	7	5	4.5
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.7		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
5	20	76

Remarks _____

Prepared by: Mathieu Côté Verified by: _____ Date: 2020-03-11

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Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-010
Projet:	Derivation channel	**Sampling Date:**	2020-03-11
		Sampled by:	MC
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+140 West slope
Proposed Use:	Finefilter		

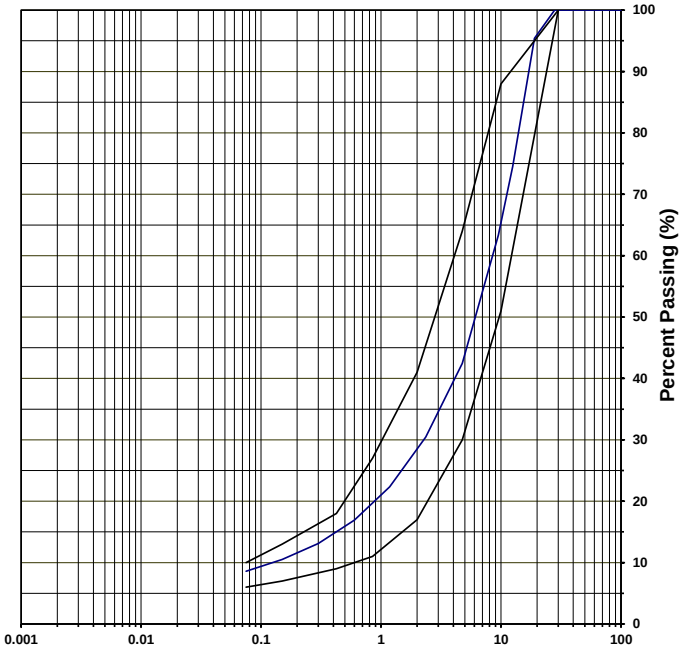
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	95	75	63	42	30	22	17	13	11	8.6
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	6.1		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
9	33	58

Remarks _____

Prepared by: Mathieu Côté Verified by: _____ Date: 2020-03-12

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Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-011
Projet:	Derivation channel	**Sampling Date:**	2020-02-12
		Sampled by:	MC
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+270 East slope
Proposed Use:	Finefilter		

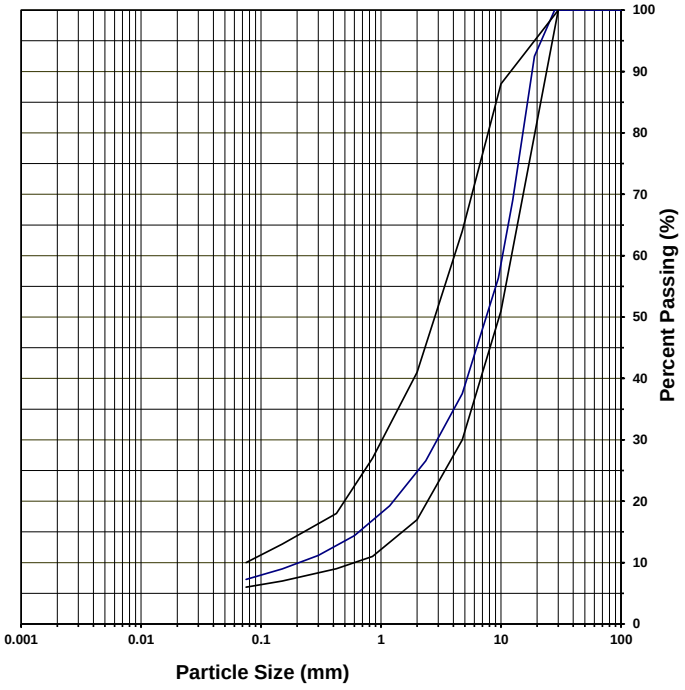
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	92	69	56	38	27	19	14	11	9	7.3
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	5.6		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
7	31	62

Remarks _____

Prepared by: Mathieu Côté Verified by: _____ Date: 2020-03-12

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-012
Projet:	Derivation channel	**Sampling Date:**	2020-03-11
		Sampled by:	RJT
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+230 Center
Proposed Use:	Finefilter		

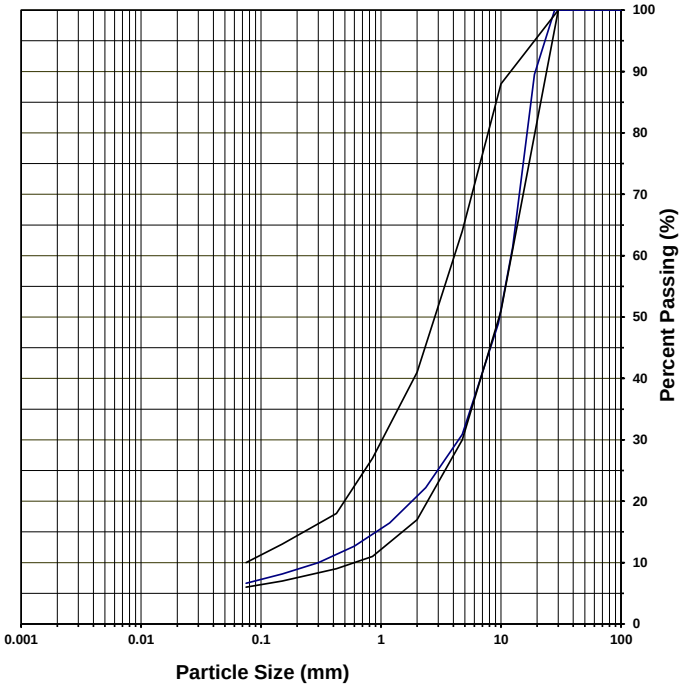
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	90	61	49	31	22	16	13	10	8	6.6
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	5.1		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
7	24	69

Remarks _____

Prepared by: Mathieu Côté Verified by: _____ Date: 2020-03-12

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-013
Projet:	Derivation channel	**Sampling Date:**	2020-03-11
		Sampled by:	RJT
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+190 East slope
Proposed Use:	Finefilter		

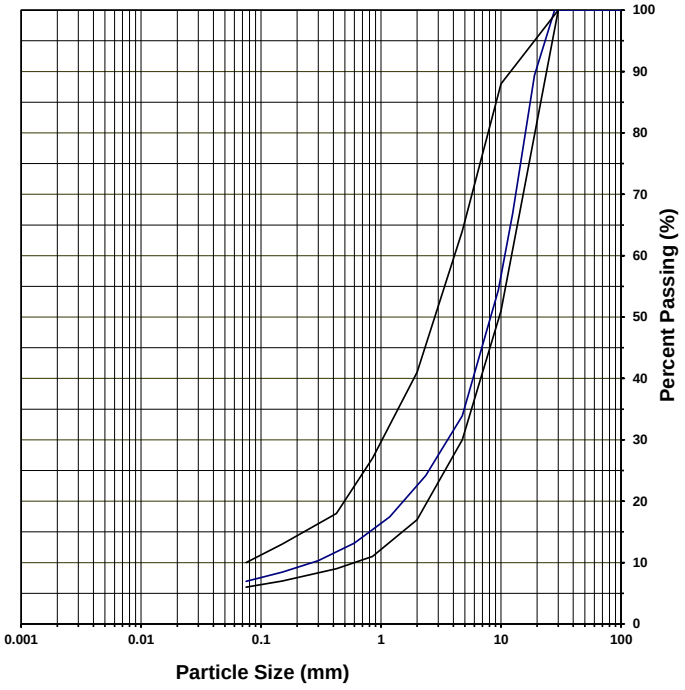
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	89	67	54	34	24	17	13	10	8	6.9
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.6		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
7	27	66

Remarks _____

Prepared by: Mathieu Côté Verified by: _____ Date: 2020-03-12

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-014
Projet:	Derivation channel	**Sampling Date:**	2020-03-12
		Sampled by:	RJT
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+170 Center
Proposed Use:	Finefilter		

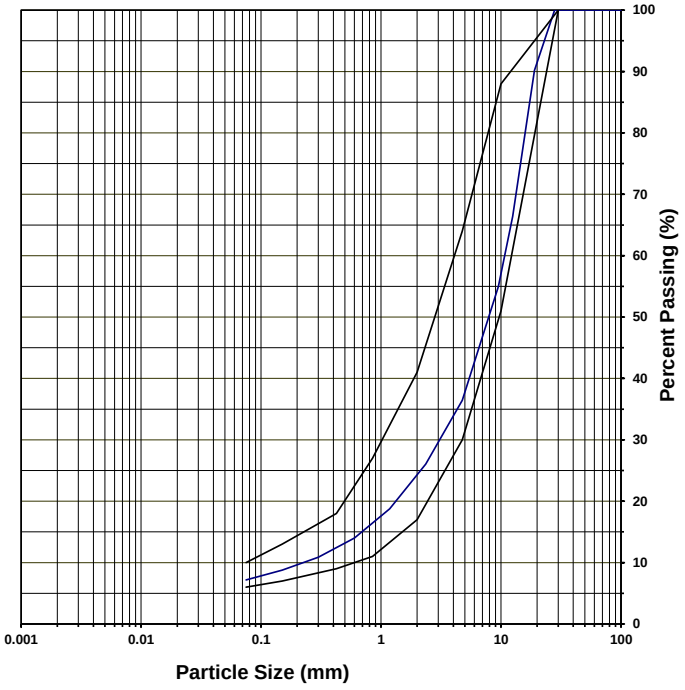
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	90	66	55	36	26	19	14	11	9	7.2
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.0		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
7	29	64

Remarks _____

Prepared by: Mathieu Côté Verified by: _____ Date: 2020-03-12

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Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-015
Projet:	Derivation channel	**Sampling Date:**	2020-03-13
		Sampled by:	MC
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+080 west slope
Proposed Use:	Finefilter		

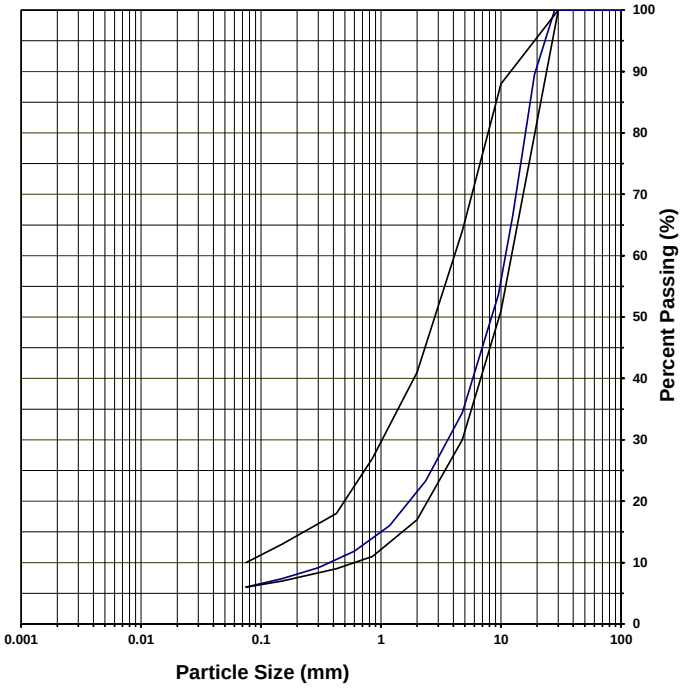
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	89	66	54	34	23	16	12	9	7	6.0
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.4		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
6	28	66

Remarks _____

Prepared by: Mathieu Côté Verified by: _____ Date: 2020-03-14

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-016
Projet:	Derivation channel	**Sampling Date:**	2020-03-13
		Sampled by:	MC
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+120 Center
Proposed Use:	Finefilter		

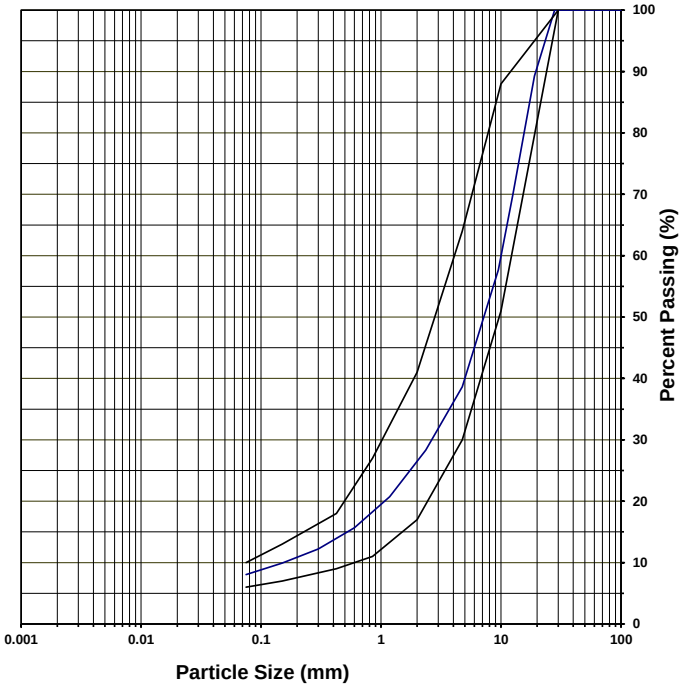
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	89	70	58	39	28	21	16	12	10	8.0
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	5.0		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
8	31	61

Remarks _____

Prepared by: Mathieu Côté Verified by: _____ Date: 2020-03-14

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Analysis Report - Soils and Aggregates

Client: AEM

Projet: Derivation channel

Description of Material: Fine filter

Origin: Stockpile

Proposed Use: Finefilter

Project N°: 11202247-B1

Sample N°: AMQ-FF-017

Sampling Date: 2020-03-11

Sampled by: MC

Location of Sampling: 0+290 Center

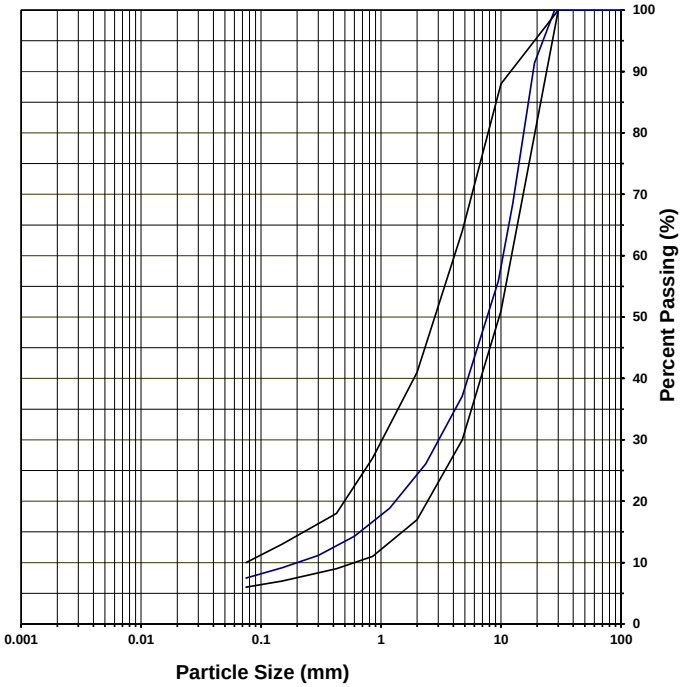
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	91	68	56	37	26	19	14	11	9	7.5
Require-ments	min.					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	5.7		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
8	30	63

Remarks

Prepared by: Richard J. Tremblay

Verified by:

Date: 2020-03-13

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-018
Projet:	Derivation channel	**Sampling Date:**	2020-03-13
		Sampled by:	RJT
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+210 West slope
Proposed Use:	Finefilter		

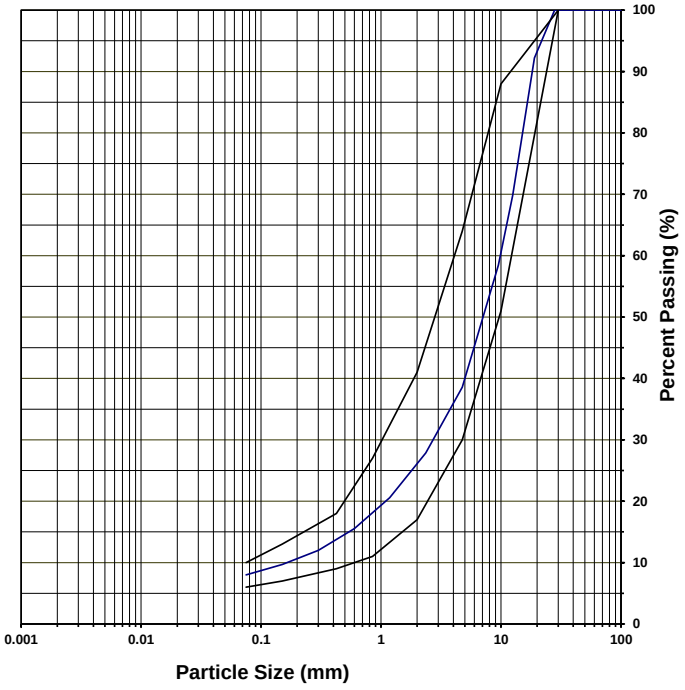
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	92	70	58	39	28	21	16	12	10	8.0
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.3		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
8	31	61

Remarks

Prepared by: Mathieu Côté Verified by: Date: 2020-03-15

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-019
Projet:	Derivation channel	**Sampling Date:**	2020-03-11
		Sampled by:	MC
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+250 West slope
Proposed Use:	Finefilter		

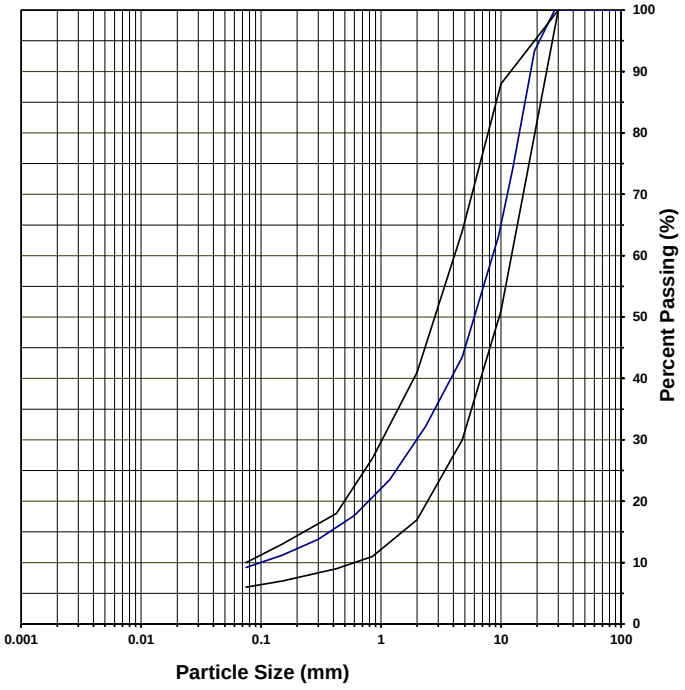
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	93	74	63	43	32	23	18	14	11	9.2
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	5.3		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
9	34	57

Remarks

Prepared by: Richard J. Tremblay Verified by: Date: 2020-03-13

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-020
Projet:	Derivation channel	**Sampling Date:**	2020-03-12
		Sampled by:	RJT
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+160 West slope
Proposed Use:	Finefilter		

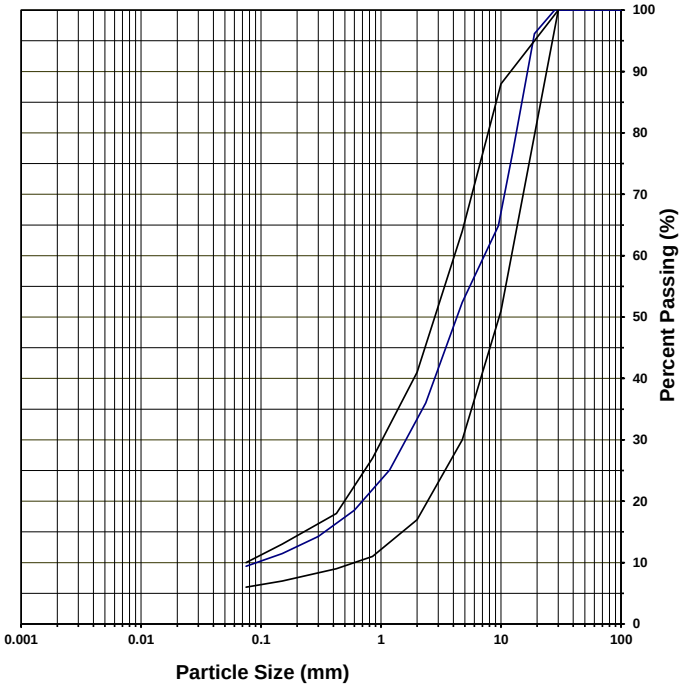
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	96	77	65	52	36	25	19	14	11	9.4
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.0		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
9	43	48

Remarks

Prepared by: Richard J.Tremblay Verified by: Date: 2020-03-13

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11202247-B1

Sample N°: AMQ-FF-021

Projet: Derivation channel

Sampling Date: 2020-03-13

Sampled by: RJT

Description of Material: Fine filter

Origin: Stockpile

Location of Sampling: 0+560 West slope

Proposed Use: Finefilter

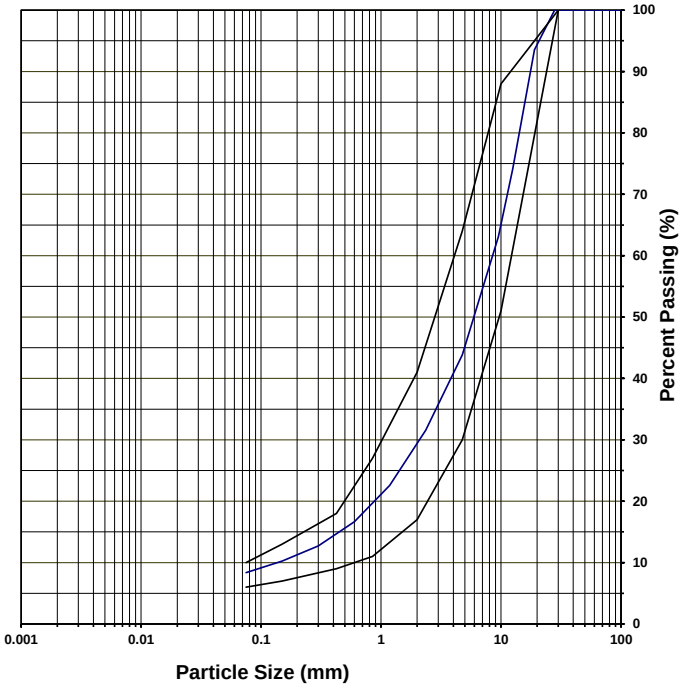
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	94	74	63	44	32	23	17	13	10	8.4
Require-ments	min.					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.7		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
8	36	56

Remarks

Prepared by: Richard J.Tremblay Verified by: Date: 2020-03-13

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-022
Projet:	Derivation channel	**Sampling Date:**	2020-03-13
		Sampled by:	RJT
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+580 East slope
Proposed Use:	Finefilter		

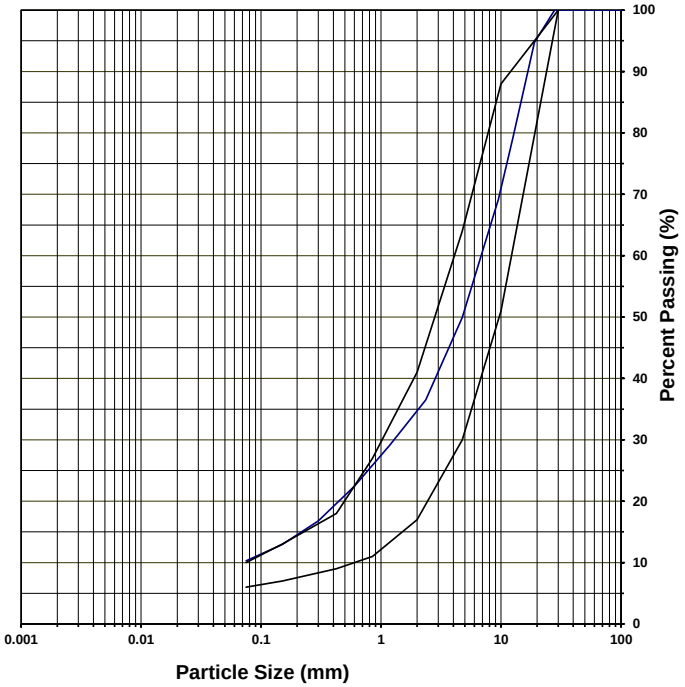
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	95	79	69	50	36	29	22	17	13	10.3
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	7.0		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
10	40	50

Remarks _____

Prepared by: Mathieu Côté Verified by: _____ Date: 2020-03-13

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-024
Projet:	Derivation channel	**Sampling Date:**	2020-03-13
		Sampled by:	MC
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+900 East slope
Proposed Use:	Finefilter		

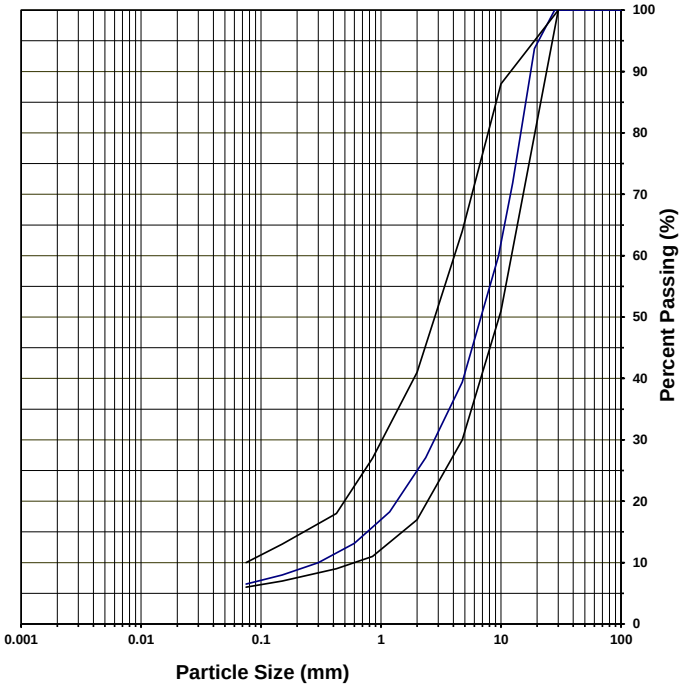
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	94	72	60	39	27	18	13	10	8	6.5
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.3		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
7	33	61

Remarks _____

Prepared by: Mathieu Côté Verified by: _____ Date: 2020-03-13

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-025
Projet:	Derivation channel	**Sampling Date:**	2020-03-13
		Sampled by:	MC
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+620 West slope
Proposed Use:	Finefilter		

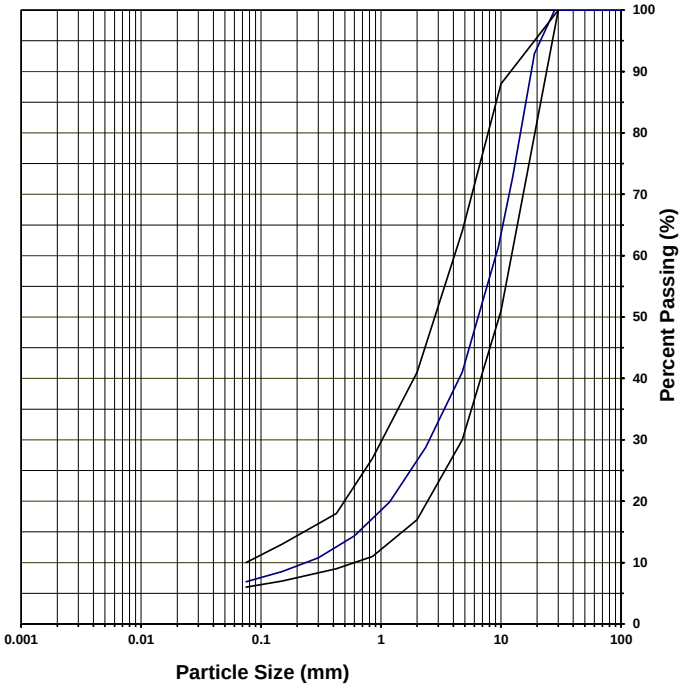
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	93	73	61	41	29	20	14	11	9	6.9
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.7		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
7	34	59

Remarks

Prepared by: Mathieu Côté Verified by: Date: 2020-03-13

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-026
Projet:	Derivation channel	**Sampling Date:**	2020-03-13
		Sampled by:	RJT
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+640 East slope
Proposed Use:	Finefilter		

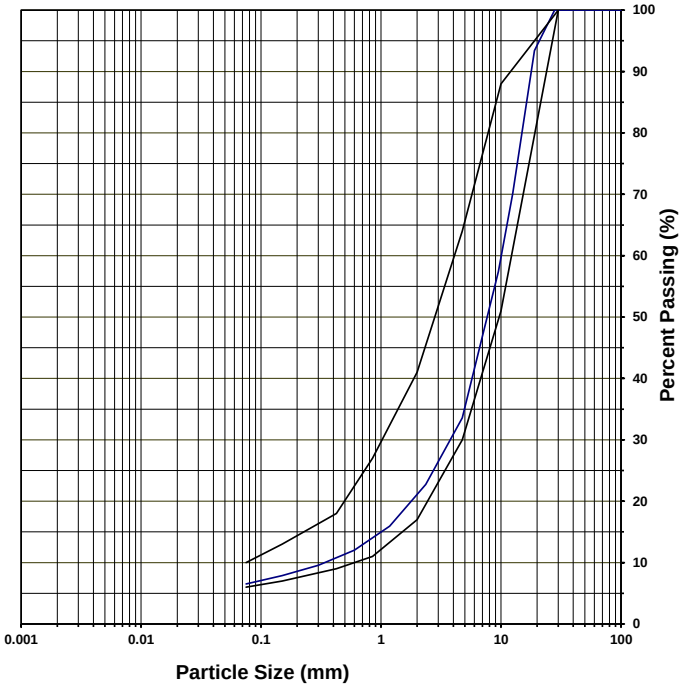
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	93	70	57	34	23	16	12	10	8	6.5
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	3.8		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
7	28	66

Remarks _____

Prepared by: Mathieu Côté Verified by: _____ Date: 2020-03-15

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-027
Projet:	Derivation channel	**Sampling Date:**	2020-03-13
		Sampled by:	RJT
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+660 center
Proposed Use:	Finefilter		

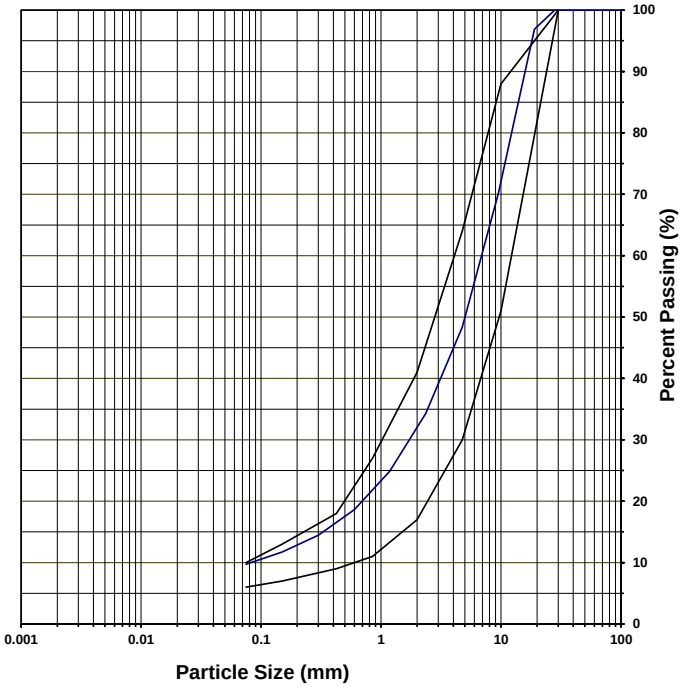
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	97	81	70	48	34	25	19	14	12	9.7
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.7		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
10	38	52

Remarks

Prepared by: Mathieu Côté Verified by: Date: 2020-03-14

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

APPENDIX E : RFI log

RFI Log

RFI #	Date Received	Date Responded	Status	Subject	Location	Notes
RFI-001	2019-08-13		*To be approved*	Change of outlet geometry, outlets were higher than topography	0+060, 0+390, 0+480, 0+900	Consists of having small filter tablets on topographic surface at crests to direct water flow towards Mammoth rather than have it spreaded
RFI-002	2019-08-13		*To be approved*	Change of inlet geometry. Not build buttress platforms used to get 1.3m depth i.e. disregard 1.3m min	On low topographic spots	This material was put in place to follow the 1.3m minimum but it would be rockfill i.e. draining material i.e. be useless. It would be used at the same time to facilitate constructability where road in not adjacent i..e close to A45
RFI-003	2019-08-13		*To be approved*	Having slope at 2.5:1 rather than 3:1 above max water level	TBD	Apply in section where rockfill is directly against slope as butress
RFI-004	2019-08-13		Field Fit	Modification of Road 24 alignment for construction access		Construction access to be field fitted
RFI-005	2019-08-13		Field Fit	Access to bottom of channel from both side		Will need to be field fitted with a slope to allow access within channel
RFI-006	2019-08-13		Approved	Use of 0-150 instead of 0-200 for coarse filter		Approved by changing 100-300 to 100-250
RFI-007	2019-08-13		Approved	Use of 100-300 instead of 100-250 for rip-rap		Condition for the approval of RFI-006
RFI-008	2019-09-05		Approved	Lowering the inelt of the channel by 0.5 m		New version of construction drawings and report were submitted by SNC in December 2019
RFI-009	2019-12-15		Pending	Turbidity concern on lake A45	A45	
RFI-010	2019-12-15		Rejected	Leaving the construciton road within the operational level of Lake A45 can stay there	A45	Env asked that the no road remain within the operation level of A45. Will ahve to be dismantled at the end of construction
RFI-011	2019-12-16	2020-01-17	Recommendation provided	Adding a geotextile above the corase filter to add robustnest to the design	Within Channel	See field memo: 667648-2000-60NC-0002-PB_Field Work Instruction (RFI-011)_Geotextile
RFI-012	2020-01-15		Sent for approval	Proposed inlet modification (see drawings)	Inlet's	Sent to SNC for approval
RFI-0-13	2020-01-15		Sent for approval	Modified inlet to have a 'fan' shape instead of rectangular to improve water conveyance	Inlet's	Sent to SNC for approval
RFI-014	2020-01-15	2020-01-17	Approved	Proposed outlet modification to Mammoth lake (see drawing)	Outlet to Mammoth lake	The outlet to the Mammoth lake can be adjusted to the existing ground conditions. Ensure that there is no high point in the nearby topography downstream of the outlet to ensure proper flow towards the lake.
RFI-015	2020-01-15	2020-01-26	Review continue as excavation progress	Revise filter design for existing foundation soil		See field memo: 667648-2000-60NC-0001-PB_Field Work Instruction (RFI-015)_Filters) for the geotextile and the filters design review
RFI-016	2020-01-15	2020-02-07	Approved	Proposed inlet modification (see drawings) and Modified inlet to have a 'fan' shape instead of rectangular to improve water conveyance	Inlet's	SNC agrees with the proposal of expending the width of the channel from 5 m to 15 m, along with a transition zone, between station 0+54 to 0+104. This is our understanding that the depth of the channel and the material placement (filters and rip rap) will remain the same in this section as per the original design. And recommends increasing the size of the rip rap between station 0+104 and 0+110. We recommend clean rip rap with particle size between 200 mm to 300 mm (instead of 100 mm to 300 mm) for this short section. As for the area around the inlet (approximately station 0+00 to 0+54), we also recommend additional erosion protection, based on field condition. We recommend installing a geotextile over the natural soil, and to place rip rap material over the geotextile.
RFI-015 (version 1)	2020-02-29	2020-03-03	Approved	AEM requests the designer's input on the esker already placed and also asking a derogation for the phrase « leaving a 10 cm limit before placing the fine filter as per specifications » specifier in RFI 015	Channel	SNC confirms that its areas of segregation observed as to be corrected and they accept the derogation but no placement of esker material should be done above the fine filter limit, to ensure the fine filter thickness of 0.3 m (after compaction) as per specifications ;
RFI -017	2020-03-01	2020-03-12	Finalized	transition zone which contains ice at the top of the slope between the lake A45 and the channel.	Approx. from ST 0+545 to 0+335	AEM requests the designer's proposals about the transition zone which contains ice at the top of the slope between the lake A45 and the channel and SNC provide field note instruction version PC (667648-2000-60NC-0003-PC_Field Work Instruction (RFI-017)).
RFI -018	2020-03-10	2020-03-13	Approved	Adjustment of filter design over the road	approved	SNC agreed with the proposed design change based on the understanding that the road (Road 24 and the maintenance road) embankments are made of rockfill and agreed with the placement of rip rap against the road embankment. SNC also agree with the placement of geotextile as proposed, going horizontally over the top of the filters below the rip rap.

SNC·LAVALIN

WEEKLY REPORT

20200325-WR10
Document number

2020-03-16 to 2020-03-25	667648	Daniel Meles (DM)
Date	Project No.	Prepared by
South Whale Tale Diversion Channel Construction	Agnico Eagle	
Project	Client	
SNC-Lavalin	KCG	
Consultant	Contractor	

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

The main activities for the QA representative regarding the construction of the South Whail Tail Diversion Channel (SWTDC) from March 16 to 25, 2020 were:

- Attained daily construction meeting;
- Periodic visual observation of SWTDC work site;
- Inspection and approval; and
- Review and documented laboratory test results completed by QC.

Daily Construction Meeting

DM attended all SWTDC daily Construction Meeting. Attendee of the daily construction meeting from March 16 to 25, 2020 include:

- Owner's representative (AEM): Marion Habersetzer (March 16 to 20) and Laurier Collette (March 20 to 25);
- Site supervisor (AEM): Jean-Francois Beland (March 16 to 18) and Yannick Simard (March 18 to 25) ;
- QA (SNC-Lavalin): Daniel Meles ;
- QC day shift (GHD): Mathieu Côté March 16-23);
- QC night shift (GHD): Richard Jean Tremblay March 16 to March 23 and Yaotree Yaotree Amegnran (March 23 and 25) ; and
- Contractor: KCG

Periodic Visual Observation of SWTDC Work Site

From March 16 to March 25, 2020, DM periodically visited SWTDC work site. The following were observed during the periodic site visit:

- Fine and coarse filter placement were completed except area between station 0+555 to 0+325 (see Photo 1-2);
- Rip rap and geotextile placement were completed except area between station 0+555 to 0+325 (see photo 3);
- Cleaning of the area between station 0+555 and 0+325 for foundation approval; and
- Review and document gradation test results completed by QC.

Fine and coarse filter placement observation during site visits:

- Truck unloaded fine/coarse filter material on horizontal ground;
- Excavator carefully placed fine/coarse filter on slope;
- Material placed were compacted with the bucket of the excavator; and
- The contractor used reasonable practice to avoid segregation of material during placement. The bottom of the channel was very dense compared to the slope because of the additional compaction from the truck using the area for loading and unloading material.

Geotextile and rip rap placement observation during site visits:

- 0.5 m minimum overlap parallele to the channel with upstream sheet over the downstream sheet;
- at the end of each role the geotextile may be short to place the geotextile go all the way along the channel. In such case, the contractor used another geotextile to cover the remaining part by overlapping the geotextile minimimu 1 m length;
- Rip rap was placed on the geotextile carefully to minimize damage on the geotextile;
- Visually the rip rap rocks were irregular and elongated in shape with at least the longest side between 100 to 300 mm; and
- During the morning site visit on March 22, DM noticed the rip rap placed during the night was not clean and even some of the truck loads coming to site contained rip rap mixed with fine. DM notified AEM representative and KCG that the rip rap should be clean. After discussion in the presence of AEM and KCG representative on-site, KCG stop hauling, return trucks that were brought to site and contained rip rap mixed with fine to re-assess the condition and hold the area for further discussion to AEM and SNC. DM notified SNC by email and at the same time discussed with AEM. Various options were discussed to correct the situation and KCG then decided to mark the area that visually contain fine material mixed with rip and to manually remove rip rap and clean the area. DM in the presence of AEM representative check the cleaning and re-assess the area. It looks better. The correction measure taken was then discussed with SNC. Considering the area being small (40 – 60 m), the additional correction measure taken by KCG to clean the area and based on the assumption that good quality rip will be used for the remain section, SNC agree to continue the placement.

Photos taken during site visit can be found in appendix A. Note that stations shown in the photos are approximate location.

Approval

From March 16 to 25, DM in the presence of the Owner's representative, QA, QC day shift, site supervisor, and contractor representative completed eight (8) approvals documents. The approvals include:

- Esker placement from Station 0+906 to 0+553;
- Fine and coarse filter placement from Station 0+906 to 0+555 and 0+065 go 0+325;
- Geotextile and rip rap placement from station 0+906 to 0+590; and
- Foundation approval from station 0+545 to 0+495.

Summary of the approved document is shown in Table 1. Approval form completed can be found in Appendix B.

Table 1: Tracking approval form

Date	Document #	Localisation	Approval for
2020/01/26	20200126-DS-01	From 0+917 to 0+830	Foundation approval for esker placement
2020/01/29	20200129-DS-02	From 0+830 to 0+775	Foundation approval for esker placement
2020/02/03	20200203-DS-03	From 0+775 to 0+735	Foundation approval for esker placement
2020/02/16	20200216-DS-04	From 0+735 to 0+688	Foundation approval for esker placement
2020/02/26	20200226-DS-05	From 0+688 to 0+640	Foundation approval for esker placement
2020/02/28	20200228-DS-06	From 0+640 to 0+600	Foundation approval for esker placement
2020/02/28	20200228-DS-07	From 0+600 to 0+565	Foundation approval for esker placement
2020/02/29	20200229-DS-08	From 0+565 to 0+545	Foundation approval for esker placement
2020/03/05	20200305-DS-09	From 0+335 to 0+280	Foundation approval for esker placement
2020/03/06	20200306-DS-10	From 0+280 to 0+210	Foundation approval for esker placement
2020/03/08	20200308-DS-11	From 0+210 to 0+185 and 0+170 to 0+135	Foundation approval for esker placement
2020/03/10	20200310-DS-12	From 0+185 to 0+170 and 0+135 to 0+058	Foundation approval for esker placement
2020/03/12	20200312-DS-13	From 0+056 to 0+330	Esker approval
2020/03/12	20200312-DS-14	From 0065 to 0+325	Fine Filter approval: Station 0+56 to 0+180 approved on March 11; Station 0+230 to 0+325 approved on March 11; and Station 0+230 to Station 0+180 approved on March 12;
2020/03/13	20200313-DS-15	From 0+700 to 0 555	Fine Filter placement approval
2020/03/14	20200314-DS-16	From 0+906 to 0553	Esker approval: Station 0+700 to 0+555 and 0+906 to 0+867 approved on March 12; Station 0+750 to 0+867 approved on March 13; and Station 0+700 to Station 0+750 approved on March 14;
2020/03/15	20200314-DS-17	From 0+700 to 0+747 and 0+906 to 0+058	Fine Filter placement approval
2020/03/17	20200317-DS-18	0+747 to 0+815	Fine Filter placement approval
2020/03/21	20200321-DS-19	0+906 to 0+560	Coarse Filter placement approval
2020/03/21	20200321-DS-20	0+555 to 0+545	Esker placement
2020/03/21	20200321-DS-21	0+555 to 0+545	Fine Filter placement approval
2020/03/22	20200322-DS-22	0+555 to 0+547	Coarse Filter placement approval
2020/03/22	20200322-DS-23	0+065 to 0+325	Coarse Filter placement approval
2020/03/24	20200324-DS-24	0+555 to 0+500	Fine Filter placement approval
2020/03/24	20200324-DS-25	0+906 to 0+590	Geotextile and rip rap placement

Note: the highlighted is completed from March 16-25, 2020.

Sampling and Laboratory Test

From March 16 to 25, one (1) fine and three (3) coarse filter materials were sampled by QC from in-place fine and coarse filter. Table 1 and 2 present summary of fine and coarse filter sampled from in-place fine and coarse filter up to March 25, 2020, respectively.

Table 1: Summary of fine filter sampled from in-place fine filter

Sample ID	Fines-Sand-Gravel	Moisture Content	Station	Location of sampling	Date of sampling	Sample by	Date of testing	Test by
AMQ-FF-006	5-20-75	4.1%	0+327	West Slope	2020/0310	RJ	2020/03/11	MC
AMQ-FF-007	6-26-68	4.6%	0+310	Centre	2020/03/10	RJ	2020/03/11	MC
AMQ-FF-008	9-37-54	5.6%	0+060	Centre	2020/03/11	MC	2020/03/11	MC
AMQ-FF-009	5-20-76	4.7%	0+100	East Slope	2020/03/11	MC	2020/03/11	MC
AMQ-FF-010	9-33-58	6.1%	0+140	West Slope	2020/03/11	MC	2020/03/12	MC
AMQ-FF-011	7-31-62	5.6%	0+270	East Slope	2020/03/11	MC	2020/03/12	MC
AMQ-FF-012	7-24-69	5.1%	0+230	Centre	2020/03/11	RJ	2020/03/12	MC
AMQ-FF-013	7-27-66	4.6%	0+190	East Slope	2020/03/11	RJ	2020/03/12	MC
AMQ-FF-014	7-29-64	4.0%	0+170	Centre	2020/03/12	RJ	2020/03/12	MC
AMQ-FF-015	6-28-66	4.4%	0+080	West Slope	2020/03/11	MC	2020/03/14	MC
AMQ-FF-016	8-31-61	5.0%	0+120	Centre	2020/03/11	MC	2020/03/14	RJ
AMQ-FF-017	8-30-63	5.7%	0+290	Centre	2020/03/11	RJ	2020/03/14	RJ
AMQ-FF-018	8-31-61	4.3%	0+210	West Slope	2020/03/12	RJ	2020/03/14	RJ-MC
AMQ-FF-019	9-34-57	5.3%	0+250	West Slope	2020/03/11	MC	2020/03/13	RJ
AMQ-FF-020	9-43-58	4.0%	0+160	West Slope	2020/03/12	RJ	2020/03/13	RJ
AMQ-FF-021	8-36-56	4.7%	0+560	West Slope	2020/03/13	RJ	2020/03/13	RJ
AMQ-FF-022	10-40-50	7.0%	0+580	East Slope	2020/03/13	RJ	2020/03/13	MC
AMQ-FF-023	8-33-59	4.3%	0+600	Centre	2020/03/13	MC	2020/03/14	MC-RJ
AMQ-FF-024	7-33-61	4.3%	0+900	East Slope	2020/03/13	MC	2020/03/13	MC
AMQ-FF-025	7-34-59	4.7%	0+620	West Slope	2020/03/13	MC	2020/03/13	MC
AMQ-FF-026	7-28-66	3.8%	0+640	East Slope	2020/03/13	RJ	2020/03/14	RJ
AMQ-FF-027	10-38-52	4.7%	0+660	Centre	2020/03/13	RJ	2020/03/14	MC
AMQ-FF-028	8-32-61	5.4%	0+680	West Slope	2020/03/13	RJ	2020/03/15	MC
AMQ-FF-029	9-38-53	7.0%	0+700	West Slope	2020/03/15	MC	2020/03/16	RJ
AMQ-FF-030	9-36-55	6.0%	0+720	East Slope	2020/03/15	MC	2020/03/15	MC
AMQ-FF-031	10-38-52	7.0%	0+740	Centre	2020/03/15	MC	2020/03/17	RJ
AMQ-FF-032	9-33-59	11.6%	0+760	Centre	2020/03/16	MC	2020/03/17	RJ
AMQ-FF-033	8-38-54	6.0%	0+780	East Slope	2020/03/16	MC	2020/03/17	RJ
AMQ-FF-034	8-31-62	5.8%	0+800	West Slope	2020/03/16	MC	2020/03/17	MC-RJ
AMQ-FF-035	8-32-60	5.3%	0+820	East Slope	2020/03/16	MC	2020/03/17	MC-RJ
AMQ-FF-036	10-40-50	7.4%	0+840	West Slope	2020/03/15	MC	2020/03/17	MC-RJ
AMQ-FF-037	8-54-58	7.0%	0+860	East Slope	2020/03/15	MC	2020/03/15	MC
AMQ-FF-038	10-40-50	6.8%	0+880	Centre	2020/03/15	MC	2020/03/16	RJ
AMQ-FF-039	8-30-62	7.9%	0+550	Centre	2020/03/21	MC	2020/03/22	RJ

Table 2: Summary of coarse filter sampled from in-place coarse filter.

Sample ID	Fines-Sand-Gravel	Moisture Conter	Station	Location of sampling	Date of sampling	Sample by	Date of testing	Test by
AMQ-CF-001	2 - 7 - 91	2.40%	-	Stock pile	2020/01/21	MC	2020/01/22	MC
AMQ-CF-002	3 - 7 - 90	6.80%	-	Stock pile	2020/01/22	MC	2020/01/23	MC
AMQ-CF-003	3 - 5 - 92	1.70%	0+160	East Slope	2020/03/12	MC	2020/03/13	RJ
AMQ-CF-004	2-3-95	1.60%	0+580	West slope	2020/03/14	MC	2020/03/14	MC
AMQ-CF-005.1	1-4-95	2.40%	0+890	East slope	2020/03/20	MC	2020/03/21	MC
AMQ-CF-006.1	2-4-95	0.70%	0+780	West slope	2020/03/20	RJ	2020/03/21	MC
AMQ-CF-007	1-1-98	0.84%	0+300	East slope	2020/03/20	RJ	2020/03/24	YA
AMQ-CF-008	1-3-96	2.60%	0+600	Centre	2020/03/20	MC	2020/03/24	YA

Laboratory Test result on fine and coarse filter

DM reviewed and documented gradation test results of fine and coarse filter completed by QC. Gradation results for the fine and coarse filter materials are shown in Figure 1 and 2, respectively.

As shown in Figure 1, all gradation test results of the fine filter except for two meet the fine filter specification. Even the two samples showed minor deviation from the specification. Gradation test result for the coarse filter is shown in Figure 2. As shown in Figure 2, most of the samples are on the coarse limit of the specification. Given the presence of geotextile on top of the coarse filter that was not part of original filter design, such devation could be accepted.

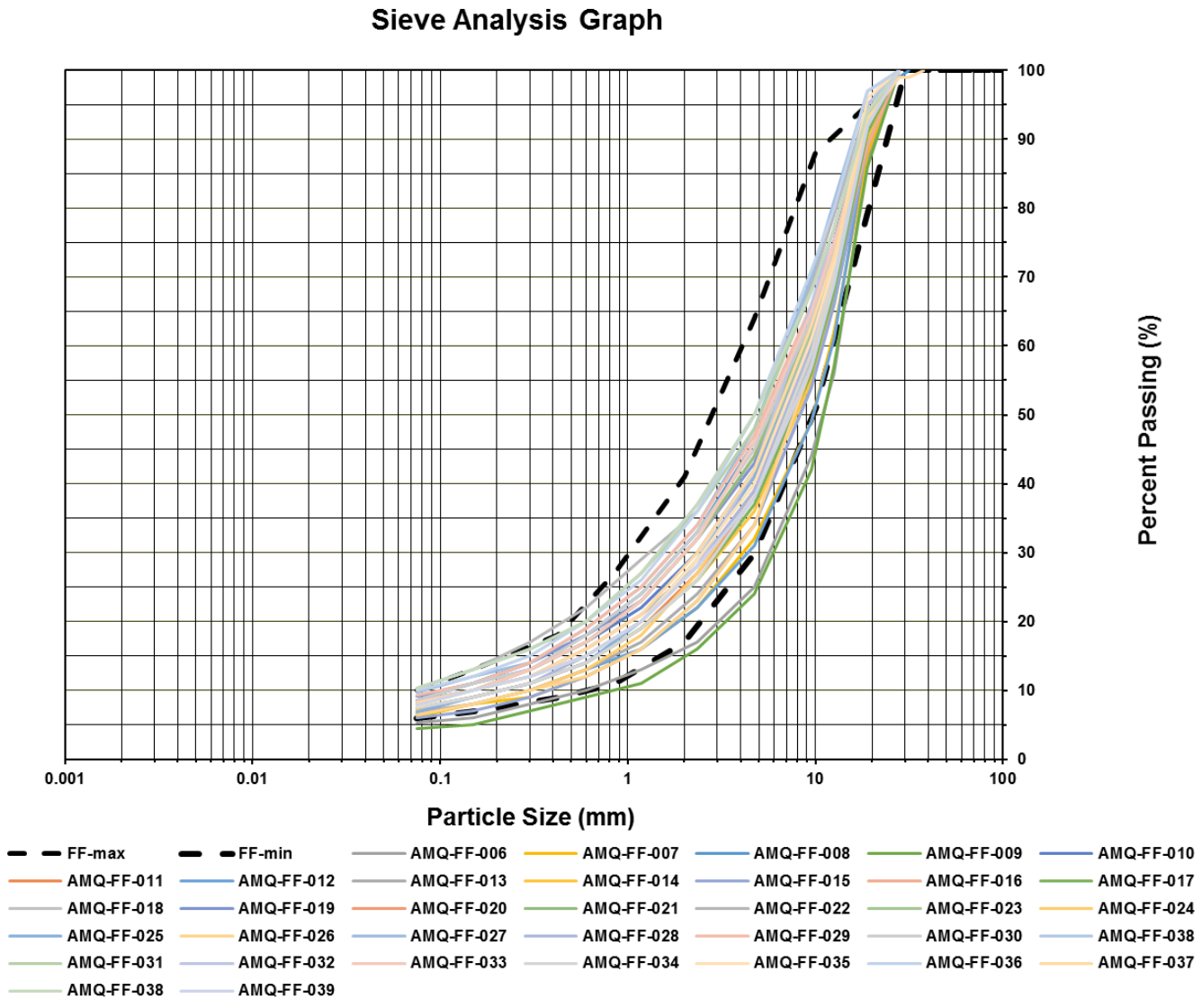


Figure 1: Summary of gradation test results completed on in-place fine filter

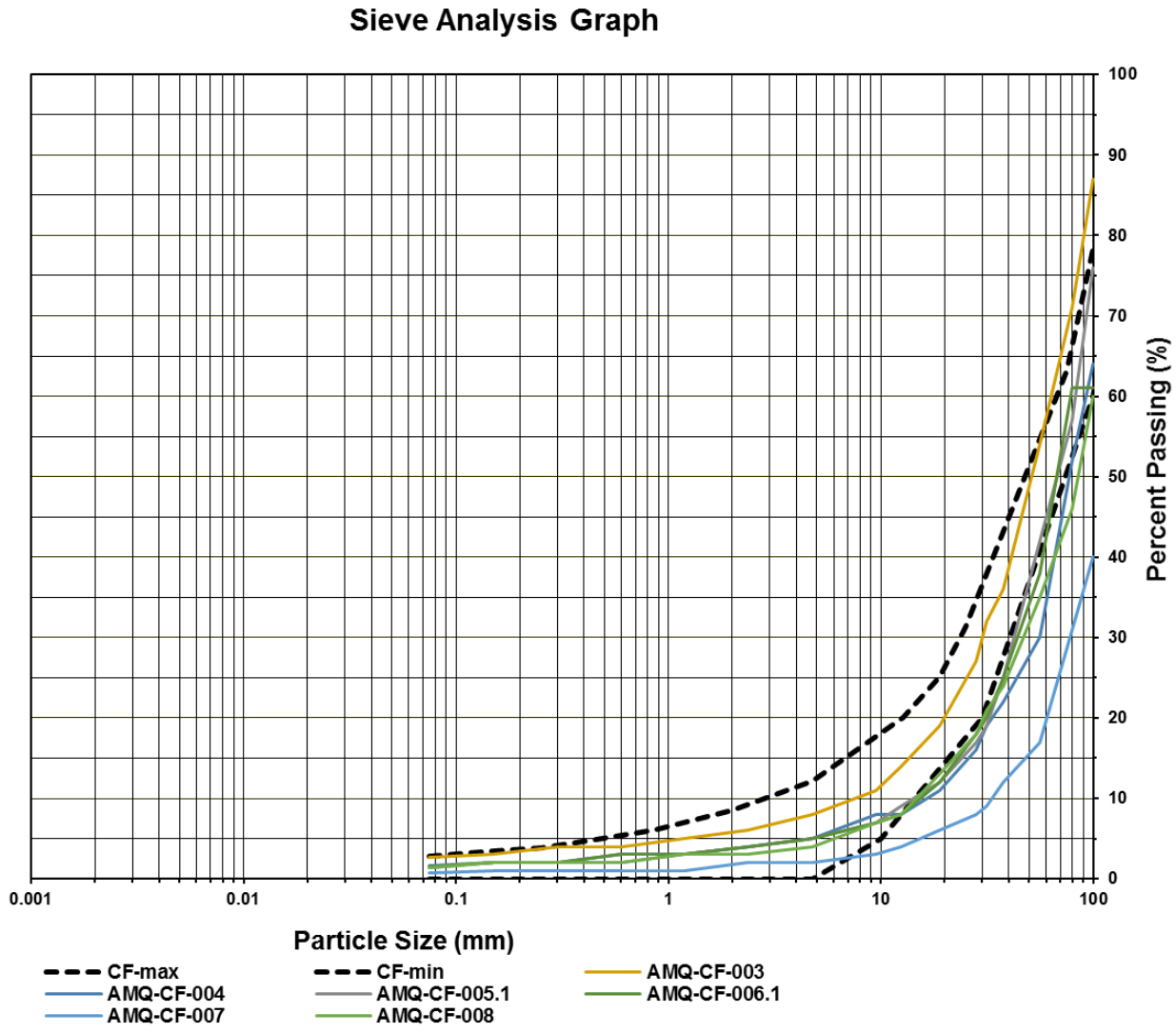


Figure 2: Summary of gradation test results completed on in-place coarse filter

Gradation results completed by QC from March 15 to 25 can be found in Appendix C.

RFI

No new RFI requested however RFI-018 was updated to include additional email request from AEM. SNC updated RFI-018 to include the replacement of rip rap above the natural ground and against road 24 emebnkment with rock fill. The list of RFI for the known deviations/changes is attached in Appendix D.

SAFE AND SAFETY REMARKS

APPENDIX A: PHOTOS



Photo 1: View of fine filter compaction using excavator bucket (photo taken looking north)



Photo 2: View of coarse filter compaction using excavator bucket (photo taken looking south)



Photo 3: View of in-placed coarse filter



Photo 4: View of the placement of geotextile



Photo 5: View of placing piecie of geotextile underneath damaged geotextile during rip rap placement



Photo 6: View of geotextile overlap (minimum 500 mm)



Photo 7: View of rip rap



Photo 8: View of rip rap placement



Photo 9: View of in-placed rip rap

APPENDIX B : Approval form

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DOCUMENT #: 20200317 – DS – 18
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 2020 – 03 – 17

TIME: 5:45 PM
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Fine Filter
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+747 to 0+815	**Station:**	0+065 to 0+325, 0+555 to 0+747 and 0+906 to 0+815
Inclination:		**Details:**	
ELEVATION: ☐ varies	_____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:
(Add additional items if needed)

	VERIFICATIONS DONE BY:				
	QA		**QC**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water					
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
All	Based on visual assessment				
	Gradation results of the required QS per Specification were available at the time of approval				
	Snow on ~~approve~~ fine filter are should be cleaned and inspected by QA/QC before coarse filter placement.				

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Mathieu Côté		2020-03-17
QA REPRESENTATIVE	Daniel Meles		2020-03-17
OWNER'S REPRESENTATIVE	Marion Habersetzer		2020-03-18
CONTRACTOR'S REPRESENTATIVE	Jonathon Truchon		2020-03-18

FINE FILTER PLACEMENT APPROVAL - 0+815@ 0+747
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



FFA-815-74
7 2020-03-17

KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : LOUIS-PIERRE COLLARD
DATE : 16-03-2020
CON-FD-284

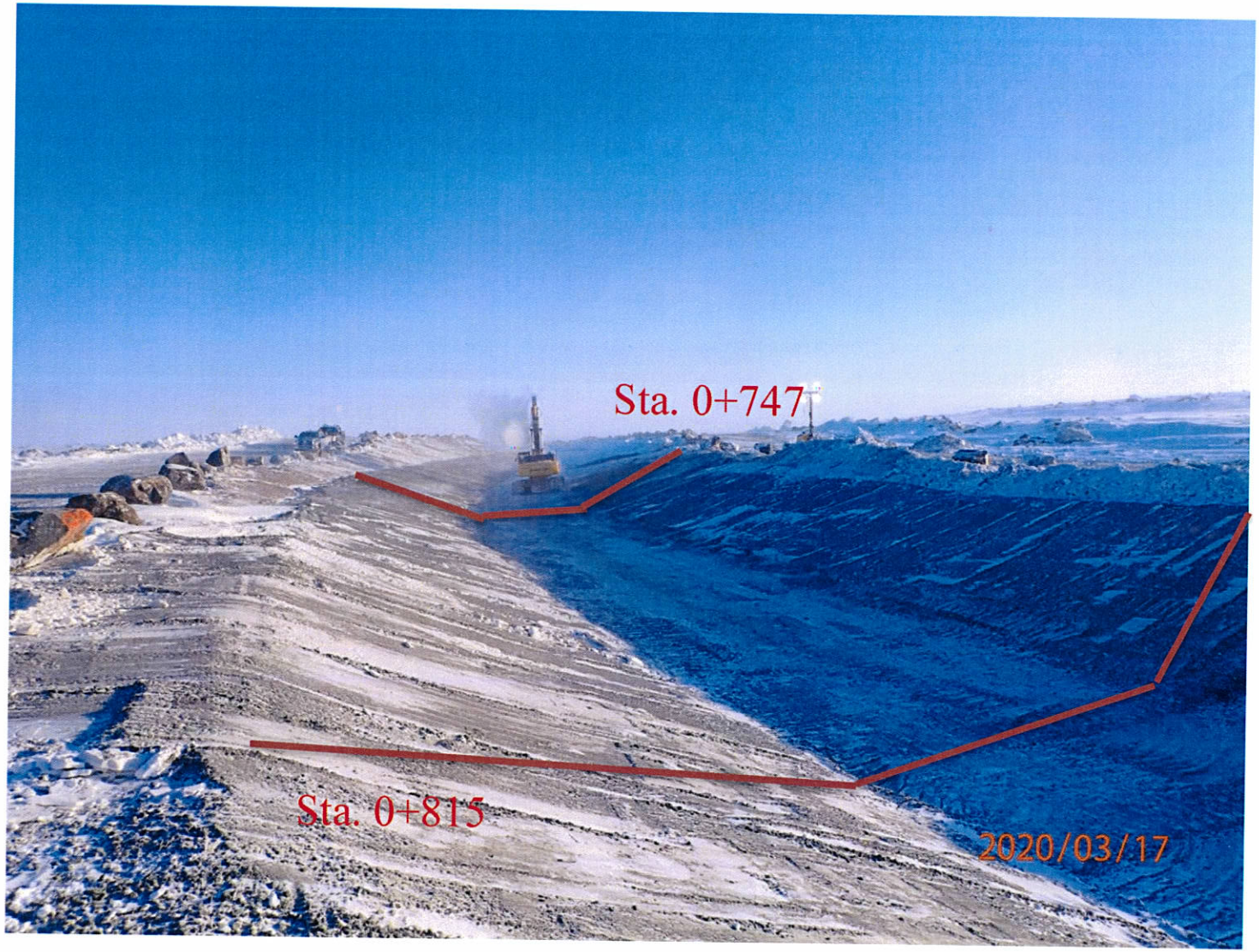

Photo 1: View of approximate area for fine filter placement approval

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DOCUMENT #: 20200321-DS-19
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 2020-03-21

TIME: _____
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Coarse Filter
- ☐ Other: _____

LOCATION

Station 0+906 to 0+560

Inclination: _____

ELEVATION: ☐ varies _____ m

PREVIOUS APPROVALS

Station: -

Details: _____

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water					
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS

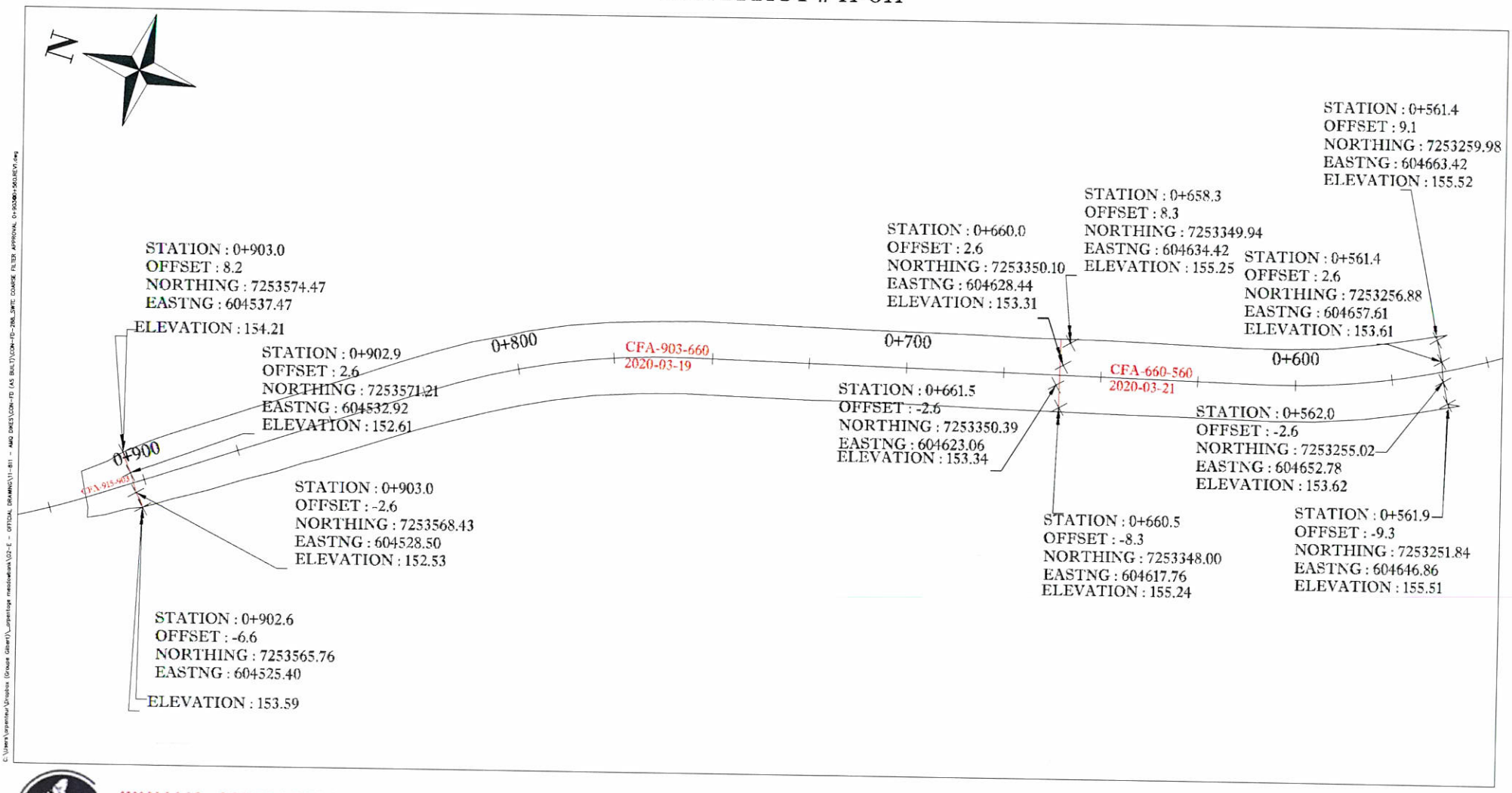
(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
All	Visual				

APPROVED BY:

	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Mathieu Côté		2020-03-21
QA REPRESENTATIVE	Daniel Meles		2020-03-21
OWNER'S REPRESENTATIVE	LAVIGER COLLETTE		2020-03-22
CONTRACTOR'S REPRESENTATIVE	Jonathan Tardif		2020-03-21

COARSE FILTER PLACEMENT APPROVAL - 0+903 @ 0+560
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : FRANCIS PAULIN
DATE : 21-03-2020
CON-FD-288.REV1

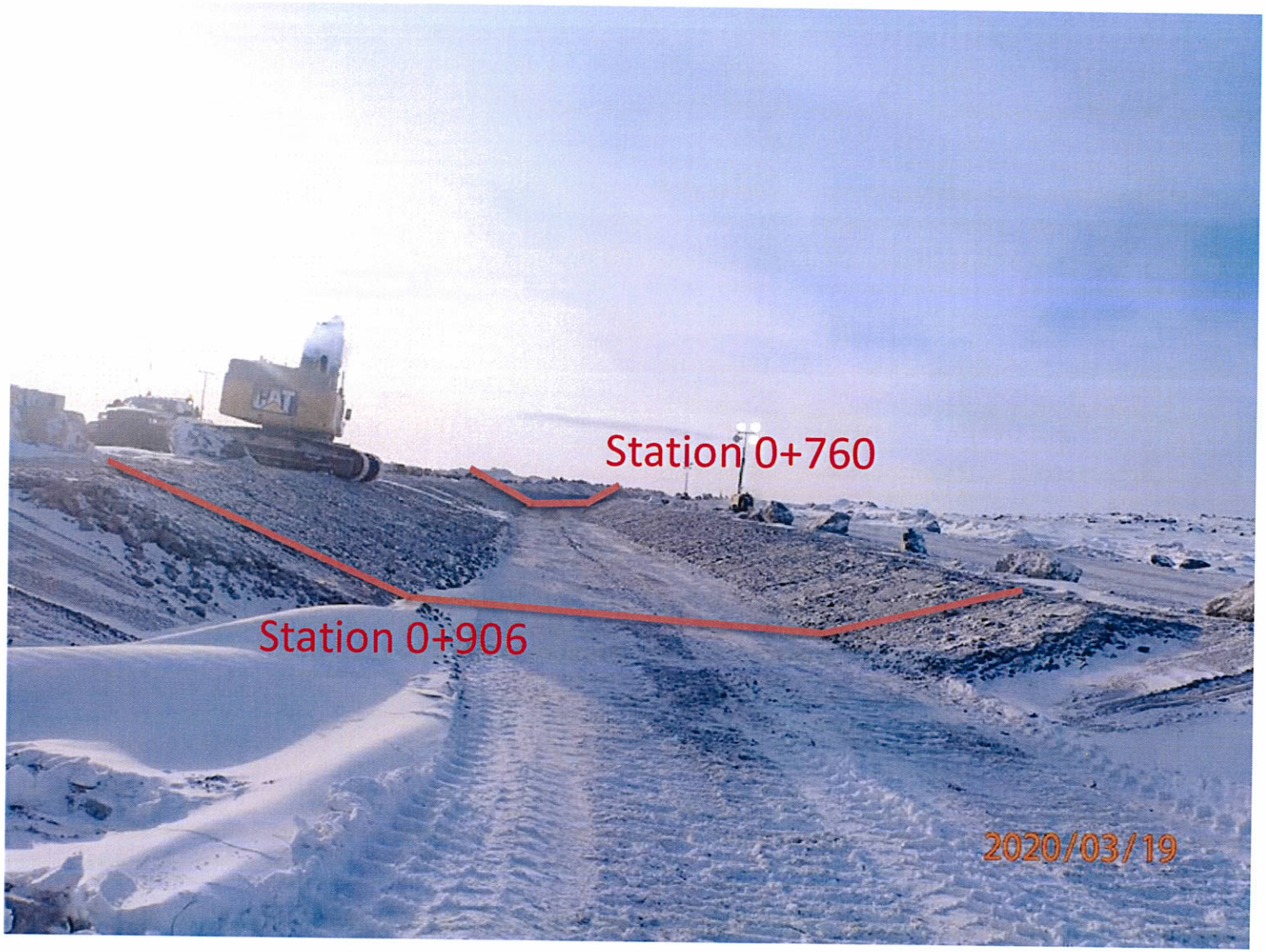


Photo 1: Approximate area for approved coarse filter from Staion 0+906 to 760

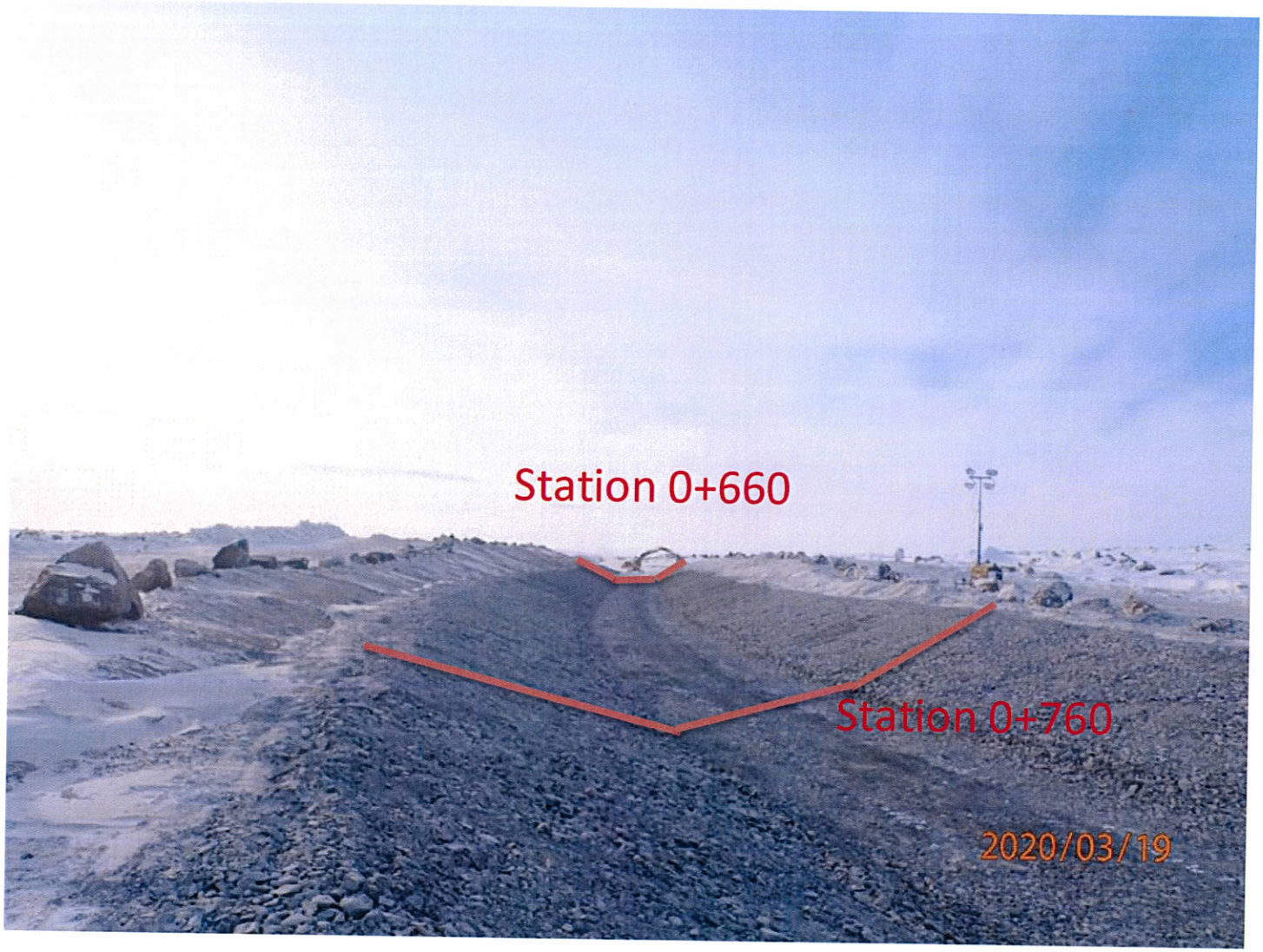


Photo 2: Approximate area for approved coarse filter between station 0+760 to 0+660.

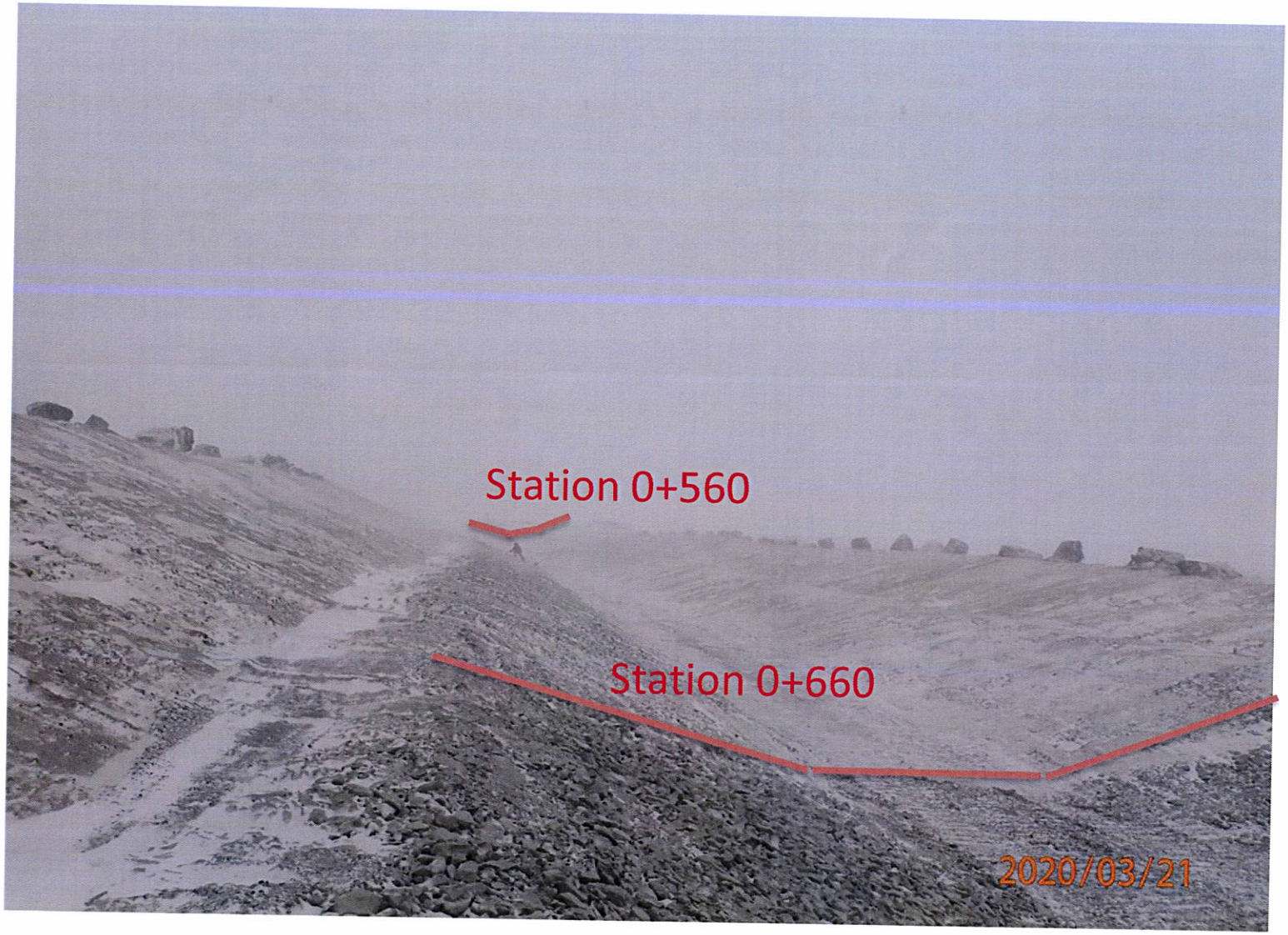


Photo 3: Approximate area for approved coarse filter between station 0+660 to 0+560.

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DOCUMENT #: 20200321 - DS - 20
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 2020 - 03 - 21

TIME: 11:00 AM
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Esker
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+555 to 0+545	**Station:**	0+056 to 0+330 and 0+906 to 0+555
Inclination:		**Details:**	
ELEVATION: ☐ varies	_____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	~~✓~~				
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

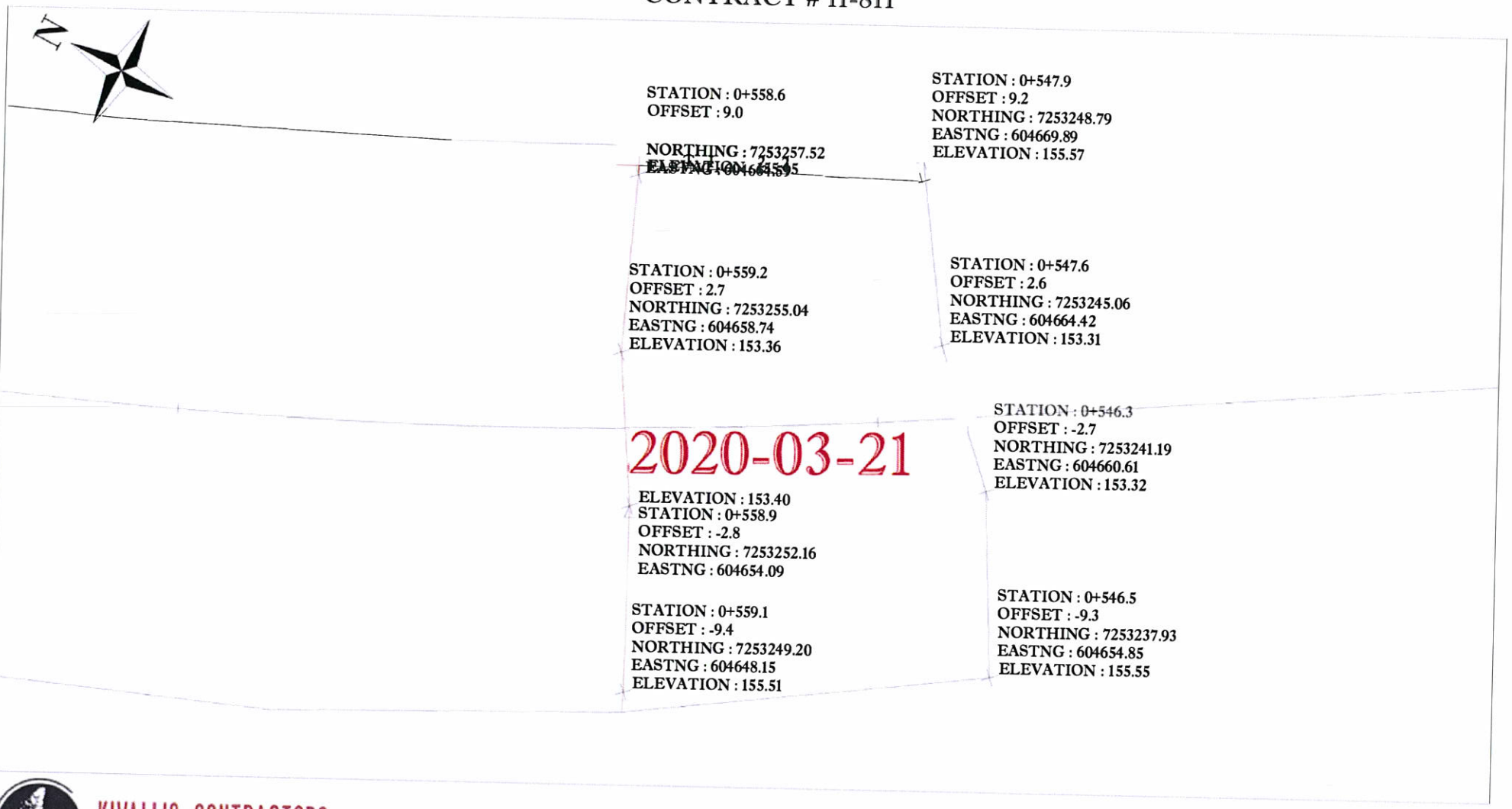
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
All	Visual				

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Matthieu Côté		2020-03-22
QA REPRESENTATIVE	Daniel Meles		2020-03-22
OWNER'S REPRESENTATIVE	LAURIER COLLETTE		2020-03-23
CONTRACTOR'S REPRESENTATIVE	Jonathan Truchon		2020.03.22

ESKER PLACEMENT APPROVAL - 0+560@ 0+545
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : FRANCIS PAULIN
DATE : 22-03-2020
CON-FD-298



Photo 1: view of approximate area for esker approval for fine filter placement

SNC·LAVALIN

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DOCUMENT #: 20200321-DS-21
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 2020-03-21

TIME: 5:00 PM
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Fine Filter.
- ☐ Other: _____

LOCATION

Station 0+555 to 0+545

Inclination:

ELEVATION: ☐ varies _____ m

PREVIOUS APPROVALS

Station: 0+056 to 0+330 and 0+906 to 0+555

Details:

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water					
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

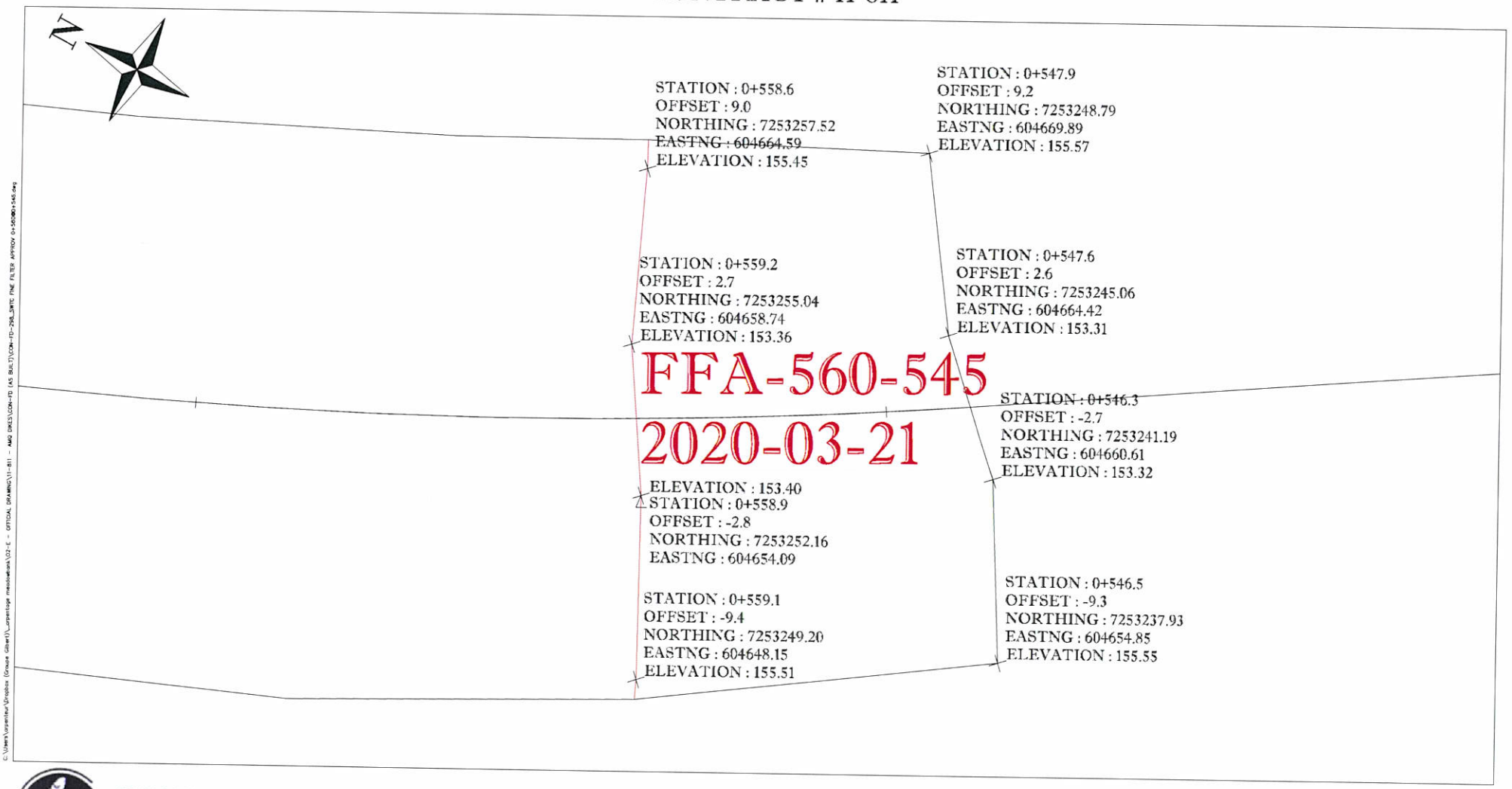
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
All	Based on Visual Assessment				

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Mathieu Côté	Mathieu Côté	2020-03-21
QA REPRESENTATIVE	Daniel Meles	Daniel Meles	2020-03-21
OWNER'S REPRESENTATIVE	LAURIER COLLETTE		2020-03-23
CONTRACTOR'S REPRESENTATIVE	Jonathan Tardif		2020-03-21

FINE FILTER PLACEMENT APPROVAL - 0+560@ 0+545
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : FRANCIS PAULIN
DATE : 22-03-2020
CON-FD-298



Photo 1: view of approximate area for fine filter approval

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DATE: 2020-03-22

DOCUMENT #: 2020 03 22 - DS - 22
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

TIME: 5:30 PM
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: Coarse Filter
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+555 to 0+547	**Station:**	0+906 to 0+555
Inclination:		**Details:**	
ELEVATION:	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY:				
	QA		**QC**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water					
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

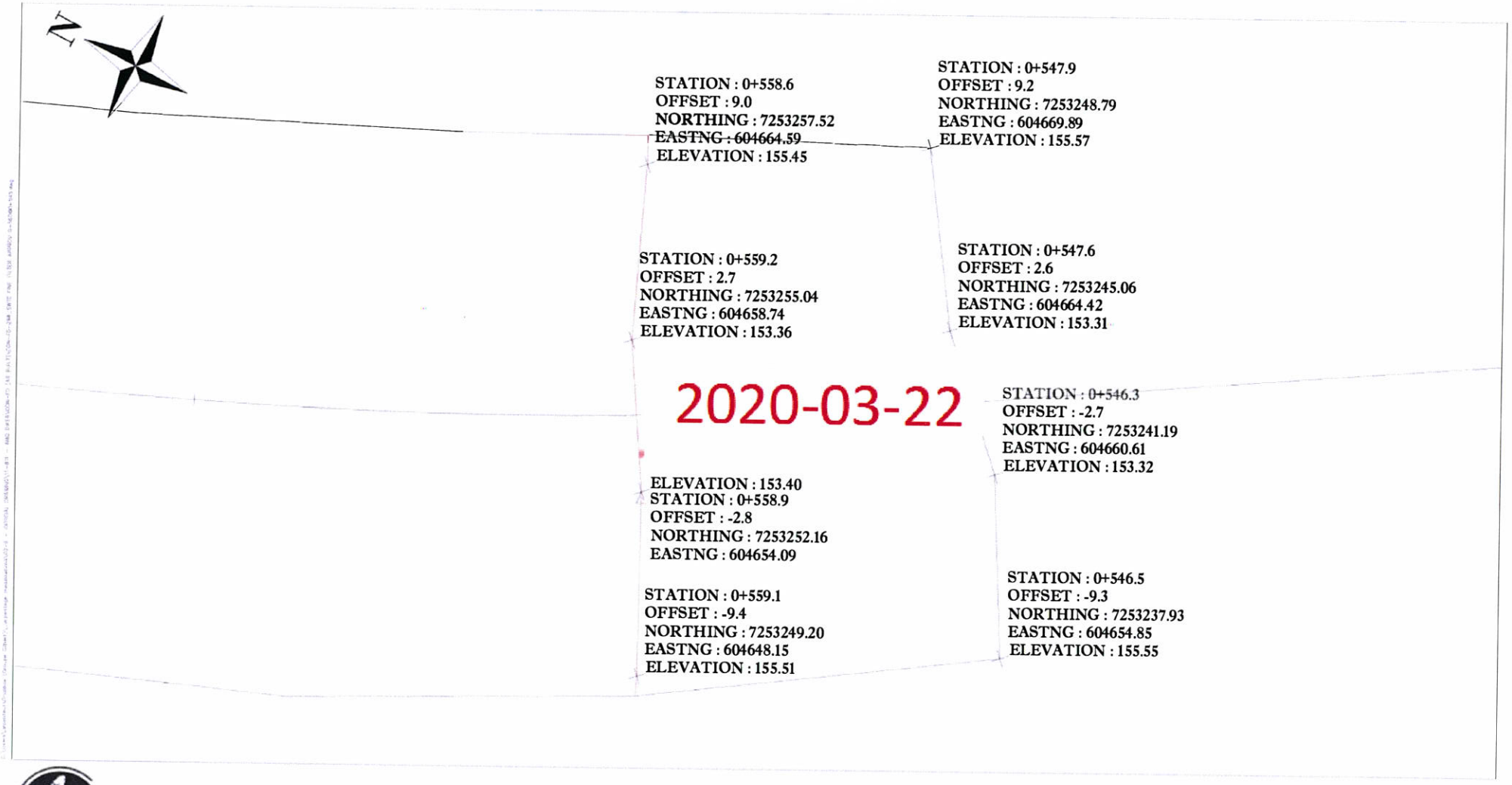
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
All	Based on visual Assessment				

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Matthew		2020-03-22
QA REPRESENTATIVE	Daniel Meles		2020-03-22
OWNER'S REPRESENTATIVE	LAVRION LAVOIE		2020-03-23
CONTRACTOR'S REPRESENTATIVE	Jonathan Trudeau		2020-03-22

COARSE FILTER PLACEMENT APPROVAL 0+560@ 0+545
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : FRANCIS PAULIN
DATE : 22-03-2020
CON-FD-298

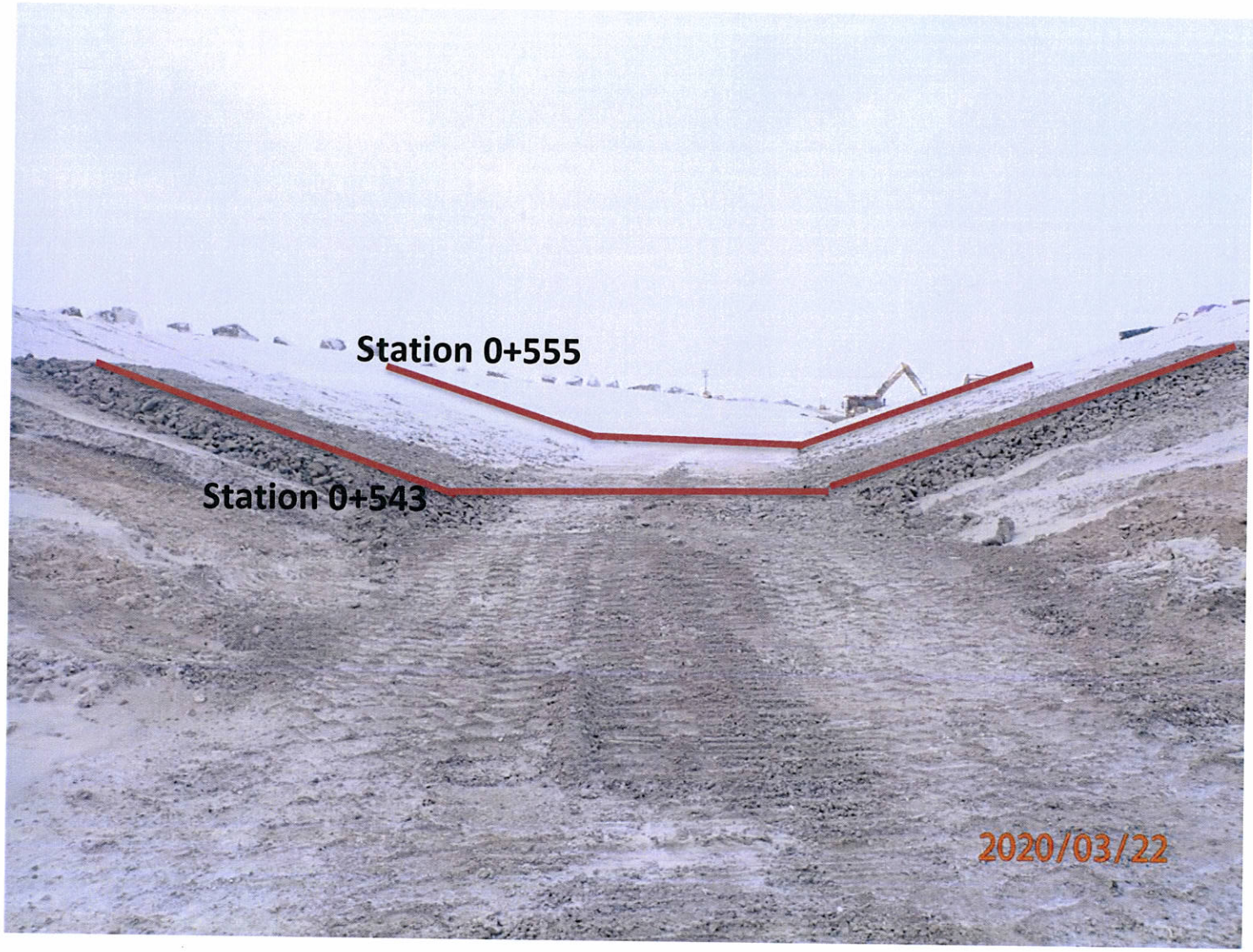


Photo 1: Approximate area of approved coarse filter between station 0+555 to 0+543

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DATE: 2020-03-22

DOCUMENT #: 20200322 - DS - 23
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

TIME: 5:45 PM
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Coarse Filter
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+065 to 0+325	**Station:**	0+906 to 0+547
Inclination:		**Details:**	
ELEVATION:	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY:				
	QA		**QC**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water					
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

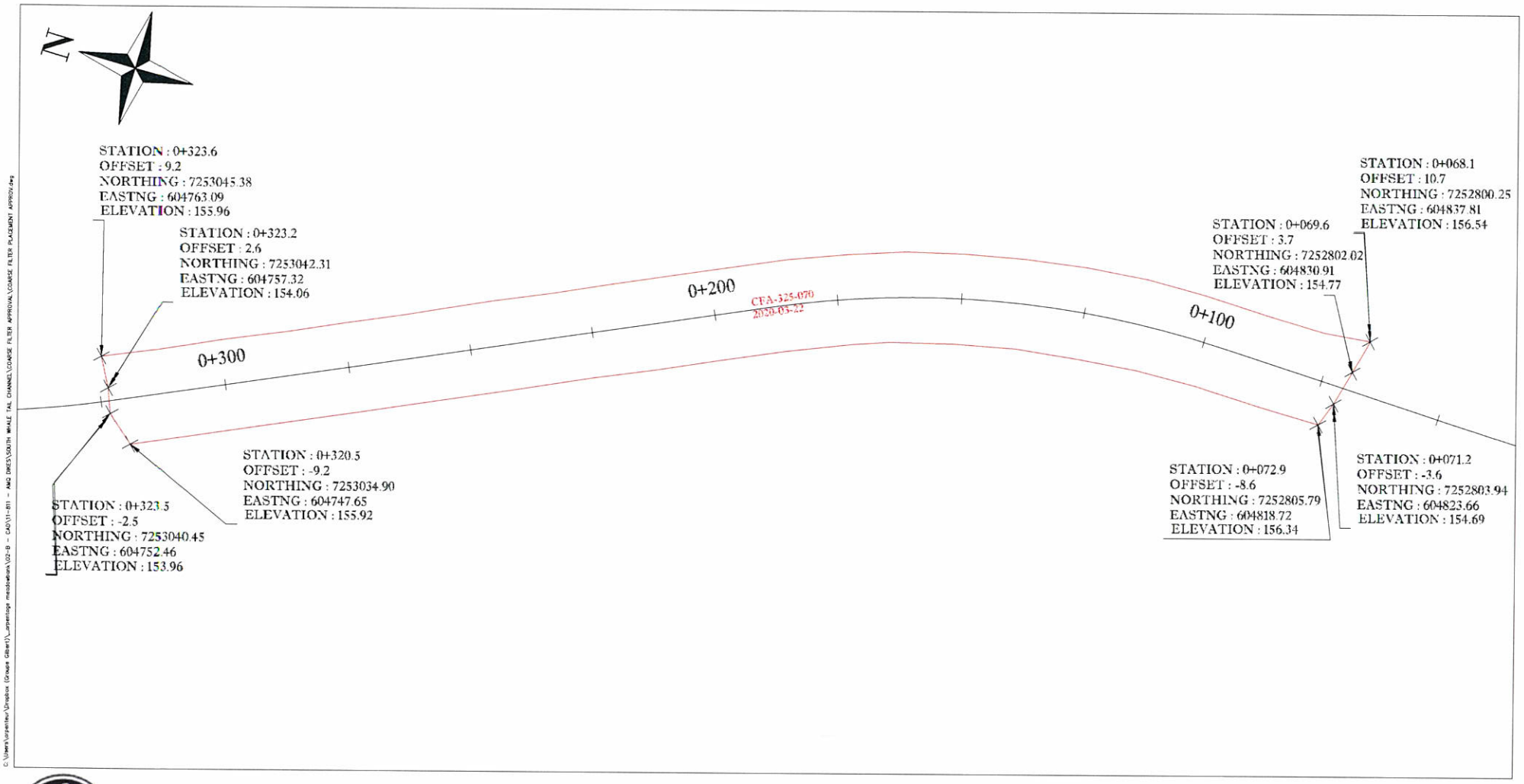
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
All	Based on Visual Assessment				
	Snow to be removed during the placement of geotextile and rip rap				

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Mathieu Côté	Math	2020-03-22
QA REPRESENTATIVE	Daniel Meles	Dmele	2020-03-22
OWNER'S REPRESENTATIVE	LAURIER COUETTE		2020-03-23
CONTRACTOR'S REPRESENTATIVE	Jonathan Truchon		2020-03-22

COARSE FILTER PLACEMENT APPROVAL - 0+325 @ 0+070
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
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PREPARED BY : FRANCIS PAULIN
DATE : 23-03-2020
CON-FD-300

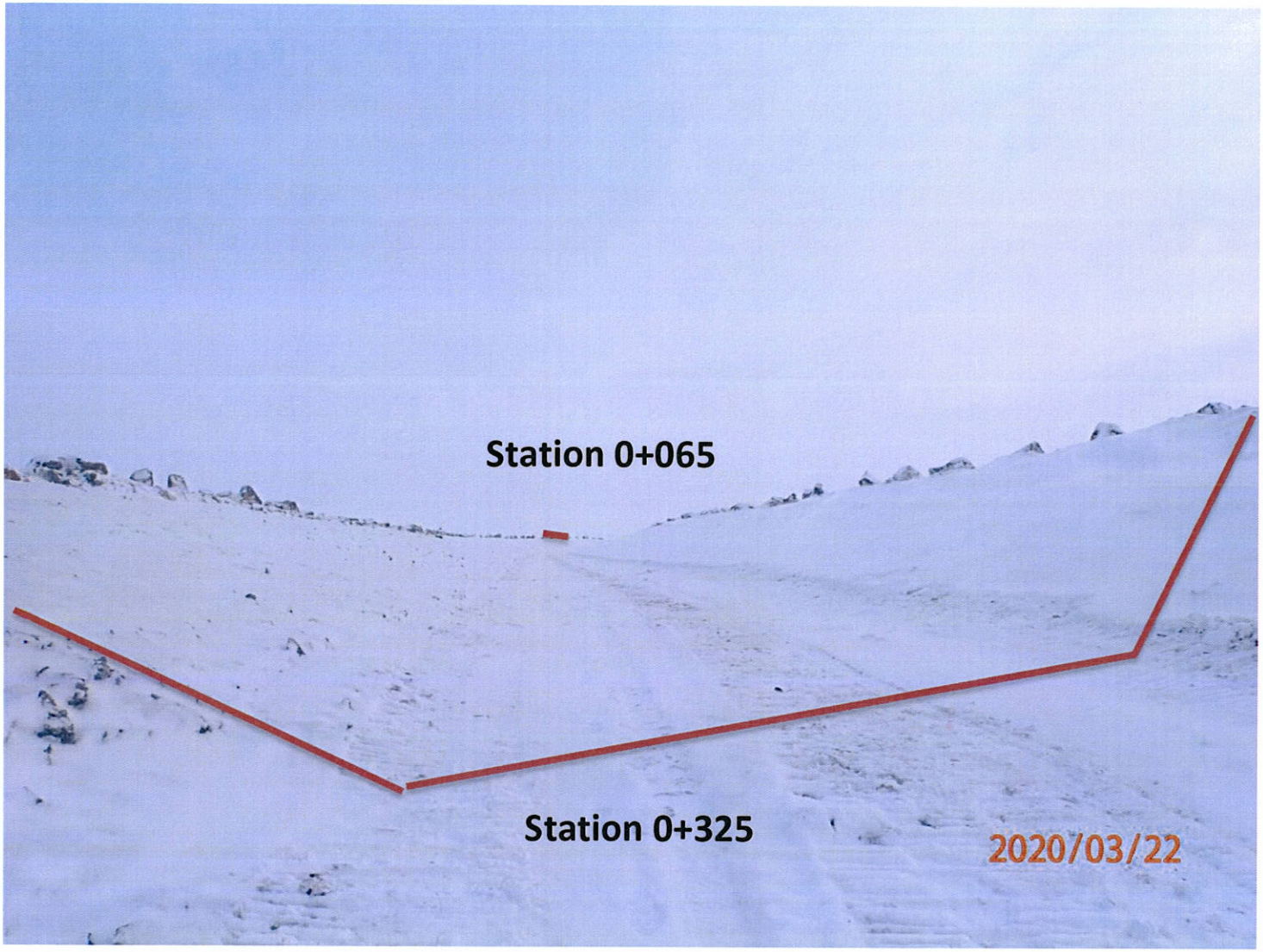

Photo 1: Approximate area of approved coarse filter between station 0+555 to 0+543

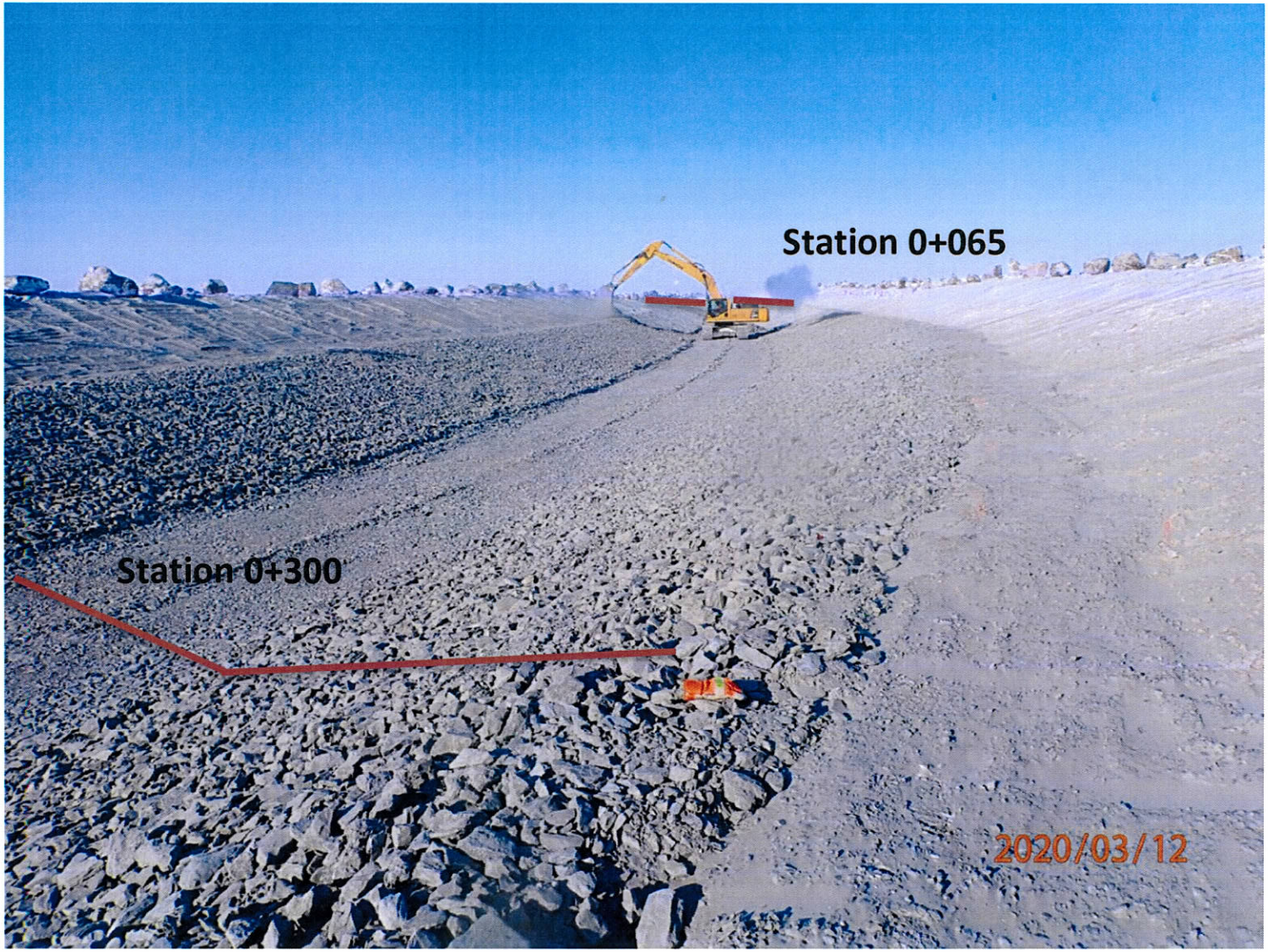

Photo 1: View of the coarse filter placement in area between station 0+065 to 0+325 (Photo taken after placement on March 12, 2020)

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-03-23

DOCUMENT #: 20200323-DS-24 **TIME:** 9:00 AM

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☑ Other: Geotextile and rip rap placement

LOCATION		**PREVIOUS APPROVALS**	
Station	0+906 to 0+590	**Station:**	—
Inclination:		**Details:**	
ELEVATION:	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

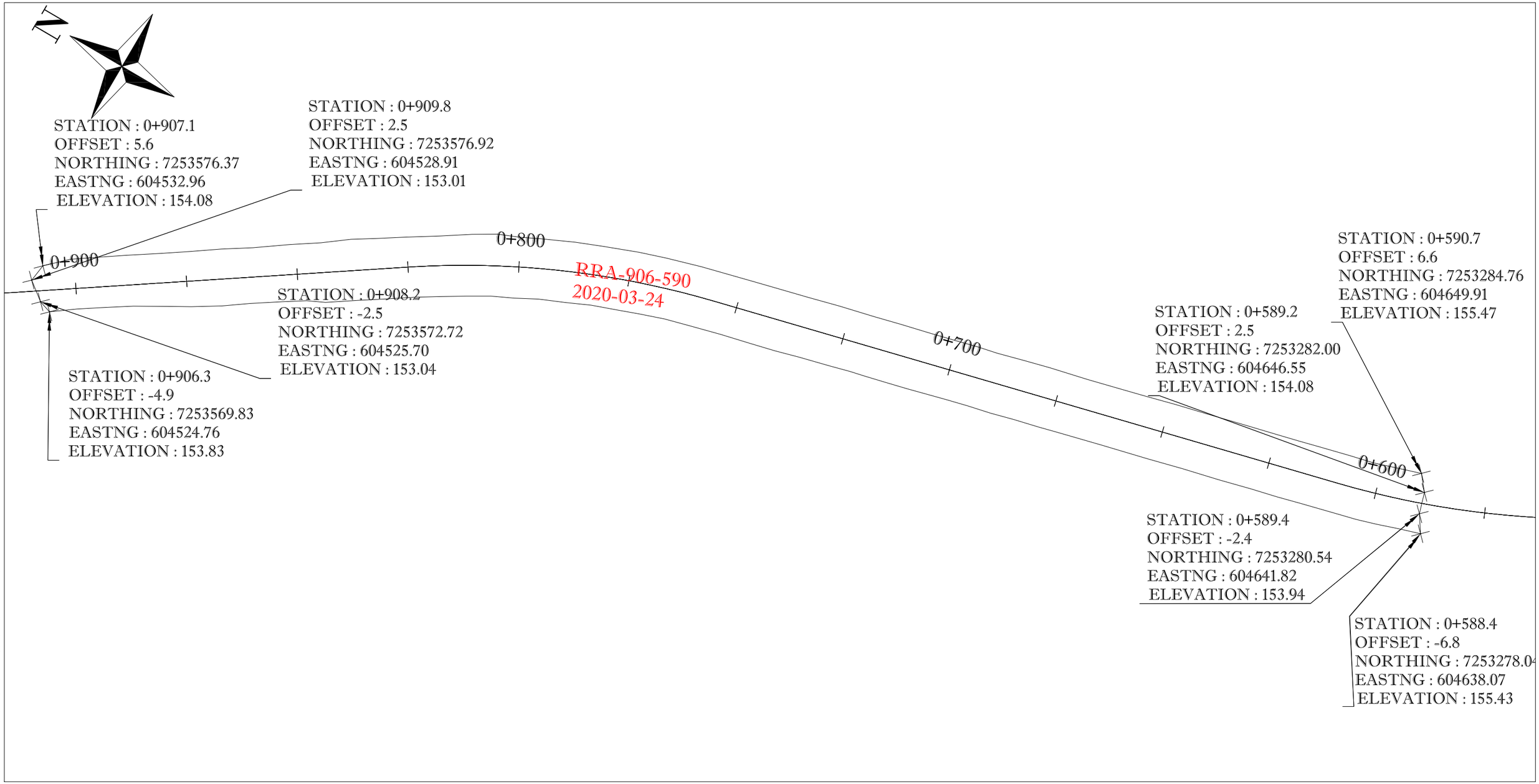
(Add additional items if needed)

	VERIFICATIONS DONE BY:				
	QA		**QC**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades					
2. Free of ice/snow/water					
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)					
6. Compaction					
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
All	Based on visual assessment				
	Geotextile was placed on the top of the coarse filter.				
	- Geotextile panel placed perpendicular to the channel alignment				
	- minimum overlap before rip rap placement was 0.5m (500 mm)				
	- Overlap consider flow direction (upstream sheet over downstream sheet)				

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Mathieu Côté	Matt	2020-03-22
QA REPRESENTATIVE	Daniel Meles	DM	2020-03-23
OWNER'S REPRESENTATIVE	LAURIER QUIRION		2020-03-25
CONTRACTOR'S REPRESENTATIVE	Patrice Ouellet		2020-03-26

RIP RAP PLACEMENT APPROVAL - 0+906 @ 0+590
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



C:\Users\arpenteur\Dropbox (Groupe Gilbert)_arpentage meadowbank\02-E – OFFICIAL DRAWING\11-811 – AMQ DIKES\CON-FD (AS BUILT)\CON-FD-307_SWTC RIP RAP APPROVAL 0+906@0+590.dwg

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : FRANCIS PAULIN
DATE : 27-03-2020
CON-FD-307



Photo 1: Approximate area of approved rip rap between station 0+740 to 0+590

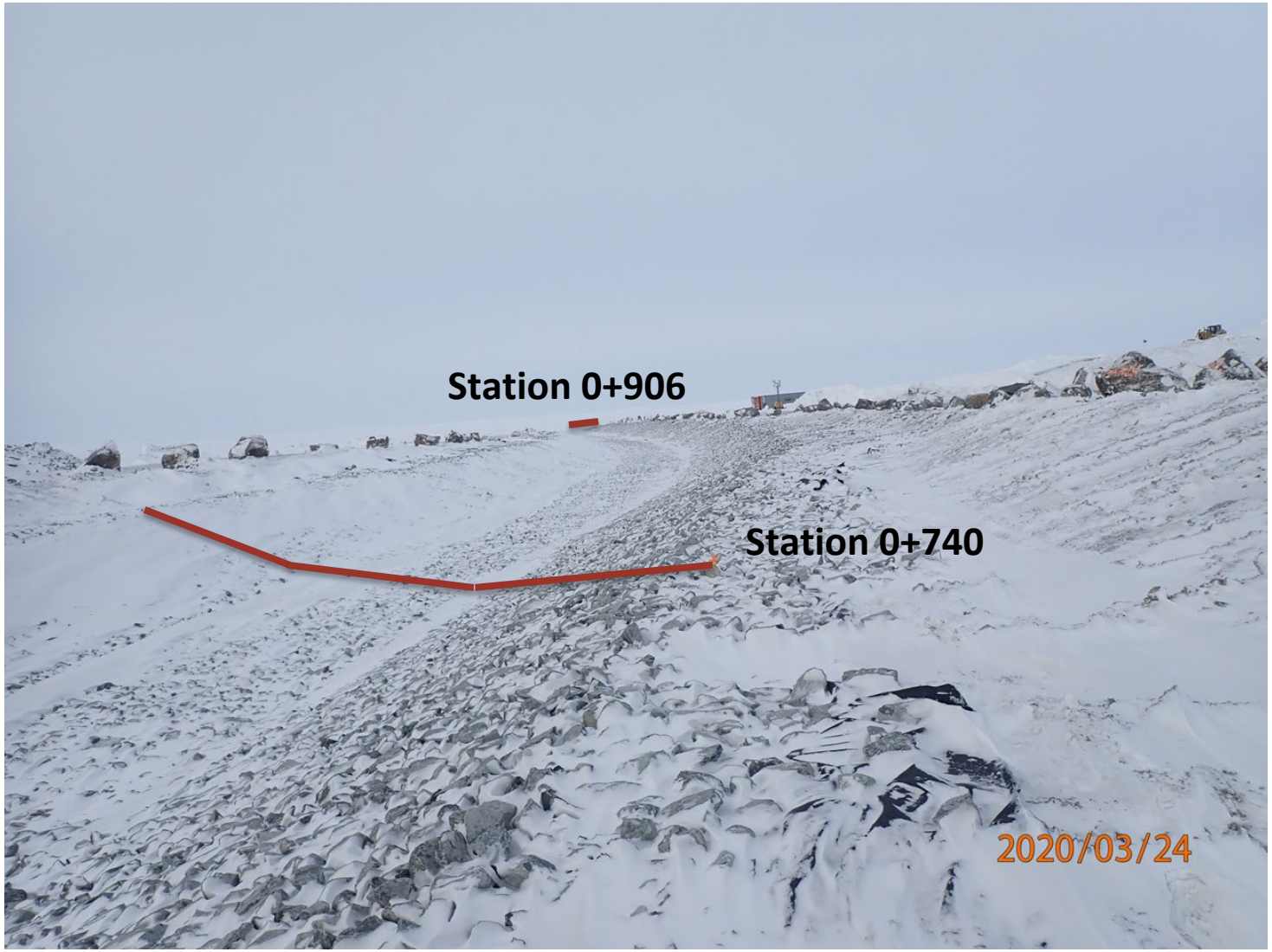


Photo 2: Approximate area of approved rip rap between station 0+740 to 0+906

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-03-24

DOCUMENT #: 20200324-DS-25 **TIME:** 5:45

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☑ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+555 to 0+500	**Station:**	0+056 to 0+330 and 0+906 to 0+555
Inclination:		**Details:**	
ELEVATION:	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

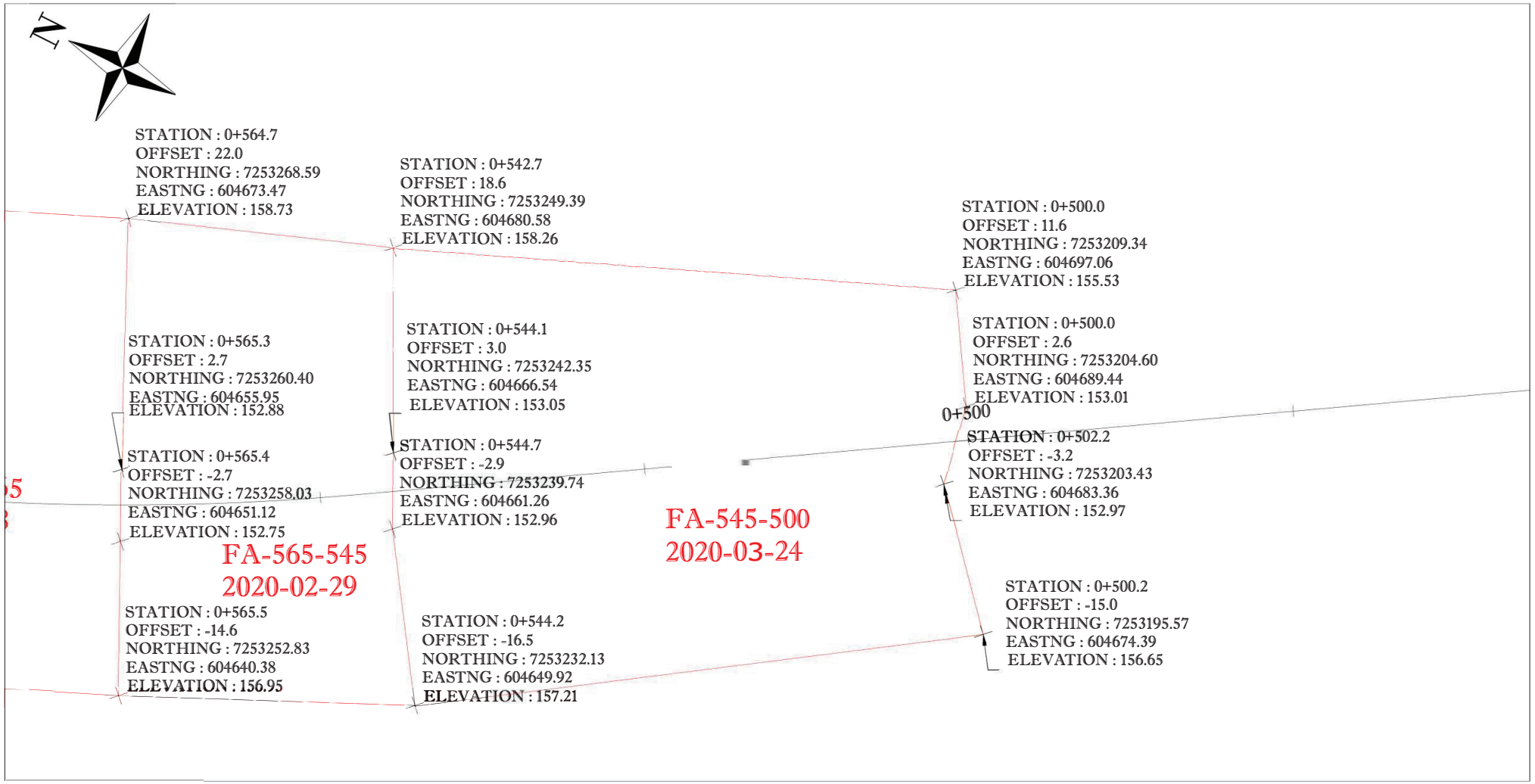
(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					
5. Placement (lift thickness, segregation, etc.)					
6. Compaction					
7. As built survey completed					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
All	Area of the Channel where filter is going to be placed was approved				
	Area outside of the Channel foundation require additional cleaning				

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Yaotree Amegnran		26-03-2020
QA REPRESENTATIVE	Daniel Meles		03-25-2020
OWNER'S REPRESENTATIVE	LAVKIER OUELLE		03-26-2020
CONTRACTOR'S REPRESENTATIVE	Patrice Ouellet		03-26-2020

FOUNDATION APPROVAL - 0+545 @ 0+500
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS GROUP LTD

THE CREST IS APPROVED AT THE FINE FILTER ELEVATION

PREPARED BY : FRANCIS PAULIN
DATE : 25-03-2020
CON-FD-301

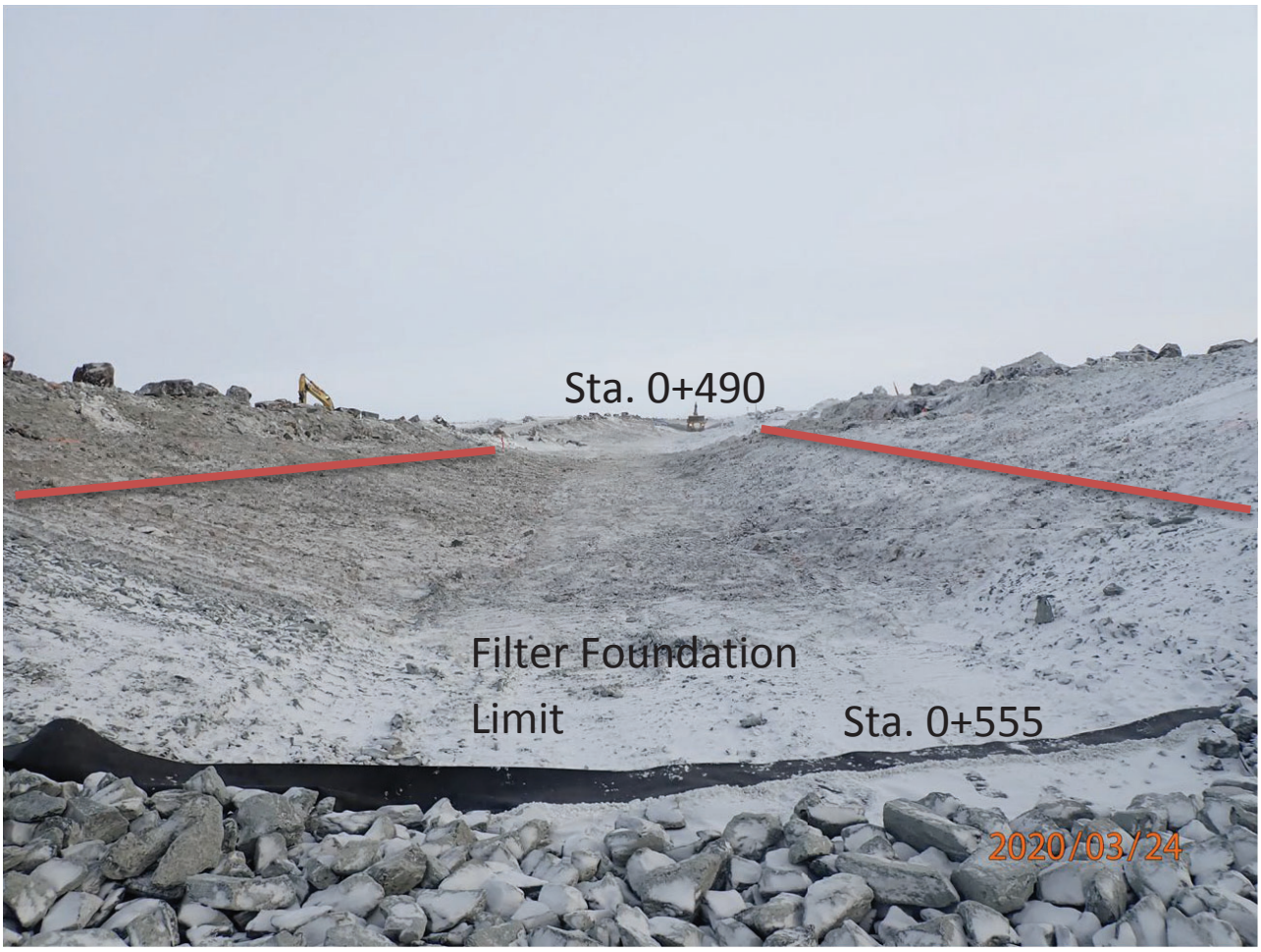


Photo 1 Excavation limit approved for esker placement

APPENDIX C: Gradation results from QC

Analysis Report - Soils and Aggregates

Client: AEM

Projet: Derivation channel

Description of Material: Coarse filter 0-6"

Origin: channel

Proposed Use: Coarse filter 0-6"

Project N°: 11202247-B1

Sample N°: AMQ-CF-005.1

Sampling Date: 2020-03-20

Sampled by: MC

Location of Sampling: 0+890 East slope

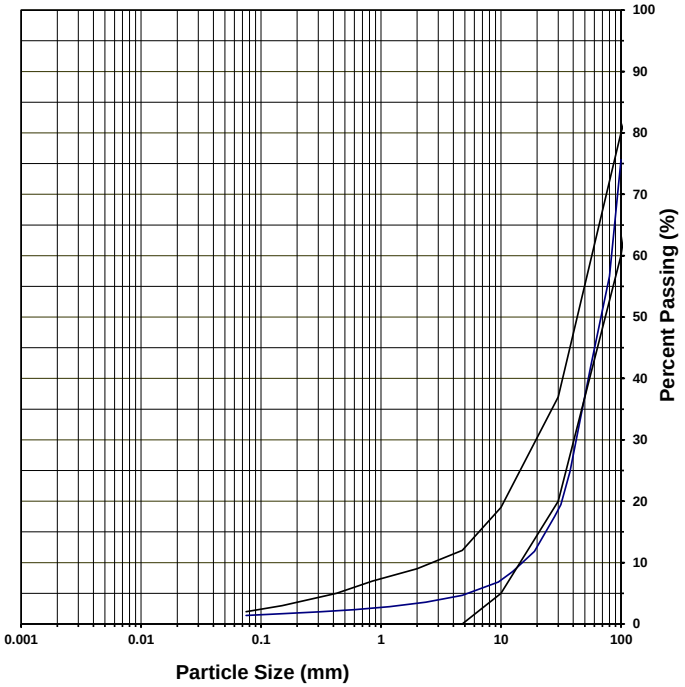
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		76	57	42	25	19	17	12	9	7	5	4	3	2	2	2	1.4
Require-ments	**min.**	60				21	19			5	0	0	0	0	0	0	0
	max.	80				38	36			19	24	13	8	6	4	3	2

Autres essais	Résultats	Exigences min.	Exigences max.
PSPI			
Moisture Content (%)	2.4		
Agreggate Density (Coarse)			
Absorption granulats (fins)			
Micro Deval (coarse)			
Los Angeles (Coarse)			
% Crushed Particles			
Methylene Blue Index			
Organic Matter Content			

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
1	4	95

Remarks: Requirement made by interpolation

Prepared by: Mathieu Côté ansd Richard J.Tremblay

Verified by:

Date: 2020-03-21

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11202247-B1

Sample N°: AMQ-CF-006.2

Projet: Derivation channel

Sampling Date: 2020-03-19

Sampled by: RJT

Description of Material: Coarse filter 0-6"

Location of Sampling: 0+780 West slope

Origin: channel

Proposed Use: Coarse filter 0-6"

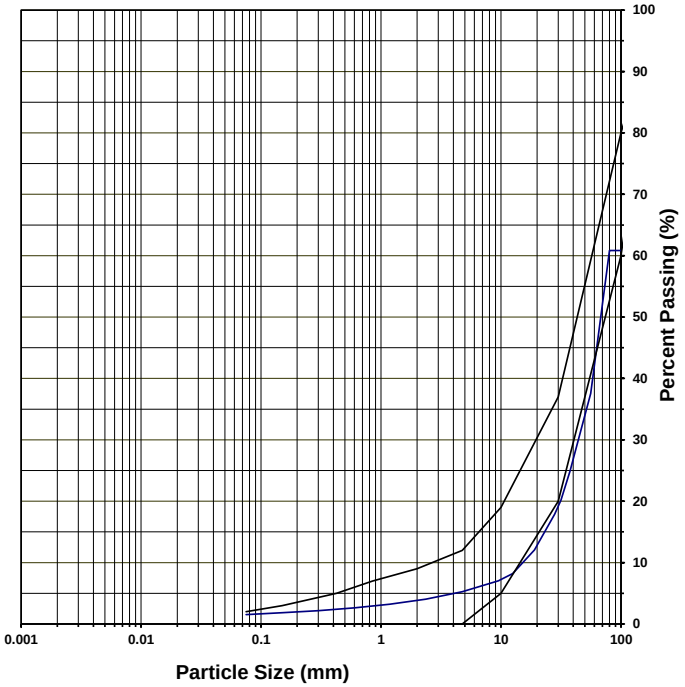
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		61	61	38	25	20	18	12	8	7	5	4	3	3	2	2	1.5
Require-ments	**min.**	60				21	19			5	0	0	0	0	0	0	0
	max.	80				38	36			19	24	13	8	6	4	3	2

Autres essais	Résultats	Exigences min.	Exigences max.
PSPI			
Moisture Content (%)	0.7		
Agreggate Density (Coarse)			
Absorption granulats (fins)			
Micro Deval (coarse)			
Los Angeles (Coarse)			
% Crushed Particles			
Methylene Blue Index			
Organic Matter Content			

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
2	4	95

Remarks: Requirement made by interpolation

Prepared by: Mathieu Côté and Richard J.tremblay

Verified by:

Date: 2020-03-20

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Projet: Derivation channel

Description of Material: Coarse filter 0-6"

Origin: Channel

Proposed Use: Coarse filter 0-6"

Project N°: 11202247-B1

Sample N°: AMQ-CF-007

Sampling Date: 2020-03-20

Sampled by: RJT

Location of Sampling: st 0+300m Eastern slope

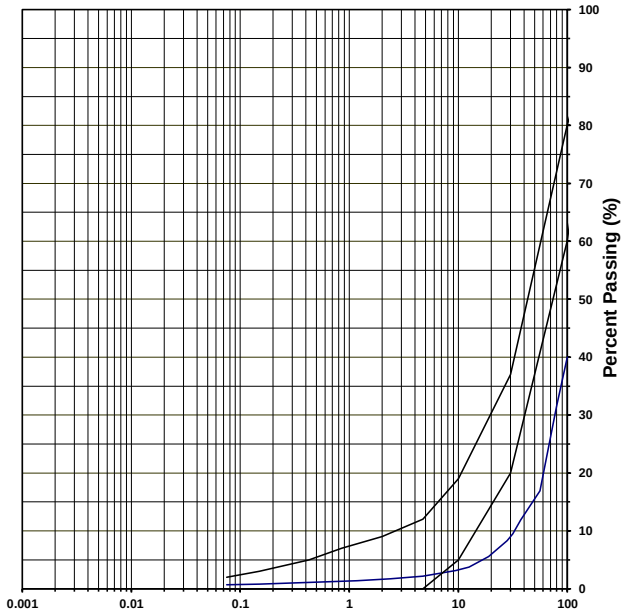
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		40	31	17	12	9	8	6	4	3	2	2	1	1	1	1	0.7
Require-ments	min.	60				21	19			5	0	0	0	0	0	0	0
	max.	80				38	36			19	24	13	8	6	4	3	2

Autres essais	Résultats	Exigences min.	Exigences max.
PSPI			
Moisture Content (%)	0.84%		
Agreggate Density (Coarse)			
Absorption granulats (fins)			
Micro Deval (coarse)			
Los Angeles (Coarse)			
% Crushed Particles			
Methylene Blue Index			
Organic Matter Content			

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
1	1	98

Remarks _____

Prepared by: Yaotree Amegnran 2020-03-24 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Projet: Derivation channel

Description of Material: Coarse filter 0-6"

Origin: Channel

Proposed Use: Coarse filter 0-6"

Project N°: 11202247-B1

Sample N°: AMQ-CF-008

Sampling Date: 2020-03-20

Sampled by: MC

Location of Sampling: st 0+600m, Foundation level

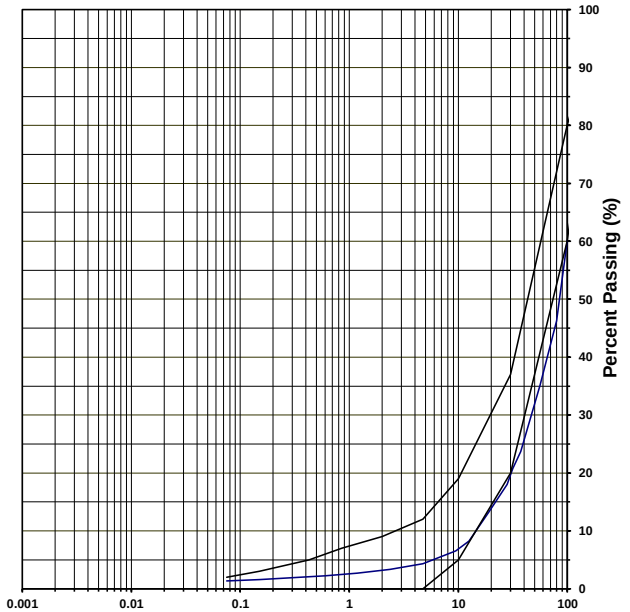
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		60	46	35	24	21	18	13	8	7	4	3	3	2	2	2	1.4
Require-ments	min.	60				21	19			5	0	0	0	0	0	0	0
	max.	80				38	36			19	24	13	8	6	4	3	2

Autres essais	Résultats	Exigences min.	Exigences max.
PSPI			
Moisture Content (%)	2.60%		
Agreggate Density (Coarse)			
Absorption granulats (fins)			
Micro Deval (coarse)			
Los Angeles (Coarse)			
% Crushed Particles			
Methylene Blue Index			
Organic Matter Content			

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
1	3	96

Remarks _____

Prepared by: Yaotree Amegnran 2020-03-24 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-028
Projet:	Derivation channel	**Sampling Date:**	2020-03-13
		Sampled by:	MC
Description of Material:	Fine filter		
Origin:	Channel	**Location of Sampling:**	0+680 West slope
Proposed Use:	Finefilter		

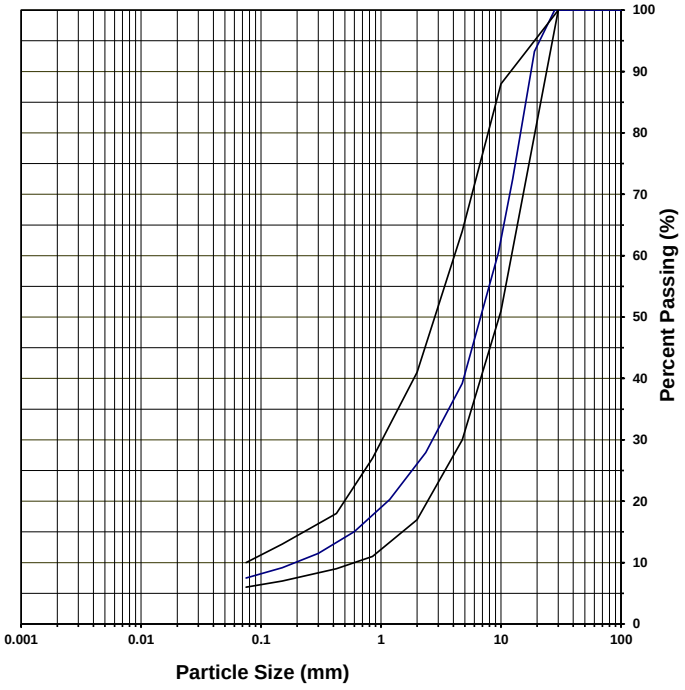
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	93	72	60	39	28	20	15	11	9	7.5
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	5.4		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
8	32	61

Remarks _____

Prepared by: Mathieu Côté and Richard J.Tremblay Verified by: _____ Date: 2020-03-17

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-029
Projet:	Derivation channel	**Sampling Date:**	2020-03-15
		Sampled by:	mc
Description of Material:	Fine filter		
Origin:	Channel	**Location of Sampling:**	0+700 West slope
Proposed Use:	Finefilter		

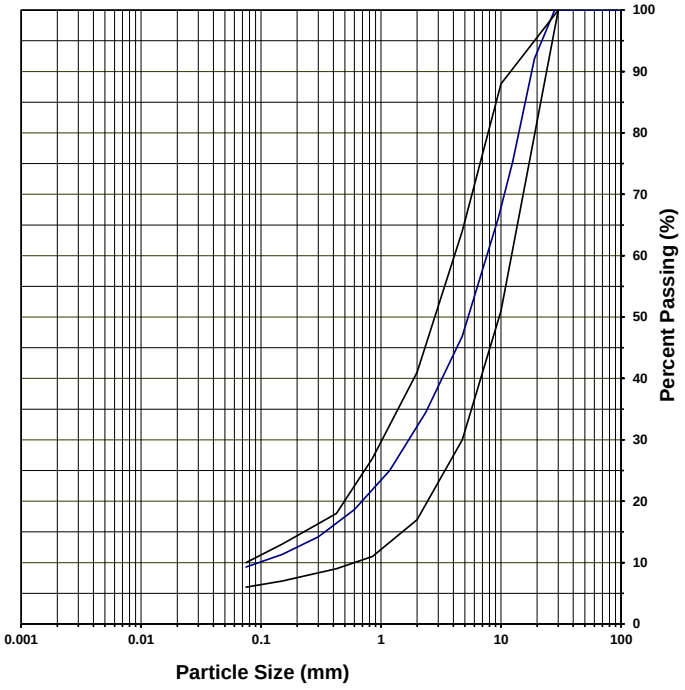
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	92	75	66	47	34	25	19	14	11	9.3
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	7.0		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
9	38	53

Remarks: Exeed % loss on gilson

Prepared by: Mathieu Côté and Richard J. Tremblay Verified by: _____ Date: 2020-03-17

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11202247-B1

Sample N°: AMQ-FF-030

Projet: Derivation channel

Sampling Date: 3/15/2020

Sampled by: MC

Description of Material: Fine filter

Origin: Channel

Location of Sampling: 0+720 East slope

Proposed Use: Finefilter

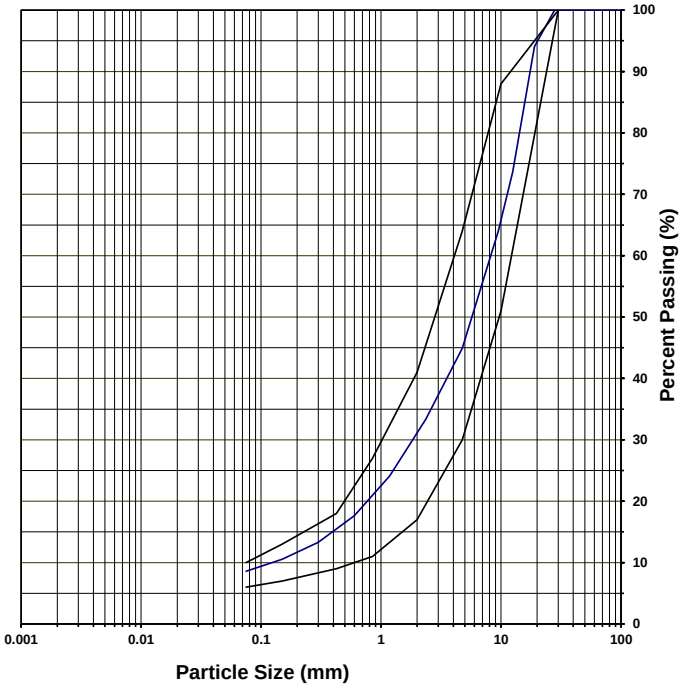
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	94	74	64	45	33	24	18	13	11	8.6
Require-ments	min.					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	6.0		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
9	36	55

Remarks

Prepared by: Mathieu Côté ansd Richard J.Trembla

Verified by:

Date: 2020-03-17

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-031
Projet:	Derivation channel	**Sampling Date:**	2020-03-15
		Sampled by:	mc
Description of Material:	Fine filter		
Origin:	Channel	**Location of Sampling:**	0+740 Center
Proposed Use:	Finefilter		

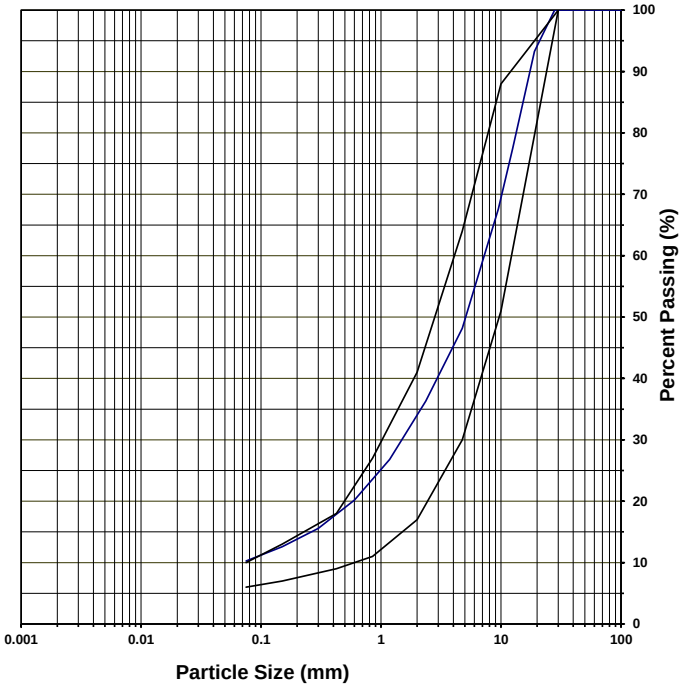
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	93	77	68	48	36	27	20	16	13	10.3
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	7.0		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
10	38	52

Remarks: Exceed % loss in gilson

Prepared by: Mathieu Côté and Richard J.Tremblay Verified by: _____ Date: 2020-03-17

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-032
Projet:	Derivation channel	**Sampling Date:**	2020-03-16
		Sampled by:	mc
Description of Material:	Fine filter		
Origin:	Channel	**Location of Sampling:**	0+760 Center
Proposed Use:	Finefilter		

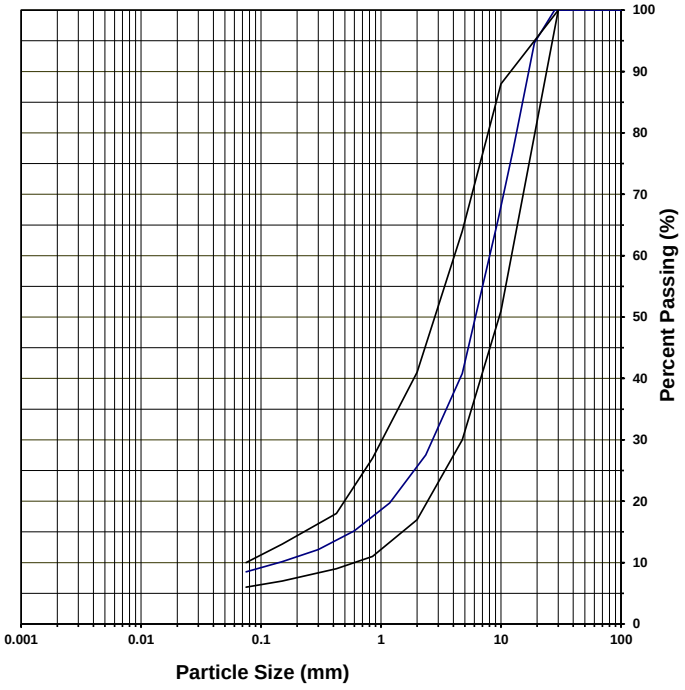
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	95	77	66	41	28	20	15	12	10	8.5
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	11.6		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
9	33	59

Remarks: high moisture content because of presence of snow in the sample

Prepared by: Mathieu Côté and Richard J.Tremblay Verified by: _____ Date: 2020-03-17

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-033
Projet:	Derivation channel	**Sampling Date:**	2020-03-16
		Sampled by:	MC
Description of Material:	Fine filter		
Origin:	Channel	**Location of Sampling:**	0+780 East slope
Proposed Use:	Finefilter		

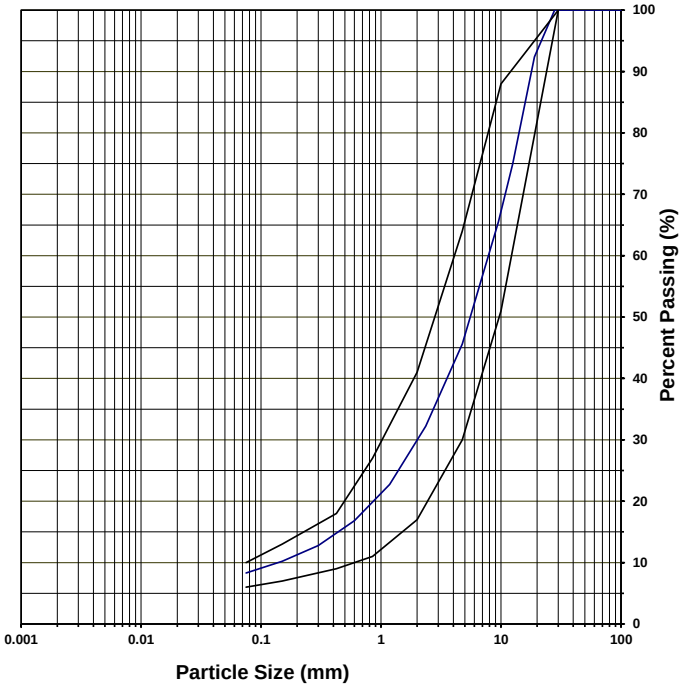
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	92	75	65	46	32	23	17	13	10	8.3
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	6.0		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
8	38	54

Remarks: Exceed % loss in gilson

Prepared by: Mathieu Côté and Richard J. Tremblay Verified by: _____ Date: 2020-03-17

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-034
Projet:	Derivation channel	**Sampling Date:**	2020-03-16
		Sampled by:	MC
Description of Material:	Fine filter		
Origin:	Channel	**Location of Sampling:**	0+800 west slope
Proposed Use:	Finefilter		

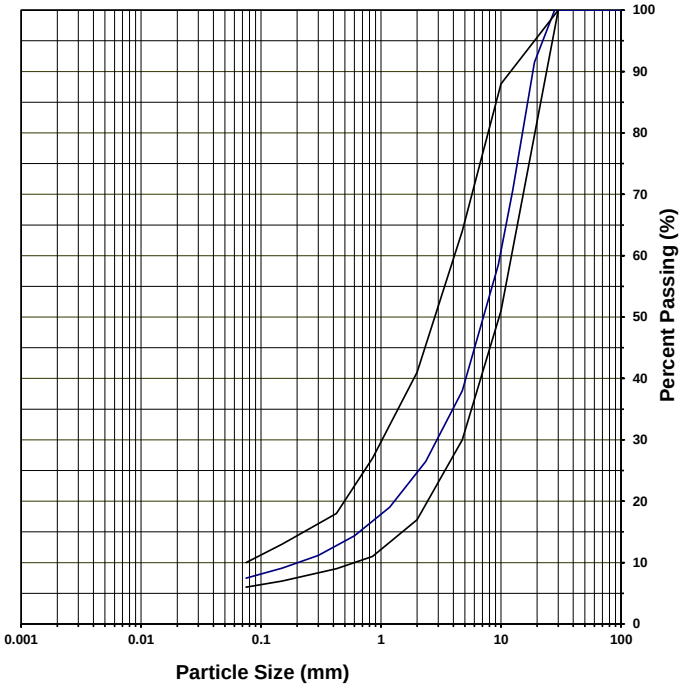
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	92	71	59	38	26	19	14	11	9	7.5
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	5.8		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
8	31	62

Remarks: exceed % loss in gilson by 0.04%

Prepared by: Mathieu Côté and Richard J.Tremblay Verified by: _____ Date: 2020-03-18

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11202247-B1

Sample N°: AMQ-FF-035

Projet: Derivation channel

Sampling Date: 2020-03-15

Sampled by: MC

Description of Material: Fine filter

Origin: Channel

Location of Sampling: 0+820 East slope

Proposed Use: Finefilter

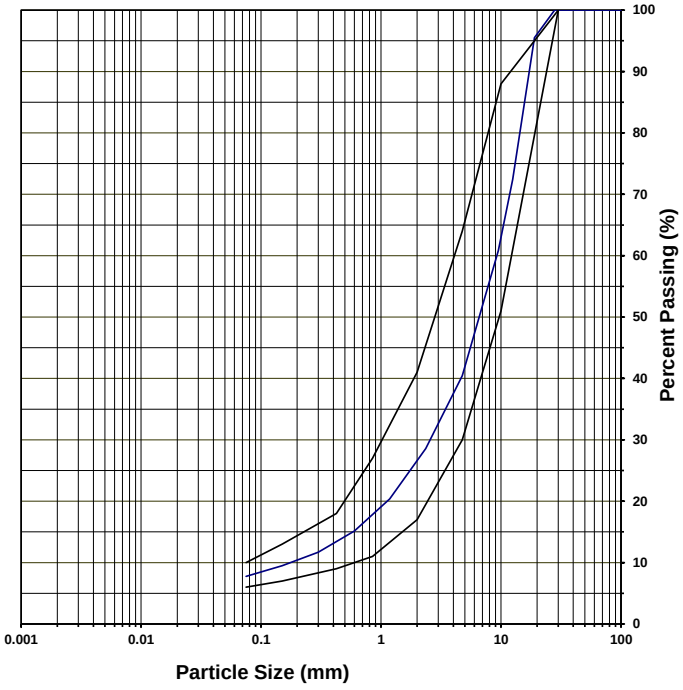
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	96	72	61	40	29	20	15	12	10	7.8
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	5.3		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
8	32	60

Remarks: exceed % loss in gilson (0.64%)

Prepared by: Richard J.Tremblay Verified by: Date: 2020-03-18

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-036
Projet:	Derivation channel	**Sampling Date:**	2020-03-15
		Sampled by:	MC
Description of Material:	Fine filter		
Origin:	Channel	**Location of Sampling:**	0+840 West slope
Proposed Use:	Finefilter		

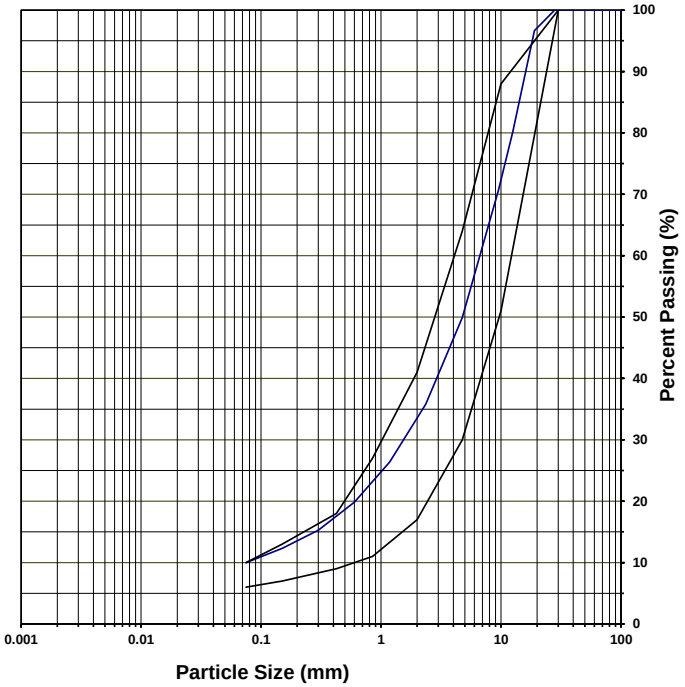
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	97	80	71	50	36	26	20	15	12	10.0
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	7.4		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
10	40	50

Remarks: Exceed % loss in gilson (0.51%)

Prepared by: Richard J.Tremblay Verified by: Date: 2020-03-18

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11202247-B1

Sample N°: AMQ-FF-037

Projet: Derivation channel

Sampling Date: 2020-03-15

Sampled by: MC

Description of Material: Fine filter

Origin: Channel

Location of Sampling: 0+860 East slope

Proposed Use: Finefilter

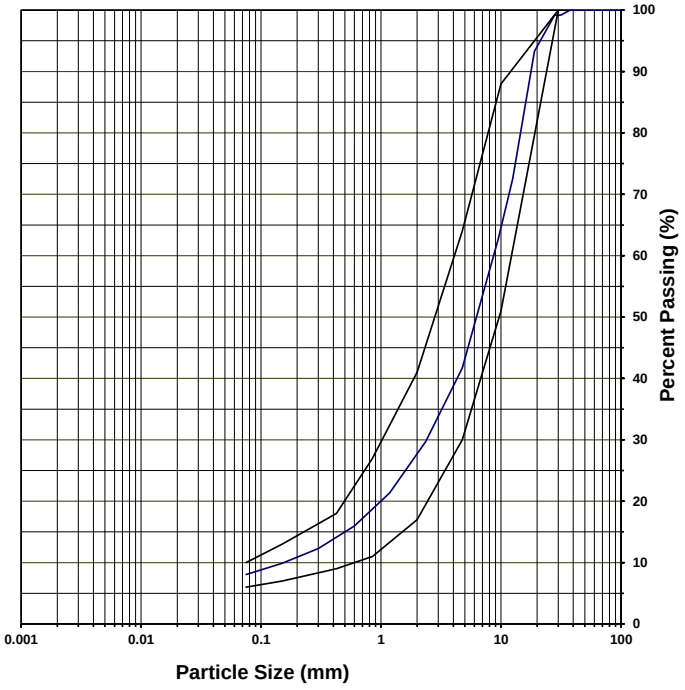
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	99	99	93	73	63	42	30	21	16	12	10	8.1
Require-ments	min.					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	7.0		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
8	34	58

Remarks

Prepared by: Mathieu Côté

Verified by:

Date: 2020-03-16

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-038
Projet:	Derivation channel	**Sampling Date:**	2020-03-15
		Sampled by:	MC
Description of Material:	Fine filter		
Origin:	Channel	**Location of Sampling:**	0+880 Center
Proposed Use:	Finefilter		

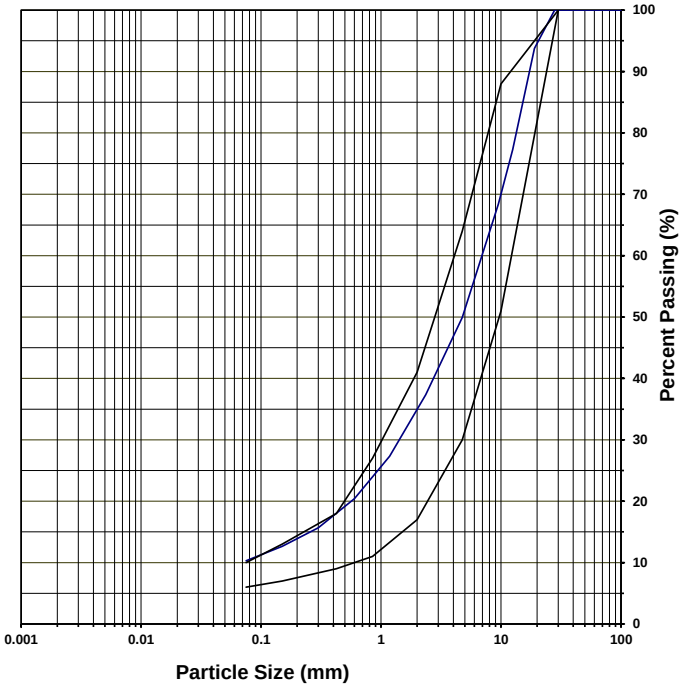
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	94	77	68	50	37	27	20	16	13	10.3
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	6.8		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
10	40	50

Remarks _____

Prepared by: Mathieu Côté and Richard J.Tremblay Verified by: _____ Date: 2020-03-17

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

APPENDIX D : RFI log

RFI Log

RFI #	Date Received	Date Responded	Status	Subject	Location	Notes
RFI-001	2019-08-13		*To be approved*	Change of outlet geometry, outlets were higher than topography	0+060, 0+390, 0+480, 0+900	Consists of having small filter tablets on topographic surface at crests to direct water flow towards Mammoth rather than have it spreaded
RFI-002	2019-08-13		*To be approved*	Change of inlet geometry. Not build buttress platforms used to get 1.3m depth i.e. disregard 1.3m min	On low topographic spots	This material was put in place to follow the 1.3m minimum but it would be rockfill i.e. draining material i.e. be useless. It would be used at the same time to facilitate constructability where road in not adjacent i..e close to A45
RFI-003	2019-08-13		*To be approved*	Having slope at 2.5:1 rather than 3:1 above max water level	TBD	Apply in section where rockfill is directly against slope as butress
RFI-004	2019-08-13		Field Fit	Modification of Road 24 alignment for construction access		Construction access to be field fitted
RFI-005	2019-08-13		Field Fit	Access to bottom of channel from both side		Will need to be field fitted with a slope to allow access within channel
RFI-006	2019-08-13		Approved	Use of 0-150 instead of 0-200 for coarse filter		Approved by changing 100-300 to 100-250
RFI-007	2019-08-13		Approved	Use of 100-300 instead of 100-250 for rip-rap		Condition for the approval of RFI-006
RFI-008	2019-09-05		Approved	Lowering the inelt of the channel by 0.5 m		New version of construction drawings and report were submitted by SNC in December 2019
RFI-009	2019-12-15		Pending	Turbidity concern on lake A45	A45	
RFI-010	2019-12-15		Rejected	Leaving the construciton road within the operational level of Lake A45 can stay there	A45	Env asked that the no road remain within the operation level of A45. Will ahve to be dismantled at the end of construction
RFI-011	2019-12-16	2020-01-17	Recommendation provided	Adding a geotextile above the corase filter to add robustnest to the design	Within Channel	See field memo: 667648-2000-60NC-0002-PB_Field Work Instruction (RFI-011)_Geotextile
RFI-012	2020-01-15		Sent for approval	Proposed inlet modification (see drawings)	Inlet's	Sent to SNC for approval
RFI-0-13	2020-01-15		Sent for approval	Modified inlet to have a 'fan' shape instead of rectangular to improve water conveyance	Inlet's	Sent to SNC for approval
RFI-014	2020-01-15	2020-01-17	Approved	Proposed outlet modification to Mammoth lake (see drawing)	Outlet to Mammoth lake	The outlet to the Mammoth lake can be adjusted to the existing ground conditions. Ensure that there is no high point in the nearby topography downstream of the outlet to ensure proper flow towards the lake.
RFI-015	2020-01-15	2020-01-26	Review continue as excavation progress	Revise filter design for existing foundation soil		See field memo: 667648-2000-60NC-0001-PB_Field Work Instruction (RFI-015)_Filters) for the geotextile and the filters design review
RFI-016	2020-01-15	2020-02-07	Approved	Proposed inlet modification (see drawings) and Modified inlet to have a 'fan' shape instead of rectangular to improve water conveyance	Inlet's	SNC agrees with the proposal of expending the width of the channel from 5 m to 15 m, along with a transition zone, between station 0+54 to 0+104. This is our understanding that the depth of the channel and the material placement (filters and rip rap) will remain the same in this section as per the original design. And recommends increasing the size of the rip rap between station 0+104 and 0+110. We recommend clean rip rap with particle size between 200 mm to 300 mm (instead of 100 mm to 300 mm) for this short section. As for the area around the inlet (approximately station 0+00 to 0+54), we also recommend additional erosion protection, based on field condition. We recommend installing a geotextile over the natural soil, and to place rip rap material over the geotextile.
RFI-015 (version 1)	2020-02-29	2020-03-03	Approved	AEM requests the designer's input on the esker already placed and also asking a derogation for the phrase « leaving a 10 cm limit before placing the fine filter as per specifications » specifier in RFI 015	Channel	SNC confirms that its areas of segregation observed as to be corrected and they accept the derogation but no placement of esker material should be done above the fine filter limit, to ensure the fine filter thickness of 0.3 m (after compaction) as per specifications ;
RFI -017	2020-03-01	2020-03-12	Finalized	transition zone which contains ice at the top of the slope between the lake A45 and the channel.	Approx. from ST 0+545 to 0+335	AEM requests the designer's proposals about the transition zone which contains ice at the top of the slope between the lake A45 and the channel and SNC provide field note instruction version PC (667648-2000-60NC-0003-PC_Field Work Instruction (RFI-017)).
RFI -018	2020-03-10	2020-03-13	Approved	Adjustment of filter design over the road	approved	SNC agreed with the proposed design change based on the understanding that the road (Road 24 and the maintenance road) embankments are made of rockfill and agreed with the replacement of fine filter, coarse filter and rip rap above the natural ground and against rock fill road embankment with rock fill. SNC also agree with the placement of geotextil, going horizontally over the top of the fine and coarse filters below the rip rap.”

SNC·LAVALIN

WEEKLY REPORT

20200401-WR11
Document number

2020-03-26 to 2020-04-01	667648	Paul Yong (PY)
Date	Project No.	Prepared by
South Whale Tale Diversion Channel Construction	Agnico Eagle	
Project	Client	
SNC-Lavalin	KCG	
Consultant	Contractor	

ACTIVITIES PERFORMED BY SNC-LAVALIN (indicate if test forms were used)

The main activities for the QA representative regarding the construction of the South Whail Tail Diversion Channel (SWTDC) during the week ending April 1, 2020 were:

- Attended daily construction meeting;
- Periodic visual observation of SWTDC work site;
- Inspection and approval; and
- Sampling, and reviewed and documented laboratory test results completed by QC.

Daily Construction Meeting

PY attended all SWTDC daily Construction Meeting except March 28, 2020 when Driving SOP training was taken. Attendee of the daily construction meeting for the week ending April 1, 2020 include:

- Owner's representative (AEM): Pier-Eric Mcdonald, Vincent Duraleau;Christian Tremblay; Thomas Dahm.
- Site supervisor (AEM): Pier-Eric Mcdonald, Vincent Duraleau; Christian Tremblay; Thomas Dahm
- QA (SNC-Lavalin): Paul Yong ;
- QC day shift (GHD): Yaotree Amegeran;
- QC night shift (GHD): Yaotree Amegeran;
- Contractor Superintendent (KCG): Sabin Larouche;
- Contractor Supervisor (KCG): Patrice Ouellett; and,
- Contractor Health and Safety advisor (KCG): Etienne Gagnon.

Periodic Visual Observation of SWTDC Work Site

During the week ending April 1, 2020, PY periodically visited SWTDC work site. The following were observed during the periodic site visit:

- Esker placement between station 0+495 and 0+545;
- Fine filter placement between station 0+495 and 0+545;
- Coarse filter placement between station 0+495 and 0+545;
- Geotextile and riprap placement between station 0+495 and 0+545;
- Foundation preparation and clean up between station 0+330 and 0+400;
- Esker placement between station 0+330 and 0+400;

- Fine filter placement between station 0+330 and 0+400;
- Upper slope preparation and rockfill placement on east sideof the channel between 0+200 and 0+320 and between 0+500 and 0+902;
- Upper slope preparation and rockfill placement on west sideof the channel between 0+500 and 0+787;
- Observed QC Sampling and reviewed laboratory test results completed by QC.

Observations and Comments

Observation on esker, fine filter and coarse filter placement during the site visits:

- Truck unloaded esker, fine filter and coarse filter material on horizontal ground;
- Excavator carefully placed the materials along the channel base and slopes;
- Material placed were compacted with the bucket of the excavator
- The contractor used reasonable practice to avoid segregation of material during placement. The bottom of the channel was denser as compared to the slope because of the additional compaction from the trucks using the area for loading and unloading material.

Observation on geotextile and riprap placement between during the site visits:

- 0.5 m minimum overlap parallele to the channel with upstream sheet over the downstream sheet;
- at the end of each roll of the geotextile may be short to place the geotextile go all the way along the channel. In such case, the contractor used another geotextile to cover the remaining part by overlapping the geotextile minimimu 1 m length;
- Rip rap was placed on the geotextile carefully to minimize damage on the geotextile; and
- Visually the rip rap rocks were irregular and elongated in shape with at least the longest side between 100 to 300 mm;

Observation on rockfill placement between during the site visits:

- Rockfill lift was about 0.6m thick;
- Rockfill or muck (300 mm minus but with some oversize) and PY communicated with KCG to correct oversize rock from the source;
- Rockfill was placed, shaped and tamped using an excavator; and
- The finished surface was generally uniform.

Photos taken during site visit can be found in Appendix A. Note that stations shown in the photos are approximate location.

Approval

During the week ending April 1, 2020, PY in the presence of the Owner's representative, GHD QC, and KCG site supervisor completed seven (7) approvals. The following approvals were completed:

- Esker placement approval form, 20200325-DS-26, between Sta. 0+495 and Sta. 0+545;
- Fine filter placement approval form, 20200325-DS-27, between Sta. 0+495 and Sta. 0+545;
- Coarse filter placement approval form, 20200325-DS-28, between Sta. 0+495 and Sta. 0+545;
- Geotextile and riprap placement approval form, 20200325-DS-29, between Sta. 0+495 and Sta. 0+545;
- Foundation preparation approval form, 20200330-DS-30, between Sta. 0+325 and Sta. 0+400;
- Geotextile and riprap placement approval form, 20200325-DS-31, between Sta. 0+545 and Sta. 0+590; and
- Geotextile and riprap placement approval form, 20200325-DS-32, between Sta. 0+075 and Sta. 0+320.

Summary of the approved document is shown in Table 1. Approval form completed during the week ending April 1st can be found in Appendix B.

Table 1: Tracking approval form

Date	Document #	Localisation	Approval for
2020/01/26	20200126-DS-01	From 0+917 to 0+830	Foundation approval for esker placement
2020/01/29	20200129-DS-02	From 0+830 to 0+775	Foundation approval for esker placement
2020/02/03	20200203-DS-03	From 0+775 to 0+735	Foundation approval for esker placement
2020/02/16	20200216-DS-04	From 0+735 to 0+688	Foundation approval for esker placement
2020/02/26	20200226-DS-05	From 0+688 to 0+640	Foundation approval for esker placement
2020/02/28	20200228-DS-06	From 0+640 to 0+600	Foundation approval for esker placement
2020/02/28	20200228-DS-07	From 0+600 to 0+565	Foundation approval for esker placement
2020/02/29	20200229-DS-08	From 0+565 to 0+545	Foundation approval for esker placement
2020/03/05	20200305-DS-09	From 0+335 to 0+280	Foundation approval for esker placement
2020/03/06	20200306-DS-10	From 0+280 to 0+210	Foundation approval for esker placement
2020/03/08	20200308-DS-11	From 0+210 to 0+185 and 0+170 to 0+135	Foundation approval for esker placement
2020/03/10	20200310-DS-12	From 0+185 to 0+170 and 0+135 to 0+058	Foundation approval for esker placement
2020/03/12	20200312-DS-13	From 0+056 to 0+330	Esker approval
2020/03/12	20200312-DS-14	From 0065 to 0+325	Fine Filter approval: Station 0+56 to 0+180 approved on March 11; Station 0+230 to 0+325 approved on March 11; and Station 0+230 to Station 0+180 approved on March 12;
2020/03/13	20200313-DS-15	From 0+700 to 0 555	Fine Filter placement approval
2020/03/14	20200314-DS-16	From 0+906 to 0553	Esker approval: Station 0+700 to 0+555 and 0+906 to 0+867 approved on March 12; Station 0+750 to 0+867 approved on March 13; and Station 0+700 to Station 0+750 approved on March 14;
2020/03/15	20200314-DS-17	From 0+700 to 0+747 and 0+906 to 0+058	Fine Filter placement approval
2020/03/17	20200317-DS-18	0+747 to 0+815	Fine Filter placement approval
2020/03/21	20200321-DS-19	0+906 to 0+560	Coarse Filter placement approval
2020/03/21	20200321-DS-20	0+555 to 0+545	Esker placement
2020/03/21	20200321-DS-21	0+555 to 0+545	Fine Filter placement approval
2020/03/22	20200322-DS-22	0+555 to 0+547	Coarse Filter placement approval
2020/03/22	20200322-DS-23	0+065 to 0+325	Coarse Filter placement approval
2020/03/24	20200324-DS-24	0+555 to 0+500	Fine Filter placement approval
2020/03/24	20200324-DS-25	0+906 to 0+590	Geotextile and rip rap placement
2020/03/27	20200325-DS-26	from 0+495 to 0+550	Esker Approval
2020/03/27	20200325-DS-27	from 0+495 to 0+545	Fine filter Approval
2020/03/27	20200325-DS-28	from 0+495 to 0+545	Coarse filter Approval
2020/03/28	20200325-DS-29	from 0+495 to 0+545	geotextile and riprap approval
2020/03/31	20200325-DS-30	from 0+331 to 0+400	Foundation approval for esker placement
2020-04-01	20200325-DS-31	from 0+545 to 0+590	Geotextile and riprap placement
2020-04-01	20200325-DS-32	from 0+075 to 0+320	Geotextile and riprap placement

Note: the highlighted is completed during last week.

Sampling and Laboratory Test

During the week ending April 01, four foundation soil (two from excavation bottom and two from a test pit dug at station 0+467), one esker and one fine filter were sampled. Summary and sampling location sampled up to April 01, 2020 are shown in Table 2, 3, 4 and 5 for foundation soil, esker, fine and coarse filter, respectively. Example photo of sampling is shown in Photo 5.

Table 2: Summary and location foundation Soil sampled

Sample ID	Fines-Sand-Gravel	Moisture Content	Station	Location of sampling	Date of sampling	Sample by	Date of testing	Test by
AMQ-IP-001	13 - 28 - 59	-	-	Bottom of excavation	2020/01/15	MC	2020/01/16	MC
AMQ-IP-002	27 - 34 - 39	-	0+700	Bottom of excavation	19/01/20120	MC	2020/01/20	MC
AMQ-IP-003	35 - 45 - 20	-	0+800	Bottom of excavation	2020/01/20	MC	2020/01/21	MC
AMQ-IP-004	13 - 29 - 58	-	0+900	Bottom of excavation	2020/01/25	MC	2020/01/27	MC
AMQ-IP-005	14 - 30 - 56	-	0+750	Bottom of excavation	2020/02/03	YA	2020/02/05	YA
AMQ-IP-006	17 - 26 - 58	16.4%	0+765	Bottom of excavation	04/02/2020	SD	2020/02/06	YA
AMQ-IP-007	20 - 33 - 47	10.0%	0+500	Bottom of excavation	2020/02/07	SD	2020/02/07	YA
AMQ-IP-008	22 - 30 - 48	21.8%	0+270	Bottom of excavation	2020/02/09	SD	2020/02/12	MC
AMQ-IP-008-1	NA	11.5%	0+270	Bottom of excavation	2020/02/13	MC	2020/02/14	MC
AMQ-IP-008-2	NA	8.1%		Bottom of excavation	2020/02/13	MC	2020/02/14	MC
AMQ-IP-008-3	NA	13.6%		Bottom of excavation	2020/02/13	MC	2020/02/14	MC
AMQ-IP-009	17 - 25 - 59	15.4%	0+660	Bottom of excavation	2020/02/25	SD	2020/02/26	YA
AMQ-IP-010	31 - 29 - 40	18.5%	0+600	Bottom of excavation	2020/02/27	SD	2020/02/28	YA
AMQ-IP-011	13 - 28 - 59	39.6%	0+530	Top of eastern slope	2020/03/01	SD	2020/03/02	YA
AMQ-IP-012	21 - 37 - 42	11.3%	0+530	Bottom of eastern slope	2020/03/01	SD	2020/03/02	YA
AMQ-IP-013	30 - 39 - 32	22.5%	0+520	Bottom of western slope	2020/03/01	SD	2020/03/02	YA
AMQ-IP-014	34 - 40 - 26	6.8%	0+320	Bottom of western slope	2020/03/03	SD	2020/03/04	YA
AMQ-IP-015	16 - 25 - 59	17.5%	0+220	Bottom of western slope	2020/03/06	SD	2020/03/06	YA
AMQ-IP-016	18-30-52	9.1%	0+170	Bottom of east slope	2020/03/08	SD	2020/03/08	YA
AMQ-IP-017	16-38-47	9.7%	0+120	Bottom of east slope	2020/03/09	SD	2020/03/10	RJ
AMQ-IP-018	13-35-52	16.0%	0+70	Bottom of east slope	2020/03/09	SD	2020/03/10	RJ
AMQ-IP-019	21-28-51	11.4%	0+380	Bottom of excavation	2020/03/27	YA	2020/03/27	YA
AMQ-IP-020	NA	42.2%	0+349	Bottom of excavation	2020/03/28	YA	2020/03/28	YA
AMQ-IP-021			0+467	Elevation 152.4	2020/04/01	YA		
AMQ-IP-022			0+467	Elevation 152.1	2020/04/01	YA		

Note: the highlighted is completed during last week

Table 3: Summary and location of Esker sampled

Sample ID	Fines-Sand-Gravel	Moisture Content	Station	Location of sampling	Date of sampling	Sample by	Date of testing	Test by	Placement area	Cc	Comment
AMQ-ES-001	1 - 39 - 60	1.4%	-	Stock pile 1	17/01/2020	MC	17/01/2020	MC	[0+917 - 0+830]	0.6	Poorly Graded
AMQ-ES-002	4 - 37 - 59	1.1%	-	Stock pile 1	17/01/2020	MC	18/01/2020	MC	[0+917 - 0+830]	0.3	Poorly Graded
AMQ-ES-003	-	-	-	Stock pile 2	31/01/2020	SD	Lost sample	-	[0+830 - 0+775]		
AMQ-ES-003.1	40 - 60 - 0	12.5%	-	Stock pile 2	02/02/2020	SD	2020/02/04	YA	[0+830 - 0+775]		
AMQ-ES-004	7 - 25 - 68	5.3%	0+820	Slope west of channel	01/02/2020	YA	02/02/2020	YA	[0+830 - 0+775]	1.8	Well Graded
AMQ-ES-005	21 - 50 - 29	6.7%	0+820	Slope east of channel	01/02/2020	SD	02/02/2020	YA	[0+830 - 0+775]		
AMQ-ES-006	27 - 48 - 25	11.8%	0+800	Slope east of channel	04/02/2020	SD	04/02/2020	YA	[0+830 - 0+775]		
AMQ-ES-007	8 - 56 - 36	15.8%	0+780	Slope west of channel	04/02/2020	SD	05/02/2020	SD	[0+830 - 0+775]	0.2	Poorly Graded
AMQ-ES-008	2 - 25 - 73	11.0%	0+860	Slope east of channel	04/02/2020	SD	05/02/2020	YA	[0+917 - 0+830]	1.2	Well Graded
AMQ-ES-009	3 - 29 - 68	3.4%	0+760	Slope west of channel	11/02/2020	MC	13/02/2020	MC	[0+775 - 0+735]	0.8	Poorly Graded
AMQ-ES-010	6 - 36 - 58	7.3%	0+700	Slope west of channel	18/02/2020	RT	19/02/2020	RT	[0+735 - 0+688]	1.2	Well Graded
AMQ-ES-011	6 - 45 - 49	6.8%	0+690	Not Specified	18/02/2020	RT	20/02/2020	MC	[0+735 - 0+688]	1.7	Well Graded
AMQ-ES-012	7 - 27 - 66	7.8%	0+670	Slope east of channel	2020/02/29	SD	2020/03/02	YA	[0+688 - 0+640]	1.4	Well Graded
AMQ-ES-013	4 - 26 - 70	4.8%	0+620	Slope west of channel	2020/02/29	SD	2020/03/02	YA	[0+640 - 0+600]	0.9	Poorly Graded
AMQ-ES-014	11 - 31 - 58	5.7%	0+580	Slope east of channel	2020/03/01	SD	2020/03/03	YA	[0+600 - 0+565]	0.8	Poorly Graded
AMQ-ES-015	8 - 21 - 71	4.0%	0+555	Slope west of channel	2020/03/04	SD	2020/03/04	YA	[0+565 - 0+545]		
AMQ-ES-016	7 - 30 - 63	4.6%	0+280	Slope east of channel	2020/03/07	SD	2020/03/08	YA	[0+335 - 0+280]	1.1	Well Graded
AMQ-ES-017	5-54-41	2.6%	0+77	Slope east of channel	2020/03/10	MC	2020/03/11	MC	[0+135 - 0+077]	0.8	Poorly Graded
AMQ-ES-018	10-22-68	6.9%	0+525	Slope east of channel	2020/03/26	YA	2020/03/26	YA	[0+495 - 0+545]	1	Well Graded

Note: the highlighted is completed during last week

Table 4: Summary and location of Fine Filter sampled

Sample ID	Fines-Sand-Gravel	Moisture Content	Station	Location of sampling	Date of sampling	Sample by	Date of testing	Test by
AMQ-FF-006	5-20-75	4.1%	0+327	West Slope	2020/0310	RJ	2020/03/11	MC
AMQ-FF-007	6-26-68	4.6%	0+310	Centre	2020/03/10	RJ	2020/03/11	MC
AMQ-FF-008	9-37-54	5.6%	0+060	Centre	2020/03/11	MC	2020/03/11	MC
AMQ-FF-009	5-20-76	4.7%	0+100	East Slope	2020/03/11	MC	2020/03/11	MC
AMQ-FF-010	9-33-58	6.1%	0+140	West Slope	2020/03/11	MC	2020/03/12	MC
AMQ-FF-011	7-31-62	5.6%	0+270	East Slope	2020/03/11	MC	2020/03/12	MC
AMQ-FF-012	7-24-69	5.1%	0+230	Centre	2020/03/11	RJ	2020/03/12	MC
AMQ-FF-013	7-27-66	4.6%	0+190	East Slope	2020/03/11	RJ	2020/03/12	MC
AMQ-FF-014	7-29-64	4.0%	0+170	Centre	2020/03/12	RJ	2020/03/12	MC
AMQ-FF-015	6-28-66	4.4%	0+080	West Slope	2020/03/11	MC	2020/03/14	MC
AMQ-FF-016	8-31-61	5.0%	0+120	Centre	2020/03/11	MC	2020/03/14	RJ
AMQ-FF-017	8-30-63	5.7%	0+290	Centre	2020/03/11	RJ	2020/03/14	RJ
AMQ-FF-018	8-31-61	4.3%	0+210	West Slope	2020/03/12	RJ	2020/03/14	RJ-MC
AMQ-FF-019	9-34-57	5.3%	0+250	West Slope	2020/03/11	MC	2020/03/13	RJ
AMQ-FF-020	9-43-58	4.0%	0+160	West Slope	2020/03/12	RJ	2020/03/13	RJ

AMQ-FF-021	8-36-56	4.7%	0+560	West Slope	2020/03/13	RJ	2020/03/13	RJ
AMQ-FF-022	10-40-50	7.0%	0+580	East Slope	2020/03/13	RJ	2020/03/13	MC
AMQ-FF-023	8-33-59	4.3%	0+600	Centre	2020/03/13	MC	2020/03/14	MC-RJ
AMQ-FF-024	7-33-61	4.3%	0+900	East Slope	2020/03/13	MC	2020/03/13	MC
AMQ-FF-025	7-34-59	4.7%	0+620	West Slope	2020/03/13	MC	2020/03/13	MC
AMQ-FF-026	7-28-66	3.8%	0+640	East Slope	2020/03/13	RJ	2020/03/14	RJ
AMQ-FF-027	10-38-52	4.7%	0+660	Centre	2020/03/13	RJ	2020/03/14	MC
AMQ-FF-028	8-32-61	5.4%	0+680	West Slope	2020/03/13	RJ	2020/03/15	MC
AMQ-FF-029	9-38-53	7.0%	0+700	West Slope	2020/03/15	MC	2020/03/16	RJ
AMQ-FF-030	9-36-55	6.0%	0+720	East Slope	2020/03/15	MC	2020/03/15	MC
AMQ-FF-031	10-38-52	7.0%	0+740	Centre	2020/03/15	MC	2020/03/17	RJ
AMQ-FF-032	9-33-59	11.6%	0+760	Centre	2020/03/16	MC	2020/03/17	RJ
AMQ-FF-033	8-38-54	6.0%	0+780	East Slope	2020/03/16	MC	2020/03/17	RJ
AMQ-FF-034	8-31-62	5.8%	0+800	West Slope	2020/03/16	MC	2020/03/17	MC-RJ
AMQ-FF-035	8-32-60	5.3%	0+820	East Slope	2020/03/16	MC	2020/03/17	MC-RJ
AMQ-FF-036	10-40-50	7.4%	0+840	West Slope	2020/03/15	MC	2020/03/17	MC-RJ
AMQ-FF-037	8-54-58	7.0%	0+860	East Slope	2020/03/15	MC	2020/03/15	MC
AMQ-FF-038	10-40-50	6.8%	0+880	Centre	2020/03/15	MC	2020/03/16	RJ
AMQ-FF-039	8-30-62	7.9%	0+550	Centre	2020/03/21	MC	2020/03/22	RJ
AMQ-FF-040	10-34-56	7.9%	0+530	Centre	2020/03/26	YA	2020/03/27	YA

Note: the highlighted is completed during last week

Table 5: Summary and location coarse filter sampled

Sample ID	Fines-Sand-Gravel	Moisture Content	Station	Location of sampling	Date of sampling	Sample by	Date of testing	Test by
AMQ-CF-001	2 - 7 - 91	2.40%	-	Stock pile	2020/01/21	MC	2020/01/22	MC
AMQ-CF-002	3 - 7 - 90	6.80%	-	Stock pile	2020/01/22	MC	2020/01/23	MC
AMQ-CF-003	3 - 5 - 92	1.70%	0+160	East Slope	2020/03/12	MC	2020/03/13	RJ
AMQ-CF-004	2-3-95	1.60%	0+580	West slope	2020/03/14	MC	2020/03/14	MC
AMQ-CF-005.1	1-4-95	2.40%	0+890	East slope	2020/03/20	MC	2020/03/21	MC
AMQ-CF-006.1	2-4-95	0.70%	0+780	West slope	2020/03/20	RJ	2020/03/21	MC
AMQ-CF-007	1-1-98	0.84%	0+300	East slope	2020/03/20	RJ	2020/03/24	YA
AMQ-CF-008	1-3-96	2.60%	0+600	Centre	2020/03/20	MC	2020/03/24	YA

Laboratory Test result on fine and coarse filter

During last week, PY reviewed and documented moisture content and gradation test results completed by QC.

Foundation soil

AMQ-IP-020 taken by GHD at Sta. 0+349 showed that ice content at 17% and moisture content at 42%. This is considered as ice rich soil. The gradation test result for AMQ-IP-019 taken at Sta. 0+380 is shown in Figure 1. As shown in Figure 1, the soil is of Sandy Gravel with 21% of fines less than the fine content of the soil used to design filter.

Esker

The gradation test result for AMQ-ES-018 taken at Sta. 0+525 is shown in Figure 1. As shown in Figure 1, the soil is a well graded Sandy Gravel with 10 % of fines less than the fine content of the soil used to design filter.

Fine filter

The gradation result for AMQ-FF-040 is shown in Figure 2. As shown in Figure 2, the gradation result meet fine filter specification.

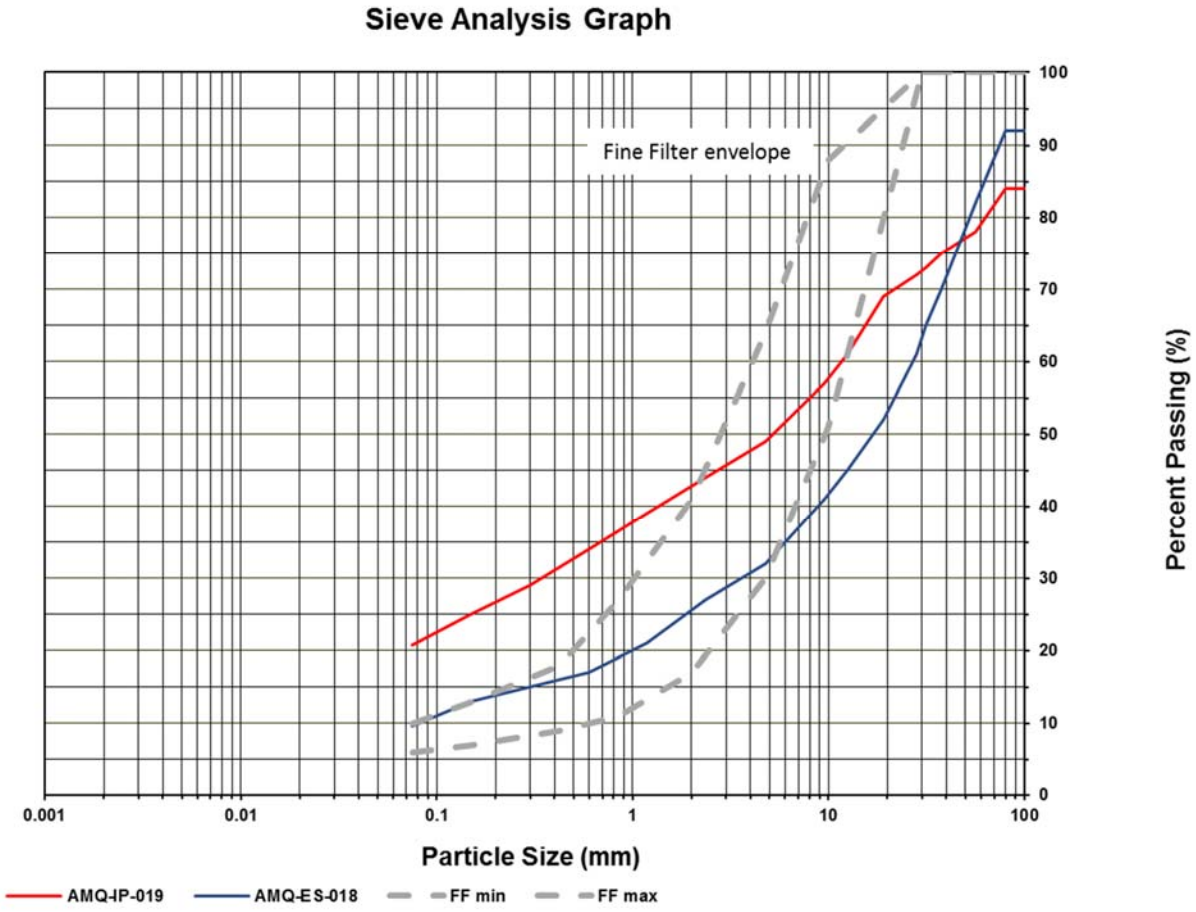


Figure 1: Gradation test results completed on foundation soil and esker

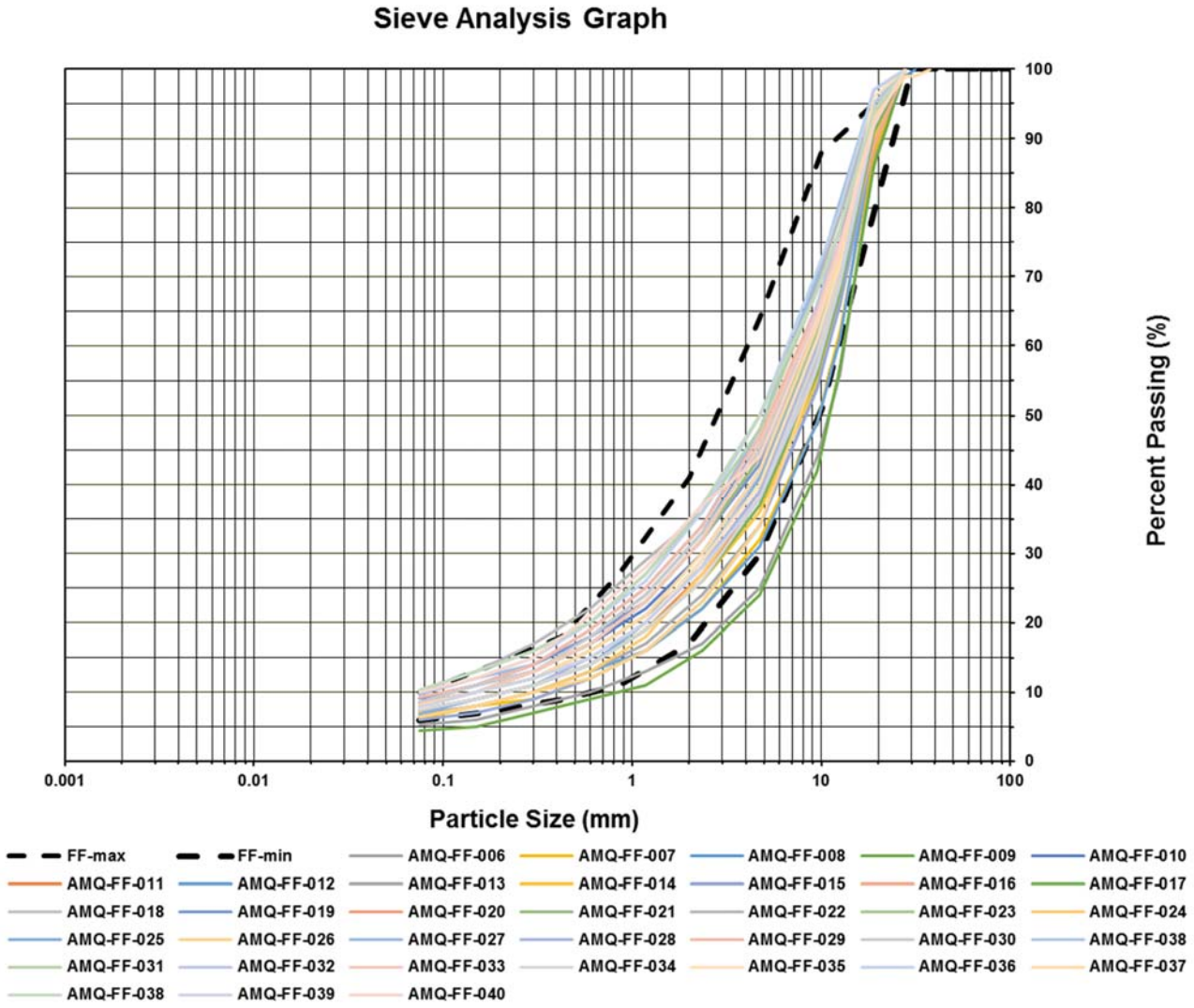


Figure 2: Summary of gradation test results completed on in-place fine filter up to April 01, 2020.

Laboratory gradation and moisture content test results completed by QC from March 26 to April 01 can be found in Appendix C.

RFI

During the week ending April 01, 2020, no new RFI requested. The list of RFI for the known deviations/changes up to April 1, 2020 is attached in Appendix D.

SAFE AND SAFETY REMARKS

APPENDIX A: PHOTOS



Photo 1: View of foundation preparation (photo taken looking southeast)



Photo 2: View of esker placement (photo taken looking northeast)



Photo 2: View of rockfill placement (photo taken looking northwest)

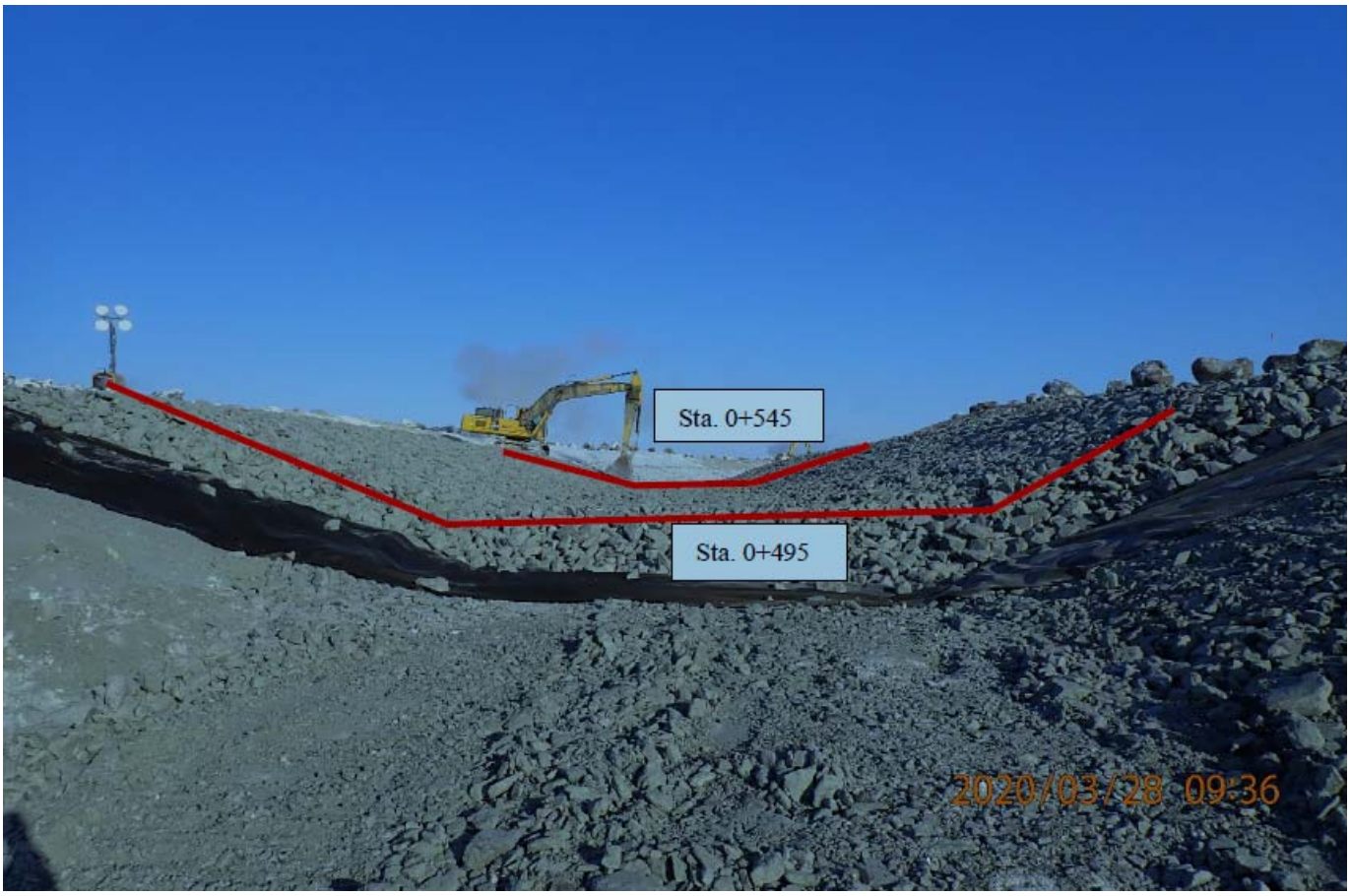


Photo 3: View of geotextile and riprap placement (photo taken looking north)



Photo 4: View of in-placed riprap (photo taken looking south)



Photo 5: Example photo of sampling foundation soil

APPENDIX B: Approval form

SNC·LAVALIN

Sustaining capital
Mining & Metallurgy
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Montreal (Québec)
Canada H3A 1M8

Telephone: (514) 393-8000
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www.snclavalin.com

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-03-27

DOCUMENT #: 20200325-DS-26 **TIME:** 23:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Esker placement
- ☐ Other: _____

LOCATION	**PREVIOUS APPROVALS**
Station 0+495 to 0+550	**Station:**
Inclination:	**Details:**
ELEVATION: ☐ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓				
2. Free of ice/snow/water	✓				
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓				
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS (Refer to list above for item #)		APPROVED BY:			
		QA		QC	
ITEM		Y	N	Y	N
	snow and ice to be removed before placement of fine filter	✓			

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Yaotree Ameyrron		2020-03-27
QA REPRESENTATIVE	Paul Yong		2020-03-27
OWNER'S REPRESENTATIVE	Christian Tremblay		2020-04-01
CONTRACTOR'S REPRESENTATIVE	Patrice Ouellet		2020-03-30

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-03-27

DOCUMENT #: 20200327-DS-27 **TIME:** 09:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Fine Filter (3/4" minus)
- ☐ Other: _____

LOCATION	**PREVIOUS APPROVALS**
Station 0+495 to 0+545	**Station:**
Inclination:	**Details:**
ELEVATION: ☐ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓				
2. Free of ice/snow/water	✓				
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓				
6. Compaction	✓		✓		
7. As built survey completed	✓				
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
	Snow and ice to be removed before placement of coarse filter	✓			

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Yaotree Amegnran		2020-03-27
QA REPRESENTATIVE	Paul Yong		2020-03-27
OWNER'S REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-01
CONTRACTOR'S REPRESENTATIVE	Patrice Ouellet		20200330

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-03-27

DOCUMENT #: 20200327-DS-28 **TIME:** 15:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Coarse filter (6" minus)
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+495 to 0+545	**Station:**	
Inclination:		**Details:**	
ELEVATION:	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Yaotree Amegavan		2020-03-30
QA REPRESENTATIVE	Paul Yong		2020-03-30
OWNER'S REPRESENTATIVE	Christian Tremblay		2020-04-01
CONTRACTOR'S REPRESENTATIVE	Patrice Ouellet		2020-03-30

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-03-28

DOCUMENT #: 20200328-DS-29 **TIME:** 10:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☑ Other: Geotextile and Riprap placement

LOCATION		**PREVIOUS APPROVALS**	
Station	0+495 to 0+545	**Station:**	
Inclination:		**Details:**	
ELEVATION:	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY:				
	QA		**QC**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS (Refer to list above for item #)		**APPROVED BY:**			
		QA		**QC**	
ITEM		**Y**	**N**	**Y**	**N**

APPROVED BY:	**NAME**	**SIGNATURE**	**DATE**
QC REPRESENTATIVE	Yastree Amegnran		2020-03-30
QA REPRESENTATIVE	Paul Yong		2020-03-28
OWNER'S REPRESENTATIVE	Christian Tremblay		2020-04-01
CONTRACTOR'S REPRESENTATIVE	Patrice Ouellet		2020-03-30

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-03-31

DOCUMENT #: 20200331-DS-30 **TIME:** 0815

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☒ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+331 TO 0+400	**Station:**	
Inclination:		**Details:**	
ELEVATION:	☒ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY:				
	QA		**QC**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					
5. Placement (lift thickness, segregation, etc.)					
6. Compaction					
7. As built survey completed					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
1	Surface uneven due to some boulders and frozen soils.	✓			
2	Some adhering ice on some boulders but insignificant amount as compared to overall conditions	✓			

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Yootree Ameghram		2020-04-01
QA REPRESENTATIVE	PAUL YONG		2020-03-31
OWNER'S REPRESENTATIVE	Christian Trembley		2020-04-01
CONTRACTOR'S REPRESENTATIVE	Patrice Ouellet		2020-04-03

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-04-01

DOCUMENT #: 20200401-DS-31 **TIME:** 14:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☒ Other: GEOTEXTILE AND RIPRAP PLACEMENT

LOCATION		**PREVIOUS APPROVALS**	
Station	0+545 to 0+590	**Station:**	
Inclination:		**Details:**	
ELEVATION:	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS (Refer to list above for item #)		APPROVED BY:			
		QA		QC	
ITEM		Y	N	Y	N

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Yootree Amegnran		2020-04-01
QA REPRESENTATIVE	DANIEL MELES		2020-04-01
OWNER'S REPRESENTATIVE			
CONTRACTOR'S REPRESENTATIVE	Patrice Ouellet		2020-04-03

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-04-01

DOCUMENT #: 20200401-DS-32 **TIME:** 15:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☒ Other: Geotextile and Riprap Placement

LOCATION		**PREVIOUS APPROVALS**	
Station	0+075 to 0+320	**Station:**	
Inclination:		**Details:**	
ELEVATION:	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
6	Some areas on the slope appear to be not well compacted. A good pass of tamping to make the final surface packed and tight would be required.	✓			

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Yaothee Arregnvan	[signature]	2020-04-01
QA REPRESENTATIVE	PAUL YONG	[signature]	2020-04-01
OWNER'S REPRESENTATIVE			
CONTRACTOR'S REPRESENTATIVE	Patrice Ouellet	[signature]	2020-04-03

APPENDIX C: Gradation results from QC

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-ES-018
Projet:	Derivation channel	**Sampling Date:**	2020-03-26
		Sampled by:	Yaotree Amegnran
Description of Material:	soil in place		
Origin:	Channel	**Location of Sampling:**	st. 0+525 Eastern slope
Proposed Use:	Backfill		

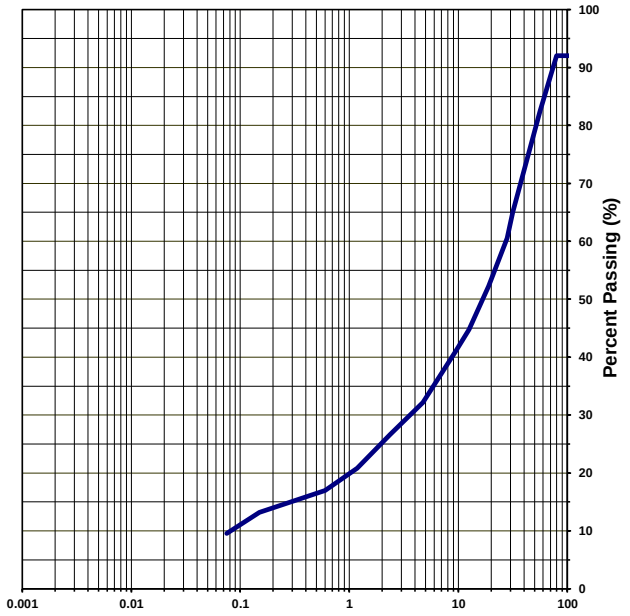
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		92	92	82	70	65	61	52	45	41	32	27	21	17	15	13	9.6
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	6.9		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**#REF!** (kg/m³)
Optimum Moisture Content	**#REF!** (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
10	22	68

Remarks _____

Prepared by: Yaotree Amegnran 2020-03-26 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-040
Projet:	Derivation channel	**Sampling Date:**	2020-03-26
		Sampled by:	Yaotree Amegnran
Description of Material:	Fine filter		
Origin:	Channel	**Location of Sampling:**	St. 0+530m foundation level
Proposed Use:	Backfill in the channel		

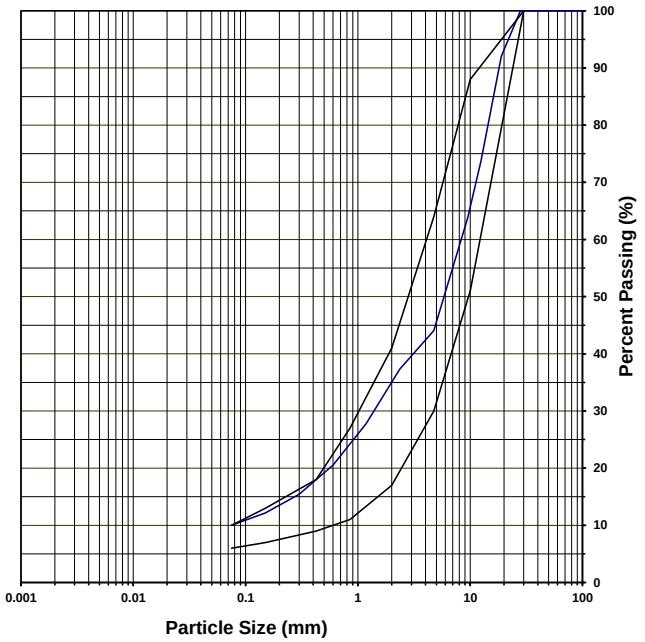
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	92	74	64	44	37	28	21	15	12	10.0
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.5		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
10	34	56

Remarks _____

Prepared by: Yaotree Amegnran 2020-03-27 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-IP-019
Projet:	Derivation channel	**Sampling Date:**	2020-03-27
		Sampled by:	Yaotree Amegnran
Description of Material:	soil in place		
Origin:	SWTC channel	**Location of Sampling:**	0+380 Fondation level
Proposed Use:	soil in place		

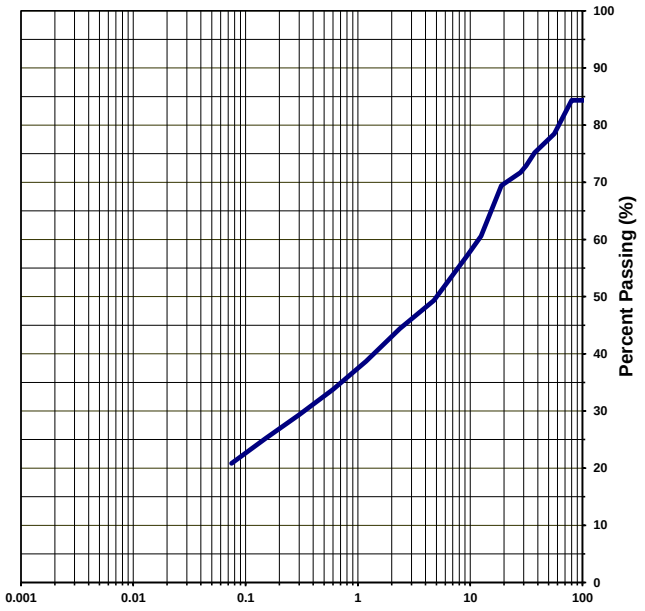
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		84	84	78	75	73	72	69	61	57	49	44	39	34	29	25	20.8
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	11.4		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**#REF!** **(kg/m³)**
Optimum Moisture Content	**#REF!** **(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
21	28	51

Remarks _____

Prepared by: Yaotree Amegnran 2020-03-27 Verified by: _____ Date: _____

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EXCESS ICE DETERMINATION

GAL TP001 Soil Description-Rev1

Sample No: **AMQ-IP-020** (ST. 0+349m Foundation level)

Sampling Date: **2020-03-28** **By:** Yaotree Amegnran

Performed By : **Yaotree Amegnran** **2020-03-28**

Data processing Date: **2020-03-28** **By:** Yaotree Amegnran

Legend and formula :

Masse of melt water captured after thawing the sample (g) : Mmw
Standard water content of the sample (%) : W
Masse of water from standard water content (g): Mw
Total water content of the sample (%) : Wt
Ice content (%) : Wi
Masse of wet soil (g): Mh
Masse of dry soil (g) : Md

Computation :

Melt water Mmw (g)	Wet soil Mh (g)	Dry soil Md (g)	Masse water content Mw = Mh - Md (g)	Standard water content $W=\frac{Mw}{Md}$ (%)	Total water content $Wt=\frac{Mw+Mmw}{Md}$ (%)	Ice content (%) Wi = Wt - W
5059	36563	29267	7296	24.9	42.2	17.3

Ice content : **17.3%**

Moinsture **42.2%**

APPENDIX D : RFI log

RFI Log

RFI #	Date Received	Date Responded	Status	Subject	Location	Notes
RFI-001	2019-08-13		*To be approved*	Change of outlet geometry, outlets were higher than topography	0+060, 0+390, 0+480, 0+900	Consists of having small filter tablets on topographic surface at crests to direct water flow towards Mammoth rather than have it spreaded
RFI-002	2019-08-13		*To be approved*	Change of inlet geometry. Not build buttress platforms used to get 1.3m depth i.e. disregard 1.3m min	On low topographic spots	This material was put in place to follow the 1.3m minimum but it would be rockfill i.e. draining material i.e. be useless. It would be used at the same time to facilitate constructability where road in not adjacent i..e close to A45
RFI-003	2019-08-13		*To be approved*	Having slope at 2.5:1 rather than 3:1 above max water level	TBD	Apply in section where rockfill is directly against slope as butress
RFI-004	2019-08-13		Field Fit	Modification of Road 24 alignment for construction access		Construction access to be field fitted
RFI-005	2019-08-13		Field Fit	Access to bottom of channel from both side		Will need to be field fitted with a slope to allow access within channel
RFI-006	2019-08-13		Approved	Use of 0-150 instead of 0-200 for coarse filter		Approved by changing 100-300 to 100-250
RFI-007	2019-08-13		Approved	Use of 100-300 instead of 100-250 for rip-rap		Condition for the approval of RFI-006
RFI-008	2019-09-05		Approved	Lowering the inelt of the channel by 0.5 m		New version of construction drawings and report were submitted by SNC in December 2019
RFI-009	2019-12-15		Pending	Turbidity concern on lake A45	A45	
RFI-010	2019-12-15		Rejected	Leaving the construciton road within the operational level of Lake A45 can stay there	A45	Env asked that the no road remain within the operation level of A45. Will ahve to be dismantled at the end of construction
RFI-011	2019-12-16	2020-01-17	Recommendation provided	Adding a geotextile above the corase filter to add robustnest to the design	Within Channel	See field memo: 667648-2000-60NC-0002-PB_Field Work Instruction (RFI-011)_Geotextile
RFI-012	2020-01-15		Sent for approval	Proposed inlet modification (see drawings)	Inlet's	Sent to SNC for approval
RFI-0-13	2020-01-15		Sent for approval	Modified inlet to have a 'fan' shape instead of rectangular to improve water conveyance	Inlet's	Sent to SNC for approval
RFI-014	2020-01-15	2020-01-17	Approved	Proposed outlet modification to Mammoth lake (see drawing)	Outlet to Mammoth lake	The outlet to the Mammoth lake can be adjusted to the existing ground conditions. Ensure that there is no high point in the nearby topography downstream of the outlet to ensure proper flow towards the lake.
RFI-015	2020-01-15	2020-01-26	Review continue as excavation progress	Revise filter design for existing foundation soil		See field memo: 667648-2000-60NC-0001-PB_Field Work Instruction (RFI-015)_Filters) for the geotextile and the filters design review
RFI-016	2020-01-15	2020-02-07	Approved	Proposed inlet modification (see drawings) and Modified inlet to have a 'fan' shape instead of rectangular to improve water conveyance	Inlet's	SNC agrees with the proposal of expending the width of the channel from 5 m to 15 m, along with a transition zone, between station 0+54 to 0+104. This is our understanding that the depth of the channel and the material placement (filters and rip rap) will remain the same in this section as per the original design. And recommends increasing the size of the rip rap between station 0+104 and 0+110. We recommend clean rip rap with particle size between 200 mm to 300 mm (instead of 100 mm to 300 mm) for this short section. As for the area around the inlet (approximately station 0+00 to 0+54), we also recommend additional erosion protection, based on field condition. We recommend installing a geotextile over the natural soil, and to place rip rap material over the geotextile.
RFI-015 (version 1)	2020-02-29	2020-03-03	Approved	AEM requests the designer's input on the esker already placed and also asking a derogation for the phrase « leaving a 10 cm limit before placing the fine filter as per specifications » specifier in RFI 015	Channel	SNC confirms that its areas of segregation observed as to be corrected and they accept the derogation but no placement of esker material should be done above the fine filter limit, to ensure the fine filter thickness of 0.3 m (after compaction) as per specifications ;
RFI -017	2020-03-01	2020-03-12	Finalized	transition zone which contains ice at the top of the slope between the lake A45 and the channel.	Approx. from ST 0+545 to 0+335	AEM requests the designer's proposals about the transition zone which contains ice at the top of the slope between the lake A45 and the channel and SNC provide field note instruction version PC (667648-2000-60NC-0003-PC_Field Work Instruction (RFI-017)).
RFI -018	2020-03-10	2020-03-13	Approved	Adjustment of filter design over the road	approved	SNC agreed with the proposed design change based on the understanding that the road (Road 24 and the maintenance road) embankments are made of rockfill and agreed with the replacement of fine filter, coarse filter and rip rap above the natural ground and against rock fill road embankment with rock fill. SNC also agree with the placement of geotextil, going horizontally over the top of the fine and coarse filters below the rip rap.”

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WEEKLY REPORT

20200422-WR12
Document number

2020-04-02 to 2020-04-19	667648	Erika Voyer (EV)
Date	Project No.	Prepared by
South Whale Tail Diversion Channel Construction	Agnico Eagle	
Project	Client	
SNC-Lavalin	KCG	
Consultant	Contractor	

INTRODUCTION

This Weekly Report for the construction of the South Whale Tail Diversion Channel (SWTDC) covers the activities completed from April 2nd to April 19th, 2020. As indicated in AEM QA daily report for April 19th 2020 (last AEM QA daily report issued), the earthwork construction for the SWTDC was completed to this date, except for the turbudity barrier remaining to be installed in Mammoth Lake. This Weekly Report is completed by SNC-Lavalin based on the information received from AEM.

The following should be noted regarding SWTDC construction summary presented in this weekly report:

- As of April 2nd 2020 morning, no SNC-Lavalin QA inspector was present on site. The QA roles and responsabilities on site were undertaken by the AEM QA representative from April 2nd until the end of the construction;
- The GHD QC inspector was on site until April 5th. From April 6th to the end of the construction, the QC roles and responsabilities were undertaken by the AEM QC representative; and
- SNC-Lavalin provided remote support as the Designer from April 3nd 2020 to the end of the construction activities (earthwork) on April 19th 2020.

Below is a summary of roles of various personnel involved in SWTDC construction for the period from April 2nd to April 19th, 2020:

- SNC-Lavalin QA Representative: Paul Yong (April 2nd, 2020), left site in the morning;
- AEM QA Representative: Christian Tremblay (April 2nd to 13th 2020) and Pier-Eric McDonald (April 14th to 19th 2020);
- SNC-Lavalin (Designer, remote support from April 3rd to April 20th) – Erika Voyer (April 3rd to 5th, April 11th and 12th), Daniel Meles (April 9th, 10th and 14th), Toma Mazin (April 6th to 8th, April 13th, April 15th to 19th).

This Weekly Report is completed based on the information provided by AEM from April 2nd to 19th 2020 (Daily Construction Meeting Report, QA Daily Report, QC Daily Report and Approvals forms) and reviewed by SNC-Lavalin. The report described the main work activities on site overseen by the AEM QA representative.

DAILY CONSTRUCTION MEETING

Daily construction meetings were held every morning between April 2nd to 19th 2020. The following attendees were present in the daily meeting:

- SNC-Lavalin (Designer, attended remotely by teleconference) – Erika Voyer (April 3rd to 5th, April 11th and 12th), Daniel Meles (April 9th, 10th and 14th), Toma Mazin (April 6th to 8th, April 13th, April 15th to 17th, April 19th and 20th (last meeting with SNC-Lavalin));
- SNC-Lavalin QA Representative: Paul Yong (morning of April 2nd, 2020);
- AEM QA Representative: Christian Tremblay (April 2nd to 13th 2020) and Pier-Eric McDonald (April 14th to 19th 2020);
- GHD QC day shift: Yaotree Amegeran (April 2nd to 5th 2020)
- AEM QC Representative: Thomas Dahm (April 4th, 6th to 19th 2020) and Jerome Collard (April 9th to 19th 2020)
- Owner's representative (AEM): Jacques Bernard, Alexandre Lavallée (April 2nd to April 5th 2020)
- Contractor (KCG): Sabin Larouche, Etienne Gagnon, Nicolas Tremblay

ACTIVITIES PERFORMED BY SNC-LAVALIN (DESIGNER)

The main activities for SNC-Lavalin regarding the construction of the South Whail Tail Diversion Channel (SWTDC) during the period from April 2nd to 19th 2020 include:

- Attended the daily construction meeting remotely by teleconference (as of April 3rd to 19th);
- Periodic communication with AEM QA representative (via emails or phone calls);
- Review of the AEM QA Daily Reports;
- Review of the Approval Forms completed by AEM QA representative;
- Documented AEM QA Daily report and Approval Forms completed by AEM for the as-built report.

The AEM QC report were also received by SNC-Lavalin for reference for the completion of the as-built construction report of the SWTDC.

ACTIVITIES PERFORMED BY AEM QA REPRESENTATIVE

The main activities for the AEM QA representative regarding the construction of the South Whale Tail Diversion Channel (SWTDC) during the period from April 2nd to 19th 2020 include:

- Attended the daily construction meeting;
- Periodic visual observation of SWTDC work site and work methods;
- Inspection and approval of foundation or material placement;
- Sampling, review and documentation of laboratory test results completed by AEM QC representative.

Work Activity

The AEM QA representative periodically visited SWTDC work site, as reported in the AEM QA Daily Report. The following work activities were reported. Photos showing the various activities are presented in Appendix A.

Excavation/Foundation Preparation:

- Excavation and hamerring of the foundation around the Lake A45 section, removal of lake bottom sediment and ice from approximately 0+425 to 0+490 (Photos 1, 2 and 3);
- Localised water flowing observed around 0+430 to 0+450 – water was controlled; and

- Excavation and preparion the foundation of the inlet from 0+055 to 0+065 (Photo 4).

Snow Clean-Up:

- Snow was cleaned from the work area and access road following blizzard.

Esker Placement:

- Esker placement between 0+374 to 0+400 (Photo 5) and in Lake A45 section from 0+400 to 0+495 (Photo 6 and 7).

Fine Filter Placement

- Fine filter placement between 0+331 to 0+374 (Photo 5) and 0+374 to 0+400 (Photo 8);
- Fine filter placement at the inlet between 0+055 to 0+065 (Photo 9); and
- Fine Filter placement in Lake A45 0+400 to 0+495 (Photo 10)

Coarse Filter Placement:

- Coarse filter placement between 0+331 and 0+400 (Photo 8);
- Coarse filter placement at the inlet between 0+055 and 0+065 (Photo 9); and
- Coarse filter placement in lake A45 from 0+400 to 0+495 (Photo 11).

Geotextile and Rip Rap Placement:

- Geotextile and rip rap placement between 0+331 and 0+355 (Photo 12) and 0+335 to 0+400 (Photo 13);
- Geotextile and rip rap placement at the inlet from 0+055 to 0+065; and
- Geotextile and rip rap placement in section of Lake A45 and for the French Drain (Photo 14, 15 and 16).

Rockfill Placement:

- Rockfill placement on west slope of the channel between 0+000 and 0+150 (Photo 17) and between 0+150 and 0+400;
- Rockfill placement in Lake A45 from 0+400 to 0+495 on the west slope (Photo 18 and 19) and on the east berm over Road 24 for the French Drains shaping from 0+400 to 0+495 (Photo 20 and 21);
- Rockfill placement on the channel crest to protect exposed filter material around 0+800 (Photo 22).

Photo 23 presents an overview of the Lake A45 section completed. Photo 24 presents an aerial view of the SWTDC outlet area.

Additionnal comments from AEM QA Representative (as per AEM QA Daily Report)

Visual observations during esker and filter materials placement:

1. Esker and filter lift thickness for placement was 300 mm;
2. Each esker lift was compacted by the excavator tracks and the loaded trucks for the central part. For the slopes, the material was compacted with the bucket of the excavator. The same compaction method was applied for the fine filter and coarse filter lift;
3. Ice was removed before placing any material. Some water was present; and
4. No segregation was observed.

Visual observation during rockfill material placement:

1. Rockfill lift thickness is approximately 1 m. Rockfill particle size ranges from 0 to 1000 mm;
2. Each lift was compacted by the excavator tracks and the loaded trucks for the central part. For the slopes, it was bucket compacted;
3. The ice was removed before placing any material. Some water was present; and
4. No segregation was observed.

SNC-Lavalin (Designer) comments related to work activities:

Discussion or comments between AEM and SNC-Lavalin on work activities during the construction period reported are summarized below:

- On April 5th 2020: SNC discussed the QC sampling frequency for material – AEM confirmed it would be done when required as per specifications;
- On April 5th, 2020: Review of foundation preparation method and approvals (to be received for review as completed). For Lake A45 (section between 0+465 to 0+490 specifically), esker could be placed if foundation is approved and to grade before the final design issue of the Lake A45 section;
- On April 3rd and April 6th 2020: Discuss the water flow at the foundation, AEM confirmed it is localized and controlled;
- On April 7th and April 8th 2020: Comment on additional cleaning required between 0+400 to 0+445 and 0+400 to 0+460;
- On April 11th 2020: Placement of esker was discussed (thickness and compaction), and QC sampling recommended to ensure material is well graded;
- On April 12th and 13th 2020: Discussion of foundation under rockfill for Lake A45 portion – meeting planned on April 13th to discuss the preparation completed. As confirmed by AEM, no foundation preparation (excavation) is completed underneath the rockfill portion in the Lake A45 section;
- On April 13th 2020: Snow removal requirement before placement of material;
- On April 14th 2020: Rockfill placed outside the center area with no foundation preparation along Lake A45 section; and
- On April 16th 2020: For the French Drain in Lake A45 section, boulders of 500 - 2000 mm were placed.

Approval

During the construction period from April 2nd to 19th 2020, the following approvals were completed:

- Foundation preparation approval form, 20200407-DS-38, between Sta. 0+055 and Sta. 0+065; 20200408-DS-41 between Sta. 0+400 and Sta. 0+495;
- Esker placement approval forms, 20200404-DS-33, between Sta. 0+374 and Sta. 0+400; 20200411-DS-42, between Sta.0+400 and Sta. 0+495; and 20200426-DS-45 between Sta. 0+331 and Sta. 0+374;
- Fine filter placement approval form, 20200404-DS-34, between Sta. 0+331 and Sta. 0+372; 20200405-DS-35, between Sta. 0+372 and Sta. 0+400; 20200408-DS-39, between Sta. 0+055 and Sta. 0+065; 20200411-DS-43 between Sta. 0+400 and Sta. 0+495;
- Coarse filter placement approval form, 20200405-DS-36, between Sta. 0+331 and Sta. 0+400; 20200408-DS-40 between Sta. 0+055 and Sta. 0+065; 20200412-DS-44 between Sta. 0+400 and Sta. 0+495;
- Geotextile and riprap placement approval form, 20200406-DS-37, between Sta. 0+331 and Sta. 0+400; 20200426-DS-46 between Sta. 0+400 and Sta. 0+495.

Approvals were prepared by AEM QA representative and signed by the AEM QA representative, AEM QC representative, AEM representative and contractor representative. Summary of the approved document is shown in Table 1. Approval form completed between April 2nd and April 19th, 2020 can be found in Appendix B.

Table 1: Tracking for Approval Forms

Date	Document #	Location	Approval for
2020-01-26	20200126-DS-01	From 0+917 to 0+830	Foundation approval for esker placement
2020-01-29	20200129-DS-02	From 0+830 to 0+775	Foundation approval for esker placement
2020-02-03	20200203-DS-03	From 0+775 to 0+735	Foundation approval for esker placement
2020-02-16	20200216-DS-04	From 0+735 to 0+688	Foundation approval for esker placement
2020-02-26	20200226-DS-05	From 0+688 to 0+640	Foundation approval for esker placement
2020-02-28	20200228-DS-06	From 0+640 to 0+600	Foundation approval for esker placement
2020-02-28	20200228-DS-07	From 0+600 to 0+565	Foundation approval for esker placement
2020-02-29	20200229-DS-08	From 0+565 to 0+545	Foundation approval for esker placement
2020-03-05	20200305-DS-09	From 0+335 to 0+280	Foundation approval for esker placement
2020-03-06	20200306-DS-10	From 0+280 to 0+210	Foundation approval for esker placement
2020-03-08	20200308-DS-11	From 0+210 to 0+185 and 0+170 to 0+135	Foundation approval for esker placement
2020-03-10	20200310-DS-12	From 0+185 to 0+170 and 0+135 to 0+058	Foundation approval for esker placement
2020-03-12	20200312-DS-13	From 0+056 to 0+330	Esker approval
2020-03-12	20200312-DS-14	From 0065 to 0+325	Fine Filter placement approval: Station 0+56 to 0+180 approved on March 11; Station 0+230 to 0+325 approved on March 11; and Station 0+230 to Station 0+180 approved on March 12
2020-03-13	20200313-DS-15	From 0+700 to 0+555	Fine Filter placement approval
2020-03-14	20200314-DS-16	From 0+906 to 0+553	Esker approval: Station 0+700 to 0+555 and 0+906 to 0+867 approved on March 12; Station 0+750 to 0+867 approved on March 13; and Station 0+700 to 0+750 approved on March 14;
2020-03-15	20200314-DS-17	From 0+700 to 0+747 and 0+906 to 0+815	Fine Filter placement approval
2020-03-17	20200317-DS-18	0+747 to 0+815	Fine Filter placement approval
2020-03-21	20200321-DS-19	0+906 to 0+560	Coarse Filter placement approval
2020-03-21	20200321-DS-20	0+555 to 0+545	Esker approval
2020-03-21	20200321-DS-21	0+555 to 0+545	Fine Filter placement approval
2020-03-22	20200322-DS-22	0+555 to 0+547	Coarse Filter placement approval
2020-03-22	20200322-DS-23	0+065 to 0+325	Coarse Filter placement approval
2020-03-24	20200324-DS-24	0+906 to 0+590	Geotextile and rip rap placement
2020-03-24	20200324-DS-25	0+555 to 0+500	Foundation approval for esker placement
2020-03-27	20200327-DS-26	0+495 to 0+550	Esker Approval
2020-03-27	20200327-DS-27	0+495 to 0+545	Fine Filter Placement Approval
2020-03-27	20200327-DS-28	0+495 to 0+545	Coarse Filter placement approval
2020-03-28	20200328-DS-29	0+495 to 0+545	Geotextile and rip rap placement

2020-03-31	20200331-DS-30	0+331 to 0+400	Foundation approval for esker placement
2020-04-01	20200401-DS-31	0+545 to 0+590	Geotextile and rip rap placement
2020-04-01	20200401-DS-32	0+075 to 0+320	Geotextile and rip rap placement
2020-04-04	20200404-DS-33	0+374 to 0+400 (West slope)	Esker approval
2020-04-04	20200404-DS-34	0+331 to 0+372	Fine Filter Placement Approval
2020-04-05	20200405-DS-35	0+372 to 0+400	Fine Filter Placement Approval
2020-04-05	20200405-DS-36	0+331 to 0+400	Coarse Filter placement approval
2020-04-06	20200406-DS-37	0+331 to 0+400	Geotextile and rip rap placement
2020-04-07	20200407-DS-38	0+055 to 0+065	Foundation approval for esker placement
2020-04-08	20200408-DS-39	0+055 to 0+065	Fine Filter placement approval
2020-04-08	20200408-DS-40	0+055 to 0+065	Coarse Filter placement approval
2020-04-08	20200408-DS-41	0+400 to 0+495	Foundation approval for esker placement
2020-04-11	20200411-DS-42	0+400 to 0+495	Esker approval
2020-04-11	20200411-DS-43	0+400 to 0+495	Fine Filter placement approval
2020-04-12	20200412-DS-44	0+400 to 0+495	Coarse Filter placement approval
2020-04-26	20200426-DS-45	0+331 to 0+374	Esker approval
2020-04-26	20200426-DS-46	0+400 to 0+495	Geotextile and rip rap placement

Note: the highlighted is completed during the reported period

Sampling and Laboratory Test

During the construction period between April 2nd and April 19th 2020, eight (8) moisture/ice content for the foundation soil, one (1) esker material, nine (9) fine filter and two (2) coarse filter samples were taken. No foundation soil sample for gradation were taken during this period. Summary and sampling location sampled up to April 19th, 2020 are pressented in Table 2, 3, 4 and 5 for foundation soil, esker, fine and coarse filter, respectively. It should be noted that the highlighted samples in the tables were sampled during the period from April 2nd to April 19th, 2020.

Table 2: Summary and location, Foundation Soil samples

Sample ID	Fines-Sand-Gravel	Moisture Content	Station	Location of sampling	Date of sampling	Sample by	Date of testing	Test by
AMQ-IP-001	13 - 28 - 59	-	-	Bottom of excavation	2020-01-15	MC	2020-01-16	MC
AMQ-IP-002	27 - 34 - 39	-	0+700	Bottom of excavation	19/01/20120	MC	2020-01-20	MC
AMQ-IP-003	35 - 45 - 20	-	0+800	Bottom of excavation	2020-01-20	MC	2020-01-21	MC
AMQ-IP-004	13 - 29 - 58	-	0+900	Bottom of excavation	2020-01-25	MC	2020-01-27	MC
AMQ-IP-005	14 - 30 - 56	-	0+750	Bottom of excavation	2020-02-03	YA	2020-02-05	YA
AMQ-IP-006	17 - 26 - 58	16,4%	0+765	Bottom of excavation	04/02/2020	SD	2020-02-06	YA
AMQ-IP-007	20 - 33 - 47	10,0%	0+500	Bottom of excavation	2020-02-07	SD	2020-02-07	YA
AMQ-IP-008	22 - 30 - 48	21,8%	0+270	Bottom of excavation	2020-02-09	SD	2020-02-12	MC
AMQ-IP-008-1	NA	11,5%	0+270	Bottom of excavation	2020-02-13	MC	2020-02-14	MC
AMQ-IP-008-2	NA	8,1%		Bottom of excavation	2020-02-13	MC	2020-02-14	MC
AMQ-IP-008-3	NA	13,6%		Bottom of excavation	2020-02-13	MC	2020-02-14	MC
AMQ-IP-009	17 - 25 - 59	15,4%	0+660	Bottom of excavation	2020-02-25	SD	2020-02-26	YA
AMQ-IP-010	31 - 29 - 40	18,5%	0+600	Bottom of excavation	2020-02-27	SD	2020-02-28	YA
AMQ-IP-011	13 - 28 - 59	39,6%	0+530	Top of eastern slope	2020-03-01	SD	2020-03-02	YA
AMQ-IP-012	21 - 37 - 42	11,3%	0+530	Bottom of eastern slope	2020-03-01	SD	2020-03-02	YA
AMQ-IP-013	30 - 39 - 32	22,5%	0+520	Bottom of western slope	2020-03-01	SD	2020-03-02	YA
AMQ-IP-014	34 - 40 - 26	6,8%	0+320	Bottom of western slope	2020-03-03	SD	2020-03-04	YA
AMQ-IP-015	16 - 25 - 59	17,5%	0+220	Bottom of western slope	2020-03-06	SD	2020-03-06	YA
AMQ-IP-016	18-30-52	9,1%	0+170	Bottom of east slope	2020-03-08	SD	2020-03-08	YA
AMQ-IP-017	16-38-47	9,7%	0+120	Bottom of east slope	2020-03-09	SD	2020-03-10	RJ
AMQ-IP-018	13-35-52	16,0%	0+70	Bottom of east slope	2020-03-09	SD	2020-03-10	RJ
AMQ-IP-019	21-28-51	11,4%	0+380	Bottom of excavation	2020-03-27	YA	2020-03-27	YA
AMQ-IP-020	NA	42.2%	0+349	Bottom of excavation	2020-03-28	YA	2020-03-28	YA
AMQ-IP-021	NA	43.7% *ice content:16.4%	0+345	Foundation	2020-03-30	YA	2020-03-30	YA
AMQ-IP-022.1	NA	6.9% *ice content:0.0%	0+490	Foundation El. 152.6	2020-03-31	YA	2020-04-01	YA
AMQ-IP-022.2	NA	15.5% *ice content:4.0%	0+490	Foundation El. 152.3	2020-03-31	YA	2020-04-01	YA
AMQ-IP-023.1	NA	368.1% *ice content:147.9%	0+440	Foundation El. 152.8	2020-03-31	YA	2020-04-01	YA
AMQ-IP-023.2	NA	130.7% *ice content:43.1%	0+440	Foundation El. 152.5	2020-03-31	YA	2020-04-01	YA
AMQ-IP-023.3	26-40-34	14.6% *ice content:2.1%	0+440	Foundation El. 152.1	2020-03-31	YA	2020-04-01	YA

AMQ-IP-023.4	17-36-47	19.5% *ice content:5.8%	0+440	Foundation El. 151.5	2020-03-31	YA	2020-04-01	YA
AMQ-IP-024.1	NA	8.4% *ice content:.0.0%	0+467	Foundation El. 152.4	2020-04-01	TD	2020-04-02	YA
AMQ-IP-024.2	NA	7.0% *ice content:.0.0%	0+467	Foundation El. 152.1	2020-04-01	TD	2020-04-02	YA
AMQ-IP-25	NA	17.6% *ice content:0.0%	0+425	Foundation El. 152.1	2020-04-06	TD	2020-04-06	TD
AMQ-IP-26	NA	20.1% *ice content:0.0%	0+435	Foundation El. 152.1	2020-04-06	TD		TD
AMQ-IP-27	NA	18.6% *ice content:0.0%	0+438	Foundation El. 152.1	2020-04-07	TD	2020-04-07	TD
AMQ-IP-28	NA	15.3% *ice content:0.0%	0+438	Foundation El. 152.1	2020-04-07	TD	2020-04-07	TD
AMQ-IP-29	NA	12.2% *ice content:0.0%	0+438	Foundation El. 152.1	2020-04-07	TD	2020-04-07	TD
AMQ-IP-30	NA	14.0% *ice content:0.0%	0+430	Foundation El. 152.0	2020-04-08	JC	2020-04-07	TD

Note: the highlighted is completed during the reported period

Table 3: Summary and location, Esker samples

Sample ID	Fines-Sand-Gravel	Moisture Content	Station	Location of sampling	Date of sampling	Sample by	Date of testing	Test by
AMQ-ES-001	1 - 39 - 60	1,4%	-	Stock pile 1	17/01/2020	MC	17/01/2020	MC
AMQ-ES-002	4 - 37 - 59	1,1%	-	Stock pile 1	17/01/2020	MC	18/01/2020	MC
AMQ-ES-003	-	-	-	Stock pile 2	31/01/2020	SD	Lost sample	-
AMQ-ES-003.1	40 - 60 - 0	12,5%	-	Stock pile 2	02/02/2020	SD	2020-02-04	YA
AMQ-ES-004	7 - 25 - 68	5,3%	0+820	west slope of channel	01/02/2020	YA	02/02/2020	YA
AMQ-ES-005	21 - 50 - 29	6,7%	0+820	east slope of channel	01/02/2020	SD	02/02/2020	YA
AMQ-ES-006	27 - 48 - 25	11,8%	0+800	east slope of channel	04/02/2020	SD	04/02/2020	YA
AMQ-ES-007	8 - 56 - 36	15,8%	0+780	west slope of channel	04/02/2020	SD	05/02/2020	SD
AMQ-ES-008	2 - 25 - 73	11,0%	0+860	Slope east of channel	04/02/2020	SD	05/02/2020	YA
AMQ-ES-009	3 - 29 - 68	3,4%	0+760	west slope of channel	11/02/2020	MC	13/02/2020	MC
AMQ-ES-010	6 - 36 - 58	7,3%	0+700	west slope of channel	18/02/2020	RT	19/02/2020	RT
AMQ-ES-011	6 - 45 - 49	6,8%	0+690	Not Specified	18/02/2020	RT	20/02/2020	MC
AMQ-ES-012	7 - 27 - 66	7,8%	0+670	east slope of channel	2020-02-29	SD	2020-03-02	YA
AMQ-ES-013	4 - 26 - 70	4,8%	0+620	west slope of channel	2020-02-29	SD	2020-03-02	YA
AMQ-ES-014	11 - 31 - 58	5,7%	0+580	east slope of channel	2020-03-01	SD	2020-03-03	YA
AMQ-ES-015	8 - 21 - 71	4,0%	0+555	west slope of channel	2020-03-04	SD	2020-03-04	YA
AMQ-ES-016	7 - 30 - 63	4,6%	0+280	east slope of channel	2020-03-07	SD	2020-03-08	YA
AMQ-ES-017	5-41-54	2,6%	0+077	east slope of channel	2020-03-10	MC	2020-03-10	MC
AMQ-ES-018	10-22-68	6,9%	0+525	east slope of channel	2020-03-26	MC	2020-03-26	MC
AMQ-ES-019	12-29-59	5,6%	0+350	Center	2020-03-31	YA	2020-04-01	YA
AMQ-ES-020	9-38-53	5,9%	0+343	Center	2020-04-11	YA	2020-04-12	TD

Note: the highlighted is completed during the reported period

Table 4: Summary and location, Fine Filter samples

Sample ID	Fines-Sand-Gravel	Moisture Content	Station	Location of sampling	Date of sampling	Sample by	Date of testing	Test by
AMQ-FF-006	5-20-75	4,1%	0+327	West Slope	2020/0310	RJ	2020-03-11	MC
AMQ-FF-007	6-26-68	4,6%	0+310	Centre	2020-03-10	RJ	2020-03-11	MC
AMQ-FF-008	9-37-54	5,6%	0+060	Centre	2020-03-11	MC	2020-03-11	MC
AMQ-FF-009	5-20-76	4,7%	0+100	East Slope	2020-03-11	MC	2020-03-11	MC
AMQ-FF-010	9-33-58	6,1%	0+140	West Slope	2020-03-11	MC	2020-03-12	MC
AMQ-FF-011	7-31-62	5,6%	0+270	East Slope	2020-03-11	MC	2020-03-12	MC
AMQ-FF-012	7-24-69	5,1%	0+230	Centre	2020-03-11	RJ	2020-03-12	MC
AMQ-FF-013	7-27-66	4,6%	0+190	East Slope	2020-03-11	RJ	2020-03-12	MC
AMQ-FF-014	7-29-64	4,0%	0+170	Centre	2020-03-12	RJ	2020-03-12	MC
AMQ-FF-015	6-28-66	4,4%	0+080	West Slope	2020-03-11	MC	2020-03-14	MC
AMQ-FF-016	8-31-61	5,0%	0+120	Centre	2020-03-11	MC	2020-03-14	RJ
AMQ-FF-017	8-30-63	5,7%	0+290	Centre	2020-03-11	RJ	2020-03-14	RJ
AMQ-FF-018	8-31-61	4,3%	0+210	West Slope	2020-03-12	RJ	2020-03-14	RJ-MC
AMQ-FF-019	9-34-57	5,3%	0+250	West Slope	2020-03-11	MC	2020-03-13	RJ
AMQ-FF-020	9-43-58	4,0%	0+160	West Slope	2020-03-12	RJ	2020-03-13	RJ
AMQ-FF-021	8-36-56	4,7%	0+560	West Slope	2020-03-13	RJ	2020-03-13	RJ
AMQ-FF-022	10-40-50	7,0%	0+580	East Slope	2020-03-13	RJ	2020-03-13	MC
AMQ-FF-023	8-33-59	4,3%	0+600	Centre	2020-03-13	MC	2020-03-14	MC-RJ
AMQ-FF-024	7-33-61	4,3%	0+900	East Slope	2020-03-13	MC	2020-03-13	MC
AMQ-FF-025	7-34-59	4,7%	0+620	West Slope	2020-03-13	MC	2020-03-13	MC
AMQ-FF-026	7-28-66	3,8%	0+640	East Slope	2020-03-13	RJ	2020-03-14	RJ
AMQ-FF-027	10-38-52	4,7%	0+660	Centre	2020-03-13	RJ	2020-03-14	MC
AMQ-FF-028	8-32-61	5,4%	0+680	West Slope	2020-03-13	RJ	2020-03-15	MC
AMQ-FF-029	9-38-53	7,0%	0+700	West Slope	2020-03-15	MC	2020-03-16	RJ
AMQ-FF-030	9-36-55	6,0%	0+720	East Slope	2020-03-15	MC	2020-03-15	MC
AMQ-FF-031	10-38-52	7,0%	0+740	Centre	2020-03-15	MC	2020-03-17	RJ
AMQ-FF-032	9-33-59	11,6%	0+760	Centre	2020-03-16	MC	2020-03-17	RJ
AMQ-FF-033	8-38-54	6,0%	0+780	East Slope	2020-03-16	MC	2020-03-17	RJ
AMQ-FF-034	8-31-62	5,8%	0+800	West Slope	2020-03-16	MC	2020-03-17	MC-RJ
AMQ-FF-035	8-32-60	5,3%	0+820	East Slope	2020-03-16	MC	2020-03-17	MC-RJ
AMQ-FF-036	10-40-50	7,4%	0+840	West Slope	2020-03-15	MC	2020-03-17	MC-RJ
AMQ-FF-037	8-54-58	7,0%	0+860	East Slope	2020-03-15	MC	2020-03-15	MC
AMQ-FF-038	10-40-50	6,8%	0+880	Centre	2020-03-15	MC	2020-03-16	RJ
AMQ-FF-039	8-30-62	7,9%	0+550	Centre	2020-03-21	MC	2020-03-22	RJ
AMQ-FF-040	10-34-56	4,5%	0+530	Centre	2020-03-26	YM	2020-03-27	YM
AMQ-FF-041	7-27-66	5,3%	0+350	East Slope	2020-04-03	YM	2020-04-04	YM
AMQ-FF-042	9-36-55	7,2%	0+370	West Slope	2020-04-03	TD	2020-04-04	YM
AMQ-FF-043	6-29-65	7,1%	0+390	Centre	2020-04-03	TD	2020-04-04	YM
AMQ-FF-044	7-33-60	4,6%	0+330	Centre	2020-04-03	YM	2020-04-04	YM
AMQ-FF-045	11-44-45	4,6%	0+60	Centre	2020-04-08	FGL	2020-04-08	TD
AMQ-FF-046	9-38-53	6,3%	0+420	Centre	2020-04-11	TD	2020-04-12	TD
AMQ-FF-047	9-45-46	6,2%	0+435	Centre	2020-04-11	TD	2020-04-12	TD

AMQ-FF-048	8-42-50	6,1%	0+460	Centre	2020-04-11	TD	2020-04-12	TD
AMQ-FF-049	8-44-48	5,3%	0+480	Centre	2020-04-11	TD	2020-04-12	TD

Note: the highlighted is completed during the reported period

Table 5: Summary and location, Coarse Filter samples

Sample ID	Fines-Sand-Gravel	Moisture Content	Station	Location of sampling	Date of sampling	Sample by	Date of testing	Test by
AMQ-CF-001	2 - 7 - 91	2,4%	-	Stock pile	2020-01-21	MC	2020-01-22	MC
AMQ-CF-002	3 - 7 - 90	6,8%	-	Stock pile	2020-01-22	MC	2020-01-23	MC
AMQ-CF-003	3 - 5 - 92	1,7%	0+160	East Slope	2020-03-12	MC	2020-03-13	RJ
AMQ-CF-004	2-3-95	1,6%	0+580	West slope	2020-03-14	MC	2020-03-14	MC
AMQ-CF-005.1	1-4-95	2,4%	0+890	East slope	2020-03-20	MC	2020-03-21	MC
AMQ-CF-006.1	2-4-95	0,7%	0+780	West slope	2020-03-20	RJ	2020-03-21	MC
AMQ-CF-007	1-1-98	0,8%	0+300	East slope	2020-03-20	RJ	2020-03-24	YA
AMQ-CF-008	1-3-96	2,6%	0+600	Centre	2020-03-20	MC	2020-03-24	YA
AMQ-CF-010	3-11-86	2,6%	0+060	Centre	2020-04-08	FGL	2020-04-08	TD
AMQ-CF-011	3-12-85	2,7%	0+460	Centre	2020-04-11	TD	2020-04-12	TD

Note: the highlighted is completed during the reported period

Laboratory Test Result

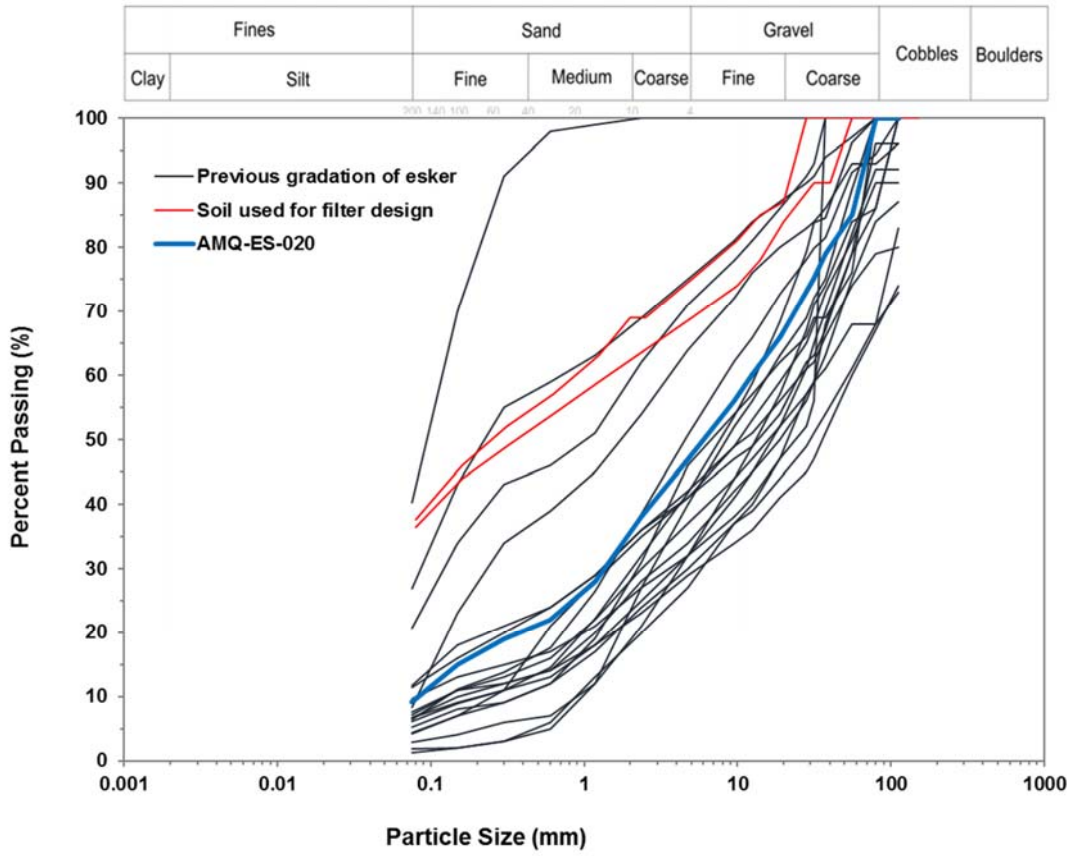
Foundation Soil

As presented in Table 2, the moisture contents for the eight (8) foundation soil samples were below 20%. The ice content results for the samples is 0%.

Esker

The gradation test result for AMQ-ES-020 along with previously sampled esker is shown in Figure 1. As shown in Figure 1, the soil for AMQ-ES-020 is well graded and has 9% of fines which is less than the fine content of the soil used to design filter.

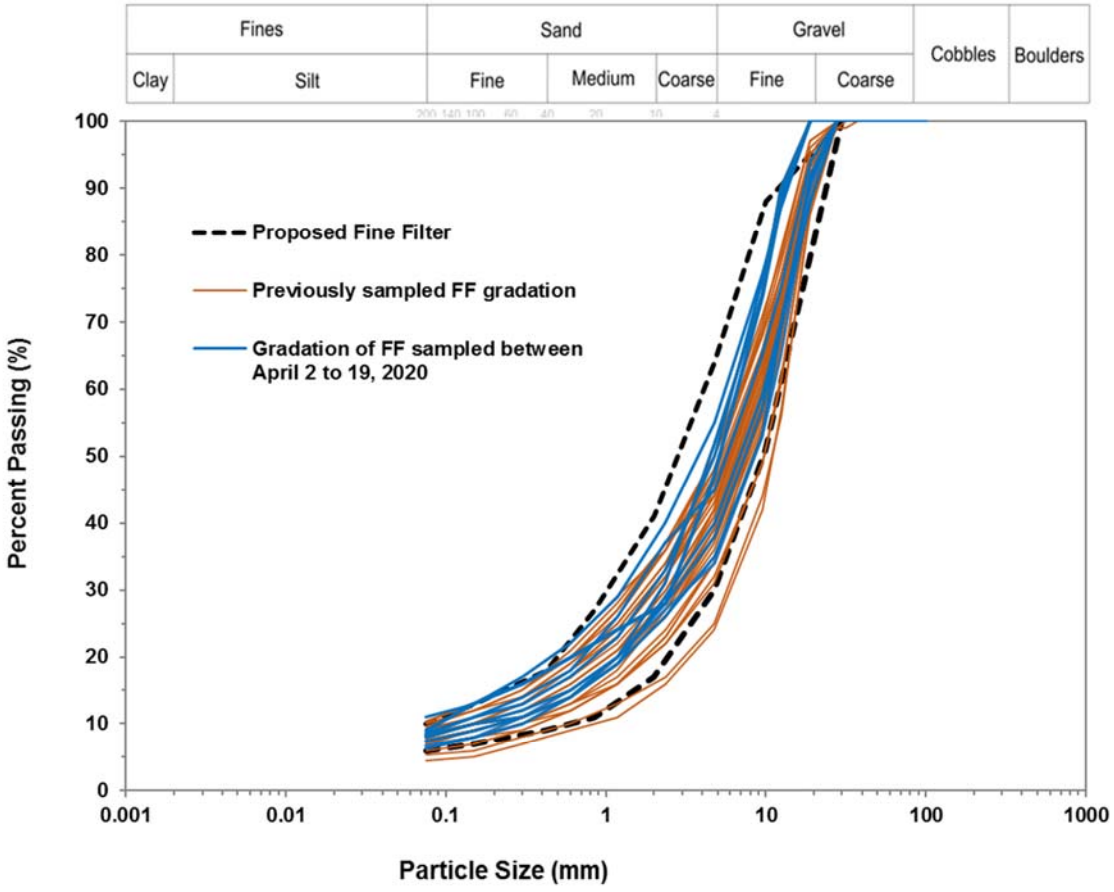
Figure 1: Gradation test results completed on esker material up to April 19th, 2020.



Fine filter

The gradation results for AMQ-FF-041 to AMQ-FF-049 are shown in Figure 2. As shown in Figure 2, these gradation results meet fine filter specification.

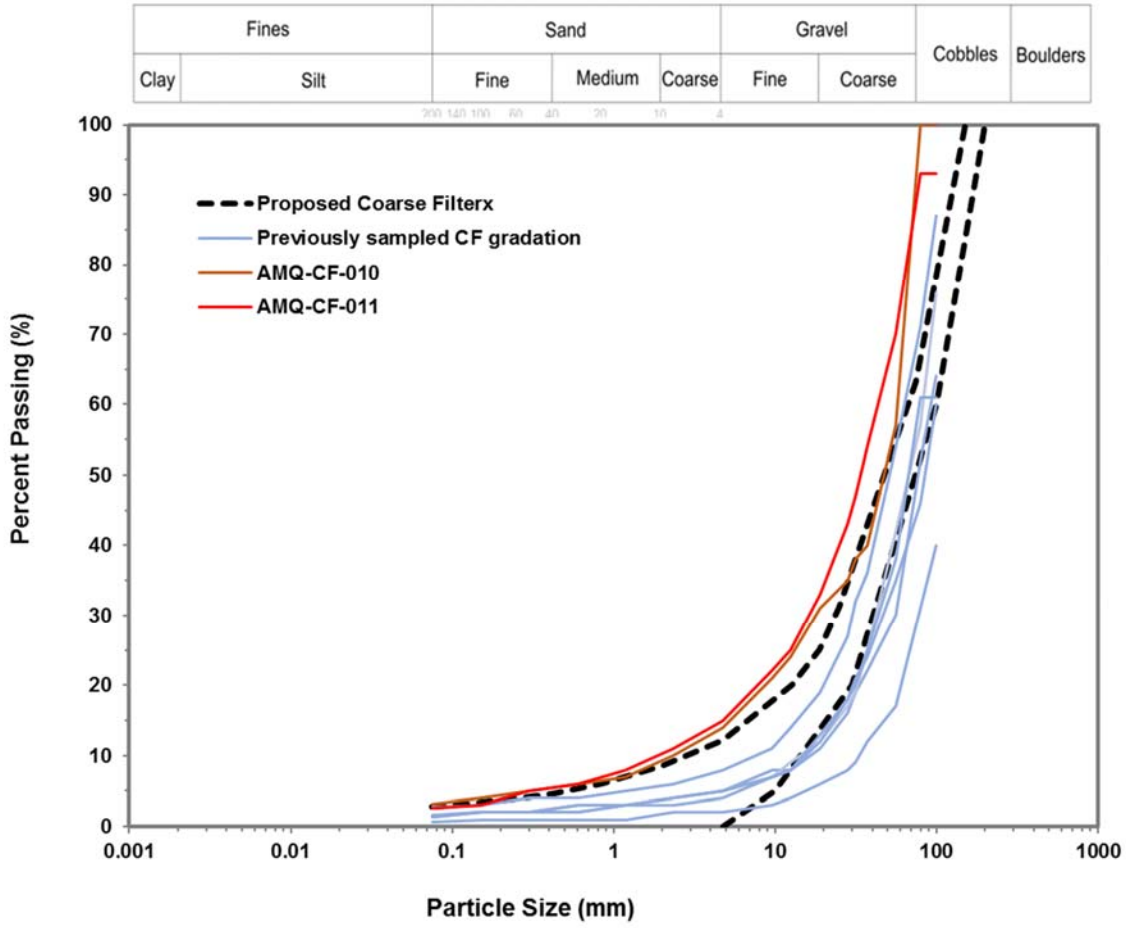
Figure 2: Gradation test results completed on in-place fine filter up to April 19th, 2020.



Coarse filter

The gradation results for AMQ-CF-010 and AMQ-CF-011 are shown in Figure 3. As shown in Figure 3, these gradation results are slightly on the fine side of the coarse filter specification. These samples contains more sand and less gravel than the specification and the previous samples of coarse filter.

Figure 3: Summary of gradation test results completed on in-place fine filter up to April 19th, 2020.



Laboratory gradation and moisture content test results completed by QC from April 2nd to 19th 2020 can be found in Appendix C.

RFI

Between April 2nd and 19th 2020, no new RFI were requested. The list of RFI for the known deviations/changes up to April 19th 2020 is attached in Appendix D.

SAFE AND SAFETY REMARKS

Blizzard conditions occurred on April 2nd, 12th and 17th 2020

APPENDIX A: PHOTOS

The photos presented in the Photo Log are taken from the AEM QA Daily Report issued between April 2nd and 19th 2020.



Photo 1 : Foundation preparation between 0+425 to 0+465 (Looking east) (April 4th, 2020)



Photo 2: Foundation cleanup 0+400 to 0+440 (Looking south) (April 6th 2020)



Photo 3: Lake A45 foundation approval (Looking south) (April 8th 2020)

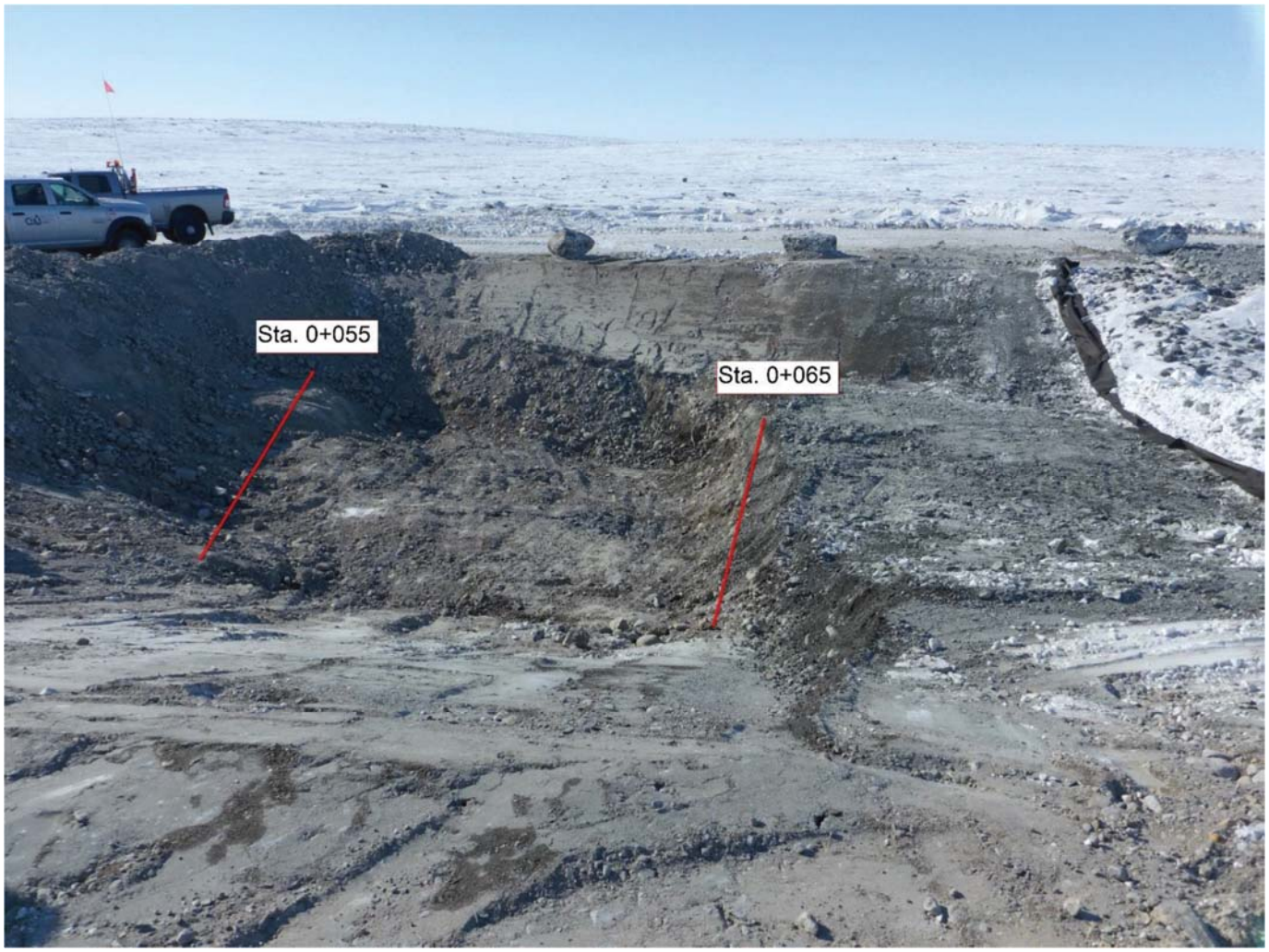


Photo 4: Inlet foundation preparation 0+055 to 0+065 (Looking west) (April 7th 2020)

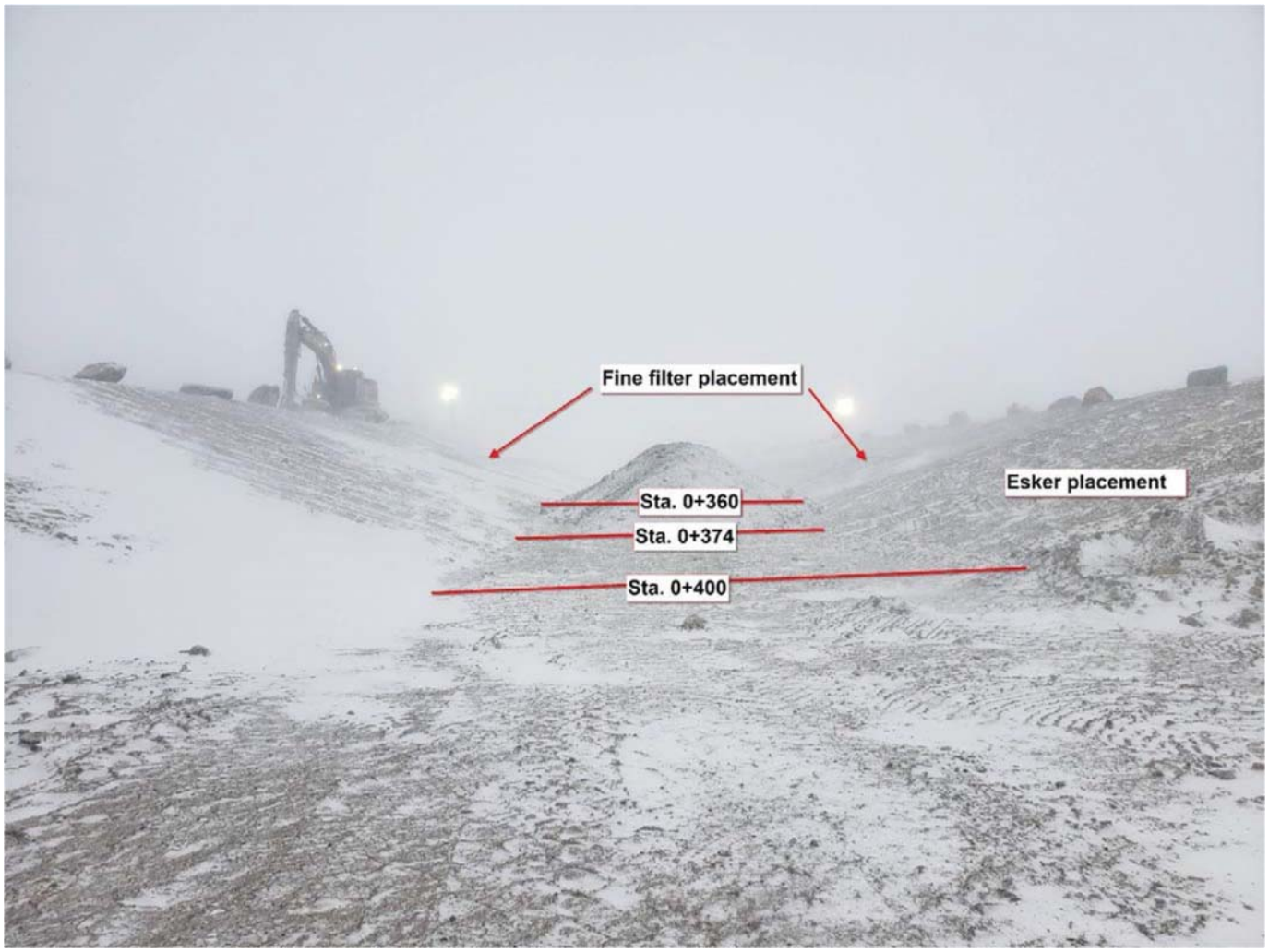


Photo 5: Esker placement between 0+374 and 0+400 on west slope. Fine filter placement between 0+331 to 0+360 on both slopes. (Looking south) (April 2nd, 2020)



Photo 6: Lake A45 esker placement 0+495 to 0+450 (Looking southeast) (April 10th, 2020)



Photo 7: Lake A45 esker and rockfill placement 0+400 to 0+495 (Looking north) (April 11th 2020)



Photo 8: Fine and coarse filter placement between 0+331 to 0+400 (Looking south) (April 5th 2020)



Photo 9: Inlet filter placement 0+055 to 0+065 (Looking southwest) (April 8th 2020)



Photo 10: Lake A45 fine filter placement 0+400 to 0+440 (Looking southeast) (April 11th 2020)



Photo 11: Lake A45 Coarse filter placement 0+400 to 0+495 (Looking north) (April 11th 2020)



Photo 12: Geotextile and rip rap placement 0+331 to 0+350 (Looking southwest) (April 5th 2020)

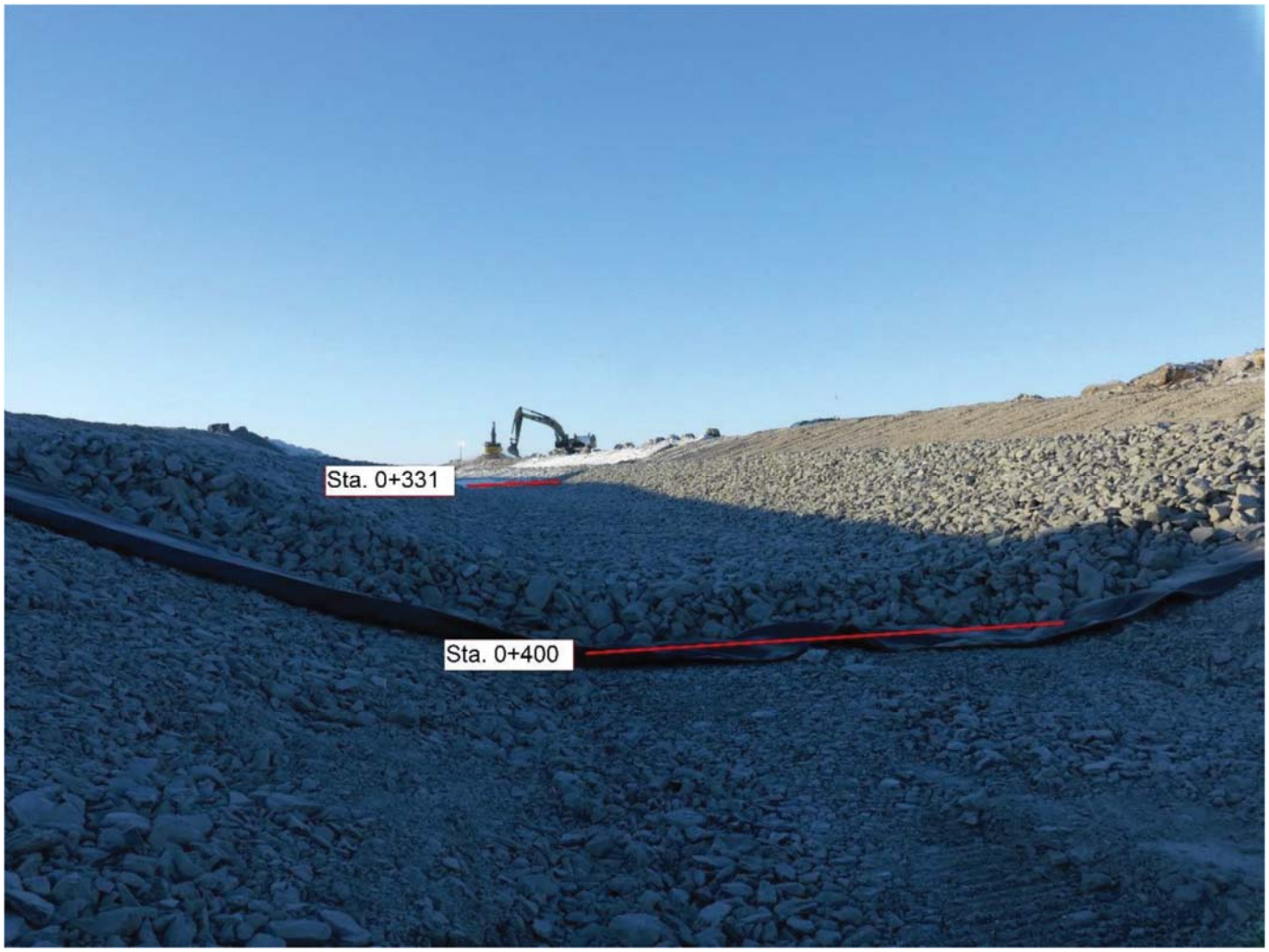


Photo 13: Geotextile and rip rap approval 0+331 to 0+400 (Looking south) (April 6th 2020)



Photo 14: Boulders placement on east berm. Looking E. (April 15th 2020)



Photo 15: Geotextile and rip rap installation and placement in the lake section (April 16th 2020)



Photo 16: Geotextile and rip rap installation and placement in the lake section. Transitions can be see on rip rap elevation inside and outside the lake (April 17th 2020)

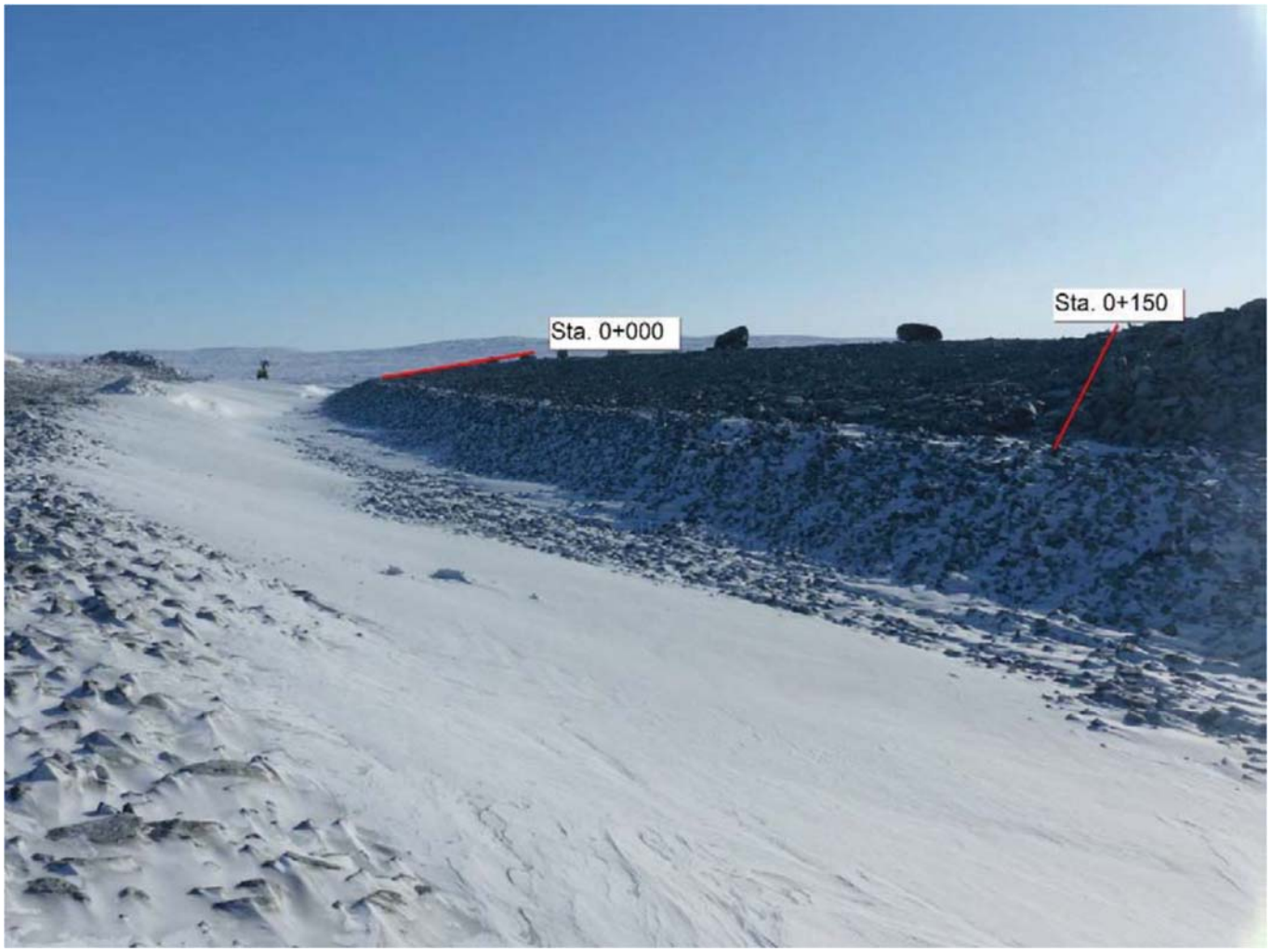


Photo 17 : Rockfill placement on the west slope from 0+000 to 0+150 (Looking south) (April 4th, 2020)

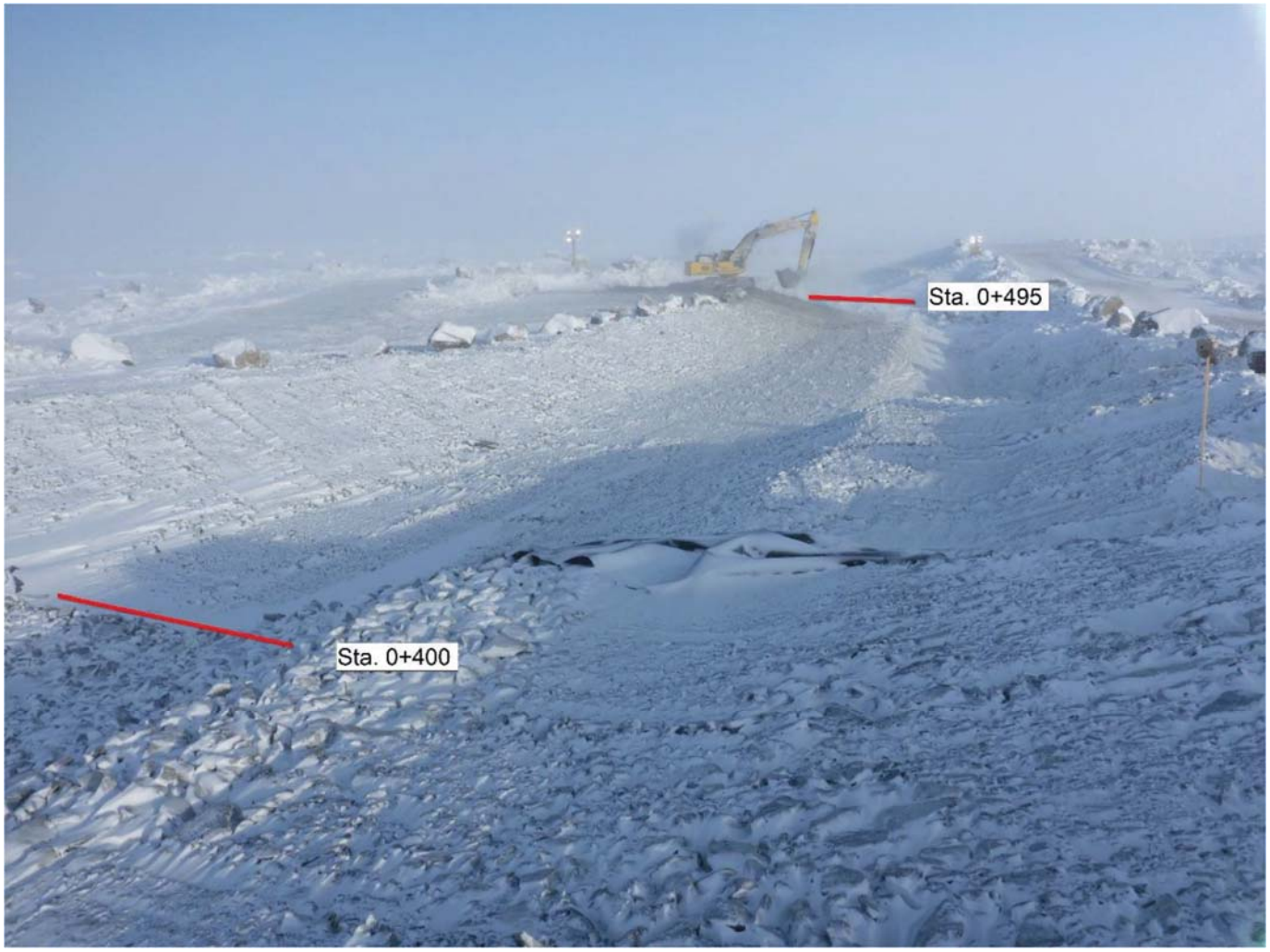


Photo 18: Rockfill placement on the west slope 0+400 to 0+495 (Looking northwest) (April 13th 2020)



Photo 19: Rockfill placement on the west slope and snow removal to widen road, 0+400 to 0+495 (Looking East) (April 14th 2020)



Photo 20: Rock fill placement on the east slope 0+400 to 0+495 and west berm finger drain bedding in red (Looking Southeast) (April 14th 2020)



Photo 21: Rock fill placement for rolling surface on the east berm of the lake section. Looking NE (April 15th 2020)



Photo 22: 0.5m protective rockfill over exposed filters at around 0+800 (April 19th, 2020)



Photo 23: Overview of A45 lake section (April 19th, 2020)



Photo 24: Aerial drone overview of SWTC. Purple circle depicts outlet (April 19th 2020)

APPENDIX B: Approval form

SNC·LAVALIN AGNICO EAGLE

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-04-04

DOCUMENT #: 20200404-DS-33 **TIME:** 14h00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

(24 hour clock)

COMPLETED BY (AEM QA REPRESENTATIVE): (Name) Christian Tremblay

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Esker
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+374 to 0+400 (West slope)	**Station:**	0+331 to 0+374
Inclination:		**Details:**	
ELEVATION :	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	–		–		
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
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DETAILS

(Refer to list above for item #)

		APPROVED BY:			
		QA AEM		QC AEM	
ITEM		**Y**	**N**	**Y**	**N**

APPROVED BY:	**NAME**	**SIGNATURE**	**DATE**
CONTRACTOR REPRESENTATIVE	Patrice Ouellet		2020-04-05
AEM QC REPRESENTATIVE	Yastree Amegnran		2020-04-04
AEM QA REPRESENTATIVE	Christian Trembley	Christian T.	2020-04-04
OWNER'S REPRESENTATIVE	Christian Trembley	Christian T.	2020-04-05

REVIEWED BY (Remote off-site support) *:	**NAME**	**SIGNATURE**	**DATE**
DESIGNER (SNC-LAVALIN) REPRESENTATIVE			

** SNC-LAVALIN REVIEW AND SIGNATURE BASED ON OBSERVATIONS AND APPROVALS MADE BY AEM QA/QC REPRESENTATIVE ON SITE*

DESIGNER COMMENTS:

SNC·LAVALIN AGNICO EAGLE

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-04-04

DOCUMENT #: 20200404-DS-34 **TIME:** 17h00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

(24 hour clock)

COMPLETED BY (AEM QA REPRESENTATIVE): (Name) Christian Tremblay

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Fine Filter
- ☐ Other: _____

LOCATION	**PREVIOUS APPROVALS**
Station 0+331 to 0+372	**Station:**
Inclination:	**Details:**
ELEVATION : ☐ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
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DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N
2	Some snow need to be removed at 0+331 before Placing the CF	✓		✓	
1	Finishing adding and compacting the little top portion missing	✓		✓	
6	Frozen chunck need to be removed or blended to the lift	✓		✓	

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-05
AEM QC REPRESENTATIVE	Yootree Ameeyaran		2020-04-04
AEM QA REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-05
OWNER'S REPRESENTATIVE	Patrice Ouellet		2020-04-05

REVIEWED BY (Remote off-site support) *:	NAME	SIGNATURE	DATE
DESIGNER (SNC-LAVALIN) REPRESENTATIVE			

** SNC-LAVALIN REVIEW AND SIGNATURE BASED ON OBSERVATIONS AND APPROVALS MADE BY AEM QA/QC REPRESENTATIVE ON SITE*

DESIGNER COMMENTS:

SNC·LAVALIN AGNICO EAGLE

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-04-05

DOCUMENT #: 20200405-DS-35 **TIME:** 8h00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

COMPLETED BY (AEM QA REPRESENTATIVE): (Name) Christian Tremblay

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Fine Filter
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+372 to 0+400	**Station:**	0+331 to 0+372
Inclination:		**Details:**	
ELEVATION :	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom			✓		
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
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DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Patrice Ouellet		2020-04-06
AEM QC REPRESENTATIVE	Yaotree Amegnran		2020-04-05
AEM QA REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-05
OWNER'S REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-05

REVIEWED BY (Remote off-site support) *:	NAME	SIGNATURE	DATE
DESIGNER (SNC-LAVALIN) REPRESENTATIVE			

** SNC-LAVALIN REVIEW AND SIGNATURE BASED ON OBSERVATIONS AND APPROVALS MADE BY AEM QA/QC REPRESENTATIVE ON SITE*

DESIGNER COMMENTS:

SNC·LAVALIN AGNICO EAGLE

APPROVAL FORM

PROJECT :	**SWTDC Construction**
PROJECT #:	667648
DATE:	2020-04-05
DOCUMENT #:	20200405-DS-36 (YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift
TIME:	8h00 (24 hour clock)

COMPLETED BY (AEM QA REPRESENTATIVE): (Name) Christian Tremblay

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Coarse Filter
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+331 To 0+400	**Station:**	
Inclination:		**Details:**	
ELEVATION :	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY:				
	QA AEM		**QC AEM**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
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DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N
6	A final pass of compaction on the east slope is needed before installing the geotextile	✓		✓	

	NAME	SIGNATURE	DATE
APPROVED BY:			
CONTRACTOR REPRESENTATIVE	Patrice Ouellet		2020-04-06
AEM QC REPRESENTATIVE	Yaotree Amegnran		2020-04-05
AEM QA REPRESENTATIVE	Christian Trembl	Christian T.	2020-04-05
OWNER'S REPRESENTATIVE	Christian Trembl	Christian T.	2020-04-05
REVIEWED BY (Remote off-site support) *:	**NAME**	**SIGNATURE**	**DATE**
DESIGNER (SNC-LAVALIN) REPRESENTATIVE			

** SNC-LAVALIN REVIEW AND SIGNATURE BASED ON OBSERVATIONS AND APPROVALS MADE BY AEM QA/QC REPRESENTATIVE ON SITE*

DESIGNER COMMENTS:

SNC·LAVALIN AGNICO EAGLE

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-04-06

DOCUMENT #: 20200406-DS-37 **TIME:** 8h00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

COMPLETED BY (AEM QA REPRESENTATIVE): (Name)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☑ Other: Geotextile and Rip Rap

LOCATION		**PREVIOUS APPROVALS**	
Station	0+331 to 0+400	**Station:**	
Inclination:		**Details:**	
ELEVATION :	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
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DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Patrice Ouellet		2020-04-06
AEM QC REPRESENTATIVE	THOMAS DATTH		2020-04-06
AEM QA REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-06
OWNER'S REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-06

REVIEWED BY (Remote off-site support) *:	NAME	SIGNATURE	DATE
DESIGNER (SNC-LAVALIN) REPRESENTATIVE			

** SNC-LAVALIN REVIEW AND SIGNATURE BASED ON OBSERVATIONS AND APPROVALS MADE BY AEM QA/QC REPRESENTATIVE ON SITE*

DESIGNER COMMENTS:

SNC·LAVALIN AGNICO EAGLE

APPROVAL FORM

PROJECT :	**SWTDC Construction**
PROJECT #:	667648 **DATE:** 2020-04-07
DOCUMENT #:	20200407-DS-38 **TIME:** 14h00
	(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

COMPLETED BY (AEM QA REPRESENTATIVE): (Name) Christian Tremblay

APPROVAL FOR :

- ☑ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+055 to 0+065	**Station:**	
Inclination:		**Details:**	
ELEVATION :	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					
5. Placement (lift thickness, segregation, etc.)					
6. Compaction					
7. As built survey completed	✓		✓		
8.					
9.					
10.					
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DETAILS

(Refer to list above for item #)

		APPROVED BY:			
		QA AEM		QC AEM	
ITEM		**Y**	**N**	**Y**	**N**

APPROVED BY:	**NAME**	**SIGNATURE**	**DATE**
CONTRACTOR REPRESENTATIVE	Sabin Larouche		2020-04-08
AEM QC REPRESENTATIVE	JEROME COLLARD		2020-04-08
AEM QA REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-07
OWNER'S REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-07

REVIEWED BY (Remote off-site support) *:	**NAME**	**SIGNATURE**	**DATE**
DESIGNER (SNC-LAVALIN) REPRESENTATIVE			

** SNC-LAVALIN REVIEW AND SIGNATURE BASED ON OBSERVATIONS AND APPROVALS MADE BY AEM QA/QC REPRESENTATIVE ON SITE*

DESIGNER COMMENTS:

SNC·LAVALIN AGNICO EAGLE

APPROVAL FORM

PROJECT :	**SWTDC Construction**
PROJECT #:	667648 **DATE:** 2020-04-08
DOCUMENT #:	20200408-DS-39 **TIME:** 8h00
	(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

COMPLETED BY (AEM QA REPRESENTATIVE): (Name) Christian Trembla

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Fine filter
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+055 to 0+065	**Station:**	
Inclination:		**Details:**	
ELEVATION :	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
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DETAILS

(Refer to list above for item #)

		APPROVED BY:			
		QA AEM		QC AEM	
ITEM		**Y**	**N**	**Y**	**N**

APPROVED BY:	**NAME**	**SIGNATURE**	**DATE**
CONTRACTOR REPRESENTATIVE	Sabin Larouche		2020-04-08
AEM QC REPRESENTATIVE	JEROME COLLARD		2020-04-08
AEM QA REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-08
OWNER'S REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-08

REVIEWED BY (Remote off-site support) *:	**NAME**	**SIGNATURE**	**DATE**
DESIGNER (SNC-LAVALIN) REPRESENTATIVE			

** SNC-LAVALIN REVIEW AND SIGNATURE BASED ON OBSERVATIONS AND APPROVALS MADE BY AEM QA/QC REPRESENTATIVE ON SITE*

DESIGNER COMMENTS:

SNC·LAVALIN AGNICO EAGLE

APPROVAL FORM

PROJECT :	**SWTDC Construction**
PROJECT #:	667648
DATE:	2020-04-08
DOCUMENT #:	20200408-DS-40 (YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift
TIME:	8h00 (24 hour clock)

COMPLETED BY (AEM QA REPRESENTATIVE): (Name) Christian Tremblay

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Coarse filter
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+055 To 0+065	**Station:**	
Inclination:		**Details:**	
ELEVATION :	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					

14.					
15.					
16.					
17.					

DETAILS

(Refer to list above for item #)

		APPROVED BY:			
		QA AEM		QC AEM	
ITEM		**Y**	**N**	**Y**	**N**

APPROVED BY:	**NAME**	**SIGNATURE**	**DATE**
CONTRACTOR REPRESENTATIVE	Sabin Larouche		2020-04-08
AEM QC REPRESENTATIVE	JEROME COLLARD		2020-04-08
AEM QA REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-08
OWNER'S REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-08

REVIEWED BY (Remote off-site support) *:	**NAME**	**SIGNATURE**	**DATE**
DESIGNER (SNC-LAVALIN) REPRESENTATIVE			

** SNC-LAVALIN REVIEW AND SIGNATURE BASED ON OBSERVATIONS AND APPROVALS MADE BY AEM QA/QC REPRESENTATIVE ON SITE*

DESIGNER COMMENTS:

SNC·LAVALIN AGNICO EAGLE

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-04-08

DOCUMENT #: 20200408-DS-41 **TIME:** 8h00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

(24 hour clock)

COMPLETED BY (AEM QA REPRESENTATIVE): (Name) Christian Trombay

APPROVAL FOR :

- ☑ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☐ Other: _____

LOCATION	**PREVIOUS APPROVALS**
Station 0+400 To 0+495	**Station:**
Inclination:	**Details:**
ELEVATION : ☐ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					
5. Placement (lift thickness, segregation, etc.)					
6. Compaction					
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					

14.					
15.					
16.					
17.					

DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N
2	- Water inflow (flooding) some sectors. The bottom of those sections were hammered and ripped to make we reach the till.	✓		✓	
	- The ice was removed from the filter footprint. Some ice sections visible in the overexcavated sections that will be backfilled with Ester and/or rock fill.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Sabin Larouche		2020-04-08
AEM QC REPRESENTATIVE	JEROME COLLARD		2020-04-08
AEM QA REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-08
OWNER'S REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-08

REVIEWED BY (Remote off-site support) *:	NAME	SIGNATURE	DATE
DESIGNER (SNC-LAVALIN) REPRESENTATIVE			

** SNC-LAVALIN REVIEW AND SIGNATURE BASED ON OBSERVATIONS AND APPROVALS MADE BY AEM QA/QC REPRESENTATIVE ON SITE*

DESIGNER COMMENTS:

SNC·LAVALIN AGNICO EAGLE

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-04-11

DOCUMENT #: 20200411-DS-42 **TIME:** 8h00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

COMPLETED BY (AEM QA REPRESENTATIVE): (Name) Christian Tremblay

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Ester
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+400 to 0+495	**Station:**	
Inclination:		**Details:**	
ELEVATION :	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					

14.					
15.					
16.					
17.					

DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N
7	Apparently, the survey as built was not totally completed before putting the FF. SANA to make sure to provide a theoritical surface based on the FF as built	✓		✓	

	NAME	SIGNATURE	DATE
APPROVED BY:			
CONTRACTOR REPRESENTATIVE	Claude Trembley	Claude Trembley	11-04-20
AEM QC REPRESENTATIVE	THOMAS DAM		2020-04-11
AEM QA REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-11
OWNER'S REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-11
REVIEWED BY (Remote off-site support) *:	**NAME**	**SIGNATURE**	**DATE**
DESIGNER (SNC-LAVALIN) REPRESENTATIVE			

** SNC-LAVALIN REVIEW AND SIGNATURE BASED ON OBSERVATIONS AND APPROVALS MADE BY AEM QA/QC REPRESENTATIVE ON SITE*

DESIGNER COMMENTS:

SNC·LAVALIN AGNICO EAGLE

APPROVAL FORM

PROJECT :	**SWTDC Construction**
PROJECT #:	667648
DATE:	2020-04-11
DOCUMENT #:	20200411-DS-43 (YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift
TIME:	15h00 (24 hour clock)

COMPLETED BY (AEM QA REPRESENTATIVE): (Name) Christian Tremblay

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Fine filter
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+400 to 0+495	**Station:**	
Inclination:		**Details:**	
ELEVATION :	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					

14.					
15.					
16.					
17.					

DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Claude Trembay	Claude Trembay	11-04-20
AEM QC REPRESENTATIVE	Thomas Dion		2020-04-11
AEM QA REPRESENTATIVE	Christian Trembay	Christian T.	2020-04-11
OWNER'S REPRESENTATIVE	Christian Trembay	Christian T.	2020-04-11

REVIEWED BY (Remote off-site support) *:	NAME	SIGNATURE	DATE
DESIGNER (SNC-LAVALIN) REPRESENTATIVE			

** SNC-LAVALIN REVIEW AND SIGNATURE BASED ON OBSERVATIONS AND APPROVALS MADE BY AEM QA/QC REPRESENTATIVE ON SITE*

DESIGNER COMMENTS:

SNC·LAVALIN AGNICO EAGLE

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-04-12

DOCUMENT #: 20200412-DS-44 **TIME:** 8h00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

COMPLETED BY (AEM QA REPRESENTATIVE): (Name)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Coarse Filter
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+400 to 0+495	**Station:**	
Inclination:		**Details:**	
ELEVATION :	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					

14.					
15.					
16.					
17.					

DETAILS

(Refer to list above for item #)

		APPROVED BY:			
		QA AEM		QC AEM	
ITEM		Y	N	Y	N

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Claude Tremblay		12-04-20
AEM QC REPRESENTATIVE	THOMAS DAHM		2020-04-12
AEM QA REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-12
OWNER'S REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-12

REVIEWED BY (Remote off-site support) *:	NAME	SIGNATURE	DATE
DESIGNER (SNC-LAVALIN) REPRESENTATIVE			

** SNC-LAVALIN REVIEW AND SIGNATURE BASED ON OBSERVATIONS AND APPROVALS MADE BY AEM QA/QC REPRESENTATIVE ON SITE*

DESIGNER COMMENTS:

APPENDIX C: Gradation results from QC

EXCESS ICE DETERMINATION

GAL TP001 Soil Description-Rev1

Sample No: **AMQ-IP-24.1** (ST. 0+467m Foundation level). Elevation 152.4m

Sampling Date: **2020-04-01** **By:** Thomas Dahm

Performed By : **Yaotree Amegnran** **2020-04-01**

Data processing Date: **2020-04-02** **By:** Yaotree Amegnran

Legend and formula :

Masse of melt water captured after thawing the sample (g) : Mmw

Standard water content of the sample (%) : W

Masse of water from standard water content (g): Mw

Total water content of the sample (%) : Wt

Ice content (%) : Wi

Masse of wet soil (g): Mh

Masse of dry soil (g) : Md

Computation :

Melt water Mmw (g)	Wet soil Mh (g)	Dry soil Md (g)	Masse water content Mw = Mh - Md (g)	Standard water content $W=\frac{Mw}{Md}$ (%)	Total water content $Wt=\frac{Mw+Mmw}{Md}$ (%)	Ice content (%) Wi = Wt - W
0	10372	9564	808	8.4	8.4	0.0

Ice content : 0.0%

Total Moinsture 8.4%

EXCESS ICE DETERMINATION

GAL TP001 Soil Description-Rev1

Sample No: **AMQ-IP-24.2** (ST. 0+467m Foundation level). Elevation 152.1m

Sampling Date: **2020-04-01** **By:** Thomas Dahm

Performed By : **Yaotree Amegnran** **2020-04-01**

Data processing Date: **2020-04-02** **By:** Yaotree Amegnran

Legend and formula :

Masse of melt water captured after thawing the sample (g) : Mmw

Standard water content of the sample (%) : W

Masse of water from standard water content (g): Mw

Total water content of the sample (%) : Wt

Ice content (%) : Wi

Masse of wet soil (g): Mh

Masse of dry soil (g) : Md

Computation :

Melt water Mmw (g)	Wet soil Mh (g)	Dry soil Md (g)	Masse water content Mw = Mh - Md (g)	Standard water content $W=\frac{Mw}{Md}$ (%)	Total water content $Wt=\frac{Mw+Mmw}{Md}$(%)	Ice content (%) Wi = Wt - W
0	12607	11787	820	7.0	7.0	0.0

Ice content : 0.0%

Total Moinsture 7.0%

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-ES-020
Projet:	Derivation channel	**Sampling Date:**	2020-04-11
		Sampled by:	Yaotree Amegnran
Description of Material:	Esker		
Origin:	Channel	**Location of Sampling:**	st. 0+3436 center
Proposed Use:	Backfill		

Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	85	79	75	73	66	60	56	47	38	28	22	19	15	9.1
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	5.9		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**#REF!** (kg/m^3)
Optimum Moisture Content	**#REF!** (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
9	38	53

Remarks _____

Prepared by: Thomas Dahm (AEM) 2020-04-12 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-041
Projet:	Derivation channel	**Sampling Date:**	2020-04-03
		Sampled by:	Yaotree Amegnran
Description of Material:	Fine filter		
Origin:	Channel	**Location of Sampling:**	St. 0+350m East slope
Proposed Use:	Backfill in the channel		

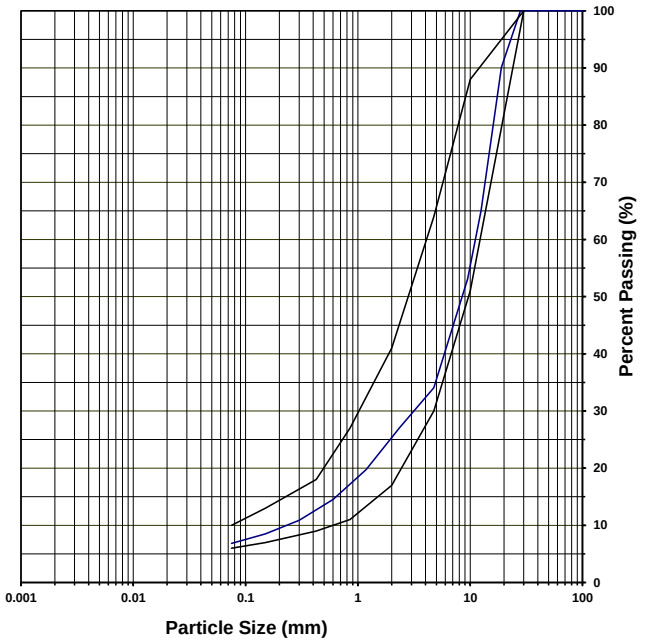
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	90	65	53	34	27	20	15	11	8	6.8
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	5.3		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
7	27	66

Remarks _____

Prepared by: Yaotree Amegnran 2020-04-04 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-042
Projet:	Derivation channel	**Sampling Date:**	2020-04-03
		Sampled by:	Thomas Dahm
Description of Material:	Fine filter		
Origin:	Channel	**Location of Sampling:**	St. 0+370m Western slope
Proposed Use:	Backfill in the channel		

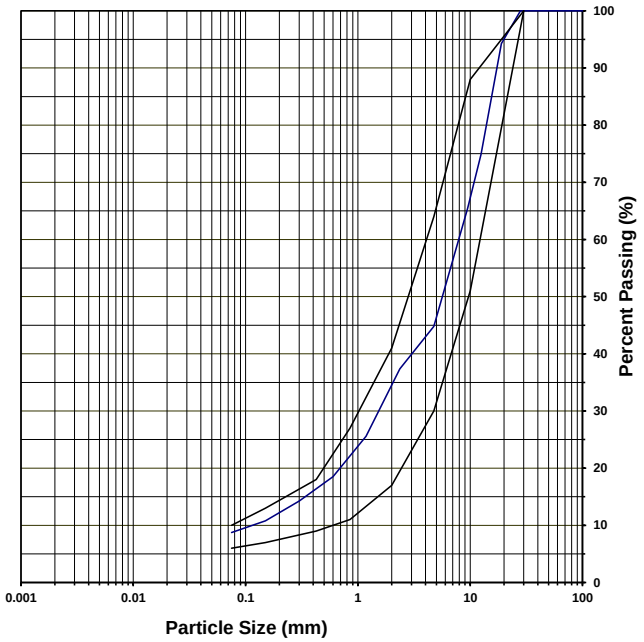
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	94	75	65	45	37	26	18	14	11	8.7
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	7.2		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
9	36	55

Remarks _____

Prepared by: Yaotree Amegnran 2020-04-04 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-043
Projet:	Derivation channel	**Sampling Date:**	2020-04-03
		Sampled by:	Thomas Dahm
Description of Material:	Fine filter		
Origin:	Channel	**Location of Sampling:**	St. 0+390m Center
Proposed Use:	Backfill in the channel		

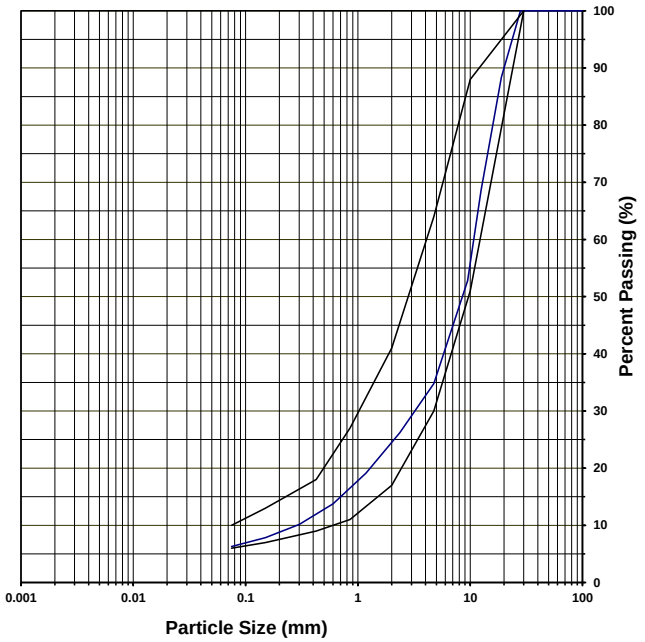
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	88	69	53	35	26	19	14	10	8	6.3
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	7.1		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
6	29	65

Remarks _____

Prepared by: Yaotree Amegnran 2020-04-04 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-044
Projet:	Derivation channel	**Sampling Date:**	2020-04-03
		Sampled by:	Yaotree Amegnran
Description of Material:	Fine filter		
Origin:	Channel	**Location of Sampling:**	St. 0+330m Center
Proposed Use:	Backfill in the channel		

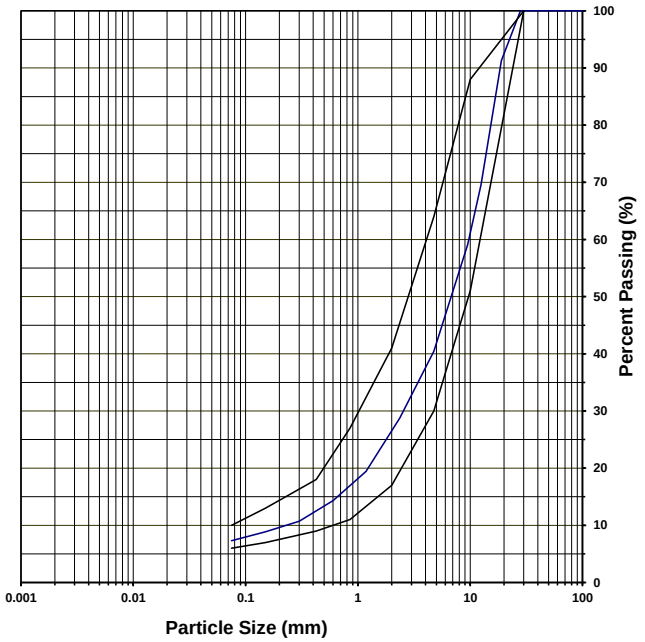
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	91	70	59	40	29	19	14	11	9	7.3
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.6		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
7	33	60

Remarks _____

Prepared by: Yaotree Amegnran 2020-04-04 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-045
Projet:	Diversion channel	**Sampling Date:**	2020-04-08
		Sampled by:	FGL (Night Shift)
Description of Material:	Fine filter		
Origin:	Channel	**Location of Sampling:**	St. 0+060 Foundation
Proposed Use:	Backfill in the channel		

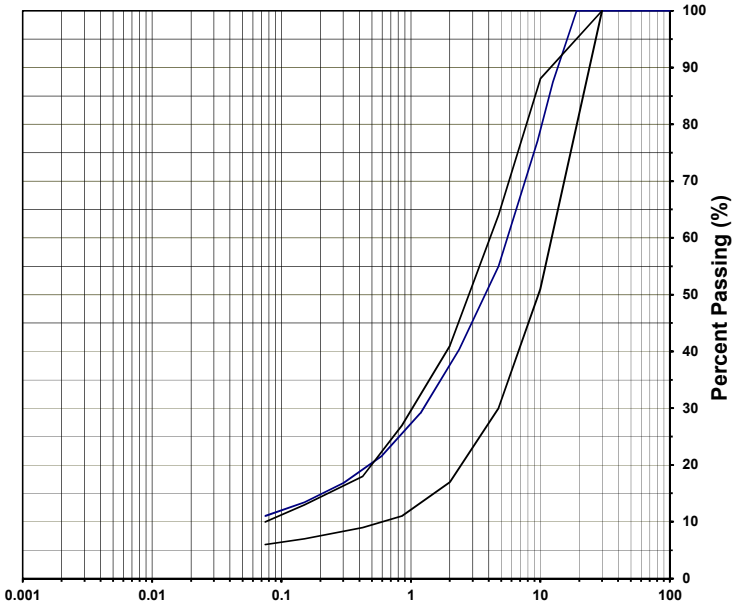
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	100	87	77	55	40	29	22	17	13	11.0
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.6		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
11	44	45

Remarks _____

Prepared by: Thomas Dahm 2020-04-08 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-046
Projet:	Diversion channel	**Sampling Date:**	2020-04-11
		Sampled by:	Thomas Dahm (AEM)
Description of Material:	Fine filter		
Origin:	Channel	**Location of Sampling:**	St. 0+420 Foundation
Proposed Use:	Backfill in the channel		

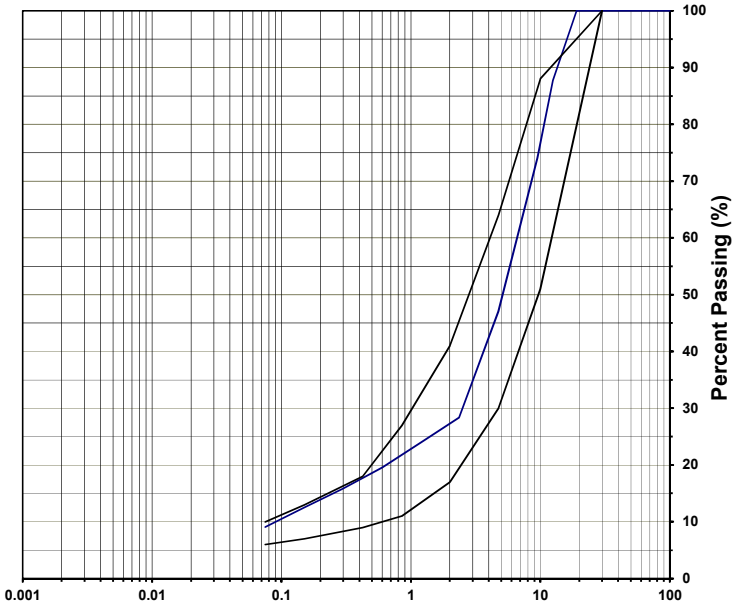
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	100	88	74	47	28	24	20	16	13	9.1
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	6.3		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
9	38	53

Remarks _____

Prepared by: Thomas Dahm 2020-04-12 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-047
Projet:	Diversion channel	**Sampling Date:**	2020-04-11
		Sampled by:	Thomas Dahm (AEM)
Description of Material:	Fine filter		
Origin:	Channel	**Location of Sampling:**	St. 0+435 Foundation
Proposed Use:	Backfill in the channel		

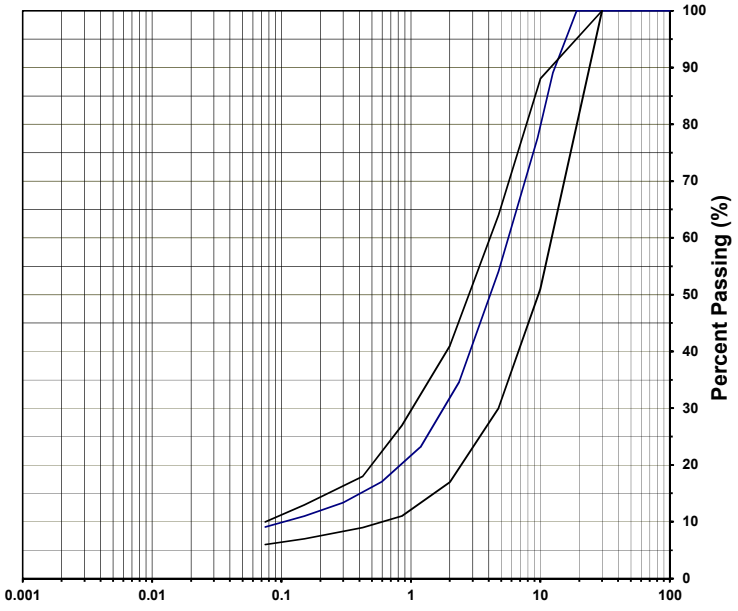
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	100	89	78	54	35	23	17	13	11	9.1
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	6.2		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
9	45	46

Remarks _____

Prepared by: Thomas Dahm 2020-04-12 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-048
Projet:	Diversion channel	**Sampling Date:**	2020-04-11
		Sampled by:	Thomas Dahm (AEM)
Description of Material:	Fine filter		
Origin:	Channel	**Location of Sampling:**	St. 0+460 Foundation
Proposed Use:	Backfill in the channel		

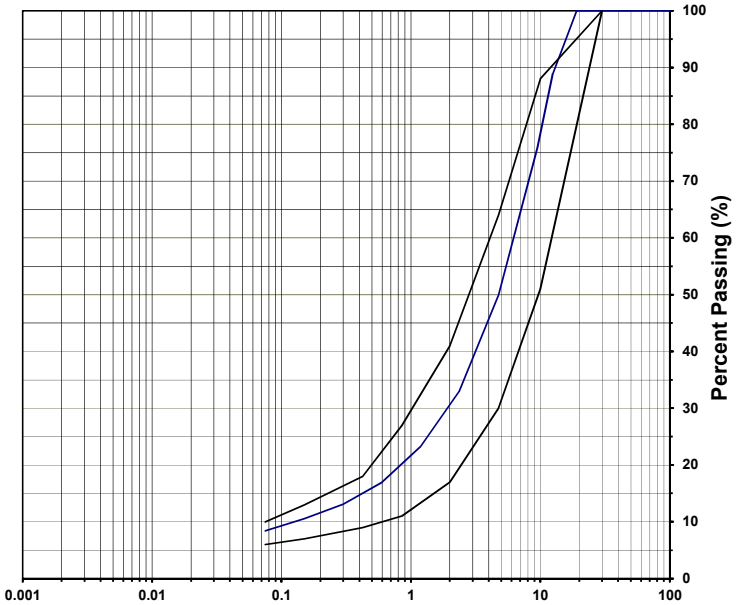
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	100	89	76	50	33	23	17	13	11	8.4
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	6.1		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
8	42	50

Remarks _____

Prepared by: Thomas Dahm 2020-04-12 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-049
Projet:	Diversion channel	**Sampling Date:**	2020-04-11
		Sampled by:	Thomas Dahm (AEM)
Description of Material:	Fine filter		
Origin:	Channel	**Location of Sampling:**	St. 0+480 Foundation
Proposed Use:	Backfill in the channel		

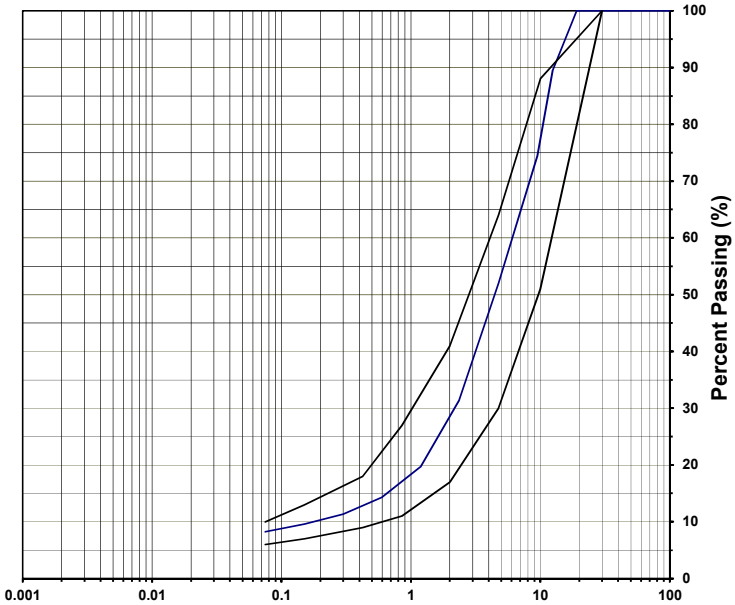
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	100	90	74	52	31	20	14	11	10	8.2
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	5.3		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
8	44	48

Remarks _____

Prepared by: Thomas Dahm 2020-04-12 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-CF-010
Projet:	Diversion channel	**Sampling Date:**	2020-04-08
		Sampled by:	FGL Night Shift
Description of Material:	Coarse filter 0-6"		
Origin:	Channel	**Location of Sampling:**	st 0+060m, Foundation level
Proposed Use:	Coarse filter 0-6"		

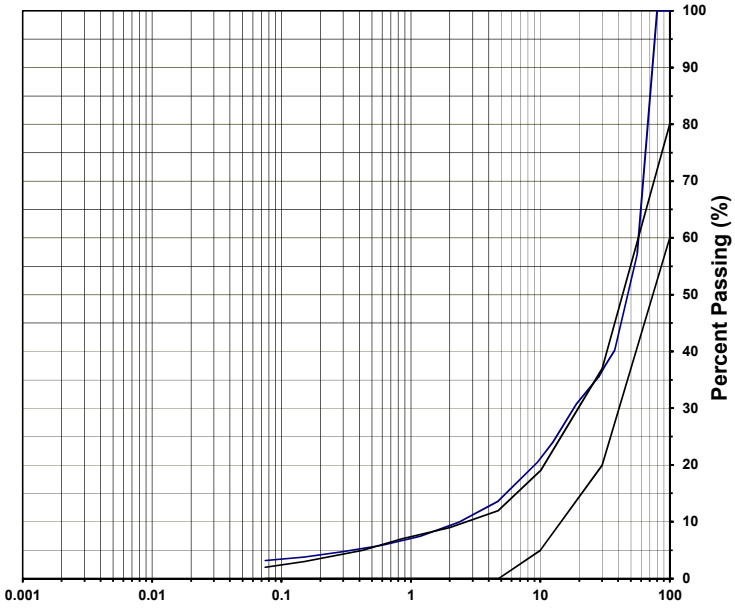
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	57	40	38	35	31	24	21	14	10	7	6	5	4	3.2
Require-ments	**min.**	60				21	19			5	0	0	0	0	0	0	0
	max.	80				38	36			19	24	13	8	6	4	3	2

Autres essais	Résultats	Exigences min.	Exigences max.
PSPI			
Moisture Content (%)	2.60%		
Agreggate Density (Coarse)			
Absorption granulats (fins)			
Micro Deval (coarse)			
Los Angeles (Coarse)			
% Crushed Particles			
Methylene Blue Index			
Organic Matter Content			

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
3	11	86

Remarks _____

Prepared by: Thomas Dahm 2020-04-08 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-CF-011
Projet:	Diversion channel	**Sampling Date:**	2020-04-11
		Sampled by:	Thomas Dahm (AEM)
Description of Material:	Coarse filter 0-6"		
Origin:	Channel	**Location of Sampling:**	st 0+460m, Foundation level
Proposed Use:	Coarse filter 0-6"		

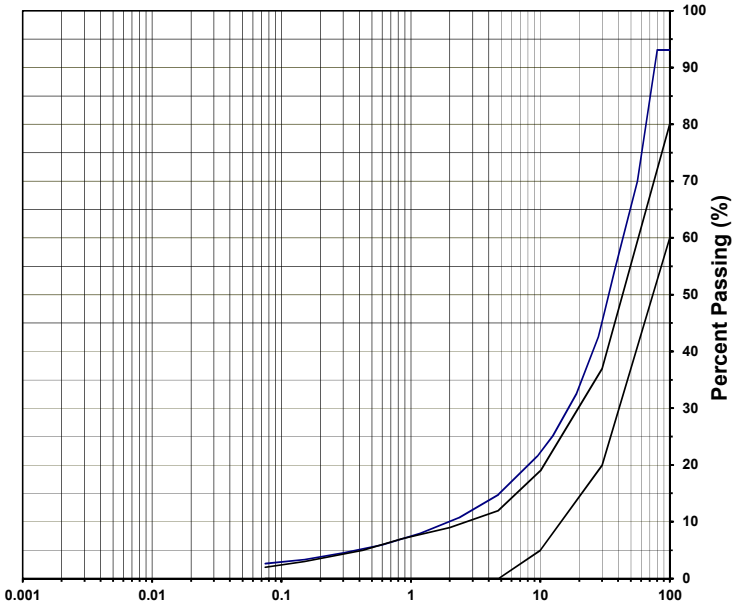
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		93	93	70	54	47	43	33	25	22	15	11	8	6	5	3	2.6
Require-ments	**min.**	60				21	19			5	0	0	0	0	0	0	0
	max.	80				38	36			19	24	13	8	6	4	3	2

Autres essais	Résultats	Exigences min.	Exigences max.
PSPI			
Moisture Content (%)	2.70%		
Agreggate Density (Coarse)			
Absorption granulats (fins)			
Micro Deval (coarse)			
Los Angeles (Coarse)			
% Crushed Particles			
Methylene Blue Index			
Organic Matter Content			

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
3	12	85

Remarks _____

Prepared by: Thomas Dahm 2020-04-12 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

APPENDIX D : RFI log

RFI Log

RFI #	Date Received	Date Responded	Status	Subject	Location	Notes
RFI-001	2019-08-13		*To be approved*	Change of outlet geometry, outlets were higher than topography	0+060, 0+390, 0+480, 0+900	Consists of having small filter tablets on topographic surface at crests to direct water flow towards Mammoth rather than have it spreaded
RFI-002	2019-08-13		*To be approved*	Change of inlet geometry. Not build buttress platforms used to get 1.3m depth i.e. disregard 1.3m min	On low topographic spots	This material was put in place to follow the 1.3m minimum but it would be rockfill i.e. draining material i.e. be useless. It would be used at the same time to facilitate constructability where road in not adjacent i..e close to A45
RFI-003	2019-08-13		*To be approved*	Having slope at 2.5:1 rather than 3:1 above max water level	TBD	Apply in section where rockfill is directly against slope as butress
RFI-004	2019-08-13		Field Fit	Modification of Road 24 alignment for construction access		Construction access to be field fitted
RFI-005	2019-08-13		Field Fit	Access to bottom of channel from both side		Will need to be field fitted with a slope to allow access within channel
RFI-006	2019-08-13		Approved	Use of 0-150 instead of 0-200 for coarse filter		Approved by changing 100-300 to 100-250
RFI-007	2019-08-13		Approved	Use of 100-300 instead of 100-250 for rip-rap		Condition for the approval of RFI-006
RFI-008	2019-09-05		Approved	Lowering the inelt of the channel by 0.5 m		New version of construction drawings and report were submitted by SNC in December 2019
RFI-009	2019-12-15		Pending	Turbidity concern on lake A45	A45	
RFI-010	2019-12-15		Rejected	Leaving the construciton road within the operational level of Lake A45 can stay there	A45	Env asked that the no road remain within the operation level of A45. Will ahve to be dismantled at the end of construction
RFI-011	2019-12-16	2020-01-17	Recommendation provided	Adding a geotextile above the corase filter to add robustnest to the design	Within Channel	See field memo: 667648-2000-60NC-0002-PB_Field Work Instruction (RFI-011)_Geotextile
RFI-012	2020-01-15		Sent for approval	Proposed inlet modification (see drawings)	Inlet's	Sent to SNC for approval
RFI-0-13	2020-01-15		Sent for approval	Modified inlet to have a 'fan' shape instead of rectangular to improve water conveyance	Inlet's	Sent to SNC for approval
RFI-014	2020-01-15	2020-01-17	Approved	Proposed outlet modification to Mammoth lake (see drawing)	Outlet to Mammoth lake	The outlet to the Mammoth lake can be adjusted to the existing ground conditions. Ensure that there is no high point in the nearby topography downstream of the outlet to ensure proper flow towards the lake.
RFI-015	2020-01-15	2020-01-26	Review continue as excavation progress	Revise filter design for existing foundation soil		See field memo: 667648-2000-60NC-0001-PB_Field Work Instruction (RFI-015)_Filters) for the geotextile and the filters design review
RFI-016	2020-01-15	2020-02-07	Approved	Proposed inlet modification (see drawings) and Modified inlet to have a 'fan' shape instead of rectangular to improve water conveyance	Inlet's	SNC agrees with the proposal of expending the width of the channel from 5 m to 15 m, along with a transition zone, between station 0+54 to 0+104. This is our understanding that the depth of the channel and the material placement (filters and rip rap) will remain the same in this section as per the original design. And recommends increasing the size of the rip rap between station 0+104 and 0+110. We recommend clean rip rap with particle size between 200 mm to 300 mm (instead of 100 mm to 300 mm) for this short section. As for the area around the inlet (approximately station 0+00 to 0+54), we also recommend additional erosion protection, based on field condition. We recommend installing a geotextile over the natural soil, and to place rip rap material over the geotextile.
RFI-015 (version 1)	2020-02-29	2020-03-03	Approved	AEM requests the designer's input on the esker already placed and also asking a derogation for the phrase « leaving a 10 cm limit before placing the fine filter as per specifications » specifier in RFI 015	Channel	SNC confirms that its areas of segregation observed as to be corrected and they accept the derogation but no placement of esker material should be done above the fine filter limit, to ensure the fine filter thickness of 0.3 m (after compaction) as per specifications ;
RFI -017	2020-03-01	2020-03-12	Finalized	transition zone which contains ice at the top of the slope between the lake A45 and the channel.	Approx. from ST 0+545 to 0+335	AEM requests the designer's proposals about the transition zone which contains ice at the top of the slope between the lake A45 and the channel and SNC provide field note instruction version PC (667648-2000-60NC-0003-PC_Field Work Instruction (RFI-017)).
RFI -018	2020-03-10	2020-03-13	Approved	Adjustment of filter design over the road	approved	SNC agreed with the proposed design change based on the understanding that the road (Road 24 and the maintenance road) embankments are made of rockfill and agreed with the replacement of fine filter, coarse filter and rip rap above the natural ground and against rock fill road embankment with rock fill. SNC also agree with the placement of geotextil, going horizontally over the top of the fine and coarse filters below the rip rap.”

Appendix G

QA Approval Forms

Appendix G-1

Foundation Approvals

SNC·LAVALIN

Sustaining capital
Mining & Metallurgy
1140 Maisonneuve boul. West
Montreal (Québec)
Canada H3A 1M8

Telephone: (514) 393-8000
Fax: (514) 390-2765
www.snclavalin.com

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-01-26

DOCUMENT #: 20200126-DS-01 **TIME:** 3:15 PM

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☒ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+916 to 0+830	**Station:**	NA
Inclination:		**Details:**	
ELEVATION:	☐ varies _____ m		

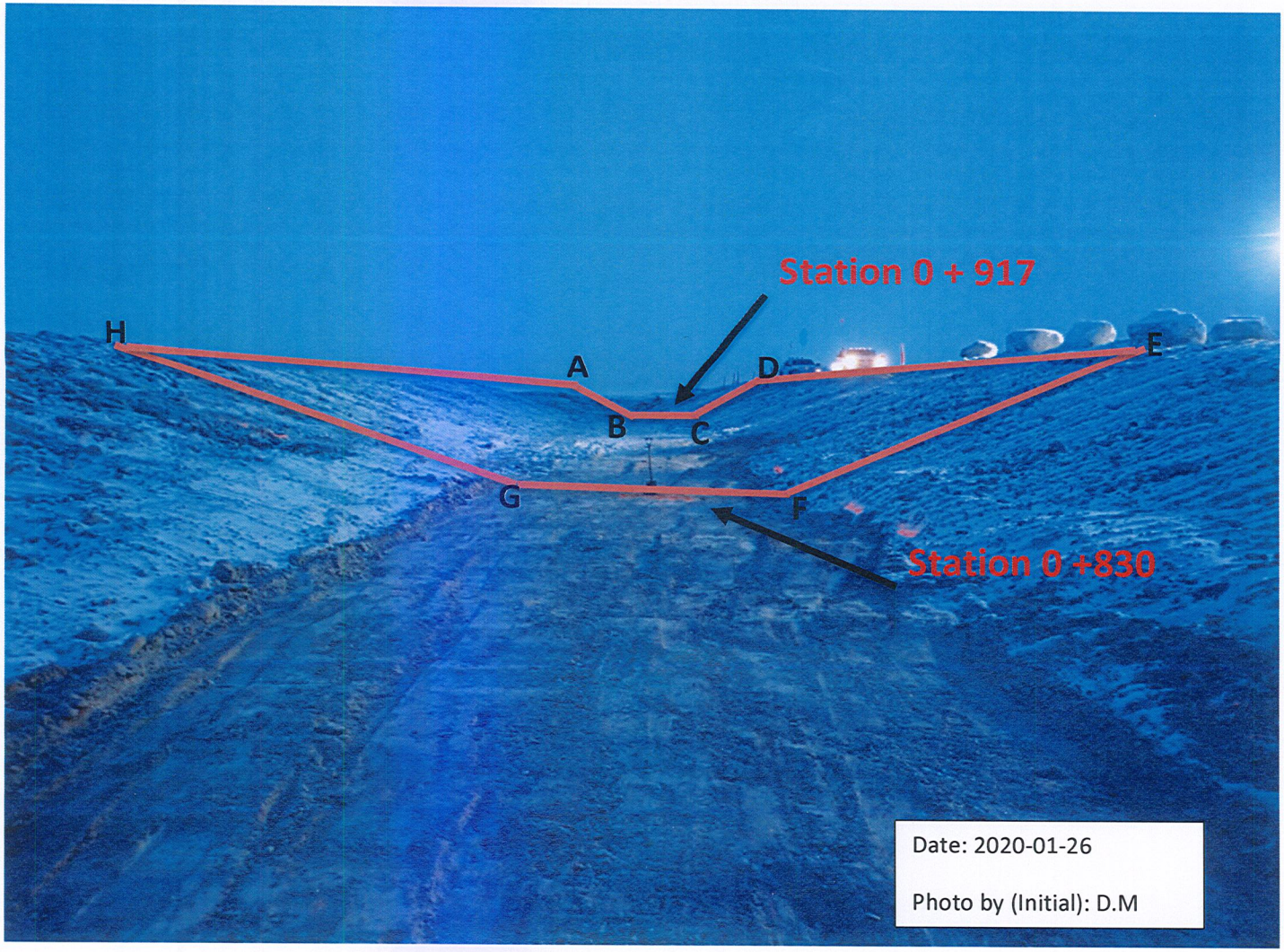
COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades			✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					—
5. Placement (lift thickness, segregation, etc.)					—
6. Compaction					
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS (Refer to list above for item #)		APPROVED BY:			
		QA		QC	
ITEM		Y	N	Y	N
2	require verification for snow cleaning before placement & snow falls before placement	✓		✓	
3		✓		✓	

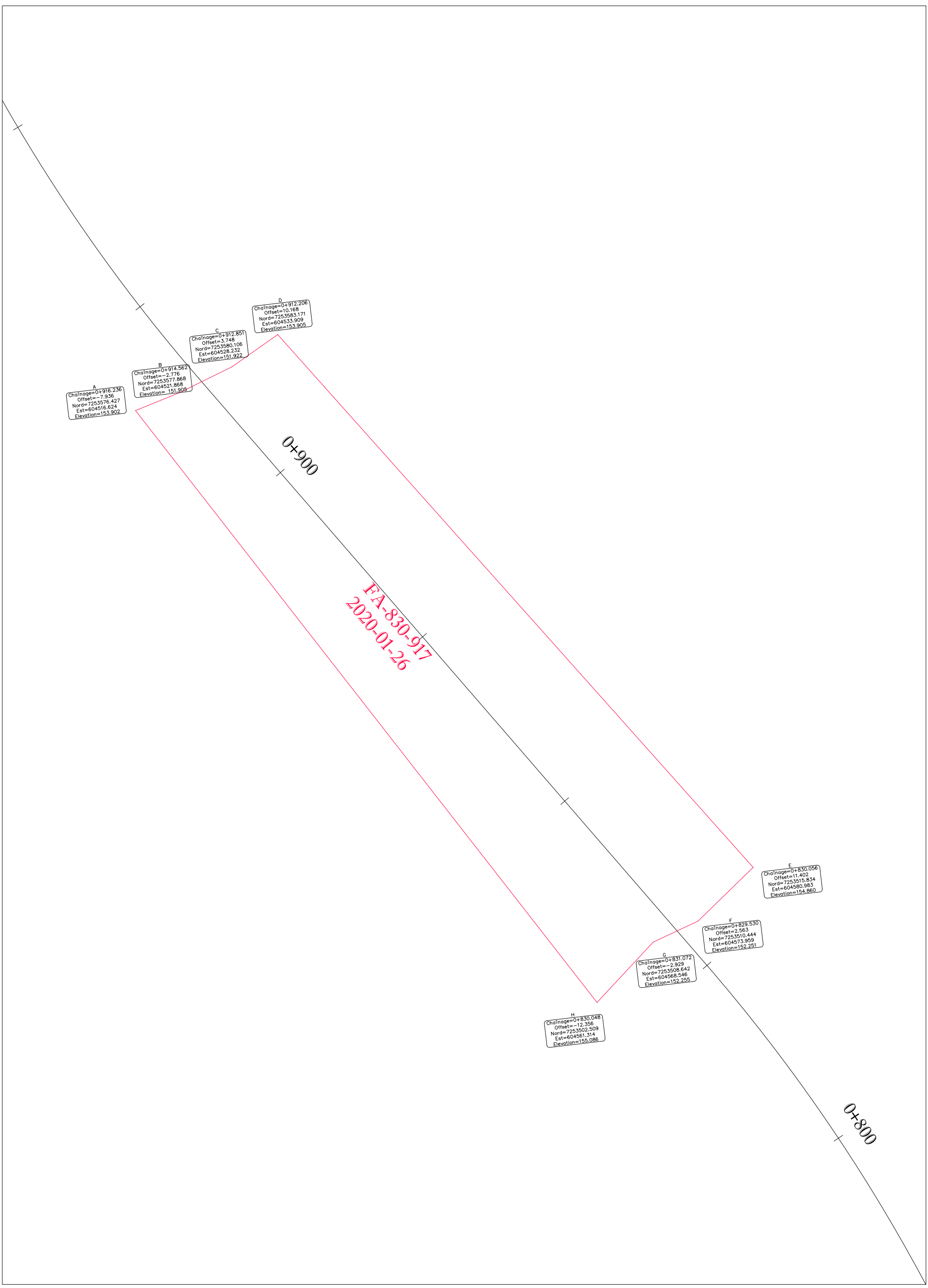
APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Mathieu Côté		26-01-2020
QA REPRESENTATIVE	Daniel Meles		26-01-2020
OWNER'S REPRESENTATIVE	Yanick Simard		27-01-2020
CONTRACTOR'S REPRESENTATIVE	Marie-Pier Cargnon		27-01-2020



Note: refer the sketch below for the coordinates of A, B, C, D, E, F, G, H

Picture 1 – Approximate approved foundation area

FA-830-917
SWTC FOUNDATION APPROVAL
CONTRACT # 11-811



C:\Users\arpenteur\Dropbox (Groupe Gilbert)_arpentage meadowbank\02-B - CAD\11-811 - AMQ DIKES\SOUTH WHALE TAIL CHANNEL\FOUNDATION ACCEPTABLE\SWTC_FOUNDATION_EXC.dwg

KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : MARIE-PIER GAGNON
DATE : 27-01-2020
CON-FD-228

SNC·LAVALIN

Sustaining capital
Mining & Metallurgy
1140 Maisonneuve boul. West
Montreal (Québec)
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Telephone: (514) 393-8000
Fax: (514) 390-2765
www.snclavalin.com

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-01-29

DOCUMENT #: 20200129-DS-02 **TIME:** 04:00 PM

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☒ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+830 to 0+775	**Station:**	~~N/A~~ 0+917 to 0+830
Inclination:		**Details:**	
ELEVATION:	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

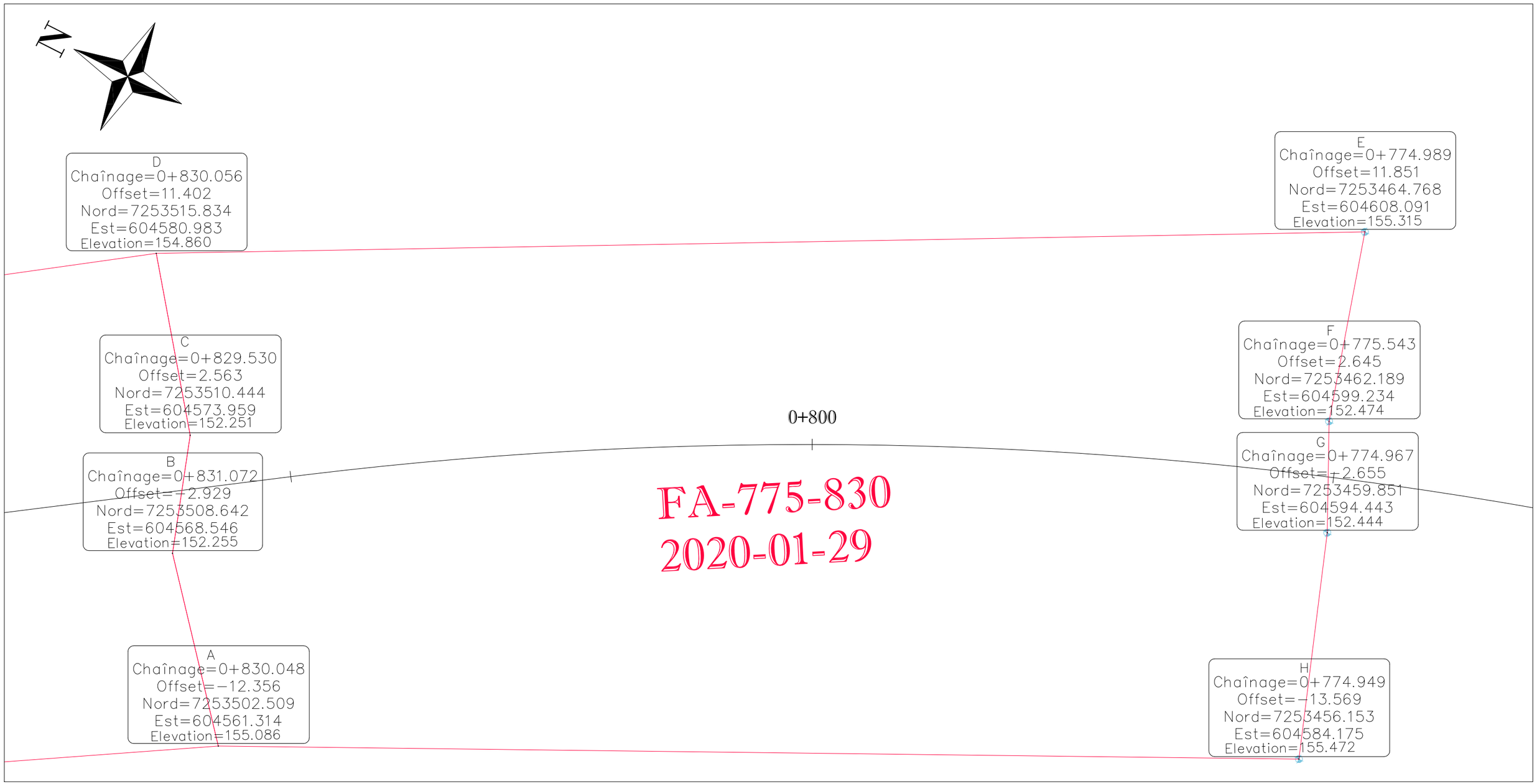
(Add additional items if needed)

	VERIFICATIONS DONE BY:				
	QA		**QC**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					—
5. Placement (lift thickness, segregation, etc.)					—
6. Compaction					—
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS (Refer to list above for item #)		APPROVED BY:			
		QA		QC	
ITEM		Y	N	Y	N
2	Require verification for snow removal prior to zone placement if any accumulation of snow, by season fall are by wind.				
7	Back fill for over-cut in overburden soil to be made.				

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	STEPHANE DORVELUS		2020-01-29
QA REPRESENTATIVE	HAMZA ABDEL-AZIZ		2020-01-29
OWNER'S REPRESENTATIVE	Pier-Eric McDonald		2020-01-30
CONTRACTOR'S REPRESENTATIVE	Marie-Pier Gagnon		2020-01-30

FA-775-830
SWTC FOUNDATION APPROVAL
CONTRACT # 11-811



FA-775-830
2020-01-29

C:\Users\arpenteur\Dropbox (Groupe Gilbert)_arpentage meadowbank\02-E - OFFICIAL DRAWING\11-811 - AMQ DIKES\CON-FD (AS BUILT)\CON-FD-229_SWTC_FA_775-830.dwg

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MARC-ANDRÉ BLACKBURN
DATE : 29-01-2019
CON-FD-229

SNC·LAVALIN

Sustaining capital
Mining & Metallurgy
1140 Maisonneuve boul. West
Montreal (Québec)
Canada H3A 1M8

Telephone: (514) 393-8000
Fax: (514) 390-2765
www.snclavalin.com

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DOCUMENT #: 20200903 - DS - 03
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 2020-09-03

TIME: 01:30 PM
(24 hour clock)

APPROVAL FOR :

☑ Foundation approval (trench bottom and slopes)

☐ Fill placement approval: _____

☐ Other: _____

LOCATION

Station 0+775 to 0+735

Inclination:

ELEVATION: ☐ varies _____ m

PREVIOUS APPROVALS

Station: 0+830 to 0+775

Details:

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					—
5. Placement (lift thickness, segregation, etc.)					—
6. Compaction					—
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
21	Require verification for snow removal before placement if any accumulation of snow, by snow fall or by wind				
~~24~~					
7	backfill for overcut in the overburden soil to be made.				
	Finish grades may need a final leveling and cleaning prior to fine filter placement as the finish grade/foundation material will be exposed to freezing and snow weather conditions				

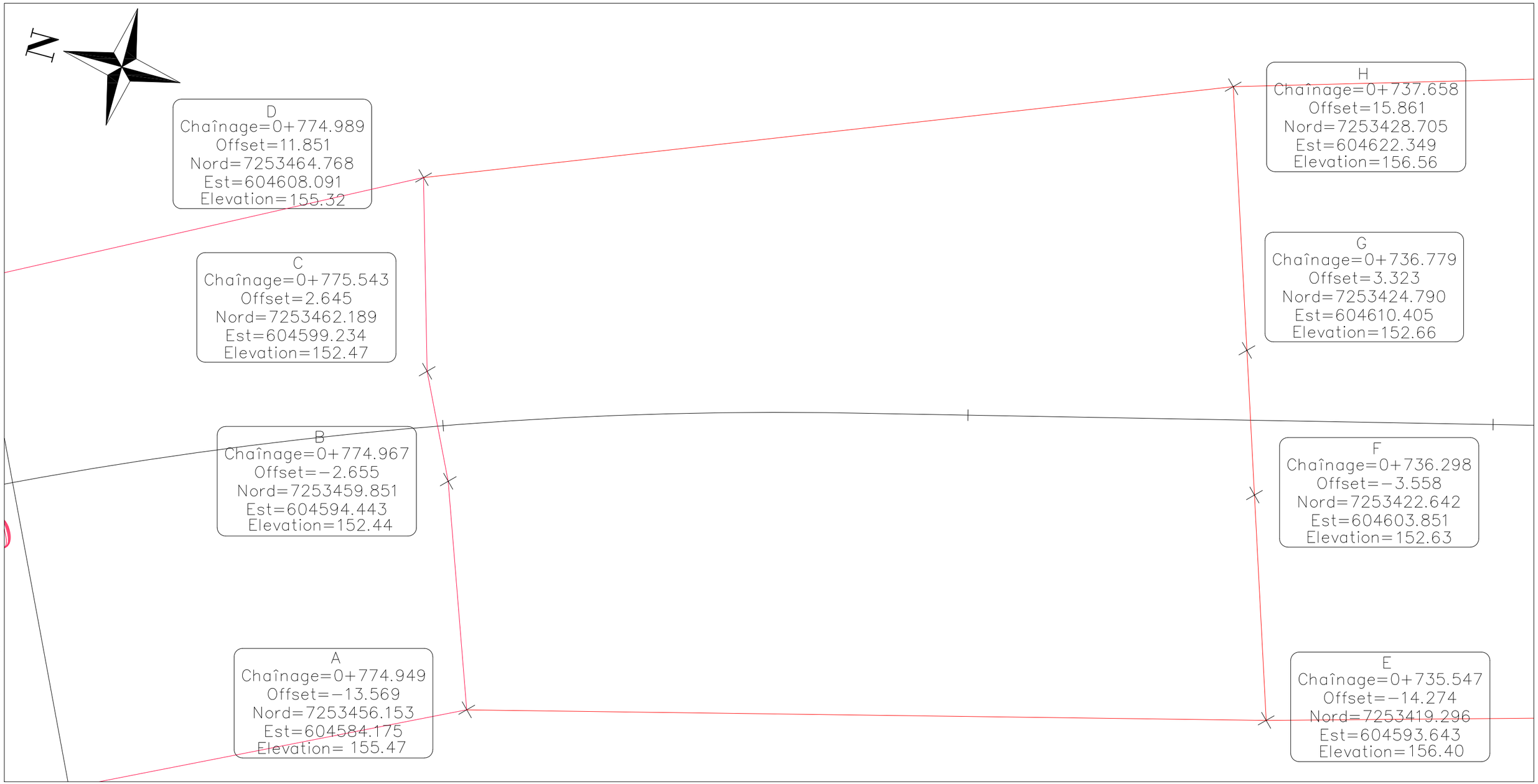
APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Nicolas Tremblay		02/04/2020
QC REPRESENTATIVE	STÉPHANE JORVÉLUS		02/04/2020
QA REPRESENTATIVE	HAMZA ABDEL-AZIZ		02/04/2020
OWNER'S REPRESENTATIVE	Pierre Eric McDonald		02/04/2020
CONTRACTOR'S REPRESENTATIVE	MARC ANDRE BLACKBURN		02/04/2020



Note: refer the sketch below for the coordinates of A, B, C, D, E, F, G, H

Picture 1 – Approximate approved foundation area

FA-775-735
STWC FOUNDATION APPROVAL
CONTRACT # 11-811



C:\Users\arpenteur\Dropbox (Groupe Gilbert)_arpentage meadowbank\02-E - OFFICIAL DRAWING\11-811 - AMQ DIKES\CON-FD (AS BUILT)\CON-FD-233_STWC_FA_775-735.dwg

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MARC-ANDRÉ BLACKBURN
DATE : 03-02-2020
CON-FD-233

SNC·LAVALIN

Sustaining capital
Mining & Metallurgy
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Montreal (Québec)
Canada H3A 1M8

Telephone: (514) 393-8000
Fax: (514) 390-2765
www.snclavalin.com

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 16-02-2026

DOCUMENT #: 20200216-DS-04 **TIME:** 16:00
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☑ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+735 to 0+688	**Station:**	0+917 to 0+735
Inclination:		**Details:**	
ELEVATION:	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:
(Add additional items if needed)

	VERIFICATIONS DONE BY:				
	QA		**QC**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
2	Require verification for snow removal before filter placement if there is accumulation of by snow fall or by wind	✓		✓	
7	Require back fill for over-cut area and the compaction of the back fill material to be checked before filter placement.	✓		✓	
All	approved for back fill (esker) placement				

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Mathieu Côté		16-02-2020
QA REPRESENTATIVE	Daniel Meier		16-02-2020
OWNER'S REPRESENTATIVE	Patrice Gagné		17-02-2020
CONTRACTOR'S REPRESENTATIVE	Jonathan Tardif		17-02-2020

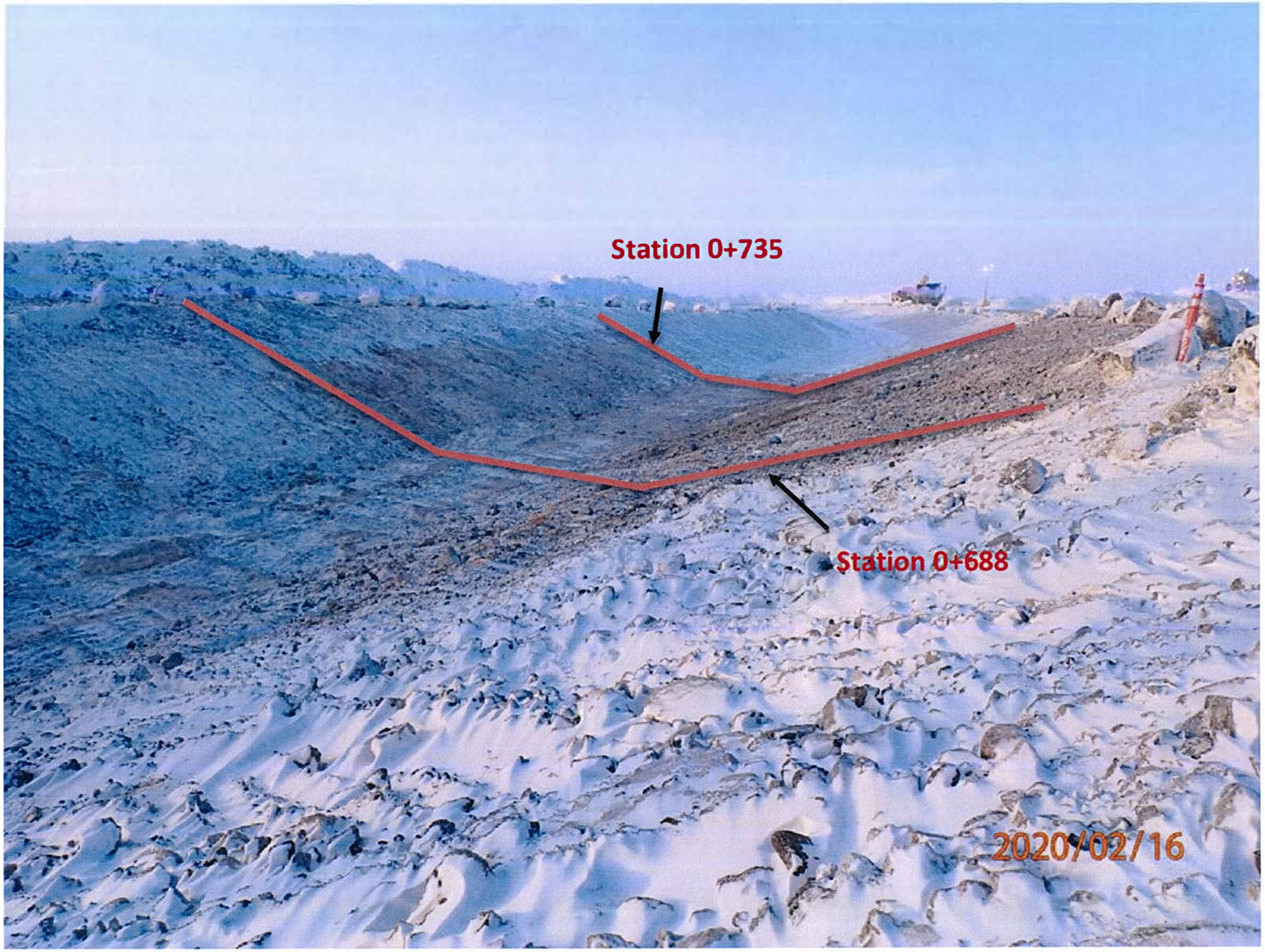
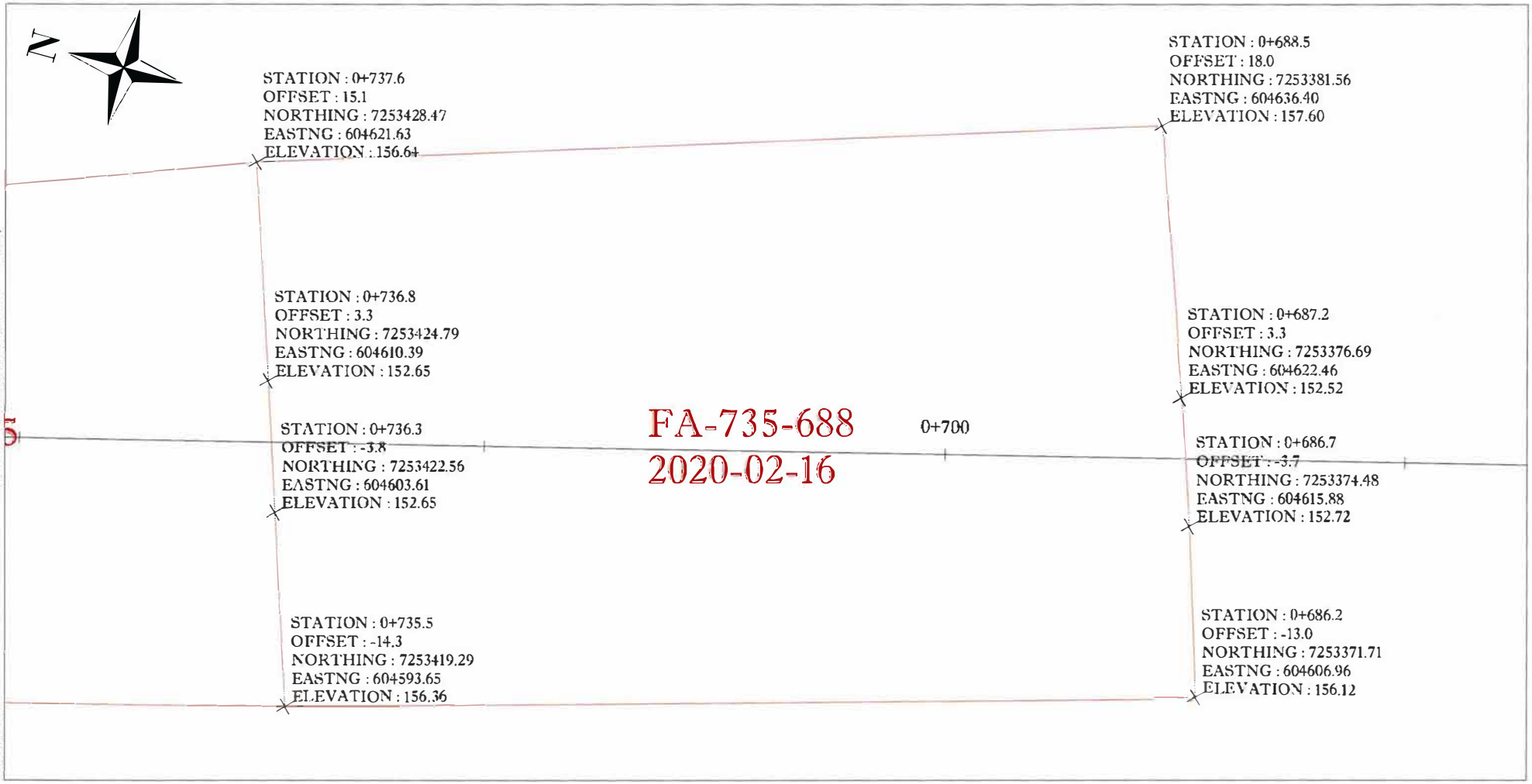


Photo 1: View of approved foundation on February 26, 20220 (photo taken looking north)

FOUNDATION APPROVAL - 0+735 @ 0+688
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 17-02-2020
CON-FD-238

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Canada H3A 1M8

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DATE: 2020-02-26

DOCUMENT #: 20200226-DS-05
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

TIME: 10:15 AM
(24 hour clock)

APPROVAL FOR :

- [x] Foundation approval (trench bottom and slopes)
- [ ] Fill placement approval: _____
- [ ] Other: _____

LOCATION	**PREVIOUS APPROVALS**
Station 0+688 to 0+640	**Station:** 0+317 to 0+688
Inclination:	**Details:**
ELEVATION: ☐ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

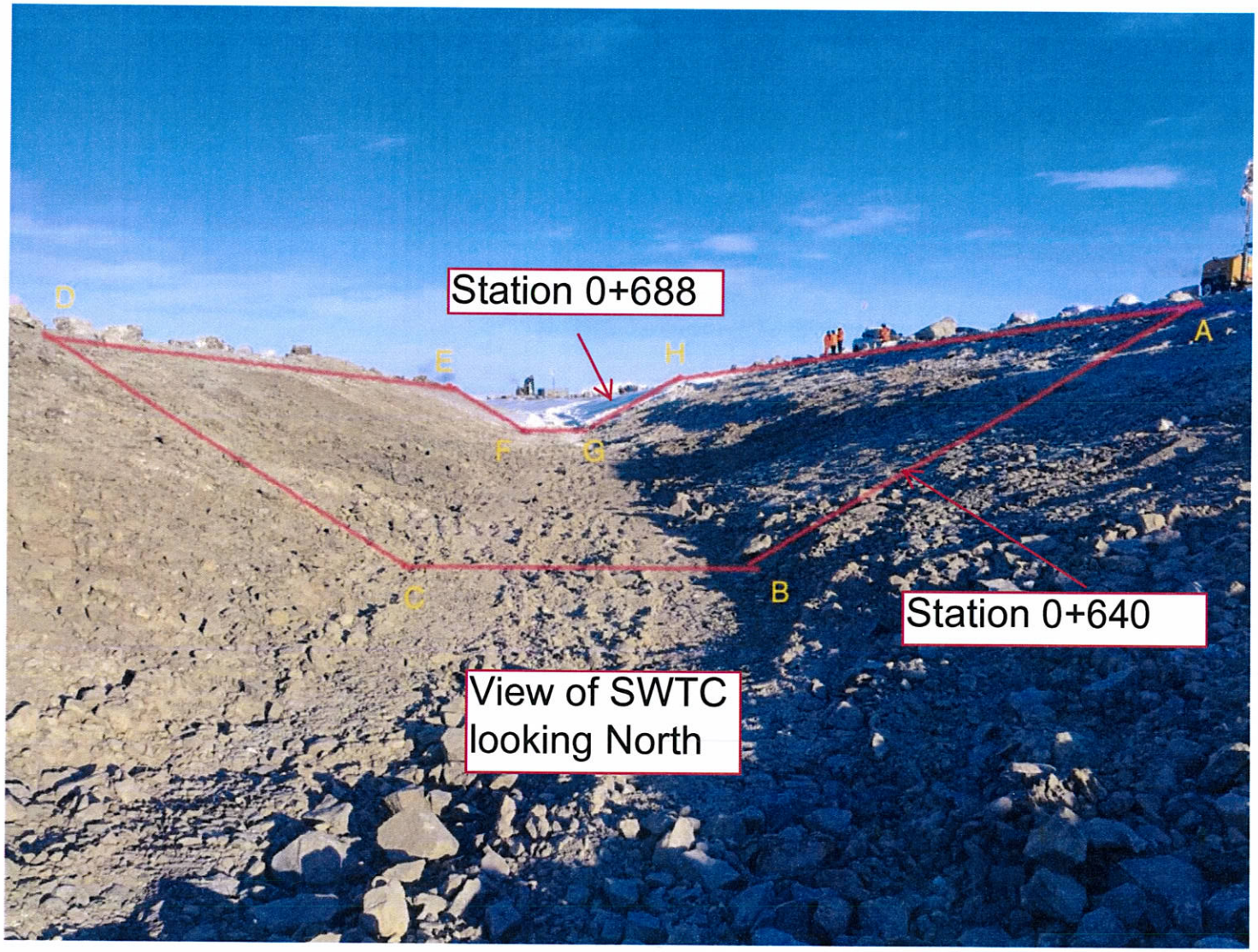
	VERIFICATIONS DONE BY:				
	QA		**QC**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					—
5. Placement (lift thickness, segregation, etc.)					—
6. Compaction					—
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
2	Require verification for snow removal before placement if any accumulation of snow, by snowfall or by wind				
7	~~Back~~ Require backfill for overcut area and the compaction of the backfill material to be checked before filter placement.				
ALL	Finish grades may need a final leveling and cleaning prior to fine filter placement as the finish grade/foundation material will be exposed to freezing and snow weather conditions				

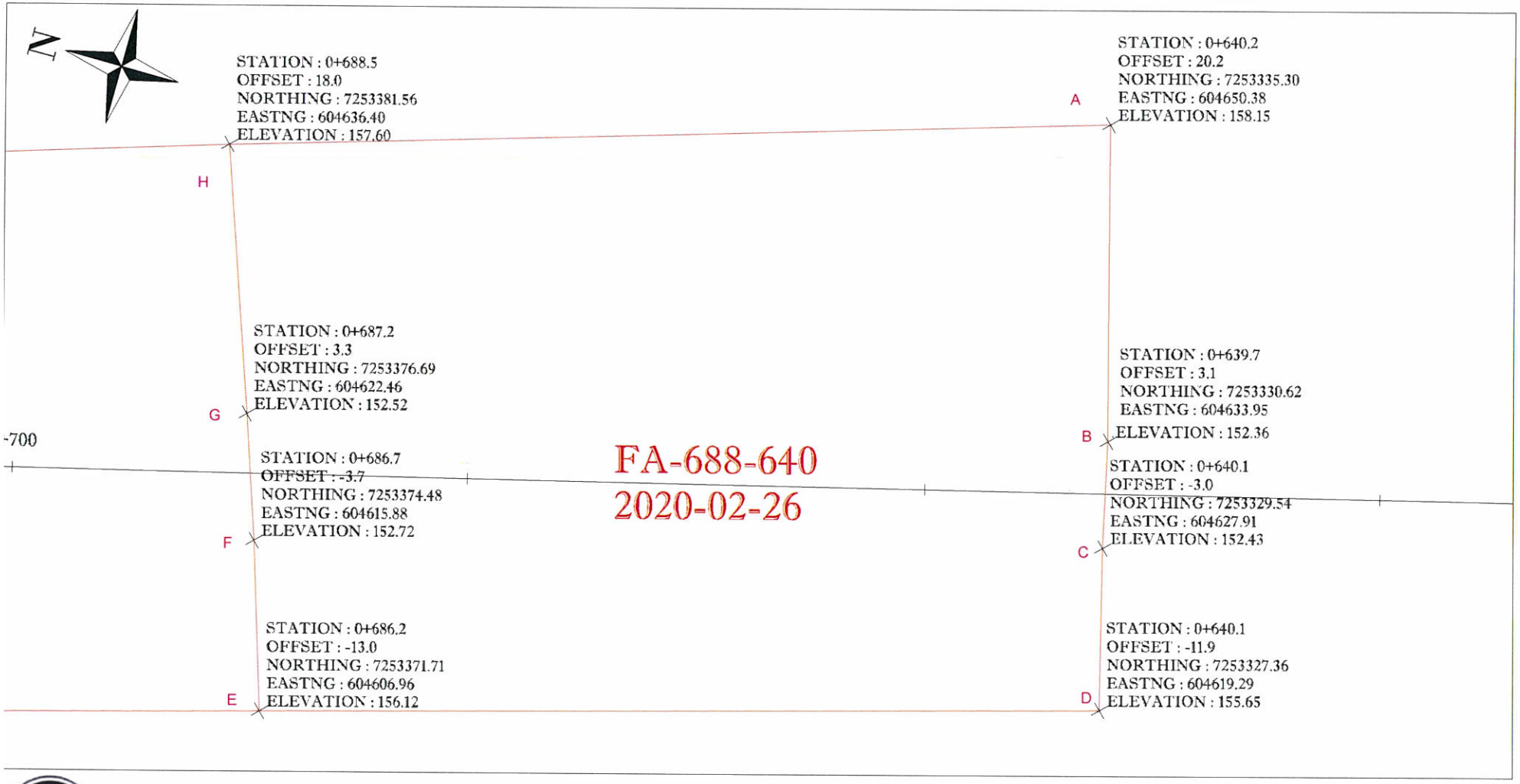
APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	STÉPHANIE DORVÉLUS		26/02/2020
QA REPRESENTATIVE	HAMZA ABDEL-AZIZ		2020/02/26
OWNER'S REPRESENTATIVE	Pier-Eric McDonald		2020/02/26
CONTRACTOR'S REPRESENTATIVE	Jonathan Truchon		2020/02/26



Note: refer the sketch below for the coordinates of A, B, C, D, E, F, G, H

Picture 1 – Approximate approved foundation area

FOUNDATION APPROVAL - 0+688 @ 0+640
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : FRANCIS PAULIN
DATE : 26-02-2020
CON-FD-241

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DOCUMENT #: 20200928-DS-06
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 2020-09-28

TIME: 05:00 PM
(24 hour clock)

APPROVAL FOR :

- ☑ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☐ Other: _____

LOCATION

Station 0+640 to 0+600

Inclination:

ELEVATION: ☐ varies _____ m

PREVIOUS APPROVALS

Station: 0+917 to 0+640

Details:

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					—
5. Placement (lift thickness, segregation, etc.)					—
6. Compaction					—
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

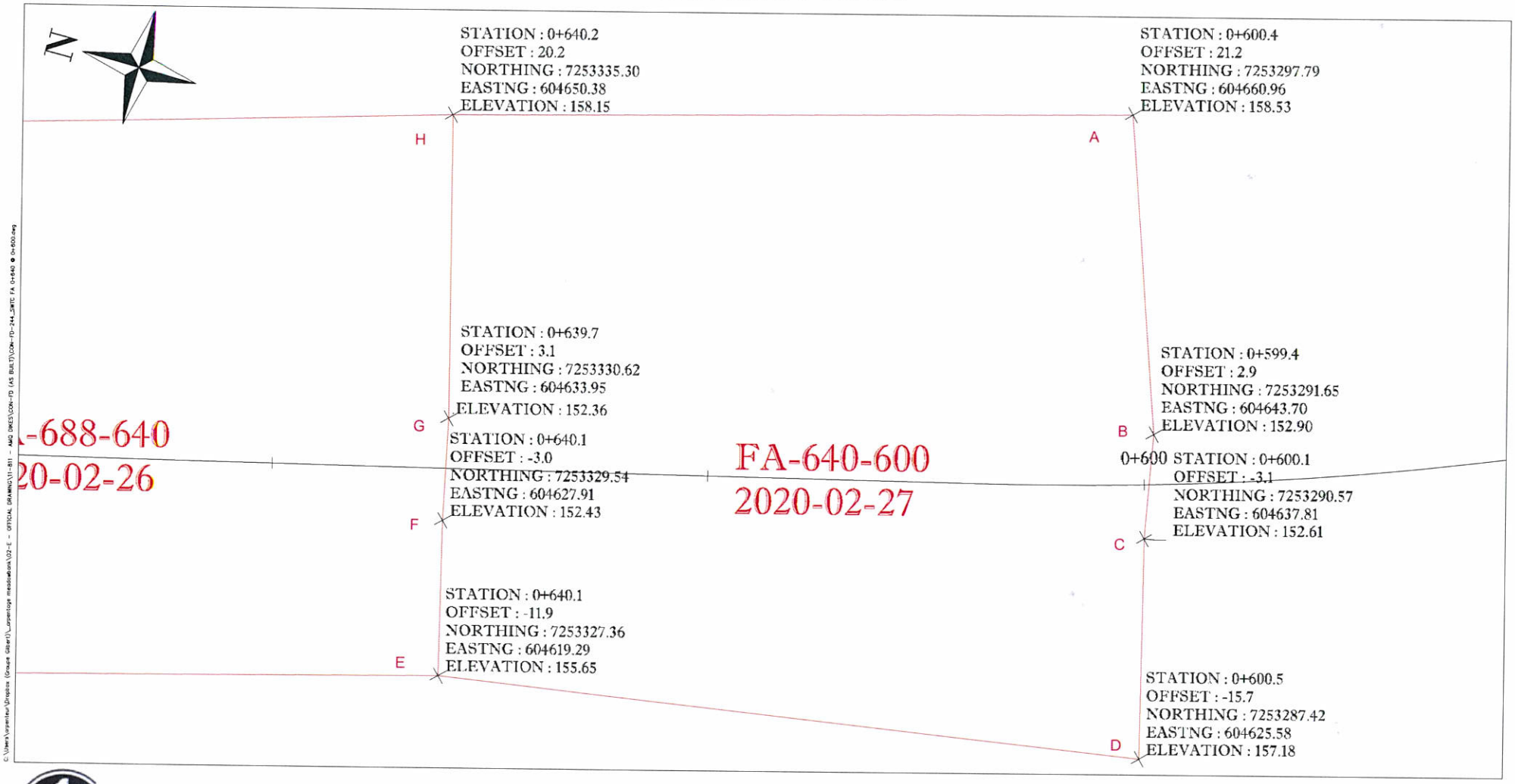
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
2	Require verification for snow removal before placement if any accumulation of snow, by snow fall or by wind				
7	Require backfill for overcut area and the composition of the backfill material to be checked before filter placement				
ALL	Finish grades may need a final leveling and cleaning prior to geo filter placement as the finish grade/foundation material will be exposed to freezing and snow weather conditions.				

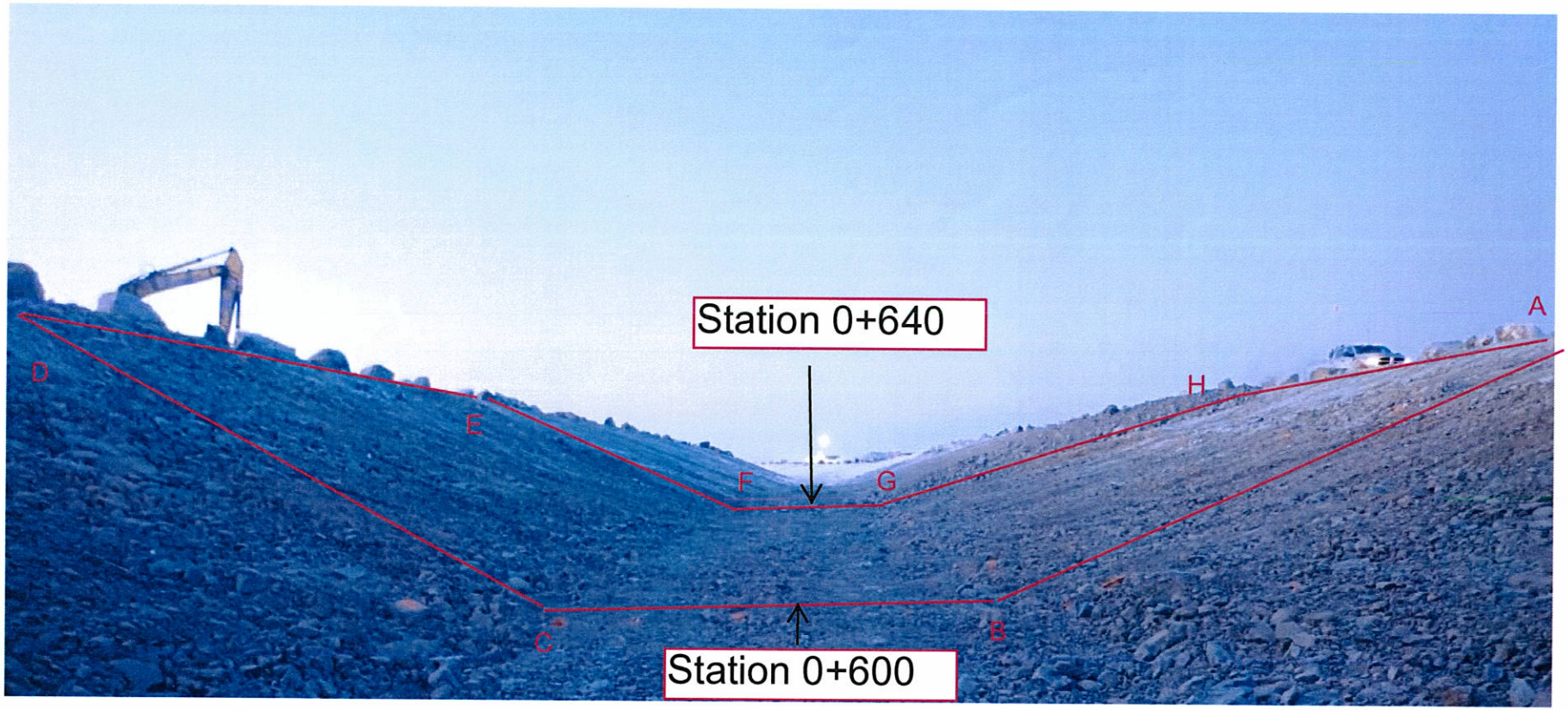
APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	STEPHANE DORVÉLUS		28/02/2020
QA REPRESENTATIVE			
OWNER'S REPRESENTATIVE	Yannick Simard		28-02-2020.
CONTRACTOR'S REPRESENTATIVE	Nicolas Tremblay		28-02-2020
AEM ENG	Pier-Eric McDonald		29-02-2020

FOUNDATION APPROVAL - 0+640 @ 0+600
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : FRANCIS PAULIN
DATE : 28-02-2020
CON-FD-244



Note: refer the sketch below for the coordinates of A, B, C, D, E, F, G, H

Picture 1 – Approximate approved foundation area

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DOCUMENT #: 20200928-DS-07
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 2020-09-28

TIME: 05:00 PM
(24 hour clock)

APPROVAL FOR :

- ☑ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☐ Other: _____

LOCATION

Station 0+600 to 0+565

Inclination:

ELEVATION: ☐ varies _____ m

PREVIOUS APPROVALS

Station: 0+917 to 0+600

Details: as

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					—
5. Placement (lift thickness, segregation, etc.)					—
6. Compaction					—
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

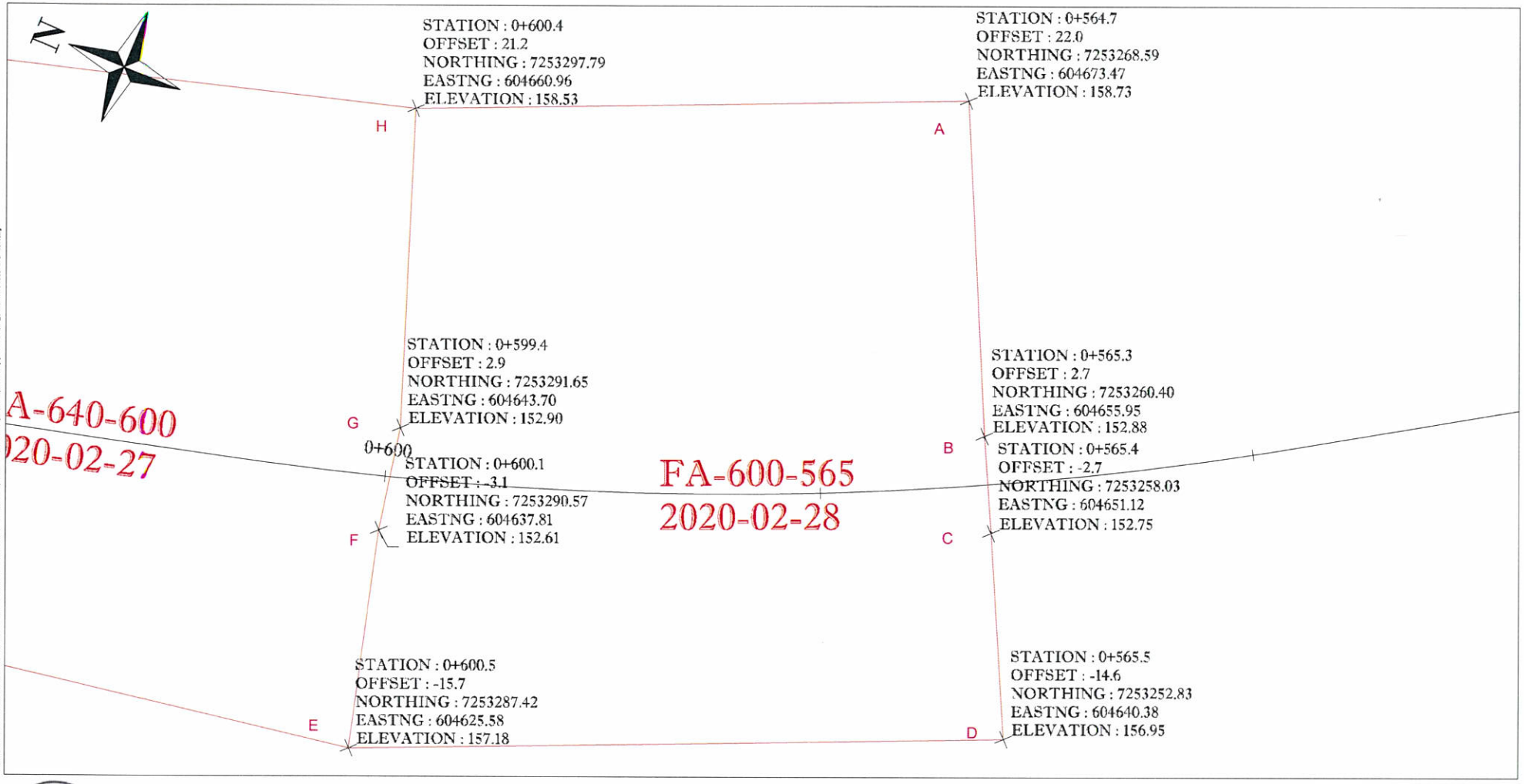
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
2	Require verification for snow removal before placement if any accumulation of snow, by snow fall or by wind				
7	Require backfill for overcut area and the composition of the backfill material to be cheked before filter placement				
ALL	Finish grades may need a final leveling and cleaning prior to fine filter placement as the finish grade / foundation material will be exposed to freezing and snow weather conditions				

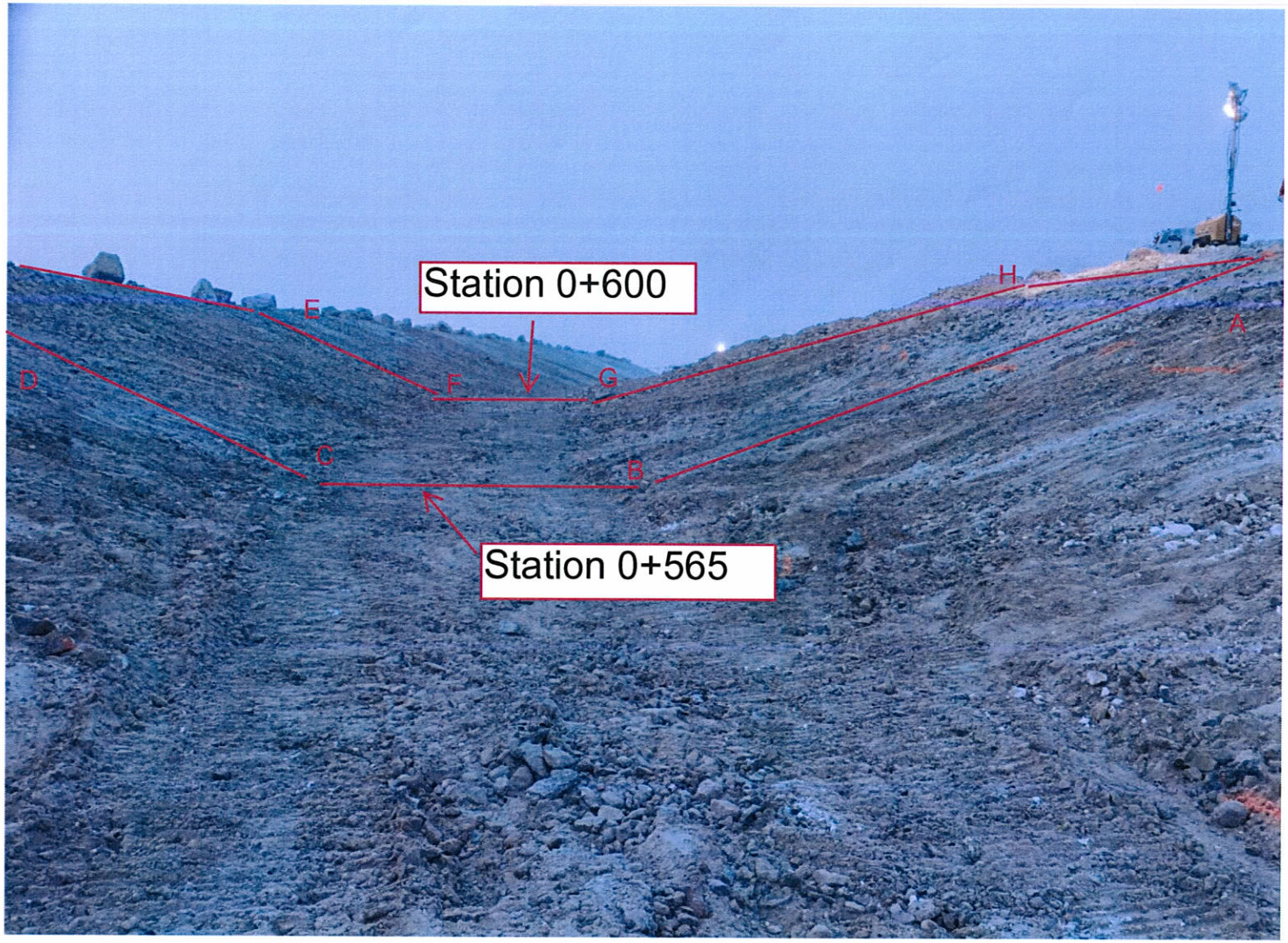
APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	STEPHANIE DORVÉLUS		28/02/2020
QA REPRESENTATIVE			
OWNER'S REPRESENTATIVE	Yannick Simard		28-02-2020.
CONTRACTOR'S REPRESENTATIVE	Nicolas Tremblay		28-02-2020
AEM ENG	Pier-Eric McDonald		29-02-2020

FOUNDATION APPROVAL - 0+600 @ 0+565
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : FRANCIS PAULIN
DATE : 28-02-2020
CON-FD-246



Note: refer the sketch below for the coordinates of A, B, C, D, E, F, G, H

Picture 1 – Approximate approved foundation area

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DOCUMENT #: 20200229-DS-08
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 2020-02-29

TIME: _____
(24 hour clock)

APPROVAL FOR :

☑ Foundation approval (trench bottom and slopes)

☐ Fill placement approval: _____

☐ Other: _____

LOCATION

Station 0+565 to 0+545

Inclination: _____

ELEVATION: ☐ varies _____ m

PREVIOUS APPROVALS

Station: 0+917 to 0+565

Details: _____

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:
(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					—
5. Placement (lift thickness, segregation, etc.)					—
6. Compaction					—
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

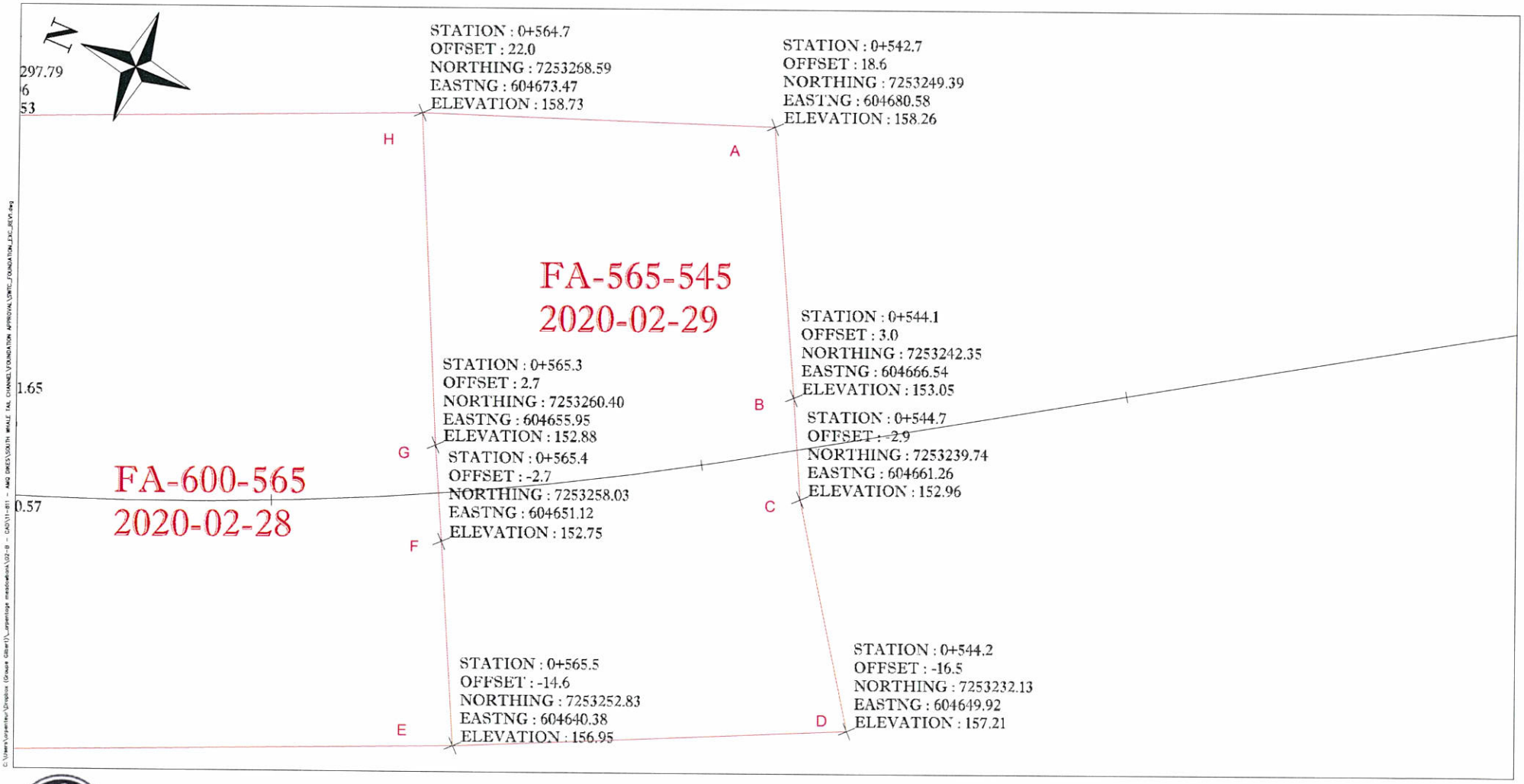
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
2	Require verification for snow removal before placement if any accumulation of snow by snow fall or by wind.				
7	Require backfill for overcut area and the composition of the backfill material to be checked before filter placement				
All	Finish grades may need a final leveling and cleaning prior to fine filter placement as the finish grade foundation material will be exposed to freezing and snow weather conditions.				

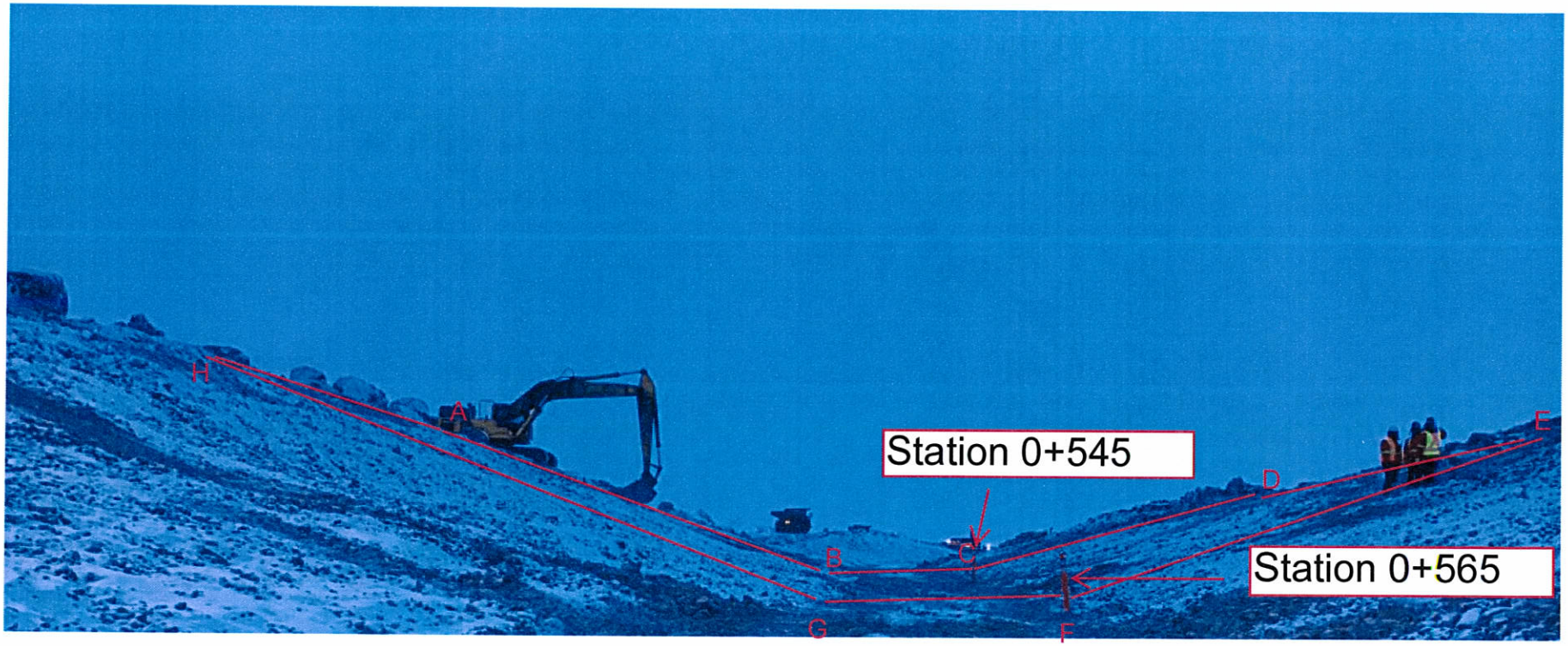
APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	STEPHANE DORVÉLUS		2020-02-29
QA REPRESENTATIVE	HAMZA ABDEL-AZIZ		2020-02-29
OWNER'S REPRESENTATIVE	YANICK SIMARD		2020-02-29
CONTRACTOR'S REPRESENTATIVE	[redacted] Nicolas Tremblay		2020-02-29
	Pier-Eric McDonald		2020-02-29

FOUNDATION APPROVAL - 0+565 @ 0+545
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : FRANCIS PAULIN
DATE : 01-03-2020
CON-FD-249



Note: refer the sketch below for the coordinates of A, B, C, D, E, F, G, H

Picture 1 – Approximate approved foundation area

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-03-05

DOCUMENT #: 20200305-DS-09 **TIME:** 09:00 PM

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☑ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+335 to 0+280	**Station:**	0+917 to 0+545
Inclination:		**Details:**	
ELEVATION:	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY:				
	QA		**QC**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					–
5. Placement (lift thickness, segregation, etc.)					–
6. Compaction					–
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

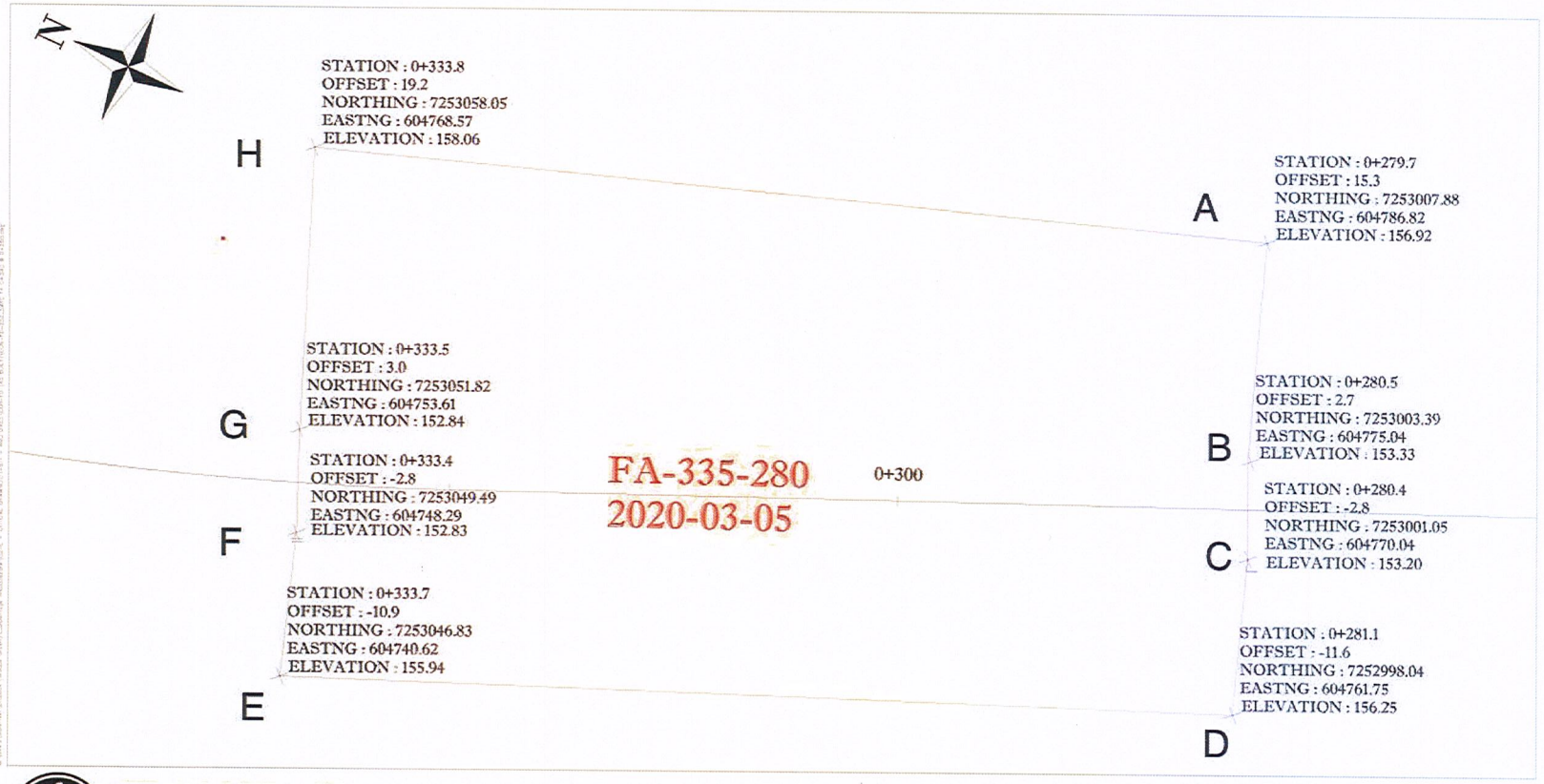
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
2	Require verification for snow removal before placement if any accumulation of snow by snow fall or by wind.				
7	Require back fill for overcut area and the composition of back fill material to be checked before filter placement				
ALL	Finish grades may need a final leveling and cleaning prior to zinc filter placement as the finish grades foundation material will be exposed to freezing and snow weather conditions.				

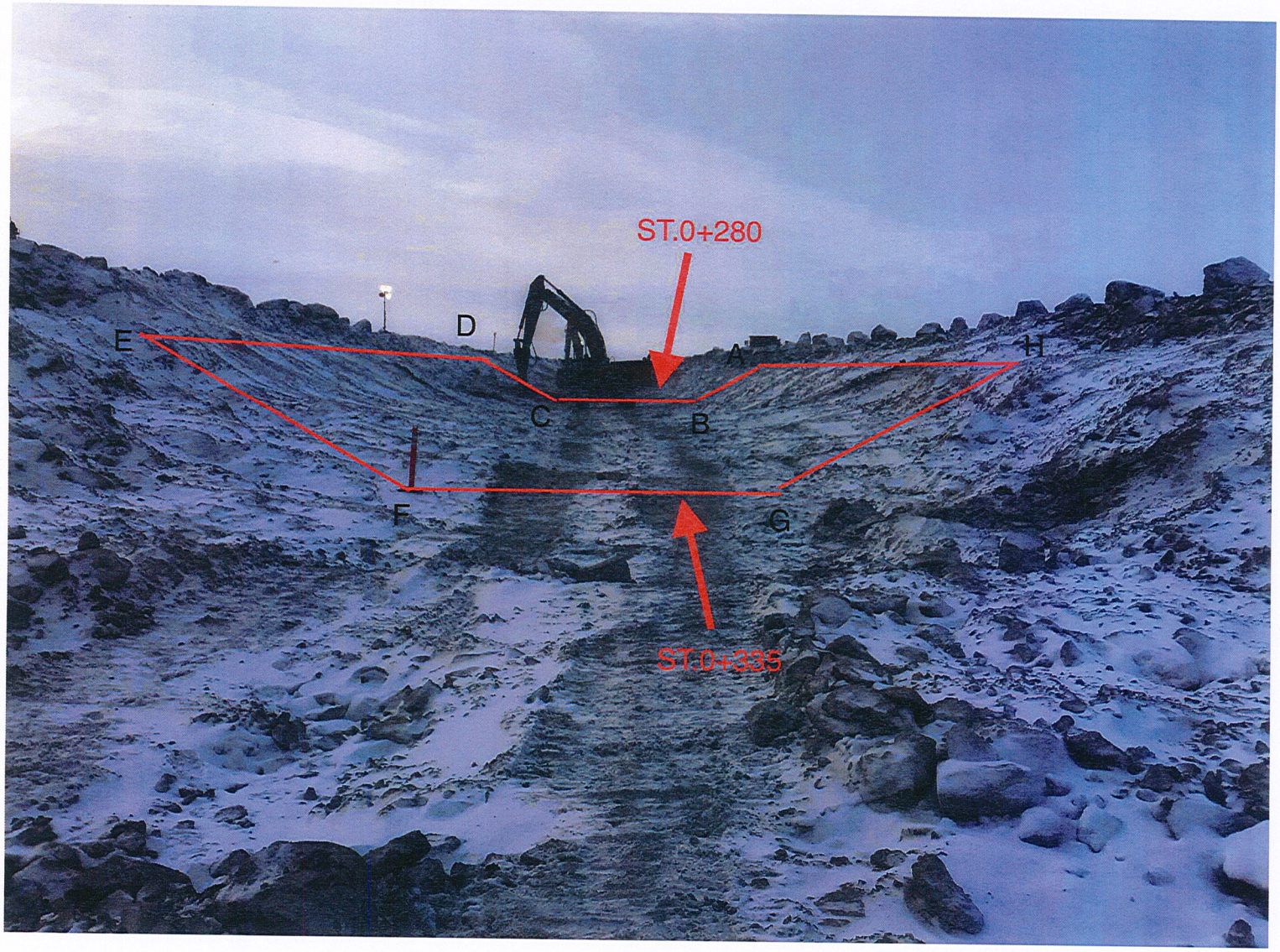
APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	STÉPHANE DORVÉLUS		2020-03-05
QA REPRESENTATIVE	HAMZA ABDEL-AZIZ		2020-03-05
OWNER'S REPRESENTATIVE	MARION HABERSETZER		2020-03-05
CONTRACTOR'S REPRESENTATIVE	Nicolas Tremblay		2020-03-05

FOUNDATION APPROVAL - 0+335 @ 0+280
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : FRANCIS PAULIN
DATE : 06-03-2020
CON-FD-252



Note: refer the sketch below for the coordinates of A, B, C, D, E, F, G, H

Picture 1 – Approximate approved foundation area

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DOCUMENT #: 20200306-DS-10
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 2020-03-06

TIME: 08:00 AM (0+280 to 0+230)
(24 hour clock)
06:00 pm (0+230 to 0+210)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☐ Other: _____

LOCATION

Station 0+280 to 0+210

Inclination:

ELEVATION: ☐ varies _____ m

PREVIOUS APPROVALS

Station: 0+917 to 0+545 AND 0+335 to 0+280

Details:

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					—
5. Placement (lift thickness, segregation, etc.)					—
6. Compaction					—
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

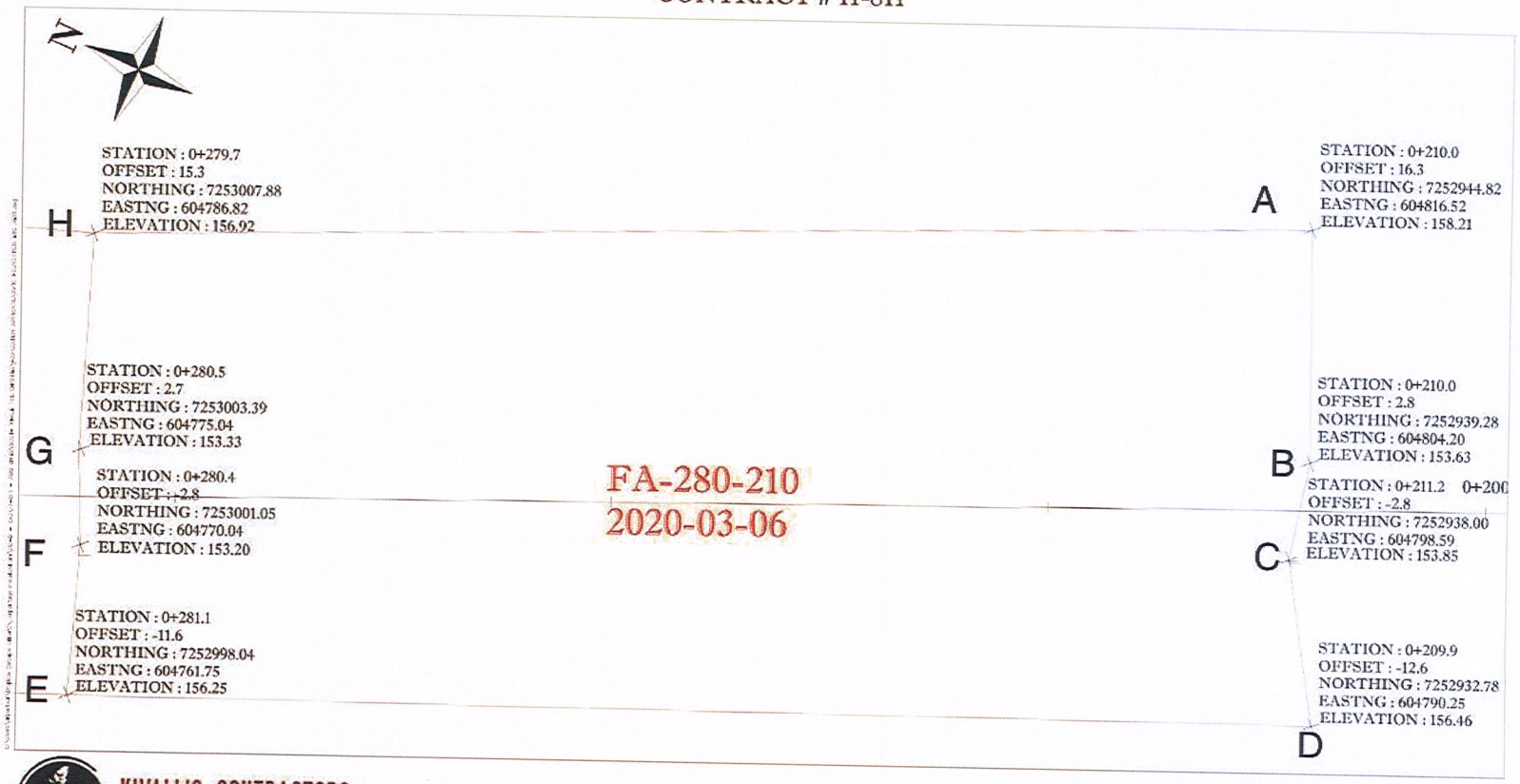
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
2.	Require verification for snow removal before placement if any accumulation of snow fall or by wind.				
7	Require back fill for overcut area and the composition of the backfill material to be checked before filter placement				
All	Finish grades may need a final leveling and cleaning prior to fine filter placement as the finish grades foundation material will be exposed to freezing and snow weather conditions.				

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	STÉPHANE DORVÉLUS		2020-03-06
QA REPRESENTATIVE	HAMZ ABDEL-AZIZ		2020-03-06
OWNER'S REPRESENTATIVE	MARION HABERSETZER		2020-03-06
CONTRACTOR'S REPRESENTATIVE	Nicolas Tremblay		2020-03-06

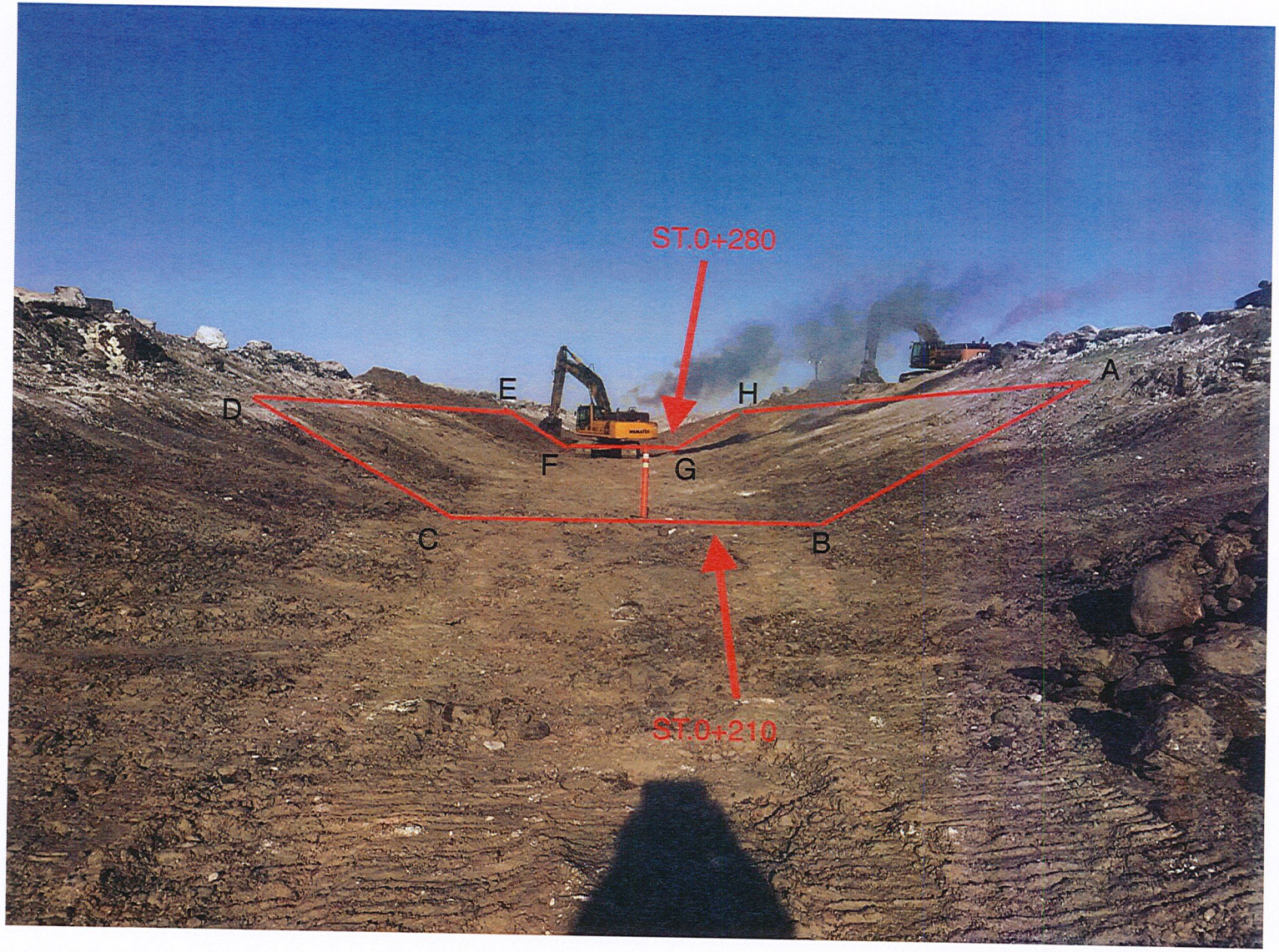
FOUNDATION APPROVAL - 0+280 @ 0+210
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



FA-280-210
2020-03-06

KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : FRANCIS PAULIN
DATE : 06-03-2020
CON-FD-255



Note: refer the sketch below for the coordinates of A, B, C, D, E, F, G, H

Picture 1 – Approximate approved foundation area

SNC·LAVALIN

Sustaining capital
Mining & Metallurgy
1140 Maisonneuve boul. West
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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-03-08

DOCUMENT #: 20200308-DS-11 **TIME:** 06:00 PM

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☑ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☐ Other: _____

LOCATION 0+210 to 0+185	**PREVIOUS APPROVALS** 0+317 to 0+545
Station AND 0+170 to 0+135	**Station:** AND 0+335 to 0+210
Inclination:	**Details:**
ELEVATION: ☐ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

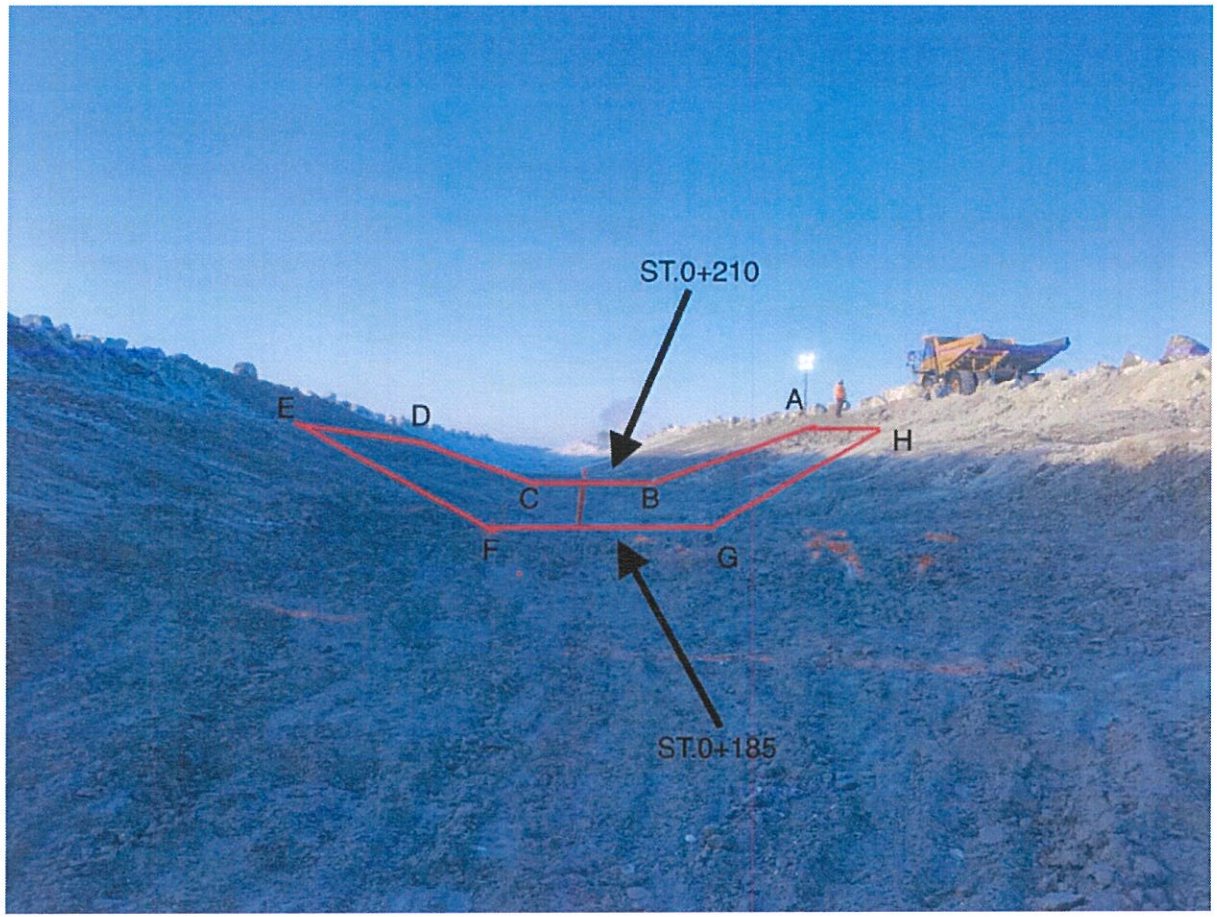
	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					—
5. Placement (lift thickness, segregation, etc.)					—
6. Compaction					—
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS

(Refer to list above for item #)

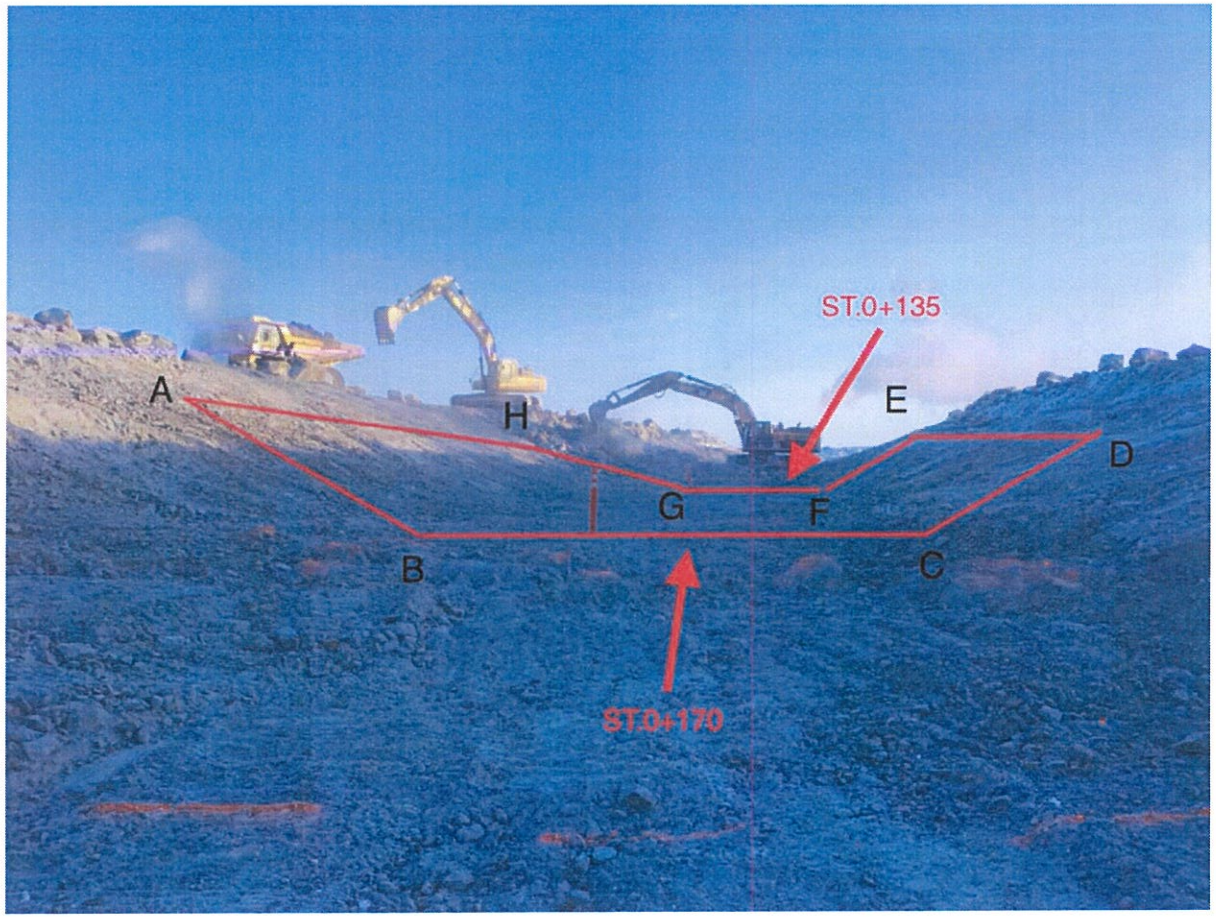
ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
2	Require verification for snow removal before placement if any accumulation of snow by snow fall or wind.				
7	Require backfill for overcut area and the composition of the back fill material to be checked before filter placement				
ALL	Finish grades may need a final leveling and cleaning prior to fine filter placement as the finish grade foundation material will be exposed to freezing and snow weather conditions.				

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	STEPHANE DORVÉLUS		2020-03-08
QA REPRESENTATIVE	HAMZA ABDEL-AZIZ		2020-03-08
OWNER'S REPRESENTATIVE	MARION HAERSETZER		2020-03-08
CONTRACTOR'S REPRESENTATIVE	Nicolas Tremblay		2020-03-08



Note: refer the sketch below for the coordinates of A, B, C, D, E, F, G, H

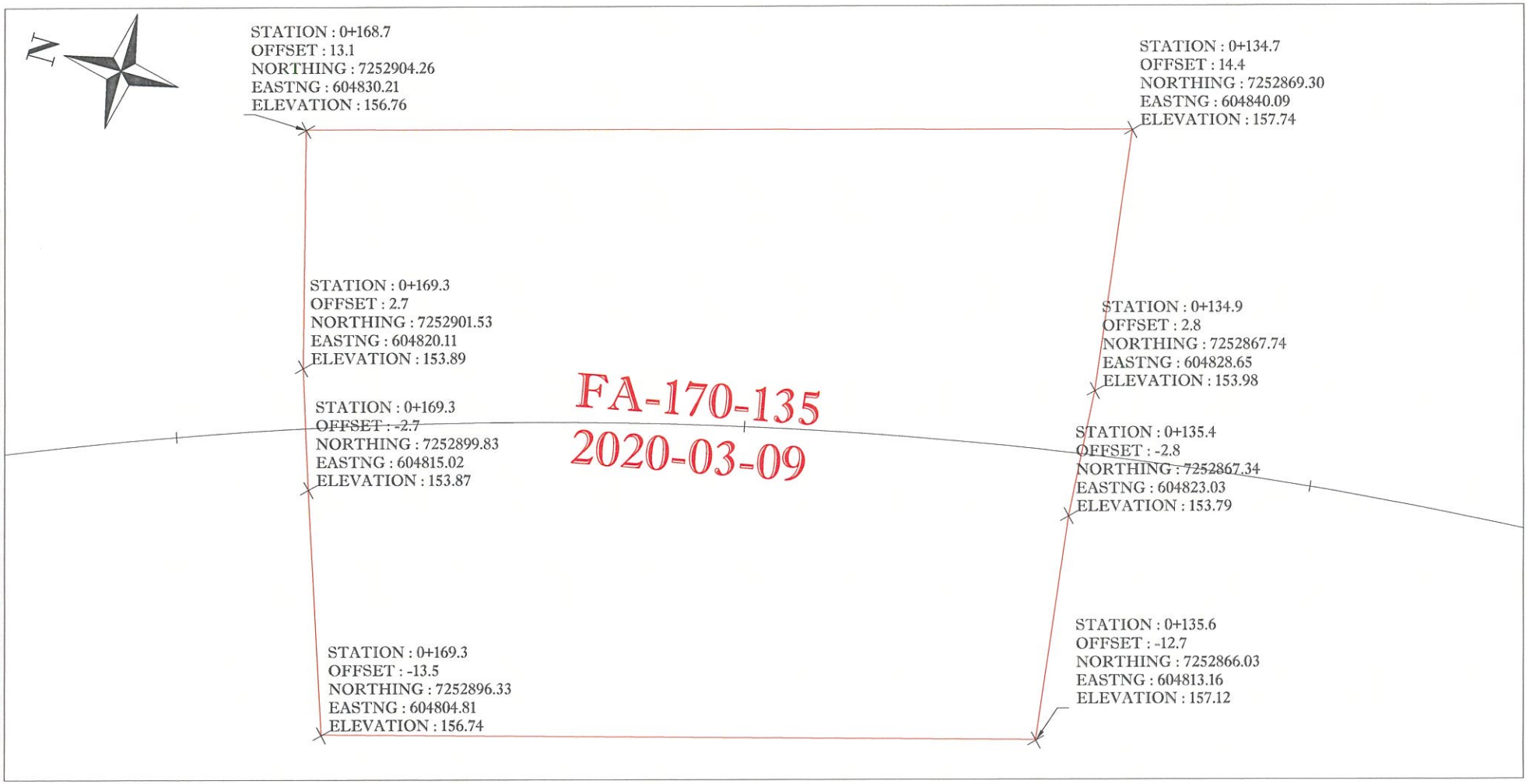
Picture 1 – Approximate approved foundation area



Note: refer the sketch below for the coordinates of A, B, C, D, E, F, G, H

Picture 1 – Approximate approved foundation area

FOUNDATION APPROVAL - 0+170 @ 0+135
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



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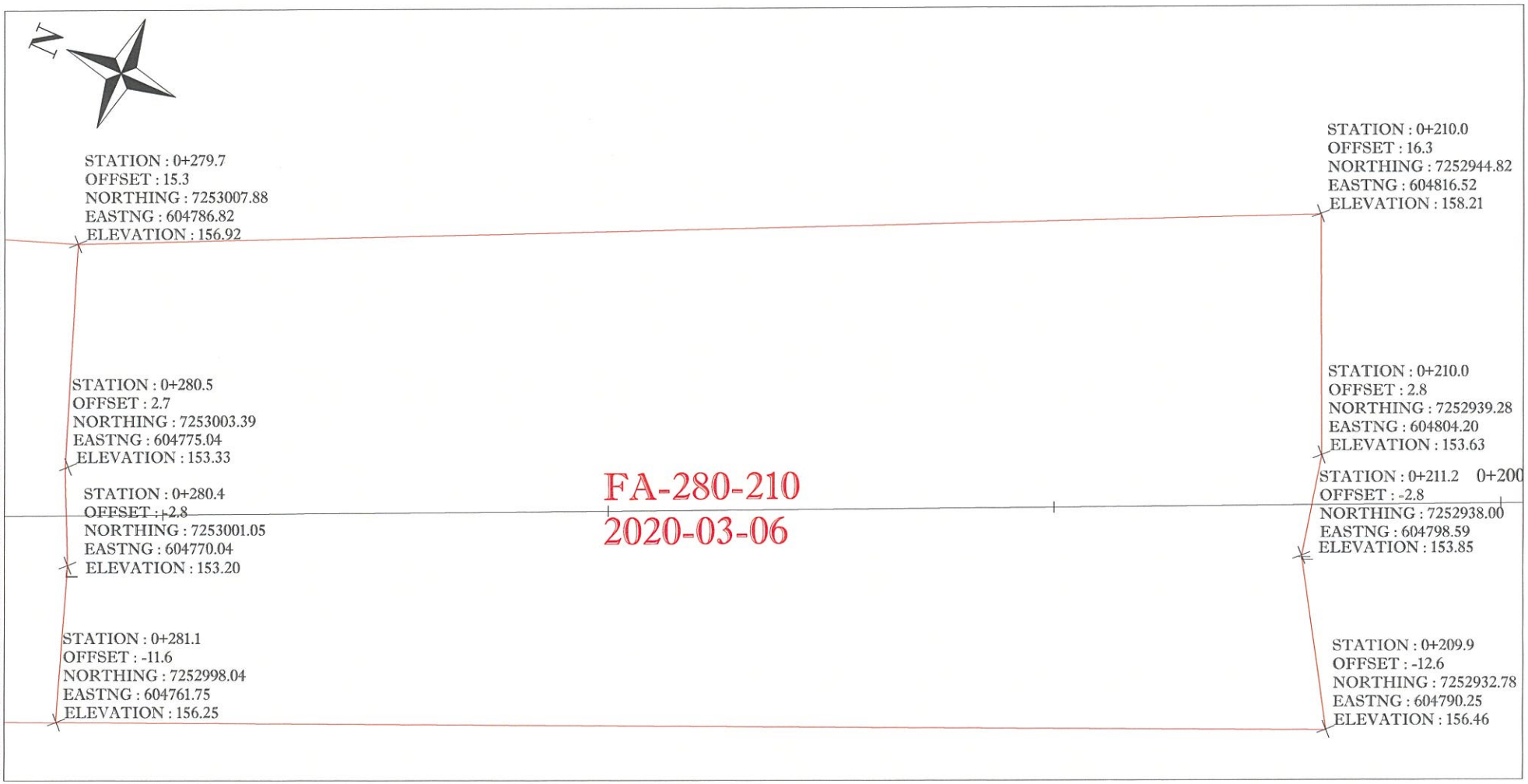
PREPARED BY : LOUIS-PIERRE COLLARD
DATE : 09-03-2020
CON-FD-258

FOUNDATION APPROVAL - 0+280 @ 0+210
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : FRANCIS PAULIN
DATE : 06-03-2020
CON-FD-255

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DATE: 2020-03-09

DOCUMENT #: 20200309 - DS - 12
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

TIME: 09:00 AM
(24 hour clock)

APPROVAL FOR :

☑ Foundation approval (trench bottom and slopes)

☐ Fill placement approval: _____

☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+185 to 0+170 and 0+135 to 0+058	**Station:**	0+917 to 0+545, 0+335 to 0+185 and 0+170 to 0+135
Inclination:		**Details:**	
ELEVATION:	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

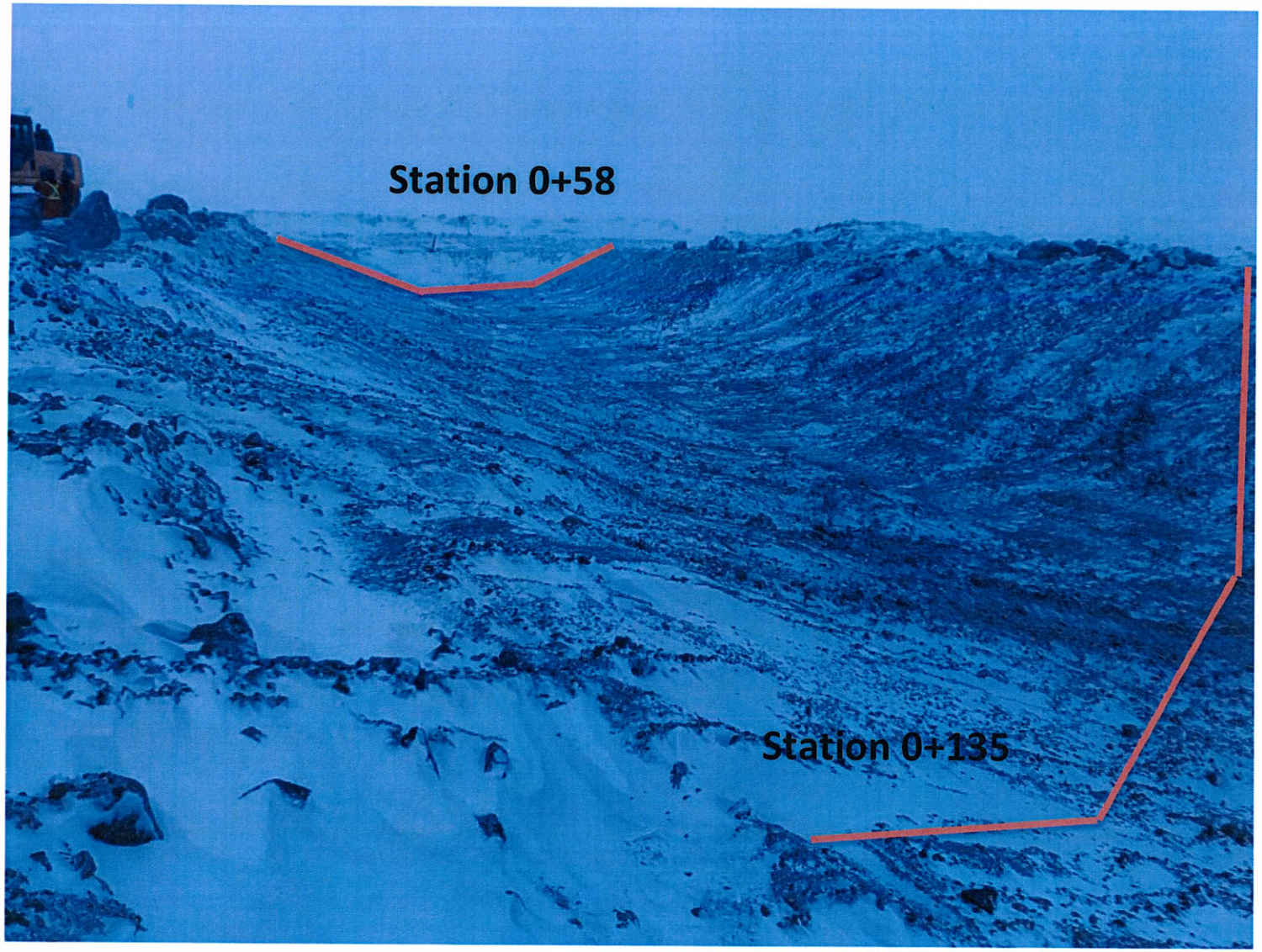
	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					—
5. Placement (lift thickness, segregation, etc.)					—
6. Compaction					—
7. As built survey completed					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS

(Refer to list above for item #)

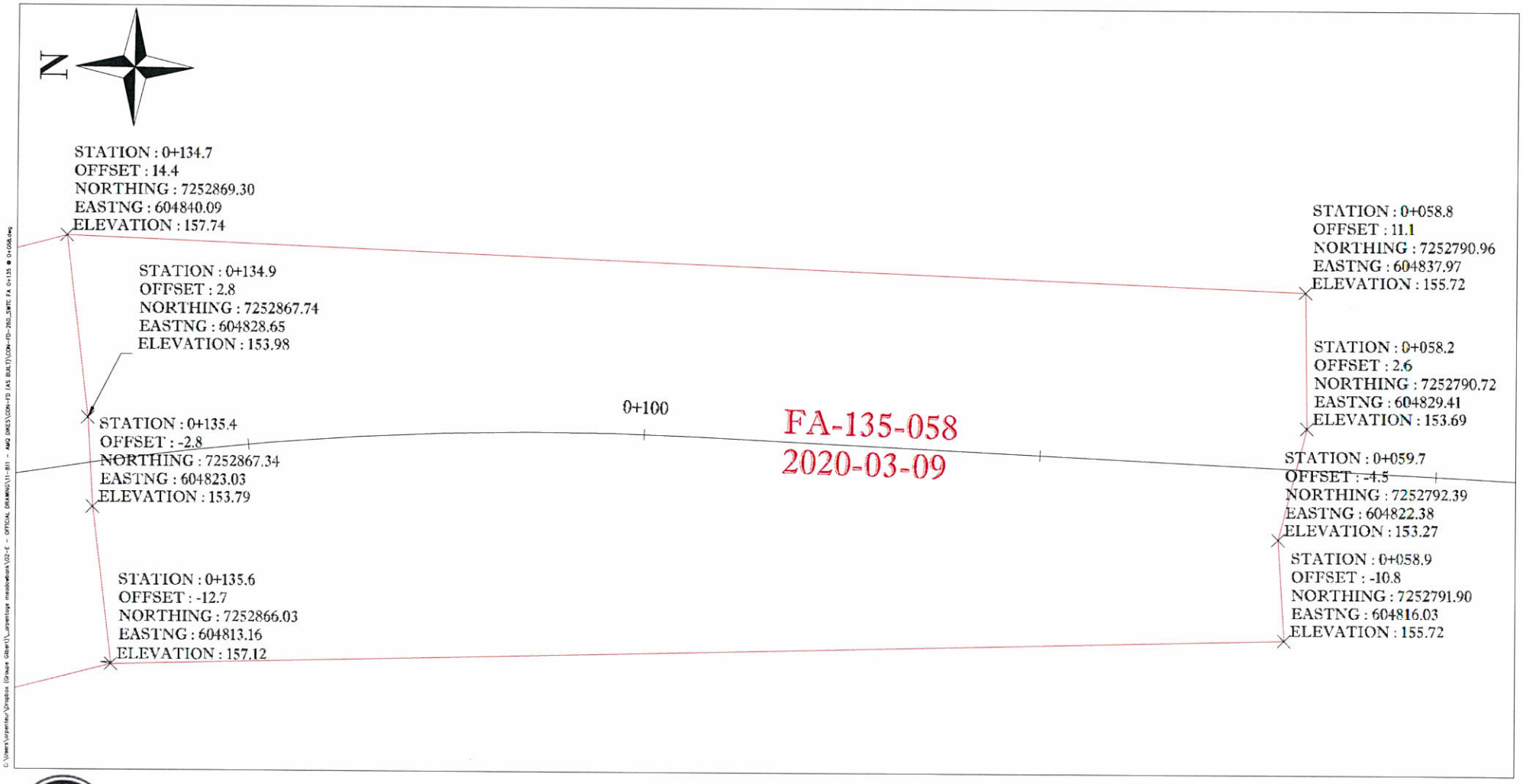
ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
#2	Require verification for snow removal before placement if any snow accumulation by snow fall or wind				
#3	Require backfill for overcut area and sample backfill for gradation test to check fine content of the back fill material				

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Stephane Dorvelas	Mathieu G. for Stephane	2020-03-10
QA REPRESENTATIVE	Houza Abdel-Aziz	Daniel Meles for Houza	2020-03-10
OWNER'S REPRESENTATIVE	MARIAN HABERSETZER		2020-03-10
CONTRACTOR'S REPRESENTATIVE	Nicolas Tremblay		2020-03-10



Picture 1: Approximate approved foundation area between Station 0+135 and 0+58 (170 (Photo obtained from AEM Supervisor)

FOUNDATION APPROVAL - 0+135 @ 0+058
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



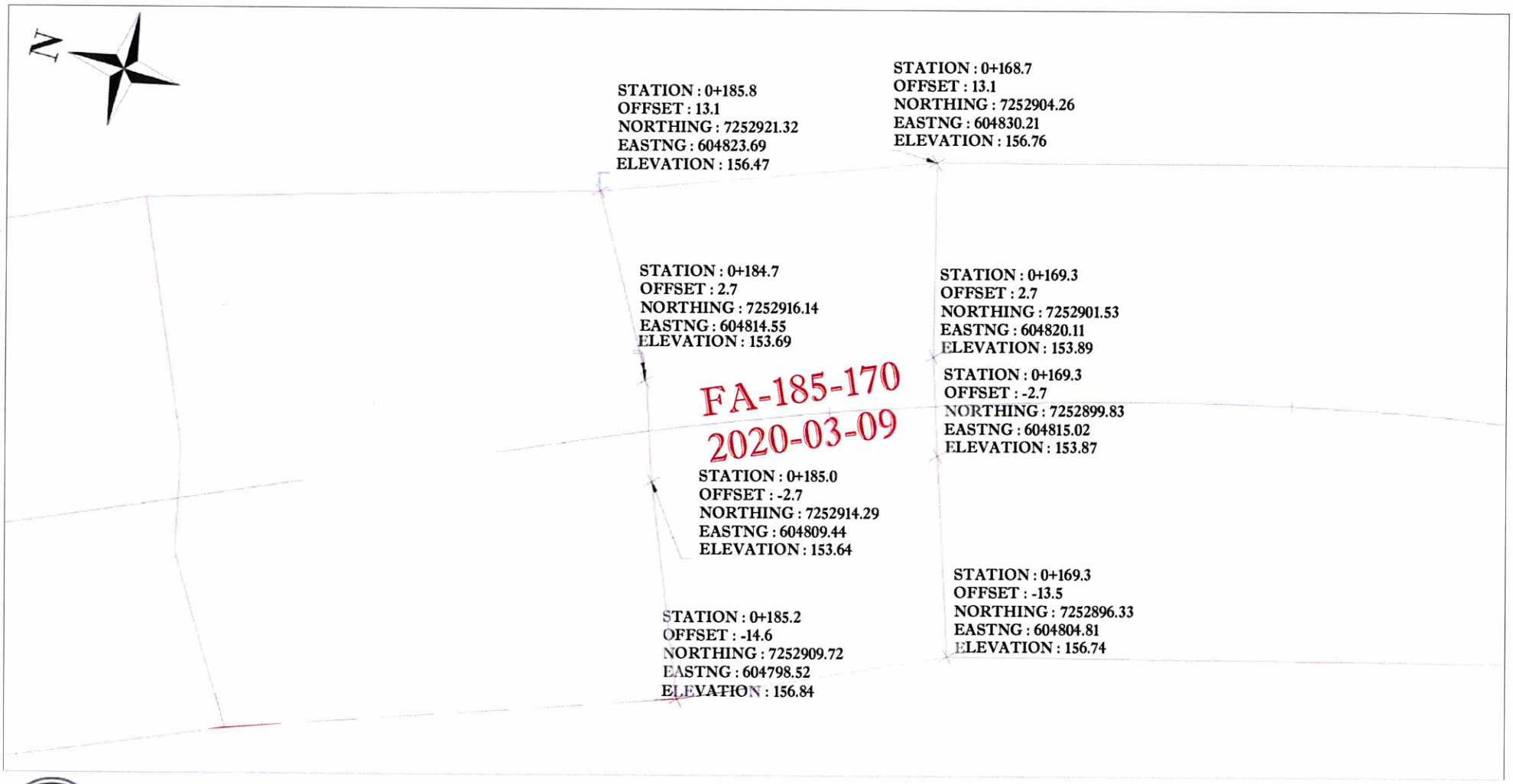
KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : LOUIS-PIERRE COLLARD
DATE : 09-03-2020
CON-FD-260



Picture 2: Approximate approved foundation area between Station 0+185 and 0+170 (Photo obtained from AEM)

FOUNDATION APPROVAL - 0+185 @ 0+170
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
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PREPARED BY : LOUIS-PIERRE COLLARD
DATE : 09-03-2020
CON-FD-259

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-03-24

DOCUMENT #: 20200324-DS-25 **TIME:** 5:45

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☑ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+555 to 0+500	**Station:**	0+056 to 0+330 and 0+906 to 0+555
Inclination:		**Details:**	
ELEVATION:	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

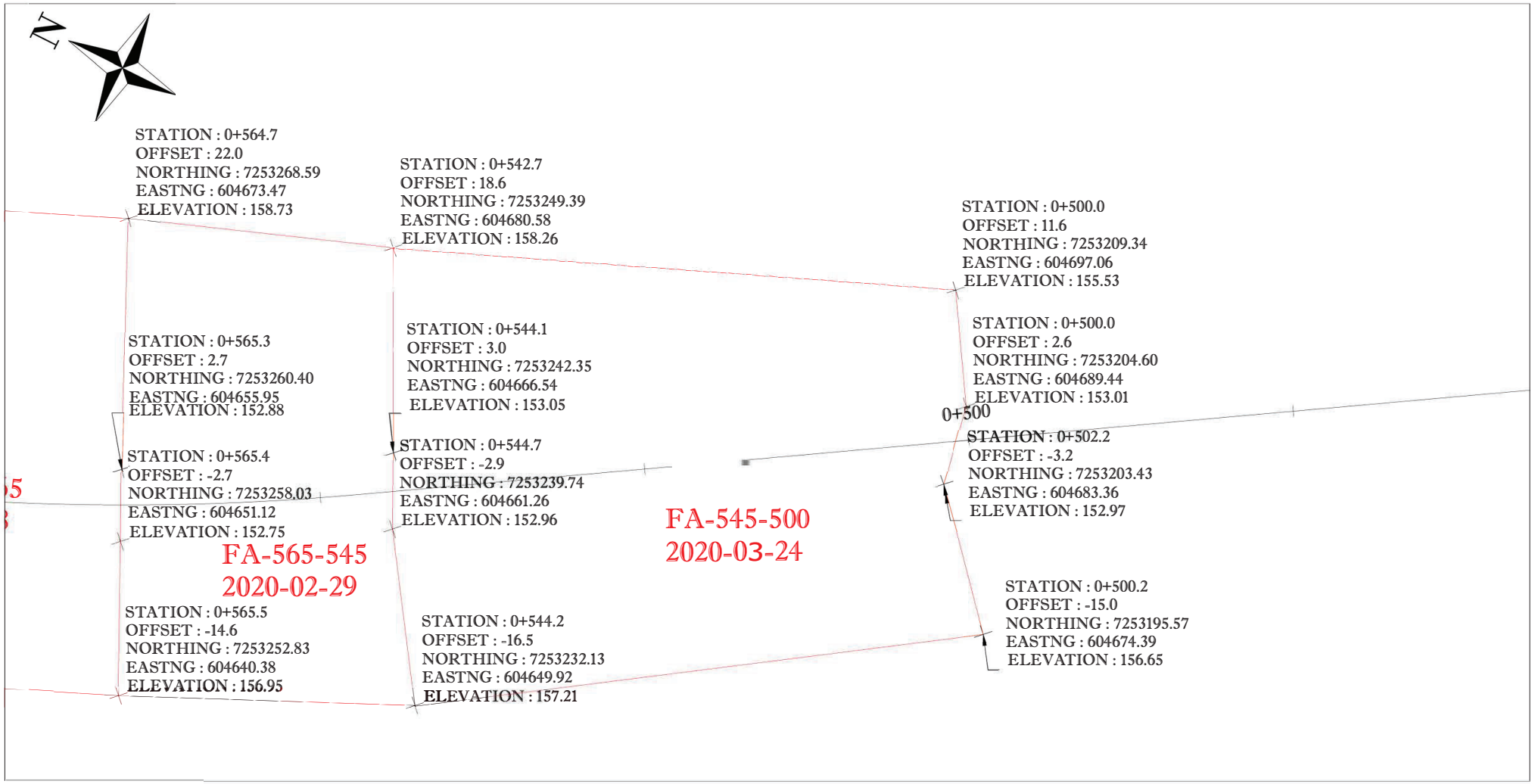
(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					
5. Placement (lift thickness, segregation, etc.)					
6. Compaction					
7. As built survey completed					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
All	Area of the Channel where filter is going to be placed was approved				
	Area outside of the Channel foundation require additional cleaning				

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Yaotree Amegnran		26-03-2020
QA REPRESENTATIVE	Daniel Meles		03-25-2020
OWNER'S REPRESENTATIVE	LAVKIER OUELLE		03-26-2020
CONTRACTOR'S REPRESENTATIVE	Patrice Ouellet		03-26-2020

FOUNDATION APPROVAL - 0+545 @ 0+500
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS GROUP LTD

THE CREST IS APPROVED AT THE FINE FILTER ELEVATION

PREPARED BY : FRANCIS PAULIN
DATE : 25-03-2020
CON-FD-301

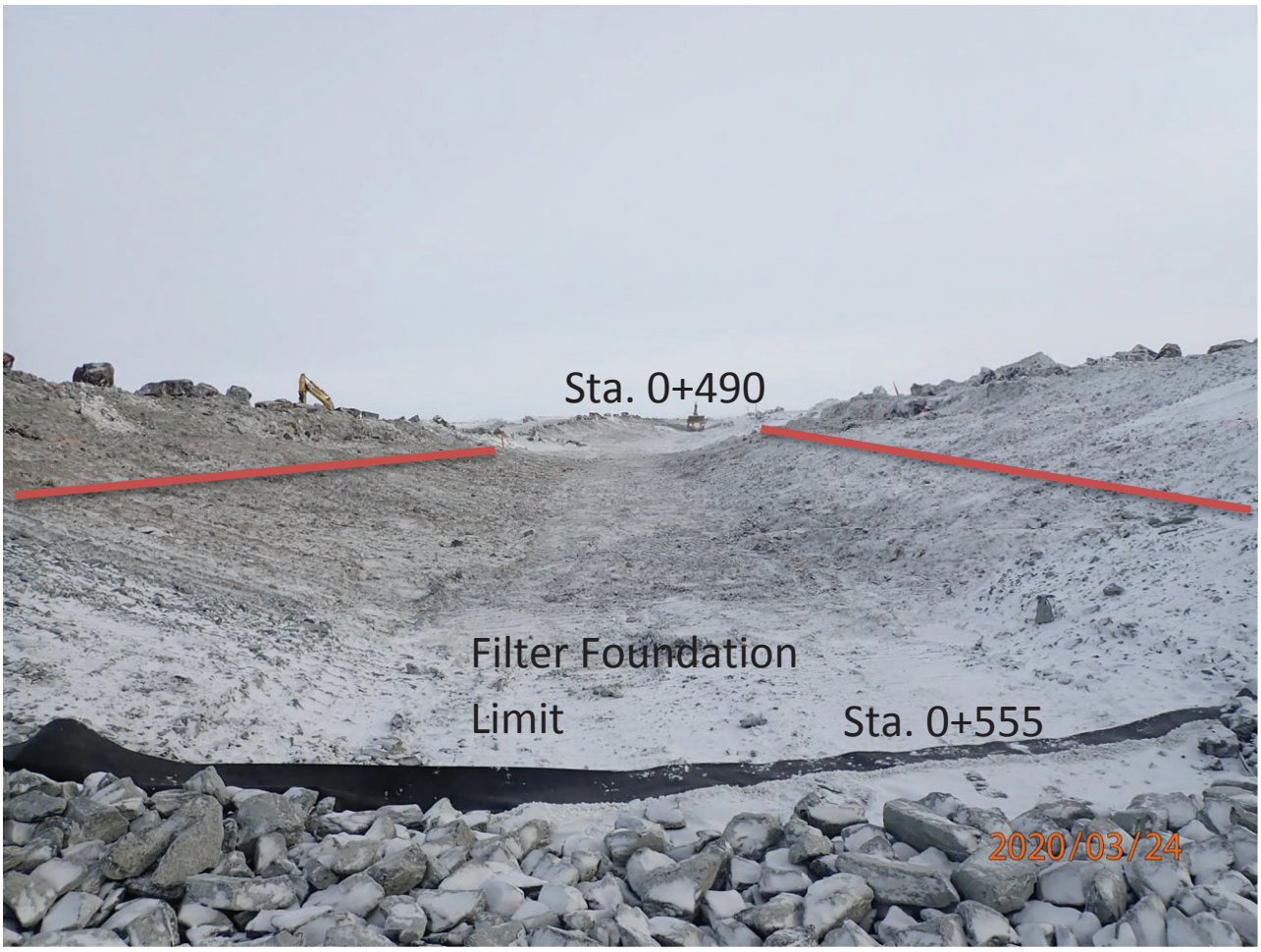


Photo 1 Excavation limit approved for esker placement

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-03-31

DOCUMENT #: 20200331-DS-30 **TIME:** 0815

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☒ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+331 TO 0+400	**Station:**	
Inclination:		**Details:**	
ELEVATION:	☒ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY:				
	QA		**QC**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					
5. Placement (lift thickness, segregation, etc.)					
6. Compaction					
7. As built survey completed					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
1	Surface uneven due to some boulders and frozen soils.	✓			
2	Some adhering ice on some boulders but insignificant amount as compared to overall conditions	✓			

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Yootree Ameghram		2020-04-01
QA REPRESENTATIVE	PAUL YONG		2020-03-31
OWNER'S REPRESENTATIVE	Christian Trembley		2020-04-01
CONTRACTOR'S REPRESENTATIVE	Patrice Ouellet		2020-04-03

SNC·LAVALIN AGNICO EAGLE

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-04-07

DOCUMENT #: 20200407-DS-38 **TIME:** 14h00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

COMPLETED BY (AEM QA REPRESENTATIVE): (Name) Christian Tremblay

APPROVAL FOR :

- ☑ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+055 to 0+065	**Station:**	
Inclination:		**Details:**	
ELEVATION :	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					
5. Placement (lift thickness, segregation, etc.)					
6. Compaction					
7. As built survey completed	✓		✓		
8.					
9.					
10.					
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12.					
13.					

14.					
15.					
16.					
17.					

DETAILS

(Refer to list above for item #)

		APPROVED BY:			
		QA AEM		QC AEM	
ITEM		**Y**	**N**	**Y**	**N**

APPROVED BY:	**NAME**	**SIGNATURE**	**DATE**
CONTRACTOR REPRESENTATIVE	Sabin Larouche		2020-04-08
AEM QC REPRESENTATIVE	JEROME COLLARD		2020-04-08
AEM QA REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-07
OWNER'S REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-07

REVIEWED BY (Remote off-site support) *:	**NAME**	**SIGNATURE**	**DATE**
DESIGNER (SNC-LAVALIN) REPRESENTATIVE	Mazin Toma	M. kh. A. Toma	2020-04-22

** SNC-LAVALIN REVIEW AND SIGNATURE BASED ON OBSERVATIONS AND APPROVALS MADE BY AEM QA/QC REPRESENTATIVE ON SITE*

DESIGNER COMMENTS:

SNC·LAVALIN AGNICO EAGLE

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-04-08

DOCUMENT #: 20200408-DS-41 **TIME:** 8h00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

COMPLETED BY (AEM QA REPRESENTATIVE): (Name) Christian Tremblay

APPROVAL FOR :

- ☑ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☐ Other: _____

LOCATION	**PREVIOUS APPROVALS**
Station 0+400 To 0+495	**Station:**
Inclination:	**Details:**
ELEVATION : ☐ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)					
5. Placement (lift thickness, segregation, etc.)					
6. Compaction					
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					

14.					
15.					
16.					
17.					

DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N
2	- Water inflow (flooding) some sectors. The bottom of those sections were hammered and ripped to make we reach the till.	✓		✓	
	- The ice was removed from the filter footprint. Some ice sections visible in the overexcavated sections that will be backfilled with Ester and/or rock fill.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Sabin Larouche		2020-04-08
AEM QC REPRESENTATIVE	JEROME COLLARD		2020-04-08
AEM QA REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-08
OWNER'S REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-08

REVIEWED BY (Remote off-site support) *:	NAME	SIGNATURE	DATE
DESIGNER (SNC-LAVALIN) REPRESENTATIVE	Mazin Toma	M. Kh. A. Toma	2020-04-22

** SNC-LAVALIN REVIEW AND SIGNATURE BASED ON OBSERVATIONS AND APPROVALS MADE BY AEM QA/QC REPRESENTATIVE ON SITE*

DESIGNER COMMENTS:

Appendix G-2

Fill Placement Approvals

Appendix G-2-1

Esker Approval

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-03-10

DOCUMENT #: 20200310-DS-13 **TIME:** 3:00 PM

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Esker placement
- ☐ Other: _____

LOCATION	**PREVIOUS APPROVALS**
Station 0+050 to 0+330	**Station:**
Inclination:	**Details:**
ELEVATION: ☐ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom					—
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		—
6. Compaction					—
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

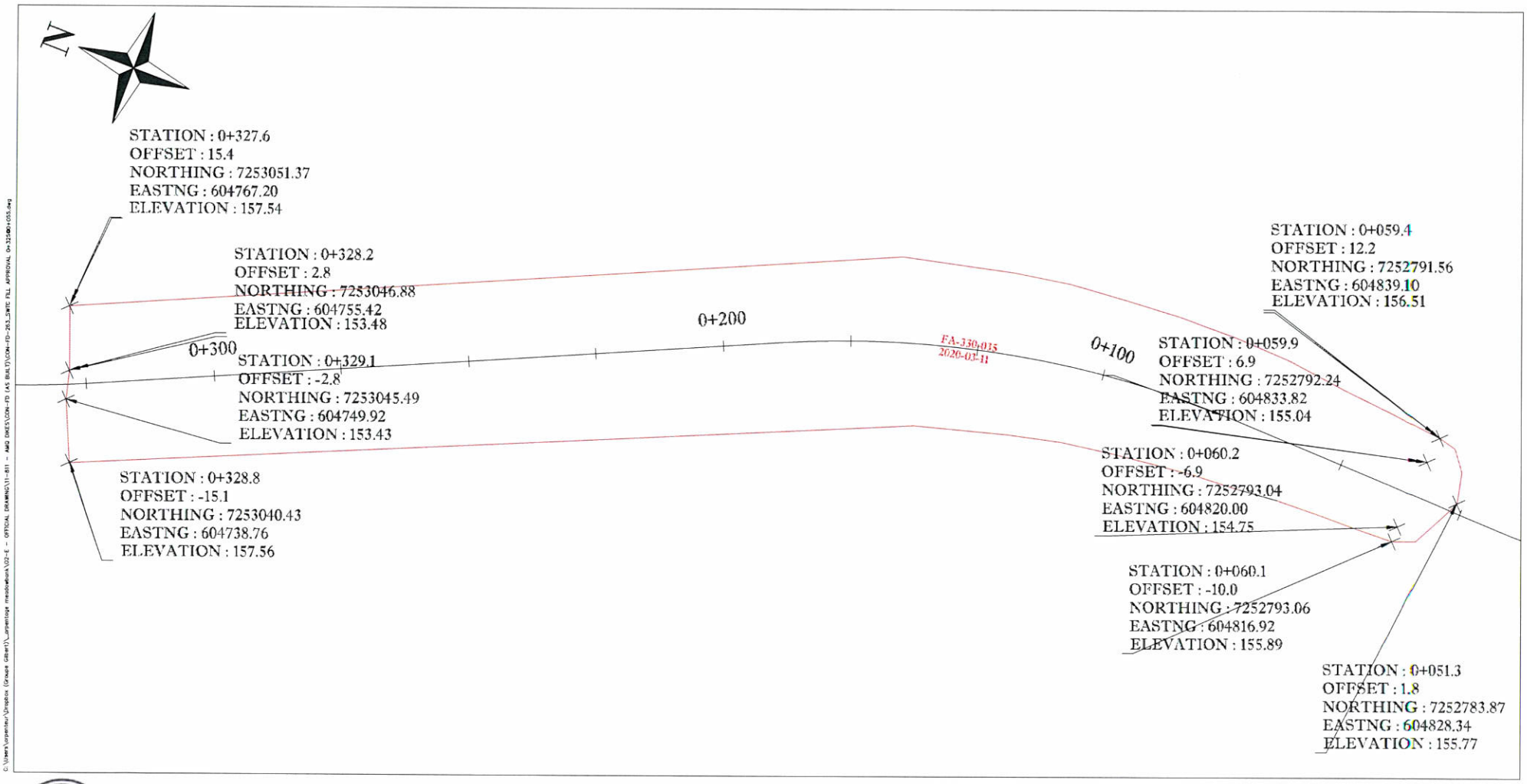
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
#4	Visual inspection and laboratory test result indicated the eskar placed in the area had fine content less than the fine content of the soil used to design the filter				
#	No segregation				

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Mathieu Côté	Mathieu Côté	2020-03-10
QA REPRESENTATIVE	Daniel Meles	Daniel	2020-03-10
OWNER'S REPRESENTATIVE	MARION HABERSETZER		2020-03-10
CONTRACTOR'S REPRESENTATIVE	Nicolas Tremblay		2020.03.10

ESKER PLACEMENT APPROVAL - 0+328 @ 0+050
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : LOUIS-PIERRE COLLARD
DATE : 11-03-2020
CON-FD-263

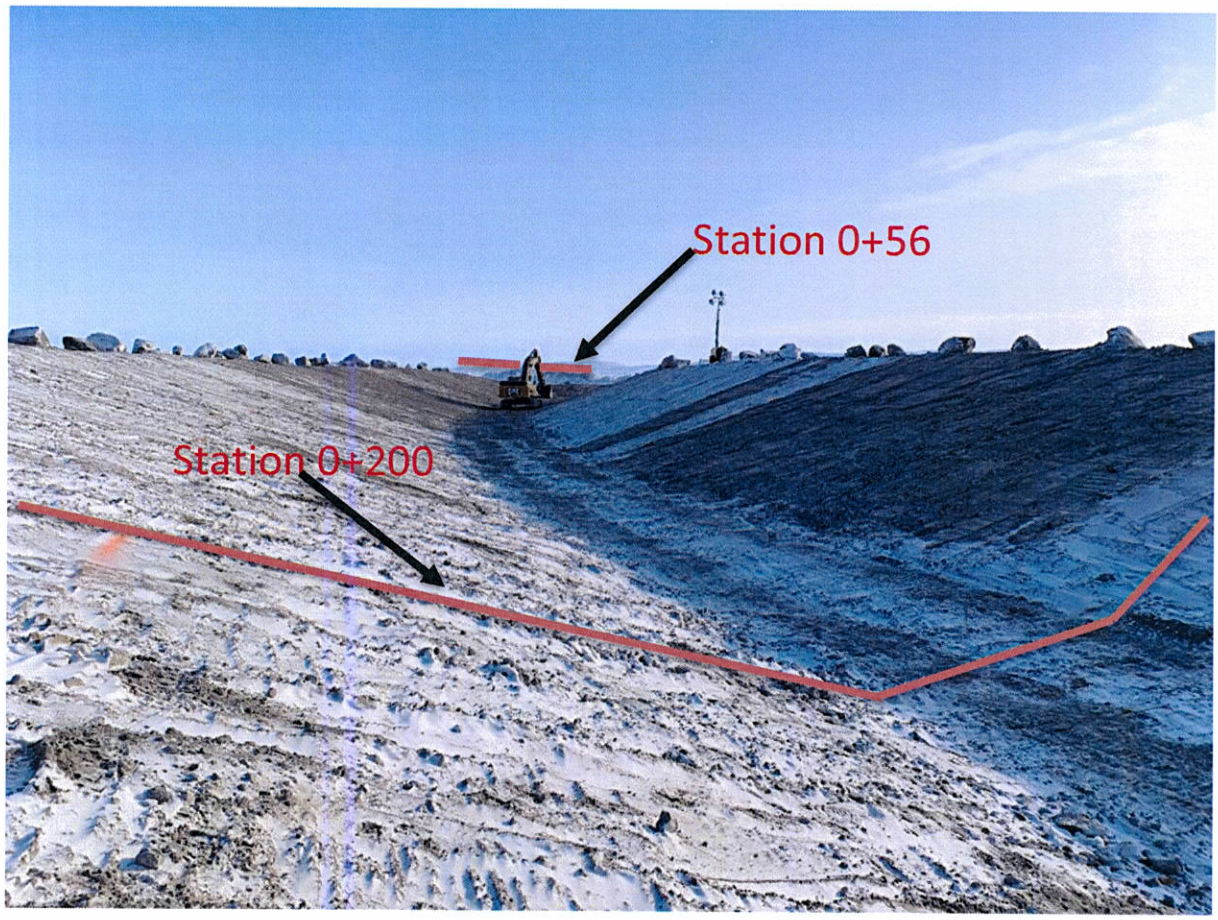


Photo 1 – View of approximate approved area for fine filter placement (Sta. 0+056 to Sta. 0+200)

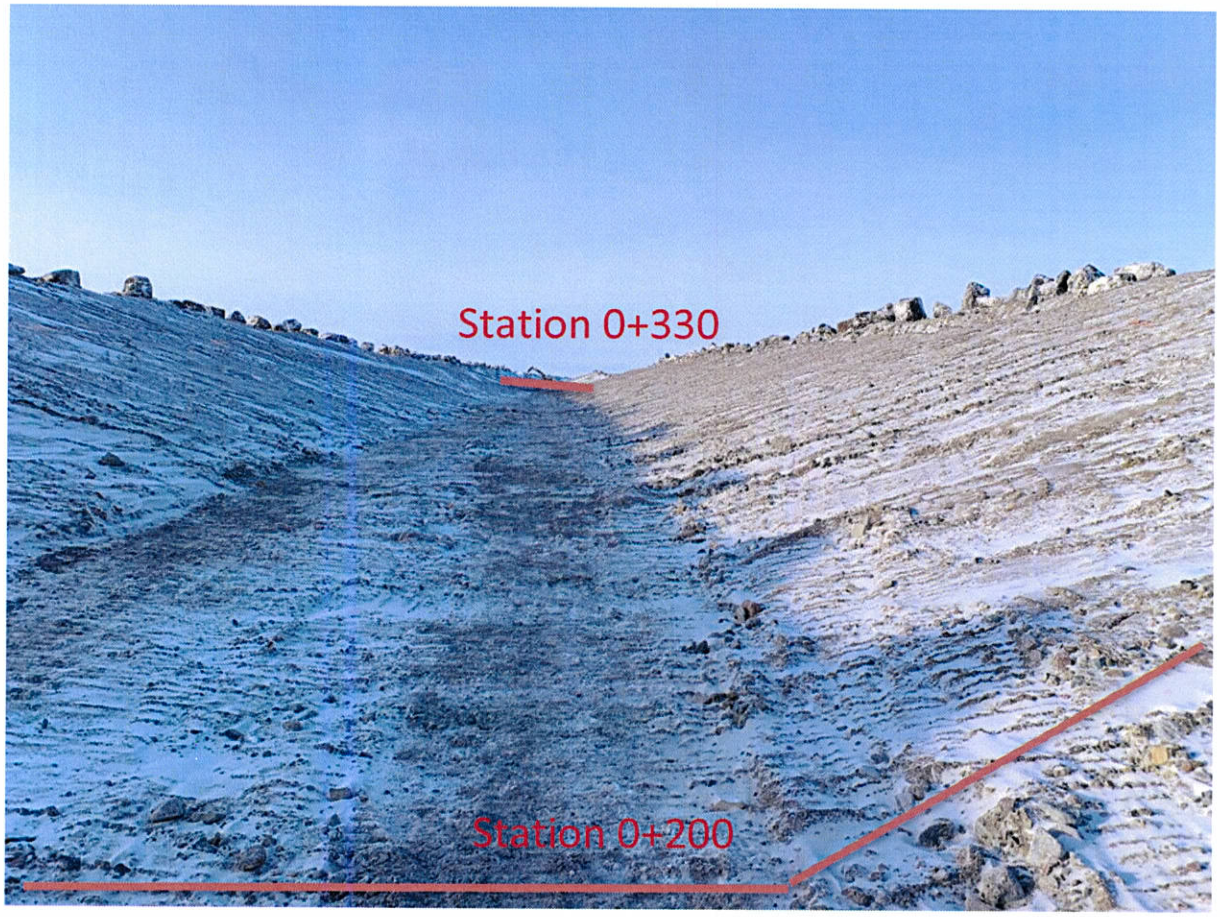


Photo 2– View of approximate approved area for fine filter placement (Sta. 0+200 to Sta. 0+330)

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DOCUMENT #: 20200314-DS-16
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 2020/03/14

TIME: _____
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Esker
- ☐ Other: _____

LOCATION

Station 0+906 to 0+553

Inclination: _____

ELEVATION: ☐ varies _____ m

PREVIOUS APPROVALS

Station: 0+056 to 0+330

Details: _____

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom					—
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		—
6. Compaction					—
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS

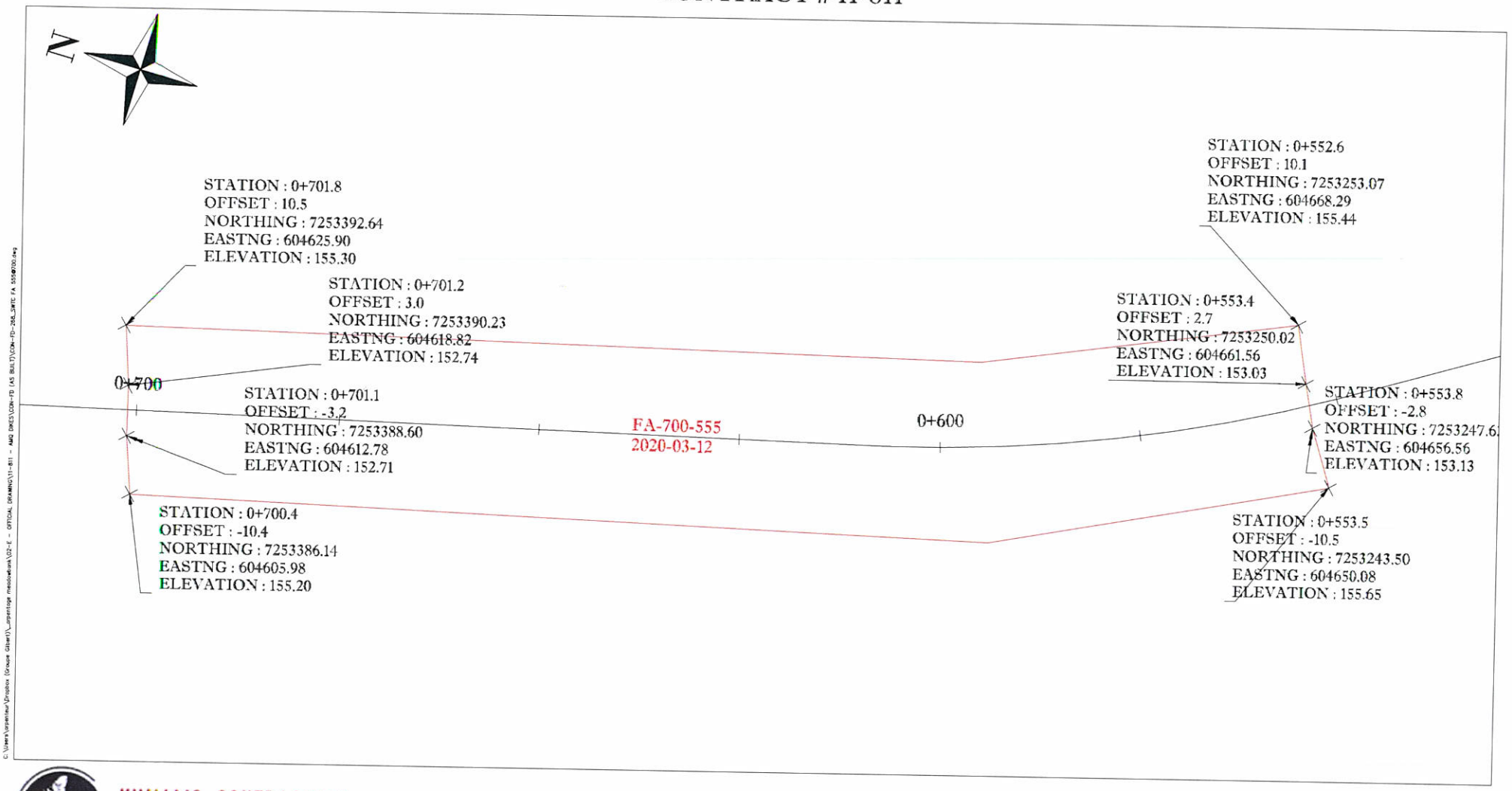
(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
All	Visual inspection				
#4	Visual inspection and laboratory test result indicated the esker placed in the area had fine content less than the fine content of the soil used to design the filter.				
#5	No segregation				
	If snow accumulation is observed from wind/snow fall between approval and placement, additional snow removal may be requested by QA/QC				

APPROVED BY:

	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Mathieu Côté	Mathieu Côté	2020-03-14
QA REPRESENTATIVE	Daniel Meles	Daniel	2020-03-14
OWNER'S REPRESENTATIVE	MARION HABERSETZER		2020-03-14
CONTRACTOR'S REPRESENTATIVE	Nicolas Tremblay		2020-03-14.

FOUNDATION APPROVAL - 0+700 @ 0+555
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : LOUIS-PIERRE COLLARD
DATE : 12-03-2020
CON-FD-268

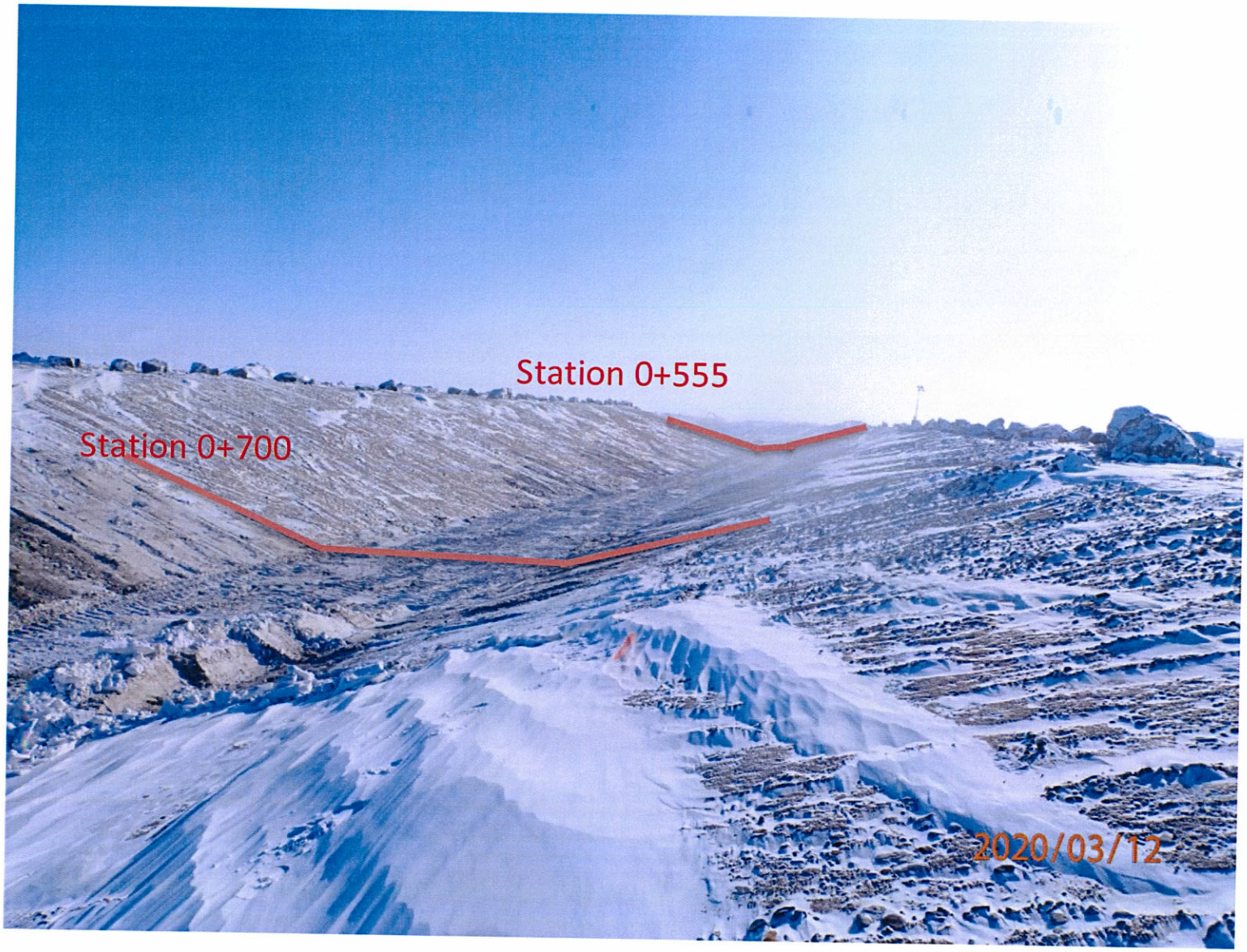
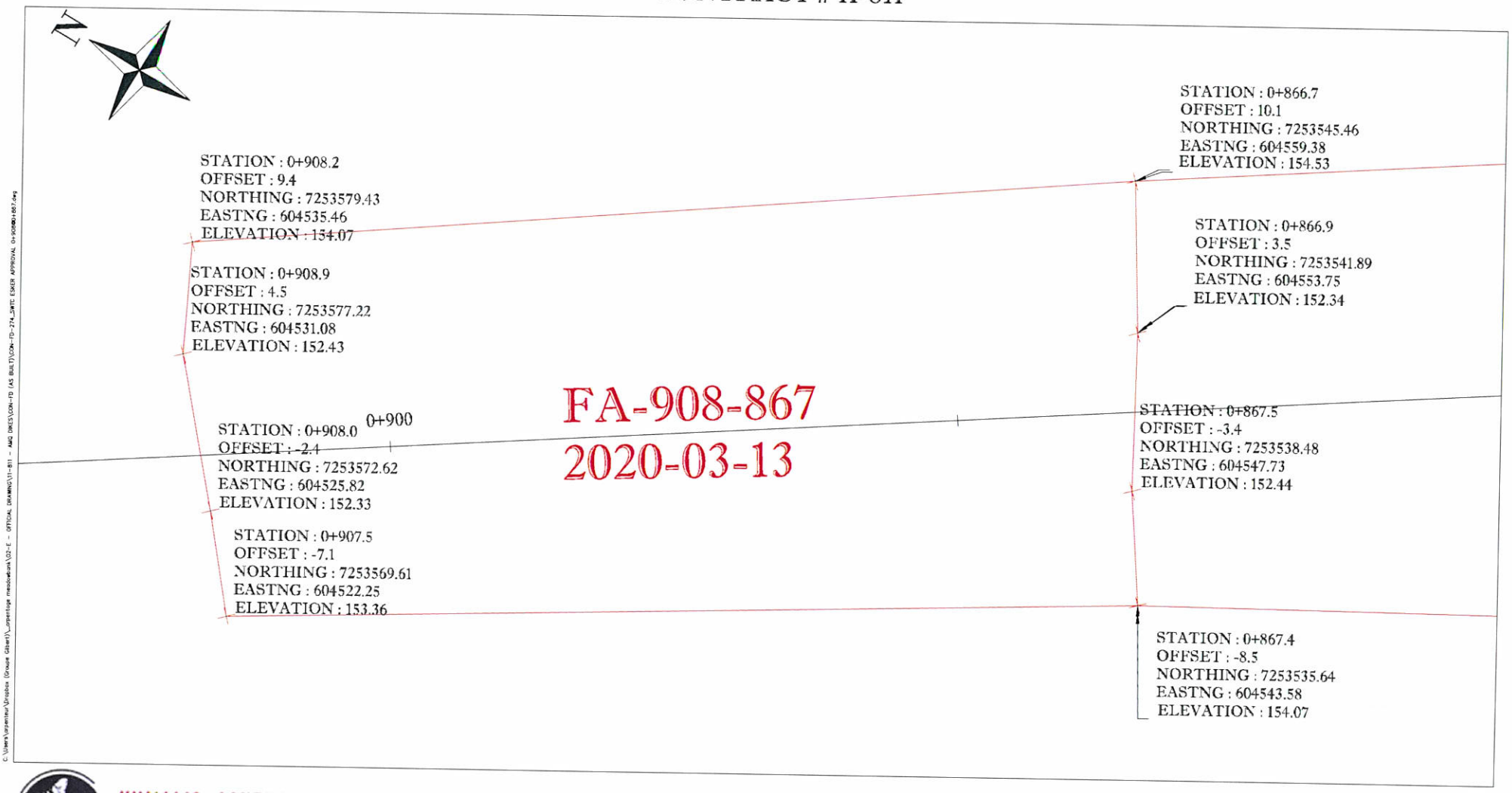


Photo 1: View of snow cleaning approval for fine filter placement between Sta. 0+555 to 0+700

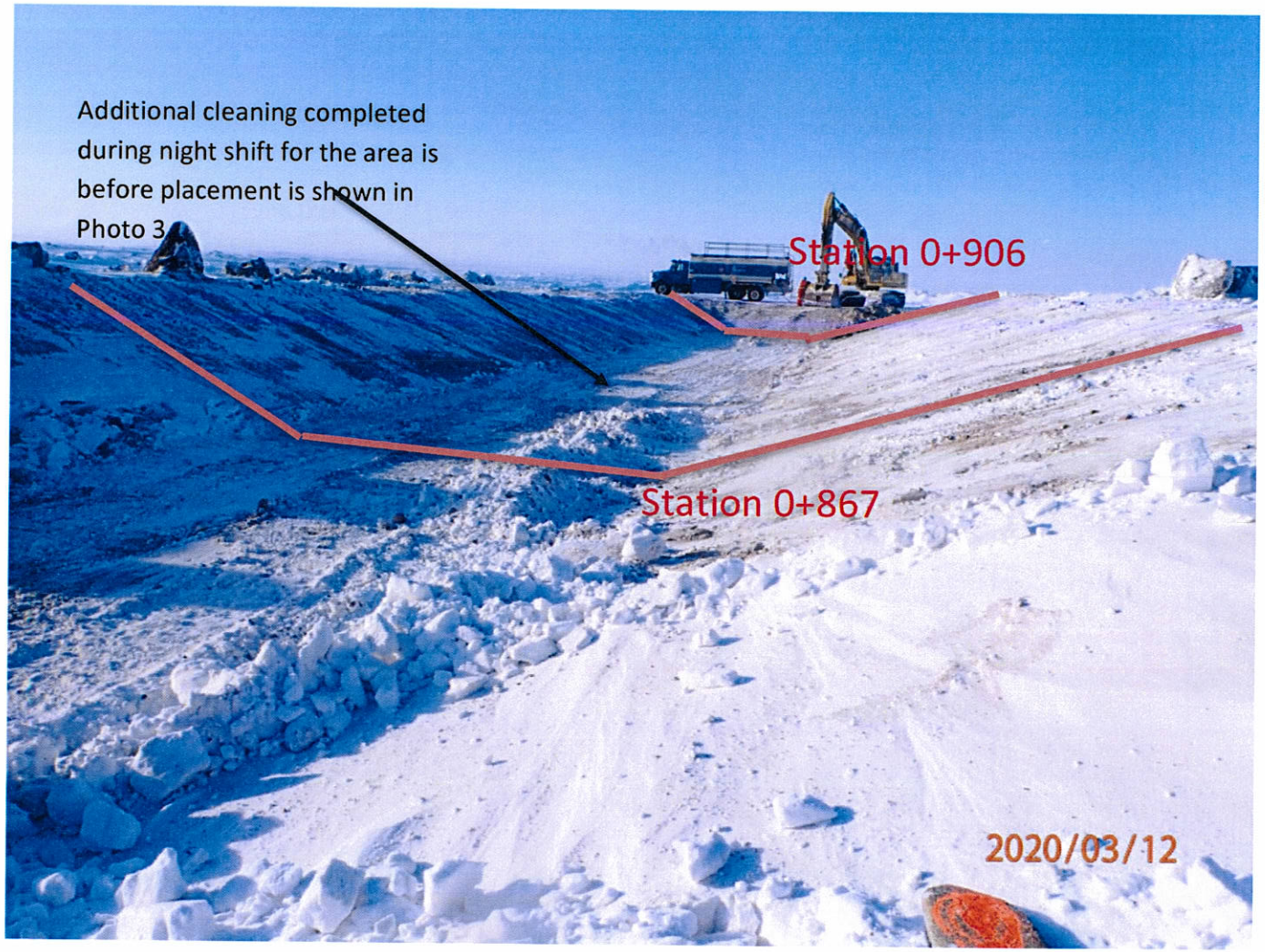
ESKER PLACEMENT APPROVAL - 0+908@ 0+867
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



FA-908-867
2020-03-13

KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : LOUIS-PIERRE COLLARD
DATE : 14-03-2020
CON-FD-274



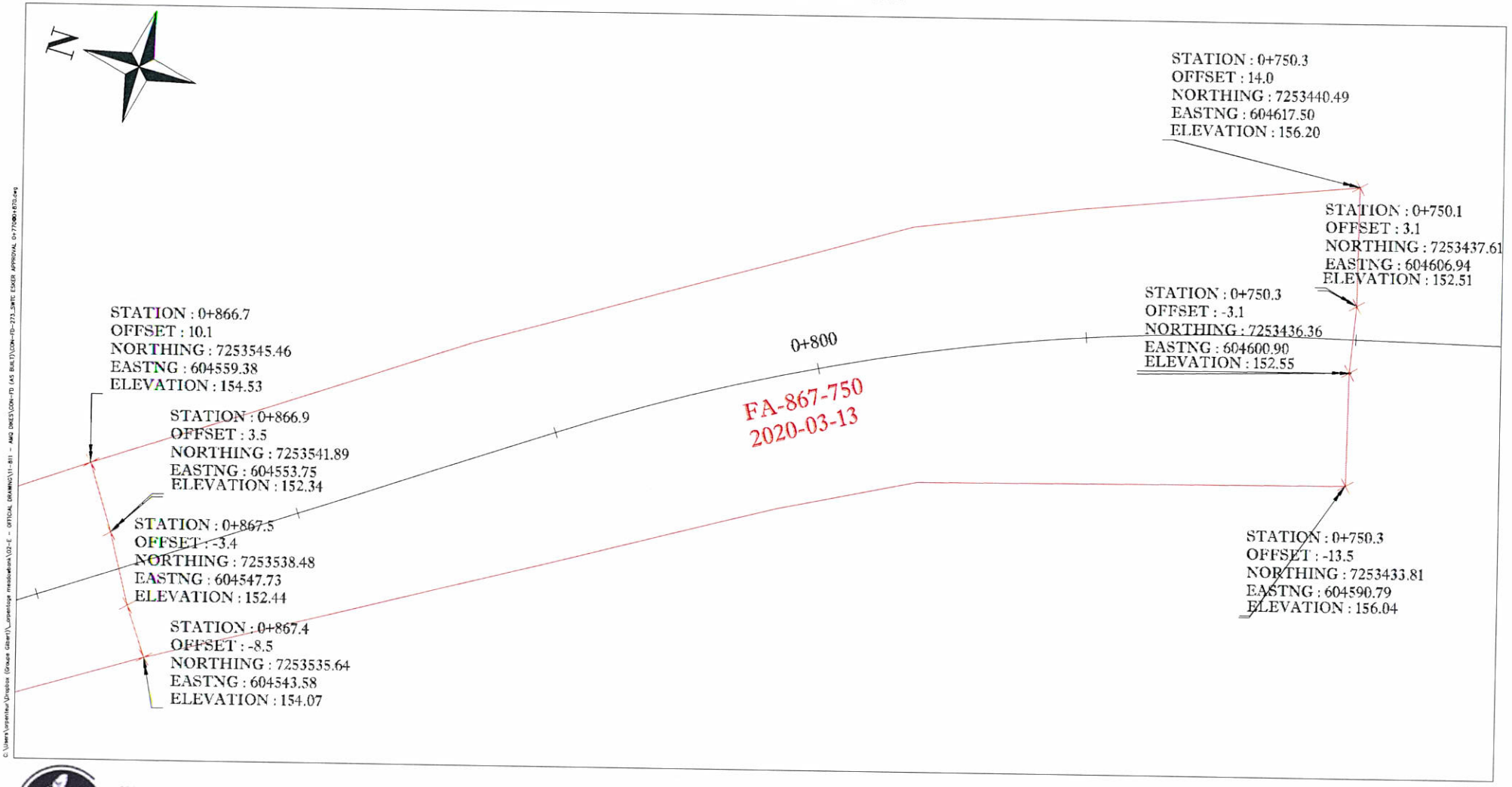
Note snow in the approved area was cleaned and before fine filter placement (see photo 3)

Photo 2: View of snow cleaning approval for fine filter placement between Sta. 0+867 to 0+906



Photo 3: Photo taken to confirm additional cleaning for snow removal before FF placement between station 0+867 to 0+906 (photo provided by AEM supervisor)

ESKER PLACEMENT APPROVAL - 0+867 @ 0+750
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : LOUIS-PIERRE COLLARD
DATE : 14-03-2020
CON-FD-273

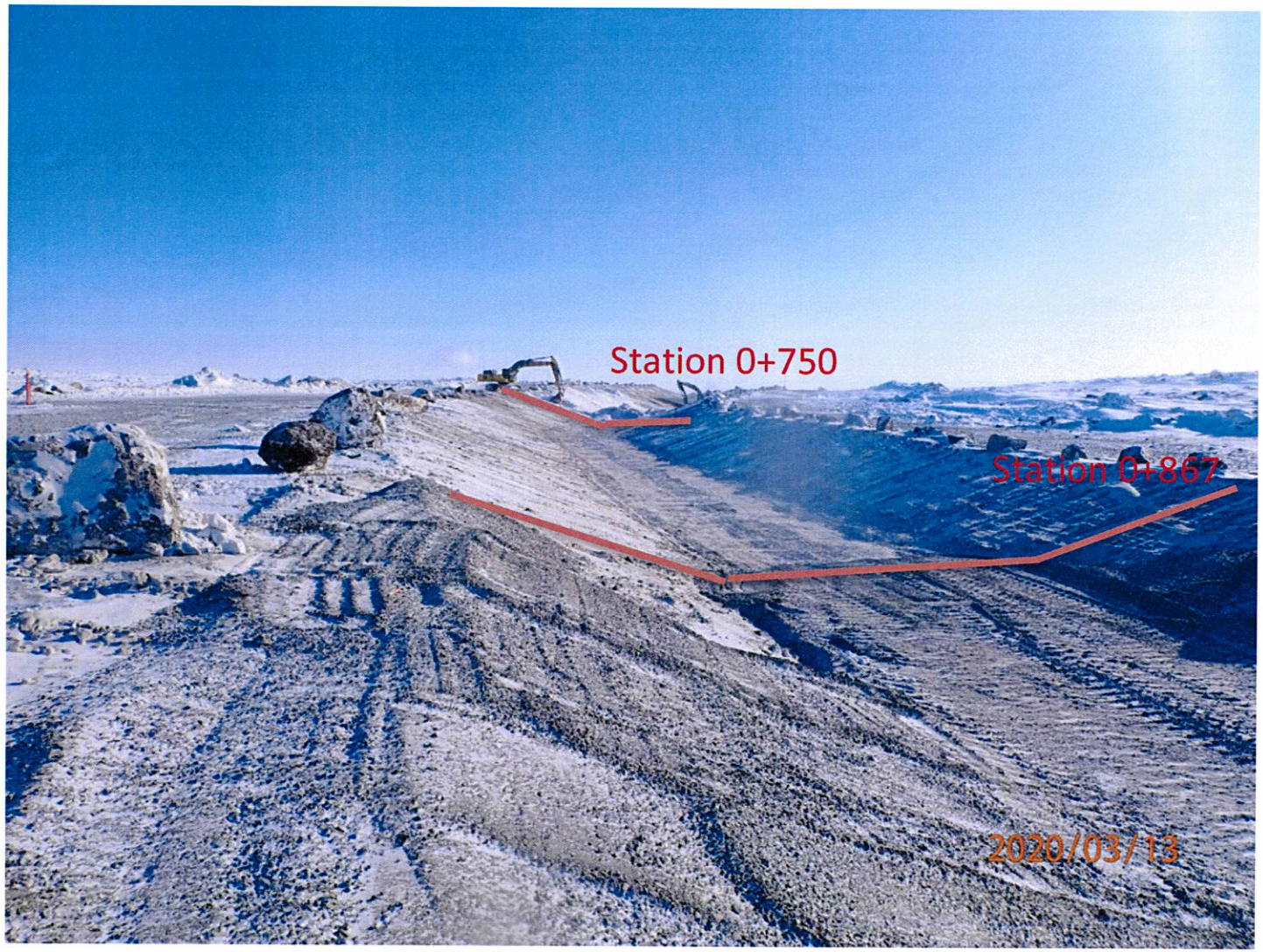
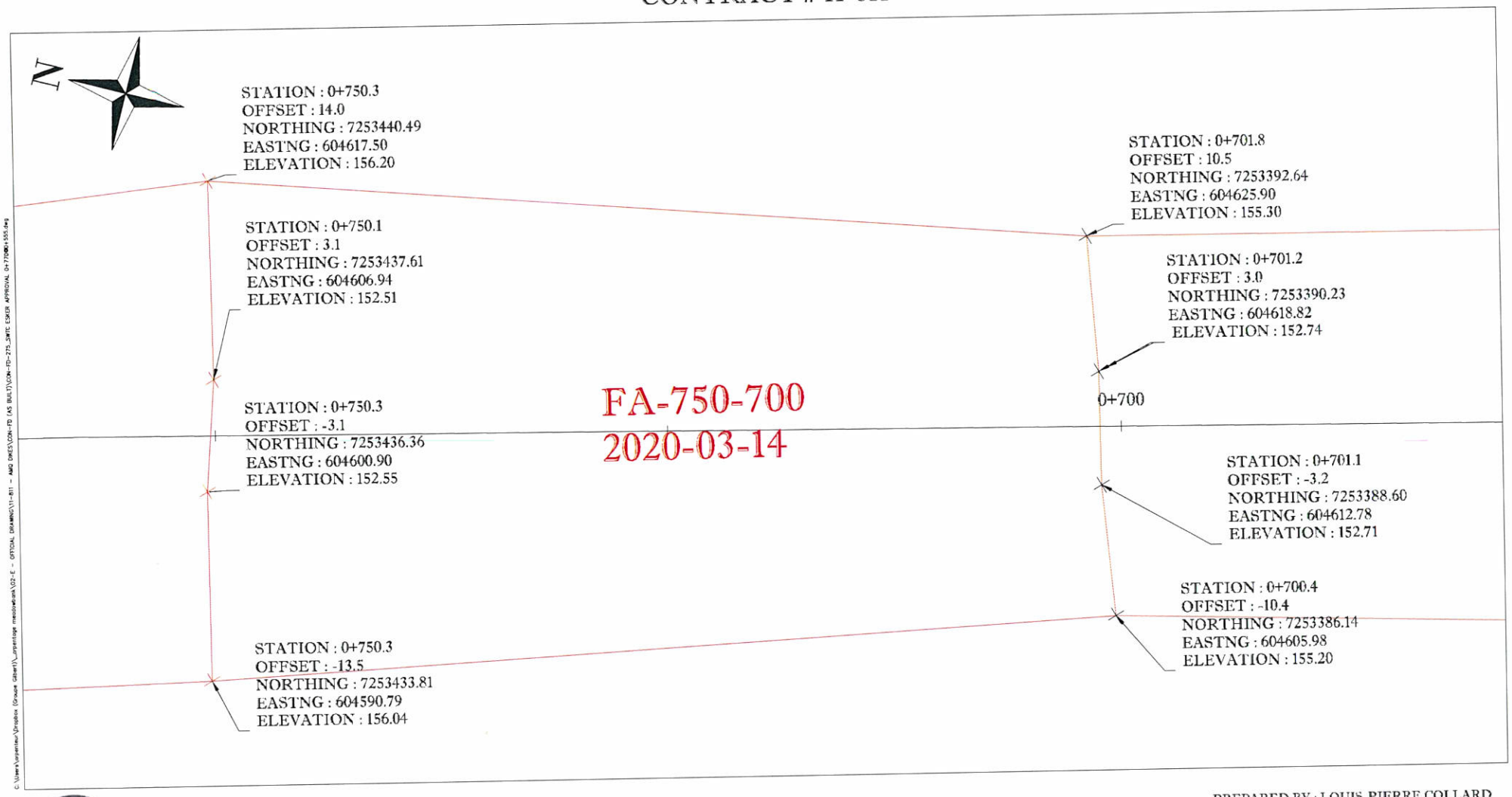


Photo 4: View of snow cleaning approval for fine filter placement between Sta. 0+867 to 0+772

ESKER PLACEMENT APPROVAL - 0+750@ 0+700
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



FA-750-700
2020-03-14

KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : LOUIS-PIERRE COLLARD
DATE : 14-03-2020
CON-FD-275



Photo 5: View of snow cleaning approval for fine filter placement between Sta. 0+750 to 0+700

SNC·LAVALIN

Sustaining capital
Mining & Metallurgy
1140 Maisonneuve boul. West
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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DOCUMENT #: 20200321 - DS - 20
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 2020 - 03 - 21

TIME: 11:00 AM
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Esker
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+555 to 0+545	**Station:**	0+056 to 0+330 and 0+906 to 0+555
Inclination:		**Details:**	
ELEVATION: ☐ varies	_____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	~~✓~~				
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

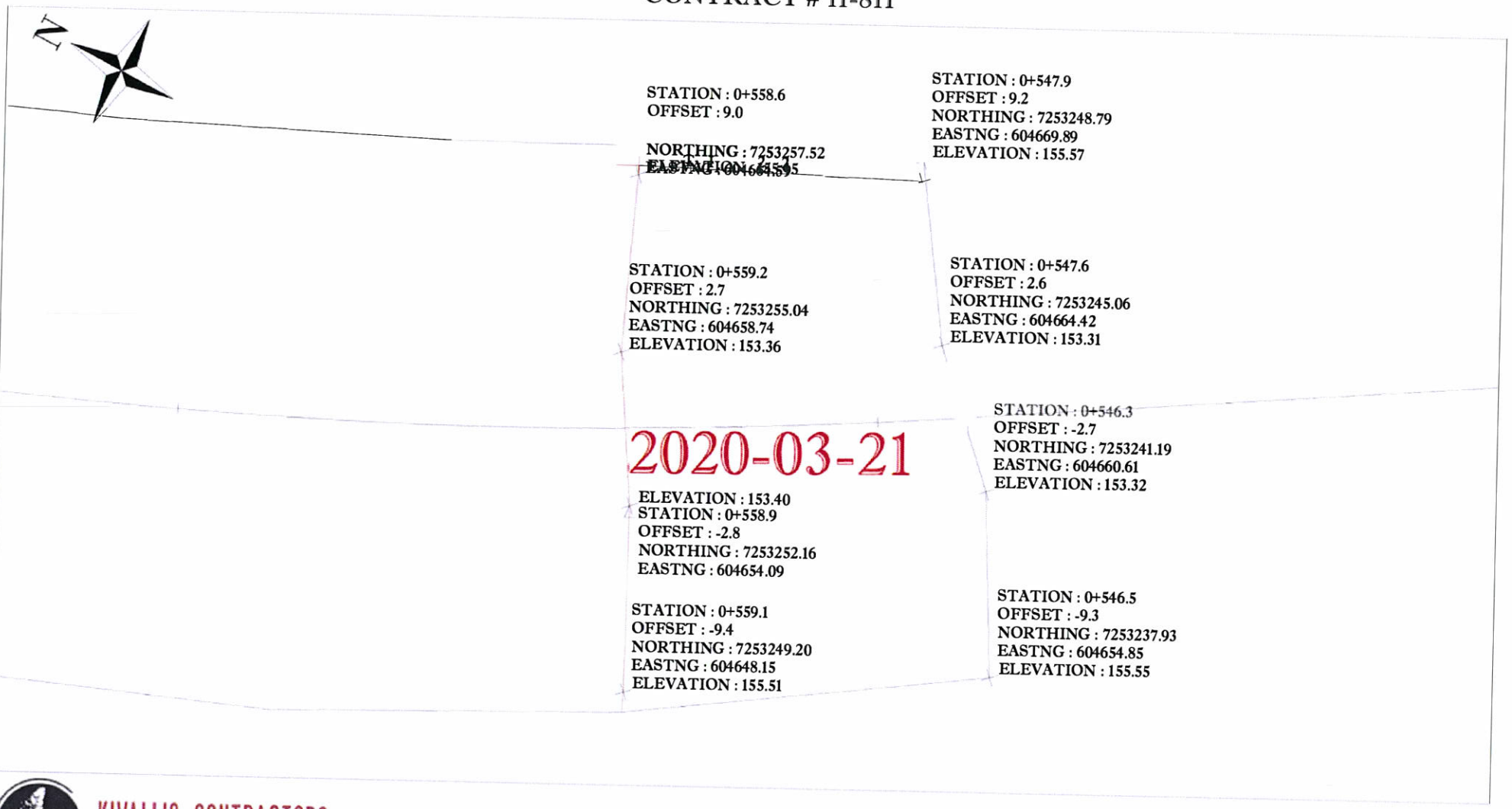
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
All	Visual				

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Matthieu Côté		2020-03-22
QA REPRESENTATIVE	Daniel Meles		2020-03-22
OWNER'S REPRESENTATIVE	LAURIER COLLETTE		2020-03-23
CONTRACTOR'S REPRESENTATIVE	Jonathan Truchon		2020.03.22

ESKER PLACEMENT APPROVAL - 0+560@ 0+545
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : FRANCIS PAULIN
DATE : 22-03-2020
CON-FD-298



Photo 1: view of approximate area for esker approval for fine filter placement

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-03-27

DOCUMENT #: 20200327-DS-26 **TIME:** 23:00
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Esker placement
- ☐ Other: _____

LOCATION	**PREVIOUS APPROVALS**
Station 0+495 to 0+550	**Station:**
Inclination:	**Details:**
ELEVATION: ☐ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:
(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓				
2. Free of ice/snow/water	✓				
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓				
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS (Refer to list above for item #)		APPROVED BY:			
		QA		QC	
ITEM		Y	N	Y	N
	snow and ice to be removed before placement of fine filter	✓			

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Yaotree Ameyrron		2020-03-27
QA REPRESENTATIVE	Paul Yong		2020-03-27
OWNER'S REPRESENTATIVE	Christian Tremblay		2020-04-01
CONTRACTOR'S REPRESENTATIVE	Patrice Ouellet		2020-03-30

SNC·LAVALIN AGNICO EAGLE

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-04-04

DOCUMENT #: 20200404-DS-33 **TIME:** 14h00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

(24 hour clock)

COMPLETED BY (AEM QA REPRESENTATIVE): (Name) Christian Tremblay

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Esker
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+374 to 0+400 (West slope)	**Station:**	0+331 to 0+374
Inclination:		**Details:**	
ELEVATION :	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	–		–		
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					

14.					
15.					
16.					
17.					

DETAILS

(Refer to list above for item #)

		APPROVED BY:			
		QA AEM		QC AEM	
ITEM		**Y**	**N**	**Y**	**N**

APPROVED BY:	**NAME**	**SIGNATURE**	**DATE**
CONTRACTOR REPRESENTATIVE	Patrice Ouellet		2020-04-05
AEM QC REPRESENTATIVE	Yastree Amegnran		2020-04-04
AEM QA REPRESENTATIVE	Christian Trembley	Christian T.	2020-04-04
OWNER'S REPRESENTATIVE	Christian Trembley	Christian T.	2020-04-05

REVIEWED BY (Remote off-site support) *:	**NAME**	**SIGNATURE**	**DATE**
DESIGNER (SNC-LAVALIN) REPRESENTATIVE	Erika Voyer		2020-04-06

** SNC-LAVALIN REVIEW AND SIGNATURE BASED ON OBSERVATIONS AND APPROVALS MADE BY AEM QA/QC REPRESENTATIVE ON SITE*

DESIGNER COMMENTS:

SNC·LAVALIN AGNICO EAGLE

APPROVAL FORM

PROJECT :	**SWTDC Construction**
PROJECT #:	667648
DATE:	2020-04-11
DOCUMENT #:	20200411-DS-42 (YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift
TIME:	8h00 (24 hour clock)

COMPLETED BY (AEM QA REPRESENTATIVE): (Name) Christian Tremblay

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Ester
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+400 to 0+495	**Station:**	
Inclination:		**Details:**	
ELEVATION :	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					

14.					
15.					
16.					
17.					

DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N
7	Apparently, the survey as built was not totally completed before putting the FF. SANA to make sure to provide a theoritical surface based on the FF as built	✓		✓	

	NAME	SIGNATURE	DATE
APPROVED BY:			
CONTRACTOR REPRESENTATIVE	Claude Trembley	Claude Trembley	11-04-20
AEM QC REPRESENTATIVE	THOMAS DAM		2020-04-11
AEM QA REPRESENTATIVE	Christian Trembley	Christian T.	2020-04-11
OWNER'S REPRESENTATIVE	Christian Trembley	Christian T.	2020-04-11

	NAME	SIGNATURE	DATE
REVIEWED BY (Remote off-site support) *:			
DESIGNER (SNC-LAVALIN) REPRESENTATIVE	Erika Voyer		2020/04/13

** SNC-LAVALIN REVIEW AND SIGNATURE BASED ON OBSERVATIONS AND APPROVALS MADE BY AEM QA/QC REPRESENTATIVE ON SITE*

DESIGNER COMMENTS:

Review based on pictures and comments provided in daily report 20200411DS-SR87

APPRO

SNC·LAVALIN AGNICO EAGLE

FORM

PROJECT :	**SWTDC Construction**
PROJECT #:	667648 **DATE:** 2020-04-26
DOCUMENT #:	20200426-DS-45 **TIME:** 10h00
	(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

COMPLETED BY (AEM QA REPRESENTATIVE): (Name) Christian Tremblay

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Esker
- ☐ Other: _____

LOCATION	**PREVIOUS APPROVALS**
Station 0+331 to 0+374	**Station:**
Inclination:	**Details:**
ELEVATION : ☐ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8. * See details for comments					
9.					
10.					
11.					
12.					
13.					

14.					
15.					
16.					
17.					

DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N
*	This approval came after the work was completed for the simple reason that it was forgotten at that time	✓	✓		

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Claude Tremblay		2020-04-26
AEM QC REPRESENTATIVE		Jerome Colard	2020-4-26
AEM QA REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-26
OWNER'S REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-26

REVIEWED BY (Remote off-site support) *:	NAME	SIGNATURE	DATE
DESIGNER (SNC-LAVALIN) REPRESENTATIVE	*Daniel Meles*		*2020-04-27*

** SNC-LAVALIN REVIEW AND SIGNATURE BASED ON OBSERVATIONS AND APPROVALS MADE BY AEM QA/QC REPRESENTATIVE ON SITE*

DESIGNER COMMENTS:

Paul (SNC-Lavalin QA) approved the area for fine filter placement on April 1, 2020. The approval form was completed on April 26, 2020 for the reason indicated in the detail section of the approval form

Appendix G-2-2

Fine Filter Approval

SNC·LAVALIN

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1140 Maisonneuve boul. West
Montreal (Québec)
Canada H3A 1M8

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www.snclavalin.com

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DOCUMENT #: 20200312-DS-14
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 2020-03-11/12

TIME: 4:00PM / 08:00AM
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Fine Filter
- ☐ Other: _____

LOCATION	**PREVIOUS APPROVALS**
Station 0+065 to 0+325	**Station:** —
Inclination:	**Details:**
ELEVATION: ☐ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water					—
3. Cleaning of excavation bottom					—
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

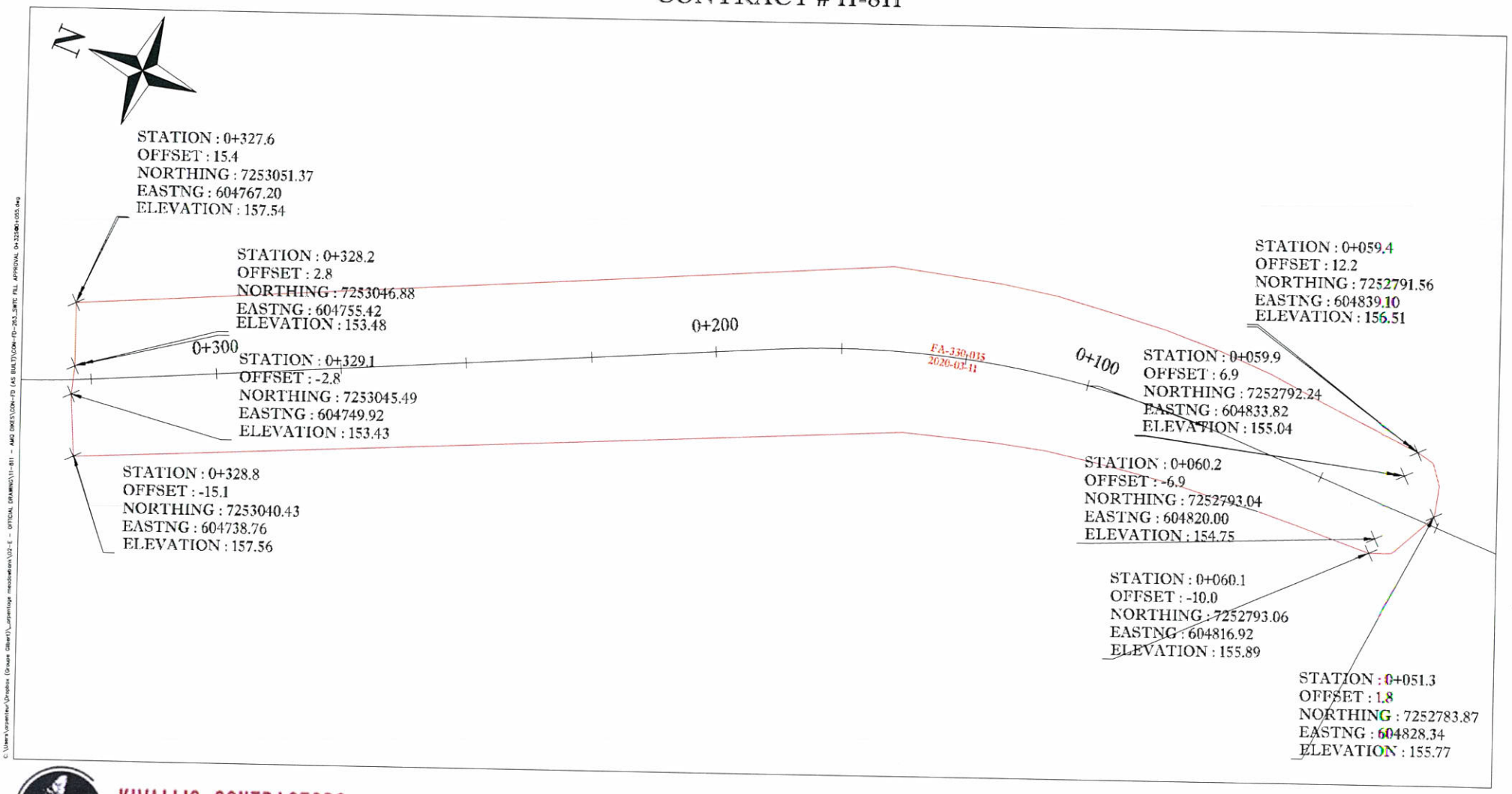
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
All	Based on Visual assessment				
	Gradation test result of four samples were available at the time of approval.				

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Mathieu Côté	Mathieu Côté	2020-03-12
QA REPRESENTATIVE	Daniel Meles	Daniel Meles	2020-03-12
OWNER'S REPRESENTATIVE	MARION HABERSETZER		2020-03-12
CONTRACTOR'S REPRESENTATIVE	Nicolas Tremblay	Nicolas Tremblay	2020-03-12

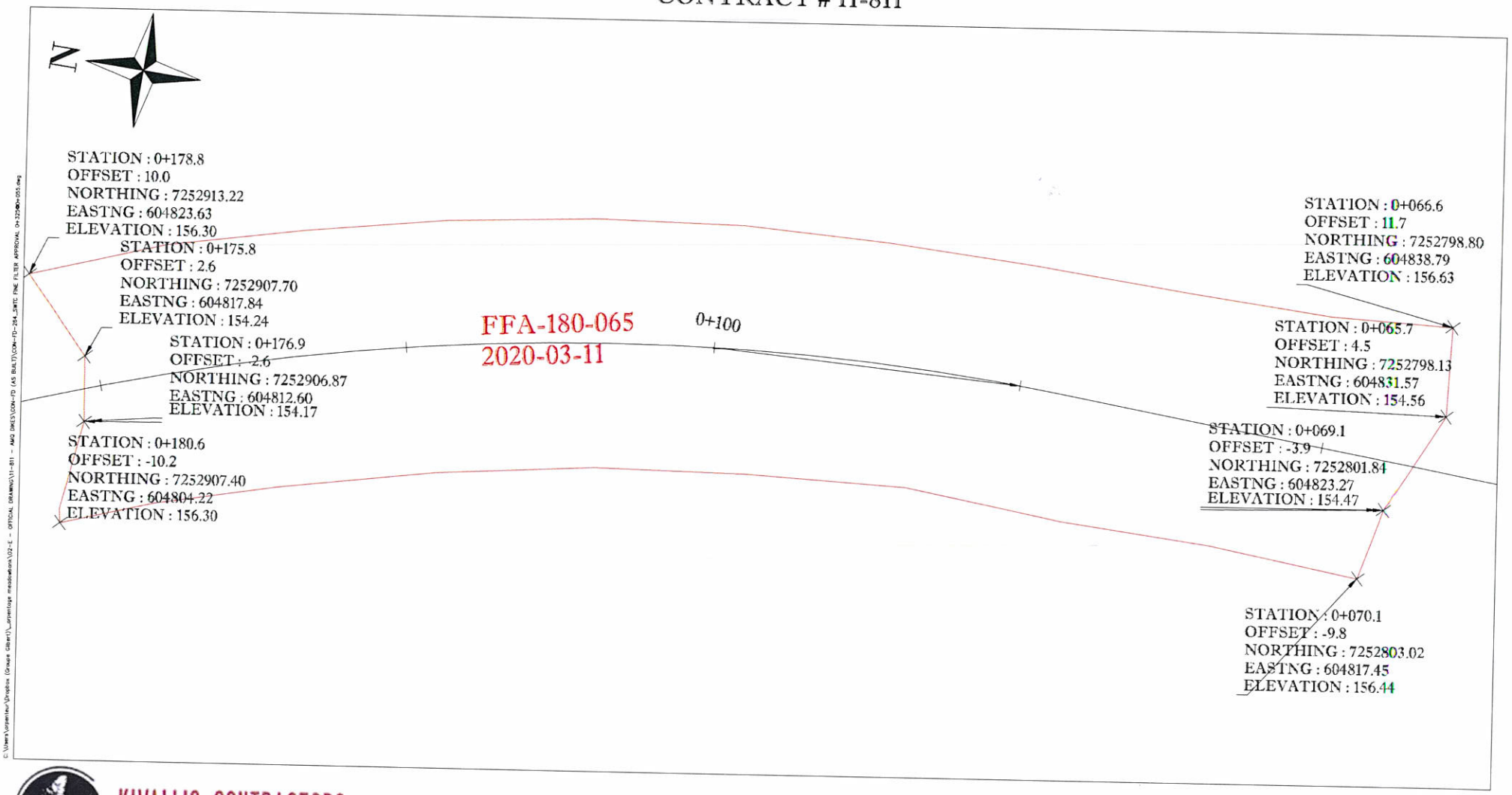
ESKER PLACEMENT APPROVAL - 0+328 @ 0+050
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : LOUIS-PIERRE COLLARD
DATE : 11-03-2020
CON-FD-263

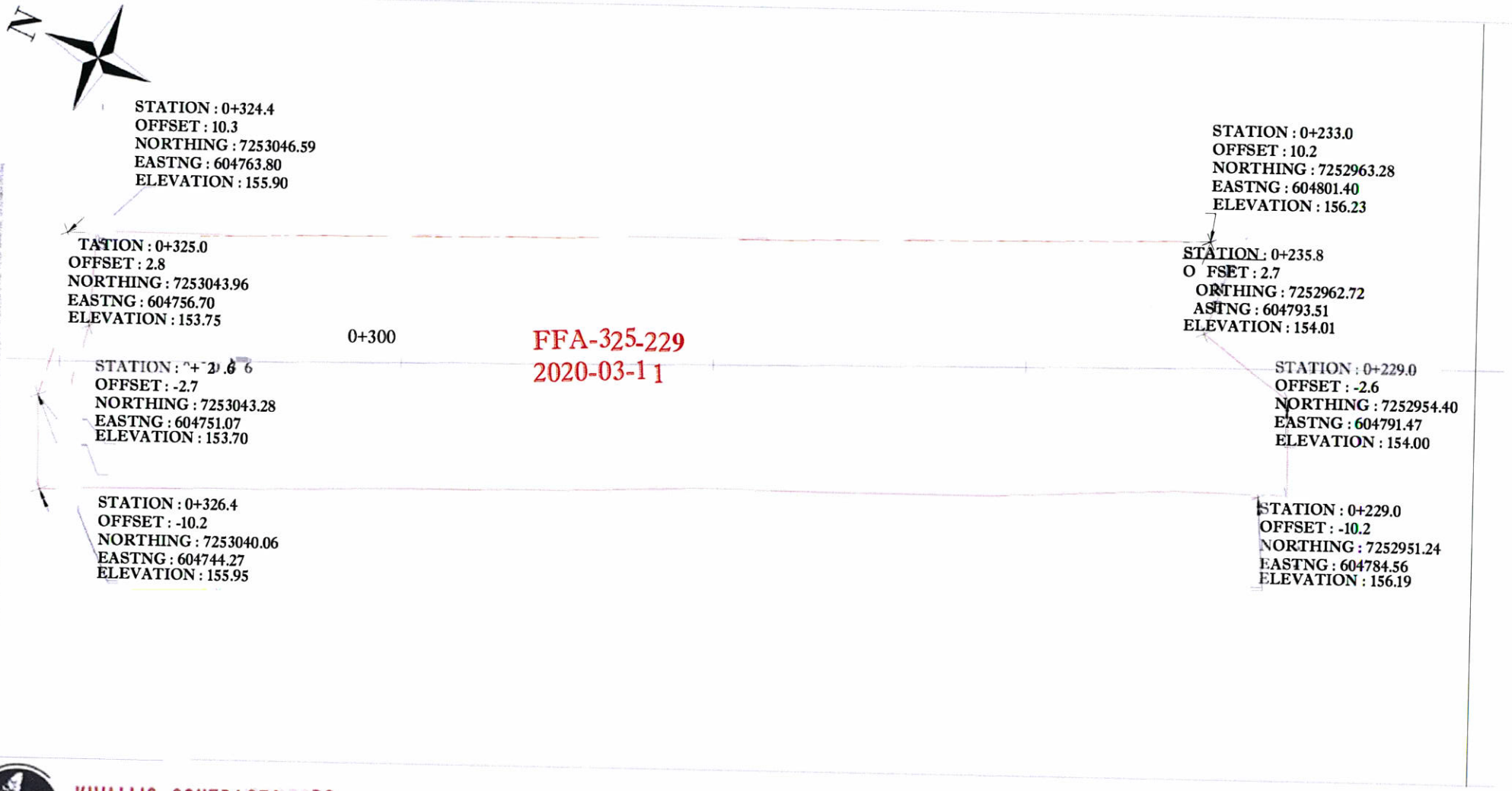
FINE FILTER PLACEMENT APPROVAL - 0+180 @ 0+065
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : LOUIS-PIERRE COLLARD
DATE : 11-03-2020
CON-FD-264

FINE FILTER PLACEMENT APPROVAL - 0+325 @ 0+229
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811

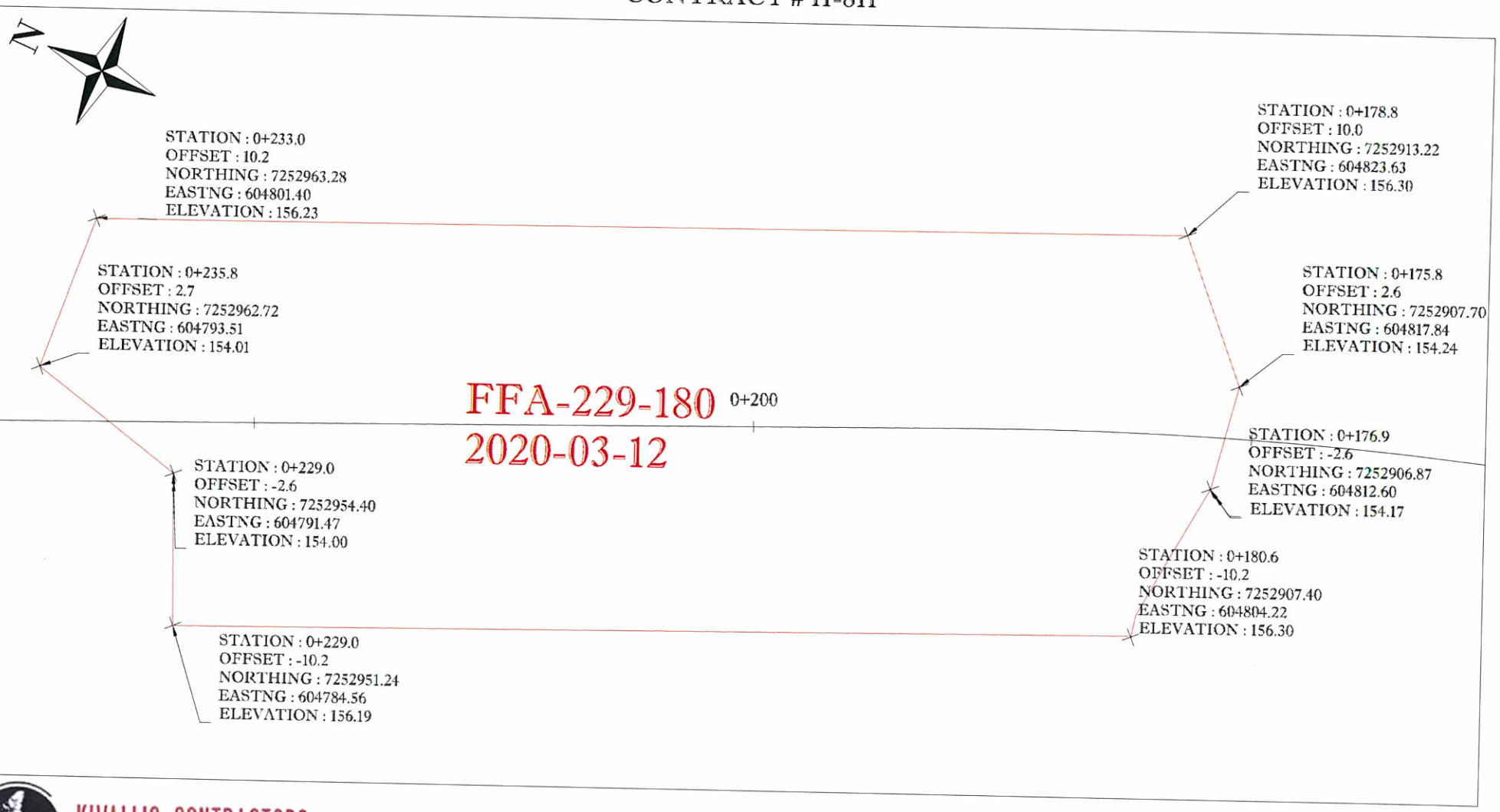


FFA-325-229
2020-03-11

KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : LOUIS-PIERRE COLLARD
DATE : 11-03-2020
CON-FD-265

FINE FILTER PLACEMENT APPROVAL - 0+229@ 0+180
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : LOUIS-PIERRE COLLARD
DATE : 12-03-2020
CON-FD-267

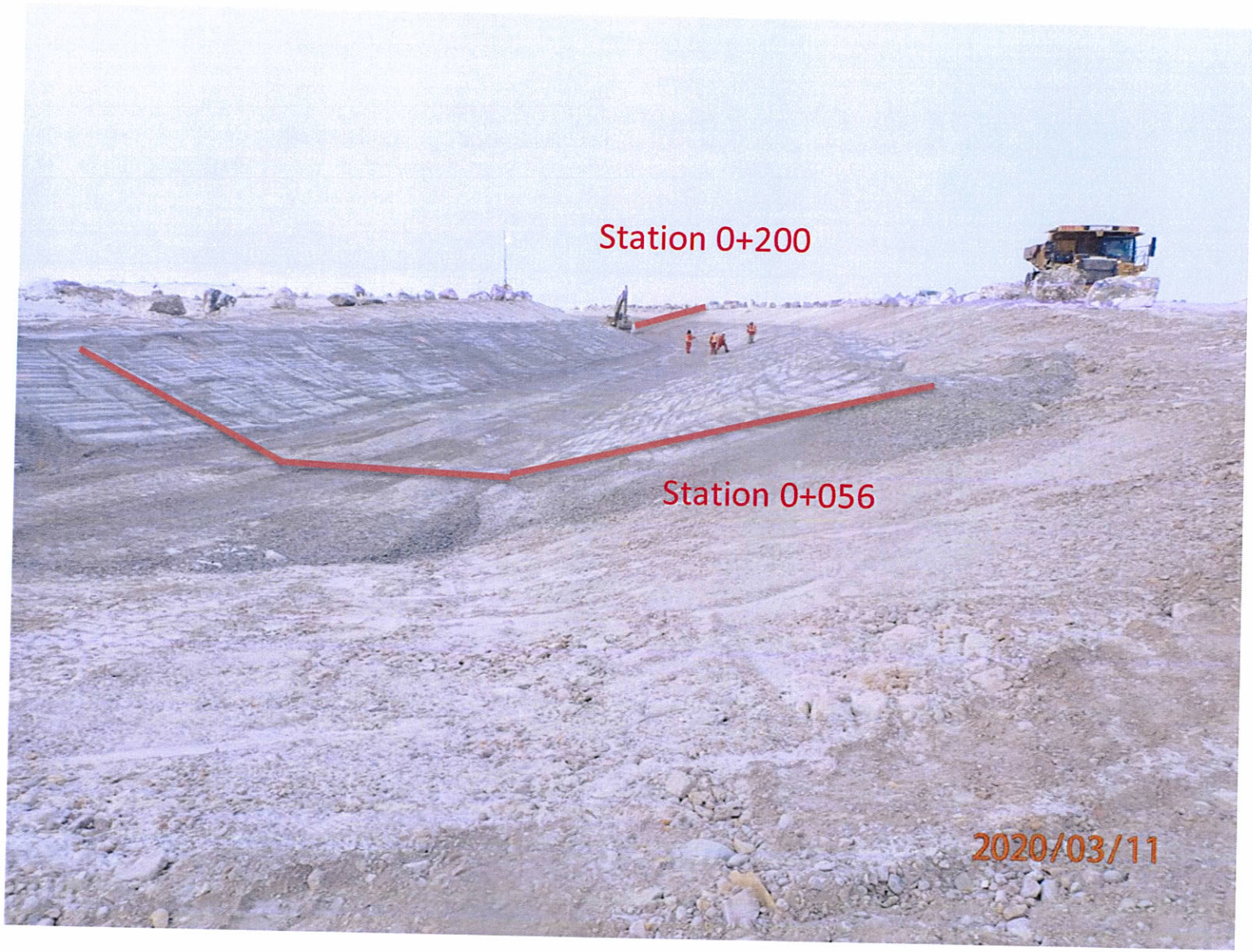


Photo 1 – View of approximate approved area of fine filter between Sta. 0+56 and Sta. 0+180



Photo 2 – View of approximate approved area of fine filter between Sta. 0+200 and Sta. 0+3330

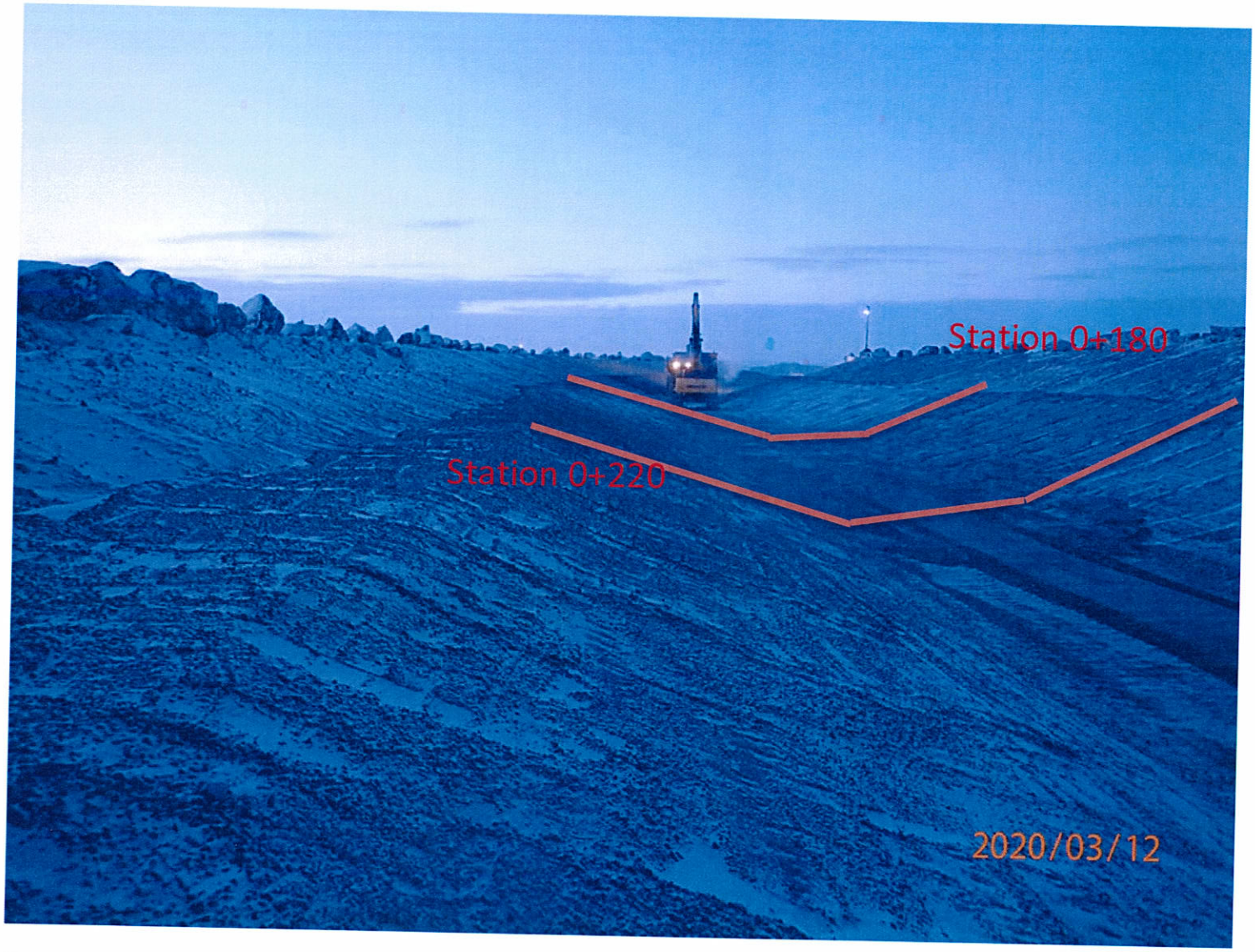


Photo 1 – View of approximate approved area of fine filter between Sta. 0+180 and Sta. 0+200

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DOCUMENT #: 20200313-DS-15
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 2020-03-13

TIME: 3:00 PM
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Fine Filter Placement
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+700 to 0+555	**Station:**	0+065 to 0+325
Inclination:		**Details:**	
ELEVATION: ☐ varies	_____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY:				
	QA		**QC**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water					
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS

(Refer to list above for item #)

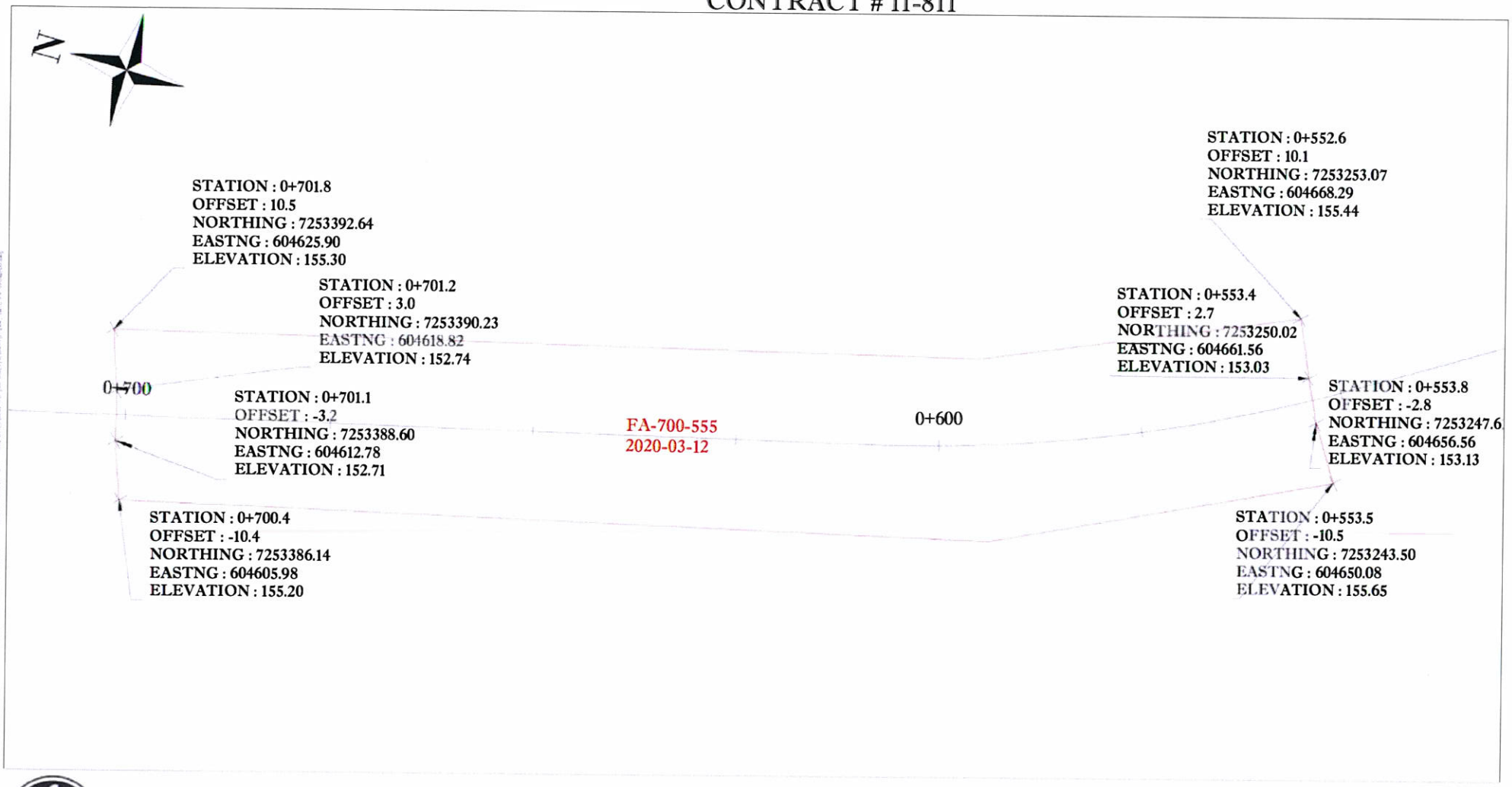
ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
All	Based on Visual assessment				
	Gradation test results of three from the area and nine from other area available at the time of approval				

APPROVED BY:

	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Mathieu Côté	Mathieu Côté	2020-03-14
QA REPRESENTATIVE	Daniel Meles	Daniel Meles	2020-03-14
OWNER'S REPRESENTATIVE	Patrice Gagnon	Patrice Gagnon	2020-03-14
CONTRACTOR'S REPRESENTATIVE	Nicolas Tremblay	Nicolas Tremblay	2020-03-14

FINE FILTER PLACEMENT APPROVAL 0+700 @ 0+555

SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : LOUIS-PIERRE COLLARD
DATE : 12-03-2020
CON-FD-268

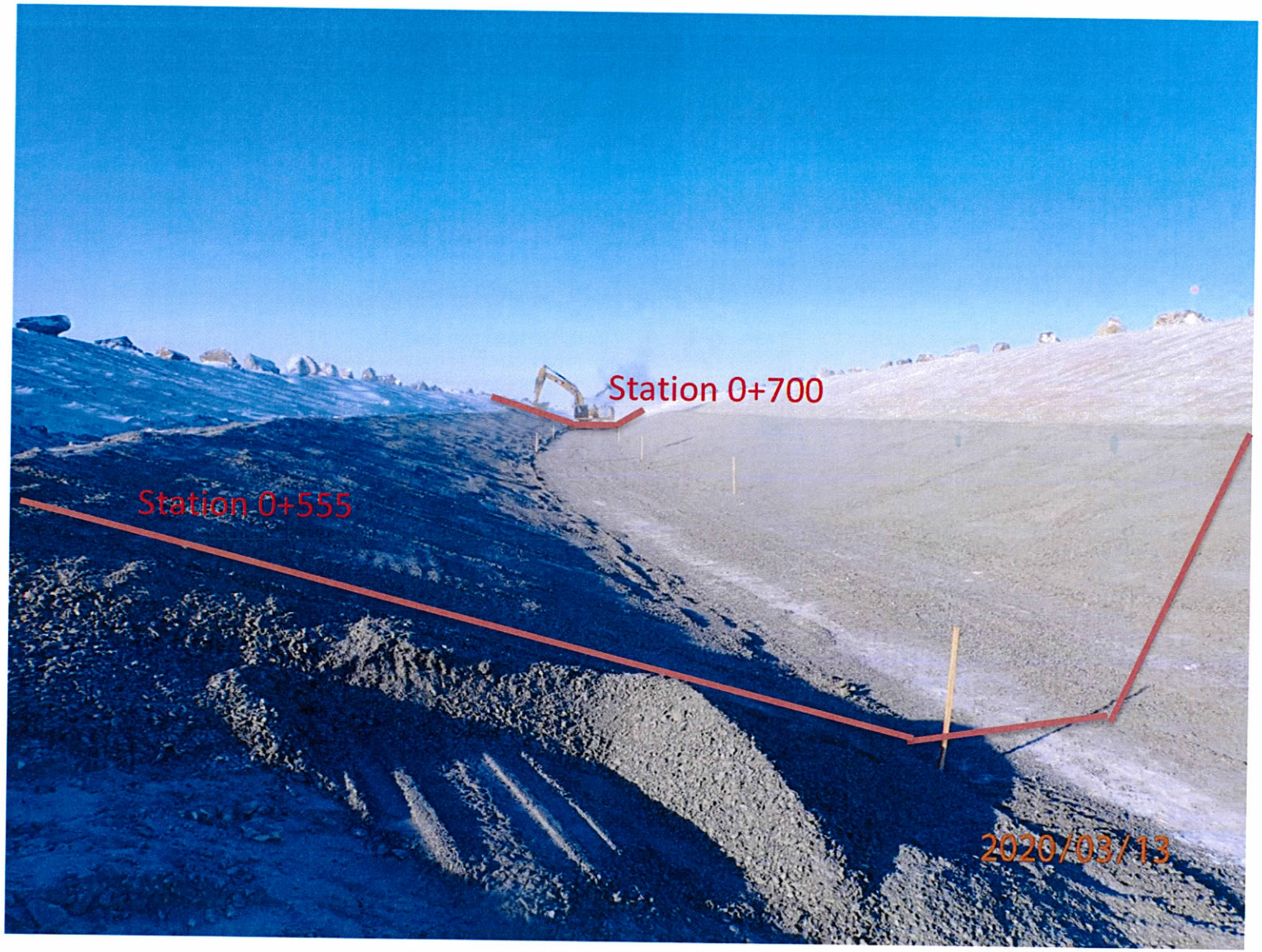


Photo 1: View of fine filter approval Sta. 0+555 to 0+700

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DATE: 2020-03-15

DOCUMENT #: 20200315-DS-17
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

TIME: 5:30 PM
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Fine Filter Placement
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+700 to 0+747 and 0+906 to 0+815	**Station:**	0+065 to 0+325 and 0+700 to 0+555
Inclination:		**Details:**	
ELEVATION:	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water					
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

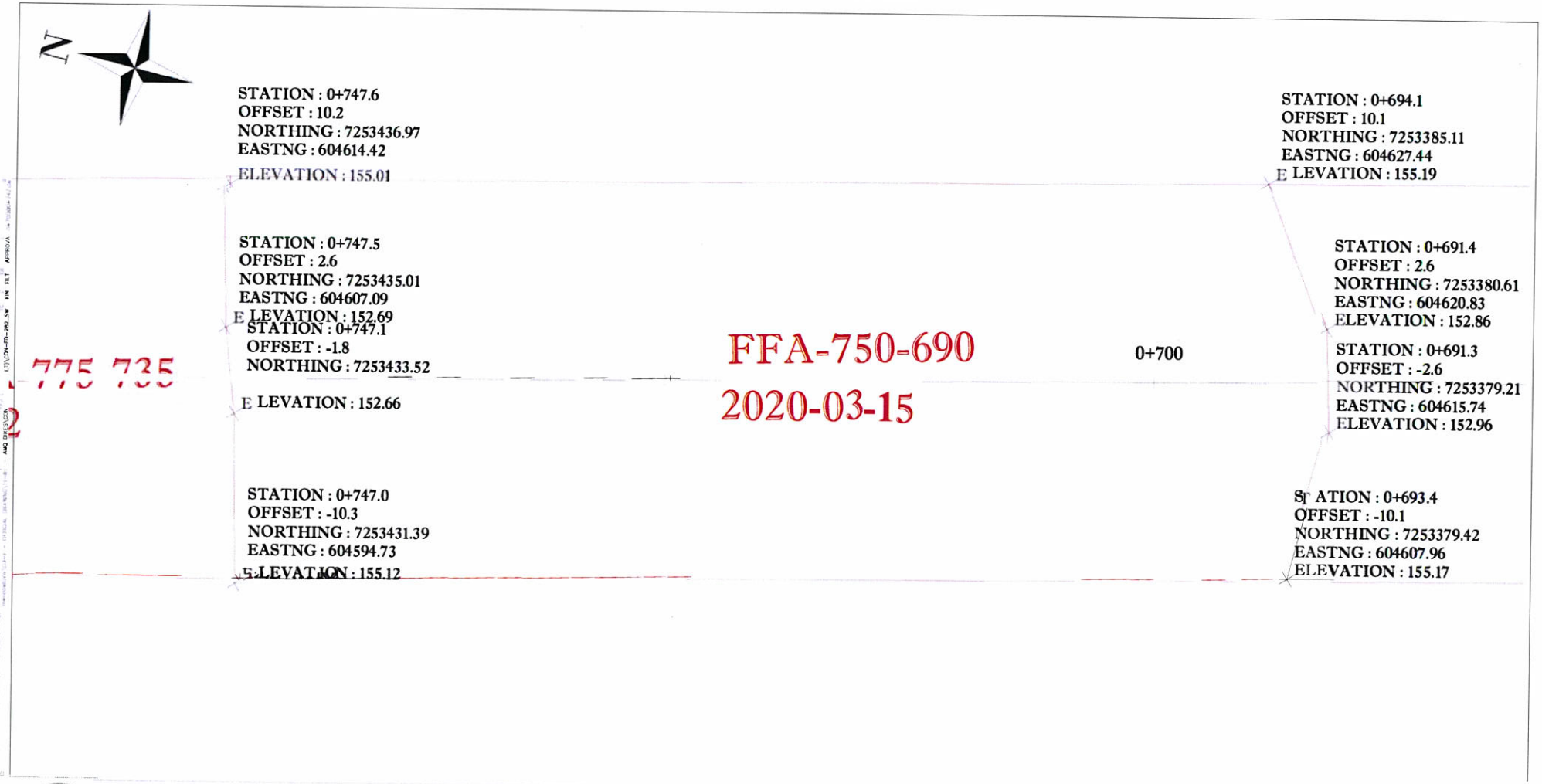
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
All	Based on visual assessment				
	Gradation test results of one in the approved area and twenty one (21) from previously approved area available at the time of approval				
	Snow on the fine filter should be Cleaned and inspected by QA/QC before 'Coarse' filter placement.				

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Mathieu Côté		2020-03-15
QA REPRESENTATIVE	Daniel Meles		2020-03-15
OWNER'S REPRESENTATIVE		PATRICE CAGNON	2020-03-17
CONTRACTOR'S REPRESENTATIVE	Jonathan Trachon		2020-03-17

FINE FILTER PLACEMENT APPROVAL - 0+750@ 0+690
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811

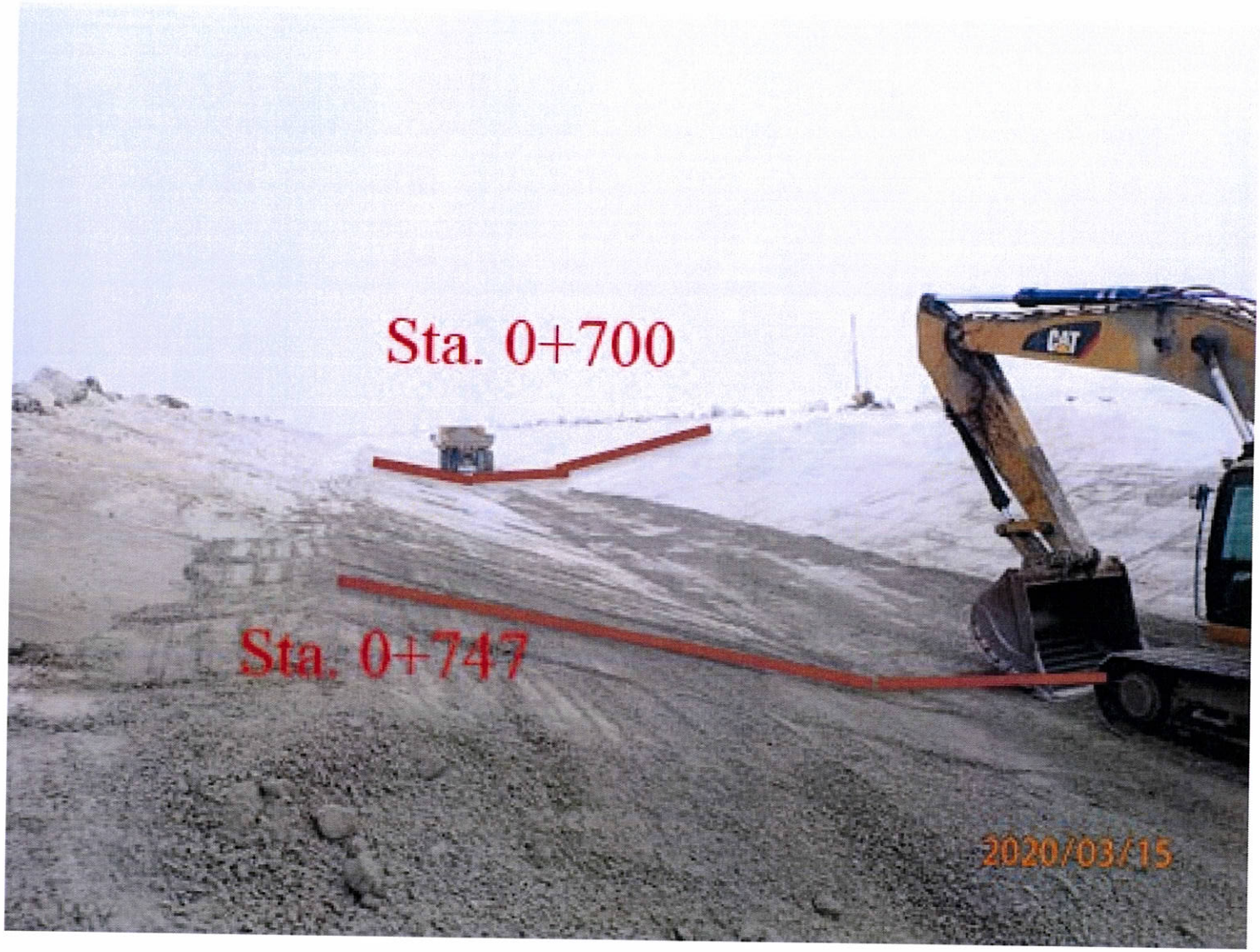


775 735

FFA-750-690
2020-03-15

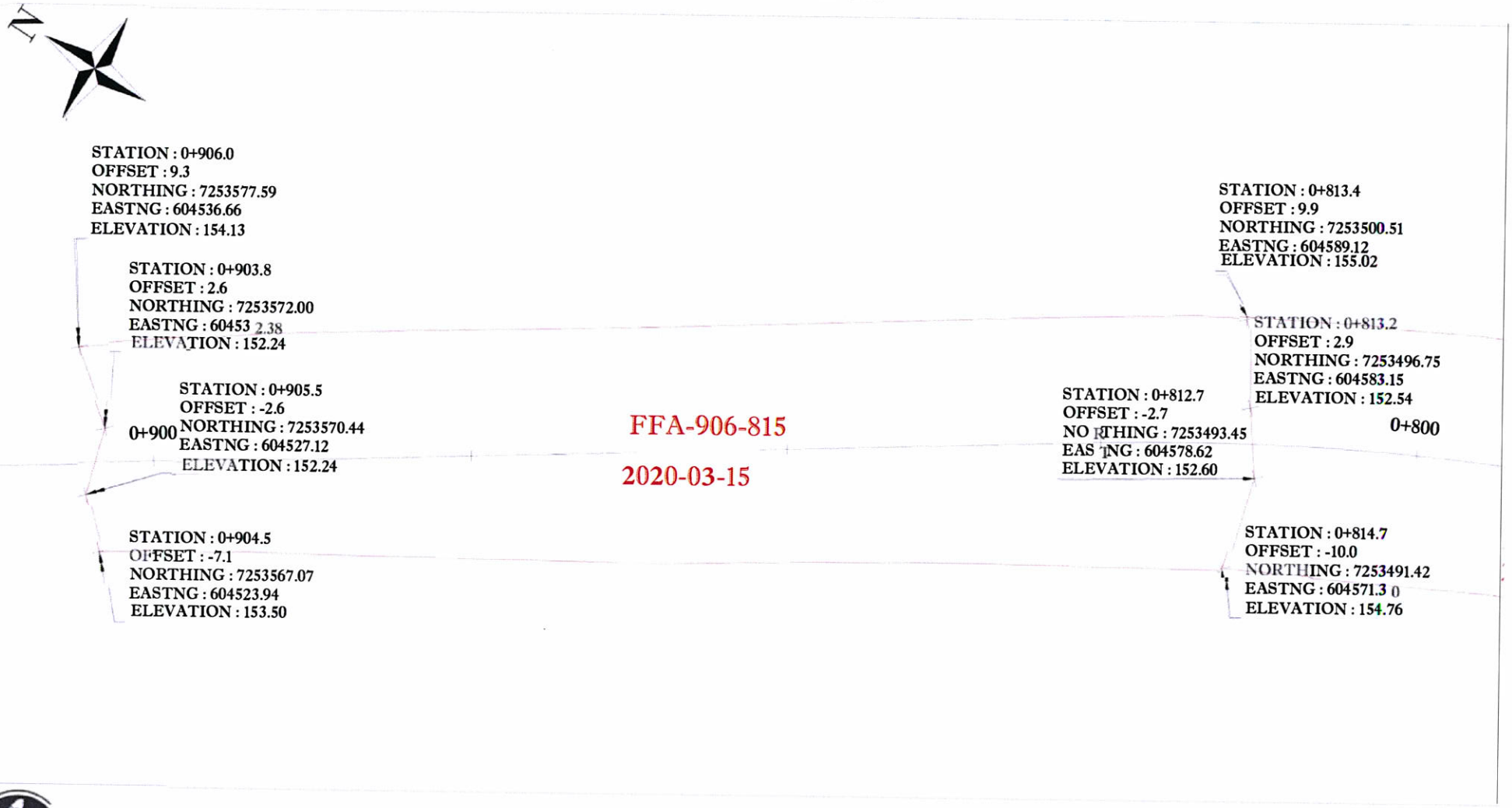
KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : LOUIS-PIERRE COLLARD
DATE : 16-03-2020
CON-FD-282



Picture 1: Approximate area of fine filter approved between Station 0+700 and 0+747

FINE FILTER PLACEMENT APPROVAL - 0+906@ 0+815
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : LOUIS-PIERRE COLLARD
DATE : 16-03-2020
CON-FD-283



Picture 2: Approximate area of fine filter approved between Station 0+815 and 0+906

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DOCUMENT #: 20200317 – DS – 18
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 2020 – 03 – 17

TIME: 5:45 PM
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Fine Filter
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+747 to 0+815	**Station:**	0+065 to 0+325, 0+555 to 0+747 and 0+906 to 0+815
Inclination:		**Details:**	
ELEVATION: ☐ varies	_____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:
(Add additional items if needed)

	VERIFICATIONS DONE BY:				
	QA		**QC**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water					
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
All	Based on visual assessment				
	Gradation results of the required QS per Specification were available at the time of approval				
	Snow on ~~approve~~ fine filter are should be cleaned and inspected by QA/QC before coarse filter placement.				

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Mathieu Côté		2020-03-17
QA REPRESENTATIVE	Daniel Meles		2020-03-17
OWNER'S REPRESENTATIVE	Marion Habersetzer		2020-03-18
CONTRACTOR'S REPRESENTATIVE	Jonathon Truchon		2020-03-18

FINE FILTER PLACEMENT APPROVAL - 0+815@ 0+747
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



FFA-815-74
7 2020-03-17

KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : LOUIS-PIERRE COLLARD
DATE : 16-03-2020
CON-FD-284

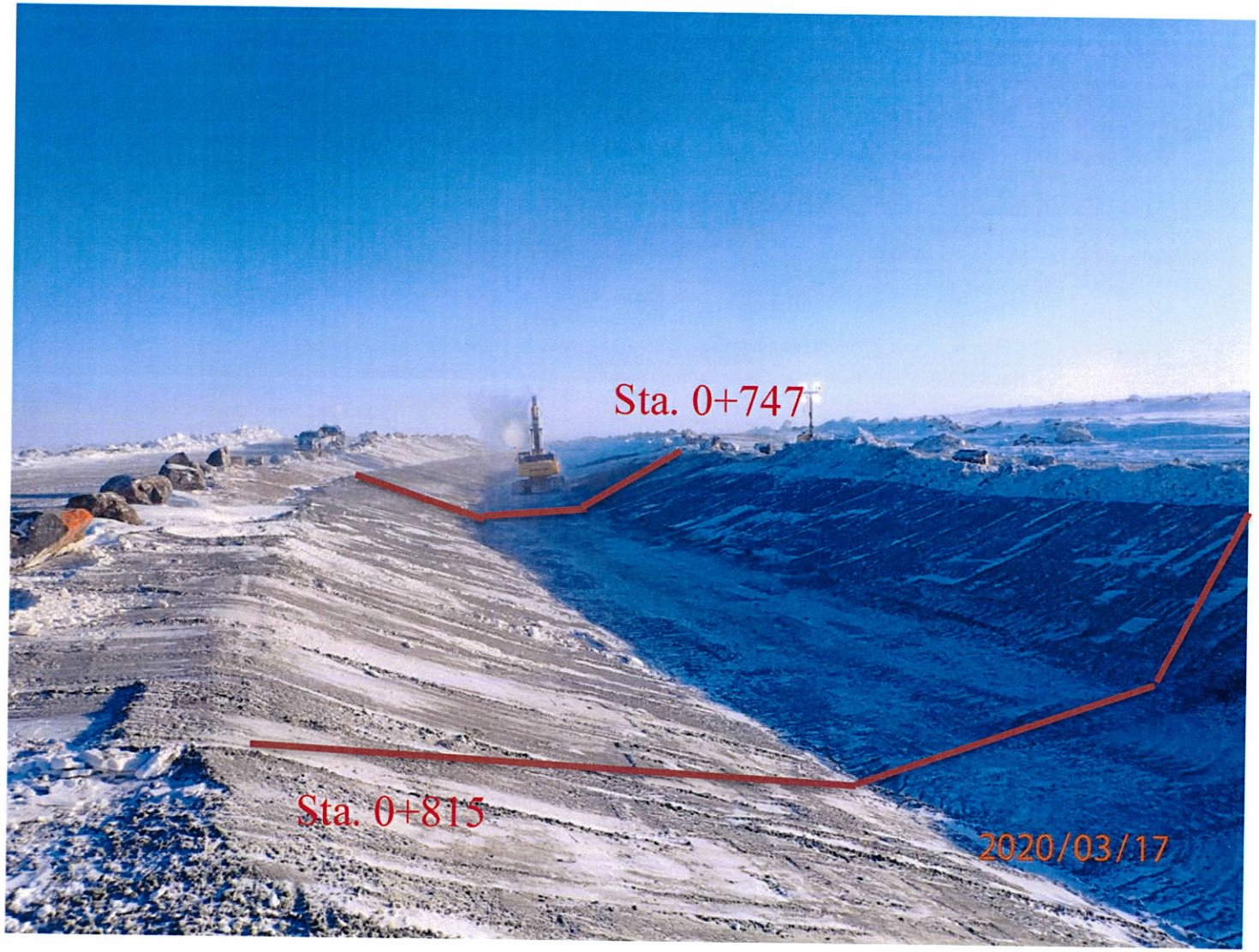

Photo 1: View of approximate area for fine filter placement approval

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DOCUMENT #: 20200321-DS-21
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 2020-03-21

TIME: 5:00 PM
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Fine Filter.
- ☐ Other: _____

LOCATION

Station 0+555 to 0+545

Inclination:

ELEVATION: ☐ varies _____ m

PREVIOUS APPROVALS

Station: 0+056 to 0+330 and 0+906 to 0+555

Details:

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water					
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

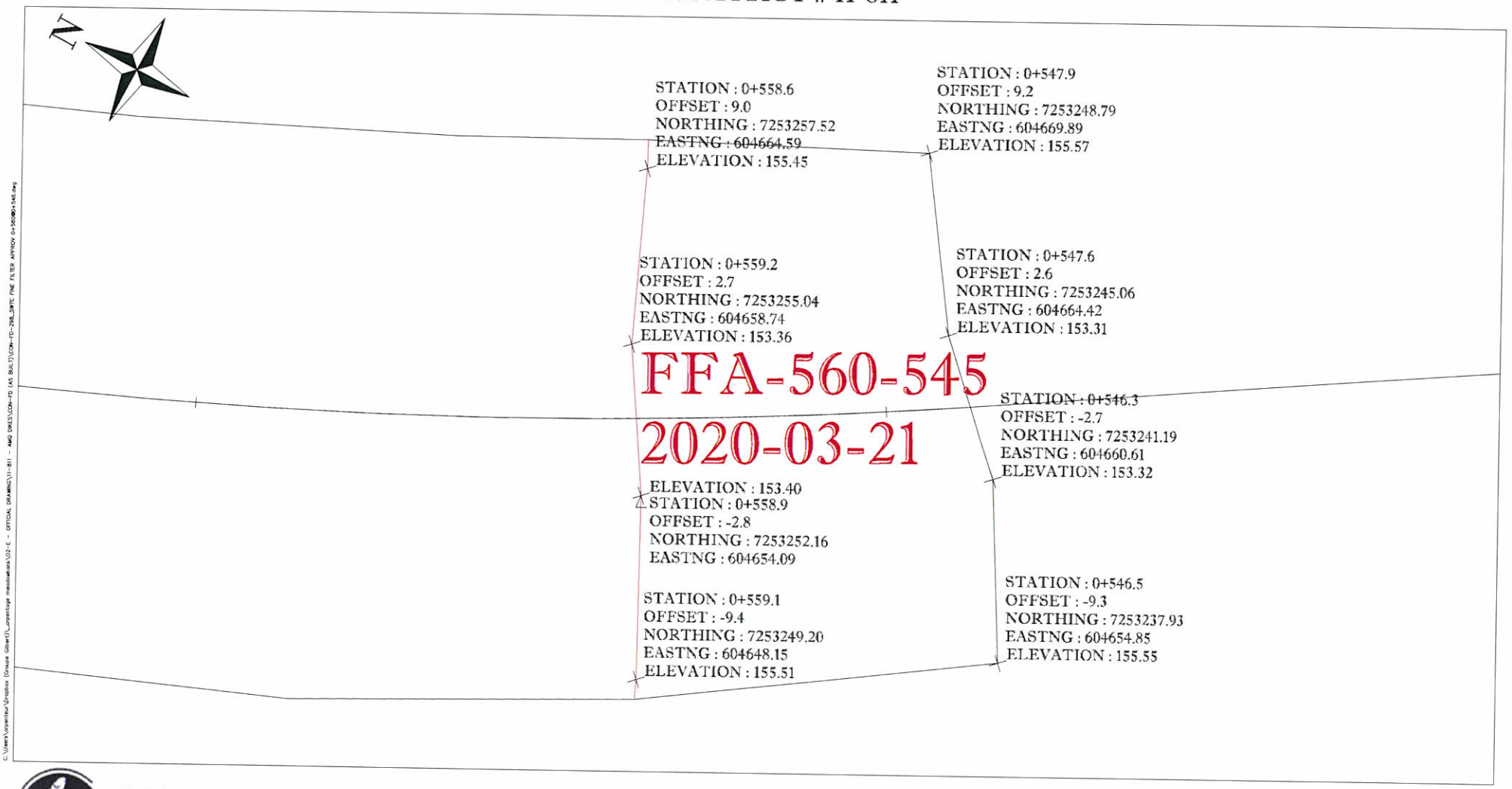
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
All	Based on Visual Assessment				

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Mathieu Côté	Mathieu Côté	2020-03-21
QA REPRESENTATIVE	Daniel Meles	Daniel Meles	2020-03-21
OWNER'S REPRESENTATIVE	LAURIER COLLETTE		2020-03-23
CONTRACTOR'S REPRESENTATIVE	Jonathan Tardif		2020-03-21

FINE FILTER PLACEMENT APPROVAL - 0+560@ 0+545
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : FRANCIS PAULIN
DATE : 22-03-2020
CON-FD-298



Photo 1: view of approximate area for fine filter approval

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-03-27

DOCUMENT #: 20200327-DS-27 **TIME:** 09:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Fine Filter (3/4" minus)
- ☐ Other: _____

LOCATION	**PREVIOUS APPROVALS**
Station 0+495 to 0+545	**Station:**
Inclination:	**Details:**
ELEVATION: ☐ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓				
2. Free of ice/snow/water	✓				
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓				
6. Compaction	✓		✓		
7. As built survey completed	✓				
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
	Snow and ice to be removed before placement of coarse filter	✓			

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Yaotree Amegnran		2020-03-27
QA REPRESENTATIVE	Paul Yong		2020-03-27
OWNER'S REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-01
CONTRACTOR'S REPRESENTATIVE	Patrice Ouellet		20200330

SNC·LAVALIN AGNICO EAGLE

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-04-04

DOCUMENT #: 20200404-DS-34 **TIME:** 17h06

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

COMPLETED BY (AEM QA REPRESENTATIVE): (Name) Christian Tremblay

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Fine Filter
- ☐ Other: _____

LOCATION	**PREVIOUS APPROVALS**
Station 0+331 to 0+372	**Station:**
Inclination:	**Details:**
ELEVATION : ☐ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					

14.						
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17.						

DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N
2	Some snow need to be removed at 0+331 before Placing the CF	✓		✓	
1	Finishing adding and compacting the little top portion missing	✓		✓	
6	Frozen chunck need to be removed or blended to the lift	✓		✓	

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-05
AEM QC REPRESENTATIVE	Yootree Ameerun		2020-04-04
AEM QA REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-05
OWNER'S REPRESENTATIVE	Patrice Ouellet		2020-04-05

REVIEWED BY (Remote off-site support) *:	NAME	SIGNATURE	DATE
DESIGNER (SNC-LAVALIN) REPRESENTATIVE	Erika Voyer		2020-04-06

** SNC-LAVALIN REVIEW AND SIGNATURE BASED ON OBSERVATIONS AND APPROVALS MADE BY AEM QA/QC REPRESENTATIVE ON SITE*

DESIGNER COMMENTS:

SNC·LAVALIN AGNICO EAGLE

APPROVAL FORM

PROJECT :	**SWTDC Construction**
PROJECT #:	667648
DATE:	2020-04-05
DOCUMENT #:	20200405-DS-35 (YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift
TIME:	8h00 (24 hour clock)

COMPLETED BY (AEM QA REPRESENTATIVE): (Name) Christian Tremblay

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Fine Filter
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+372 to 0+400	**Station:**	0+331 to 0+372
Inclination:		**Details:**	
ELEVATION :	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom			✓		
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					

14.						
15.						
16.						
17.						

DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N

	NAME	SIGNATURE	DATE
APPROVED BY:			
CONTRACTOR REPRESENTATIVE	Patrice Ouellet		2020-04-06
AEM QC REPRESENTATIVE	Yootree Amegnran		2020-04-05
AEM QA REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-05
OWNER'S REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-05

	NAME	SIGNATURE	DATE
REVIEWED BY (Remote off-site support) *:			
DESIGNER (SNC-LAVALIN) REPRESENTATIVE	Erika Voyer		2020-04-06

** SNC-LAVALIN REVIEW AND SIGNATURE BASED ON OBSERVATIONS AND APPROVALS MADE BY AEM QA/QC REPRESENTATIVE ON SITE*

DESIGNER COMMENTS:

SNC·LAVALIN AGNICO EAGLE

APPROVAL FORM

PROJECT :	**SWTDC Construction**
PROJECT #:	667648
DATE:	2020-04-08
DOCUMENT #:	20200408-DS-39 (YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift
TIME:	8h00 (24 hour clock)

COMPLETED BY (AEM QA REPRESENTATIVE): (Name) Christian Trembay

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Fine filter
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+055 to 0+065	**Station:**	
Inclination:		**Details:**	
ELEVATION :	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					

14.					
15.					
16.					
17.					

DETAILS

(Refer to list above for item #)

		APPROVED BY:			
		QA AEM		QC AEM	
ITEM		**Y**	**N**	**Y**	**N**

APPROVED BY:	**NAME**	**SIGNATURE**	**DATE**
CONTRACTOR REPRESENTATIVE	Sabin Larouche		2020-04-08
AEM QC REPRESENTATIVE	JEROME COLLARD		2020-04-08
AEM QA REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-08
OWNER'S REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-08

REVIEWED BY (Remote off-site support) *:	**NAME**	**SIGNATURE**	**DATE**
DESIGNER (SNC-LAVALIN) REPRESENTATIVE	Mazin Toma	M. Kh. A. Toma	2020-04-22

** SNC-LAVALIN REVIEW AND SIGNATURE BASED ON OBSERVATIONS AND APPROVALS MADE BY AEM QA/QC REPRESENTATIVE ON SITE*

DESIGNER COMMENTS:

SNC·LAVALIN AGNICO EAGLE

APPROVAL FORM

PROJECT :	**SWTDC Construction**
PROJECT #:	667648
DATE:	2020-04-11
DOCUMENT #:	20200411-DS-43 (YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift
TIME:	15h00 (24 hour clock)

COMPLETED BY (AEM QA REPRESENTATIVE): (Name) Christian Tremblay

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Fine filter
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+400 to 0+495	**Station:**	
Inclination:		**Details:**	
ELEVATION :	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					

14.					
15.					
16.					
17.					

DETAILS

(Refer to list above for item #)

		APPROVED BY: QA AEM		QC AEM	
ITEM		**Y**	**N**	**Y**	**N**

APPROVED BY:	**NAME**	**SIGNATURE**	**DATE**
CONTRACTOR REPRESENTATIVE	Claude Tremblay	Claude Tremblay	11-04-20
AEM QC REPRESENTATIVE	Thomas Dalton		2020-04-11
AEM QA REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-11
OWNER'S REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-11

REVIEWED BY (Remote off-site support) *:	**NAME**	**SIGNATURE**	**DATE**
DESIGNER (SNC-LAVALIN) REPRESENTATIVE	Erika Voyer		2020/04/13

** SNC-LAVALIN REVIEW AND SIGNATURE BASED ON OBSERVATIONS AND APPROVALS MADE BY AEM QA/QC REPRESENTATIVE ON SITE*

DESIGNER COMMENTS:

Based on pictures and comments in Daily Report 20200411DS-SR87 (no photo of fine filter for the whole area of +400 to +495, only +400 to +440)

Appendix G-2-3

Coarse Filter Approval

SNC·LAVALIN

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DOCUMENT #: 20200321-DS-19
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: 2020-03-21

TIME: _____
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Coarse Filter
- ☐ Other: _____

LOCATION

Station 0+906 to 0+560

Inclination: _____

ELEVATION: ☐ varies _____ m

PREVIOUS APPROVALS

Station: -

Details: _____

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water					
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS

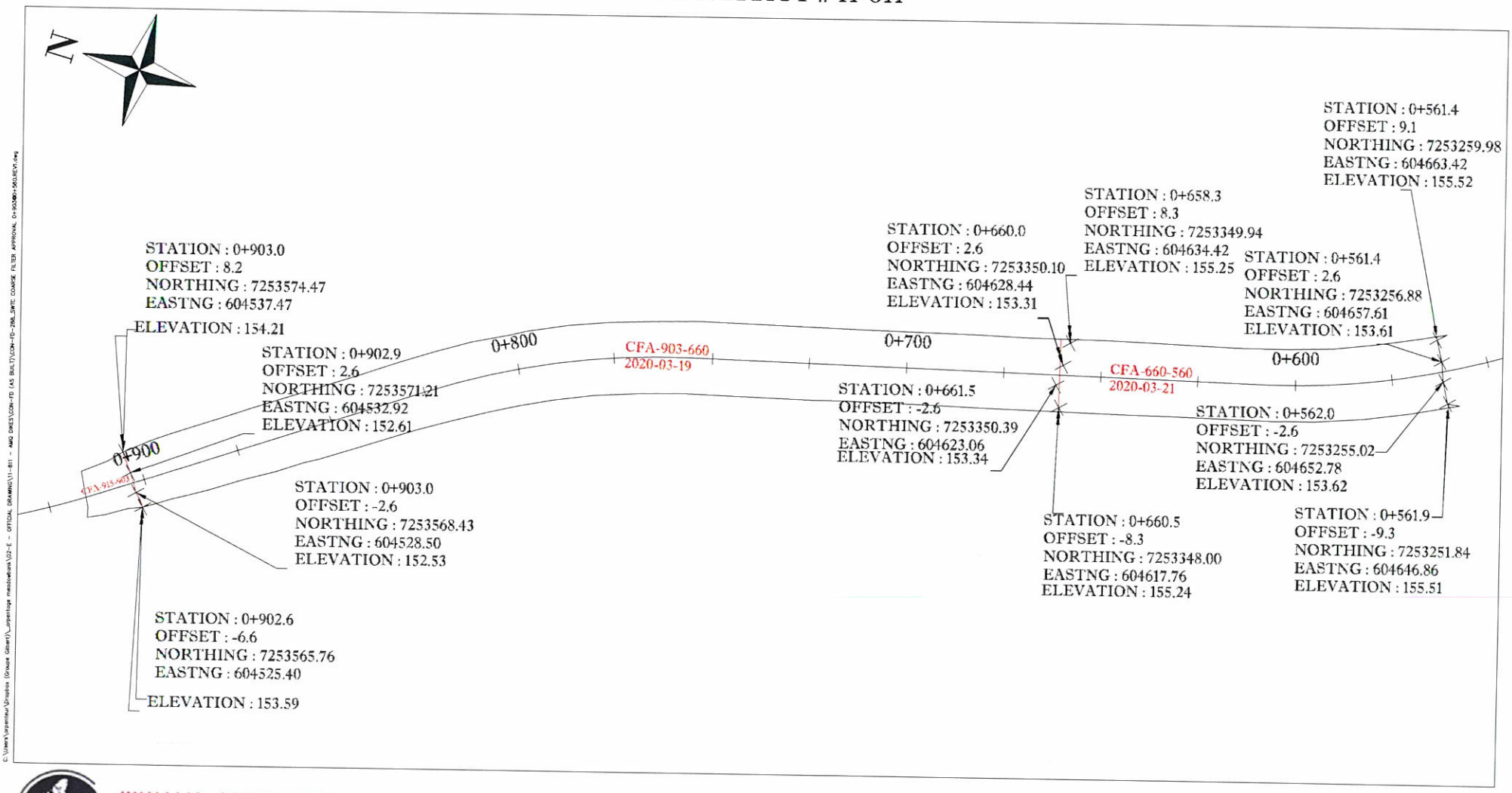
(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
All	Visual				

APPROVED BY:

	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Mathieu Côté		2020-03-21
QA REPRESENTATIVE	Daniel Meles		2020-03-21
OWNER'S REPRESENTATIVE	LAVIGER COLLETTE		2020-03-22
CONTRACTOR'S REPRESENTATIVE	Jonathan Tardif		2020-03-21

COARSE FILTER PLACEMENT APPROVAL - 0+903 @ 0+560
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : FRANCIS PAULIN
DATE : 21-03-2020
CON-FD-288.REV1

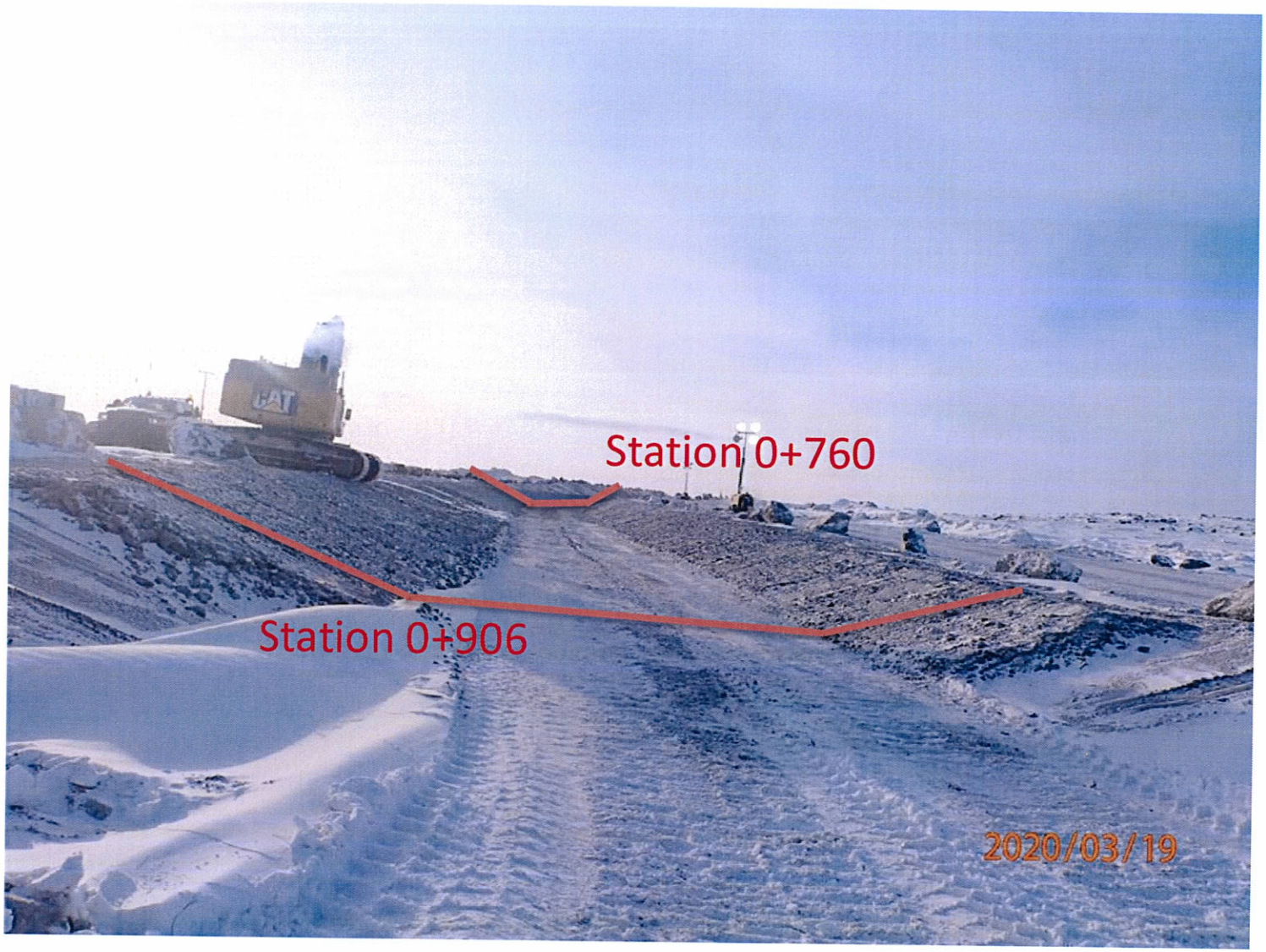


Photo 1: Approximate area for approved coarse filter from Staion 0+906 to 760

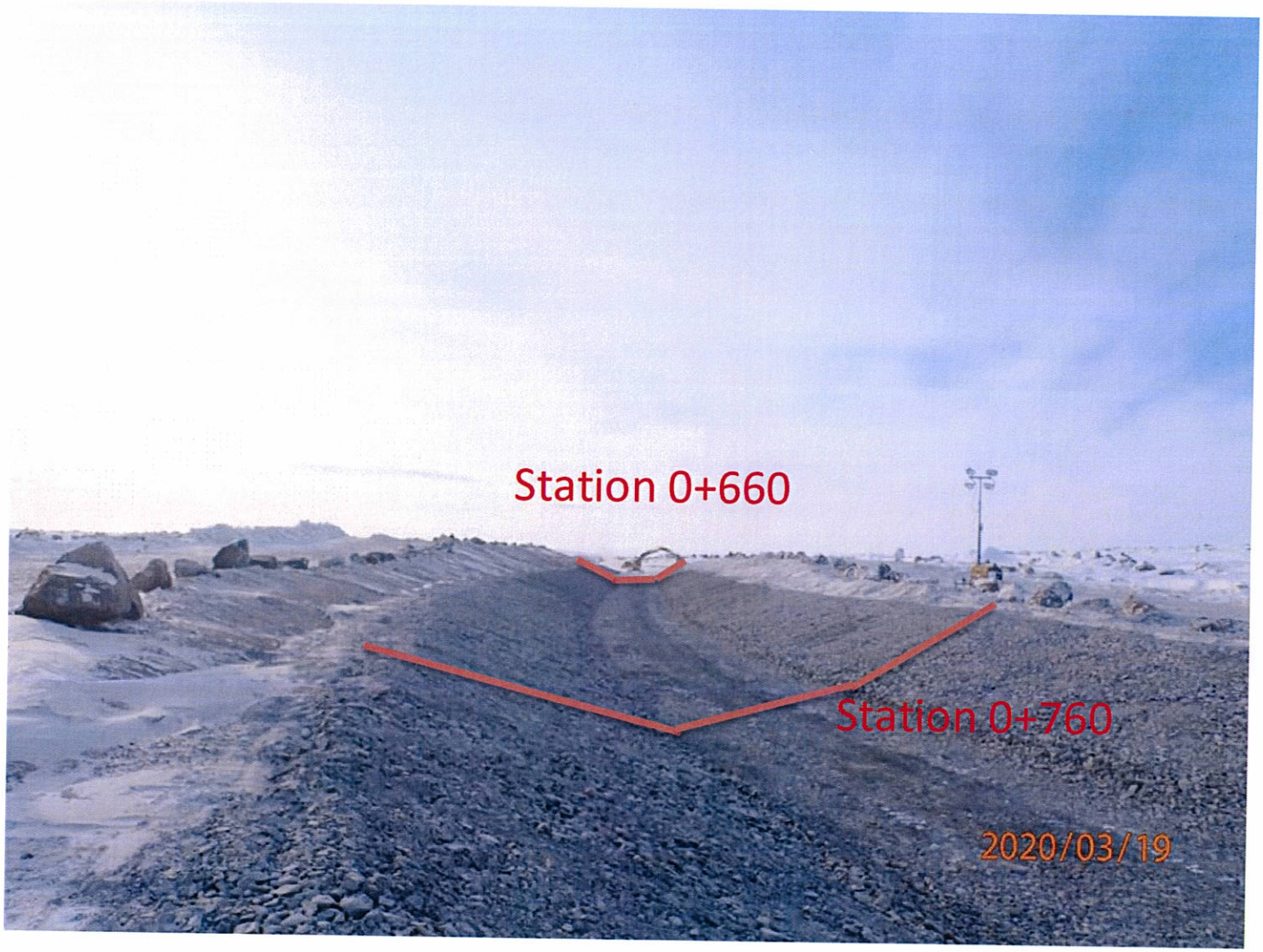


Photo 2: Approximate area for approved coarse filter between station 0+760 to 0+660.

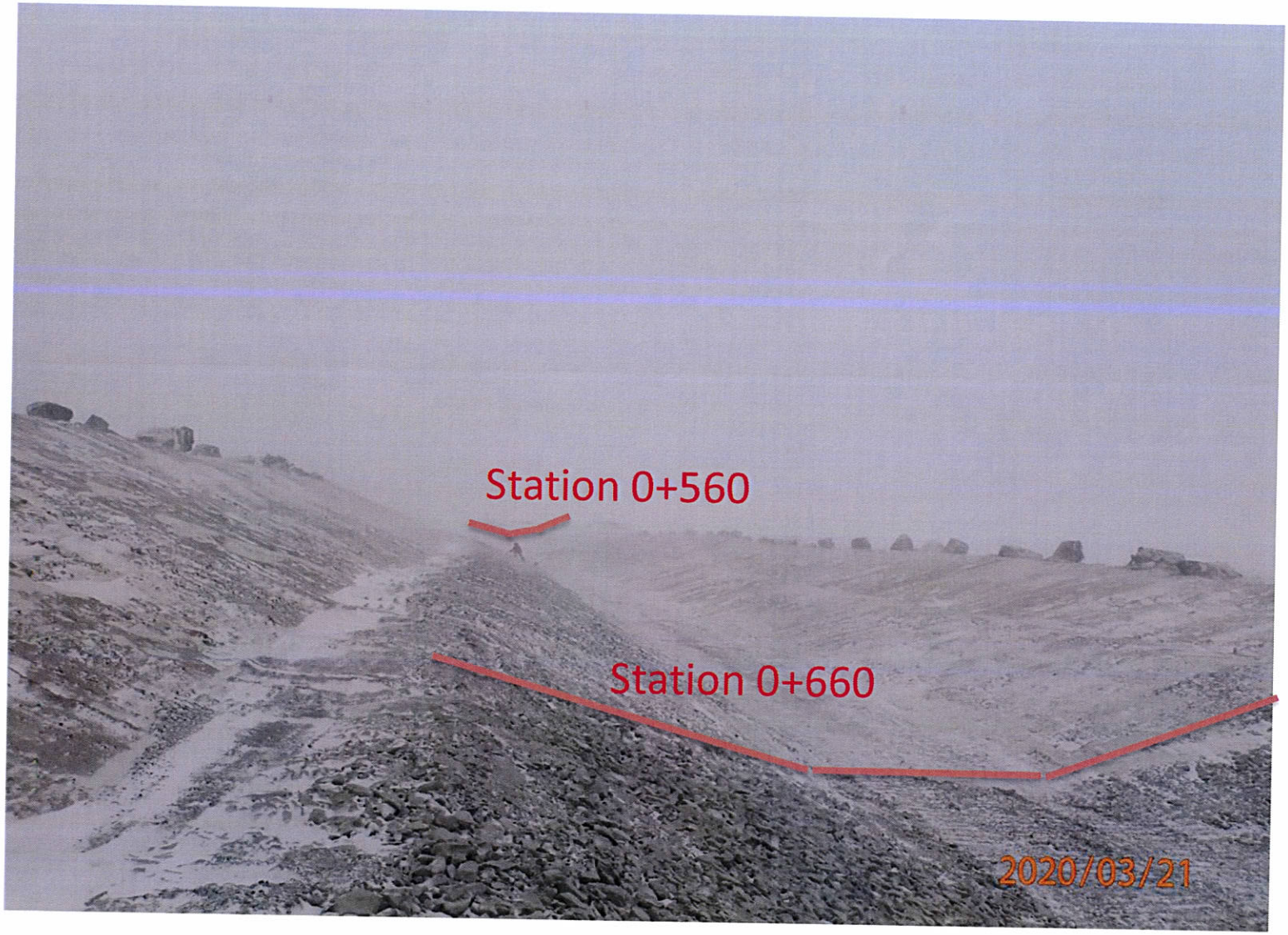


Photo 3: Approximate area for approved coarse filter between station 0+660 to 0+560.

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DATE: 2020-03-22

DOCUMENT #: 2020 03 22 - DS - 22
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

TIME: 5:30 PM
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: Coarse Filter
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+555 to 0+547	**Station:**	0+906 to 0+555
Inclination:		**Details:**	
ELEVATION:	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY:				
	QA		**QC**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water					
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

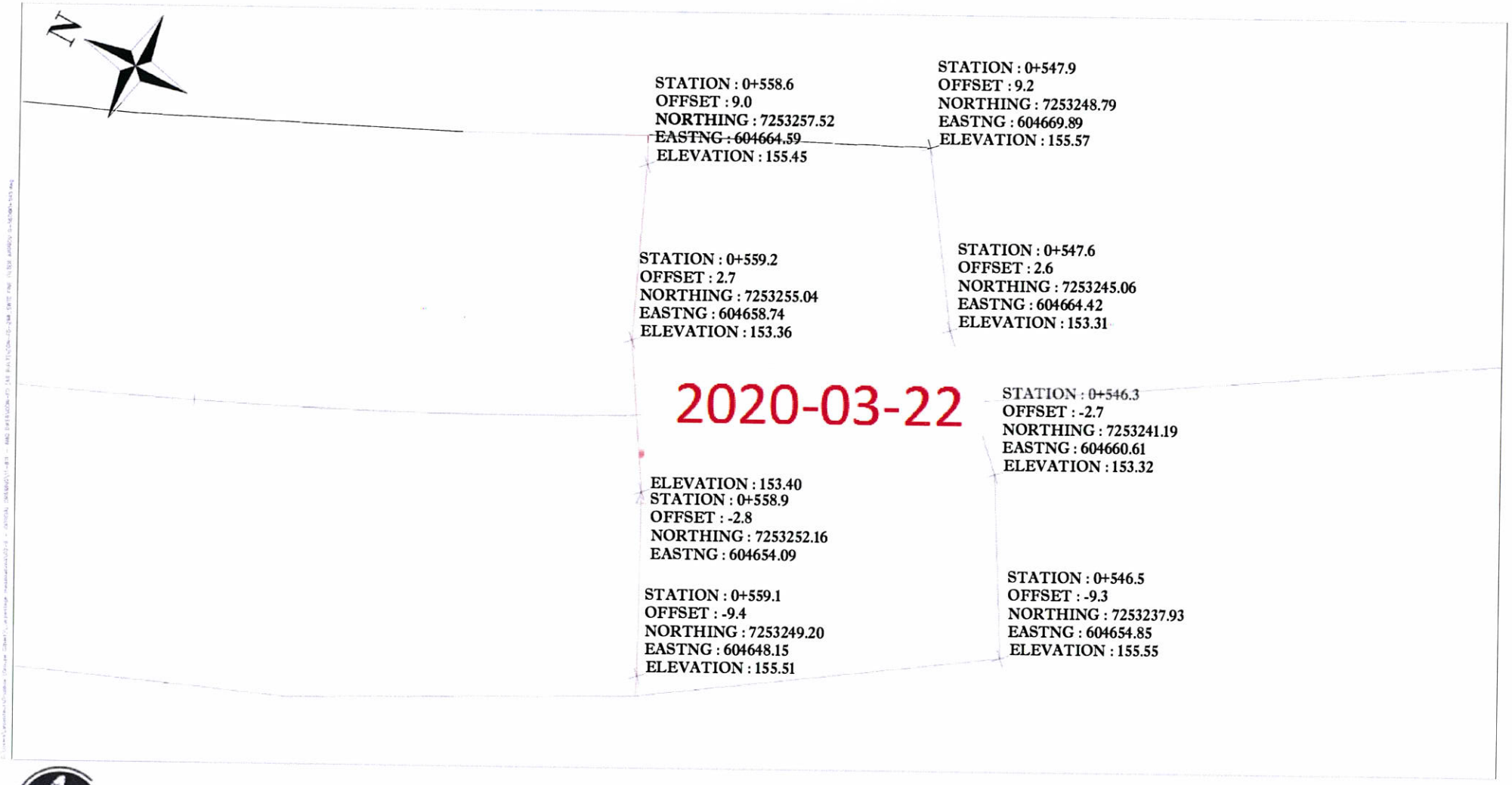
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
All	Based on visual Assessment				

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Matthew		2020-03-22
QA REPRESENTATIVE	Daniel Meles		2020-03-22
OWNER'S REPRESENTATIVE	LAVRION LAVOIE		2020-03-23
CONTRACTOR'S REPRESENTATIVE	Jonathan Trudeau		2020-03-22

COARSE FILTER PLACEMENT APPROVAL 0+560@ 0+545
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
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PREPARED BY : FRANCIS PAULIN
DATE : 22-03-2020
CON-FD-298

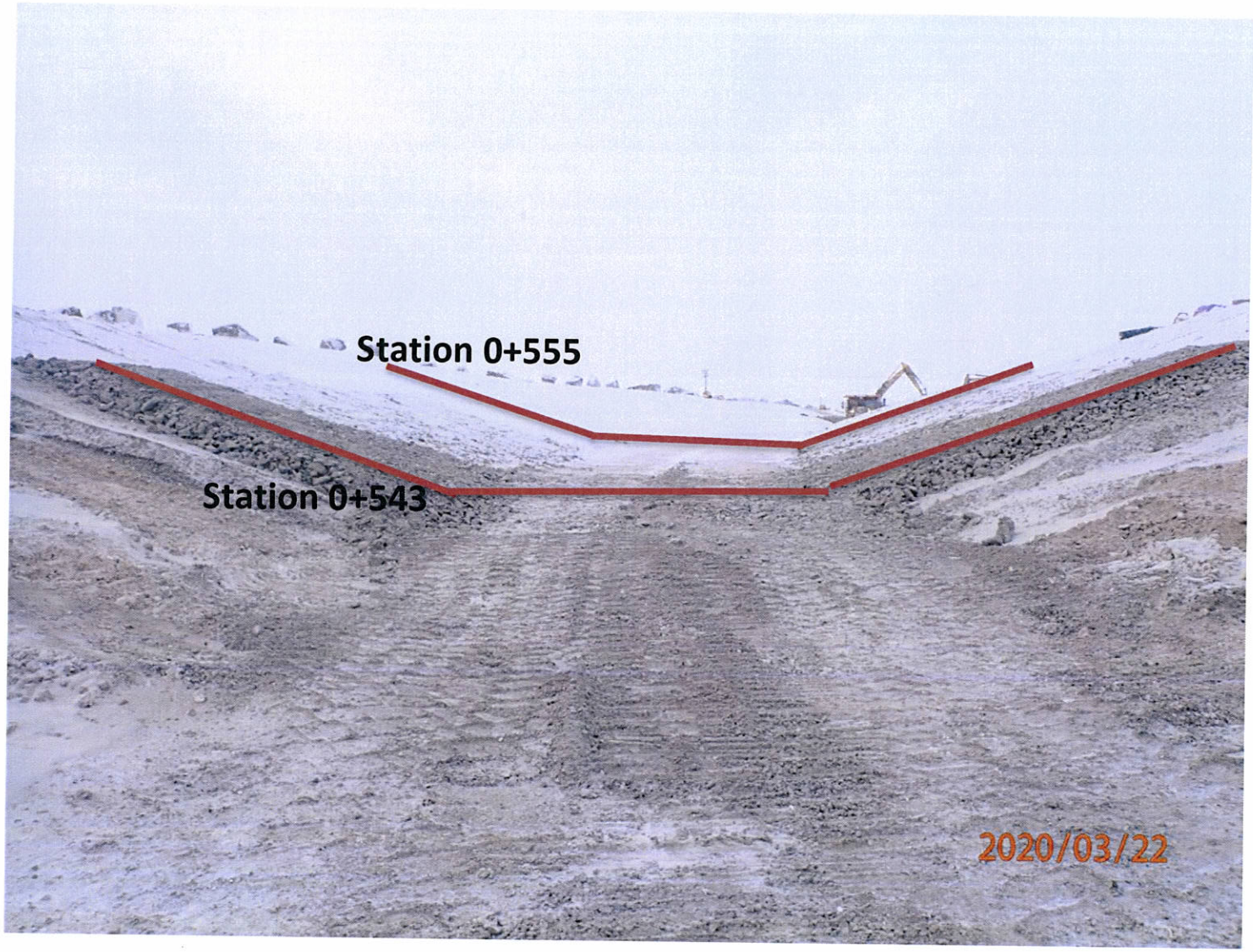

Photo 1: Approximate area of approved coarse filter between station 0+555 to 0+543

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648

DATE: 2020-03-22

DOCUMENT #: 20200322 - DS - 23
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

TIME: 5:45 PM
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Coarse Filter
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+065 to 0+325	**Station:**	0+906 to 0+547
Inclination:		**Details:**	
ELEVATION:	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY:				
	QA		**QC**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water					
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

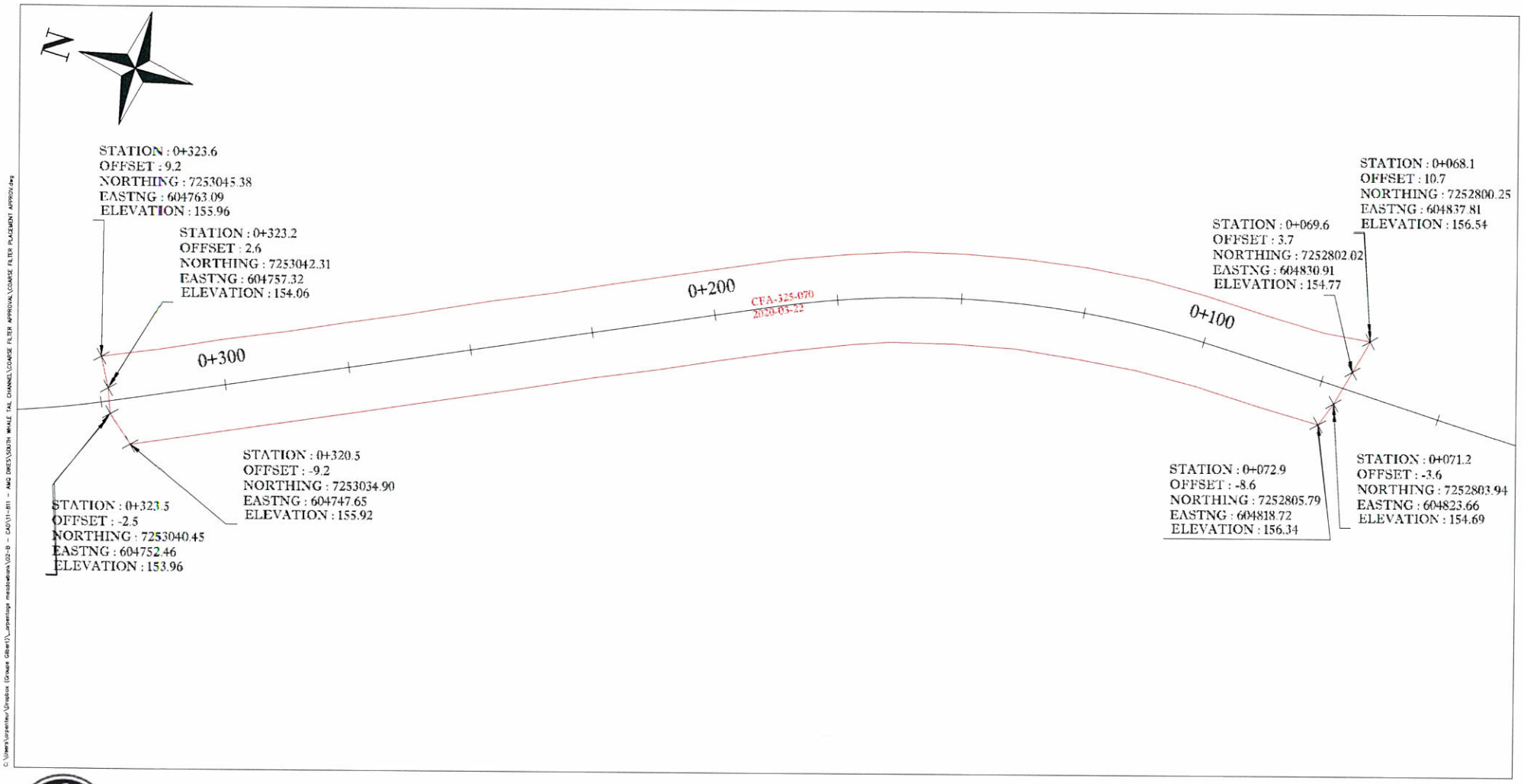
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
All	Based on Visual Assessment				
	Snow to be removed during the placement of geotextile and rip rap				

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Mathieu Côté	Math	2020-03-22
QA REPRESENTATIVE	Daniel Meles	Dmele	2020-03-22
OWNER'S REPRESENTATIVE	LAURIER COUETTE		2020-03-23
CONTRACTOR'S REPRESENTATIVE	Jonathan Truchon		2020-03-22

COARSE FILTER PLACEMENT APPROVAL - 0+325 @ 0+070
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



KIVALLIQ CONTRACTORS
GROUP LTD

PREPARED BY : FRANCIS PAULIN
DATE : 23-03-2020
CON-FD-300

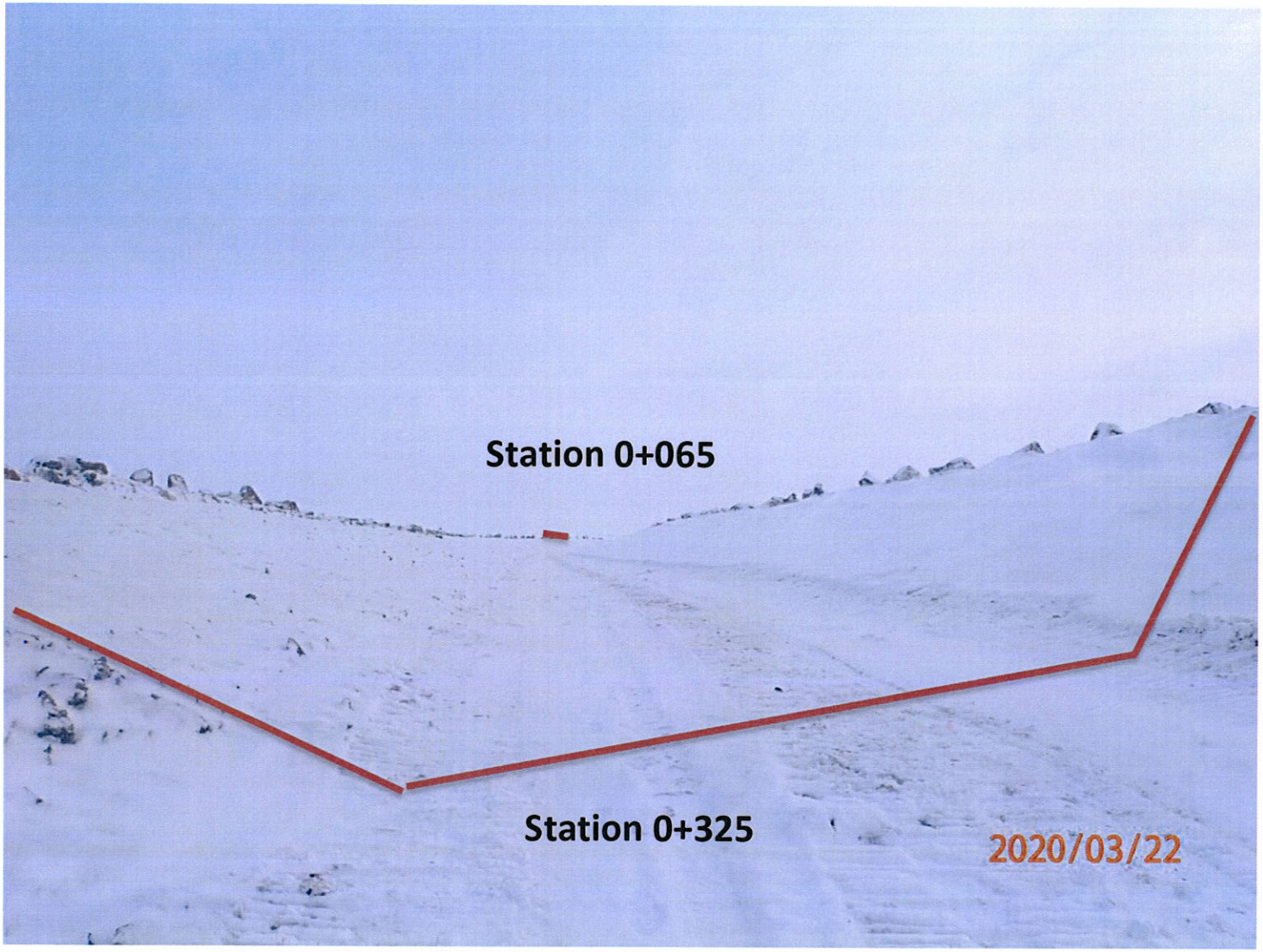


Photo 1: Approximate area of approved coarse filter between station 0+555 to 0+543

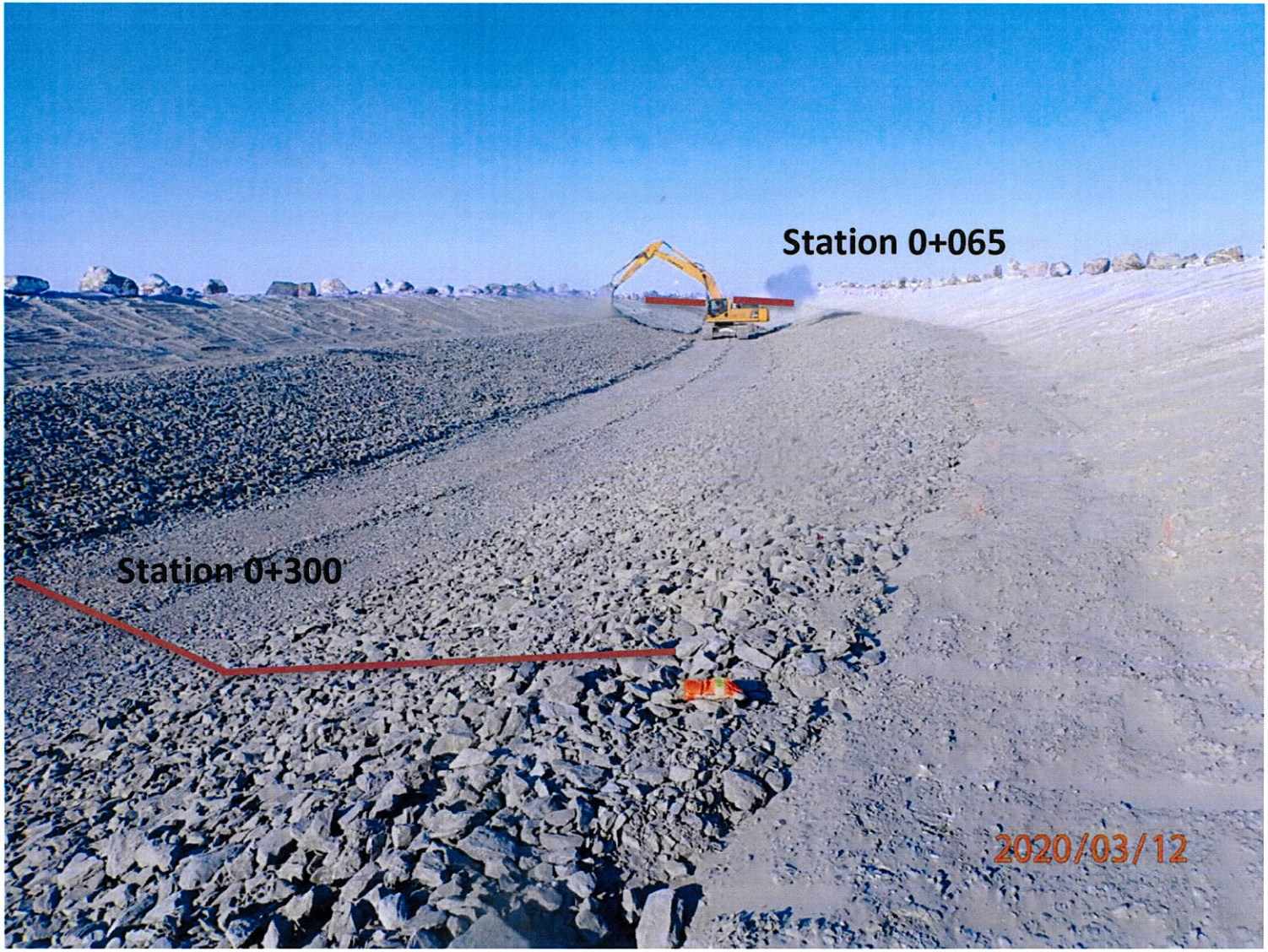


Photo 1: View of the coarse filter placement in area between station 0+065 to 0+325 (Photo taken after placement on March 12, 2020)

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-03-27

DOCUMENT #: 20200327-DS-28 **TIME:** 15:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Coarse filter (6" minus)
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+495 to 0+545	**Station:**	
Inclination:		**Details:**	
ELEVATION:	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Yaotree Amegavan		2020-03-30
QA REPRESENTATIVE	Paul Yong		2020-03-30
OWNER'S REPRESENTATIVE	Christian Tremblay		2020-04-01
CONTRACTOR'S REPRESENTATIVE	Patrice Ouellet		2020-03-30

SNC·LAVALIN AGNICO EAGLE

APPROVAL FORM

PROJECT :	**SWTDC Construction**
PROJECT #:	667648
DATE:	2020-04-05
DOCUMENT #:	20200405-DS-36 (YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift
TIME:	8h00 (24 hour clock)

COMPLETED BY (AEM QA REPRESENTATIVE): (Name) Christian Tremblay

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Coarse Filter
- ☐ Other: _____

LOCATION	**PREVIOUS APPROVALS**
Station 0+331 To 0+400	**Station:**
Inclination:	**Details:**
ELEVATION : ☐ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					

14.					
15.					
16.					
17.					

DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N
6	A final pass of compaction on the east slope is needed before installing the geotextile	✓		✓	

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Patrice Ouellet		2020-04-06
AEM QC REPRESENTATIVE	Yaotree Amegnran		2020-04-05
AEM QA REPRESENTATIVE	Christian Trembl	Christian T.	2020-04-05
OWNER'S REPRESENTATIVE	Christian Trembl	Christian T.	2020-04-05

REVIEWED BY (Remote off-site support) *:	NAME	SIGNATURE	DATE
DESIGNER (SNC-LAVALIN) REPRESENTATIVE	Erika Voyer		2020-04-06

** SNC-LAVALIN REVIEW AND SIGNATURE BASED ON OBSERVATIONS AND APPROVALS MADE BY AEM QA/QC REPRESENTATIVE ON SITE*

DESIGNER COMMENTS:

SNC·LAVALIN AGNICO EAGLE

APPROVAL FORM

PROJECT :	**SWTDC Construction**
PROJECT #:	667648
DATE:	2020-04-08
DOCUMENT #:	20200408-DS-40 (YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift
TIME:	8h00 (24 hour clock)

COMPLETED BY (AEM QA REPRESENTATIVE): (Name) Christian Tremblay

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Coarse filter
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+055 To 0+065	**Station:**	
Inclination:		**Details:**	
ELEVATION :	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					

14.					
15.					
16.					
17.					

DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Sabin Larouche		2020-04-08
AEM QC REPRESENTATIVE	JEROME COLLARD		2020-04-08
AEM QA REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-08
OWNER'S REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-08

REVIEWED BY (Remote off-site support) *:	NAME	SIGNATURE	DATE
DESIGNER (SNC-LAVALIN) REPRESENTATIVE	Mazin Toma	M. Kh. A. Toma	2020-04-22

** SNC-LAVALIN REVIEW AND SIGNATURE BASED ON OBSERVATIONS AND APPROVALS MADE BY AEM QA/QC REPRESENTATIVE ON SITE*

DESIGNER COMMENTS:

SNC·LAVALIN AGNICO EAGLE

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-04-12

DOCUMENT #: 20200412-DS-44 **TIME:** 8h00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

COMPLETED BY (AEM QA REPRESENTATIVE): (Name)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Coarse Filter
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+400 to 0+495	**Station:**	
Inclination:		**Details:**	
ELEVATION :	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					

14.					
15.					
16.					
17.					

DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Claude Tremblay		12-04-20
AEM QC REPRESENTATIVE	THOMAS DAHM		2020-04-12
AEM QA REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-12
OWNER'S REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-12

REVIEWED BY (Remote off-site support) *:	NAME	SIGNATURE	DATE
DESIGNER (SNC-LAVALIN) REPRESENTATIVE	*Daniel Meles*		*2020-04-13*

** SNC-LAVALIN REVIEW AND SIGNATURE BASED ON OBSERVATIONS AND APPROVALS MADE BY AEM QA/QC REPRESENTATIVE ON SITE*

DESIGNER COMMENTS:

Appendix G-3

Geotextile and Riprap Approval Form

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-03-23

DOCUMENT #: 20200323-DS-24 **TIME:** 9:00 AM

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☑ Other: Geotextile and rip rap placement

LOCATION		**PREVIOUS APPROVALS**	
Station	0+906 to 0+590	**Station:**	—
Inclination:		**Details:**	
ELEVATION:	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

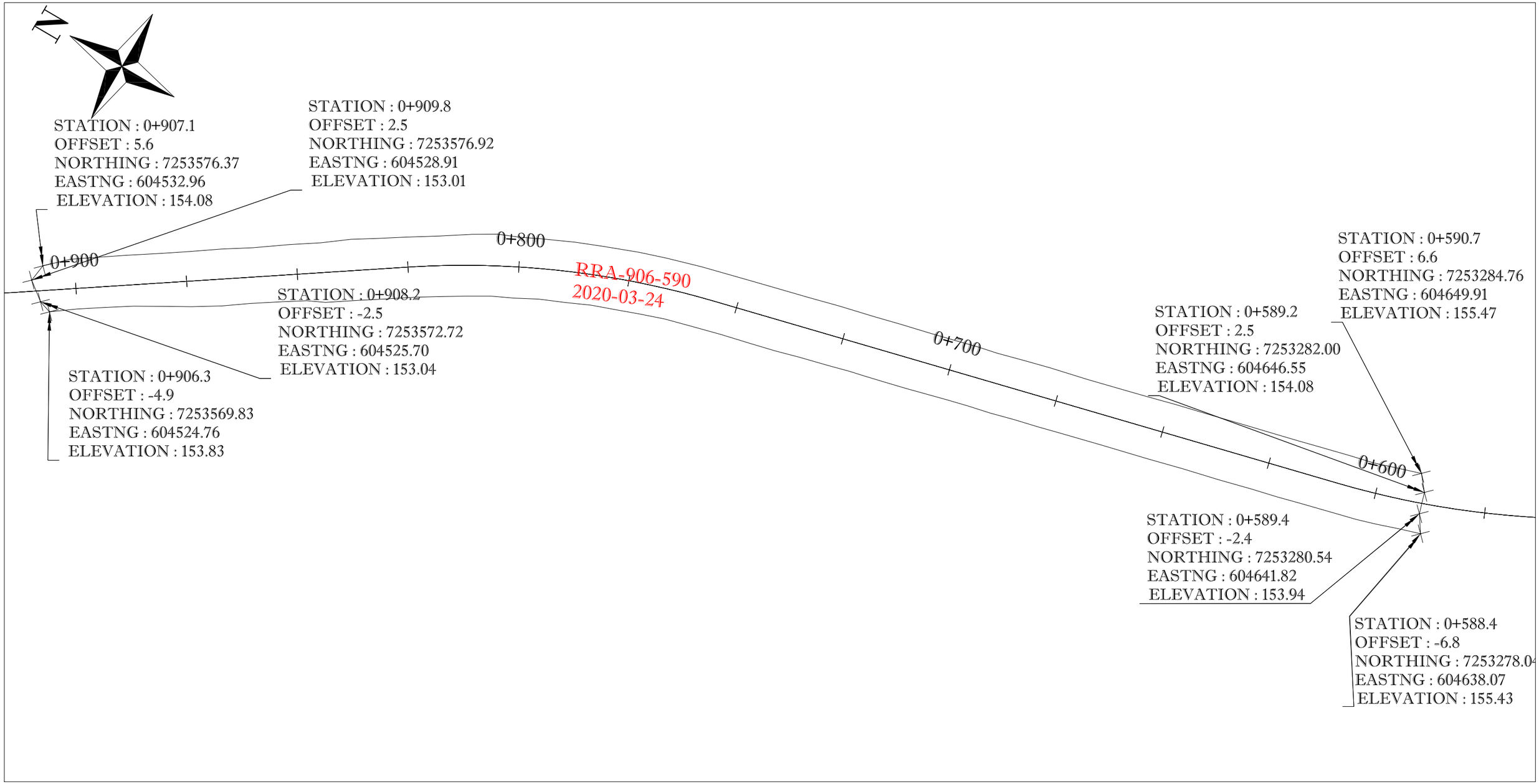
(Add additional items if needed)

	VERIFICATIONS DONE BY:				
	QA		**QC**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades					
2. Free of ice/snow/water					
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)					
6. Compaction					
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
All	Based on visual assessment				
	Geotextile was placed on the top of the coarse filter.				
	- Geotextile panel placed perpendicular to the channel alignment				
	- minimum overlap before rip rap placement was 0.5m (500 mm)				
	- Overlap consider flow direction (upstream sheet over downstream sheet)				

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Mathieu Côté	Matt	2020-03-22
QA REPRESENTATIVE	Daniel Meles	DM	2020-03-23
OWNER'S REPRESENTATIVE	LAURIER QUIRION		2020-03-25
CONTRACTOR'S REPRESENTATIVE	Patrice Ouellet		2020-03-26

RIP RAP PLACEMENT APPROVAL - 0+906 @ 0+590
SOUTH WHALE TAIL CHANNEL CONSTRUCTION
CONTRACT # 11-811



C:\Users\arpenteur\Dropbox (Groupe Gilbert)_arpentage meadowbank\02-E – OFFICIAL DRAWING\11-811 – AMQ DIKES\CON-FD (AS BUILT)\CON-FD-307_SWTC RIP RAP APPROVAL 0+906@0+590.dwg

KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : FRANCIS PAULIN
DATE : 27-03-2020
CON-FD-307



Photo 1: Approximate area of approved rip rap between station 0+740 to 0+590

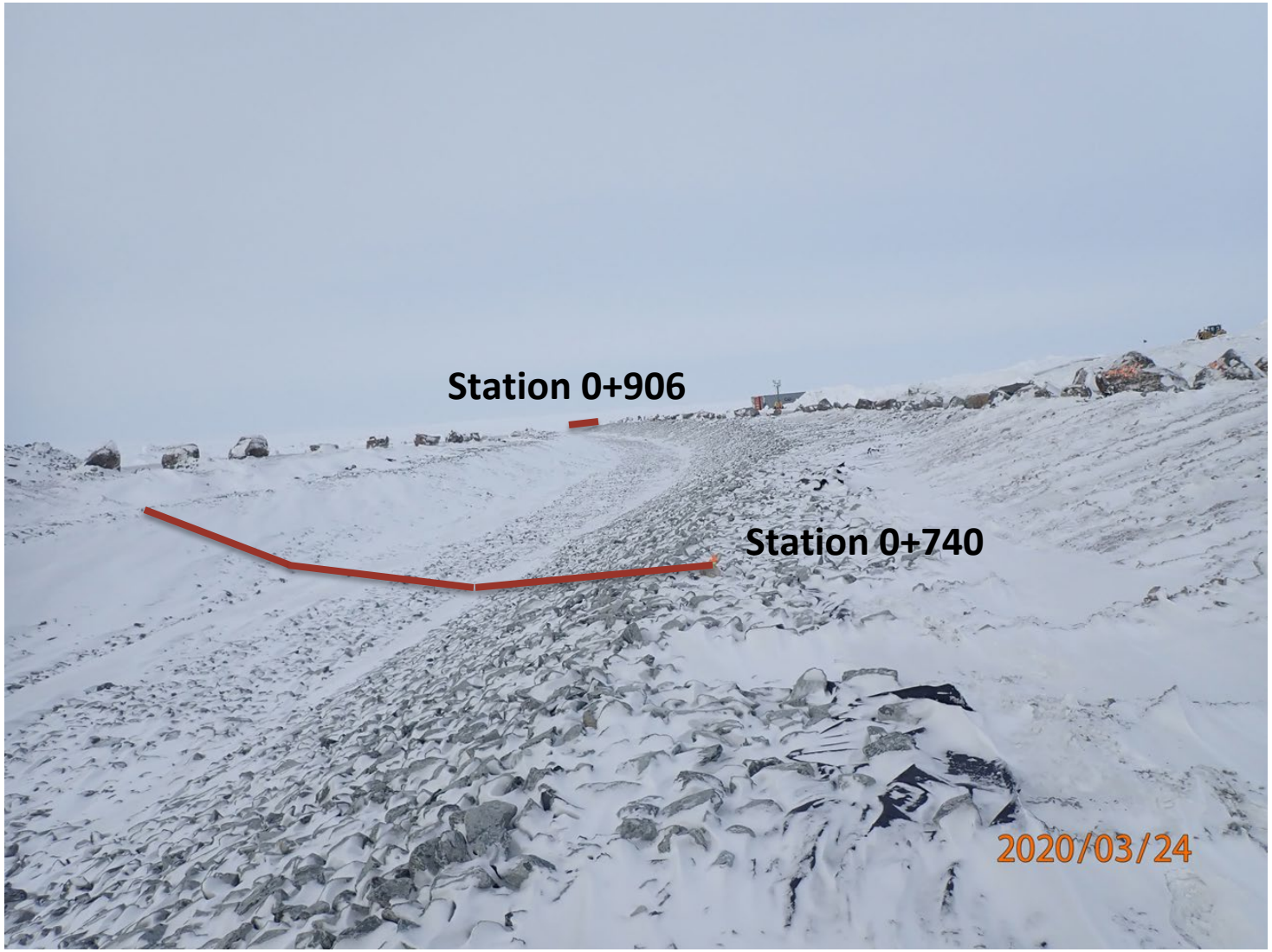


Photo 2: Approximate area of approved rip rap between station 0+740 to 0+906

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-03-28

DOCUMENT #: 20200328-DS-29 **TIME:** 10:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☑ Other: Geotextile and Riprap placement

LOCATION		**PREVIOUS APPROVALS**	
Station	0+495 to 0+545	**Station:**	
Inclination:		**Details:**	
ELEVATION:	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY:				
	QA		**QC**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS (Refer to list above for item #)		**APPROVED BY:**			
		QA		**QC**	
ITEM		**Y**	**N**	**Y**	**N**

APPROVED BY:	**NAME**	**SIGNATURE**	**DATE**
QC REPRESENTATIVE	Yastree Amegnran		2020-03-30
QA REPRESENTATIVE	Paul Yong		2020-03-28
OWNER'S REPRESENTATIVE	Christian Tremblay		2020-04-01
CONTRACTOR'S REPRESENTATIVE	Patrice Ouellet		2020-03-30

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APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-04-01

DOCUMENT #: 20200401-DS-31 **TIME:** 14:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☒ Other: GEOTEXTILE AND RIPRAP PLACEMENT

LOCATION		**PREVIOUS APPROVALS**	
Station	0+545 to 0+590	**Station:**	
Inclination:		**Details:**	
ELEVATION:	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS (Refer to list above for item #)		APPROVED BY:			
		QA		QC	
ITEM		Y	N	Y	N

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Yootree Amegnran		2020-04-01
QA REPRESENTATIVE	DANIEL MELES		2020-04-01
OWNER'S REPRESENTATIVE			
CONTRACTOR'S REPRESENTATIVE	Patrice Ouellet		2020-04-03

SNC·LAVALIN

Sustaining capital
Mining & Metallurgy
1140 Maisonneuve boul. West
Montreal (Québec)
Canada H3A 1M8

Telephone: (514) 393-8000
Fax: (514) 390-2765
www.snclavalin.com

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-04-01

DOCUMENT #: 20200401-DS-32 **TIME:** 15:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☒ Other: Geotextile and Riprap Placement

LOCATION		**PREVIOUS APPROVALS**	
Station	0+075 to 0+320	**Station:**	
Inclination:		**Details:**	
ELEVATION:	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades					
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					

DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
6	Some areas on the slope appear to be not well compacted. A good pass of tamping to make the final surface packed and tight would be required.	✓			

APPROVED BY:	NAME	SIGNATURE	DATE
QC REPRESENTATIVE	Yaothee Arregnvan	[signature]	2020-04-01
QA REPRESENTATIVE	PAUL YONG	[signature]	2020-04-01
OWNER'S REPRESENTATIVE			
CONTRACTOR'S REPRESENTATIVE	Patrice Ouellet	[signature]	2020-04-03

SNC·LAVALIN AGNICO EAGLE

APPROVAL FORM

PROJECT : SWTDC Construction

PROJECT #: 667648 **DATE:** 2020-04-06

DOCUMENT #: 20200406-DS-37 **TIME:** 8h00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

COMPLETED BY (AEM QA REPRESENTATIVE): (Name)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☐ Fill placement approval: _____
- ☑ Other: Geotextile and Rip Rap

LOCATION		**PREVIOUS APPROVALS**	
Station	0+331 to 0+400	**Station:**	
Inclination:		**Details:**	
ELEVATION :	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom					
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					

14.					
15.					
16.					
17.					

DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Patrice Ouellet		2020-04-06
AEM QC REPRESENTATIVE	THOMAS DATTA		2020-04-06
AEM QA REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-06
OWNER'S REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-06

REVIEWED BY (Remote off-site support) *:	NAME	SIGNATURE	DATE
DESIGNER (SNC-LAVALIN) REPRESENTATIVE	Mazin Toma	M. Kh. A. Toma	2020-04-22

** SNC-LAVALIN REVIEW AND SIGNATURE BASED ON OBSERVATIONS AND APPROVALS MADE BY AEM QA/QC REPRESENTATIVE ON SITE*

DESIGNER COMMENTS:

SNC·LAVALIN AGNICO EAGLE

FORM

PROJECT :	**SWTDC Construction**
PROJECT #:	667648 **DATE:** 2020-04-26
DOCUMENT #:	20200426-DS-46 **TIME:** 10h00
	(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

COMPLETED BY (AEM QA REPRESENTATIVE): (Name)

APPROVAL FOR :

- ☐ Foundation approval (trench bottom and slopes)
- ☑ Fill placement approval: Geotextile and riprap
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+400 to 0+495	**Station:**	
Inclination:		**Details:**	
ELEVATION :	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA AEM Y	QA AEM N	QC AEM Y	QC AEM N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of excavation bottom	✓		✓		
4. Fill gradation (visual)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. As built survey completed	✓		✓		
8.					
9.					
10.					
11.					
12.					
13.					

14.					
15.					
16.					
17.					

DETAILS

(Refer to list above for item #)

		APPROVED BY: QA AEM		QC AEM	
ITEM		**Y**	**N**	**Y**	**N**

	NAME	SIGNATURE	DATE
APPROVED BY:			
CONTRACTOR REPRESENTATIVE	Claude Tremblay		2020-04-26
AEM QC REPRESENTATIVE	JEROME COLLARD		2020-4-26
AEM QA REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-26
OWNER'S REPRESENTATIVE	Christian Tremblay	Christian T.	2020-04-26

	NAME	SIGNATURE	DATE
REVIEWED BY (Remote off-site support) *:			
DESIGNER (SNC-LAVALIN) REPRESENTATIVE	Mazin Toma	M. Kh. A. Toma	2020-04-28

** SNC-LAVALIN REVIEW AND SIGNATURE BASED ON OBSERVATIONS AND APPROVALS MADE BY AEM QA/QC REPRESENTATIVE ON SITE*

DESIGNER COMMENTS:

Appendix H

Test Reports and Geotextile Specification

Appendix H-1

Geotextile Specification

FICHE TECHNIQUE

BNQ GCTTG 3001-06

GÉOTEXTILE NON-TISSÉ
NOVATEX V

	TESTS	UNITÉS	VALEURS
PROPRIÉTÉS PHYSIQUES			
Polymère			100 % Polypropylène
Procédé de fabrication			Non tissé aiguilleté
Épaisseur	ASTM D5199	mm	2,5
Masse surfacique	ASTM D5261	g/m^2	270
PROPRIÉTÉS MÉCANIQUES			
Résistance à la traction (SP/ST)	ONGC 148.1-7.3	N	1000
Élongation à la rupture	ONGC 148.1-7.3	%	50-85
Résistance à la perforation CBR	ASTM D6241	N	2560
Résistance à la déchirure	ONGC 4.2-12.2	N	400
Résistance à l'éclatement [1]	*ONGC 4.2-11.1*	*kPa*	*2750*
Résistance à la perforation [1]	*ASTM D4833*	*N*	*n/d*
PROPRIÉTÉS HYDRAULIQUES			
Permittivité	ONGC 148.1-4	$sec.^{-1}$	1,26
Perméabilité	ONGC 148.1-4	cm/sec	0,30
Ouverture des pores (FOS)	ONGC 148.1-10	µm	55-100
AUTRES PROPRIÉTÉS			
Résistance aux UV (500 heures)	ASTM D4355-02	%	70
Dimensions des rouleaux		m	3,81 x 109,7 4,57 x 91,44

SP : sens production
ST : sens travers

Les valeurs ci-dessus indiquent les propriétés minimum moyennes enregistrées en laboratoire lors des essais effectués selon la norme canadienne ou américaine, selon les cas. Ces valeurs sont calculées dans la direction la plus faible en prenant la valeur moyenne moins 2 fois l'écart type (MARV).

1-Avis aux lecteurs : prenez note que ces propriétés mécaniques ne sont plus reconnues par le Comité des géosynthétiques ASTM D35 comme des méthodes d'essais géotextile acceptables. Ainsi, à partir de janvier 2012, ces propriétés ne seront plus publiées sur nos documents techniques. Ces deux propriétés seront désormais remplacées par la résistance à la perforation statique (CBR) selon la norme américaine ASTM D6241. Sous les auspices de l'ASTM, au sein du Comité D35, les spécifications et méthodes d'essai des géosynthétiques sont continuellement en cours de développement pour remplacer les méthodes d'essai textiles non pertinentes. Innovex fait preuve de leadership dans le développement et la publication de tests standards conforme au Comité D35.

Ce produit fait l'objet de la Certification BNQ selon la norme GCTTG 3001-06. Les valeurs nominales publiées selon la Tolérance95 ainsi que les numéros de Certification et dates d'émission peuvent être obtenues à partir du site Internet du Bureau de Normalisation du Québec à l'adresse : http://www.bnq.qc.ca. Les manufacturiers possédant la certification BNQ et autorisés à fabriquer ce produit selon les exigences d'Innovex sont, entres autres mais sans s'y limiter: Thrace-Linq, Crown Resources ou Dalco Nonwovens.

Ces informations techniques sont réputées être une représentation juste des essais de laboratoires internes et externes compilés par le manufacturier représenté pour chaque produit indiqué. Ces informations sont fournies sans obligation et n'engage aucune responsabilité de la part d'Innovex quant à leur justesse ou à leur mise à jour. Innovex n'offre aucune garantie relativement à l'usage, à l'installation et/ou à la convenance d'utilisation des géosynthétiques décrits dans ce document. Innovex ne peut, d'aucune façon, être tenu responsable de la performance des produits et des conséquences d'installations ou d'usages inadéquats. Innovex doit être informé de tout défaut ou non-conformité de produit avant son installation. La responsabilité d'Innovex se limitera au remplacement du produit non-conforme ou défectueux.

1/06/2011

Innovex
solutions en géosynthétiques
1201, chemin Industriel, Saint-Nicolas, Québec G7A 1A8 • www.innovex.ca
T 418 836.1333 • 1 877 836.1333 F 418.836.9493 • innovex@innovex.ca

BNQ
Bureau de normalisation du Québec

BNQ is a member of the National Standards System (NSS).

CERTIFICATE OF CONFORMITY

Certificate No.: **1657**
Standard No.: **GCTTG 3001-06/2006-08-14**
Certification Protocol No.: **BNQ 7009-910/2007-12-03**

Expiry date: **2017-11-30**

The Bureau de normalisation du Québec, having recognized the conformity of geotextile characteristics used in road engineering:

(see the annex to the certificate)

as well as the capacity of the holder to manufacture these products in conformity with the requirements of the above-mentioned standard and certification protocol,issues this certificate to:

CROWN RESOURCES, LLC

2694 Hayes Wilbanks Road, Toccoa, GA 30577 USA

This certificate is issued according to the rules specified in the Document BNQ 9902-001. In witness whereof, we have signed in Québec, on November 10, 2015.

BUREAU DE NORMALISATION DU QUÉBEC

Julie Conseiller, Director of Operations
Bureau de normalisation du Québec

Nathalie Dupont
Program Leader
Certification

SCC Accredited CB-P/S

This certificate remains the property of BNQ and must be returned to the BNQ upon request.
The validity of this certificate of conformity can be verified at the address www.bnq.qc.ca/fr/clients-certifies.html.

BNQ
Bureau de normalisation du Québec

BNQ is a member of the National Standards System (NSS).

CERTIFICATE OF CONFORMITY

Certificate No.: **1061**
Standard No.: **GCTTG 3001-06/2006-08-14**
Certification Protocol No.: **BNQ 7009-910/2007-12-03**

Expiry date: **2017-07-31**

The Bureau de normalisation du Québec, having recognized the conformity of geotextile characteristics used in road engineering:

(see the annex to the certificate)

as well as the capacity of the holder to manufacture these products in conformity with the requirements of the above-mentioned standard and certification protocol, issues this certificate to:

THRACE-LINQ INC.

2550 West Fifth North Street, Summerville, SC 29483 (USA)

This certificate is issued according to the rules specified in the Document BNQ 9902-001. In witness whereof, we have signed in Québec, on July 30, 2015.

BUREAU DE NORMALISATION DU QUÉBEC

Julie Conseiller, Director of Operations
Bureau de normalisation du Québec

Nathalie Rapont
Program Leader
Certification

SCC Accredited CB-P/S

This certificate remains the property of BNQ and must be returned to the BNQ upon request.
The validity of this certificate of conformity can be verified at the address www.bnq.qc.ca/fr/clients-certifies.html.

Appendix H-2

Test Reports – Foundation soil Particle Size Analysis

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11204932-B1**
		Sample N°:	AMQ-IP-001
Projet:	Derivation channel	**Sampling Date:**	2020-01-15
		Sampled by:	Mathieu côté
Description of Material:	soil in place		
Origin:	bottom of excavation	**Location of Sampling:**	Bottom of excavation (soil in place)
Proposed Use:			

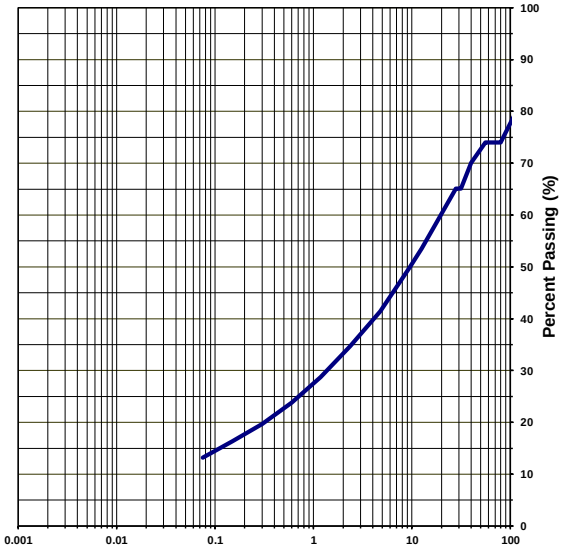
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	40 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		80	74	74	70	65	65	59	54	50	41	35	29	24	20	16	13.2
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
PSPI			
Moisture Content (%)			
Agreggate Density (Coarse)			
Absorption granulats (fins)			
Micro Deval (coarse)			
Los Angeles (Coarse)			
% Crushed Particles			
Methylene Blue Index			
Organic Matter Content			

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
13	28	59

Remarks: Not calibrated agitators and missing sieve 28

Prepared by: Mathieu Côté Verified by: _____ Date: 2020-01-16

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11204932-B1

Sample N°: AMQ-IP-002

Projet: Derivation channel

Sampling Date: 2020-01-19

Sampled by: Mathieu côté

Description of Material: soil in place

Origin: bottom of excavation

Location of Sampling: Bottom of excavation (soil in place)CH: 0-700

Proposed Use:

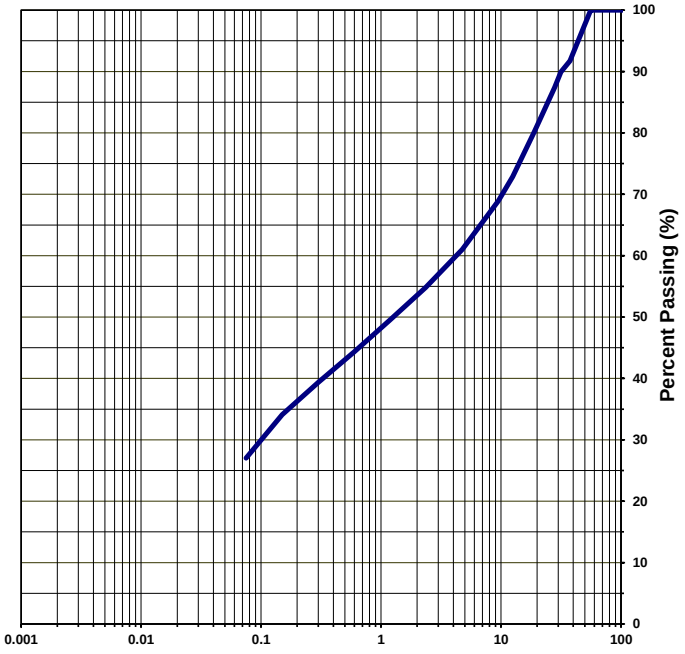
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	92	90	87	80	73	69	61	55	49	44	39	34	27.0
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
PSPI			
Moisture Content (%)			
Agreggate Density (Coarse)			
Absorption granulats (fins)			
Micro Deval (coarse)			
Los Angeles (Coarse)			
% Crushed Particles			
Methylene Blue Index			
Organic Matter Content			

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
27	34	39

Remarks: Snow in the sample, can't do moisture content and over exceed %loss on the big gradation

Prepared by: Mathieu Côté

Verified by:

Date: 2020-01-20

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11204932-B1

Sample N°: AMQ-IP-003

Projet: Derivation channel

Sampling Date: 2020-01-20

Sampled by: Mathieu côté

Description of Material: soil in place

Origin: Channel

Location of Sampling: 0+800

Proposed Use: Soil in place

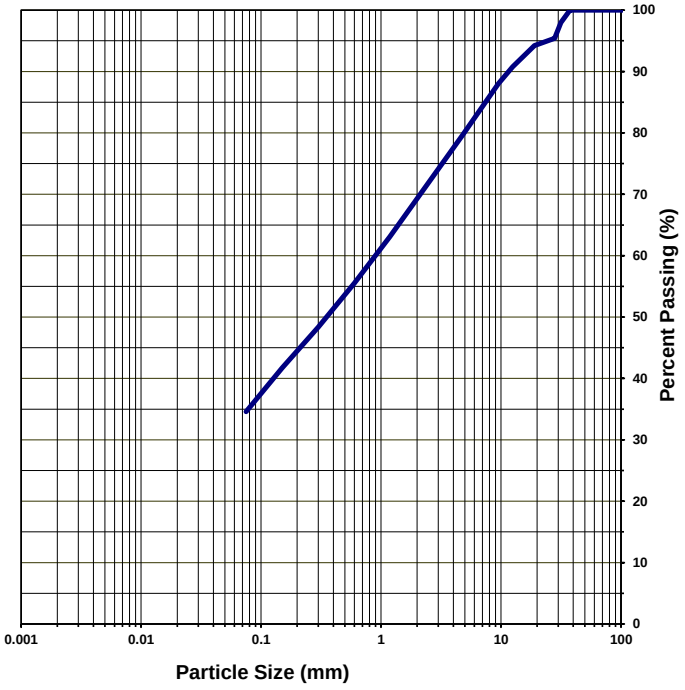
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	98	95	94	91	88	80	71	63	56	48	42	34.6
Require-ments	min.																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)			

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m³)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
35	45	20

Remarks: 0.34% loss on Gilson, Mixed snow in the sample can't do moisture content

Prepared by: Mathieu Côté

Verified by:

Date: 2020-01-21

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11202247-B1

Sample N°: AMQ-IP-004

Projet: Derivation channel

Sampling Date: 2020-01-25

Sampled by: Mathieu côté

Description of Material: soil in place

Origin: in place

Location of Sampling: 0+900

Proposed Use:

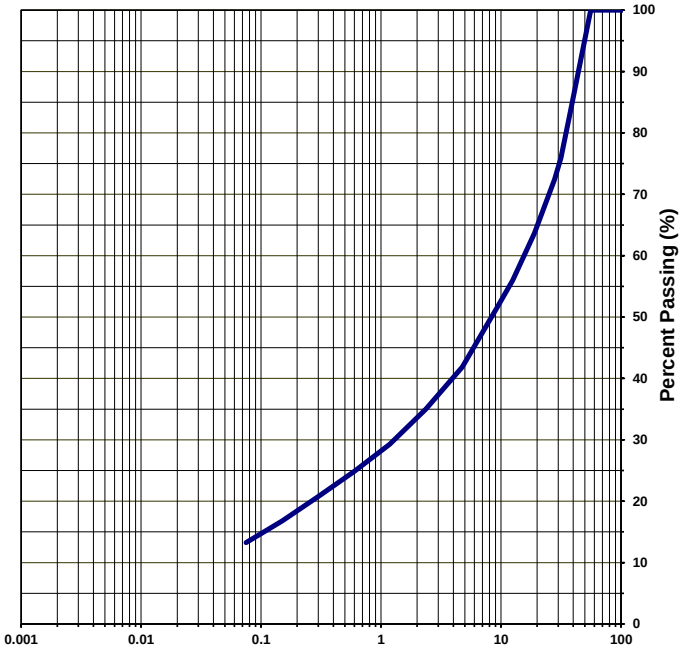
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	83	76	72	64	56	52	42	35	29	25	21	17	13.3
Require-ments	min.																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)			

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m³)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
13	29	58

Remarks: No moisture content because sample had snow in it

Prepared by: Mathieu Côté

Verified by:

Date: 2020-01-27

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Projet: Derivation channel

Description of Material: Soil in place at bottom

Origin: In place

Proposed Use: Soil in place in the bottom of the channel

Proiect N°: 11202247-B1

Sample N°: AMQ-IP-005

Sampling Date: 2020-02-03

Sampled by: Yaotree Amegnran

Location of Sampling: Bottom of channel. ch.0+750

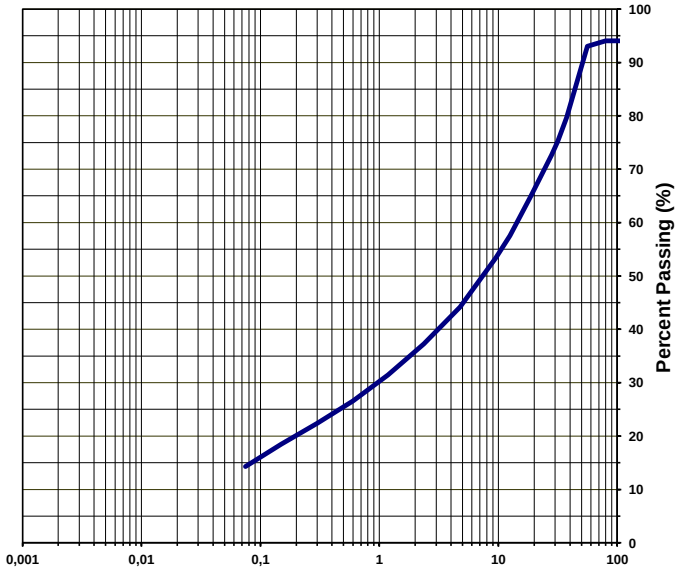
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37,5 mm	31,5 mm	28 mm	19 mm	12,5 mm	9,5 mm	4,75 mm	2,36 mm	1,18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		94	94	93	80	75	73	65	58	53	44	37	31	27	22	18	14,3
Require-ments	min.																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)			

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m^3)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
14	30	56

Remarks: The sample was taken with a manual shovel which was used to scrape the bottom of the foundation. There was a lot of snow in the sample.

Prepared by: Yaotree Amegnran Date : 2020-02-05 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Projet: Derivation channel

Description of Material: Soil in place at bottom

Origin: In place

Proposed Use: Soil in place in the bottom of the channel

Proiect N°: 11202247-B1

Sample N°: AMQ-IP-006

Sampling Date: 2020-02-04

Sampled by: Stéphane Dorvélus

Location of Sampling: Bottom of channel. ch.0+765

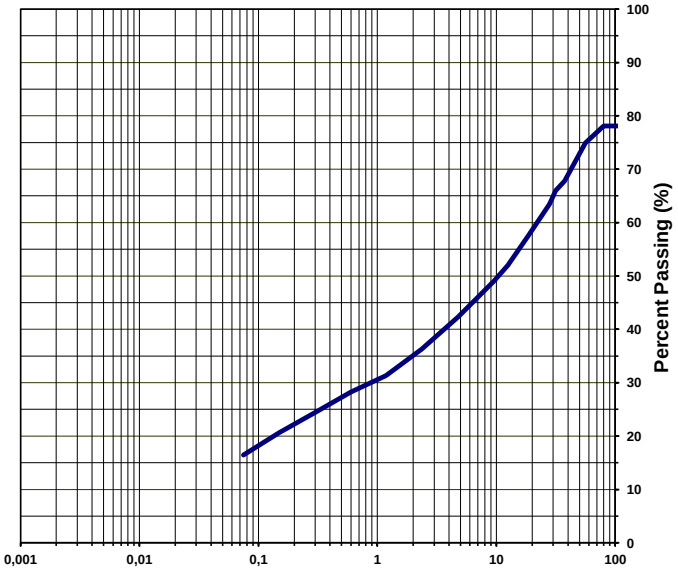
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37,5 mm	31,5 mm	28 mm	19 mm	12,5 mm	9,5 mm	4,75 mm	2,36 mm	1,18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		78	78	75	68	66	63	58	52	49	42	36	31	28	24	21	16,5
Require-ments	min.																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	16,4		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m^3)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
17	26	58

Remarks _____

Prepared by: Yaotree Amegnran Date : 2020-02-06 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Projet: Derivation channel

Description of Material: Soil in place at bottom

Origin: In place

Proposed Use: Soil in place in the bottom of the channel

Proiect N°: 11202247-B1

Sample N°: AMQ-IP-007

Sampling Date: 2020-02-04

Sampled by: Stéphane Dorevelius

Location of Sampling: Bottom of channel. ch.0+500

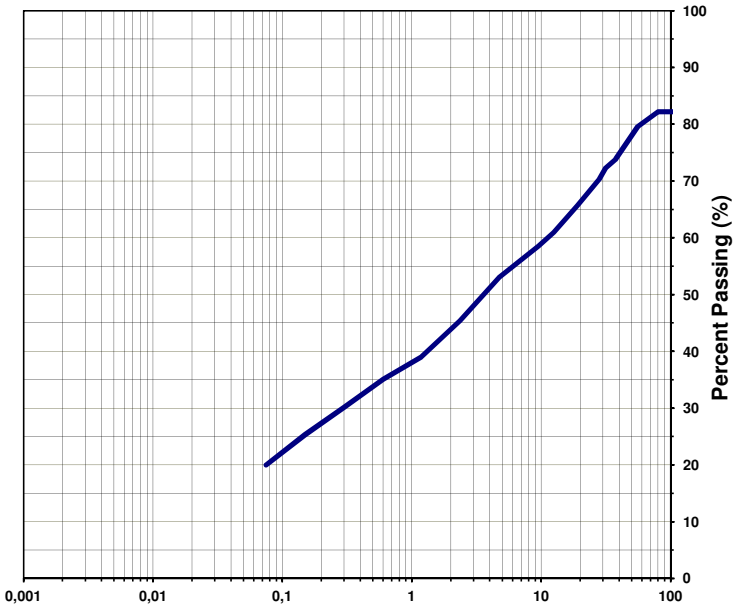
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37,5 mm	31,5 mm	28 mm	19 mm	12,5 mm	9,5 mm	4,75 mm	2,36 mm	1,18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		82	82	80	74	72	70	66	61	59	53	45	39	35	30	25	20,0
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	10		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m^3)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
20	33	47

Remarks _____

Prepared by: Yaotree Amegnran Date : 2020-02-07 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-IP-008
Projet:	Derivation channel	**Sampling Date:**	2020-02-09
		Sampled by:	Mathieu côté
Description of Material:	soil in place		
Origin:	soil in place	**Location of Sampling:**	st. 0+270
Proposed Use:	foundation		

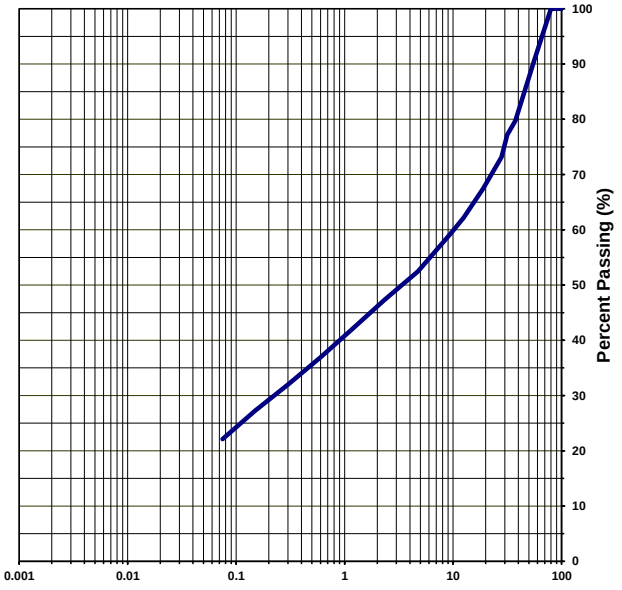
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	91	80	77	73	67	62	59	52	47	42	37	32	27	22.1
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	21.8		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m^3)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
22	30	48

Remarks _____

Prepared by: Mathieu Côté Verified by: _____ Date: 2020-02-12

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11202247-B1

Sample N°: AMQ-IP-009

Projet: Derivation channel

Sampling Date: 2020-02-25

Sampled by: Stéphane Dorvélus

Description of Material: Soil in place

Origin: In place

Location of Sampling: ST. 0+660

Proposed Use: Foundation

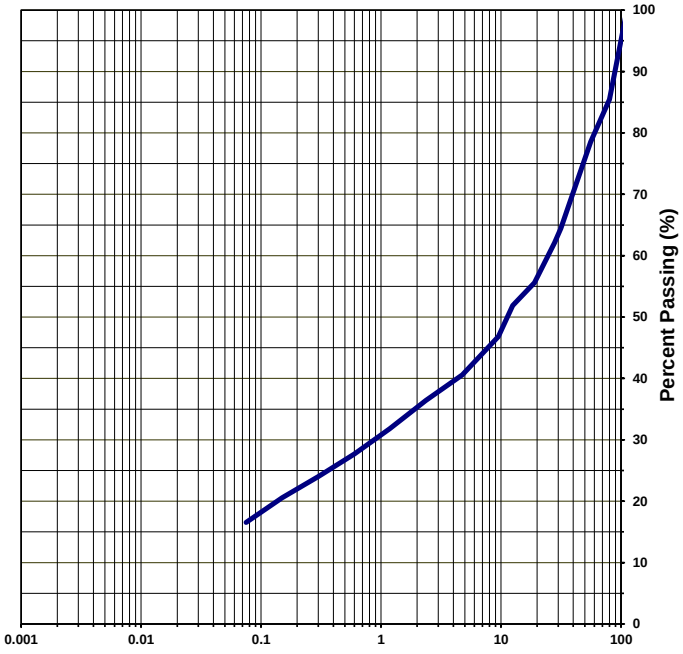
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	85	79	69	64	62	56	52	47	41	36	32	28	24	21	16.5
Require-ments	min.																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	15.4		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m^3)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
17	25	59

Remarks

Prepared by: Yaotree Amegnran Date : 2020-02-26 Verified by: Date:

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11202247-B1

Sample N°: AMQ-IP-010

Projet: Derivation channel

Sampling Date: 2020-02-27

Sampled by: Stéphane Dorvélus

Description of Material: Soil in place

Origin: In place

Location of Sampling: ST. 0+600

Proposed Use: Foundation

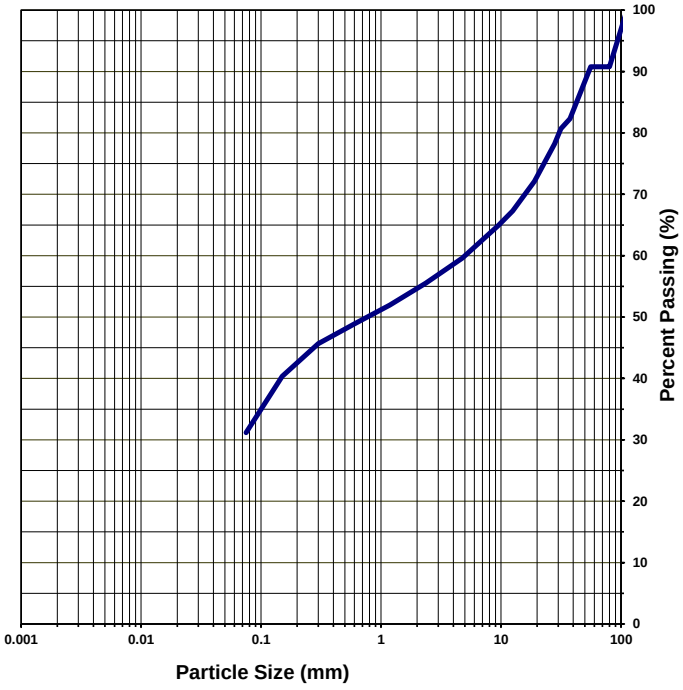
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	91	91	82	81	78	72	67	65	60	56	52	49	46	40	31.2
Require-ments	min.																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	18.50%		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m³)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
31	29	40

Remarks

Prepared by: Yaotree Amegnran Date : 2020-02-28 Verified by: Date:

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-IP-011
Projet:	Derivation channel	**Sampling Date:**	2020-03-01
		Sampled by:	Stéphane Dorvélus
Description of Material:	Soil in place		
Origin:	In place	**Location of Sampling:**	ST. 0+530 (top of Eastern slope)
Proposed Use:	Foundation		

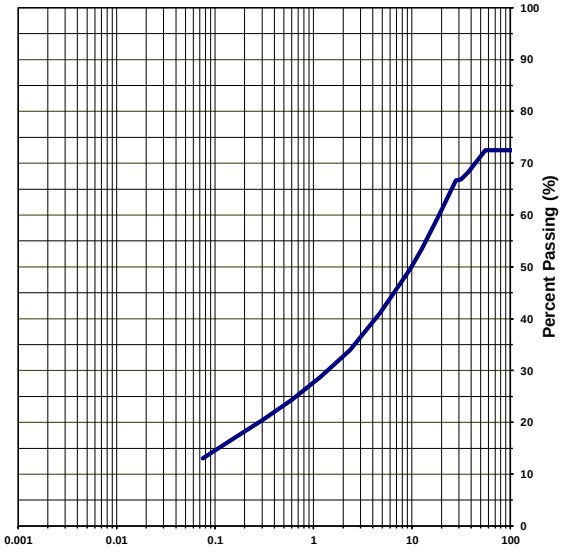
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		73	73	73	68	67	67	60	53	49	41	34	29	24	20	17	13.1
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	39.60%		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m³)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
13	28	59

Remarks: Excess water generated by the sample when stored in the lab at 23 degres temperature.

Prepared by: Yaotree Amegnran Date : 2020-02-03 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-IP-012
Projet:	Derivation channel	**Sampling Date:**	2020-03-01
		Sampled by:	Stéphane Dorvélus
Description of Material:	Soil in place		
Origin:	In place	**Location of Sampling:**	ST. 0+530 (Bottom of Eastern slope)
Proposed Use:	Foundation		

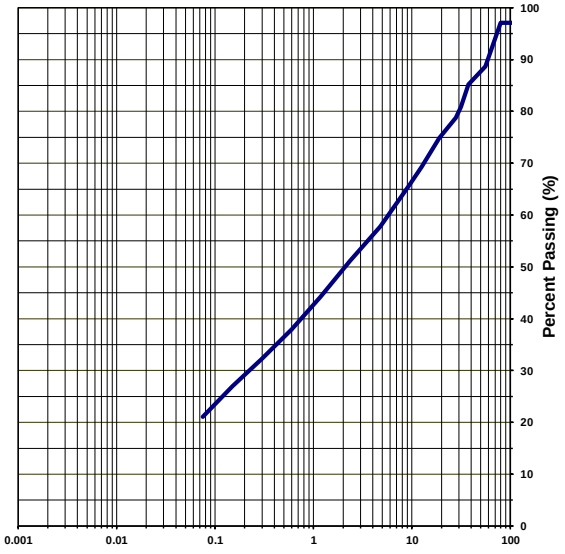
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		97	97	89	85	81	79	75	69	66	58	51	44	38	32	27	21.1
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	11.30%		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**#REF!** **(kg/m³)**
Optimum Moisture Content	**#REF!** **(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
21	37	42

Remarks _____

Prepared by: Yaotree Amegnran Date : 2020-02-03 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-IP-013
Projet:	Derivation channel	**Sampling Date:**	2020-03-01
		Sampled by:	Stéphane Dorvélus
Description of Material:	Soil in place		
Origin:	In place	**Location of Sampling:**	ST. 0+520 (Bottom of Western slope)
Proposed Use:	Foundation		

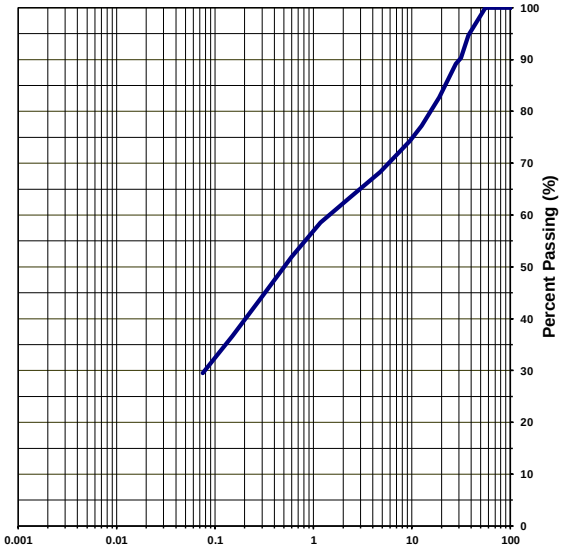
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	95	90	89	83	77	74	68	63	59	52	44	37	29.5
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	22.50%		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m³)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
30	39	32

Remarks _____

Prepared by: Yaotree Amegnran Date : 2020-02-03 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-IP-014
Projet:	Derivation channel	**Sampling Date:**	2020-03-03
		Sampled by:	Stéphane Dorvélus
Description of Material:	Soil in place		
Origin:	In place	**Location of Sampling:**	SWTC : ST. 0+320 Western slope
Proposed Use:	Foundation		

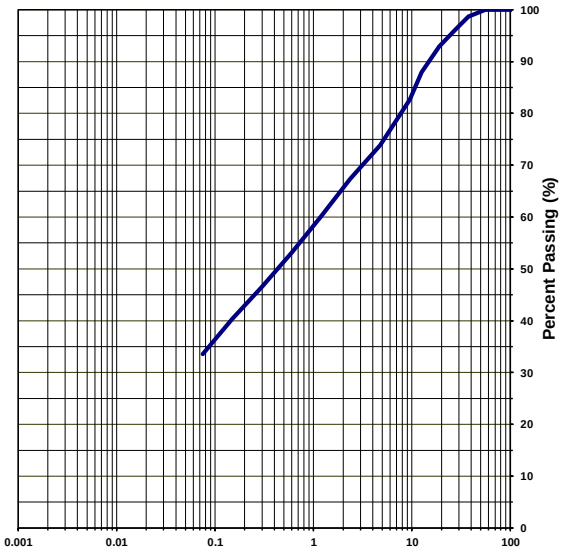
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	99	97	96	93	88	83	74	67	60	53	47	40	33.6
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	6.80%		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**#REF!** **(kg/m³)**
Optimum Moisture Content	**#REF!** **(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
34	40	26

Remarks: The low moisture (6.8%) content might be explained by the fact the sample is made up with thee big bowls of compacted clay mixed with gravel

Prepared by: Yaotree Amegnran Date : 2020-03-04 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11202247-B1

Sample N°: AMQ-IP-015

Projet: Derivation channel

Sampling Date: 6/3/2020

Sampled by: Stéphane Dorvélus

Description of Material: Soil in place

Origin: In place

Location of Sampling: SWTC : ST. 0+220 Western slope

Proposed Use: Soil in place

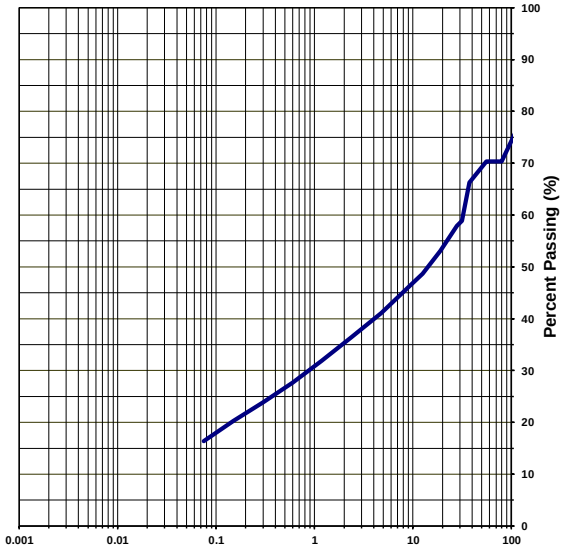
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		76	70	70	66	59	58	53	49	46	41	36	32	28	24	20	16.4
Require-ments	min.																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	17.50%		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m³)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
16	25	59

Remarks

Prepared by: Yaotree Amegnran Date : 6/3/2020 Verified by: Date:

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-IP-016
Projet:	Derivation channel	**Sampling Date:**	8/3/2020
		Sampled by:	Stéphane Dorvélus
Description of Material:	Soil in place		
Origin:	In place	**Location of Sampling:**	SWTC : ST. 0+170 Eastern slope
Proposed Use:	Soil in place		

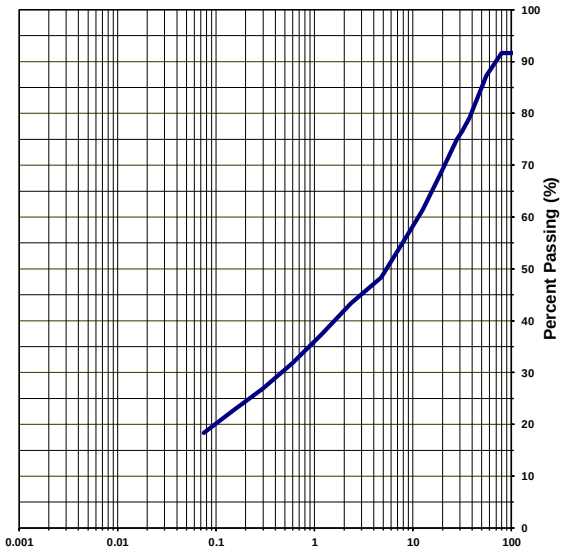
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		92	92	87	79	77	75	68	61	58	48	43	37	32	27	23	18.4
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	9.10%		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m³)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
18	30	52

Remarks _____

Prepared by: Yaotree Amegnran Date : 8/3/2020 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11202247-B1

Sample N°: AMQ-IP-017

Projet: Derivation channel

Sampling Date: 2020-03-08

Sampled by: Stephane Dorvelus

Description of Material: soil in place

Origin: Soil in place

Location of Sampling: 0+120 East slope

Proposed Use: Foundation

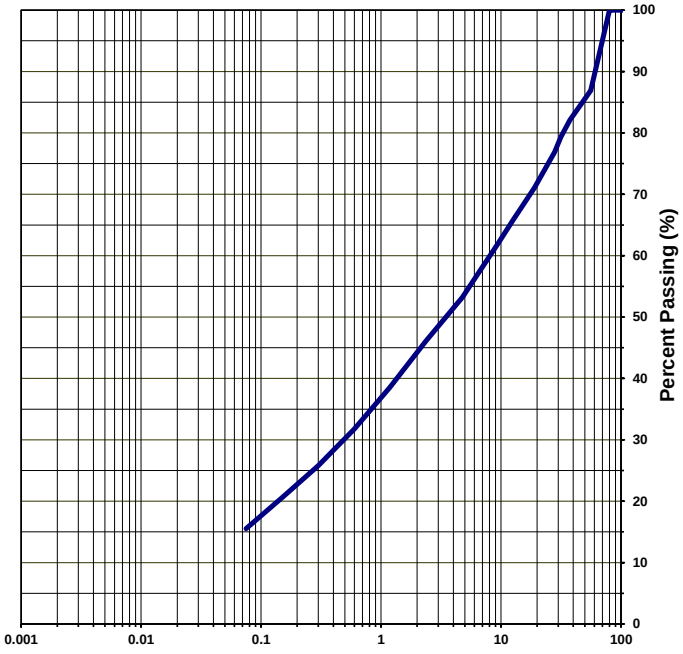
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	87	82	79	77	71	66	62	53	46	38	32	26	21	15.5
Require-ments	min.																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	9.7		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m³)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
16	38	47

Remarks

Prepared by: Richard J.Tremblay

Verified by:

Date: 2020-03-10

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11202247-B1

Sample N°: AMQ-IP-018

Projet: Derivation channel

Sampling Date: 2020-02-09

Sampled by: Mathieu côté

Description of Material: soil in place

Origin: SWTC

Location of Sampling: 0+070

Proposed Use: Foundation

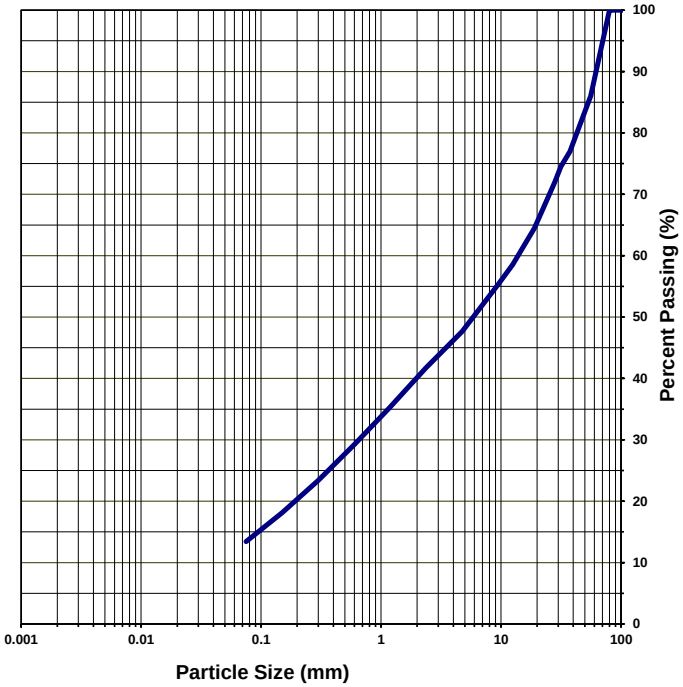
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	86	77	75	72	64	59	55	48	42	35	29	23	18	13.4
Require-ments	min.																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	16.0		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m³)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
13	35	52

Remarks: 40g of organic material (roots)

Prepared by: Mathieu Côté

Verified by:

Date: 2020-03-10

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-IP-019
Projet:	Derivation channel	**Sampling Date:**	2020-03-27
		Sampled by:	Yaotree Amegnran
Description of Material:	soil in place		
Origin:	SWTC channel	**Location of Sampling:**	0+380 Fondation level
Proposed Use:	soil in place		

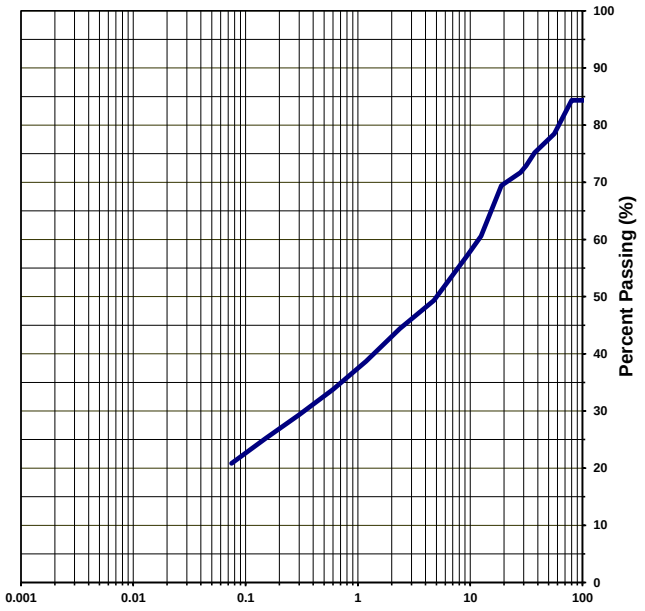
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		84	84	78	75	73	72	69	61	57	49	44	39	34	29	25	20.8
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	11.4		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**#REF!** **(kg/m³)**
Optimum Moisture Content	**#REF!** **(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
21	28	51

Remarks _____

Prepared by: Yaotree Amegnran 2020-03-27 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

EXCESS ICE DETERMINATION

GAL TP001 Soil Description-Rev1

Sample No: **AMQ-IP-020** (ST. 0+349m Foundation level)

Sampling Date: **2020-03-28** **By:** Yaotree Amegnran

Performed By : **Yaotree Amegnran** **2020-03-28**

Data processing Date: **2020-03-28** **By:** Yaotree Amegnran

Legend and formula :

Masse of melt water captured after thawing the sample (g) : Mmw
Standard water content of the sample (%) : W
Masse of water from standard water content (g): Mw
Total water content of the sample (%) : Wt
Ice content (%) : Wi
Masse of wet soil (g): Mh
Masse of dry soil (g) : Md

Computation :

Melt water Mmw (g)	Wet soil Mh (g)	Dry soil Md (g)	Masse water content Mw = Mh - Md (g)	Standard water content $W=\frac{Mw}{Md}$ (%)	Total water content $Wt=\frac{Mw+Mmw}{Md}$ (%)	Ice content (%) Wi = Wt - W
5059	36563	29267	7296	24.9	42.2	17.3

Ice content : **17.3%**

Moinsture **42.2%**

EXCESS ICE DETERMINATION

GAL TP001 Soil Description-Rev1

Sample No: **AMQ-IP-021** (ST. 0+345m Foundation level)

Sampling Date: **2020-03-30** **By:** Yaotree Amegnran

Performed By : **Yaotree Amegnran** **2020-03-30**

Data processing Date: **2020-03-30** **By:** Yaotree Amegnran

Legend and formula :

Masse of melt water captured after thawing the sample (g) : Mmw
Standard water content of the sample (%) : W
Masse of water from standard water content (g): Mw
Total water content of the sample (%) : Wt
Ice content (%) : Wi
Masse of wet soil (g): Mh
Masse of dry soil (g) : Md

Computation :

Melt water Mmw (g)	Wet soil Mh (g)	Dry soil Md (g)	Masse water content Mw = Mh - Md (g)	Standard water content $W=\frac{Mw}{Md}$ (%)	Total water content $Wt=\frac{Mw+Mmw}{Md}$ (%)	Ice content (%) Wi = Wt - W
2195	17046	13386	3660	27.3	43.7	16.4

Ice content : 16.4%

Total Moinsture 43.7%

EXCESS ICE DETERMINATION

GAL TP001 Soil Description-Rev1

Sample No: **AMQ-IP-22.1** (ST. 0+490m Foundation level). Elevation 152.6m

Sampling Date: **2020-03-31** **By:** Yaotree Amegnran

Performed By : **Yaotree Amegnran** **2020-04-01**

Data processing Date: **2020-04-01** **By:** Yaotree Amegnran

Legend and formula :

Masse of melt water captured after thawing the sample (g) : Mmw
Standard water content of the sample (%) : W
Masse of water from standard water content (g): Mw
Total water content of the sample (%) : Wt
Ice content (%) : Wi
Masse of wet soil (g): Mh
Masse of dry soil (g) : Md

Computation :

Melt water Mmw (g)	Wet soil Mh (g)	Dry soil Md (g)	Masse water content Mw = Mh - Md (g)	Standard water content $W=\frac{Mw}{Md}$ (%)	Total water content $Wt=\frac{Mw+Mmw}{Md}$ (%)	Ice content (%) Wi = Wt - W
0	21374	19988	1386	6.9	6.9	0.0

Ice content : 0.0%

Total Moinsture 6.9%

EXCESS ICE DETERMINATION

GAL TP001 Soil Description-Rev1

Sample No: **AMQ-IP-22.2** (ST. 0+490m Foundation level). Elevation 152.3m

Sampling Date: **2020-03-31** **By:** Yaotree Amegnran

Performed By : **Yaotree Amegnran** **2020-04-01**

Data processing Date: **2020-04-01** **By:** Yaotree Amegnran

Legend and formula :

Masse of melt water captured after thawing the sample (g) : Mmw
Standard water content of the sample (%) : W
Masse of water from standard water content (g): Mw
Total water content of the sample (%) : Wt
Ice content (%) : Wi
Masse of wet soil (g): Mh
Masse of dry soil (g) : Md

Computation :

Melt water Mmw (g)	Wet soil Mh (g)	Dry soil Md (g)	Masse water content Mw = Mh - Md (g)	Standard water content $W=\frac{Mw}{Md}$ (%)	Total water content $Wt=\frac{Mw+Mmw}{Md}$(%)	Ice content (%) Wi = Wt - W
732	20528	18410	2118	11.5	15.5	4.0

Ice content : 4.0%

Total Moinsture 15.5%

EXCESS ICE DETERMINATION

GAL TP001 Soil Description-Rev1

Sample No: **AMQ-IP-23.1** (ST. 0+440m Foundation level). Elevation 152.8m

Sampling Date: **2020-03-31** **By:** Yaotree Amegnran

Performed By : **Yaotree Amegnran** **2020-04-01**

Data processing Date: **2020-04-01** **By:** Yaotree Amegnran

Legend and formula :

Masse of melt water captured after thawing the sample (g) : Mmw
Standard water content of the sample (%) : W
Masse of water from standard water content (g): Mw
Total water content of the sample (%) : Wt
Ice content (%) : Wi
Masse of wet soil (g): Mh
Masse of dry soil (g) : Md

Computation :

Melt water Mmw (g)	Wet soil Mh (g)	Dry soil Md (g)	Masse water content Mw = Mh - Md (g)	Standard water content $W=\frac{Mw}{Md}$ (%)	Total water content $Wt=\frac{Mw+Mmw}{Md}$ (%)	Ice content (%) Wi = Wt - W
6986	15119	4722	10397	220.2	368.1	147.9

Ice content : 147.9%

Total Moinsture 368.1%

Remarks : The sample contains big quantitiy of silts, light materials and ice blocks

EXCESS ICE DETERMINATION

GAL TP001 Soil Description-Rev1

Sample No: **AMQ-IP-23.2** (ST. 0+440m Foundation level). Elevation 152.5m

Sampling Date: **2020-03-31** **By:** Yaotree Amegnran

Performed By : **Yaotree Amegnran** **2020-04-01**

Data processing Date: **2020-04-01** **By:** Yaotree Amegnran

Legend and formula :

Masse of melt water captured after thawing the sample (g) : Mmw
Standard water content of the sample (%) : W
Masse of water from standard water content (g): Mw
Total water content of the sample (%) : Wt
Ice content (%) : Wi
Masse of wet soil (g): Mh
Masse of dry soil (g) : Md

Computation :

Melt water Mmw (g)	Wet soil Mh (g)	Dry soil Md (g)	Masse water content Mw = Mh - Md (g)	Standard water content $W=\frac{Mw}{Md}$ (%)	Total water content $Wt=\frac{Mw+Mmw}{Md}$ (%)	Ice content (%) Wi = Wt - W
3603	15666	8352	7314	87.6	130.7	43.1

Ice content : 43.1%

Total Moinsture 130.7%

Remarks : The sample contains big quantitiy of silts, light materials and ice blocks

EXCESS ICE DETERMINATION

GAL TP001 Soil Description-Rev1

Sample No: **AMQ-IP-23.3** (ST. 0+440m Foundation level). Elevation 152.1m

Sampling Date: **2020-03-31** **By:** Yaotree Amegnran

Performed By : **Yaotree Amegnran** **2020-04-01**

Data processing Date: **2020-04-01** **By:** Yaotree Amegnran

Legend and formula :

Masse of melt water captured after thawing the sample (g) : Mmw
Standard water content of the sample (%) : W
Masse of water from standard water content (g): Mw
Total water content of the sample (%) : Wt
Ice content (%) : Wi
Masse of wet soil (g): Mh
Masse of dry soil (g) : Md

Computation :

Melt water Mmw (g)	Wet soil Mh (g)	Dry soil Md (g)	Masse water content Mw = Mh - Md (g)	Standard water content $W=\frac{Mw}{Md}$ (%)	Total water content $Wt=\frac{Mw+Mmw}{Md}$(%)	Ice content (%) Wi = Wt - W
269	14548	12931	1617	12.5	14.6	2.1

Ice content : 2.1%

Total Moinsture 14.6%

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-IP-023.3
Projet:	Derivation channel	**Sampling Date:**	2020-03-31
		Sampled by:	Yaotree Amegnran
Description of Material:	Soil in place		
Origin:	Channel	**Location of Sampling:**	ST. 0+440 Foundation level. Elevation 152.1
Proposed Use:	Soil in place		

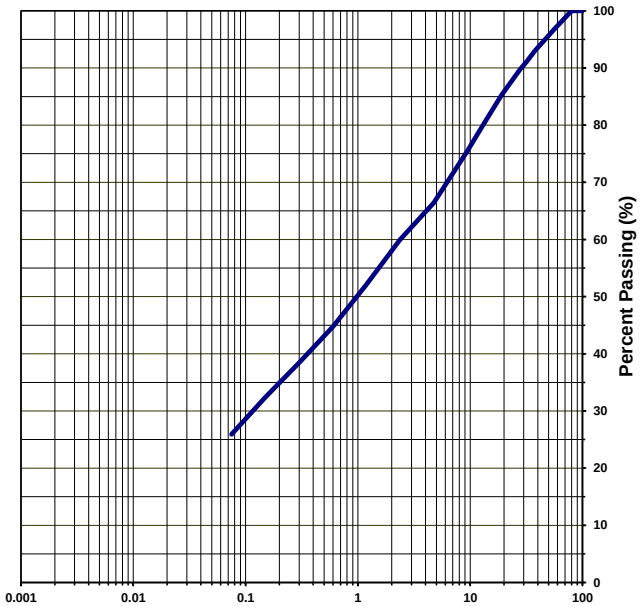
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	97	93	91	90	85	79	76	66	60	52	45	38	32	25.9
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	14.60%		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**#REF!** **(kg/m³)**
Optimum Moisture Content	**#REF!** **(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
26	40	34

Remarks: Excess water generated by the sample when stored in the lab at 23 degres temperature.

Prepared by: Yaotree Amegnran Date : 2020-04-01 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

EXCESS ICE DETERMINATION

GAL TP001 Soil Description-Rev1

Sample No: **AMQ-IP-23.4** (ST. 0+440m Foundation level). Elevation 151.5m

Sampling Date: **2020-03-31** **By:** Yaotree Amegnran

Performed By : **Yaotree Amegnran** **2020-04-01**

Data processing Date: **2020-04-01** **By:** Yaotree Amegnran

Legend and formula :

Masse of melt water captured after thawing the sample (g) : Mmw
Standard water content of the sample (%) : W
Masse of water from standard water content (g): Mw
Total water content of the sample (%) : Wt
Ice content (%) : Wi
Masse of wet soil (g): Mh
Masse of dry soil (g) : Md

Computation :

Melt water Mmw (g)	Wet soil Mh (g)	Dry soil Md (g)	Masse water content Mw = Mh - Md (g)	Standard water content $W=\frac{Mw}{Md}$ (%)	Total water content $Wt=\frac{Mw+Mmw}{Md}$(%)	Ice content (%) Wi = Wt - W
1065	20928	18408	2520	13.7	19.5	5.8

Ice content : 5.8%

Total Moinsture 19.5%

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-IP-023.4
Projet:	Derivation channel	**Sampling Date:**	2020-03-31
		Sampled by:	Yaotree Amegnran
Description of Material:	Soil in place		
Origin:	Channel	**Location of Sampling:**	ST. 0+440 Foundation level. Elevation 151.5
Proposed Use:	Soil in place		

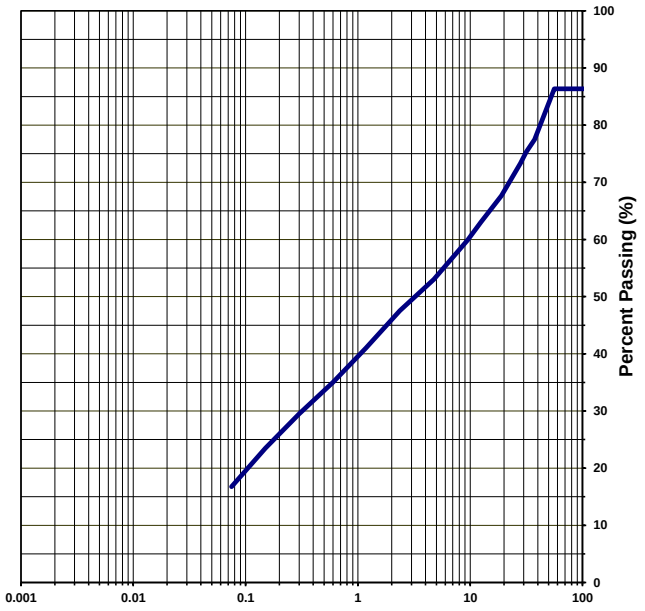
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		86	86	86	77	75	73	68	63	60	53	48	41	35	30	24	16.8
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	19.50%		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**#REF!** **(kg/m³)**
Optimum Moisture Content	**#REF!** **(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
17	36	47

Remarks: Excess water generated by the sample when stored in the lab at 23 degres temperature.

Prepared by: Yaotree Amegnran Date : 2020-04-01 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

EXCESS ICE DETERMINATION

GAL TP001 Soil Description-Rev1

Sample No: **AMQ-IP-24.1** (ST. 0+467m Foundation level). Elevation 152.4m

Sampling Date: **2020-04-01** **By:** Thomas Dahm

Performed By : **Yaotree Amegnran** **2020-04-01**

Data processing Date: **2020-04-02** **By:** Yaotree Amegnran

Legend and formula :

Masse of melt water captured after thawing the sample (g) : Mmw

Standard water content of the sample (%) : W

Masse of water from standard water content (g): Mw

Total water content of the sample (%) : Wt

Ice content (%) : Wi

Masse of wet soil (g): Mh

Masse of dry soil (g) : Md

Computation :

Melt water Mmw (g)	Wet soil Mh (g)	Dry soil Md (g)	Masse water content Mw = Mh - Md (g)	Standard water content $W=\frac{Mw}{Md}$ (%)	Total water content $Wt=\frac{Mw+Mmw}{Md}$ (%)	Ice content (%) Wi = Wt - W
0	10372	9564	808	8.4	8.4	0.0

Ice content : 0.0%

Total Moinsture 8.4%

EXCESS ICE DETERMINATION

GAL TP001 Soil Description-Rev1

Sample No: **AMQ-IP-24.2** (ST. 0+467m Foundation level). Elevation 152.1m

Sampling Date: **2020-04-01** **By:** Thomas Dahm

Performed By : **Yaotree Amegnran** **2020-04-01**

Data processing Date: **2020-04-02** **By:** Yaotree Amegnran

Legend and formula :

Masse of melt water captured after thawing the sample (g) : Mmw

Standard water content of the sample (%) : W

Masse of water from standard water content (g): Mw

Total water content of the sample (%) : Wt

Ice content (%) : Wi

Masse of wet soil (g): Mh

Masse of dry soil (g) : Md

Computation :

Melt water Mmw (g)	Wet soil Mh (g)	Dry soil Md (g)	Masse water content Mw = Mh - Md (g)	Standard water content $W=\frac{Mw}{Md}$ (%)	Total water content $Wt=\frac{Mw+Mmw}{Md}$(%)	Ice content (%) Wi = Wt - W
0	12607	11787	820	7.0	7.0	0.0

Ice content : 0.0%

Total Moinsture 7.0%

Moisture Content of Soils
(ASTM D 2216)

Client: AEM

Project no.: 11202247-B1 **Sample no.:** AMQ-IP-moisture content

Apparatus Used for Testing

Oven no.: 18-914 Scale no.: ranger

Sample No.	1	2	3					
Container no.	sag3	sag	102					
Mass of container + wet soil (g)	9609.0	13724.0	5406.0					
Mass of container + dry soil (g)	8779.0	12820.0	4870.0					
Mass of container (g)	1577.0	1591.0	915.0					
Mass of dry soil (g)	7202.0	11229.0	3955.0					
Mass of water (g)	830.0	904.0	536.0					
Moisture content (%)	11.5	8.1	13.6					
Sample No.								
Container no.								
Mass of container + wet soil (g)								
Mass of container + dry soil (g)								
Mass of container (g)								
Mass of dry soil (g)								
Mass of water (g)								
Moisture content (%)								

Remarks:

Analysed by: Mathieu Côté Richard Jean Tremblay **Date:** 14/02/2020

Verified by : **Date:**

Appendix H-3

Test Reports – Esker Particle Size Analysis

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11204932-B1**
		Sample N°:	AMQ-ES-001
Projet:	Derivation channel	**Sampling Date:**	2020-01-17
		Sampled by:	Mathieu Côté
Description of Material:	Esker		
Origin:	WRSF stockpile	**Location of Sampling:**	WRSF stokpile
Proposed Use:	Under the fine filter		

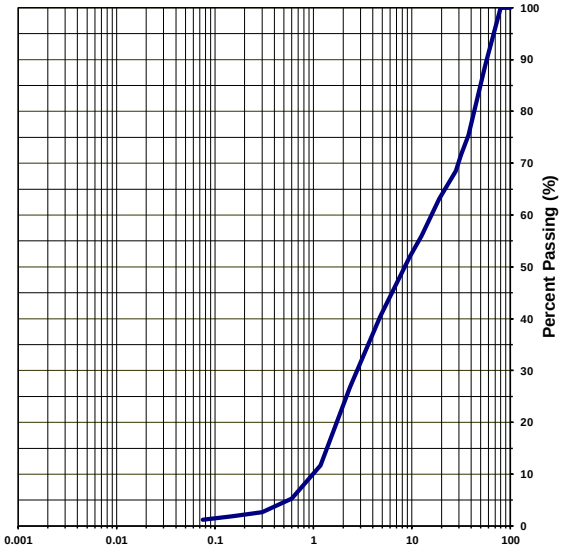
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	89	75	72	69	63	56	52	40	27	12	5	3	2	1.2
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
PSPI			
Moisture Content (%)	1.4		
Agreggate Density (Coarse)			
Absorption granulats (fins)			
Micro Deval (coarse)			
Los Angeles (Coarse)			
% Crushed Particles			
Methylene Blue Index			
Organic Matter Content			

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
1	39	60

Remarks _____

Prepared by: Mathieu Côté Verified by: _____ Date: 2020-01-17

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Projet: Derivation channel

Description of Material: Esker

Origin: WRSF stockpile

Proposed Use: Under the fine filter

Project N°: 11204932-B1

Sample N°: AMQ-ES-002

Sampling Date: 2020-01-17

Sampled by: Mathieu Côté

Location of Sampling: WRSF stokpile

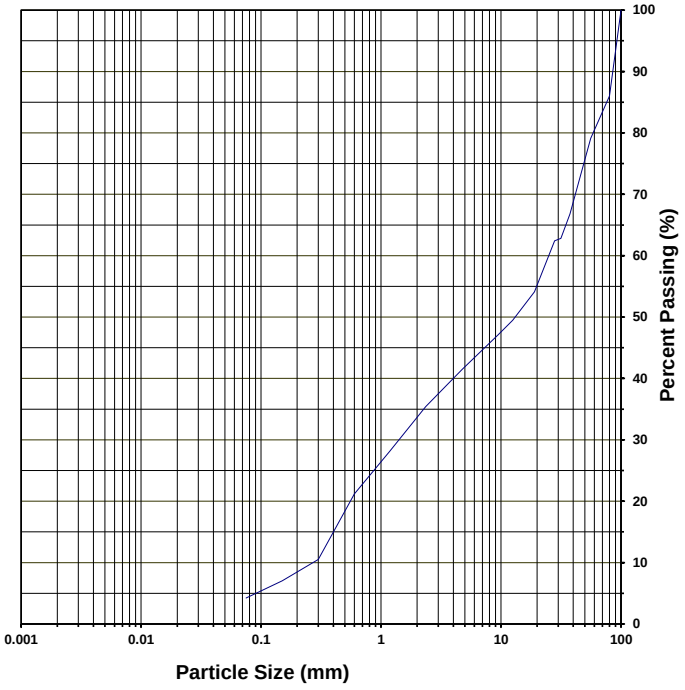
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	86	79	67	63	62	54	49	47	41	35	28	21	11	7	4.2
Require-ments	min.																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
PSPI			
Moisture Content (%)	1.1		
Agreggate Density (Coarse)			
Absorption granulats (fins)			
Micro Deval (coarse)			
Los Angeles (Coarse)			
% Crushed Particles			
Methylene Blue Index			
Organic Matter Content			

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
4	37	59

Remarks

Prepared by: Mathieu Côté

Verified by:

Date: 2020-01-18

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Projet: Derivation channel

Description of Material: Esker in place

Origin: In place on the slope

Proposed Use: Back fillir

Proiect N°: 11202247-B1

Sample N°: AMQ-ES-003.1

Sampling Date: 2020-02-02

Sampled by: Stéphane Dorvélus

Location of Sampling: Stock pile

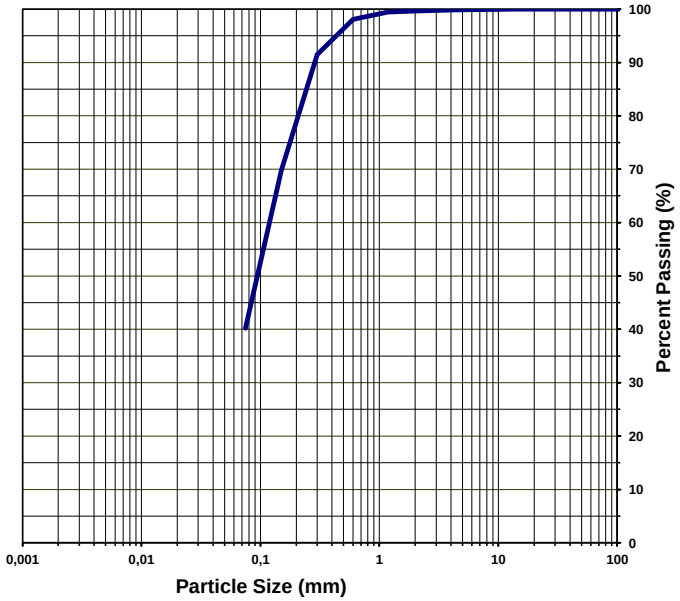
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37,5 mm	31,5 mm	28 mm	19 mm	12,5 mm	9,5 mm	4,75 mm	2,36 mm	1,18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	100	100	100	100	100	99	98	91	70	40,2
Require-ments	min.																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	12,5		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m^3)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
40	60	0

Remarks

Prepared by: Yaotree D. Amegnran Date : 2020-02-04

Verified by: Date:

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Projet: Derivation channel

Description of Material: soil in place

Origin: In place, as used

Proposed Use: Back filling

Proiect N°: 11202247-B1

Sample N°: AMQ-ES-004

Sampling Date: 2020-02-01

Sampled by: Yaotree Amegnran

Location of Sampling: Western slope of channel. ch.0+820

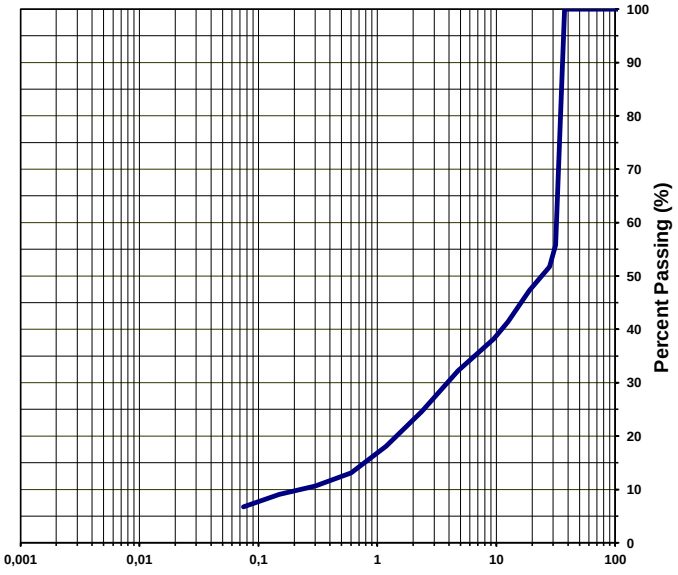
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37,5 mm	31,5 mm	28 mm	19 mm	12,5 mm	9,5 mm	4,75 mm	2,36 mm	1,18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	56	52	47	41	38	32	25	18	13	11	9	6,7
Require-ments	min.																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	5,3		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m^3)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
7	25	68

Remarks _____

Prepared by: Yaotree D. Amegnran Date : 2020-02-02

Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Projet: Derivation channel

Description of Material: soil in place

Origin: In place, as used

Proposed Use: Back filling

Proiect N°: 11202247-B1

Sample N°: AMQ-ES-005

Sampling Date: 2020-02-01

Sampled by: Stéphane Dorvélus

Location of Sampling: Eastern slope of channel. ch.0+820

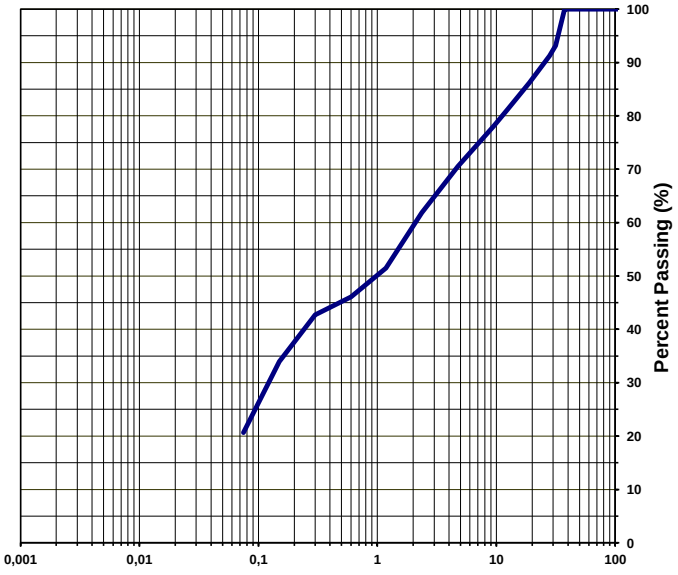
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37,5 mm	31,5 mm	28 mm	19 mm	12,5 mm	9,5 mm	4,75 mm	2,36 mm	1,18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	93	91	86	81	78	71	62	51	46	43	34	20,7
Require-ments	min.																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	6,7		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m^3)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
21	50	29

Remarks

Prepared by: Yaotree Amegnran Date: 2020-02-02

Verified by: Date:

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Projet: Derivation channel

Description of Material: Esker

Origin: In place, as used

Proposed Use: Back filling

Proiect N°: 11202247-B1

Sample N°: AMQ-ES-006

Sampling Date: 2020-02-04

Sampled by: Stéphane Dorvélus

Location of Sampling: Eastern slope of channel. ch.0+800

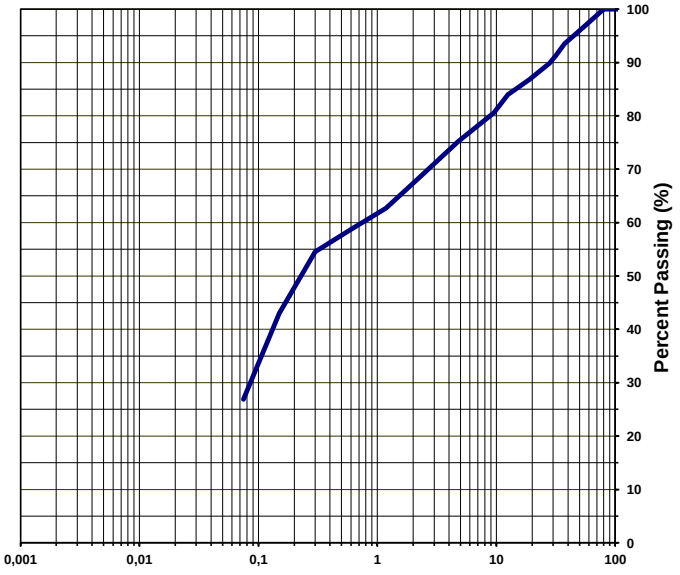
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37,5 mm	31,5 mm	28 mm	19 mm	12,5 mm	9,5 mm	4,75 mm	2,36 mm	1,18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	97	94	91	90	87	84	81	75	69	63	59	55	43	26,9
Require-ments	min.																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	11,8		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m^3)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
27	48	25

Remarks _____

Prepared by: Yaotree Amegnran Date: 2020-02-04 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Projet: Derivation channel

Description of Material: Esker

Origin: In place, as used

Proposed Use: Slope of the channel

Proiect N°: 11202247-B1

Sample N°: AMQ-ES-007

Sampling Date: 2020-02-04

Sampled by: Stéphane Dorvelus

Location of Sampling: Western slope of channel. ST.0+780

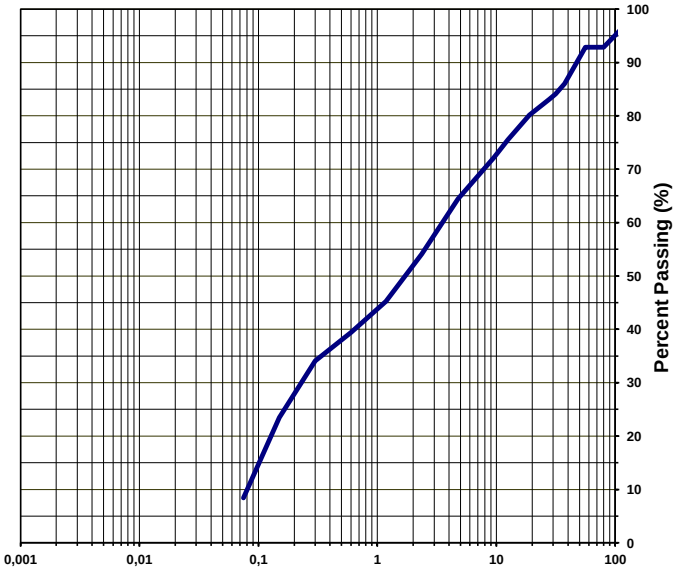
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37,5 mm	31,5 mm	28 mm	19 mm	12,5 mm	9,5 mm	4,75 mm	2,36 mm	1,18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		96	93	93	86	84	83	80	76	72	64	54	45	39	34	23	8,4
Require-ments	min.																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	15,8		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m^3)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
8	56	36

Remarks _____

Prepared by: Stéphane Dorvélus Date : 2020-02-05 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Projet: Derivation channel

Description of Material: Esker

Origin: In place, as used

Proposed Use: Slope of the channel

Proiect N°: 11202247-B1

Sample N°: AMQ-ES-008

Sampling Date: 2020-02-04

Sampled by: Stéphane Dorvelus

Location of Sampling: Eastern slope of channel. ch.0+860

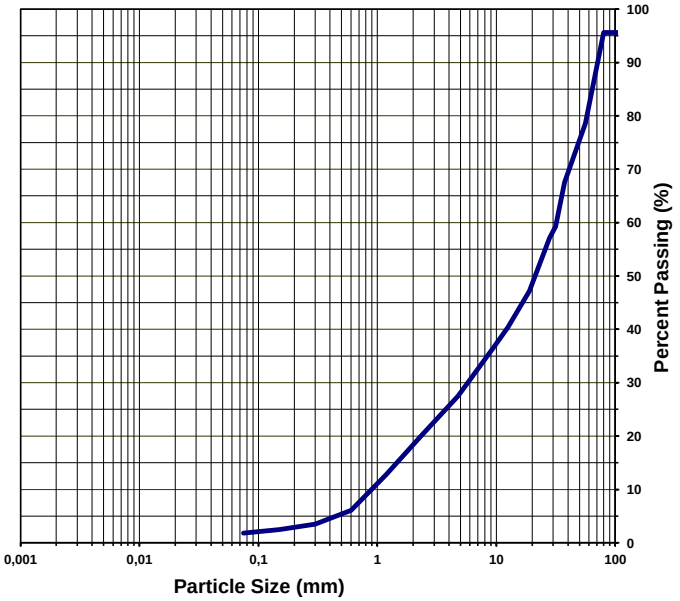
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37,5 mm	31,5 mm	28 mm	19 mm	12,5 mm	9,5 mm	4,75 mm	2,36 mm	1,18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		96	96	79	68	59	57	47	40	37	27	20	13	6	3	2	1,8
Require-ments	min.																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	11		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m^3)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
2	25	73

Remarks _____

Prepared by: Yaotree Amegnran Date : 2020-02-05

Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11202247-B1

Sample N°: AMQ-ES-009

Projet: Derivation channel

Sampling Date: 11-02-2020

Sampled by: Mathieu côté

Description of Material: soil in place

Origin: Base fill

Location of Samplinç 0+760 W slope

Proposed Use: Foundation

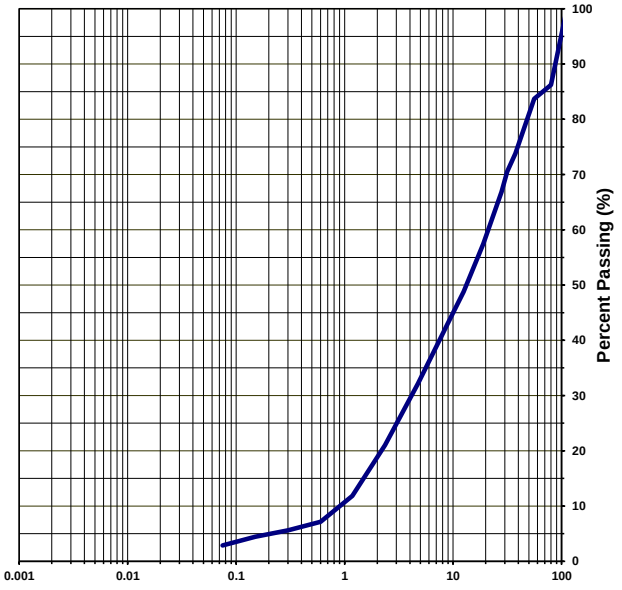
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	86	84	74	71	67	57	49	44	32	21	12	7	6	4	2.9
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	3.4		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	**#REF!** (kg/m^3)
Optimum Moisture Content	**#REF!** (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
3	29	68

Remarks

Prepared by: Mathieu Côté

Verified by:

Date: 13-02-2020

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Projet: SWTC

Description of Material: Esker

Origin:

Proposed Use: Backfill in bottom excavation

Project N°: 11202247-B1

Sample N°: AMQ-ES-010

Sampling Date: 2020-02-18

Sampled by: Richard Jean Tremblay

Location of Sampling: 0+700 west slope

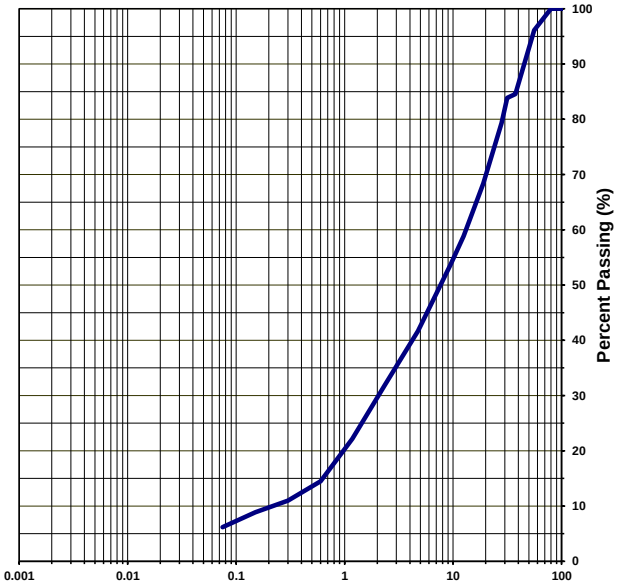
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	96	85	84	79	68	59	54	42	32	22	14	11	9	6.2
Require-ments	min.																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	7.3		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m^3)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
6	36	58

Remarks

Prepared by: Mathieu Côté et Richard Jean Tremblay

Verified by:

Date: 2020-02-19

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-ES-011
Projet:	Derivation channel	**Sampling Date:**	2020-02-18
		Sampled by:	Richard J.Tremblay
Description of Material:	soil in place		
Origin:	Esker stockpile	**Location of Sampling:**	SWTC ST.0+690
Proposed Use:	Backfill before Fine filter placement		

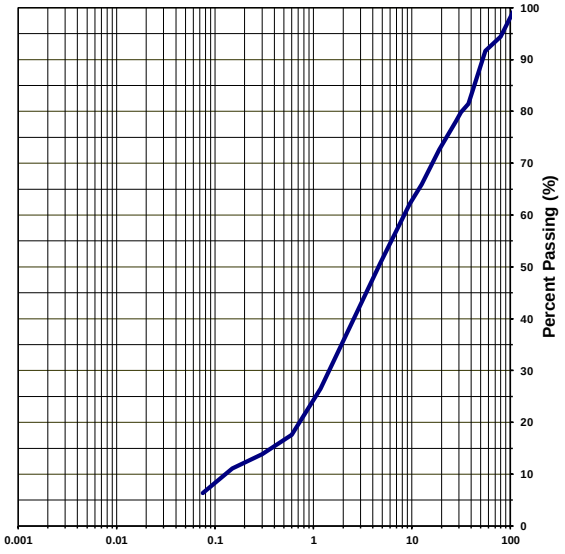
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	94	92	81	80	78	73	66	62	51	38	26	18	14	11	6.4
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	6.8		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**#REF!** **(kg/m³)**
Optimum Moisture Content	**#REF!** **(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
6	45	49

Remarks: Some fine material in separator

Prepared by: Mathieu Côté Verified by: _____ Date: 2020-02-20

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-ES-012
Projet:	Derivation channel	**Sampling Date:**	2020-02-29
		Sampled by:	Stéphane Dorvelus
Description of Material:	Esker as used on slope		
Origin:	Esker in place	**Location of Sampling:**	SWTC ST.0+670 Eastern Slope of channel
Proposed Use:	Backfill before Fine filter placement		

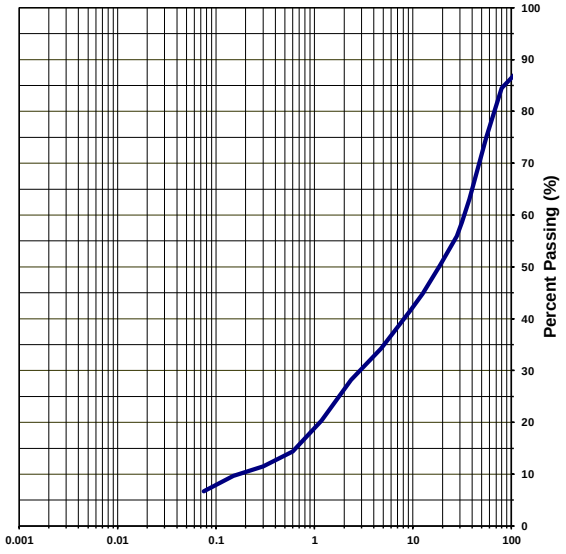
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		87	84	75	63	59	56	50	45	42	34	28	20	14	12	10	6.7
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	7.80%		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m³)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
7	27	66

Remarks _____

Prepared by: Yaotree Amegnran **Date:** Start : 2020-03-01 Finish : 2020-03-04 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-ES-013
Projet:	Derivation channel	**Sampling Date:**	2020-02-29
		Sampled by:	Stéphane Dorvelus
Description of Material:	Esker as used on slope		
Origin:	Esker in place	**Location of Sampling:**	SWTC ST.0+620 Western slope of channel
Proposed Use:	Backfill before Fine filter placement		

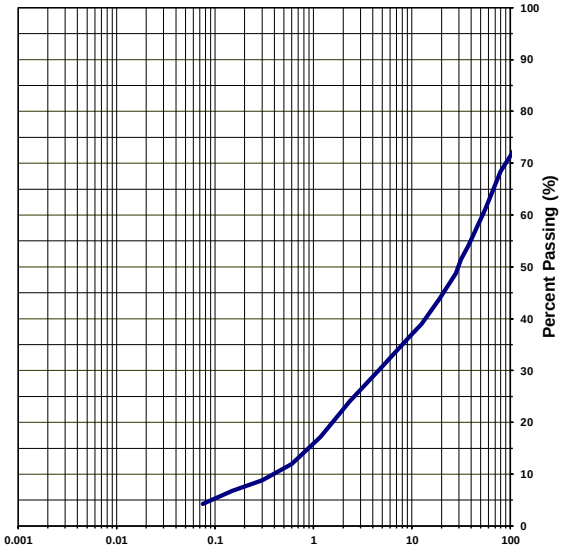
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		73	68	61	54	51	49	44	39	37	30	24	17	12	9	7	4.3
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.82%		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**#REF!** **(kg/m³)**
Optimum Moisture Content	**#REF!** **(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
4	26	70

Remarks _____

Prepared by: Yaotree Amegnran Date: Start: 2020-03-01 Finish : 2020-03-04 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-ES-014
Projet:	Derivation channel	**Sampling Date:**	2020-03-01
		Sampled by:	Stéphane Dorvelus
Description of Material:	Esker as used on slope		
Origin:	Esker in place	**Location of Sampling:**	SWTC Eastern slope ST.0+580
Proposed Use:	Backfill before Fine filter placement		

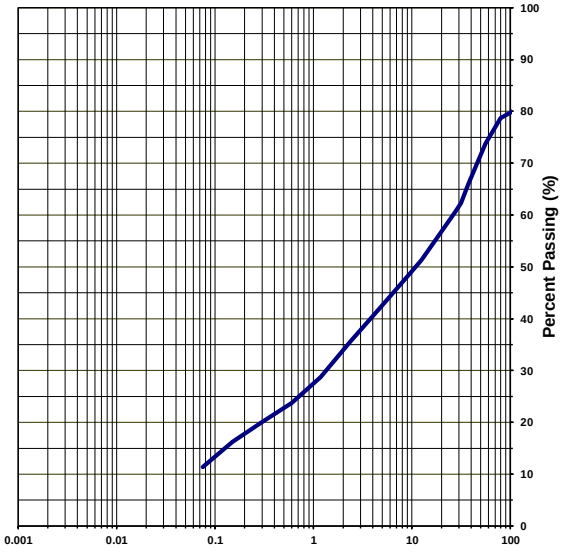
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		80	79	74	66	62	61	56	51	49	42	36	29	24	20	16	11.4
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	5.70%		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**#REF!** **(kg/m³)**
Optimum Moisture Content	**#REF!** **(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
11	31	58

Remarks _____

Prepared by: Stephane Dorvelus Date: 2020-03-03 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-ES-015
Projet:	Derivation channel	**Sampling Date:**	2020-03-04
		Sampled by:	Stéphane Dorvelus
Description of Material:	Esker as used on slope		
Origin:	Esker in place	**Location of Sampling:**	SWTC Western slope ST.0+555
Proposed Use:	Backfill before Fine filter placement		

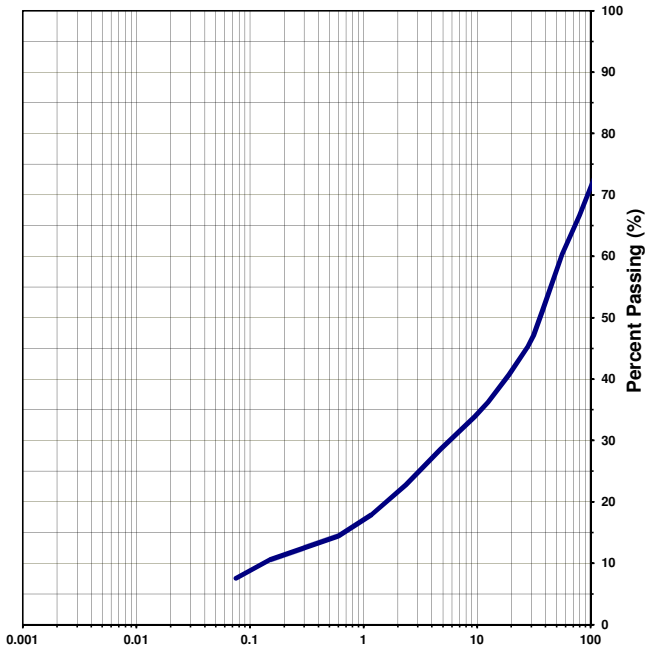
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		74	67	60	51	47	45	41	36	34	29	23	18	14	12	11	7.6
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.0%		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**#REF!** (kg/m³)
Optimum Moisture Content	**#REF!** (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
8	21	71

Remarks _____

Prepared by: Yaotree Amegnran Date: 2020-03-04 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11202247-B1

Sample N°: AMQ-ES-017

Projet: Derivation channel

Sampling Date: 2020-03-10

Sampled by: Mathieu côté

Description of Material: soil in place

Origin: Esker stockpile

Location of Sampling: 0+077

Proposed Use: foundation backfill

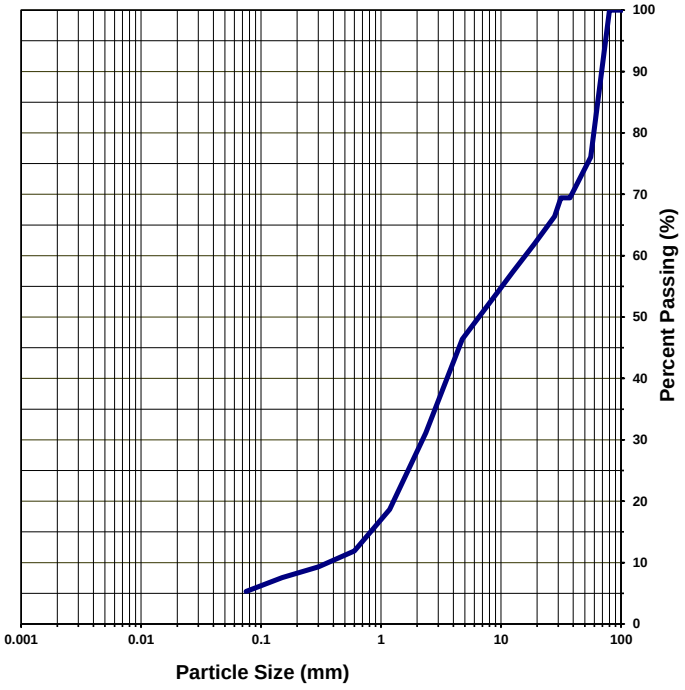
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	76	69	69	66	62	57	54	46	31	19	12	9	8	5.3
Require-ments	min.																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	2.6		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	#REF! (kg/m^3)
Optimum Moisture Content	#REF! (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
5	41	54

Remarks

Prepared by: Mathieu Côté and RJT

Verified by:

Date: 2020-03-10

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-ES-018
Projet:	Derivation channel	**Sampling Date:**	2020-03-26
		Sampled by:	Yaotree Amegnran
Description of Material:	soil in place		
Origin:	Channel	**Location of Sampling:**	st. 0+525 Eastern slope
Proposed Use:	Backfill		

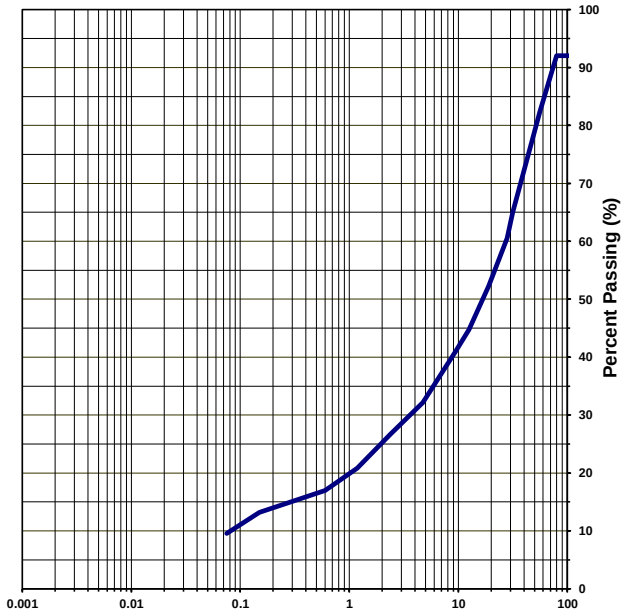
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		92	92	82	70	65	61	52	45	41	32	27	21	17	15	13	9.6
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	6.9		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**#REF!** (kg/m³)
Optimum Moisture Content	**#REF!** (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
10	22	68

Remarks _____

Prepared by: Yaotree Amegnran 2020-03-26 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-ES-019
Projet:	Derivation channel	**Sampling Date:**	2020-03-31
		Sampled by:	Yaotree Amegnran
Description of Material:	soil in place		
Origin:	Channel	**Location of Sampling:**	st. 0+350 center
Proposed Use:	Backfill		

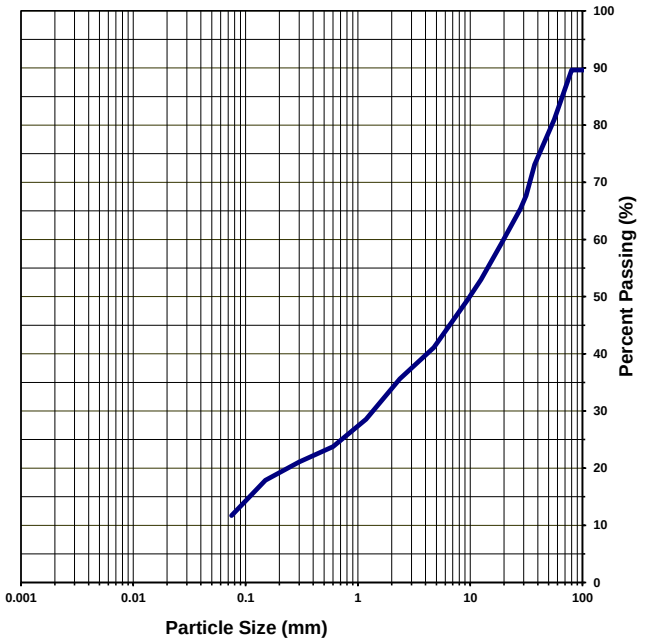
Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		90	90	81	73	68	65	59	53	49	41	36	29	24	21	18	11.7
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	5.6		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**#REF!** **(kg/m³)**
Optimum Moisture Content	**#REF!** **(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
12	29	59

Remarks _____

Prepared by: Yaotree Amegnran 2020-04-01 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-ES-020
Projet:	Derivation channel	**Sampling Date:**	2020-04-11
		Sampled by:	Yaotree Amegnran
Description of Material:	Esker		
Origin:	Channel	**Location of Sampling:**	st. 0+3436 center
Proposed Use:	Backfill		

Sieve Analysis (% Passing) (LC 21-040)

Sieve		112 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	85	79	75	73	66	60	56	47	38	28	22	19	15	9.1
Require-ments	**min.**																
	max.																

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	5.9		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**#REF!** (kg/m^3)
Optimum Moisture Content	**#REF!** (%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
9	38	53

Remarks _____

Prepared by: Thomas Dahm (AEM) 2020-04-12 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Appendix H-4

Test Report – Fine Filter Particle Size Analysis

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11204932-B1**
		Sample N°:	AMQ-FF-001
Projet:	Derivation channel	**Sampling Date:**	2020-01-15
		Sampled by:	Mathieu Côté
Description of Material:	Fine filter 0-3/4"		
Origin:	Stockpile	**Location of Sampling:**	Stockpile
Proposed Use:	Fine filter		

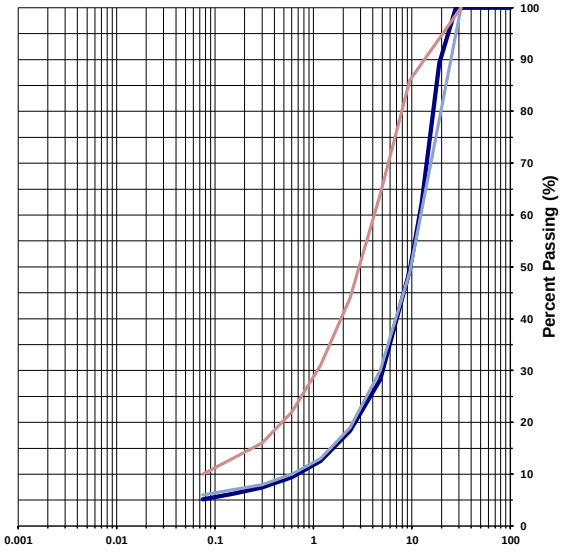
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	89	62	49	28	18	13	9	7	6	5.2
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
PSPI			
Moisture Content (%)	2.3		
Agreggate Density (Coarse)			
Absorption granulats (fins)			
Micro Deval (coarse)			
Los Angeles (Coarse)			
% Crushed Particles			
Methylene Blue Index			
Organic Matter Content			

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
5	23	72

Remarks _____

Prepared by: Mathieu Côté Verified by: _____ Date: 2020-01-16

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11204932-B1**
		Sample N°:	AMQ-FF-002
Projet:	Derivation channel	**Sampling Date:**	2020-01-15
		Sampled by:	Mathieu Côté
Description of Material:	Fine filter 0-3/4"		
Origin:	Stockpile	**Location of Sampling:**	Stockpile
Proposed Use:	Fine filter		

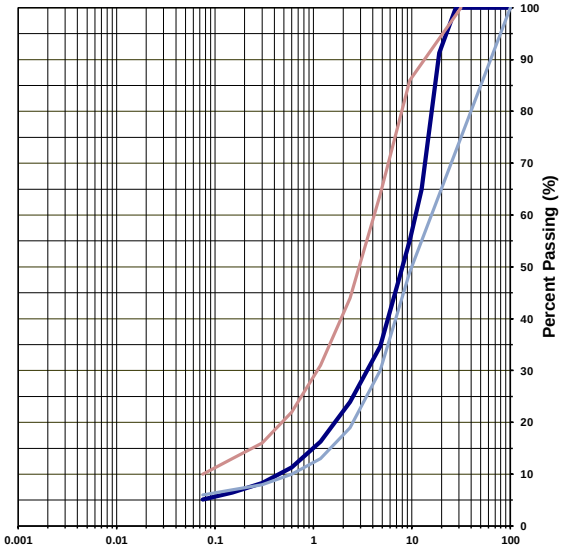
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	91	65	55	35	24	16	11	8	6	5.1
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
PSPI			
Moisture Content (%)	2.5		
Agreggate Density (Coarse)			
Absorption granulats (fins)			
Micro Deval (coarse)			
Los Angeles (Coarse)			
% Crushed Particles			
Methylene Blue Index			
Organic Matter Content			

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
5	30	65

Remarks -% loss over 0.3%(0.38%) and scale precision in g

-Requirement made by interpolation

Prepared by: Mathieu Côté Verified by: _____ Date: 2020-01-16

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11204932-B1

Sample N°: AMQ-FF-003

Projet: Derivation channel

Sampling Date: 2020-01-20

Sampled by: Mathieu côté

Description of Material: fine filter

Origin: stockpile

Location of Sampling: top of the stockpile

Proposed Use: Fine filter

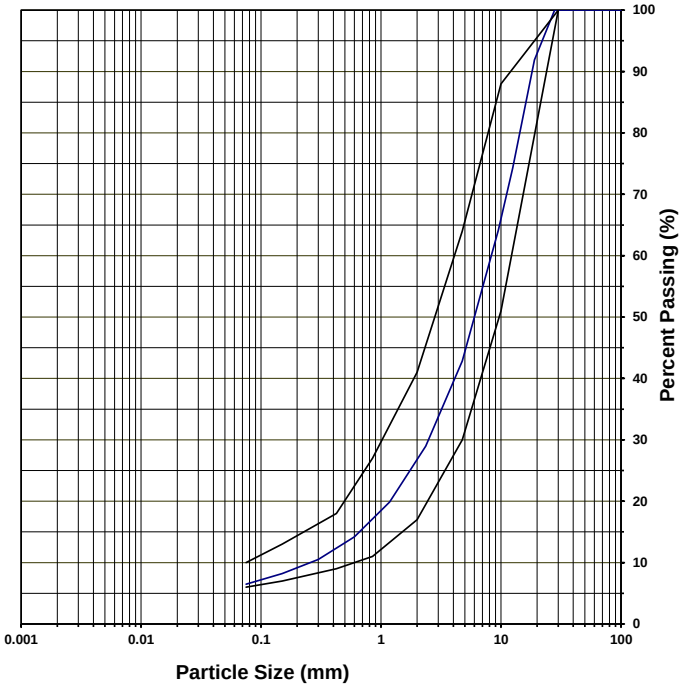
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	92	74	64	43	29	20	14	11	8	6.5
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
PSPI			
Moisture Content (%)	3.7		
Agreggate Density (Coarse)			
Absorption granulats (fins)			
Micro Deval (coarse)			
Los Angeles (Coarse)			
% Crushed Particles			
Methylene Blue Index			
Organic Matter Content			

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
7	37	57

Remarks

Prepared by: Mathieu Côté

Verified by:

Date: 2020-01-21

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11204932-B1

Sample N°: AMQ-FF-04

Projet: Derivation channel

Sampling Date: 2020-01-21

Sampled by: mc

Description of Material: Fine filter

Origin: stockpile

Location of Sampling: stockpile

Proposed Use: Fine filter

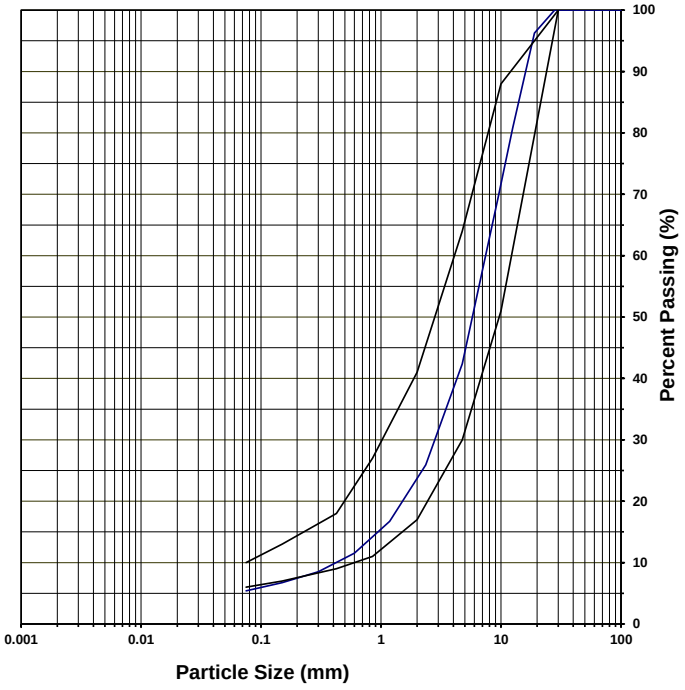
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	96	81	70	42	26	17	12	9	7	5.4
Require-ments	min.					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)			

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
5	37	58

Remarks _____

Prepared by: Mathieu Côté Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-005
Projet:	Derivation channel	**Sampling Date:**	2020-01-24
		Sampled by:	Mathieu Coté
Description of Material:	Fine Filter 0-3/4"		
Origin:	Stokpile	**Location of Sampling:**	Stockpile
Proposed Use:	Fine Filter		

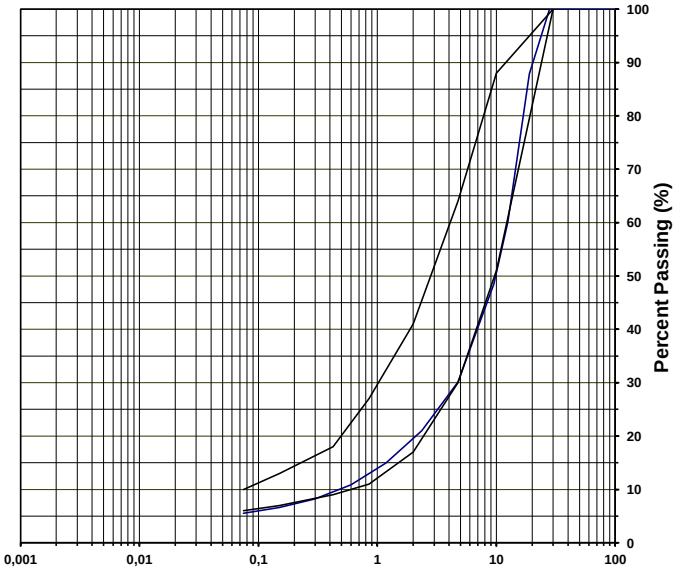
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37,5 mm	31,5 mm	28 mm	19 mm	12,5 mm	9,5 mm	4,75 mm	2,36 mm	1,18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	88	60	48	30	21	15	11	8	7	5,5
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	2,4		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
6	25	70

Remarks _____

Prepared by: Yaotree Amegnran Date: 2020-01-30 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11202247-B1

Sample N°: AMQ-FF-006

Projet: Derivation channel

Sampling Date: 2020-03-11

Sampled by: RJT

Description of Material: Fine filter

Origin: stockpile

Location of Sampling: 0+327 West slope

Proposed Use: Fine filter

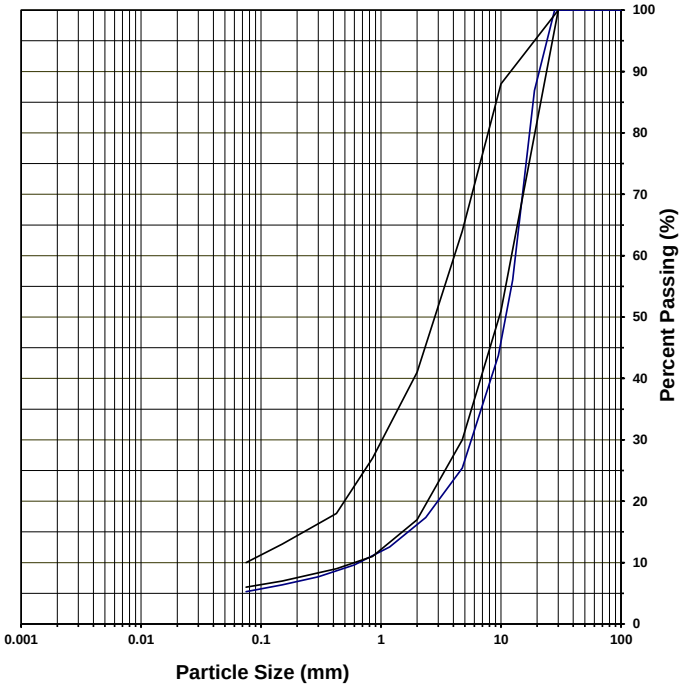
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	87	56	44	25	17	13	10	8	6	5.3
Require-ments	min.					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.1		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
5	20	75

Remarks

Prepared by: Mathieu Côté

Verified by:

Date: 2020-03-11

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-007
Projet:	Derivation channel	**Sampling Date:**	2020-03-10
		Sampled by:	RJT
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+310 C
Proposed Use:	Finefilter		

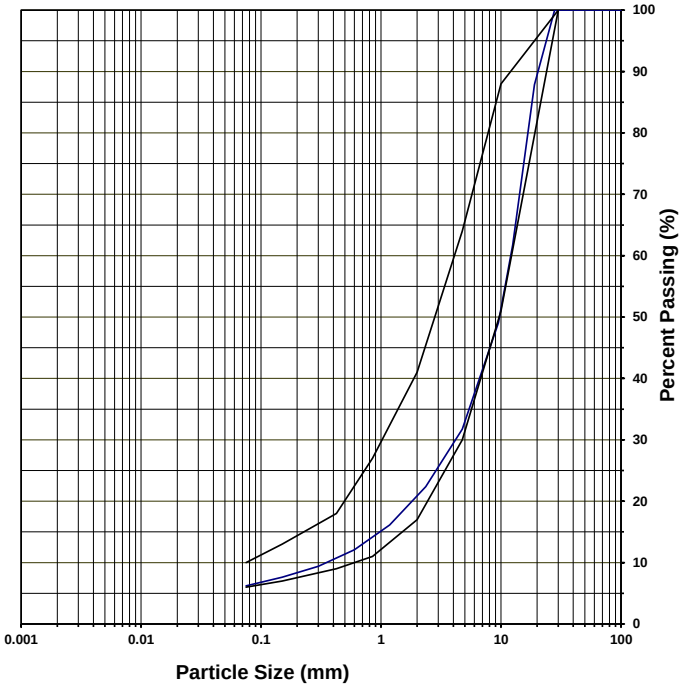
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	88	62	49	32	22	16	12	9	8	6.2
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.6		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
6	26	68

Remarks _____

Prepared by: Mathieu Côté Verified by: _____ Date: 2020-03-11

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-008
Projet:	Derivation channel	**Sampling Date:**	2020-03-11
		Sampled by:	mc
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+060 Center
Proposed Use:	Finefilter		

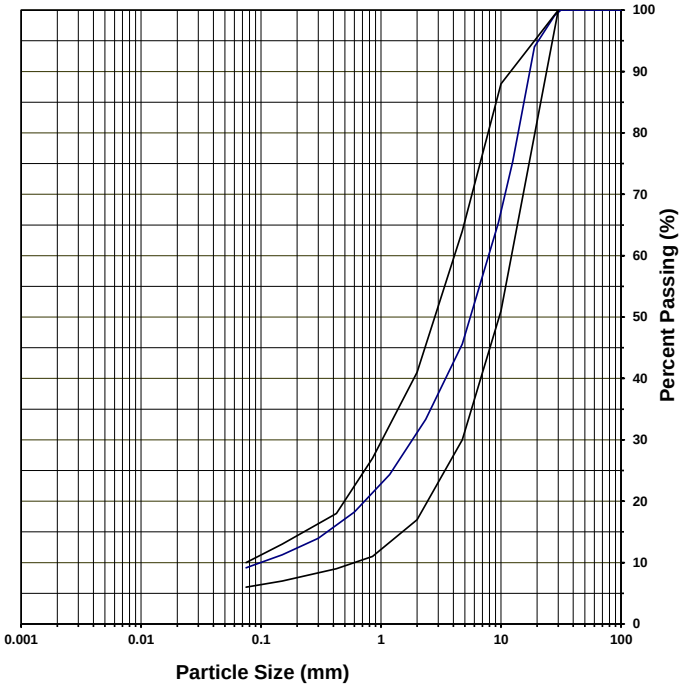
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	99	94	75	65	46	33	24	18	14	11	9.2
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	5.6		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
9	37	54

Remarks _____

Prepared by: Mathieu Côté Verified by: _____ Date: 2020-03-11

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-009
Projet:	Derivation channel	**Sampling Date:**	2020-03-11
		Sampled by:	mc
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+100 East slope
Proposed Use:	Finefilter		

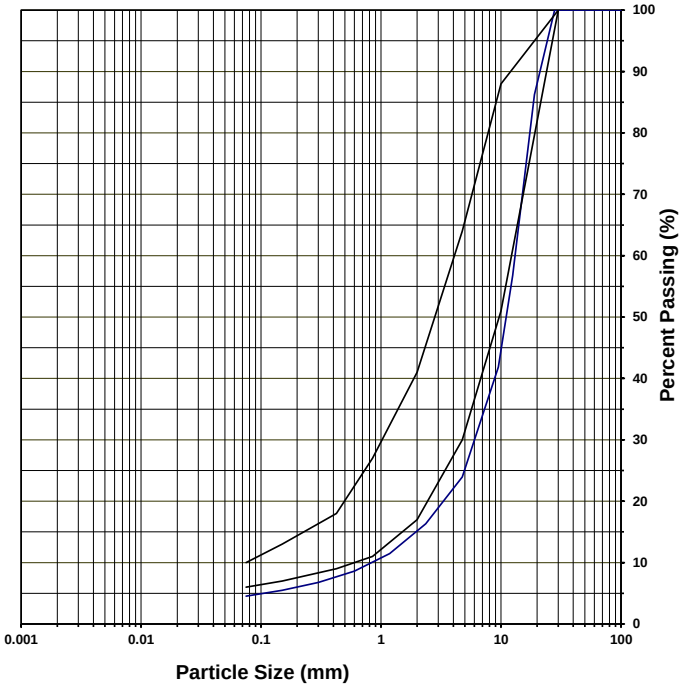
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	86	57	42	24	16	11	9	7	5	4.5
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.7		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
5	20	76

Remarks _____

Prepared by: Mathieu Côté Verified by: _____ Date: 2020-03-11

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-010
Projet:	Derivation channel	**Sampling Date:**	2020-03-11
		Sampled by:	MC
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+140 West slope
Proposed Use:	Finefilter		

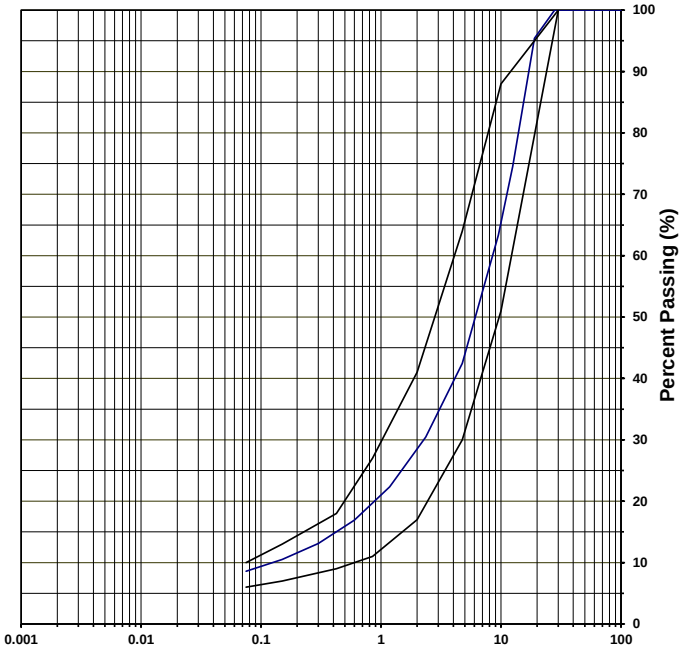
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	95	75	63	42	30	22	17	13	11	8.6
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	6.1		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
9	33	58

Remarks _____

Prepared by: Mathieu Côté Verified by: _____ Date: 2020-03-12

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-011
Projet:	Derivation channel	**Sampling Date:**	2020-02-12
		Sampled by:	MC
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+270 East slope
Proposed Use:	Finefilter		

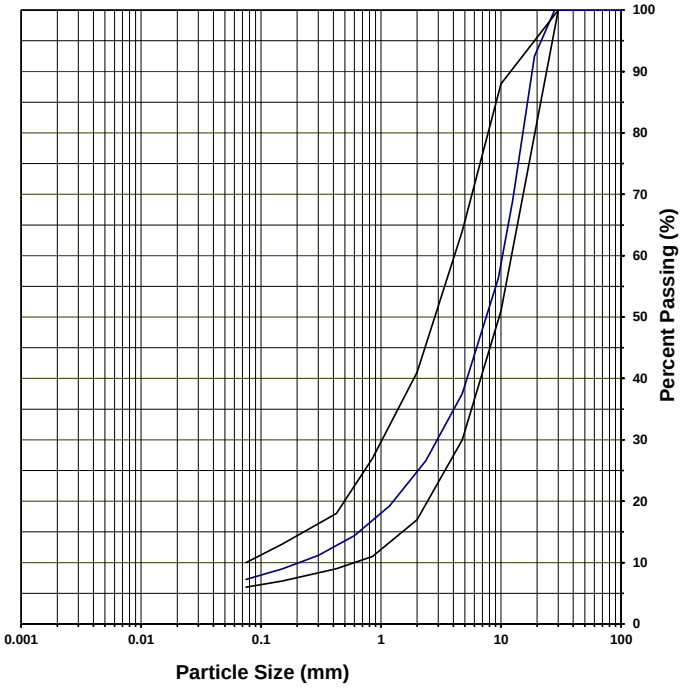
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	92	69	56	38	27	19	14	11	9	7.3
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	5.6		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
7	31	62

Remarks _____

Prepared by: Mathieu Côté Verified by: _____ Date: 2020-03-12

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-012
Projet:	Derivation channel	**Sampling Date:**	2020-03-11
		Sampled by:	RJT
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+230 Center
Proposed Use:	Finefilter		

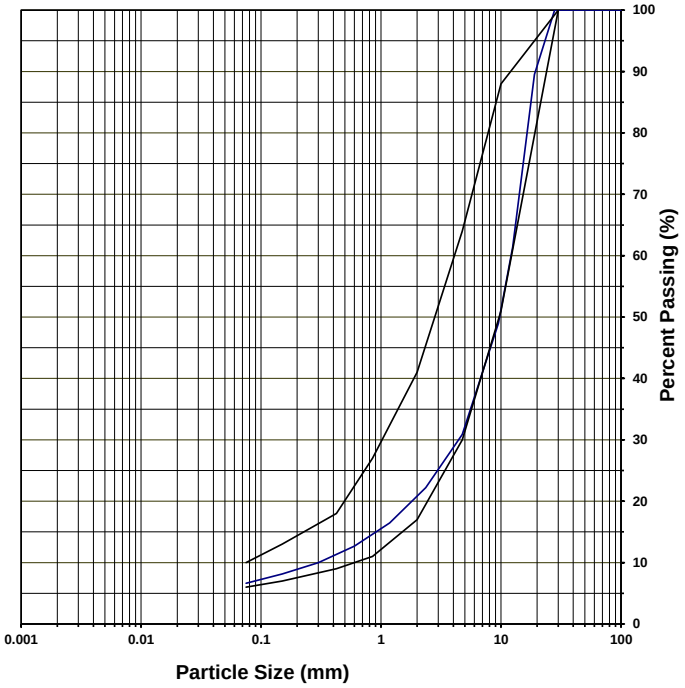
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	90	61	49	31	22	16	13	10	8	6.6
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	5.1		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
7	24	69

Remarks _____

Prepared by: Mathieu Côté Verified by: _____ Date: 2020-03-12

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-013
Projet:	Derivation channel	**Sampling Date:**	2020-03-11
		Sampled by:	RJT
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+190 East slope
Proposed Use:	Finefilter		

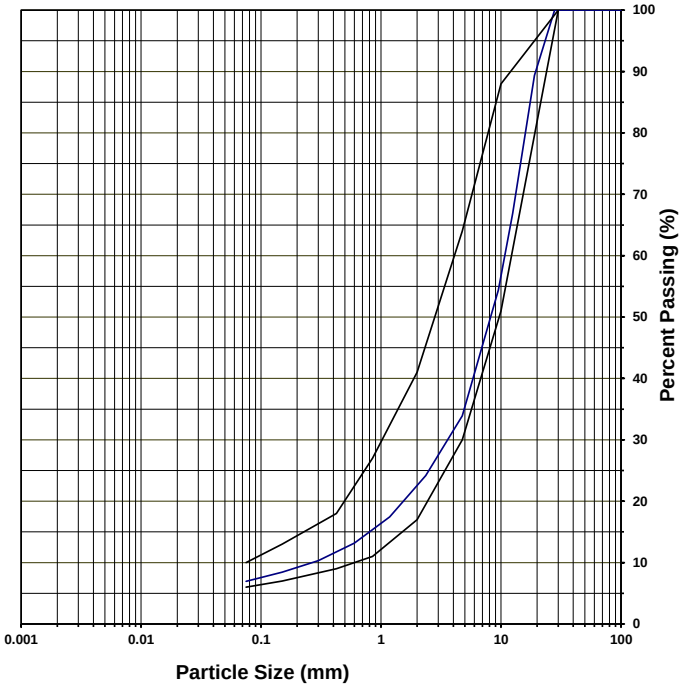
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	89	67	54	34	24	17	13	10	8	6.9
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.6		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
7	27	66

Remarks _____

Prepared by: Mathieu Côté Verified by: _____ Date: 2020-03-12

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-014
Projet:	Derivation channel	**Sampling Date:**	2020-03-12
		Sampled by:	RJT
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+170 Center
Proposed Use:	Finefilter		

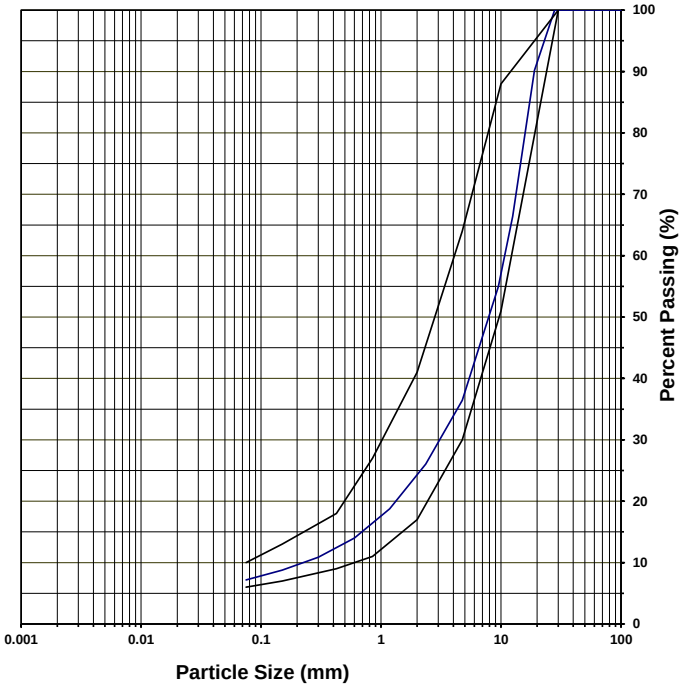
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	90	66	55	36	26	19	14	11	9	7.2
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.0		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
7	29	64

Remarks _____

Prepared by: Mathieu Côté Verified by: _____ Date: 2020-03-12

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-015
Projet:	Derivation channel	**Sampling Date:**	2020-03-13
		Sampled by:	MC
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+080 west slope
Proposed Use:	Finefilter		

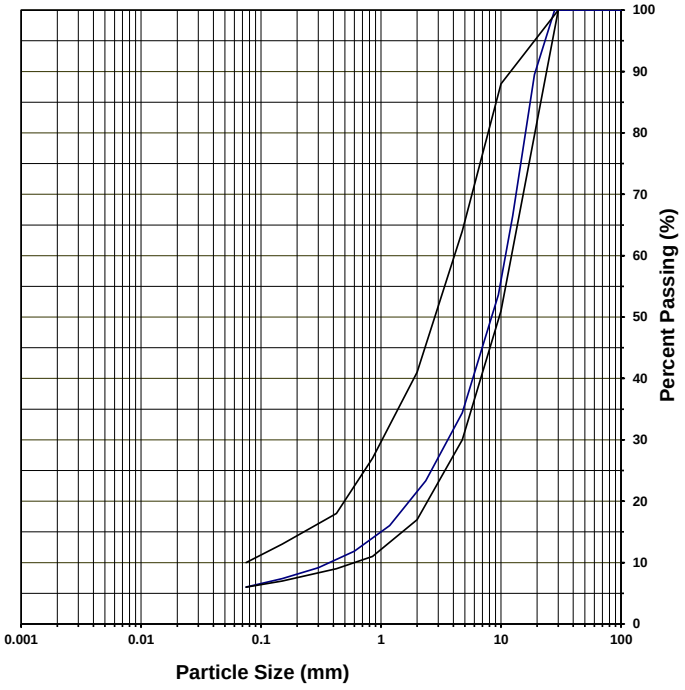
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	89	66	54	34	23	16	12	9	7	6.0
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.4		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
6	28	66

Remarks _____

Prepared by: Mathieu Côté Verified by: _____ Date: 2020-03-14

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-016
Projet:	Derivation channel	**Sampling Date:**	2020-03-13
		Sampled by:	MC
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+120 Center
Proposed Use:	Finefilter		

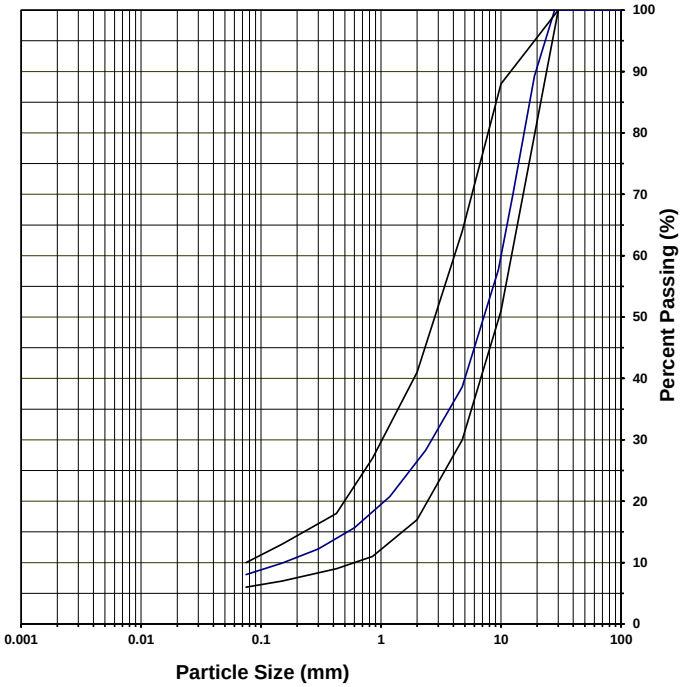
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	89	70	58	39	28	21	16	12	10	8.0
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	5.0		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
8	31	61

Remarks _____

Prepared by: Mathieu Côté Verified by: _____ Date: 2020-03-14

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Projet: Derivation channel

Description of Material: Fine filter

Origin: Stockpile

Proposed Use: Finefilter

Project N°: 11202247-B1

Sample N°: AMQ-FF-017

Sampling Date: 2020-03-11

Sampled by: MC

Location of Sampling: 0+290 Center

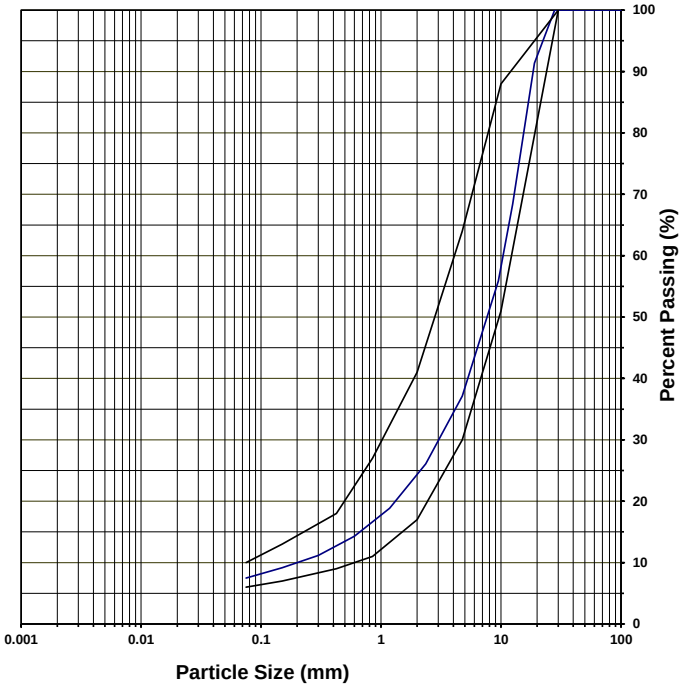
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	91	68	56	37	26	19	14	11	9	7.5
Require-ments	min.					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	5.7		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
8	30	63

Remarks

Prepared by: Richard J. Tremblay

Verified by:

Date: 2020-03-13

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-018
Projet:	Derivation channel	**Sampling Date:**	2020-03-13
		Sampled by:	RJT
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+210 West slope
Proposed Use:	Finefilter		

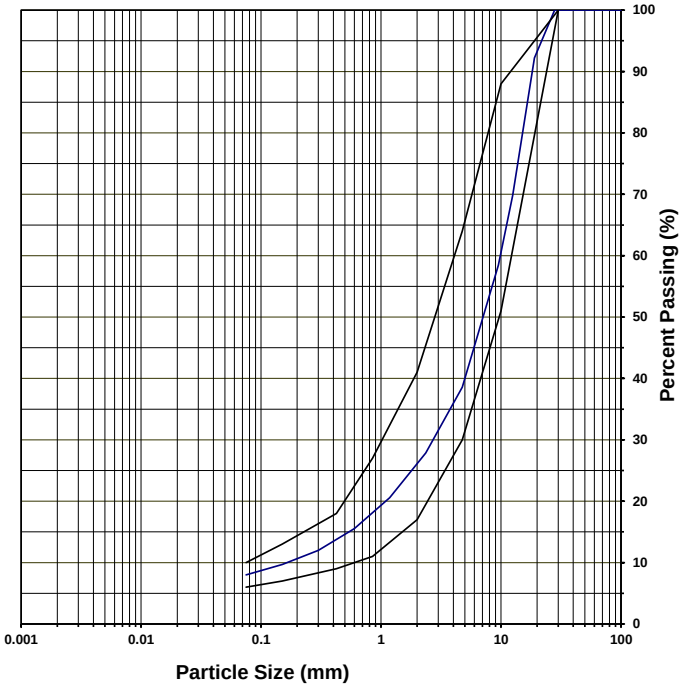
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	92	70	58	39	28	21	16	12	10	8.0
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.3		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
8	31	61

Remarks

Prepared by: Mathieu Côté Verified by: Date: 2020-03-15

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-019
Projet:	Derivation channel	**Sampling Date:**	2020-03-11
		Sampled by:	MC
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+250 West slope
Proposed Use:	Finefilter		

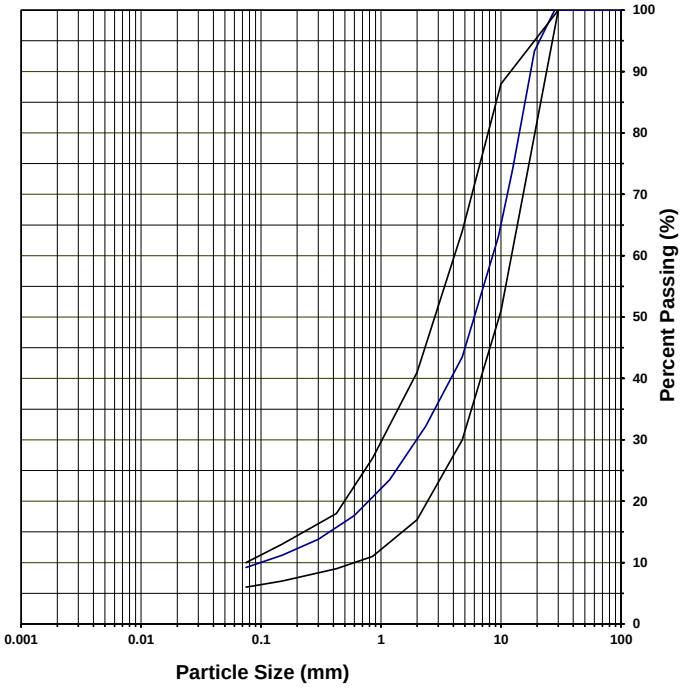
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	93	74	63	43	32	23	18	14	11	9.2
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	5.3		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
9	34	57

Remarks

Prepared by: Richard J. Tremblay Verified by: Date: 2020-03-13

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-020
Projet:	Derivation channel	**Sampling Date:**	2020-03-12
		Sampled by:	RJT
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+160 West slope
Proposed Use:	Finefilter		

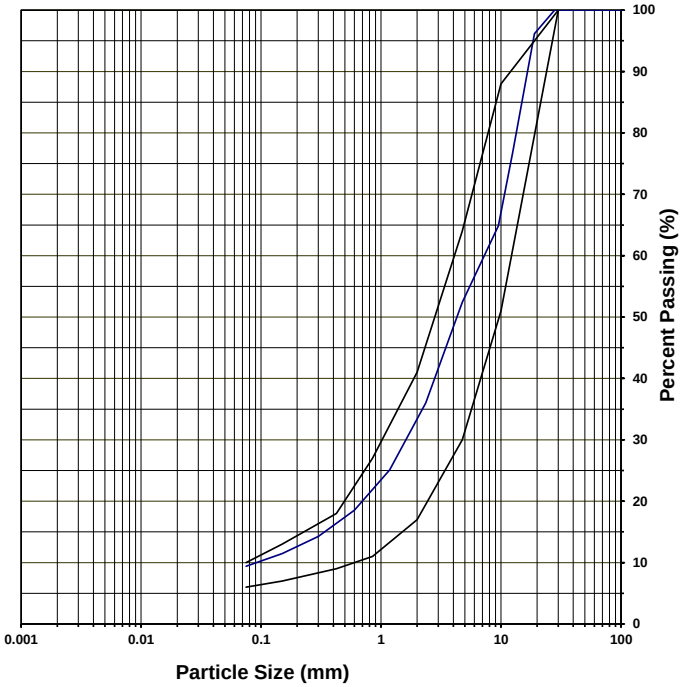
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	96	77	65	52	36	25	19	14	11	9.4
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.0		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
9	43	48

Remarks

Prepared by: Richard J.Tremblay Verified by: Date: 2020-03-13

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11202247-B1

Sample N°: AMQ-FF-021

Projet: Derivation channel

Sampling Date: 2020-03-13

Sampled by: RJT

Description of Material: Fine filter

Origin: Stockpile

Location of Sampling: 0+560 West slope

Proposed Use: Finefilter

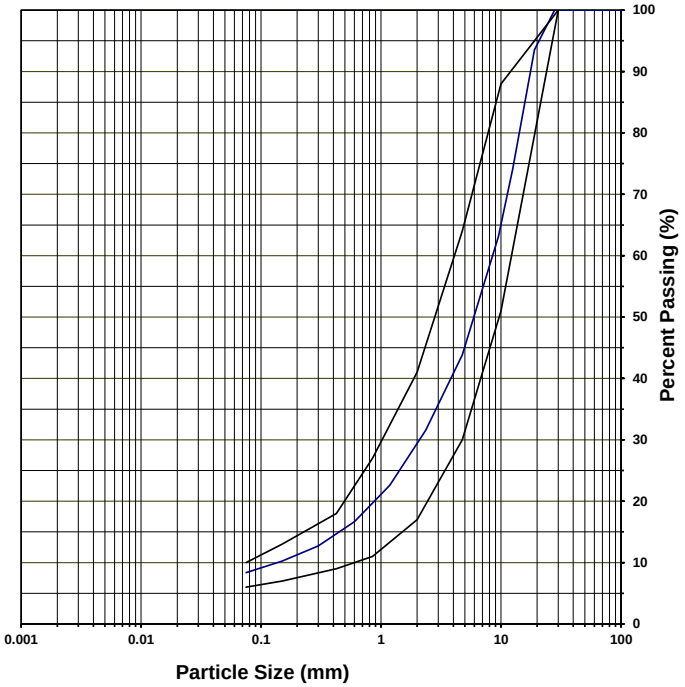
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	94	74	63	44	32	23	17	13	10	8.4
Require-ments	min.					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.7		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
8	36	56

Remarks

Prepared by: Richard J.Tremblay Verified by: Date: 2020-03-13

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-022
Projet:	Derivation channel	**Sampling Date:**	2020-03-13
		Sampled by:	RJT
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+580 East slope
Proposed Use:	Finefilter		

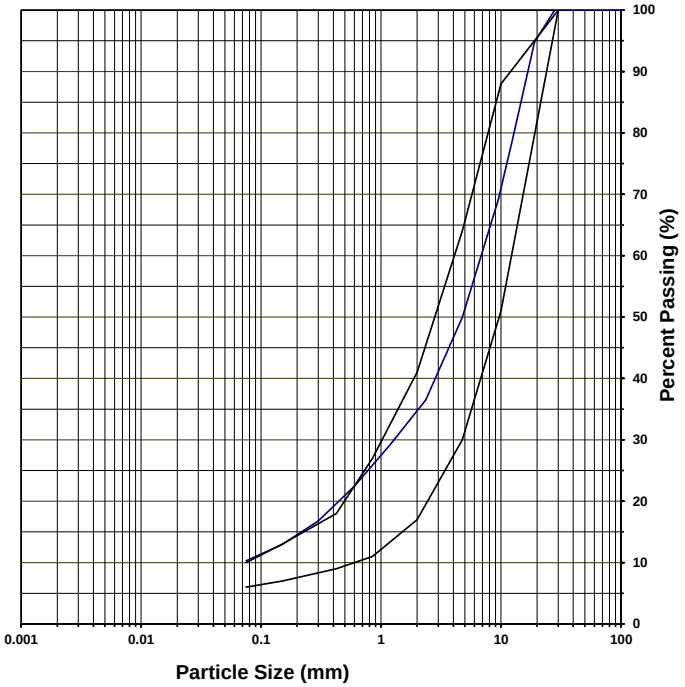
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	95	79	69	50	36	29	22	17	13	10.3
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	7.0		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
10	40	50

Remarks _____

Prepared by: Mathieu Côté Verified by: _____ Date: 2020-03-13

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11202247-B1

Sample N°: AMQ-FF-023

Projet: Derivation channel

Sampling Date: 2020-03-13

Sampled by: MC

Description of Material: Fine filter

Origin: Stockpile

Location of Sampling: 0+600 Center

Proposed Use: Finefilter

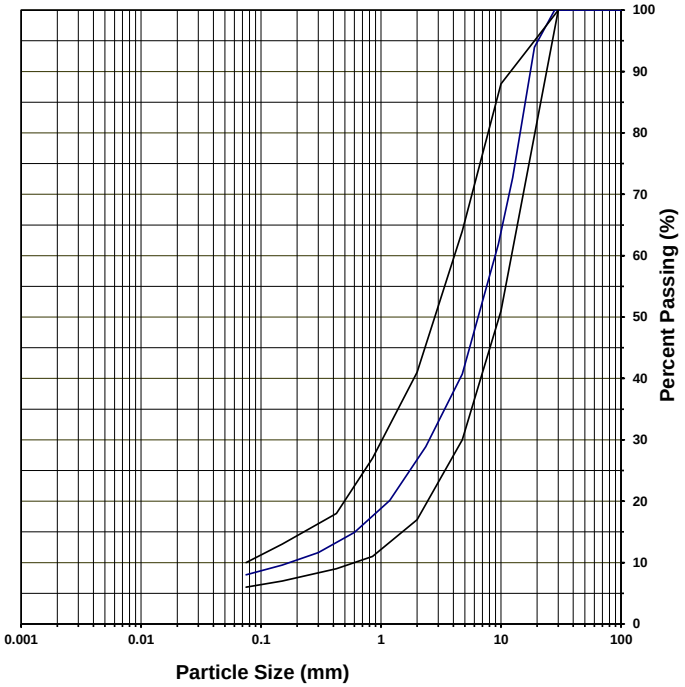
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	94	73	62	41	29	20	15	12	10	8.0
Require-ments	min.					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.3		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
8	33	59

Remarks

Prepared by: Mathieu Côté and Richard J tremblay Verified by: Date: 2020-03-16

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-024
Projet:	Derivation channel	**Sampling Date:**	2020-03-13
		Sampled by:	MC
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+900 East slope
Proposed Use:	Finefilter		

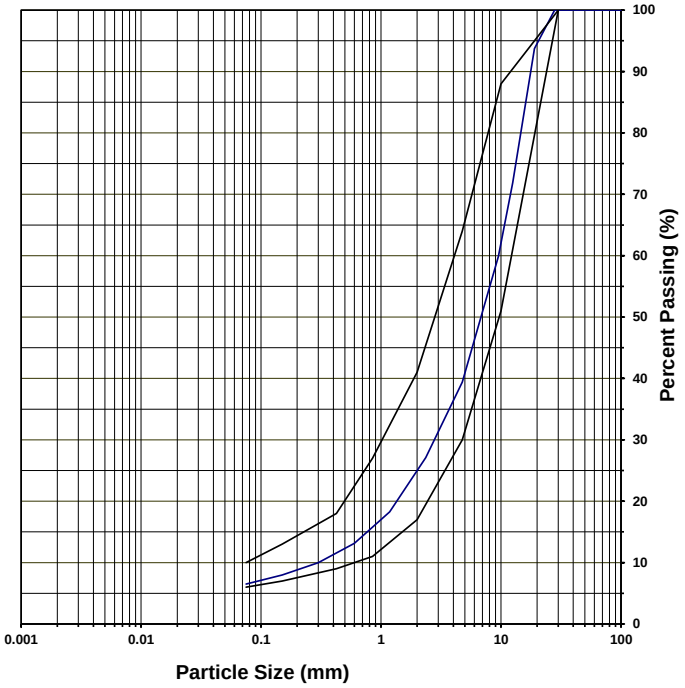
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	94	72	60	39	27	18	13	10	8	6.5
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.3		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
7	33	61

Remarks _____

Prepared by: Mathieu Côté Verified by: _____ Date: 2020-03-13

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-025
Projet:	Derivation channel	**Sampling Date:**	2020-03-13
		Sampled by:	MC
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+620 West slope
Proposed Use:	Finefilter		

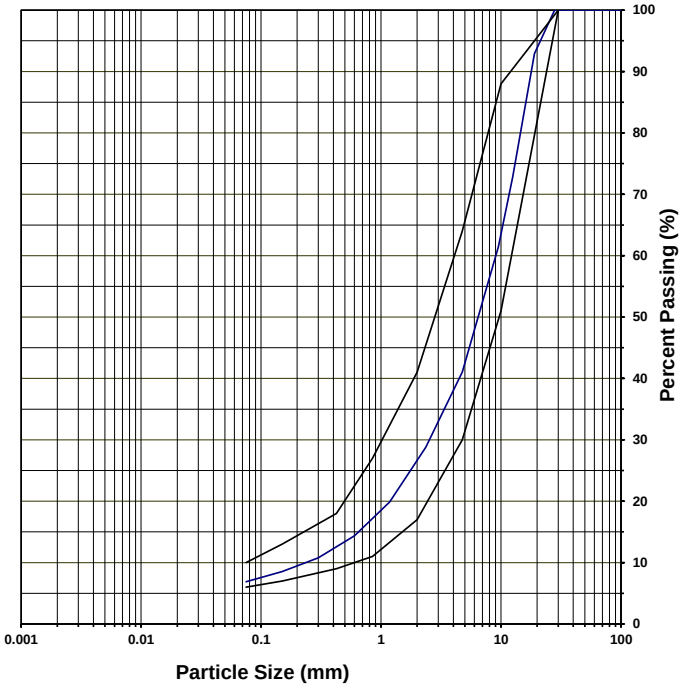
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	93	73	61	41	29	20	14	11	9	6.9
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.7		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
7	34	59

Remarks

Prepared by: Mathieu Côté Verified by: Date: 2020-03-13

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-026
Projet:	Derivation channel	**Sampling Date:**	2020-03-13
		Sampled by:	RJT
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+640 East slope
Proposed Use:	Finefilter		

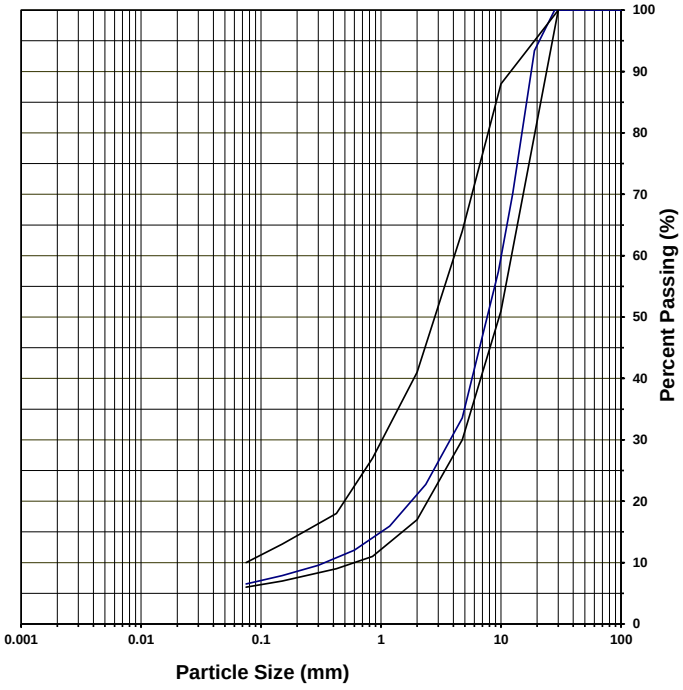
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	93	70	57	34	23	16	12	10	8	6.5
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	3.8		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
7	28	66

Remarks _____

Prepared by: Mathieu Côté Verified by: _____ Date: 2020-03-15

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-027
Projet:	Derivation channel	**Sampling Date:**	2020-03-13
		Sampled by:	RJT
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+660 center
Proposed Use:	Finefilter		

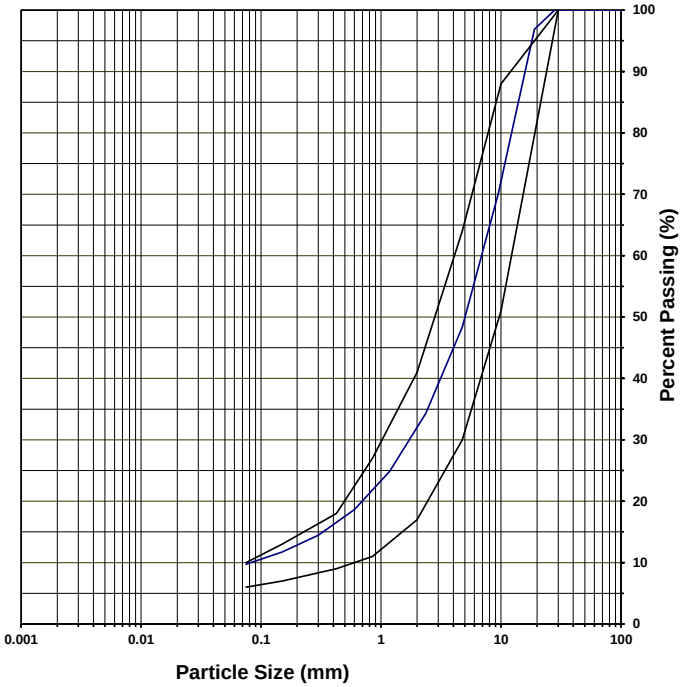
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	97	81	70	48	34	25	19	14	12	9.7
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.7		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
10	38	52

Remarks

Prepared by: Mathieu Côté Verified by: Date: 2020-03-14

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11202247-B1

Sample N°: AMQ-FF-028

Projet: Derivation channel

Sampling Date: 2020-03-13

Sampled by: MC

Description of Material: Fine filter

Origin: Stockpile

Location of Sampling: 0+680 West slope

Proposed Use: Finefilter

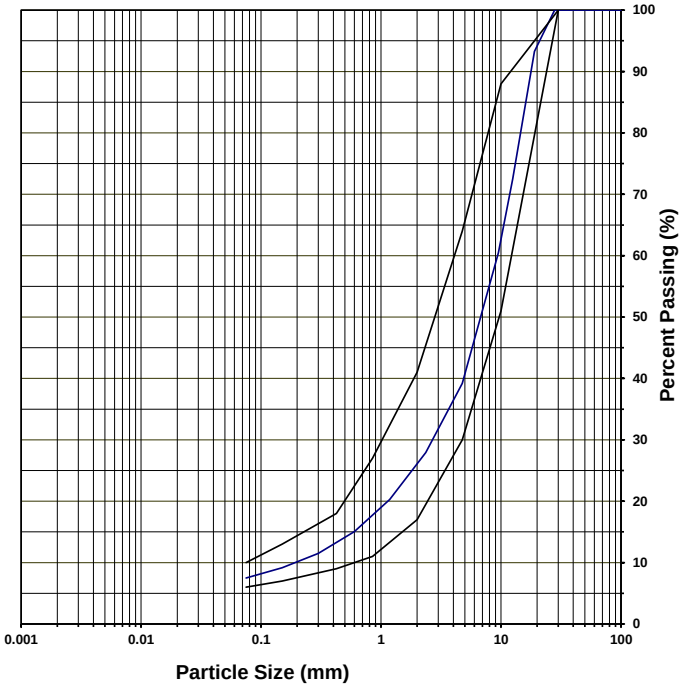
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	93	72	60	39	28	20	15	11	9	7.5
Require-ments	min.					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	5.4		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
8	32	61

Remarks

Prepared by: Mathieu Côté and Richard J.Tremblay Verified by: Date: 2020-03-17

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11202247-B1

Sample N°: AMQ-FF-029

Projet: Derivation channel

Sampling Date: 2020-03-15

Sampled by: mc

Description of Material: Fine filter

Origin: Stockpile

Location of Sampling: 0+700 West slope

Proposed Use: Finefilter

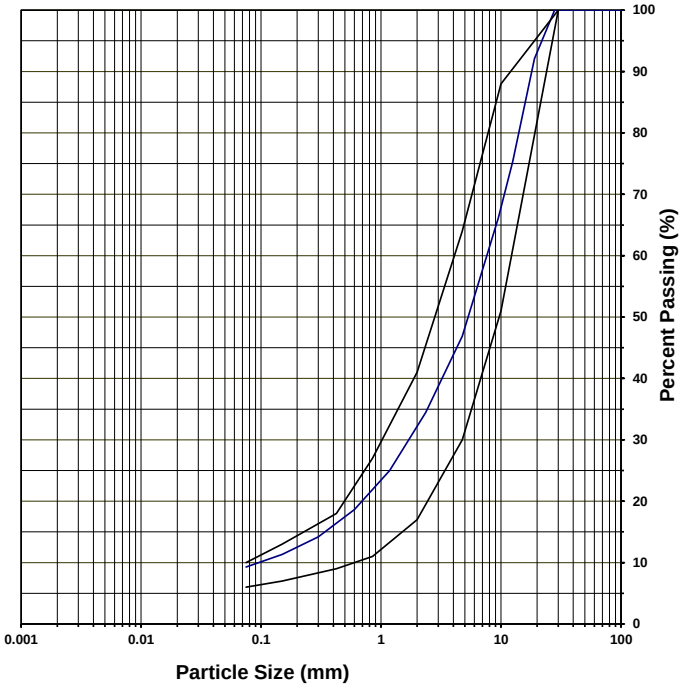
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	92	75	66	47	34	25	19	14	11	9.3
Require-ments	min.					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	7.0		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
9	38	53

Remarks: Exeed % loss on gilson

Prepared by: Mathieu Côté and Richard J. Tremblay Verified by: _____ Date: 2020-03-17

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-030
Projet:	Derivation channel	**Sampling Date:**	3/15/2020
		Sampled by:	MC
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+720 East slope
Proposed Use:	Finefilter		

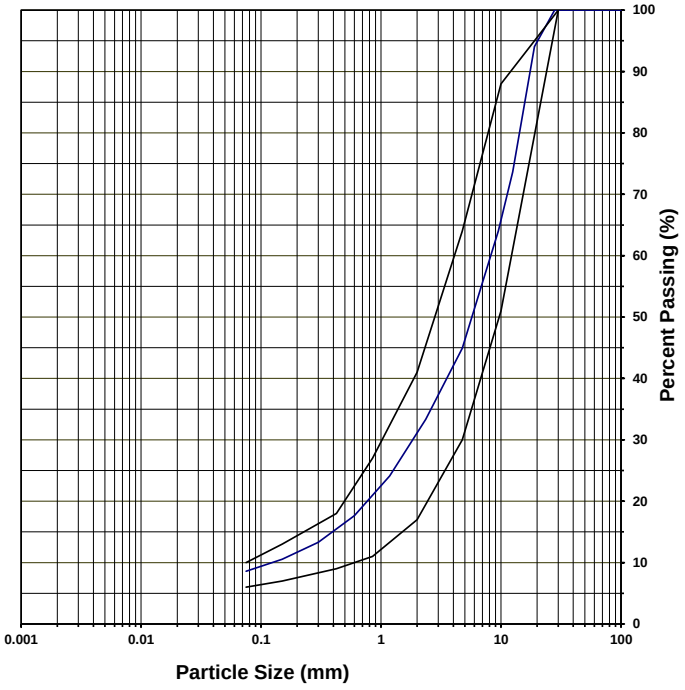
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	94	74	64	45	33	24	18	13	11	8.6
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	6.0		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
9	36	55

Remarks

Prepared by: Mathieu Côté ansd Richard J.Trembla Verified by: Date: 2020-03-17

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-031
Projet:	Derivation channel	**Sampling Date:**	2020-03-15
		Sampled by:	mc
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+740 Center
Proposed Use:	Finefilter		

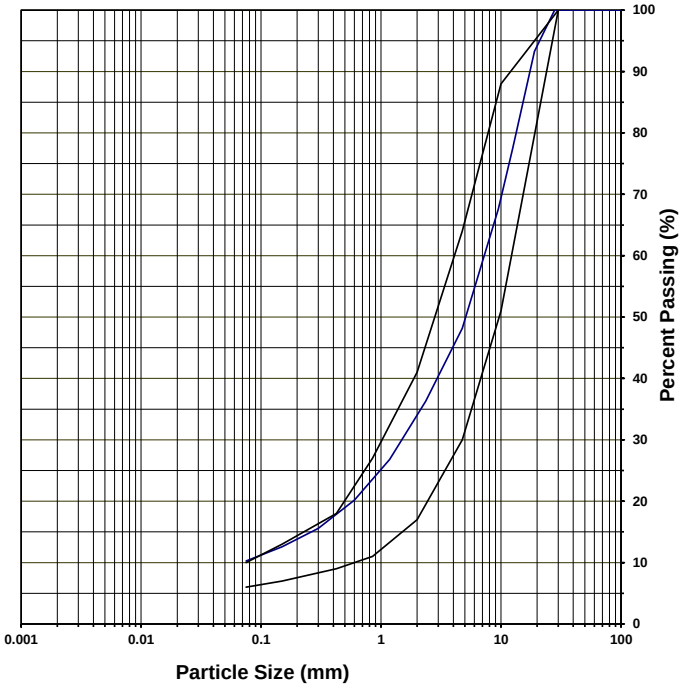
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	93	77	68	48	36	27	20	16	13	10.3
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	7.0		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
10	38	52

Remarks: Exceed % loss in gilson

Prepared by: Mathieu Côté and Richard J.Tremblay Verified by: _____ Date: 2020-03-17

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Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-032
Projet:	Derivation channel	**Sampling Date:**	2020-03-16
		Sampled by:	mc
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+760 Center
Proposed Use:	Finefilter		

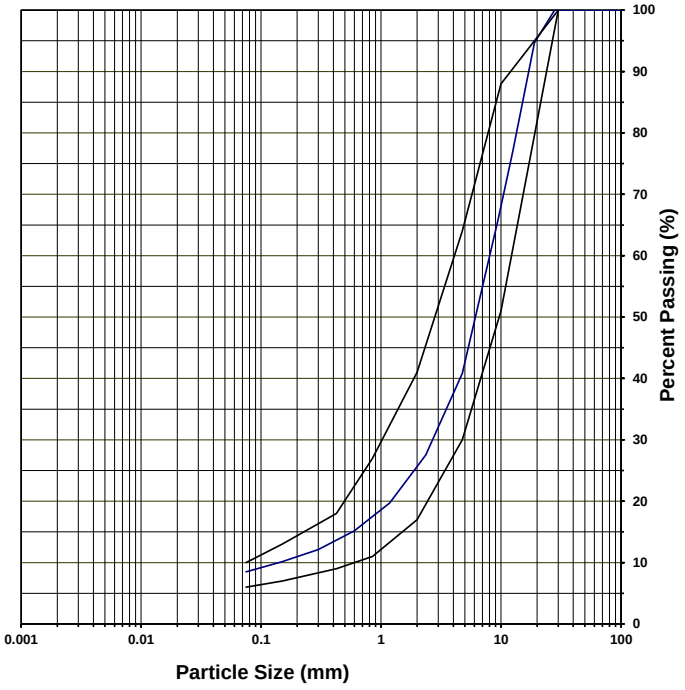
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	95	77	66	41	28	20	15	12	10	8.5
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	11.6		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
9	33	59

Remarks: high moisture content because of presence of snow in the sample

Prepared by: Mathieu Côté and Richard J.Tremblay Verified by: _____ Date: 2020-03-17

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Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-033
Projet:	Derivation channel	**Sampling Date:**	2020-03-16
		Sampled by:	MC
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+780 East slope
Proposed Use:	Finefilter		

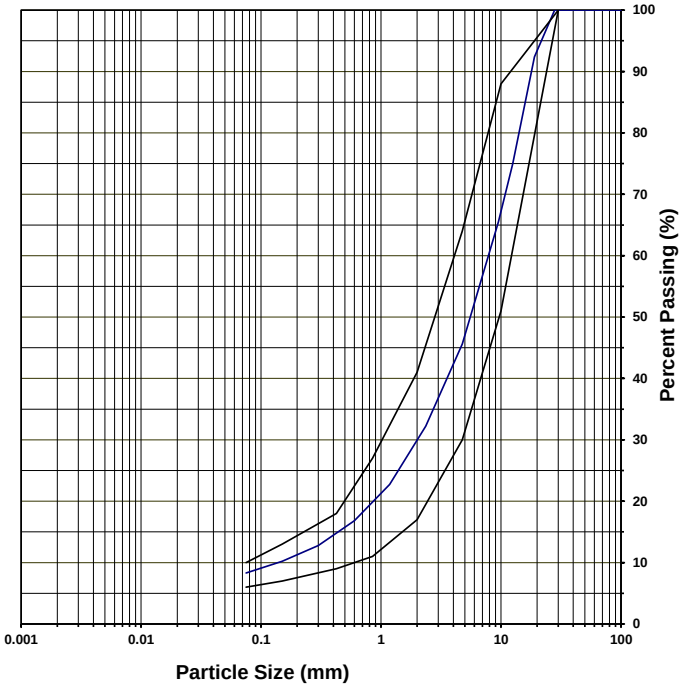
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	92	75	65	46	32	23	17	13	10	8.3
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	6.0		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
8	38	54

Remarks: Exceed % loss in gilson

Prepared by: Mathieu Côté and Richard J. Tremblay Verified by: _____ Date: 2020-03-17

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Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11202247-B1

Sample N°: AMQ-FF-034

Projet: Derivation channel

Sampling Date: 2020-03-16

Sampled by: MC

Description of Material: Fine filter

Origin: Stockpile

Location of Sampling: 0+800 west slope

Proposed Use: Finefilter

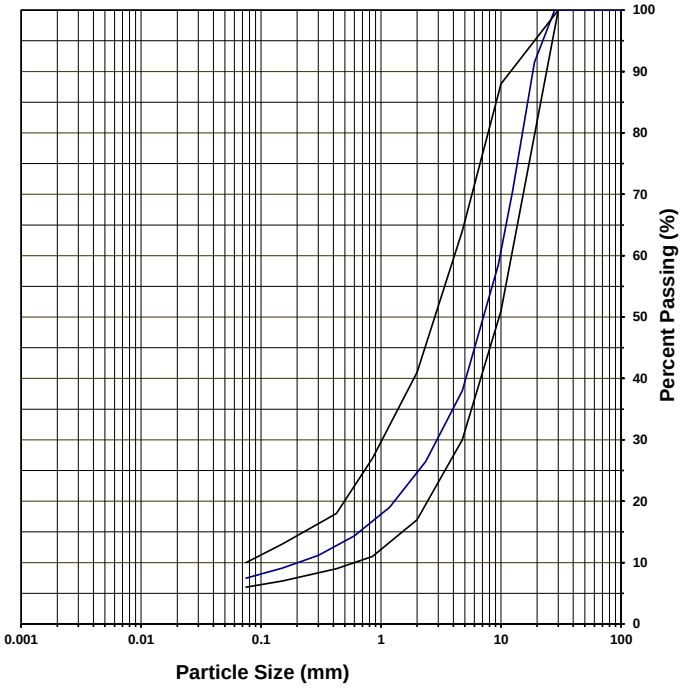
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	92	71	59	38	26	19	14	11	9	7.5
Require-ments	min.					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	5.8		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
8	31	62

Remarks: exceed % loss in gilson by 0.04%

Prepared by: Mathieu Côté and Richard J.Tremblay Verified by: _____ Date: 2020-03-18

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Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-035
Projet:	Derivation channel	**Sampling Date:**	2020-03-15
		Sampled by:	MC
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+820 East slope
Proposed Use:	Finefilter		

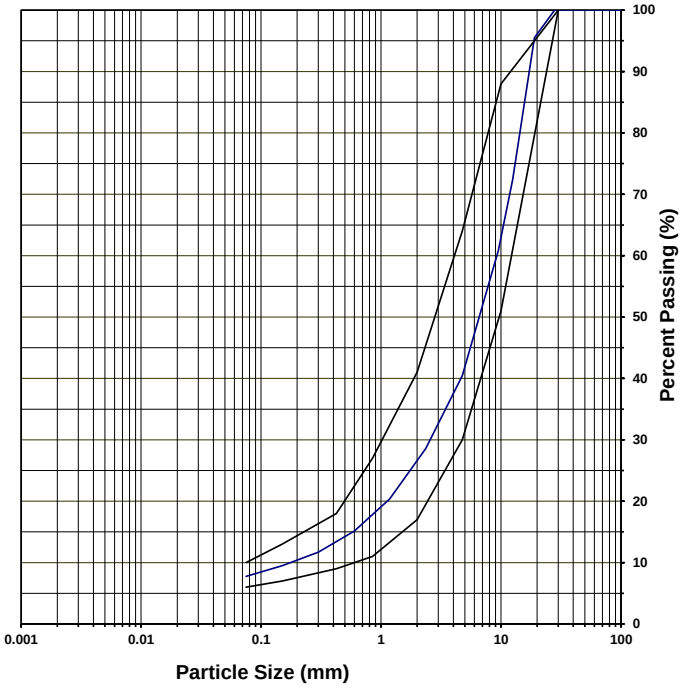
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	96	72	61	40	29	20	15	12	10	7.8
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	5.3		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
8	32	60

Remarks: exceed % loss in gilson (0.64%)

Prepared by: Richard J.Tremblay Verified by: Date: 2020-03-18

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Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11202247-B1

Sample N°: AMQ-FF-036

Projet: Derivation channel

Sampling Date: 2020-03-15

Sampled by: MC

Description of Material: Fine filter

Origin: Stockpile

Location of Sampling: 0+840 West slope

Proposed Use: Finefilter

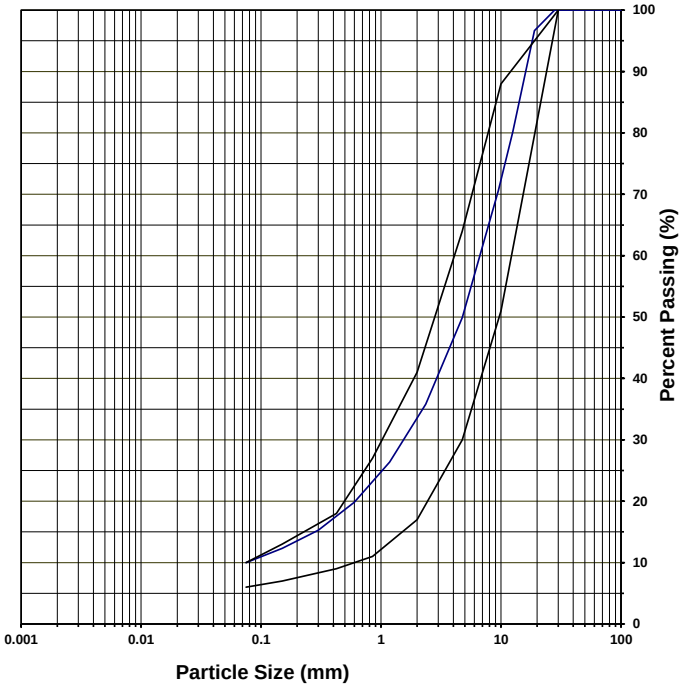
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	97	80	71	50	36	26	20	15	12	10.0
Require-ments	min.					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	7.4		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
10	40	50

Remarks: Exceed % loss in gilson (0.51%)

Prepared by: Richard J.Tremblay Verified by: Date: 2020-03-18

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-037
Projet:	Derivation channel	**Sampling Date:**	2020-03-15
		Sampled by:	MC
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+860 East slope
Proposed Use:	Finefilter		

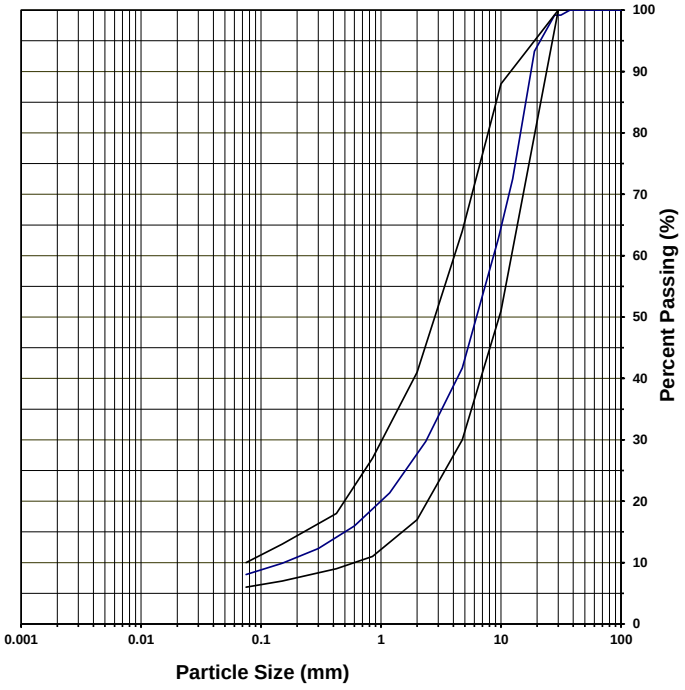
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	99	99	93	73	63	42	30	21	16	12	10	8.1
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	7.0		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
8	34	58

Remarks

Prepared by: Mathieu Côté Verified by: Date: 2020-03-16

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-038
Projet:	Derivation channel	**Sampling Date:**	2020-03-15
		Sampled by:	MC
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+880 Center
Proposed Use:	Finefilter		

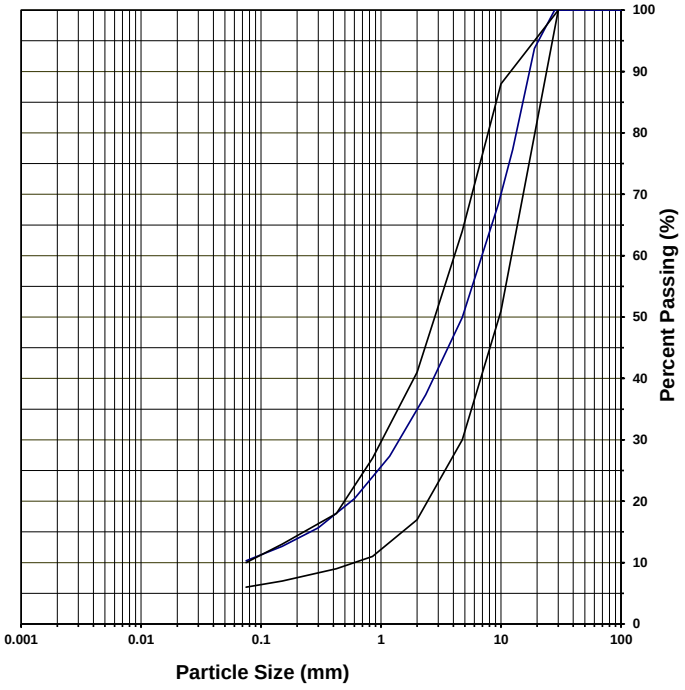
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	94	77	68	50	37	27	20	16	13	10.3
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	6.8		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
10	40	50

Remarks _____

Prepared by: Mathieu Côté and Richard J.Tremblay Verified by: _____ Date: 2020-03-17

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-039
Projet:	Derivation channel	**Sampling Date:**	2020-03-21
		Sampled by:	MC
Description of Material:	Fine filter		
Origin:	Stockpile	**Location of Sampling:**	0+550
Proposed Use:	Finefilter in the channel		

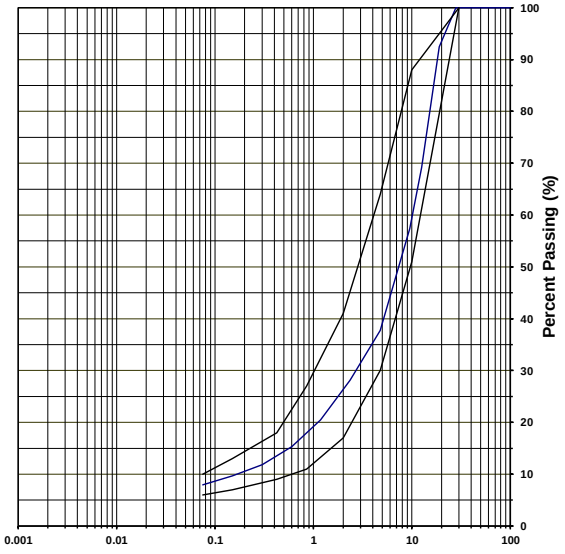
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	92	69	57	38	28	20	15	12	10	7.9
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	7.90%		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
8	30	62

Remarks

Prepared by: Richard J.Tremblay Verified by: Date: 2020-03-22

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-040
Projet:	Derivation channel	**Sampling Date:**	2020-03-26
		Sampled by:	Yaotree Amegnran
Description of Material:	Fine filter		
Origin:	Channel	**Location of Sampling:**	St. 0+530m foundation level
Proposed Use:	Backfill in the channel		

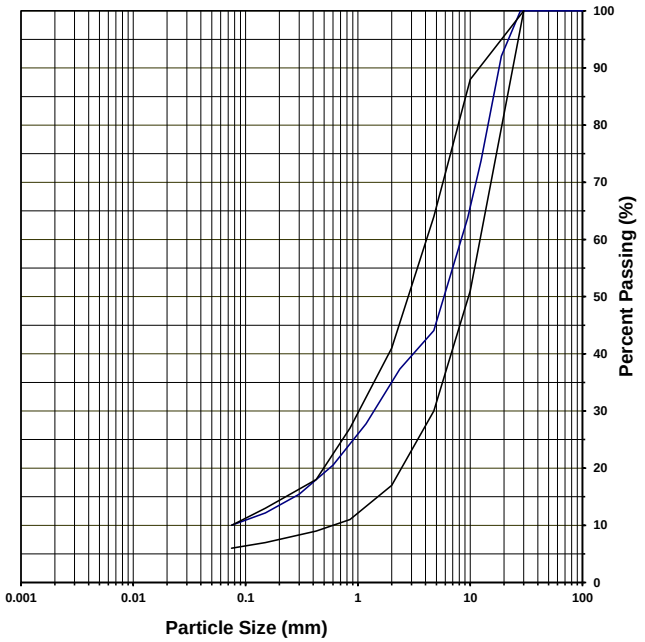
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	92	74	64	44	37	28	21	15	12	10.0
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.5		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
10	34	56

Remarks _____

Prepared by: Yaotree Amegnran 2020-03-27 Verified by: _____ Date: _____

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Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-041
Projet:	Derivation channel	**Sampling Date:**	2020-04-03
		Sampled by:	Yaotree Amegnran
Description of Material:	Fine filter		
Origin:	Channel	**Location of Sampling:**	St. 0+350m East slope
Proposed Use:	Backfill in the channel		

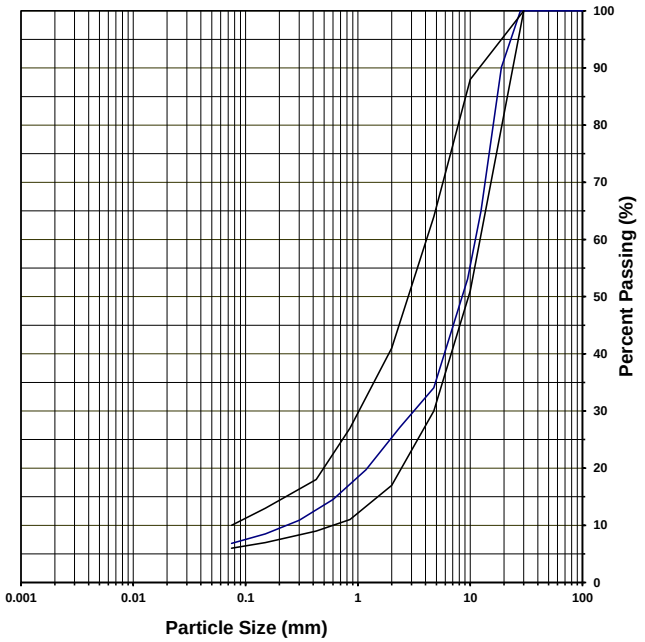
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	90	65	53	34	27	20	15	11	8	6.8
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	5.3		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
7	27	66

Remarks _____

Prepared by: Yaotree Amegnran 2020-04-04 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-042
Projet:	Derivation channel	**Sampling Date:**	2020-04-03
		Sampled by:	Thomas Dahm
Description of Material:	Fine filter		
Origin:	Channel	**Location of Sampling:**	St. 0+370m Western slope
Proposed Use:	Backfill in the channel		

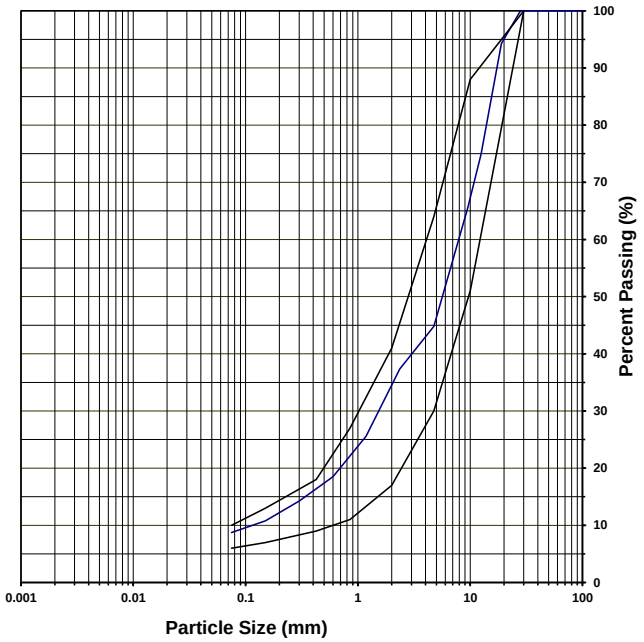
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	94	75	65	45	37	26	18	14	11	8.7
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	7.2		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
9	36	55

Remarks _____

Prepared by: Yaotree Amegnran 2020-04-04 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-043
Projet:	Derivation channel	**Sampling Date:**	2020-04-03
		Sampled by:	Thomas Dahm
Description of Material:	Fine filter		
Origin:	Channel	**Location of Sampling:**	St. 0+390m Center
Proposed Use:	Backfill in the channel		

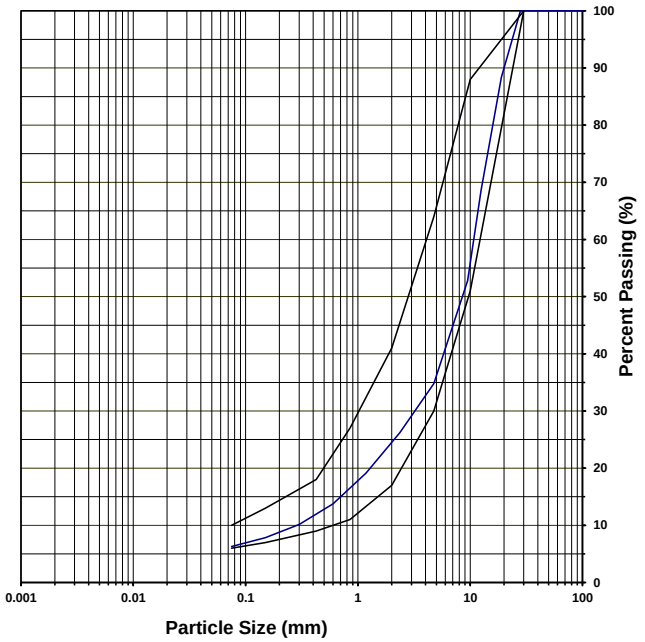
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	88	69	53	35	26	19	14	10	8	6.3
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	7.1		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
6	29	65

Remarks _____

Prepared by: Yaotree Amegnran 2020-04-04 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-044
Projet:	Derivation channel	**Sampling Date:**	2020-04-03
		Sampled by:	Yaotree Amegnran
Description of Material:	Fine filter		
Origin:	Channel	**Location of Sampling:**	St. 0+330m Center
Proposed Use:	Backfill in the channel		

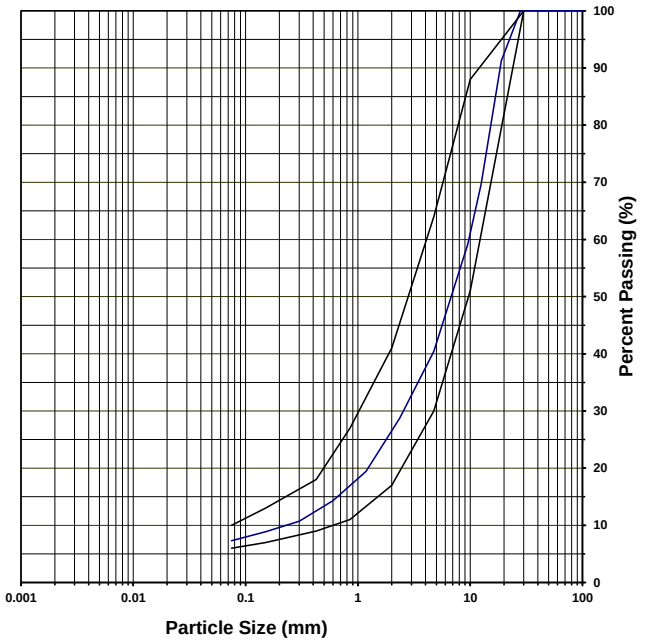
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	91	70	59	40	29	19	14	11	9	7.3
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.6		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m³)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
7	33	60

Remarks _____

Prepared by: Yaotree Amegnran 2020-04-04 Verified by: _____ Date: _____

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Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-045
Projet:	Diversion channel	**Sampling Date:**	2020-04-08
		Sampled by:	FGL (Night Shift)
Description of Material:	Fine filter		
Origin:	Channel	**Location of Sampling:**	St. 0+060 Foundation
Proposed Use:	Backfill in the channel		

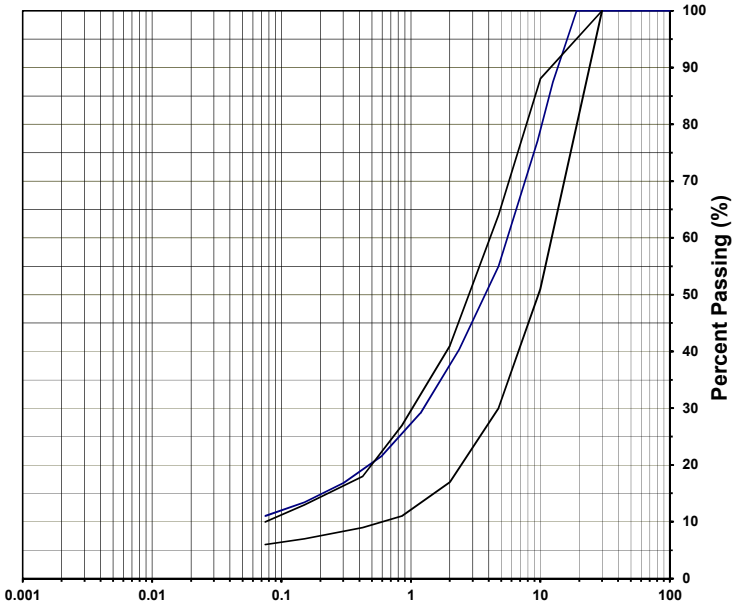
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	100	87	77	55	40	29	22	17	13	11.0
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	4.6		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
11	44	45

Remarks _____

Prepared by: Thomas Dahm 2020-04-08 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-046
Projet:	Diversion channel	**Sampling Date:**	2020-04-11
		Sampled by:	Thomas Dahm (AEM)
Description of Material:	Fine filter		
Origin:	Channel	**Location of Sampling:**	St. 0+420 Foundation
Proposed Use:	Backfill in the channel		

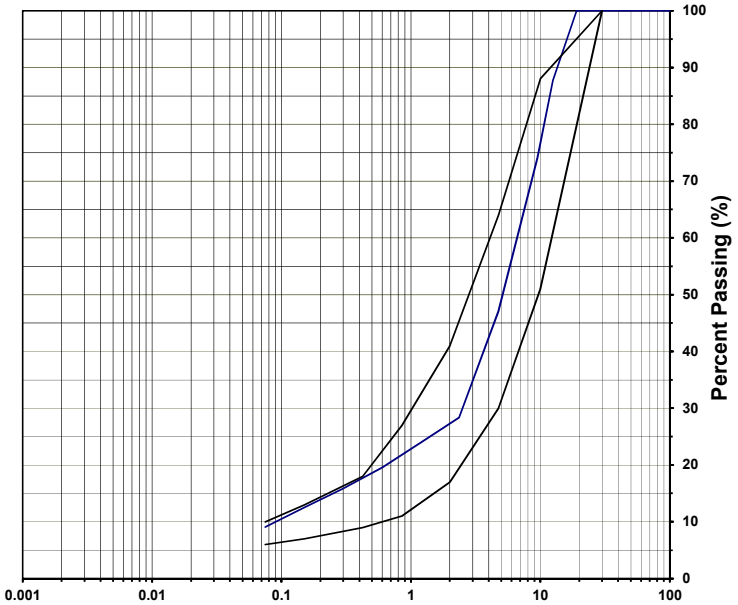
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	100	88	74	47	28	24	20	16	13	9.1
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	6.3		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
9	38	53

Remarks _____

Prepared by: Thomas Dahm 2020-04-12 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-047
Projet:	Diversion channel	**Sampling Date:**	2020-04-11
		Sampled by:	Thomas Dahm (AEM)
Description of Material:	Fine filter		
Origin:	Channel	**Location of Sampling:**	St. 0+435 Foundation
Proposed Use:	Backfill in the channel		

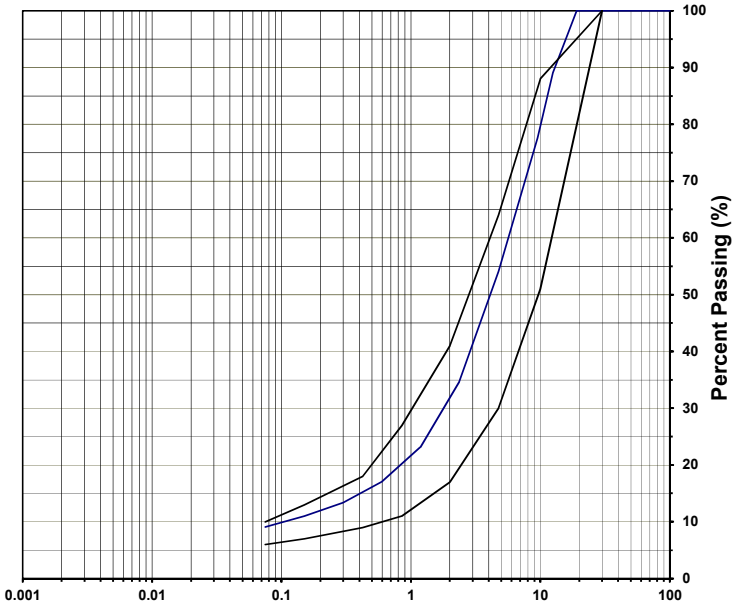
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	100	89	78	54	35	23	17	13	11	9.1
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	6.2		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
9	45	46

Remarks _____

Prepared by: Thomas Dahm 2020-04-12 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-048
Projet:	Diversion channel	**Sampling Date:**	2020-04-11
		Sampled by:	Thomas Dahm (AEM)
Description of Material:	Fine filter		
Origin:	Channel	**Location of Sampling:**	St. 0+460 Foundation
Proposed Use:	Backfill in the channel		

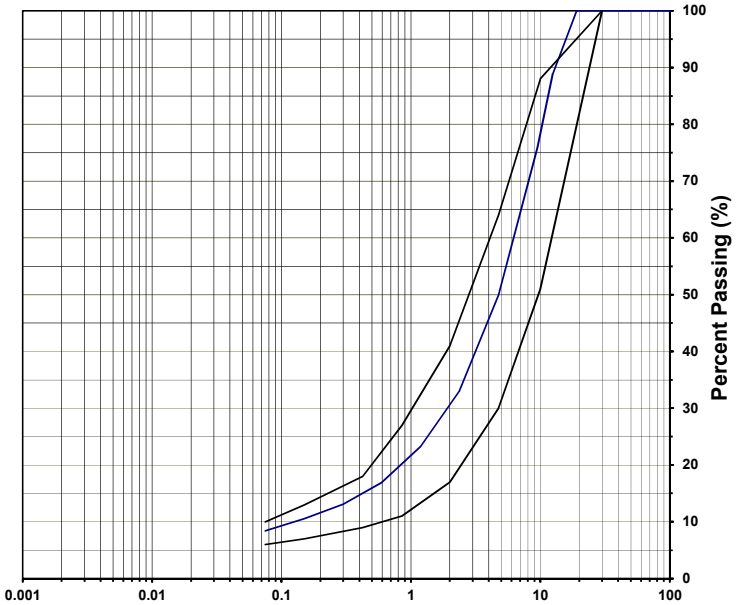
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	100	89	76	50	33	23	17	13	11	8.4
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	6.1		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
8	42	50

Remarks _____

Prepared by: Thomas Dahm 2020-04-12 Verified by: _____ Date: _____

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Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-FF-049
Projet:	Diversion channel	**Sampling Date:**	2020-04-11
		Sampled by:	Thomas Dahm (AEM)
Description of Material:	Fine filter		
Origin:	Channel	**Location of Sampling:**	St. 0+480 Foundation
Proposed Use:	Backfill in the channel		

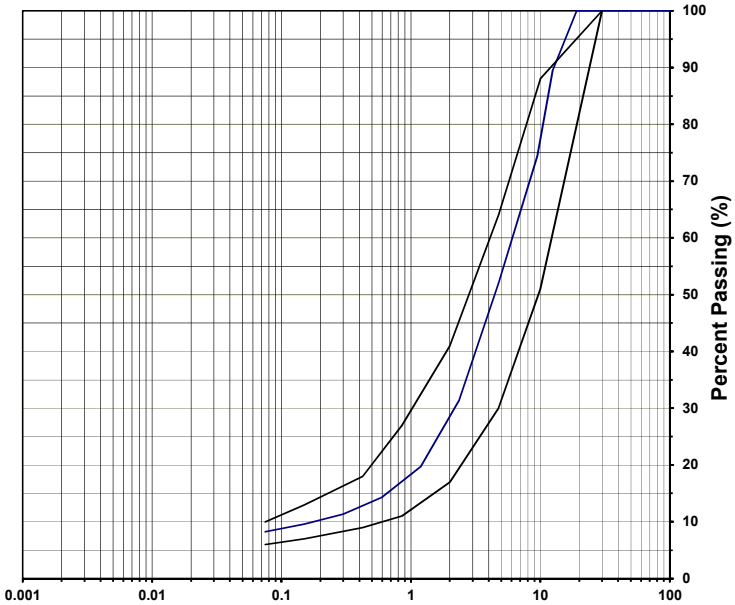
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	100	100	100	100	100	90	74	52	31	20	14	11	10	8.2
Require-ments	**min.**					100				49	30	19	13	10	8	7	6
	max.					100				86	64	44	31	22	16	13	10

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	5.3		

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
8	44	48

Remarks _____

Prepared by: Thomas Dahm 2020-04-12 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Appendix H-5

Test Report – Coarse Filter Particle Size Analysis

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11204932-B1

Sample N°: AMQ-CF-001

Projet: Derivation channel

Sampling Date: 2020-01-21

Sampled by: Mathieu Côté

Description of Material: Coarse Filter

Origin: stockpile

Location of Sampling: Stockpile

Proposed Use: Over the Fine filter

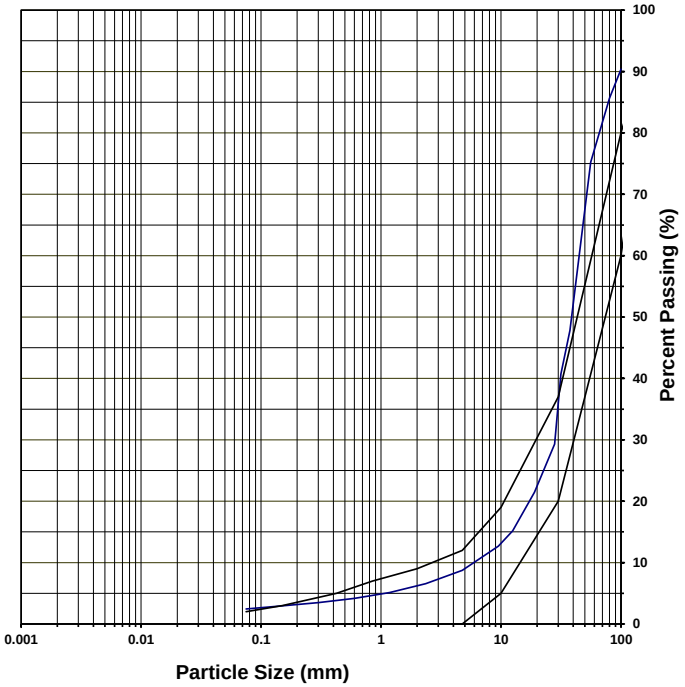
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		90	86	75	48	41	29	21	15	13	9	7	5	4	3	3	2.4
Require-ments	min.	60				21	19			5	0	0	0	0	0	0	0
	max.	80				38	36			19	12	9	8	6	4	3	2

Autres essais	Résultats	Exigences min.	Exigences max.
Moisture Content (%)	2.4		

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
2	7	91

Remarks: Hard to sample missing about 1 big rock to be on the specification

Prepared by: Mathieu Côté Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11202247-B1

Sample N°: AMQ0-CF-002

Projet: Derivation channel

Sampling Date: 2020-01-22

Sampled by: mc

Description of Material: coarse filter

stockpile with loader

Origin: stockpile

Location of Sampling:

Proposed Use: coarse filter

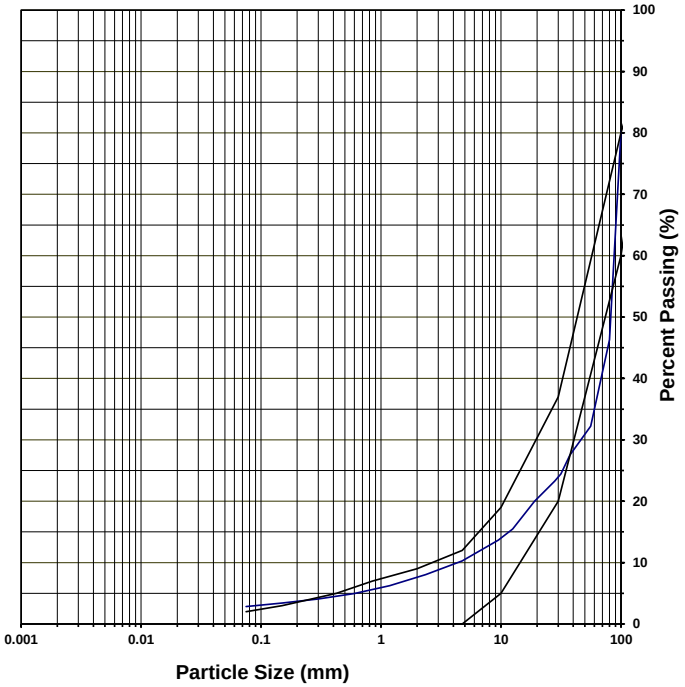
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		80	46	32	28	24	23	20	15	14	10	8	6	5	4	3	2.8
Require-ments	**min.**	60				21	19			5	0	0	0	0	0	0	0
	max.	80				38	36			19	24	13	8	6	4	3	2

Autres essais	Résultats	Exigences min.	Exigences max.
PSPI			
Moisture Content (%)	6.8		
Agreggate Density (Coarse)			
Absorption granulats (fins)			
Micro Deval (coarse)			
Los Angeles (Coarse)			
% Crushed Particles			
Methylene Blue Index			
Organic Matter Content			

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
3	7	90

Remarks: Requirement made by interpolation

Prepared by: Mathieu Côté

Verified by:

Date: 2020-01-23

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-CF-003
Projet:	Derivation channel	**Sampling Date:**	2020-03-12
		Sampled by:	MC
Description of Material:	Coarse filter 0-6"		
Origin:	Stockpile	**Location of Sampling:**	0+160 East slope
Proposed Use:	Coarse filter		

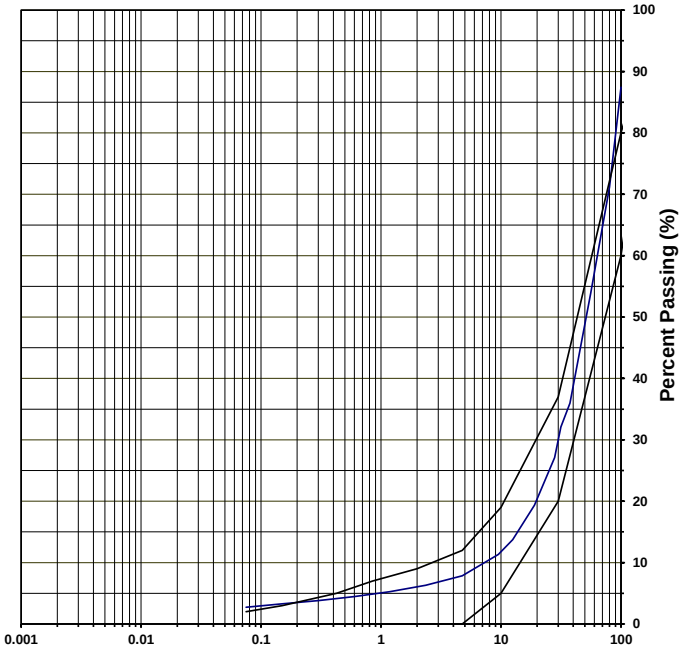
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		87	71	54	36	32	27	19	14	11	8	6	5	4	4	3	2.7
Require-ments	**min.**	60				21	19			5	0	0	0	0	0	0	0
	max.	80				38	36			19	24	13	8	6	4	3	2

Autres essais	Résultats	Exigences min.	Exigences max.
PSPI			
Moisture Content (%)	1.7		
Agreggate Density (Coarse)			
Absorption granulats (fins)			
Micro Deval (coarse)			
Los Angeles (Coarse)			
% Crushed Particles			
Methylene Blue Index			
Organic Matter Content			

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
3	5	92

Remarks: Requirement made by interpolation

Prepared by: Richard J. Tremblay Verified by: Date: 2020-03-12

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Projet: Derivation channel

Description of Material: Coarse filter

Origin: stockpile

Proposed Use: Coarse filter over fine filter

Project N°: 11202247-B1

Sample N°: AMQ-CF-004

Sampling Date: 2020-03-14

Sampled by: MC

Location of Sampling: 0+580 West slope

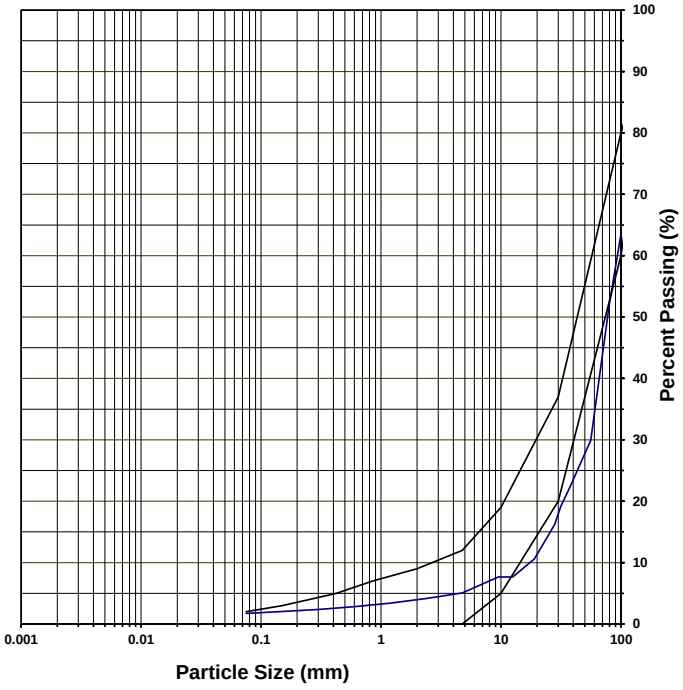
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		64	52	30	22	19	16	11	8	8	5	4	3	3	2	2	1.7
Require-ments	**min.**	60				21	19			5	0	0	0	0	0	0	0
	max.	80				38	36			19	24	13	8	6	4	3	2

Autres essais	Résultats	Exigences min.	Exigences max.
PSPI			
Moisture Content (%)	1.6		
Agreggate Density (Coarse)			
Absorption granulats (fins)			
Micro Deval (coarse)			
Los Angeles (Coarse)			
% Crushed Particles			
Methylene Blue Index			
Organic Matter Content			

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
2	3	95

Remarks: Requirement made by interpolation

Prepared by: Mathieu Côté and Richard J.Tremblay

Verified by:

Date: 2020-03-14

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11202247-B1

Sample N°: AMQ-CF-005.1

Projet: Derivation channel

Sampling Date: 2020-03-20

Sampled by: MC

Description of Material: Coarse filter 0-6"

Origin: stockpile

Location of Sampling: 0+890 East slope

Proposed Use: Coarse filter 0-6"

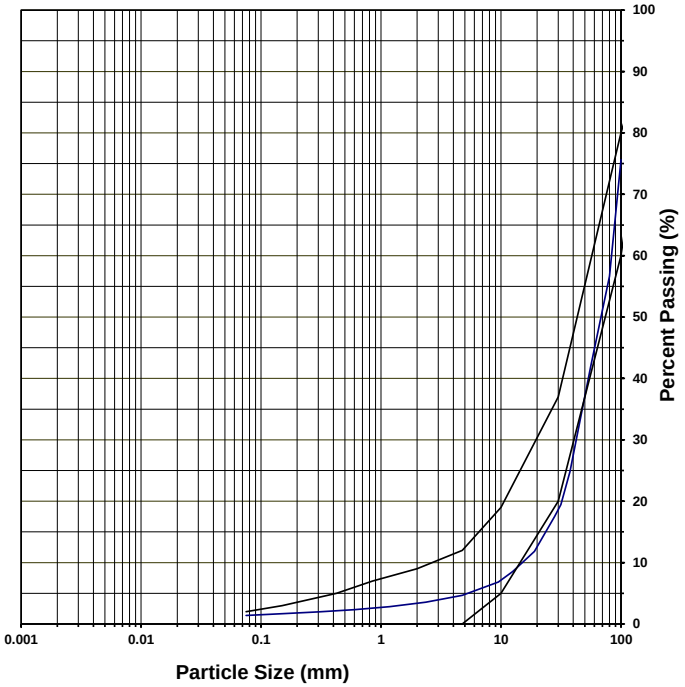
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		76	57	42	25	19	17	12	9	7	5	4	3	2	2	2	1.4
Require-ments	**min.**	60				21	19			5	0	0	0	0	0	0	0
	max.	80				38	36			19	24	13	8	6	4	3	2

Autres essais	Résultats	Exigences min.	Exigences max.
PSPI			
Moisture Content (%)	2.4		
Agreggate Density (Coarse)			
Absorption granulats (fins)			
Micro Deval (coarse)			
Los Angeles (Coarse)			
% Crushed Particles			
Methylene Blue Index			
Organic Matter Content			

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
1	4	95

Remarks: Requirement made by interpolation

Prepared by: Mathieu Côté ansd Richard J.Tremblay

Verified by:

Date: 2020-03-21

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11202247-B1

Sample N°: AMQ-CF-006.2

Projet: Derivation channel

Sampling Date: 2020-03-19

Sampled by: RJT

Description of Material: Coarse filter 0-6"

Location of Sampling: 0+780 West slope

Origin: stockpile

Proposed Use: Coarse filter 0-6"

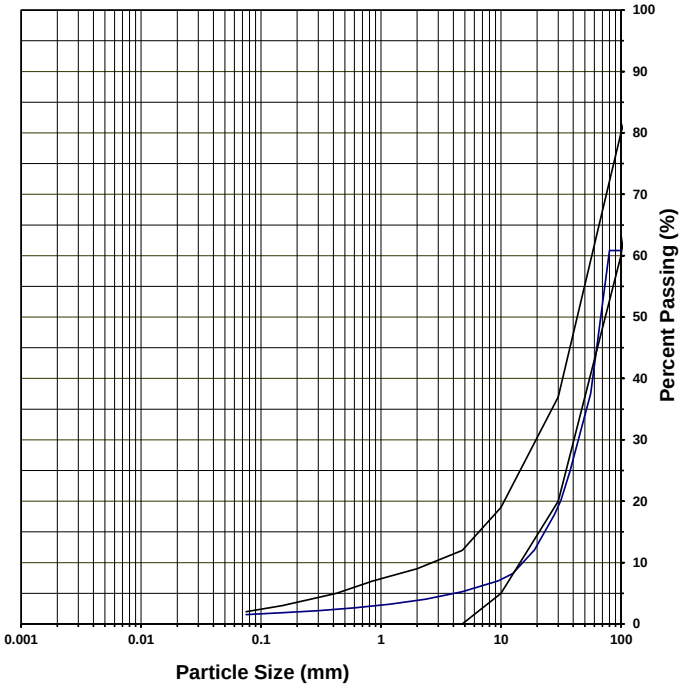
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		61	61	38	25	20	18	12	8	7	5	4	3	3	2	2	1.5
Require-ments	**min.**	60				21	19			5	0	0	0	0	0	0	0
	max.	80				38	36			19	24	13	8	6	4	3	2

Autres essais	Résultats	Exigences min.	Exigences max.
PSPI			
Moisture Content (%)	0.7		
Agreggate Density (Coarse)			
Absorption granulats (fins)			
Micro Deval (coarse)			
Los Angeles (Coarse)			
% Crushed Particles			
Methylene Blue Index			
Organic Matter Content			

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
2	4	95

Remarks: Requirement made by interpolation

Prepared by: Mathieu Côté and Richard J.tremblay

Verified by:

Date: 2020-03-20

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Project N°: 11202247-B1

Sample N°: AMQ-CF-007

Projet: Derivation channel

Sampling Date: 2020-03-20

Sampled by: RJT

Description of Material: Coarse filter 0-6"

Origin: Channel

Location of Sampling: st 0+300m Eastern slope

Proposed Use: Coarse filter 0-6"

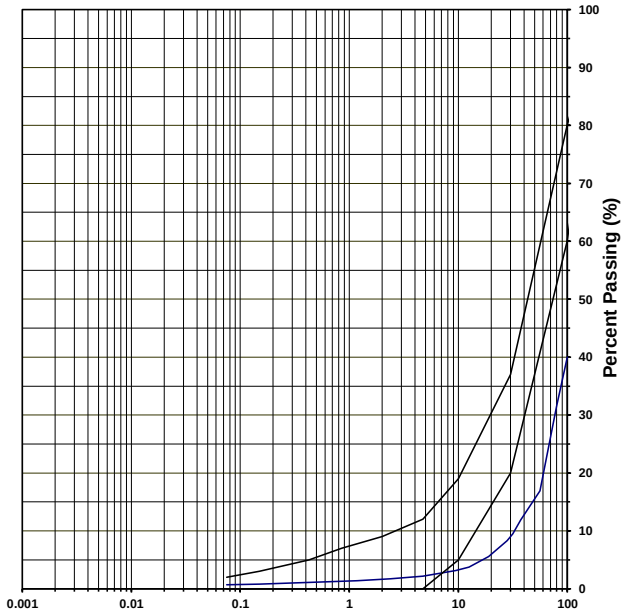
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		40	31	17	12	9	8	6	4	3	2	2	1	1	1	1	0.7
Require-ments	min.	60				21	19			5	0	0	0	0	0	0	0
	max.	80				38	36			19	24	13	8	6	4	3	2

Autres essais	Résultats	Exigences min.	Exigences max.
PSPI			
Moisture Content (%)	0.84%		
Agreggate Density (Coarse)			
Absorption granulats (fins)			
Micro Deval (coarse)			
Los Angeles (Coarse)			
% Crushed Particles			
Methylene Blue Index			
Organic Matter Content			

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
1	1	98

Remarks _____

Prepared by: Yaotree Amegnran 2020-03-24 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client: AEM

Projet: Derivation channel

Description of Material: Coarse filter 0-6"

Origin: Channel

Proposed Use: Coarse filter 0-6"

Project N°: 11202247-B1

Sample N°: AMQ-CF-008

Sampling Date: 2020-03-20

Sampled by: MC

Location of Sampling: st 0+600m, Foundation level

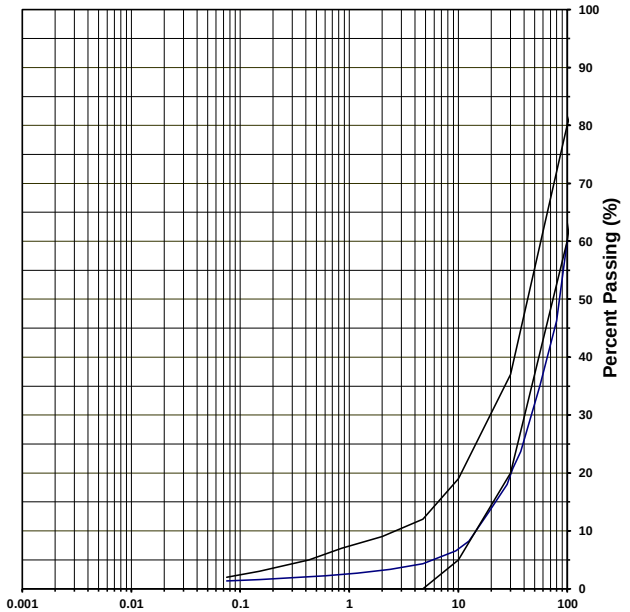
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		60	46	35	24	21	18	13	8	7	4	3	3	2	2	2	1.4
Require-ments	min.	60				21	19			5	0	0	0	0	0	0	0
	max.	80				38	36			19	24	13	8	6	4	3	2

Autres essais	Résultats	Exigences min.	Exigences max.
PSPI			
Moisture Content (%)	2.60%		
Agreggate Density (Coarse)			
Absorption granulats (fins)			
Micro Deval (coarse)			
Los Angeles (Coarse)			
% Crushed Particles			
Methylene Blue Index			
Organic Matter Content			

Proctor Test (NQ 2501-255, method)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Sieve Analysis Graph



Clay and silt	Sand	Gravel
1	3	96

Remarks _____

Prepared by: Yaotree Amegnran 2020-03-24 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-CF-010
Projet:	Diversion channel	**Sampling Date:**	2020-04-08
		Sampled by:	FGL Night Shift
Description of Material:	Coarse filter 0-6"		
Origin:	Channel	**Location of Sampling:**	st 0+060m, Foundation level
Proposed Use:	Coarse filter 0-6"		

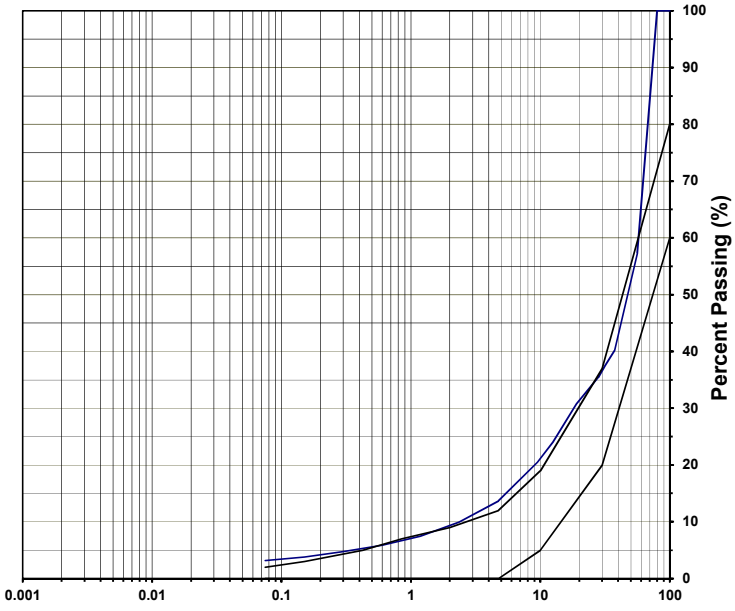
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		100	100	57	40	38	35	31	24	21	14	10	7	6	5	4	3.2
Require-ments	**min.**	60				21	19			5	0	0	0	0	0	0	0
	max.	80				38	36			19	24	13	8	6	4	3	2

Autres essais	Résultats	Exigences min.	Exigences max.
PSPI			
Moisture Content (%)	2.60%		
Agreggate Density (Coarse)			
Absorption granulats (fins)			
Micro Deval (coarse)			
Los Angeles (Coarse)			
% Crushed Particles			
Methylene Blue Index			
Organic Matter Content			

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
3	11	86

Remarks _____

Prepared by: Thomas Dahm 2020-04-08 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Analysis Report - Soils and Aggregates

Client:	**AEM**	**Project N°:**	**11202247-B1**
		Sample N°:	AMQ-CF-011
Projet:	Diversion channel	**Sampling Date:**	2020-04-11
		Sampled by:	Thomas Dahm (AEM)
Description of Material:	Coarse filter 0-6"		
Origin:	Channel	**Location of Sampling:**	st 0+460m, Foundation level
Proposed Use:	Coarse filter 0-6"		

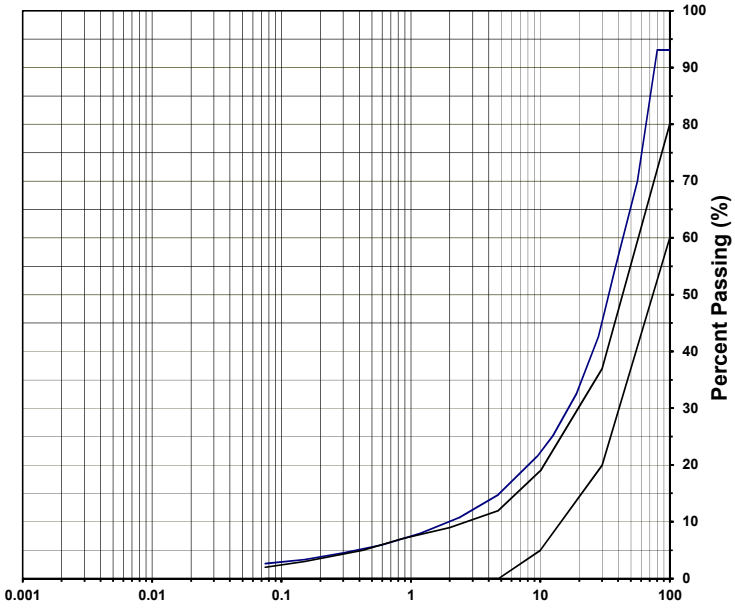
Sieve Analysis (% Passing) (LC 21-040)

Sieve		100 mm	80 mm	56 mm	37.5 mm	31.5 mm	28 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 µm	300 µm	150 µm	75 µm
Cumulative Results		93	93	70	54	47	43	33	25	22	15	11	8	6	5	3	2.6
Require-ments	**min.**	60				21	19			5	0	0	0	0	0	0	0
	max.	80				38	36			19	24	13	8	6	4	3	2

Autres essais	Résultats	Exigences min.	Exigences max.
PSPI			
Moisture Content (%)	2.70%		
Agreggate Density (Coarse)			
Absorption granulats (fins)			
Micro Deval (coarse)			
Los Angeles (Coarse)			
% Crushed Particles			
Methylene Blue Index			
Organic Matter Content			

Proctor Test (NQ 2501-255, method)	**Results**
Maximum Dry Unit Weight	**(kg/m^3)**
Optimum Moisture Content	**(%)**

Sieve Analysis Graph



Clay and silt	Sand	Gravel
3	12	85

Remarks _____

Prepared by: Thomas Dahm 2020-04-12 Verified by: _____ Date: _____

GHD Consultants Ltée. 4600 boul. de la Côte-Vertu Montréal Qc H4S 1C7

Appendix I

Select Construction Photographs



Photo 1: Before construction – Aerial view looking south (2019-06-19)



Photo 2: Before construction – Aerial view, Lake A45 area (2019-06-19)



Photo 3: Drilling in preparation for blasting



Photo 4: Excavation activity after blasting



Photo 5: Hammering froze/ice rich material following blasting in some location to reach final grade.



Photo 6: Channel after excavation



Photo 7: Esker placement and compaction using the excavator bucket



Photo 8: Placement of esker material



Photo 9: Area ready for fine filter placement



Photo 10: Snow cleaning before fine filter placement



Photo 11: Fine filter placement



Photo 12: Fine filter compaction using the excavator bucket



Photo 13: Fine filter placement



Photo 14: Snow cleaning before coarse filter placement



Photo 15: Coarse filter placement and compaction by bucket of excavator



Photo 16: Coarse filter placement and compaction



Photo 17: Geotextile installation



Photo 18: Fixing damaged geotextile by placing another geotextile underneath the damaged location



Photo 19: Geotextile overlap in between successive geotextile panels



Photo 20: Riprap placement over the geotextile



Photo 21: Example Riprap placement completed



Photo 22: Rockfill placement



Photo 23: Excavation activities of the SWTDC in Lake A45 area (SWTDC-LA45S)



Photo 24: Rockfill placement in Lake A45 area (SWTDC-LA45S)



Photo 25: French drain in Lake A45 area (SWTDC-LA45S)



Photo 26: Geotextile installation in Lake A45 area (SWTDC-LA45S)



Photo 27: QC sampling in-situ foundation soil



Photo 28: QC sampling of fine filter



Photo 29: Laboratory measuring balance



Photo 30: Fine sieve



Photo 31: Coarse sieve



Photo 32: Fine sieve vibrator



Photo 33: Gilson



Photo 34: Sampling separator



Photo 35: Photo of the water tank



Photo 36: Laboratory testing in progress



Photo 37: Channel in operation - Outlet looking downstream to Mammoth Lake (2020-07-18)



Photo 38: Channel in operation - Outlet looking upstream (2020-07-18)



Photo 39: Channel in operation - Aerial view looking north (2020-08-06)



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