Photograph NCIS-008: Placement a 2 m thick (approx.) lift of UM rockfill from El. 150 m to El. 152 m (approx.) with a dozer. The material is of good quality and is well graded.

REGISTERED PROFESSIONAL ENGINEER
Y. BOULIANNE
LICENSEE
2018-05-21
NT/NU

Marion Habersetzer, M.Sc.
Mine Waste Group

Yves Boulianne, P.Eng.
Associate, Senior Geotechnical Engineer

Attachments: Daily progress drawings for May 19th to 20th

MH/YB/

https://golderassociates.sharepoint.com/sites/1897439/preparation of deliverables/weekly reports/2018-05-14 to 2018-05-20/north cell/1897439-1577-tm-rev0 qa weekly report north cell 2018-05-19 to 2018-05-20.docx

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Date 2018-05-21
PERMIT NUMBER: P 049
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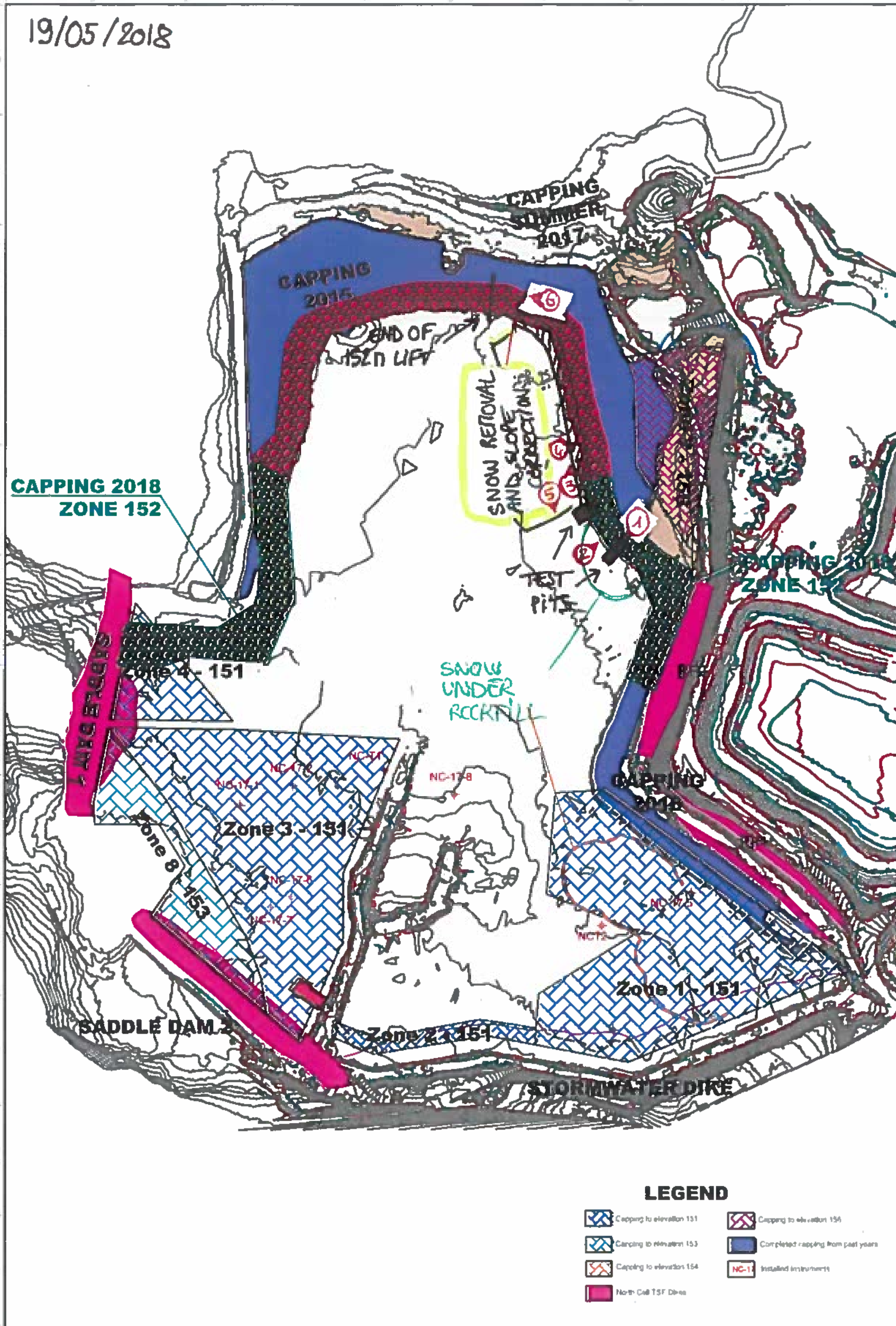
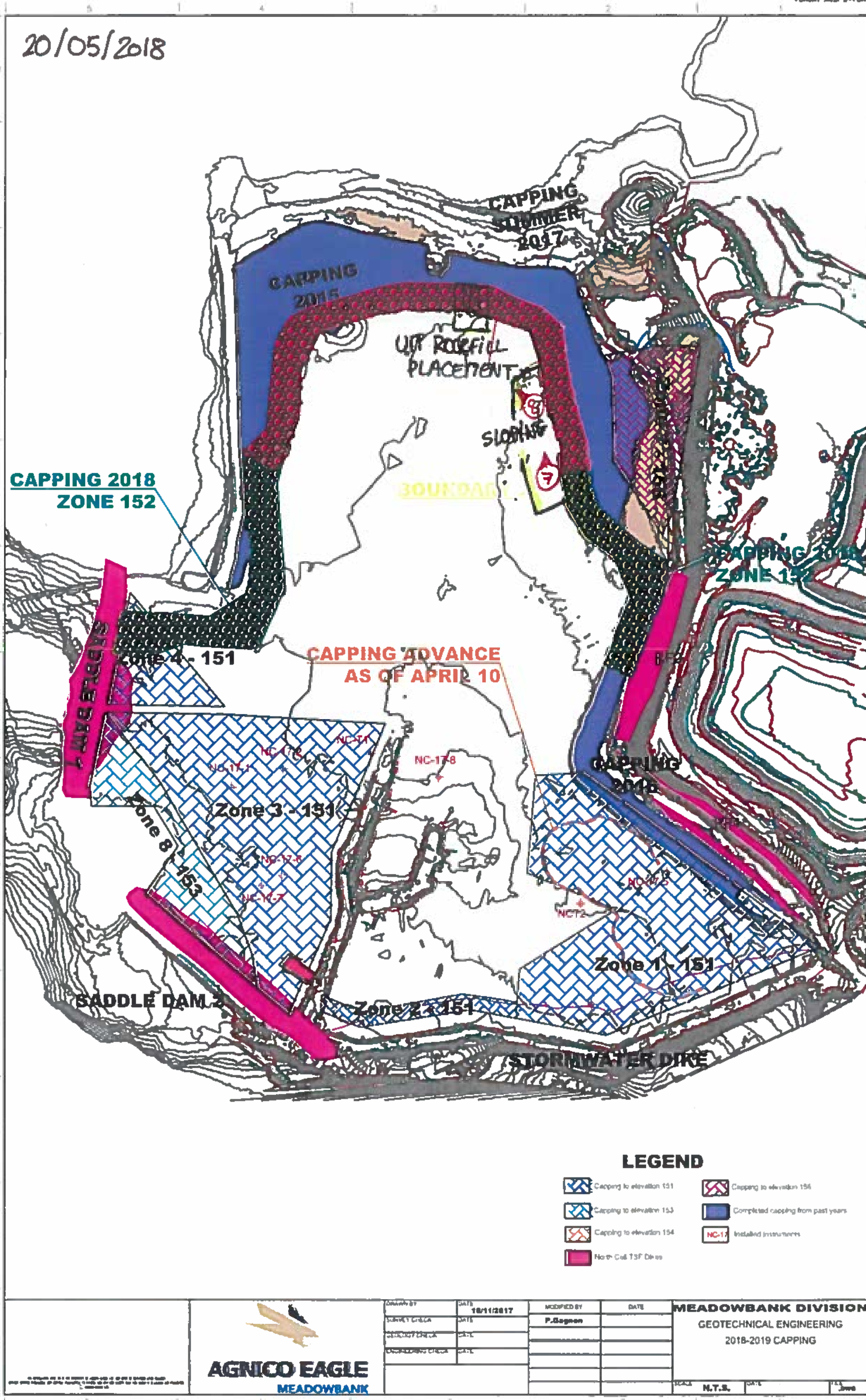


AGNICO EAGLE
MEADOWBANK

DRAWN BY	DATE 18/11/2017	MODIFIED BY P.Gagnon	DATE

MEADOWBANK DIVISION
GEOTECHNICAL ENGINEERING
2018-2019 CAPPING

SCALE N.T.S.


20/05/2018
CAPPING SUMMER 2017
CAPPING 2015
UIT ROCKFILL PLACEMENT
SLOPING
CAPPING 2018
ZONE 152
Zone 4 - 151
SADDLE DAM 1
CAPPING ADVANCE
AS OF APRIL 10
CAPPING 2016
Zone 3 - 151
Zone 8 - 153
Zone 1 - 151
Zone 2 - 151
SADDLE DAM 2
STORMWATER DIKE
NC-17-1
NC-17-6
NC-17-7
NC-17-8
NCT2
LEGEND
Capping to elevation 151
Capping to elevation 153
Capping to elevation 154
North Cell TSF Dikes
Capping to elevation 156
Completed capping from past years
Installed instruments
AGNICO EAGLE
MEADOWBANK
DATE 10/11/2017
MODIFIED BY
P.Gagnon
DATE
MEADOWBANK DIVISION
GEOTECHNICAL ENGINEERING
2018-2019 CAPPING
N.T.S.

QA WEEKLY REPORT

DATE May 28th 2018 1897439-1577-TM-Rev0

TO Patrice Gagnon, Pier-Éric McDonald
Agnico Eagle Mines Ltd, Meadowbank Division

CC Frédérick Bolduc, Alexandre Lavallée

FROM Marion Habersetzer **EMAIL mhabersetzer@golder.com**

QA WEEKLY REPORT FROM MAY 21ST TO MAY 27TH – TSF NORTH CELL CONSTRUCTION MEADOWBANK (1897439)

This document summarizes QA activities performed by Golder from May 21st to 27th, 2018 inclusively, related to the construction activities of the North Cell Internal Structure at the Meadowbank mine site.

Unless otherwise specified, the construction activities use the centreline of the structures for a dike crest elevation of 152 m for reference (refer to the Drawings). The description of activities refers to the stations and offsets from the centreline (e.g., Sta. 0+500/-50 m). The "+" and "-" symbols indicate the location of the work downstream and upstream of the centreline, respectively.

1.0 GOLDER PERSONNEL ON SITE

Golder personnel on site during this reporting period is summarized in Table 1.

Table 1: Golder Personnel on Site

Name	Comments
Marion Habersetzer	QA Manager (on site since May 14th)

2.0 HEALTH AND SAFETY

H&S meetings were held with AEM and FGL/SANA during the daily construction meetings. Minutes from these meetings are recorded and stored in Golder's on-site office. The key H&S elements for the reporting period were as follows:

- Cold weather and ice: apply caution when driving or walking on icy surfaces, wear appropriate clothing.

- Dust is still an issue on the construction field; be vigilant by staying out of the dust cloud near construction activities and road circulation.

3.0 SUMMARY OF MAIN DISCUSSIONS IN CONSTRUCTION MEETINGS

Construction meetings were held daily during the reporting period and were attended by the QA Manager. The following items were discussed:

General

- A field-fitted design has been proposed by SANA (see plan enclosed) and approved by AEM and Golder for the alignment of the North Cell Internal Structure. The stations of the new alignment are marked on the UM rockfill lift as it progresses. However, the QA Manager has not received the centerline for the portable GPS yet; as a result, offsets measurements for daily progression and photographs locations are not available yet.
- The footprint of the North Cell Internal Structure at approx. Sta. 1+700 m, marked on the field with stakes to guide the UM rockfill placement, has been adjusted as it was too wide due to a surveying inaccuracy. The whole alignment of the North Cell Internal Structure will be marked on the field and the snow in the footprint removed, so no further access to the tailings surface is required, as it will soon thaw and become soft.
- According to the survey done on the existing UM rockfill lift at El. 152 m (approx.), it appears that the actual lift thickness varies from 0.9 m to 3.5 m. The elevations of the crest range from 151.9 m to 153.9 m. The foundation (North Cell capping) is variable in elevation. Only one section of the UM rockfill lift was thicker than 2.8 m: this section was corrected with the dozer. The UM rockfill lift is now lowered to maximum El. 153 m, corresponding to a maximum lift thickness of 2.5 m. It has been agreed with the Designer that a lift thickness of maximum 2.5 m could be left as is, as it is not expected to affect the maximum achievable compaction significantly with special attention paid to compaction (6 passes of the compactor). A closer follow-up in the UM rockfill lift elevation is required to ensure the lift is built uniformly at El. 152 m.
- Following discussions with AEM and the Designer, it should be noted that the downstream slopes of the internal structure which were originally designed with a 2.5H:1V on a tailings foundation, expected to thaw in summer, can be built with a 1.5H:1V provided AEM is aware of the probability of shallow failures. Analyses show that the potential failure paths associated with FoS values of 1.2 and 1.5 are limited to the area of the 2.3 m high safety berm and do not penetrate into the vehicle path itself on the crest. The risk of these potential shallow failures is tolerable as long as there is a regime in place to monitor for localized failures and to repair them if they occur.
- A small amount of Iron Formation (IF) rockfill was mistakenly placed on the North Cell Internal Structure (see photograph below). IF rockfill is a PAG material and is not suitable for dike construction; it was therefore removed before further placement of UM rockfill.
- The QA Manager reiterated that the rockfill should be placed by the dozer and not unloaded directly in the slope of the lift by the haul trucks. The purpose is to limit segregation of the rockfill particles during placement.

- The QA Manager asked to know the total volume of UM rockfill placed on the North Cell Internal Structure at the end of the construction for as-built reporting.
- The QC representative marked some oversize boulders on the upstream slope with paint. The boulders need to be removed during sloping operations.
- The UM rockfill lift at El. 152 m included a portion where the 2015 North Cell rockfill capping is built on the natural soil (thin layer of organic soil overlying till), between Sta. 1+800 m and 1+900 m approximately. The toe of the UM rockfill lift reaches beyond the toe of the capping, meaning the dike is partially founded on unprepared natural soil. The filter zone is also expected to extend on the natural soil. A test pit has been excavated to estimate the thickness of the soil layer; however, the frozen conditions prevented the excavator from reaching deeper than about 200 mm (see photograph below). The QA Manager asked that the surveyor estimate the width of the lift that lies beyond the capping. The upstream slope in this section was not profiled and further discussions will follow regarding actions to take.
- Profiling of the upstream slope has reached the maximum progress. Due to a shortage of UM rockfill at the moment, sloping operations were interrupted on May 27th and will resume when rockfill placement has progressed.
- If there are operators available, compaction of the UM rockfill lift at El. 152 m could be done over the next few weeks. The zone which will be raised to El. 145 m will be compacted in priority.
- Many different operators are working on the North Cell Internal Structure depending on the days. Instructions need to be repeated to each new worker when they arrive on the structure.
- The downstream ditches excavation will require drilling and blasting, as the ground is frozen.

Follow up

- The quality and gradation of the UM rockfill placed on the structure is now satisfactory.
- The alignment of the Internal Structure has been reviewed (see plan enclosed).
- Centerline to be obtained from SANA for QA follow-up of activities using the portable GPS.
- Decision to make with AEM about the foundation of the section of the structure between Sta. 1+800 m and 1+900 m, built on unprepared natural soil.

4.0 SUMMARY OF CONSTRUCTION ACTIVITIES AND TEST RESULTS

Periodic QA inspections to monitor the construction activities and progress were performed by the QA Manager; these are summarized in the tables below. For the location and extent of the construction works, refer to the enclosed plans.

Table 2: QA Observations for the North Cell Internal Structure

Activity or Area	Comments
Upstream	■ Profiling of the upstream slope (3H:1V) from El. 150 to 152 m with an excavator from Sta. 2+777 m to 1+638 m. The portion between Sta. 1+900 m and 1+800 m, where the structure is built on the natural ground, was not profiled. ■ Placement of a 2 m thick (approx.) lift of UM rockfill from El. 150 m to El. 152 m (approx.) with a dozer from Sta. 1+880 m to 1+535 m (offset unavailable). The material is of good quality and is well graded. ■ Removal of the safety berms (UM rockfill), pushed with a dozer into the upstream slope or with the excavator during slope profiling, from Sta. 2+777 m to 1+678 m (approx.). Safety berms were replaced by blocks to mark the edge. ■ Correction of the crest elevation with a dozer and an excavator to achieve a closer elevation to 152 m around Sta. 2+650 m and 2+000 m. ■ Removal of PAG material placed on the structure at approx. Sta. 1+770 m with an excavator.

5.0 SAMPLING, LABORATORY AND FIELD TESTING

Table 3 and Table 4 present the samples collected or tested by the QA and QC.

Table 3: Samples Taken by the QC

Sample ID	Date Sampled	Date Tested	Fill Material Type	Location (Station/Offset Elevation)	Test	Testing Result

Table 4: Samples Taken by the QA

Sample ID	Date Sampled	Date Tested	Fill Material Type	Location (Station/Offset Elevation)	Test	Testing Result

6.0 PHOTOGRAPHS

Photograph NCIS-009: Placement of a 2 m thick (approx.) lift of UM rockfill from El. 150 m to El. 152 m (approx.) with a dozer from Sta. 1+880 m to 1+825 m (offset unavailable).

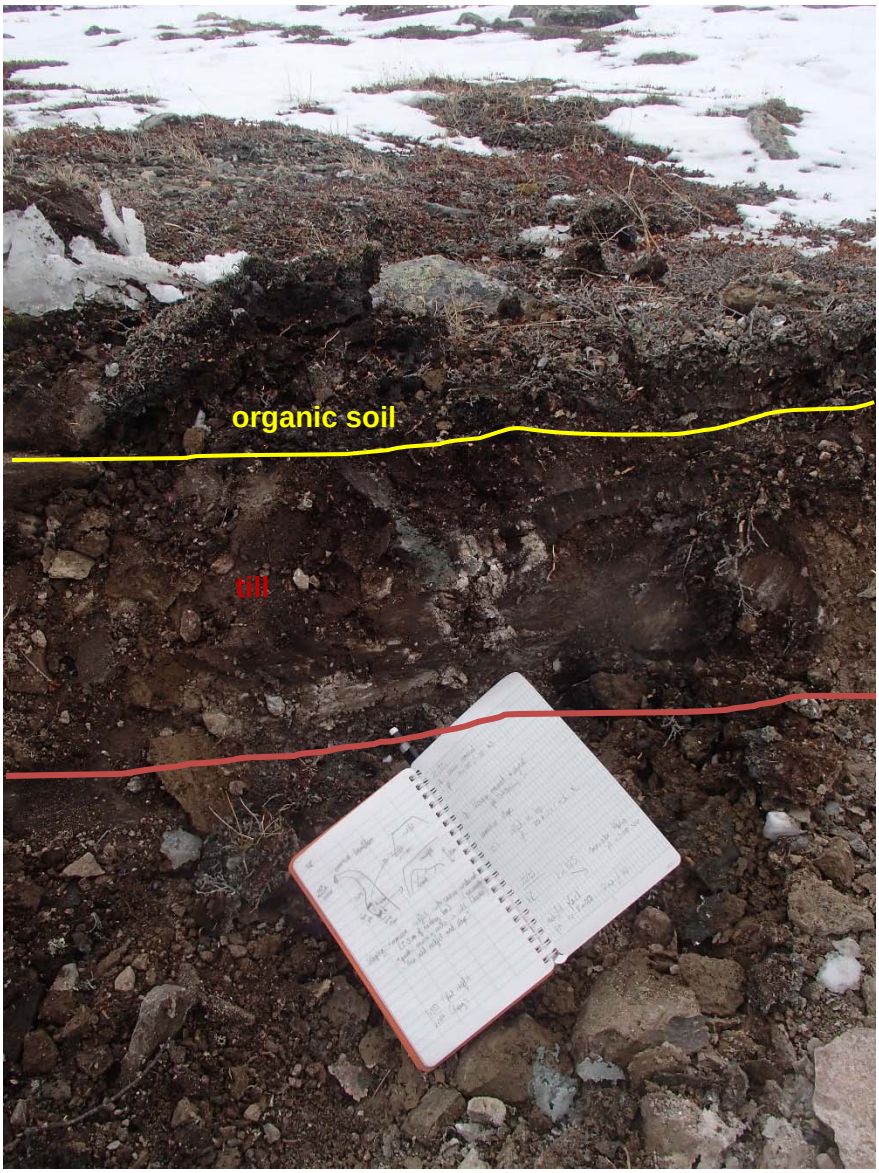
Photograph NCIS-010: Profiling of the upstream slope (3H:1V) from El. 150 to 152 m with an excavator from Sta. 2+777 m to 2+400 m (approx.).

Photograph NCIS-011: From Sta. 2+000 m (approx.), looking SW. Placement a 2 m thick (approx.) lift of UM rockfill from El. 150 m to El. 152 m (approx.) with a dozer from Sta. 1+880 m to 1+767 m (offset unavailable).

Photograph NCIS-012: From Sta. 2+000 m (approx.), looking NW. Profiling of the upstream slope (3H:1V) from El. 150 to 152 m with an excavator from Sta. 2+325 m to 2+275 m (approx.).

Photograph NCIS-013: From Sta. 2+600 m (approx.), looking NE. Correction of the crest elevation with an excavator to achieve a closer elevation to 152 m around Sta. 2+650 m.

Photograph NCIS-014: From Sta. 1+900 m (approx.), looking SE. View of the natural soil on which the 2015 capping is built.



Photograph NCIS-015: From Sta. 1+850 m (approx.), looking S. View of the 200 mm deep test pit excavated into the natural soil. A thin layer or organic soil overlies frozen till.

Photograph NCIS-016: From Sta. 1+750 m (approx.), looking SE. View of the Iron Formation rockfill (PAG material) piles on the North Cell Internal Structure to be cleaned from the structure embankment.

Photograph NCIS-017: From Sta. 2+290 m (approx.), looking SW. Profiling of the upstream slope (3H:1V) from El. 150 to 152 m with an excavator from Sta. 2+138 m to 1+989 m.

Photograph NCIS-018: From Sta. 2+310 m (approx.), looking NW. Profiling of the upstream slope (3H:1V) from El. 150 to 152 m with an excavator from Sta. 1+989 m to 1+860 m.

Photograph NCIS-019: From Sta. 2+100 m (approx.), looking SW. Profiling of the upstream slope (3H:1V) from El. 150 to 152 m with an excavator from Sta. 1+860 m to 1+678 m. The portion between Sta. 1+900 m and 1+800 m, where the structure is built on the natural ground, was not profiled.

Photograph NCIS-020: From Sta. 1+570 m (approx.), looking S. Placement of a 2 m thick (approx.) lift of UM rockfill from El. 150 m to El. 152 m (approx.) with a dozer from Sta. 1+564 m to 1+535 m (offset unavailable).

REGISTERED PROFESSIONAL ENGINEER
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2018-05-28

Marion Habersetzer, M.Sc.
Mine Waste Group

Yves Boulianne, P.Eng.
Associate, Senior Geotechnical Engineer

Attachments: Construction Progress Drawings from AEM as of May 26th 2018

MH/YB/

https://golderassociates.sharepoint.com/sites/1897439/preparation of deliverables/weekly reports/2018-05-21 to 2018-05-27/north cell/1897439-1577-tm-rev0 qa weekly report north cell 2018-05-21 to 2018-05-27.docx

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GOLDER ASSOCIATES LTD.
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Date 2018-05-28
PERMIT NUMBER: P 049
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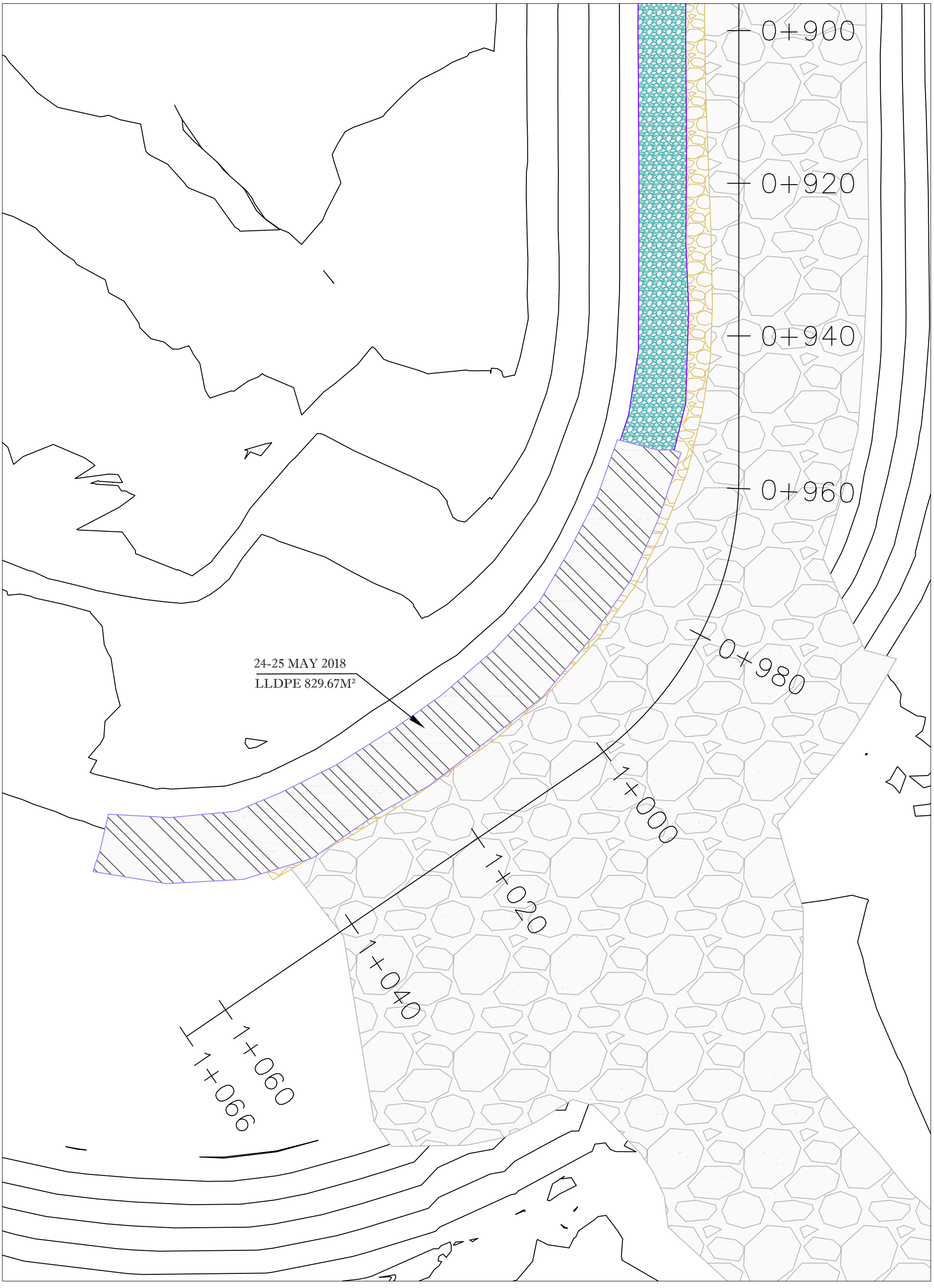
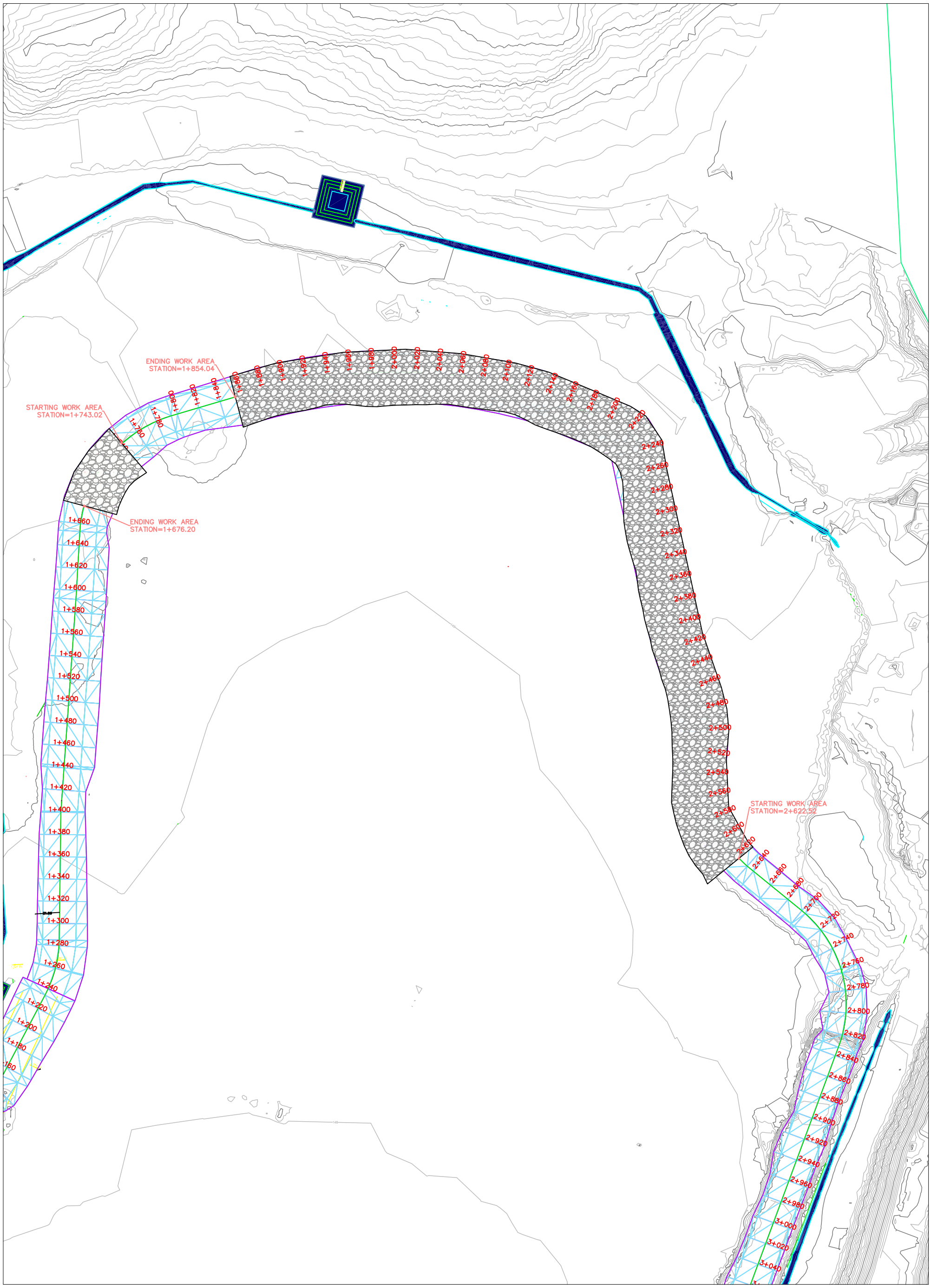
WEEKLY PROGRESS
CENTRAL DIKE CONSTRUCTION
CONTRACT # 11-505



KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MARC-ANDRÉ BLACKBURN
DATE : 27-05-2018
CON-DR-013_CD_WP20180527

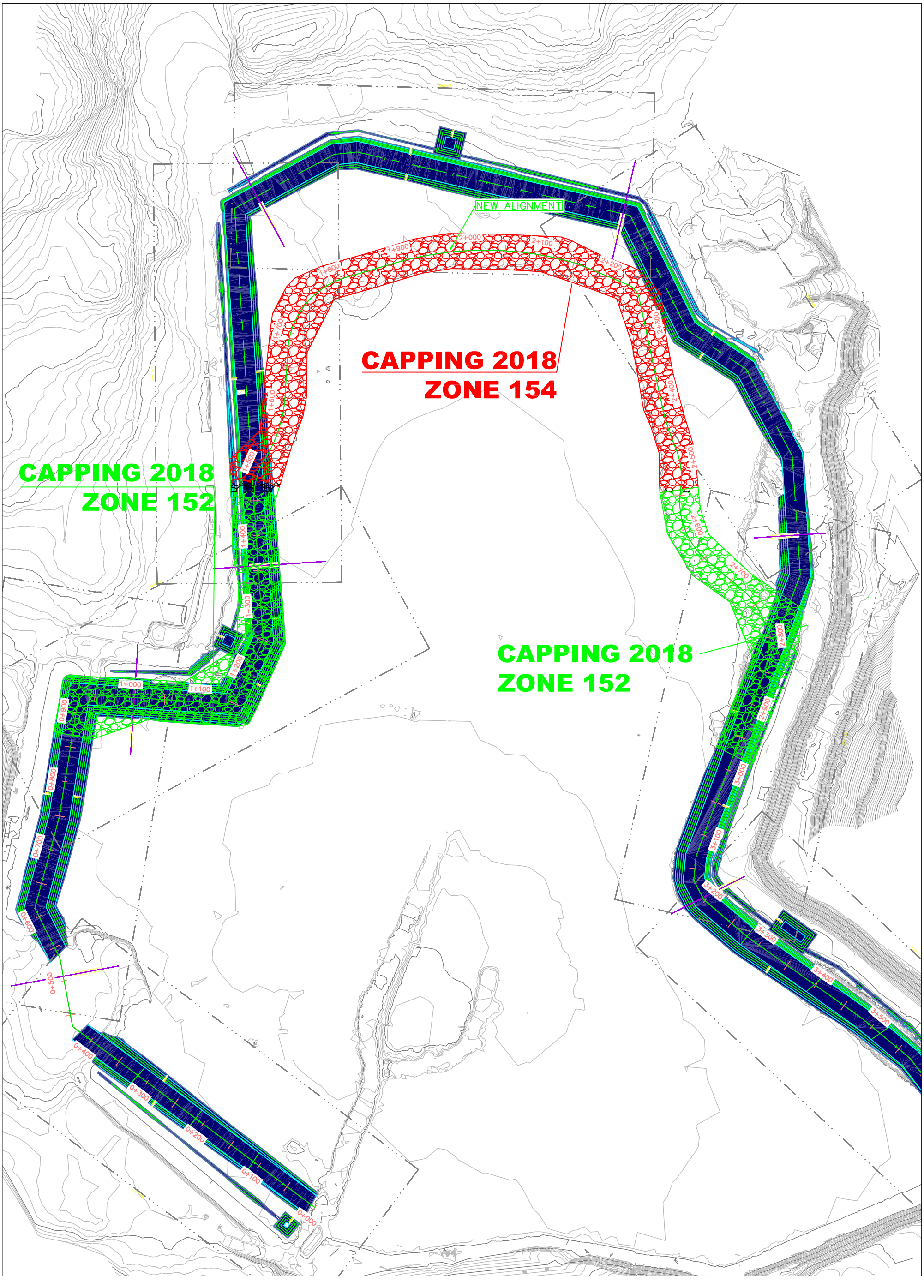
WORKING PROGRESS
NORTH CELL CAPPING 2018
CONTRACT # 11-505



KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MARC-ANDRÉ BLACKBURN
DATE : 26-05-2018
CON-DR-011_NC_WP20180526

NEW ALIGNMENT
NORTH CELL CAPPING 2018
CONTRACT # 11-505



KIVALLIQ CONTRACTORS GROUP LTD

PREPARED BY : MIKAËL LÉVESQUE
DATE : 21-05-2018
CON-SK-005_NC ALIGNMENT

QA WEEKLY REPORT

DATE June 4th 2018 1897439-1577-TM-Rev0

TO Patrice Gagnon, Pier-Éric McDonald
Agnico Eagle Mines Ltd, Meadowbank Division

CC Frédérick Bolduc, Alexandre Lavallée

FROM Samuel Barbeau **EMAIL sbarbeau@golder.com**

QA WEEKLY REPORT FROM MAY 28TH TO JUNE 3RD – TSF NORTH CELL CONSTRUCTION MEADOWBANK (1897439)

This document summarizes QA activities performed by Golder from May 28th to June 3rd, 2018 inclusively, related to the construction activities of the North Cell Internal Structure at the Meadowbank mine site.

Unless otherwise specified, the construction activities use the centreline of the structures for a dike crest elevation of 152 m for reference (refer to the Drawings). The description of activities refers to the stations and offsets from the centreline (e.g., Sta. 0+500/-50 m). The "+" and "-" symbols indicate the location of the work downstream and upstream of the centreline, respectively.

1.0 GOLDER PERSONNEL ON SITE

Golder personnel on site during this reporting period is summarized in Table 1.

Table 1: Golder Personnel on Site

Name	Comments
Marion Habersetzer	QA Manager (departure on May 29th)
Samuel Barbeau	QA Manager (arrival on May 28th)

2.0 HEALTH AND SAFETY

H&S meetings were held with AEM and FGL/SANA during the daily construction meetings. Minutes from these meetings are recorded and stored in Golder's on-site office. The key H&S elements for the reporting period were as follows:

- Cold weather and ice: apply caution when driving or walking on icy surfaces, wear appropriate clothing.
- Dust is still an issue on the construction field; be vigilant by staying out of the dust cloud near construction activities and road circulation.
- Fog in the morning: reduce speed while driving and increase distance with other vehicles.
- Following a near miss during night shift between a truck and a grader, it was reiterated to have a clear visual or radio communication with the operator of the grader before overtaking a grader.

3.0 SUMMARY OF MAIN DISCUSSIONS IN CONSTRUCTION MEETINGS

Construction meetings were held daily during the reporting period and were attended by the QA Manager. The following items were discussed:

General

- Updated material quantities were issued with the new alignment of the North Cell Internal Structure.
- Regarding the rockfill lift founded on unprepared natural soil (Sta. 1+800 m to 1+900 m, approx.), AEM decided that the rockfill will be removed and the natural soils excavated within the footprint to reach a good quality bedrock. The frozen natural soil material will need to be exposed and excavated as it thaws.
- The limits of the downstream slope of the lift at El. 154 m are within the lift at El. 152 m. As a result, safety berms placed on the downstream side of this limit do not need to be removed for compaction. Compaction will be done on the portion of the lift that has not been trafficked by loaded haul trucks, as the haul truck traffic lane is considered to have been compacted sufficiently by the passage of the loaded haul trucks.
- The boulders acting as the upstream berm were relocated at the limit of the traffic lane and the surface was smoothed with an excavator to allow for the compaction of the underlying lift of UM rockfill at El. 152 m.
- The top of the upstream slope of the lift at El. 152 m was marked on the section where the snow foundation was encountered. A loader pushed inside the North Cell the material that was on the top of the lift at El. 152 m to prepare the working area for the profiling of the upstream slope by the excavator.
- The QA Manager reported a few loads with coarser heterogeneous ultramafic (UM) rockfill yesterday. The QA Manager asked the bulldozer operator to mix the coarser rockfill with finer rockfill to obtain a well graded material.
- An accumulation of boulders was noticed on the first ultramafic (UM) rockfill lift near Sta. 1+425 m at El. 152 m on the upstream slope side. The QA Manager required that those boulders be scattered to ensure that no boulder nest occurs in the lift.
- The QA Manager noticed several oversize boulders on the UM rockfill lift at El. 152 m and reiterated that the maximum allowable size on the dikes is 1.3 m. AEM forwarded the information to the operators in the pit and on the dikes. As it is impracticable to sort the oversized boulders with the pit equipment, if the rockfill load

presents more than 70% of oversized blocks, the load will be sent to the waste dump. Otherwise, if an oversize boulder is delivered on the dikes, it will be pushed aside in the downstream slope by the dozer during placement.

- The cyanide burning area lies within the North Cell Internal Structure alignment and will be moved upstream of the structure following the placement of the coarse and fine filters, where a rockfill pad will be built for that purpose.
- The QA Manager reiterated the need to receive the centerline for the portable GPS. SANA surveyor sent the GPX file to the QA Manager.

Follow up

- Ensure that the layer of hard snow (up to 2 m thick) under the 2 m thick UM rockfill at El. 152 m (approx.) is not within the footprint of the dike, or that it is removed during the profiling of the slope. The foundation of the structure must be snow-free, compacted rockfill material constituting the capping of the North Cell.

4.0 SUMMARY OF CONSTRUCTION ACTIVITIES AND TEST RESULTS

Periodic QA inspections to monitor the construction activities and progress were performed by the QA Manager; these are summarized in the tables below. For the location and extent of the construction works, refer to the enclosed plans.

Table 2: QA Observations for the North Cell Internal Structure

Activity or Area	Comments
Crest	■ Placement of a 2 m thick (approx.) lift of UM rockfill from El. 150 m to El. 152 m (approx.) with a dozer from Sta. 1+535 m to 1+390 m (offset unavailable). The material is of good quality and is well graded. ■ Compaction of the 2 m lift (approx.) of ultramafic (UM) rockfill at El. 152 m with a 10-tonne smooth-drum compactor with vibration (6 passes) between the haul truck traffic lane and the upstream slope from Sta. 2+625 to 1+625 m (offset unavailable). ■ Removal of the snow bank in the footprint with an excavator from Sta. 1+160 m to 1+060 m (approx.).
Upstream	■ Profiling of the upstream slope (3H:1V) from El. 150 to 152 m with an excavator from Sta. 1+638 m to 1+580 m.

5.0 SAMPLING, LABORATORY AND FIELD TESTING

Table 3 and Table 4 present the samples collected or tested by the QA and QC.

Table 3: Samples Taken by the QC

Sample ID	Date Sampled	Date Tested	Fill Material Type	Location (Station/Offset Elevation)	Test	Testing Result

Table 4: Samples Taken by the QA

Sample ID	Date Sampled	Date Tested	Fill Material Type	Location (Station/Offset Elevation)	Test	Testing Result

6.0 PHOTOGRAPHS

Photograph NCIS-021: From Sta. 1+550 m (approx.), looking S. Placement a 2 m thick (approx.) lift of UM rockfill from El. 150 m to El. 152 m (approx.) with a dozer from Sta. 1+535 m to 1+500 m (offset unavailable).

Photograph NCIS-022: From Sta. 2+245 m (approx.), looking SE. Compaction of the 2 m lift (approx.) of ultramafic (UM) rockfill at El. 152 m with a 10-tonne smooth-drum compactor with vibration (6 passes) between the haul truck traffic lane and the upstream slope from Sta. 2+625 to 1+625 m (offset unavailable).

Photograph NCIS-023: From Sta. 2+570 m (approx.), looking W. Placement of a 2 m thick (approx.) lift of UM rockfill from El. 150 m to El. 152 m (approx.) with a dozer from Sta. 1+500 m to 1+450 m (offset unavailable). The material is of good quality and is well graded.

Photograph NCIS-024: From Sta. 2+570 m (approx.), looking SW. Removal of the snow bank in the footprint with an excavator from Sta. 1+160 m to 1+120 m (approx.).

Photograph NCIS-025: From Sta. 1+475 m (approx.), looking SE. Placement of a 2 m thick (approx.) lift of UM rockfill from El. 150 m to El. 152 m (approx.) with a dozer from Sta. 1+450 m to 1+390 m (offset unavailable). The material is of good quality and is well graded.

Marion Habersetzer
for: Samuel Barbeau
Mine Waste Group

REGISTERED PROFESSIONAL ENGINEER
Y. BOULIANNE
LICENSEE
2018-06-04
NT/NU

Yves Boulianne, P.Eng.
Associate, Senior Geotechnical Engineer

SB/YB/

https://golderassociates.sharepoint.com/sites/1897439/preparation of deliverables/weekly reports/2018-05-28 to 2018-06-03/1897439-1577-tm-rev0 qa weekly report north cell 2018-05-28 to 2018-06-03.docx

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GOLDER ASSOCIATES LTD.
Signature
Date 2018-06-04
PERMIT NUMBER: P 049
NT/NU Association of Professional Engineers and Geoscientists

QA WEEKLY REPORT

DATE June 11th 2018 1897439-1577-TM-Rev0

TO Patrice Gagnon, Pier-Éric McDonald
Agnico Eagle Mines Ltd, Meadowbank Division

CC Frédérick Bolduc, Alexandre Lavallée

FROM Samuel Barbeau **EMAIL sbarbeau@golder.com**

QA WEEKLY REPORT FROM JUNE 4TH TO JUNE 11TH – TSF NORTH CELL CONSTRUCTION MEADOWBANK (1897439)

This document summarizes QA activities performed by Golder from June 4th to June 11th, 2018 inclusively, related to the construction activities of the North Cell Internal Structure at the Meadowbank mine site.

Unless otherwise specified, the construction activities use the centreline of the structures for a dike crest elevation of 152 m for reference (refer to the Drawings). The description of activities refers to the stations and offsets from the centreline (e.g., Sta. 0+500/-50 m). The "+" and "-" symbols indicate the location of the work downstream and upstream of the centreline, respectively.

1.0 GOLDER PERSONNEL ON SITE

Golder personnel on site during this reporting period is summarized in Table 1.

Table 1: Golder Personnel on Site

Name	Comments
Samuel Barbeau	QA Manager (departure on June 12th)

2.0 HEALTH AND SAFETY

H&S meetings were held with AEM and FGL/SANA during the daily construction meetings. Minutes from these meetings are recorded and stored in Golder's on-site office. The key H&S elements for the reporting period were as follows:

- Cold weather and ice: apply caution when driving or walking on icy surfaces, wear appropriate clothing.

- Dust is still an issue on the construction field; be vigilant by staying out of the dust cloud near construction activities and road circulation.
- Fog in the morning: reduce speed while driving and increase distance with other vehicles.
- Grizzlies were spotted near Vault on June 11th. AEM informed their personnel by email and shared the information on the radio. As the QA and QC were in the lab wearing ear protection, they did not hear the radio communication. Next time wildlife is spotted on site, AEM will share the email with the QA and QC personnel.

3.0 SUMMARY OF MAIN DISCUSSIONS IN CONSTRUCTION MEETINGS

Construction meetings were held daily during the reporting period and were attended by the QA Manager. The following items were discussed:

General

- The QA Manager and QC personnel departure of the site is planned for June 12th. After that day, there won't be QA/QC supervision for the work on the North Cell Internal Structure.
- AEM installed a pipe across the North Cell Internal Structure at elevation 152 m in the footprint of the raise at El. 154 m. It will need to be moved before the raise to El. 154 m.
- The QA Manager observed that the UM rockfill lift was about 3.2 m thick around Sta. 1+340 m and asked for the elevation of the tailings ahead of the UM rockfill lift advancement front. AEM consulted the LIDAR survey and reported a 148.8 m elevation (approx.) that is declining towards the direction of the rockfill lift advancement and reaches 148 m around Sta. 1+200 m. Based on the 152 m elevation of the rockfill lift, the lift thickness is of 3.2 m around Sta. 1+340 m and would increase to 4 m around Sta. 1+200 m. Furthermore, as the tailings are thawing at the surface, the expected settling of soft tailings below the rockfill will increase the lift thickness. Considering that the lift maximum thickness was 2 m per design, it is not recommended to continue placement of UM rockfill in a single lift thicker than 2 m, as the compaction quality will be compromised. A maximum lift thickness of 2.8 m had previously been agreed by the Designer. AEM will have a meeting regarding this situation.

Follow up

- Ensure that the layer of hard snow (up to 2 m thick) under the 2 m thick UM rockfill at El. 152 m (approx.) is not in the footprint of the dike, or that it is removed during the profiling of the slope. The foundation of the structure must be snow-free, compacted rockfill material constituting the capping of the North Cell.
- Thickness of the UM rockfill lift to be limited to 2.8 m.

4.0 SUMMARY OF CONSTRUCTION ACTIVITIES AND TEST RESULTS

Periodic QA inspections to monitor the construction activities and progress were performed by the QA Manager; these are summarized in the tables below. For the location and extent of the construction works, refer to the enclosed plans.

Table 2: QA Observations for the North Cell Internal Structure

Activity or Area	Comments
Crest	■ Placement of a 2 to 3.2 m thick (approx.) lift of UM rockfill from El. 150 m to El. 152 m (approx.) with a dozer from Sta. 1+390 m to 1+350 m (+9 m to -29 m). The material is of good quality and is well graded.

5.0 SAMPLING, LABORATORY AND FIELD TESTING

Table 3 and Table 4 present the samples collected or tested by the QA and QC.

Table 3: Samples Taken by the QC

Sample ID	Date Sampled	Date Tested	Fill Material Type	Location (Station/Offset Elevation)	Test	Testing Result

Table 4: Samples Taken by the QA

Sample ID	Date Sampled	Date Tested	Fill Material Type	Location (Station/Offset Elevation)	Test	Testing Result

6.0 PHOTOGRAPHS

Photograph NCIS-026: From Sta. 1+440/+2 m, looking S. Placement of a 2 m thick (approx.) lift of UM rockfill from El. 150 m to El. 152 m (approx.) with a dozer from Sta. 1+390 m to 1+365 m (offset +10 m to -29 m).