Appendix 42

Meadowbank 2019 Annual Pit Slope Performance Review

AGNICO EAGLE
MEADOWBANK

REPORT FOR

2019 Annual Pit Slope Performance Review

Meadowbank Mine, Nunavut

OCTOBER 11, 2019

TETRA TECH

ISSUED FOR REVIEW
704-ENG.ROCK03053-04

This "Issued for Review" document is provided solely for the purpose of client review and presents our interim findings and recommendations to date. Our usable findings and recommendations are provided only through an "Issued for Use" document, which will be issued subsequent to this review. Final design should not be undertaken based on the interim recommendations made herein. Once our report is issued for use, the "Issued for Review" document should be either returned to Tetra Tech Canada Inc. (Tetra Tech) or destroyed.

EXECUTIVE SUMMARY

An annual site visit to inspect the performance of the pit walls of the open pits at Agnico Eagle Mines Ltd.'s (AEM) Meadowbank Mine was carried out by Tetra Tech Canada Inc. (Tetra Tech) during the period 05 August 2019 to 08 August 2019. The inspection included the following areas:

- Portage Pit A (inactive);
- Portage Pit E (active);
- Vault Pit (inactive);
- Phaser Pit (inactive);
- BB Phaser Pit (active);
- Goose Pit (inactive, tailings deposition);
- Pit B (inactive dump);
- Pit C (inactive dump); and,
- Pit D (active dump).
- Additional to this, a review of geotechnical monitoring instrumentation (piezometers, thermistors, inclinometer, prisms, TDR, radar, blast data, seepage data) and associated ground control measures and inspection reports since the last annual inspection was undertaken.

As part of the site visit, the available instrumentation data for the Pit E, Goose Pit, and Vault Pit were reviewed. These data sets are presented in Appendices A, B, and C, respectively. A detailed analysis and assessment of the data is not part of the scope of work, however where unusual or anomalous results were noted, these were discussed with AEM and are reported herein.

GEOTECHNICAL REPORTING

Bi-weekly pit wall inspections are being undertaken by the Meadowbank Wall Inspection Group. The inspections are documented in a running register, documenting the locations and status of hazards, observations made, recommendations, and actionable items including due dates.

Quarterly reports summarizing instrumentation monitoring and field observations are prepared. These documents summarize key observations made during the bi-weekly inspections and document the operational status and locations of instrumentation in each of the pits. The reports also review and present monitoring data from the instrumentation installed in the various pits, and an interpretation of any data trends. The quarterly summary reports were reviewed as part of the site inspection.

A total of 4 rockfall events occurred between September of the 2018 inspection (13 September 2018) and August of the 2019 inspection. These were recorded in the rock fall log and reported to the Mines Inspector as per Sections 16.01 and 16.02 of the Mine Health and Safety Act and Regulations for NWT and NU. No personnel were injured, and no equipment was damaged. Many of the events were predicted by radar, or by direct observation made by pit personnel and the geotechnical team.

MINING SEQUENCE TO COMPLETE PIT E3/E5

Following the 2018 site inspection, a recommendation was made to sequence the final mining of the pit to mine the higher relative risk areas during winter months when the ground is frozen to reduce the potential for rockfall hazards, and to defer mining the lower relative risk areas (areas further from the poorer quality ultramafic rock) to summer and fall months, thereby reducing the overall project risk. AEM adopted this approach and successfully completed mining of the slot area during winter, with mining near the central to north ends of the pit scheduled to completed in September 2019.

PORTAGE PIT

The Portage Pit is subdivided into 5 pits, labelled A through E from north to south. At the time of the site visit only Pit E was actively being mined.

PIT A

Mining of Pit A was completed in mid-March 2018. The pit is currently being used to manage site water, and the pit lake is combined with Pit B pit lake. The pit walls continue to perform well. There are no significant geotechnical concerns with this pit.

PIT B (B DUMP)

The Pit B is currently being used to manage site water. As such there is still relatively regular visits by personnel for pump maintenance and movement. Consequently, the access ramp to the Pit A and Pit B pit lake was inspected, and two areas identified where a bumper berm should be installed to restrict personnel or vehicle access. This was discussed with AEM, and direction to construct the berms was given before the site visit ended.

Since the 2018 site visit, the Pit B Dump has been advanced northward along the west wall of Pit B by an estimated 40 m to 50 m. The development of crest settlement and the formation of tension cracks lead to a decision to halt dumping and the dump is now inactive. A wireline extensometer was used to monitor dump movement rates, which never exceeded normal movement rates as per AEM waste dump monitoring protocol. No evidence of dump instability was noted on the dump face, such as bulging or shallow failures. However, as pit water rises it is possible that shallow surface failures could occur, and the dump face should be visually monitored as part of regular geotechnical inspections.

PITS C AND D (C AND D DUMPS)

There has been no substantive change in the geometry of C Dump since the 2017 site inspection. There are no significant geotechnical concerns with the Pit C Dump.

The main dump is inactive. Tension cracks observed on the dump platforms during previous inspections do not show any additional growth or reactivation. The crest along the west side of the 5126 mRL platform shows some settlement and tension crack formation. Since the haul road continues to be used until mining is complete in Pit E and will continue to be used as part of future tailings deposition in to Pit E, it was recommended that a wireline extensometer be installed across the tension cracks, and monitored as part of regular geotechnical inspections.

PIT E

At the time of the site visit, Pit E was the only remaining pit at the Meadowbank Project site that was being actively mined. Based on the most recent pit plan, mining of Pit E is scheduled to be completed near the end of September 2019. Following the 2018 site inspection, a recommendation was made to sequence the final mining of the pit to mine the higher relative risk areas during winter months and to defer mining the lower relative risk areas

to summer and fall months. AEM adopted this recommendation and successfully completed mining of the slot area during winter, with mining near the central to north ends of the pit scheduled to be completed.

A total of 4 rockfall events occurred between September of the 2018 inspection (13 September 2018) and August of the 2019 inspection, all within ultramafic rock. A significant failure (>10,000 tonnes) occurred on 27 September 2019 involving a bench scale failure of ultramafic rock released along its contact with iron formation. The failure was predicted, and the area was bermed off until it was safe for re-entry to scale the failed material.

Wedges were identified adjacent to the sump area, and it was recommended a no-go zone be established to restrict personnel from entering the area below the wedges.

The monitoring program for the south pit wall includes visual monitoring through regular geotechnical inspections, the use of a GroundProbe radar monitoring system, piezometers and thermistor cables, TDR cables, and a slope inclinometer, all connected to an automated data acquisition system (ADAS).

The current monitoring data show no sign of large-scale (full slope) deformation in the south pit wall.

PIT E WEST WALL RAMP

Nine key areas of potential instability observed immediately adjacent to the West Wall Ramp continue to be monitored. An unexpected rock fall in 2018 that overtopped the rockfall containment berm along the inside of the ramp has been cleaned. A new failure occurred in association with poorer rock mass quality associated with the Bay Fault, near geotechnical Area 1 and 2. AEM proactively bermed off this area to prevent access.

The rockfall containment berm along the inside edge of the ramp has been re-established to an effective height for containing rockfall runout, as recommended during the 2018 site visit.

A crack meter installed through the back plane of a wedge identified as Area 4 continues to monitor for any movement and none has been recorded.

Ramp Area 7 located at the base of the ramp at the north end of Pit E and near the contact between iron formation and ultramafic rock no longer presents a risk as it has been effectively buttressed.

PIT E SUMP AREA

The Pit E sump is in the southeast corner of the pit. AEM geotechnical personnel have noted two potential wedges in the wall above the sump area. The lowest wedge (5025 RL) is within iron formation, while the upper wedge is within ultramafic rock. The ultramafic rock has lost catchment on both the 5025 mRL and 5046 mRL benches, below the upper wedge. If the upper wedge in ultramafic rock were to fail, it is likely that some material would spill to the current sump and pump shack platform. Consequently, it was agreed with AEM that access to this area would be restricted to no further than the pump station, and that the current pipe location would be moved to the north of the pump station to remove any need for personnel to go beyond the pump station.

PIT E SLOT SOUTH AND EAST WALL

The slot at the south end of Pit E that had been has been partially filled at the time of the 2017 site inspection is currently actively mined. The slot area is defined by the transition of the south wall to the west wall of the pit. The slot area was mined during winter when the pit walls, and specifically the ultramafic rock, were frozen.

PIT E INSTRUMENTATION

The TDR, thermistor, piezometer and inclinometer data from instrumentation installed behind the south wall of Pit E were reviewed. The instrumentation is connected to an Automated Data Acquisition System. There is no indication of deep-seated deformations or ground movement based on the review of the instrumentation data.

GOOSE PIT

The north, south, east, and west walls of the inactive Goose Pit continue to perform well. There is no observable year-to-year accumulation of new material on the catch benches. The pit lake elevation at the time of the site visit was 5089 mRL, compared with 5070 mRL during the 2018 inspection.

TAILINGS DISCHARGE

The pit is currently being used for tailings storage. Tailings are being discharged from a spigot point at the north end of the east wall of the pit and are being discharged over the competent and strong intermediate volcanic rock as recommended previously by Tetra Tech. No erosion of the rock or crest areas was noted in response to the discharge.

WATER RECLAIM AND WATER MANAGEMENT

A water reclaim line runs beside the ramp, on its outside edge. At the time of the site visit water was being discharged from the west-southwest corner pit crest, from a runoff storage area between the pit crest and the Bay Goose Dike. Heavy rainfall occurred in the 2 weeks prior to the site visit, and the discharge in this water storage area was directed toward the pit. No erosion of the rock or crest areas was noted in response to the discharge.

WASTE ROCK DUMPS

The in-pit waste rock dumps at the Goose Pit have been inactive since 2017. The toe of the dumps extends out into the Goose Pit Lake. Tension cracks on the North and South Dump platform were first noted during the 2015 inspection and continue to develop. This could be in response to the increasing pit lake elevation.

During the 2018 site visit a failure scarp was observed to be forming on the South Dump face, as the pit lake was rising. In 2019, the dump face had sloughed back to the scarp that was identified in 2018. There is significant settlement noted in the South Dump platform. The presence of the water reclaim pipe prevents vehicles and personnel from accessing the platform.

Since the Goose Pit is currently being used for tailings deposition, and their remains a need to access the pit by the ramp on the south wall for pump control panel access and pump maintenance, it is suggested that wireline extensometers be reinstalled on the North and South Dump platforms to monitor movement rates. If a dump failure were to occur, it could potentially create a wave surge. The extensometers should be monitored daily, following the waste dump monitoring protocol established by AEM.

GOOSE PIT INSTRUMENTATION

As part of the site inspection, the instrumentation data from Time Domain Reflectometry (TDR) cables, thermistors, and piezometers installed in the east pit wall were reviewed.

The review of the instrumentation data showed no significant changes from 2018.

VAULT PIT

Mining of the Vault Pit was completed in March 2019 to a final depth of approximately 4955 m. The pit is still accessible by the footwall ramp, and the pit walls continue to perform well. There are no geotechnical concerns relating to the pit wall performance.

On the day of the site visit (August 6 2019) the Vault Pit lake was at an elevation of approximately 4986 mRL. A small sump adjacent to a switchback in the ramp is located at the south end of the pit at approximately 5018 mRL. There is no active water management for the pit, and all pumps and dewatering systems have been removed.

SOUTHEAST WALL WATER INFLOWS

It was noted that the water from Pond D (the former Vault Lake) behind the southeast pit wall crest flows freely through the ring road at the crest, and spills over into the pit. The flow is uncontrolled. During operation of the pit, the water elevation in Pond D was pumped down to control the development of the ice wall from the 5109 mRL. It should be expected that a significant ice curtain will develop this year because of this, however the pit is inactive, and this is unlikely to be a concern. The ring road in the area of the flow was inspected for settlement or distress and no visible signs were noted. The road is constructed with coarse rockfill. Water flows relatively freely through the road.

This area should be included in regular geotechnical inspections. During spring freshet, it is possible that ice damming of the upstream embankment could result in over-topping of the road surface. Therefore, it was recommended that the road access be bermed off or decommissioned to prevent full use of the road to travel around the pit.

VAULT PIT DUMPS

The Vault Pit Dumps were inspected. Some minor tension cracks were noted on the 5130 mRL dump platform associated with some settlement of the crest area. There are no indications of dump instability.

VAULT PIT INSTRUMENTATION

Following the 2016 field thermal exploration study, AEM selected three areas for instrumentation with piezometers and thermistors. The areas selected were areas where the thermal exploration study indicated talik conditions. The piezometers and thermistors are attached to data loggers, and the loggers are regularly downloaded and reviewed.

There are no significant changes to the instrumentation data since the 2018 site inspection.

PHASER AND BB PHASER PITS

The Phaser Pit and BB Phaser Pit are southward extensions of the existing Vault Pit. Both pits are inactive, and are filling with water.

PHASER PIT

Mining of Phaser Pit was completed in Q3 2018 to a final elevation of approximately 5090 mRL. On the day of the site visit (August 06, 2019) the Phaser Pit lake was at an elevation of approximately 5107 mRL. Only one bench remains visible due to the pit lake. The pit walls continue to perform well and there are no signs of rock instability.

The transition slot connecting Phaser Pit with Vault Pit has been backfilled to from a road surface in use as part of the long-haul road connecting Meadowbank to the Amaruq Project. Pit lake water is currently ponded at the

upstream toe of the road prism, and freely flowing water is observed at the downstream toe. It is expected that the rockfill material is coarse, and so water will continue to flow through. However, if the water flow is impeded either by silting or by ice damming then a hydraulic gradient across the road prism will develop. Regular geotechnical inspections should include monitoring the performance of the long-haul road, specifically for the development of tension cracks and sinkholes which could be indicative of erosion of finer grained material from the rockfill, and particularly during spring freshet when high flows through the rockfill can be expected.

BB PHASER PIT

Mining of BB Phaser Pit was completed in Q2 2019 to a final elevation of approximately 5088 mRL. On the day of the site visit (August 06, 2019) the BB Phaser Pit lake was at an elevation of approximately 5110 mRL. Only one bench was visible due to the formation of a pit lake in the base of the pit. The pit walls are generally performing well and there are no signs of rock instability.

Thaw settlement, sinkholes, hummocky ground, and tension cracks that have been noted previously in the thermal cap and pit ring road around the pit crest have not developed further to any significant extent. If access to the crest area is restricted this is no longer a significant geotechnical concern.

SINKHOLES AND ROAD EROSION

During the inspection of BB Phaser Pit, sinkholes were noted to be developing on the access road that separates the two pits. The general location of the sinkholes is shown on the following figure. The road is no longer considered active but is still accessible. It was discussed with AEM that the road should be deactivated and bermed off to remove it from future use.

ROCK FALL DATABASE

AEM continue to update the Meadowbank site rock fall database as part of their Ground Control Management Plan (GCMP). The rock fall database includes rock fall observations from all the pits at the Meadowbank Project site. The location, time and date and coordinates, rock type, estimated tonnage, whether the event was reported to the Mines Inspector, and whether the event was predicted by the radar system are recorded. The database was reviewed and is up to date.

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APPENDICES

LIMITATIONS OF REPORT

This report and its contents are intended for the sole use of Agnico Eagle Mines Limited and their agents. Tetra Tech Canada Inc. (Tetra Tech) does not accept any responsibility for the accuracy of any of the data, the analysis, or the recommendations contained or referenced in the report when the report is used or relied upon by any Party other than Agnico Eagle Mines Limited, or for any Project other than the proposed development at the subject site. Any such unauthorized use of this report is at the sole risk of the user. Use of this document is subject to the Limitations on the Use of this Document attached in Appendix G or Contractual Terms and Conditions executed by both parties.

1.0 INTRODUCTION

Tetra Tech Canada Inc. (Tetra Tech) was retained by Agnico Eagle Mines Ltd (AEM) to complete the 2019 annual inspection of the pit slope performance at the Meadowbank Mine. The site visit was completed during the period 05 August to 08 August 2019.

The annual inspection is specified as part of the Type-A, Part I, Item 12 Water License which indicates the inspection of the pits by a third party to assess their performance.

The pits submitted to the inspection in 2019 were:

- Portage Pit A (inactive);
- Portage Pit E (active);
- Vault Pit (inactive);
- Phaser Pit (inactive);
- BB Phaser Pit (active);
- Goose Pit (inactive, tailings deposition);
- Pit B (inactive dump);
- Pit C (inactive dump); and,
- Pit D (active dump).

Additional to this, a review of geotechnical monitoring instrumentation (piezometers, thermistors, inclinometer, prisms, TDR, radar, blast data, seepage data) and associated ground control measures and inspection reports since the last annual inspection will be undertaken.

This document summarizes the inspection carried out for the pits and describes the performance of the various pit slopes through observations made during the site visit. Where possible the observations are related to the engineering geological model for the project. The observations also reference recommendations made during previous annual pit slope inspections.

As part of the site visit, the available instrumentation data for the Pit E, Goose Pit, and Vault Pit were reviewed. These data sets are presented in Appendices A, B, and C, respectively. A detailed analysis and assessment of the data is not part of the scope of work, however where unusual or anomalous results were noted, these were discussed with AEM and are reported herein.

1.1 History of Annual Inspections

The first annual inspection was completed for the Portage Pit in 2010. In 2012, the Goose Pit was added to the annual inspections, followed by the addition of the Vault Pit in 2014. In 2017, excavation of Phaser Pit (a southward extension of Vault Pit) commenced, but there was very little rock exposure at that time. The progress was inspected as part of the 2017 site visit and included with the 2018 inspection. In 2018, BB Phaser Pit, adjacent to Phaser Pit, was also added to the inspection.

At the time of the 2019 site visit, only Portage Pit E and BB Phaser Pit were active, with mining scheduled to be completed in Q4 of 2019. The exposed pit walls of inactive pits were reviewed for continuity with previous inspections. The Goose Pit is currently used for tailings deposition. Pits B, C, and D have been backfilled with waste rock, and the crest areas of the dumping platforms were inspected.

2.0 CURRENT MINE STATUS

2.1 Life of Mine Schedule

The current Life of Mine schedule for the various pits is summarized in the following table.

Table 2-1: Life of Mine Schedule for Meadowbank Mine (as of August 2019)

Pit	Current Floor Elevation (mRL)	Planned Final Floor Elevation (mRL)	Approximate Benches Remaining	Planned Mining Completion Date
A Ultimate	Complete, inactive pit currently used for water management			Complete
B	Inactive in-pit dump			Complete
C	Inactive in-pit dump			Complete
D	Active in-pit dump			Complete
E Ultimate	4900 (E3)	4976 (E3)	2 (single)	Q4 2019
Goose	Inactive in-pit dump, currently used for tailings disposal			Complete
Vault Pit	Inactive in-pit dump			Complete
Phaser Pit	Complete, inactive pit			Complete
BB Phaser Pit	Complete, inactive pit			Complete

2.2 Portage Pits

The Portage Pit consists of five pits, identified as Pits A through E, from north to south. The general pit plan is shown on Figure 2-1.

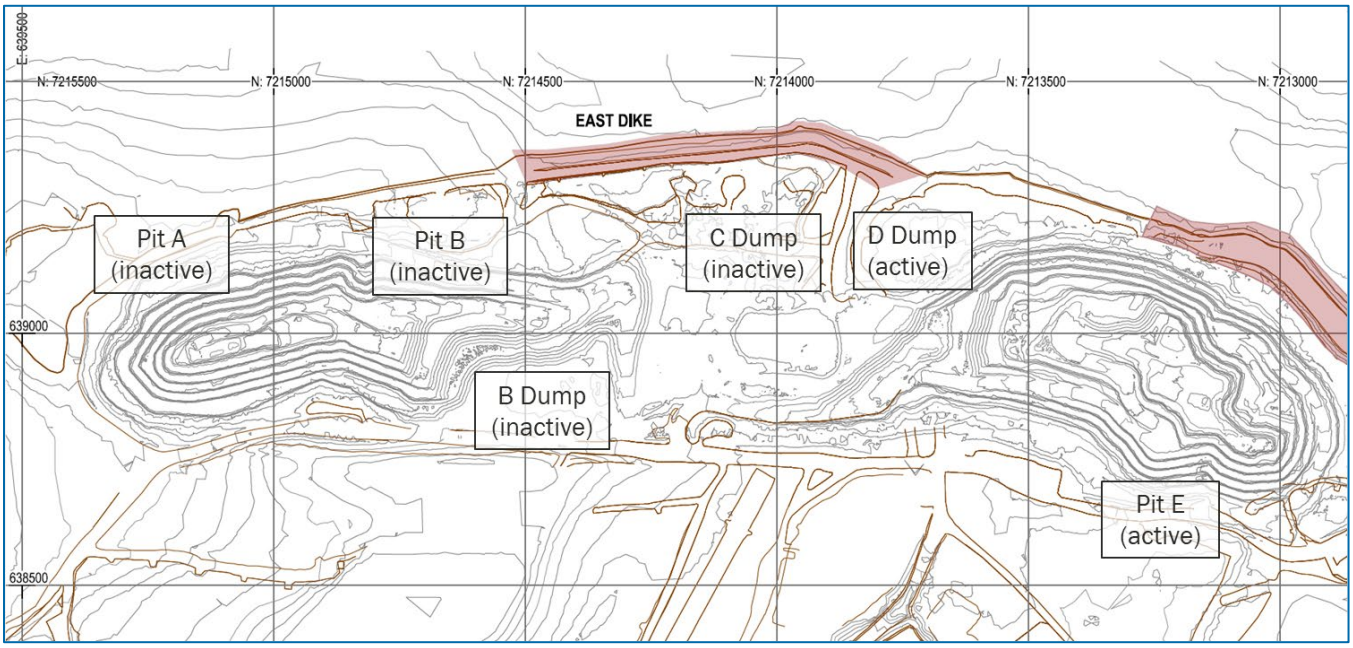


Figure 2-1: Portage Pit (2019)

Pit E is the only active pit being mined in the Portage Pit. At the time of the site visit Pit E3 floor elevation was at 4990 mRL, with a planned final floor elevation of 4976 mRL to be completed by Q4 2019.

Mining at Pit A was completed early in 2018 and the pit is currently in use to manage site water. The waste dump in Pit B was advanced northward along the west wall of the pit during 2018; the geometry of the in-pit waste dump at Pit C has not changed significantly since the 2018 site visit. The current and planned dump crest elevations are shown in the following table.

Table 2-2: Portage in-pit dump platform elevations (Ref. AEM, August 2019)

Pit Dump	Platform Elevation During Inspection (mRL)	Planned Final Platform Elevation (mRL)
B	5145	5129*
C	5145	5129*
D	5126/5088/5030	5129*

*Reflects planned elevation at closure.

2.3 Goose Pit

The extent of the Goose Pit at the time of the site visit is shown in the following Figure 2-2.

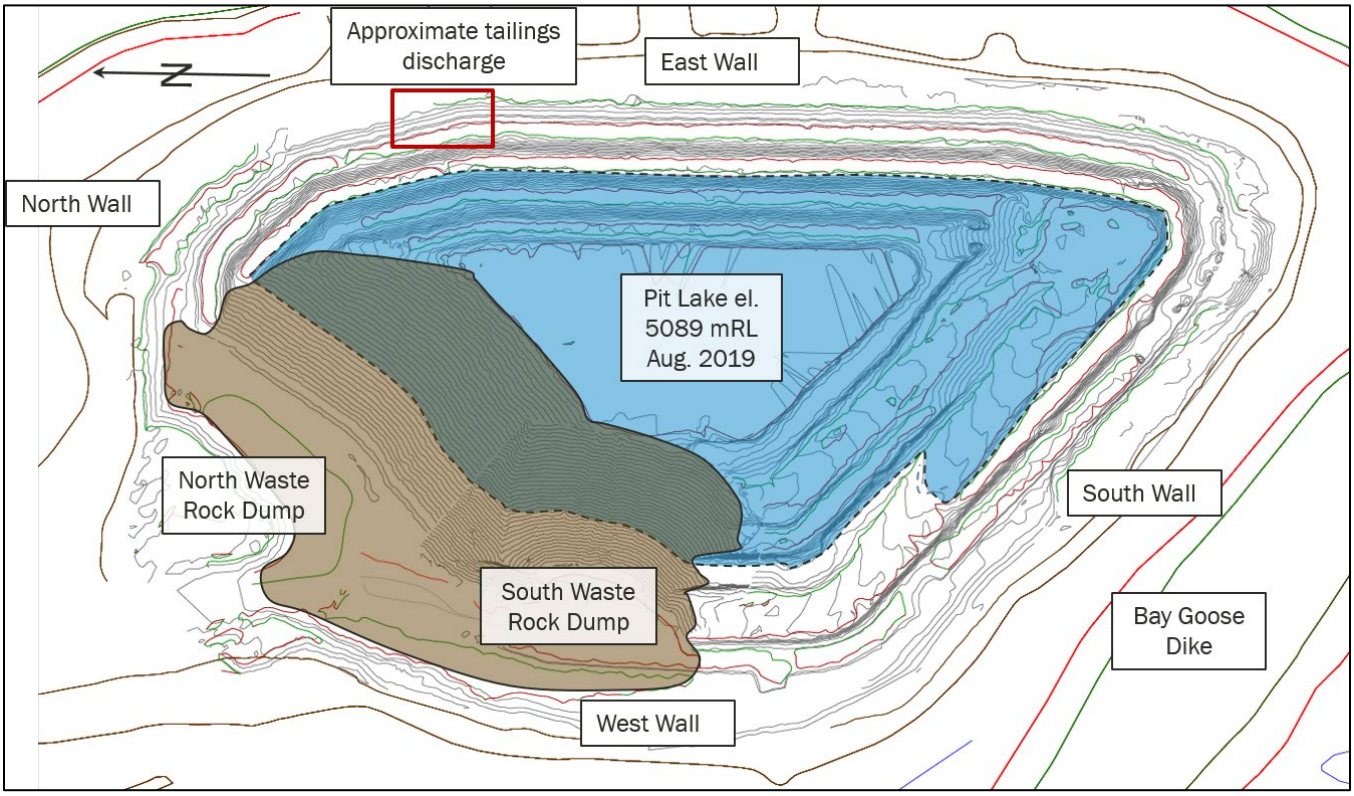


Figure 2-2: Goose Pit (2019)

The Goose Pit dumps remain inactive. Areas of significant crest sag and tension cracks observed during previous inspections do not appear to have developed further. A full review of the dumps is beyond the scope of work for this report.

Tailings are currently being deposited to the pit from a spigot point at the crest of the East Wall at the north end of the pit. The pit lake elevation has increased by approximately 19 metres since the 2018 site visit and was at approximately 5089 mRL during the 2019 site visit in August.

Table 2-3: Goose Pit dump platform elevations (Ref. AEM 2019)

Pit Dump	Approximate Platform Elevation During Inspection (mRL)	Planned Final Platform Elevation (mRL)
North	5129	5129
South	5129	5129

*Reflects planned elevation at closure.

2.4 Vault Pit, Phaser Pit, and BB Phaser Pit

The Vault Pit, Phaser Pit and BB Phaser Pit are complete. The extents of the pits at the time of the site visit are shown in the following Figure 2.3.

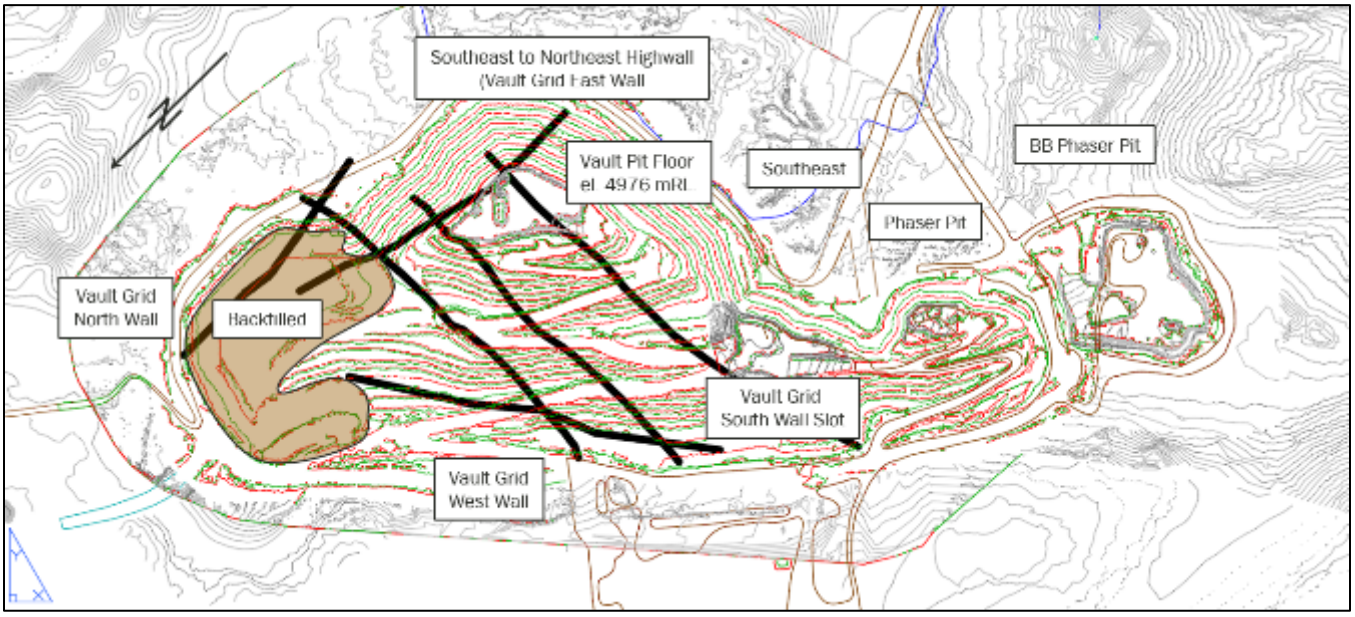


Figure 2-3: Vault Pit, Phaser Pit, BB Phaser Pit (2019)

2.5 Geotechnical Inspections and Reviews

Bi-weekly pit wall inspections are being undertaken by the Meadowbank Wall Inspection Group. The inspections are documented in a running register, documenting the locations and status of hazards, observations made, recommendations, and actionable items including due dates.

Quarterly reports summarizing instrumentation monitoring and field observations are prepared. These documents summarize key observations made during the bi-weekly inspections and document the operational status and locations of instrumentation in each of the pits. The reports also review and present monitoring data from the instrumentation installed in the various pits, and an interpretation of any data trends. The quarterly summary reports were reviewed as part of the site inspection.

3.0 MINE SITE ENGINEERING GEOLOGY MODELS

The supracrustal stratigraphy of the mine area consists of ultramafic volcanic, felsic to intermediate volcaniclastic, and/or greywacke, interbedded magnetite-chert iron formations and associated pelitic schists, and quartzite. The bulk of the gold mineralization in the deposit is contained within the iron formations, except for the Vault Deposit where gold is associated with sericite schist.

3.1 Portage Deposit

The Portage Deposit area has undergone a series of regional deformation events resulting in typical 'dome and basin' fold structures. The dominant structural feature of the Portage Deposit is a gently to steeply inclined tightly folded north/south trending anticline which has resulted in the iron formation, interbedded volcaniclastic and metasedimentary rocks being folded around a core of ultramafic volcanic rock. Bedding-parallel foliation associated with the east-west deformational events is pervasive throughout the deposit area. This structural fabric has formed the basis for much of the pit slope design criteria, which avoids undercutting of this fabric. Foliation surfaces tend to be slightly altered with occasional coatings and can be display slickensides and shearing. In general, the foliation and stratigraphy dip to the west at variable inclinations from horizontal to sub-vertical. Locally the foliation orientations can vary considerably, particularly adjacent to major fault zones.

AEM geologists report that up to four deformational events have been interpreted in the project area, resulting in very complex fold patterns and rock structure. This is particularly evident at the south end of the Portage Pit, in Pit E, where superposition of fold events has imparted a complexity to the rock mass that has led to single and multi-bench scale instability.

3.2 Goose Deposit

The Goose Deposit is a steeply dipping, stratiform gold bearing iron formation that is part of a sequence of Archaean ultramafic and mafic flow sequences, volcaniclastic sediments, felsic to intermediate flows and tuffs, and sediments. The ultramafic rocks are variably altered and contain serpentine, chlorite, actinolite, and talc. Through the central core of the deposit, the stratigraphy trends northward and southward from Goose Island and dips at steep angles, generally greater than about 55 to 60 degrees to the west. Axial planar and bedding-parallel foliation, which is pervasive throughout the rock mass, occurs commonly as healed fractures rather than open fractures within the rock. Axial plane bedding-parallel ductile shearing are common due to intense regional deformation events. This shearing is most commonly associated with weaker lithologic units, such as the ultramafic rock.

3.3 Vault Deposit Area (including Phaser and BB Phaser Pits)

The Vault Deposit area is underlain by a sequence of intermediate volcanic rock that has been altered by sericite, chlorite, and silica. The stratigraphy is consistently inclined south-southeast between approximately 20 and 30 degrees.

The pit area is generally underlain by permafrost, with the exceptions of the east pit wall where it is pushed back into the former Vault Lake, and sections of the north pit wall which also intersects an arm of Vault Lake. The Vault Pit footprint area included a smaller lake which was drained. Vault Lake and the smaller lake were underlain by talik (unfrozen ground) and water inflows occur where the pit wall intersects the talik. This has resulted in the formation of ice walls during winter on the east/southeast wall of Vault Pit.

The stratigraphy and foliation are the most significant structural characteristic at the Vault Deposit area. The foliation is continuous and closely spaced, whereas joint sets are generally discontinuous and terminate within the rock mass or at other intersecting joint sets.

3.4 Tectonic and Structural Features

3.4.1 Portage Pit

Historically, the main tectonic features within the Portage and Goose Pit areas are the Second Portage Lake Fault and the Bay Fault. Wall instability associated with the south wall of Pit E is related to folding and shearing of the weaker foliated ultramafic rock into adverse orientations relative to the wall.

The Second Portage Lake Fault trends northwest-southeast, parallel to the axis of Second Portage Lake, dipping at approximately 70 degrees to the southwest. The fault intersects the east and west walls of the Portage Pit.

The Bay Fault trends south through the Portage Pit and is exposed in the west wall. The fault splits into two or more or more faults approximately where the west wall ramp enters the Portage Pit and one splay may trend through the southeast wall of Pit E5. Intense polyphase deformation at the south end of Pit E has resulted in folding and re-folding of sheared ultramafic rock, leading to instability of the south-southeast wall.

3.4.2 Goose Pit

The Bay Fault extends south to intersect the Goose Pit and is visible in the north and south walls of the pit. The fault trends south from the pit to intersect the Bay-Goose Dike approximately at Chainage 31+625 along the centreline. Water in-flows to the pit along the Bay Fault in the south wall have been noted during previous site visits.

A shallow west dipping sheared stratigraphic contact intersects the upper west wall of the Goose Pit and was the source of water inflows to the pit during mining. The contact is inclined at a shallow angle between about 20 and 30 degrees to the west, striking in a north-south direction. The contact extends south from the pit, passing beneath the dewatering dike approximately at Chainage 31+925. Water flows along this contact, and the feature is hydraulically connected to Third Portage Lake. At the downstream toe of the dewatering dike, along the projection of the contact trace, seepage has previously been observed. In the pit, the contact is intersected by east-west steeply to vertically dipping faults and joints which provide a mechanism for east-west flow of water behind the south and west pit walls and into the pit. During winter an ice curtain forms on the west wall.

3.4.3 Vault Pit, Phaser Pit and BB Phaser Pit

Faulting in the Vault area generally consists of moderate to high angle, east and south dipping discrete fault structures. In general, the east dipping faults are inclined at approximately 70 degrees, while the south dipping faults are inclined at approximately 55 degrees. These faults either intersect the pit walls at high angles, or dip into the pit walls. Potential wedges formed by the intersection of these through-going continuous features will plunge into the south and southeast pit wall at angles of about 50 degrees. Planar failures will be a factor for south and southwest facing walls where the south dipping faults intersect the wall. Major fault structures in the area are considered continuous and may therefore influence pit slope stability at both an overall slope and bench scale. However, these faults are widely spaced, about 30 m to 100 m based on observation.

3.5 Permafrost

The Meadowbank Mine project area is located within the Low Arctic ecoclimatic zone. The topography of the surrounding area is of generally low relief with an elevation range of about 70 m. The ground ice in the region is estimated between 0% and 10% (dry permafrost) based on regional scale compilation data.

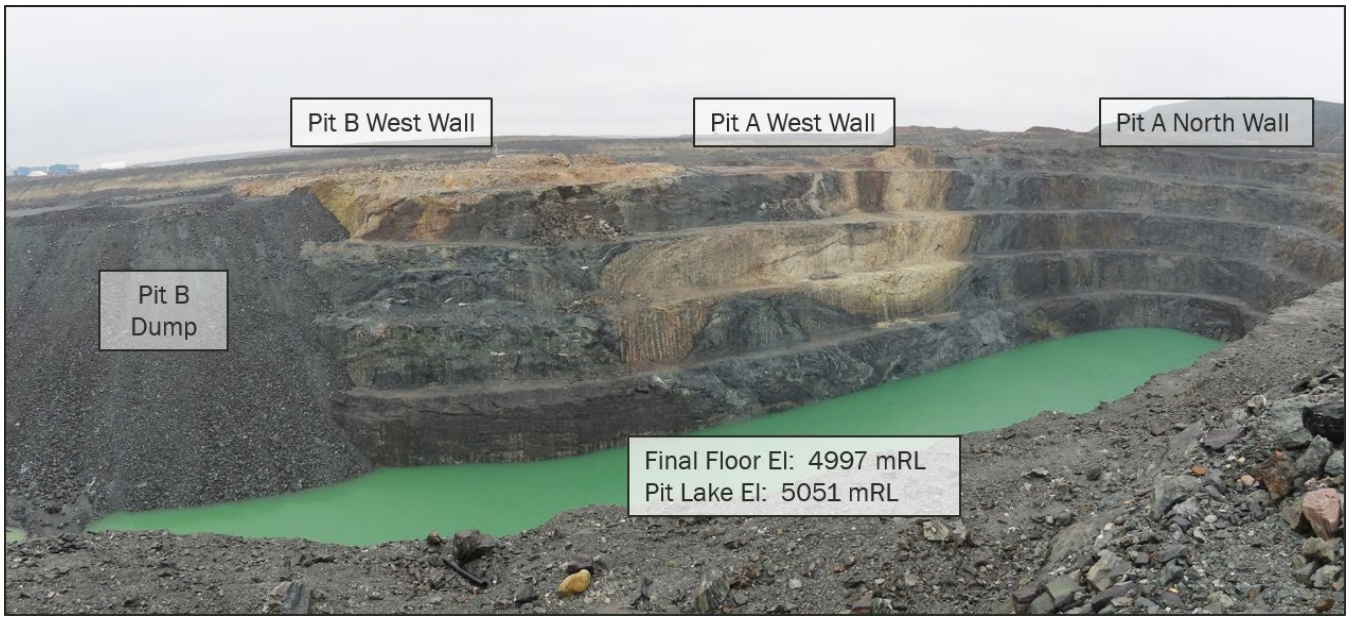
Continuous permafrost to depths between 450 m and 550 m underlies most of the Meadowbank project area. The depth of the active layer ranges from about 1.3 m in areas of shallow overburden, and up to 4 m adjacent to lakes (Golder 2007). Taliks are present beneath the lakes and water courses; small lakes will have closed taliks beneath them while larger lakes will have taliks extending through the permafrost to the underlying deep groundwater regime. The shallow groundwater flow regime has little to no hydraulic connection with the deep groundwater regime below the permafrost.

4.0 PORTAGE PITS A AND B INSPECTION

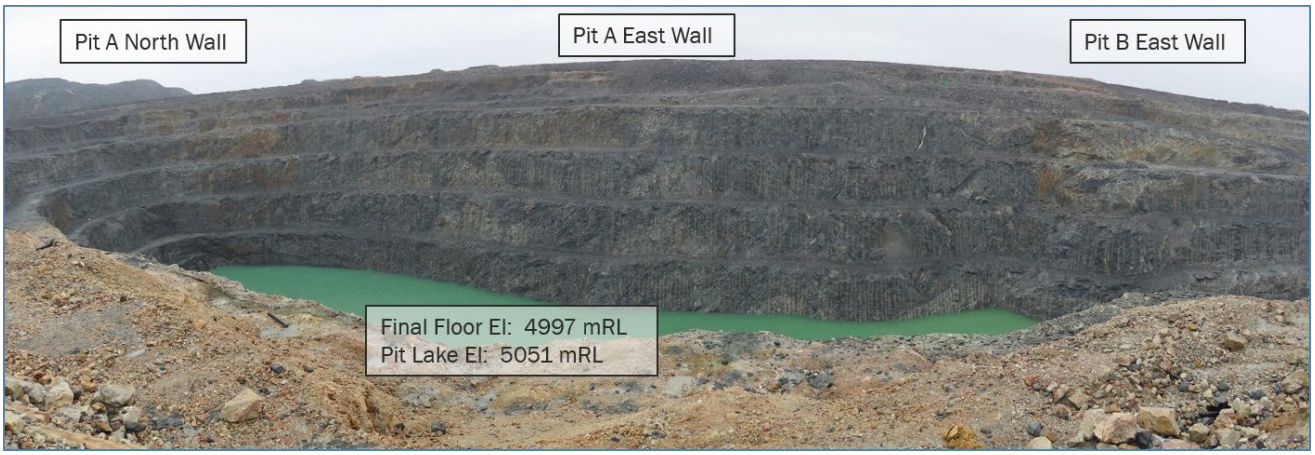
4.1 Pits A and B Overview

Mining at Pit A and Pit B is complete. Both pits are now inactive, however the pit areas are still accessible by a ramp on the east wall and from the south through a slot separating the in-pit dump in Pit B from the Pit C in-pit dump. The pits are used for water management, and the pit lake was at an elevation of 5051 mRL at the time of the site visit. The Pit B Dump is also inactive.

The inspection consisted primarily of observations made from the crest areas, and from the base of the pit, comparing the current conditions with those previously observed, as well as comparing the current pit usage with risk assessments carried out as part of the assessment of the pits for use as tailings and water management areas (Tetra Tech 2018a and 2018b). Views of Pits A and B at the time of the site visit are shown in the following photographs. For scale, the bench height in the photographs is 21 m.



Photograph 4-1: Pits A and B looking west, from east crest (2019)



Photograph 4-2: Pits A and B looking east from west crest (2019)

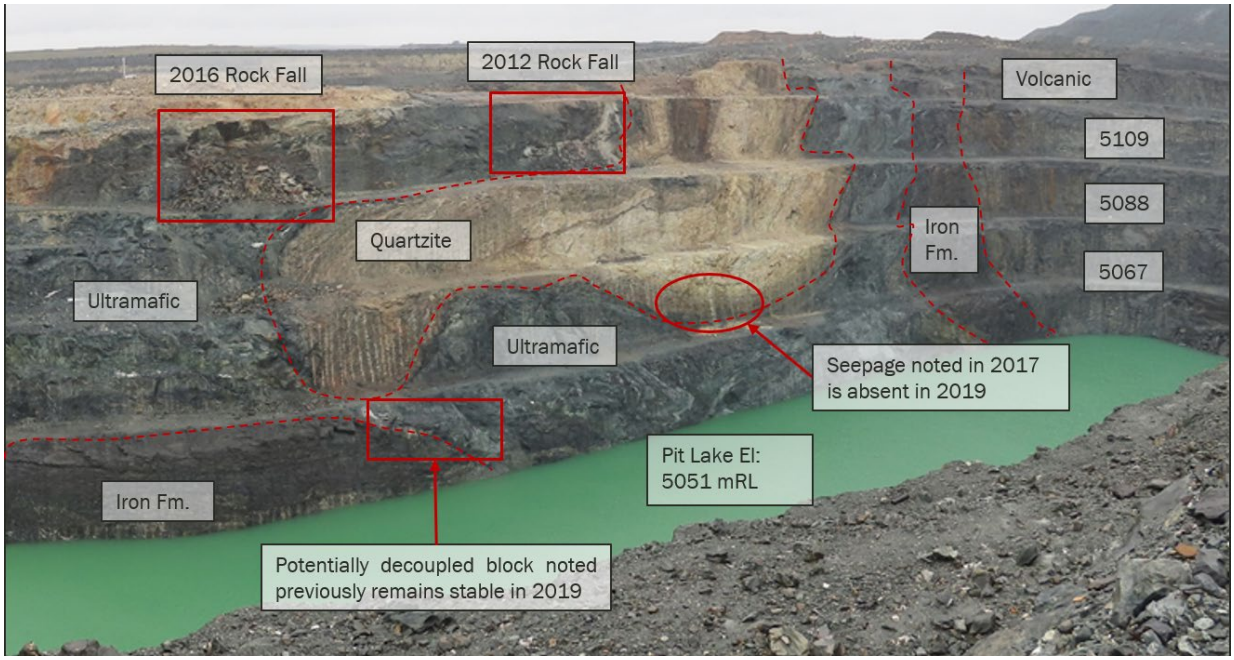
4.2 Pit A Inspection

Pit A is at the north end of the Portage Pit and includes the northwest through northeast end walls of the pit. At the time of the site visit mining was completed to the final floor elevation of 4997 mRL and the pit is actively used for water management with a pit lake at an elevation of approximately 5051 mRL.

The pit walls continue to perform well, and no additional accumulation of material was noted on the west, north, or east benches that are still exposed.

4.2.1 Pit A West Wall

The following shows the west and north wall of Pit A at the time of the inspection.



Photograph 4-3: Pit A west wall (2019)

No additional accumulation of material downslope of the 2012 and 2016 rock fall events which occurred on the 5109 mRL bench has developed since the 2018 inspection. As noted in previous reports the 2012 and 2016 rock fall events occurred in poor quality ultramafic rock in combination with toppling along a steep fault zone at the crest.

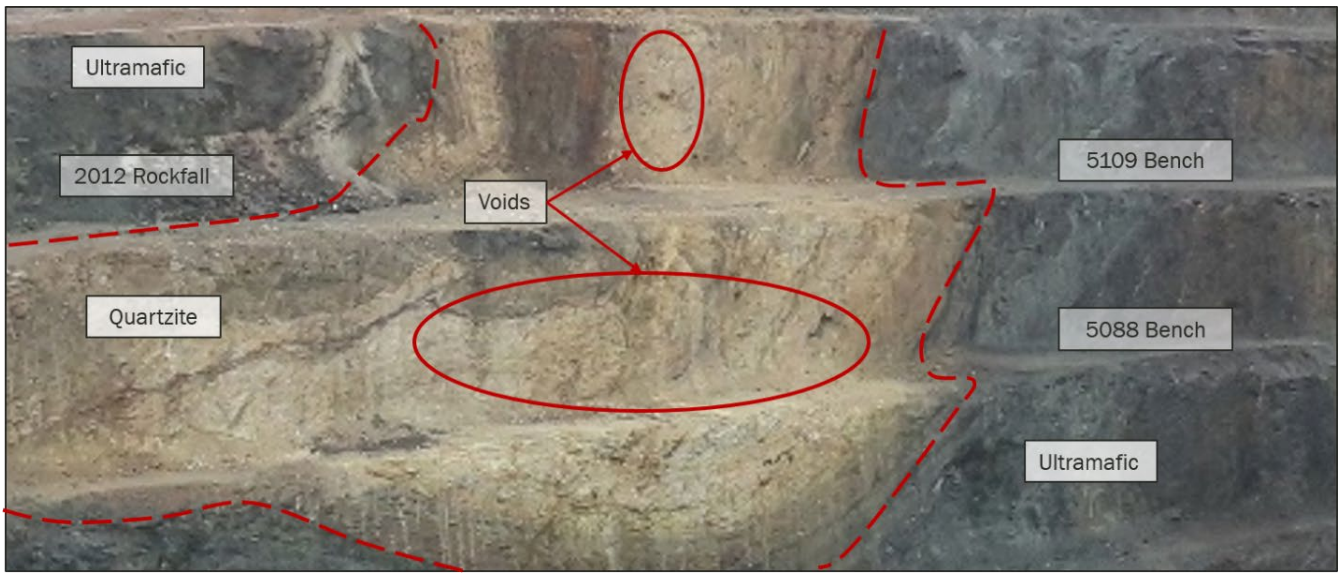
Groundwater seepage noted during 2017 along the axes of the synform structure within the quartzite continues to be absent in 2019 suggesting the water table has been drawn down during mining.

The following actions are recommended:

- Continue visual monitoring and recording observations as part of regular site geotechnical inspections.

4.2.2 Pit A West Wall Voids

The quartzite stratigraphy observed in the Pit A west wall contains several large voids identified during previous inspections. There has been no significant accumulation of material on the benches since the 2018 inspection.



Photograph 4-4: Voids in quartzite above Pit A west ramp (2019)

The following actions are recommended:

- Continue visual monitoring and recording of observations as part of regular site geotechnical inspections.

4.2.3 Pit A North to Northeast Wall

The north through northeast walls of Pit A continue to perform well. There are no noticeable changes from 2018 to 2019. No additional accumulation of loose or raveling material on the catch benches was noted during the site visit.

Photograph 4-5: Pit A north to northeast wall (2019)

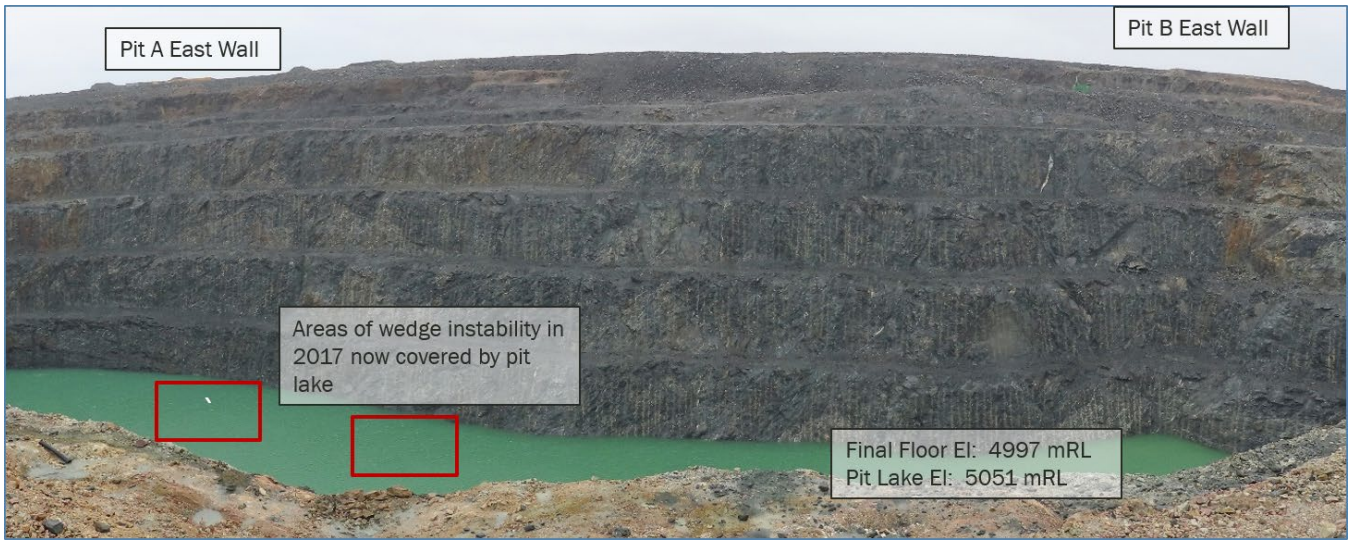
The following actions are recommended:

- Continue visual monitoring and recording of observations as part of regular site geotechnical inspections.

4.2.4 Pit A East Wall

The benches of the Pit A East Wall continue to perform well, as shown in Photographs 4-9 and 4-10.

Photograph 4-6: Pit A East wall upper benches (2019)



Photograph 4-7: Pit A east wall, north end additional wedges (2019)

The areas of bench scale wedge and planar sliding occurring in 2017 are now covered by the current pit lake.

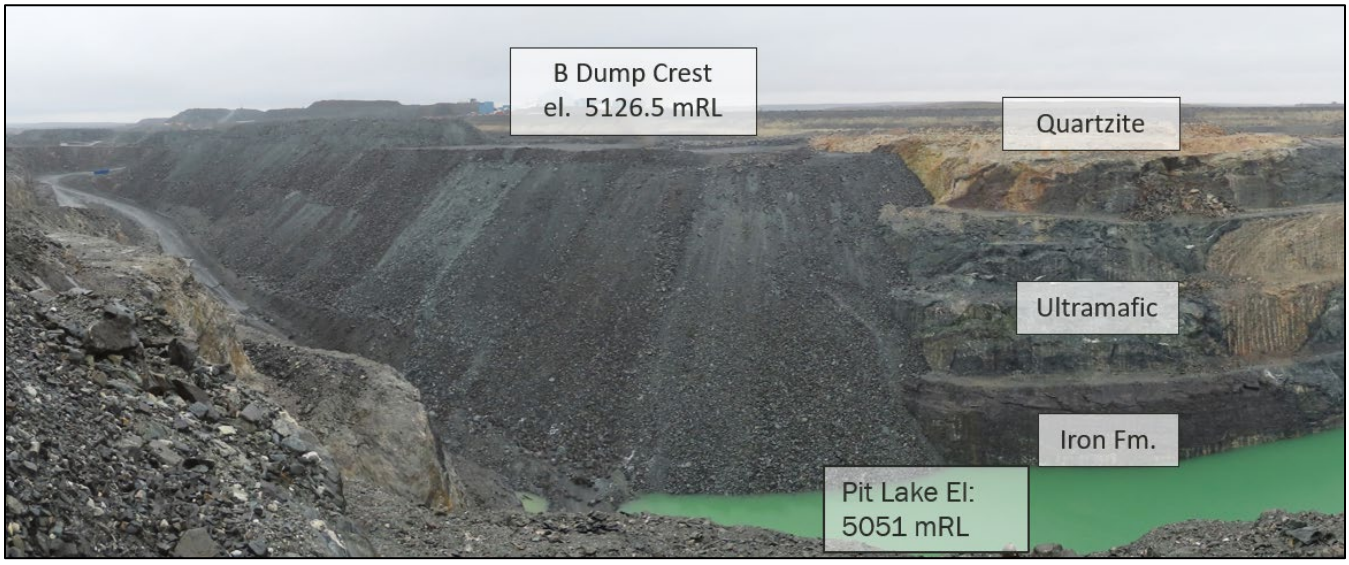
The following actions are recommended:

- Continue visual monitoring and recording of observations as part of regular site geotechnical inspections.

4.2.5 Pit B West Wall

The remaining portion of west wall of Pit B that has not been backfilled continues to perform adequately. Quartzite is exposed in the upper benches overlying ultramafic rock, and iron formation. There is no access to the west wall of the pit, and access to the base of the pit is gained by the east ramp which also provides access to Pit A.

The general performance of the west pit wall is shown in the following photograph. There is no evidence of large-scale instability for the west wall of Pit B.



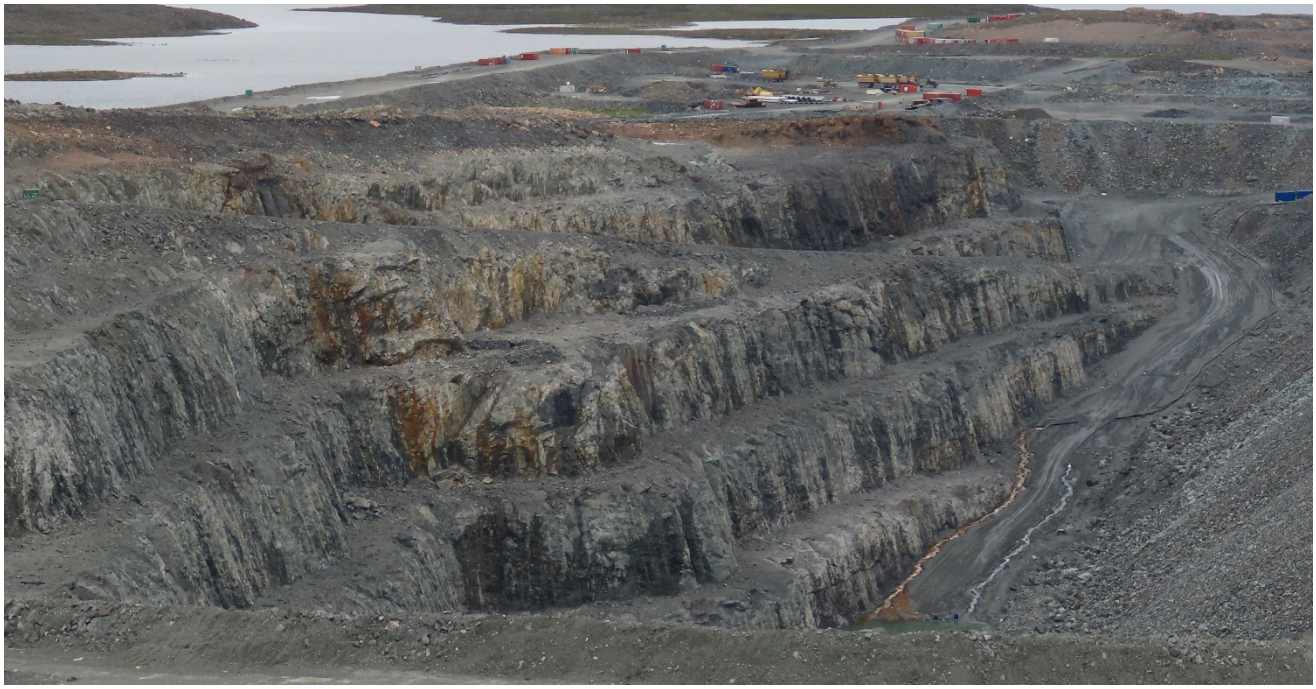
Photograph 4-8: Pit B west wall (2019)

The following actions are recommended:

- Continue visual monitoring and recording of observations as part of regular site geotechnical inspections.

4.2.6 Pit B East Wall

The east wall of Pit B was inspected from several viewpoints as well as from within the pit. The wall continues to perform satisfactorily. Benches are generally clean with little accumulation of material.



Photograph 4-9: Pit B east wall, looking south (2019)

The following actions are recommended:

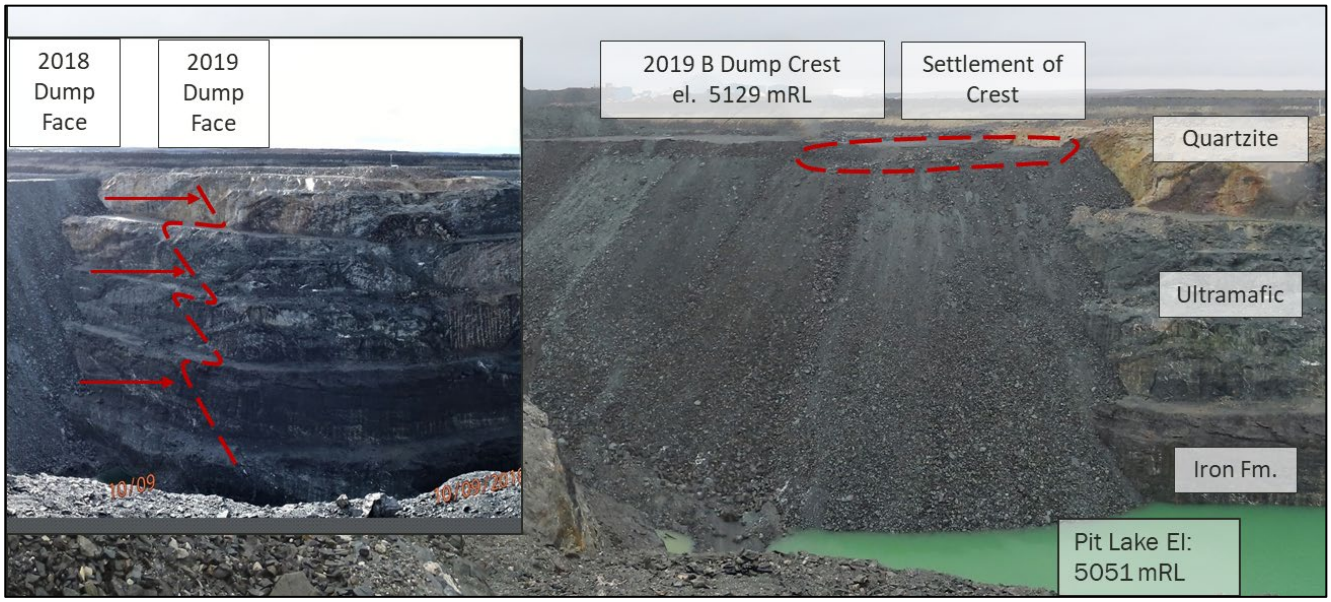
- Continue visual monitoring and recording of observations as part of regular site geotechnical inspections.

4.2.7 Portage Pit B Inspection (B Dump)

Pit B has been used for in-pit waste rock storage in B Dump. The crest elevation of B Dump is currently approximately 5129 mRL; the final planned crest elevation at closure is 5145 mRL.

Since the 2018 site visit, the Pit B Dump has been advanced northward along the west wall of Pit B by an estimated 40 m to 50 m. The development of crest settlement and the formation of tension cracks lead to a decision to halt dumping and the dump is now inactive. No evidence of dump instability was noted on the dump face, such as bulging or shallow failures. However, as pit water rises it is possible that shallow surface failures could occur. Since personnel will continue to access the pumps at the base of the ramp below the dump, the dump performance should continue to be monitored as part of regular geotechnical inspections.

The following photographs show the performance of the dump platform and dump face.



Photograph 4-10: B Dump looking southwest showing 2019 northward advance of dump face

Photograph 4-11: B Dump showing settlement at north end of dump platform

An area at the crest of the B Dump was identified in 2018 showing crest settlement and tension crack formation resulting from mixing of ultramafic rock with other dump material. During 2019 there was no additional settlement noted in the area.

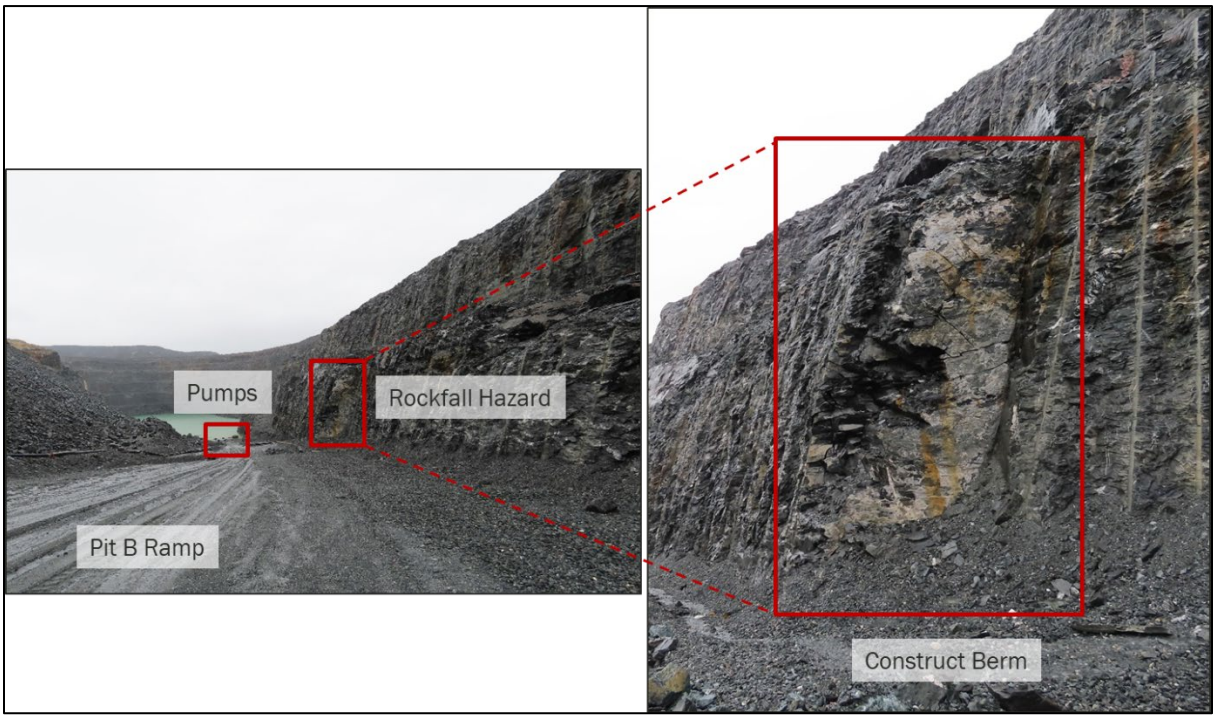
The following actions are recommended:

- The Inactive dumps should be deactivated and closed.
- Dump platforms should be bermed off.
- The Pit B Dump performance should continue to be monitored as part of regular geotechnical inspections as the pit lake level continues to rise, which could lead to small scale shallow failures in the dump face. Since personnel will be accessing the pit lake at the bottom of the Pit B ramp to maintain the pit water management system in place, regular monitoring is required.

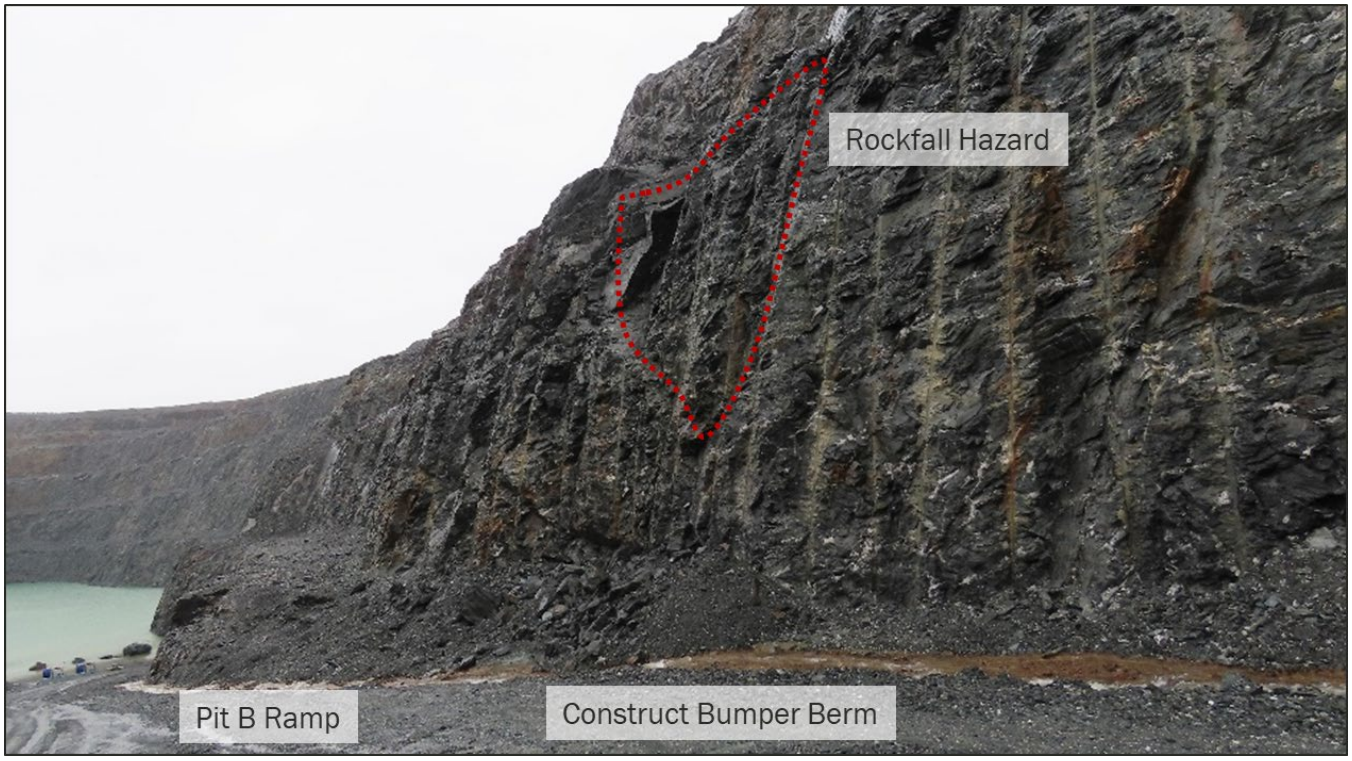
4.2.8 Pit B Lower Ramp Inspection

During the 2019 site inspection it was recognized that the Meadowbank Mine is entering a transition stage from active mining use to water management and future tailings deposition. As such, the Pit A and Pit B remaining pit areas are now being used for active water management, with water reclaim and discharge lines present along the ramp access to the pit lake area at the toe of B Dump. Since personnel will continue to use the ramp to access the pump stations for maintenance or relocation of water lines, the inspection included a review of the ramp area accessing Pit B pit lake.

Two areas were identified requiring remedial measures due to the presence of potential rockfall hazards directly adjacent to the reclaim/discharge lines, and hence potentially accessible by personnel. These are shown in the following photographs.



Photograph 4-12: Pit B ramp rockfall hazard



Photograph 4-13: Pit B ramp rockfall hazard

This was discussed with AEM during the site visit, and it was recommended that bumper berms be constructed to restrict access beneath these areas. AEM began action to address this before the site visit was completed.

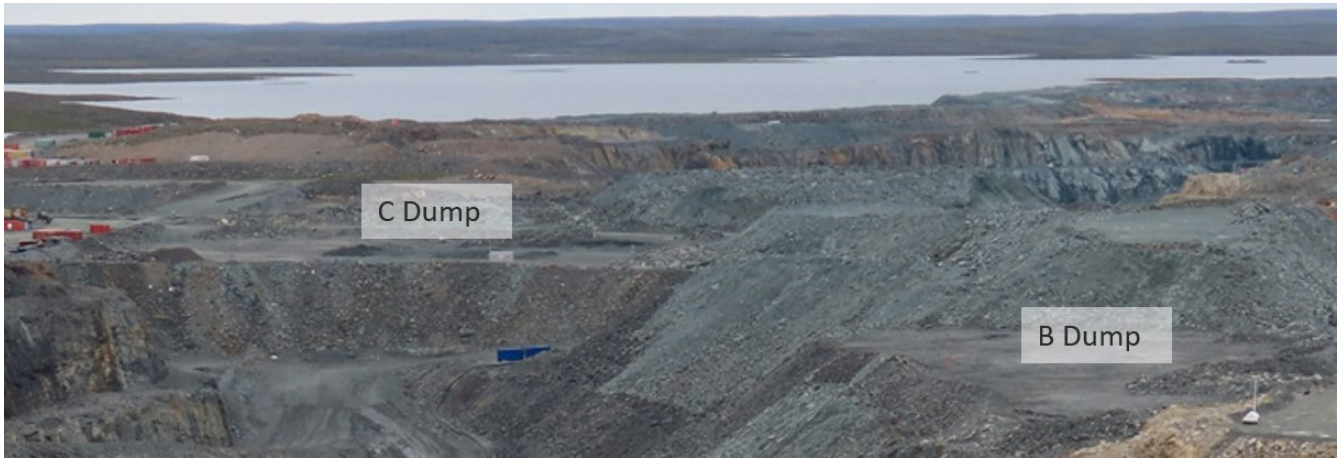
The following action was recommended:

- Construct a bumper berm below bench faces adjacent to Pit B ramp where ongoing access for water management activities may place personnel near rockfall hazards.

5.0 PORTAGE PITS C AND D INSPECTION

Pits C and D extend south from Pit B to form the central dump of the Portage Pit. Mining is complete at both pits and they continue to be used as waste rock dumps. At the time of the site visit the Pit C main platform was at the same elevation as the 2018 inspection, approximately 5132 mRL.

The Pit D Dump highest platform elevation also remained at 5126 mRL; the planned final platform elevation of D Dump is 5129 mRL. The Pit D Dump lowest platform at approximately 5030 mRL was advanced southward across the Pit E floor.



Photograph 5-1: Pit C Dump with Pit B Dump in foreground

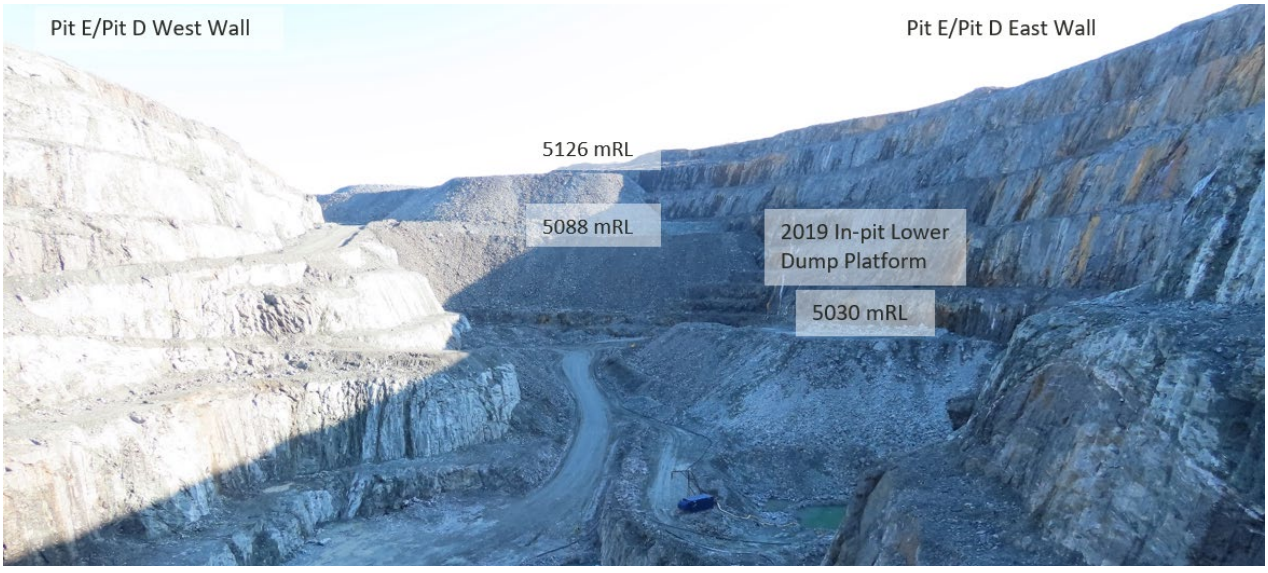
5.1 Pit C In-Pit Waste Rock Dump

The Pit C in-pit waste rock dump is inactive. A photograph looking south at the waste rock dump in Pit C is shown below. The west and east pit walls of Pit C are buttressed by waste rock and no longer present any geotechnical hazard.

The main dump platform for Pit C is used for storing stockpiles of stemming material. The C Dump platform was visited only briefly and was noted to be performing satisfactorily with no changes from 2018.

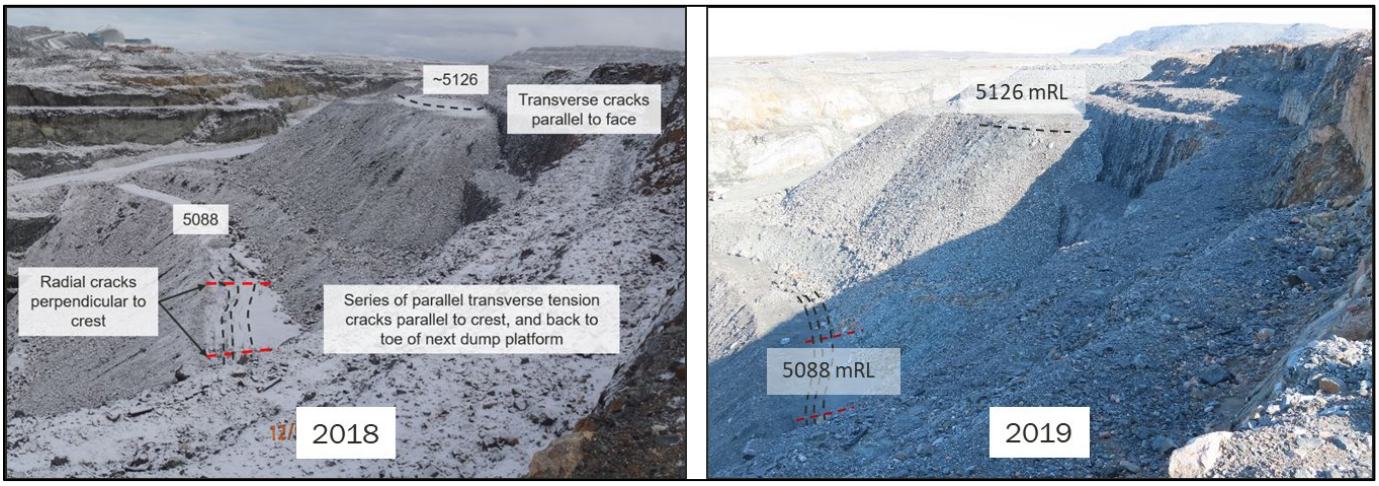
5.2 Pit D In-Pit Waste Rock Dump

The Pit D Dump continues to be actively used. The highest platform remains at approximately 5126 mRL and has not been advanced further to the south along the east wall since 2018. The main dump is inactive, however, an in-pit waste dump in Pit E has been advanced southward in the base of the pit from the south end of Pit D Dump during 2018 and 2019, at an elevation of or approximately 5030 mRL.



Photograph 5-2: Pit D Dump facing north with in-pit lower dump platform in foreground

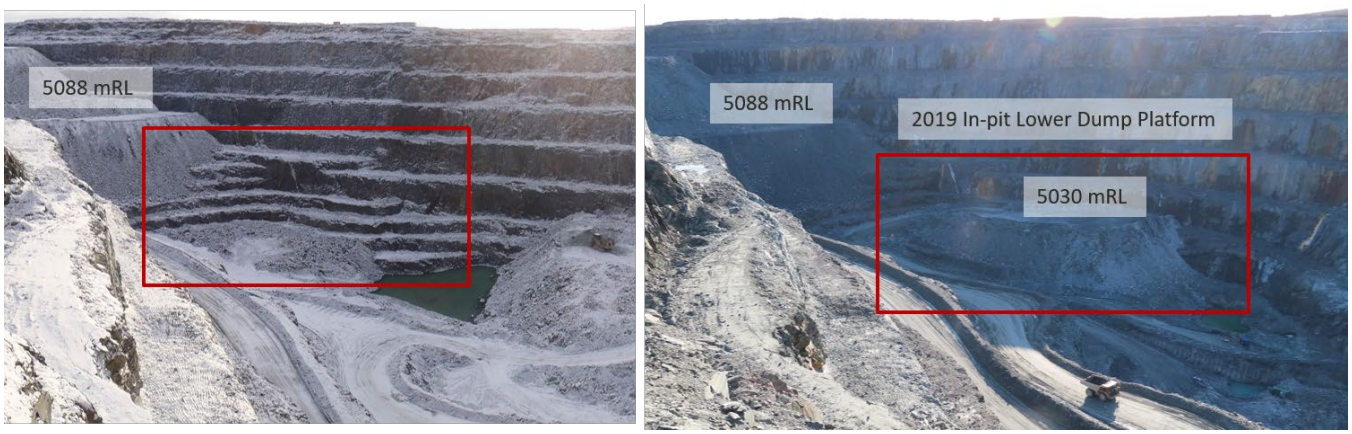
Areas of tension cracks that were observed on the D Dump 5088 mRL and 5126 platforms during the 2016 and 2017 inspections do not appear to have changed, and no additional tension cracks were observed suggesting that settlement of the platform crests in these areas has stopped. A comparison of the dump profile in 2019 with 2018 is shown in Photograph 5-3. A photograph of radial tension cracks observed on the dump platform with erosional indicators suggesting these are inactive is shown in Photograph 5-4.



Photograph 5-3: Comparison of Pit D Dump profiles from 2018 and 2019

Photograph 5-4: Pit D Dump 5088 mRL platform showing inactive tension cracks

A lower platform was advanced southward from the toe area of the Pit D Dump across the lower benches of the east wall of Pit E to provide short haul to waste material being excavated. The elevation of this lower dump platform at the time of the site visit was approximately 5030 mRL and a sump had been developed at the south end on approximately with a pond elevation of approximately 4995 mRL, shown in Photograph 5-5.



Photograph 5-5: Pit D Dump lower platform

5.2.1 Pit D In-Pit Waste Rock Dump 5126 West Crest Area

An area of note is along the west crest of the 5126 mRL platform. This area is above the active haul road from Pit E, which will continue to be maintained as access for tailings and water reclaim purposes. Several tension cracks were noted parallel to the crest of the dump above the road. It was recommended during the site visit that a simple wireline extensometer be installed during final mining of Pit E, after which this area should continue to be monitored as part of regular geotechnical inspections.

Photograph 5-6: Pit D Dump 5126 platform above haul road

The following actions are recommended:

- Install and monitor a wireline extensometer to confirm dump stability in this area.
- Continue visual monitoring of waste rock dumps and recording of observations such as tension cracks, crest settlement, or dump profile changes as part of regular site geotechnical inspections.

6.0 PORTAGE PIT E INSPECTION

At the time of the site visit, Pit E was the only remaining pit at the Meadowbank Project site that was being actively mined. Following the 2018 site inspection, a recommendation was made to sequence the final mining of the pit to mine the higher relative risk areas during winter months when the ground is frozen to reduce the potential for rockfall hazards, and to defer mining the lower relative risk areas (areas further from the poorer quality ultramafic rock) to summer and fall months, thereby reducing the overall project risk. Agnico adopted this approach and successfully completed mining of the slot area during winter, with mining near the central to north ends of the pit scheduled to completed in September 2019.

The monitoring program for the pit includes visual monitoring through regular geotechnical inspections, the use of a GroundProbe radar monitoring system, piezometers and thermistor cables, TDR cables, and a slope inclinometer, all connected to an automated data acquisition system (ADAS). The radar monitoring system is deployed on the west wall crest to monitor the south wall of the pit. The slope inclinometer, which was not working previously, was repaired and reinstalled on June 13 2018 and appears to be recording appropriately.

Based on the most recent pit plan, mining of Pit E is scheduled to be completed near the end of September 2019. The final floor elevation is planned to be 4976 mRL. Access to the pit base was by the west access ramp, in the west wall of the Portage Pit. There is no longer access to the pit base from the south wall access ramp, which is inactive but still accessible by small truck. The pit floor at the time of the site visit was dry, and water was being managed in a small sump at the southeast corner of the floor. The sump water elevation was approximately 4996 mRL. Very little seepage was noted on the pit walls with the exception of the ultramafic rock in the south wall of the pit.

Photograph 6-1: Pit E viewing north (2019)

The Pit E east wall continues to perform well and there are no on-going stability issues of significance with the east wall.

The west wall has localized bench-scale instability associated with the weaker ultramafic rock exposed at the base of the wall, and adverse structure (shearing in the ultramafic rock) inclined into the walls and resulting in overhangs.

The Pit E south wall experienced a significant number of rockfalls between the 2017 site visit and 2018 site visit (17 records). During the period between the 2018 and 2019 site visits, only 4 significant rockfall events were recorded.

These were all associated with the weak ultramafic rock in the south wall. Of these, the largest was identified by radar monitoring, a second event was identified in advance by regular geotechnical inspections, and 2 were not identified in advance. All events were managed and reported accordingly, and there was no lost time, equipment loss or damage, or personnel effects.

6.1 Pit E East Wall

The main structural control for the east wall is the steeply west dipping stratigraphy and sub-parallel foliation which bench face angles either break to or are excavated to. The bench and overall wall performance continue to be satisfactory within the good quality intermediate volcanic rock. Final benches have been cleaned and scaled appropriately. There has been no noticeable deterioration of the final benches since mining of this wall was complete.

Photograph 6-2: Pit E east wall performance (2019)

The following actions are recommended:

- Continue visual monitoring and recording of observations as part of regular site geotechnical inspections.

6.2 Pit E South Wall

Pit E south wall exposes primarily ultramafic rock, with iron formation and volcanic rock on its eastern edge. The ultramafic rock is poor quality, and the south wall has had a history of poor bench and overall slope performance since 2015, as documented in previous site visit reports and referenced documents. Rockfalls are more common in the ultramafic rock, and specifically in areas of the pit that were in talik. Significant faulting and folding have affected the south wall leading to the development of a strong shear fabric within the ultramafic rock which contributes to its poor performance, and to its ability to conduct groundwater flow. The presence of talc alteration

within the ultramafic rock leads to low frictional strength along shear planes and foliation, which also contributes to instability where adversely oriented relative to the bench face and pit wall orientations. Where the ultramafic rock is frozen, wall performance is significantly improved, and in the iron formation and intermediate volcanic rock is enhanced.

The instrumentation that is installed includes time domain reflectometry (TDR) cables, thermistor and vibrating wire piezometers, and a slope inclinometer. These data have been reviewed as part of this site inspection, and are summarized later in this document.

The following photograph shows the south wall at the time of the site visit.

Photograph 6-3: Pit E south wall (2019)

6.3 Pit E Rock Fall Events and Pit Wall Monitoring

A total of 4 rockfall events occurred between September of the 2018 inspection (13 September 2018) and August of the 2019 inspection. These were recorded in the rock fall log and reported to the Mines Inspector as per Sections 16.01 and 16.02 of the Mine Health and Safety Act and Regulations for NWT and NU. No personnel were injured, and no equipment was damaged. Many of the events were predicted by radar, or by direct observation made by pit personnel and the geotechnical team.

The following table summarizes the rockfall events since the 2018 site visit.

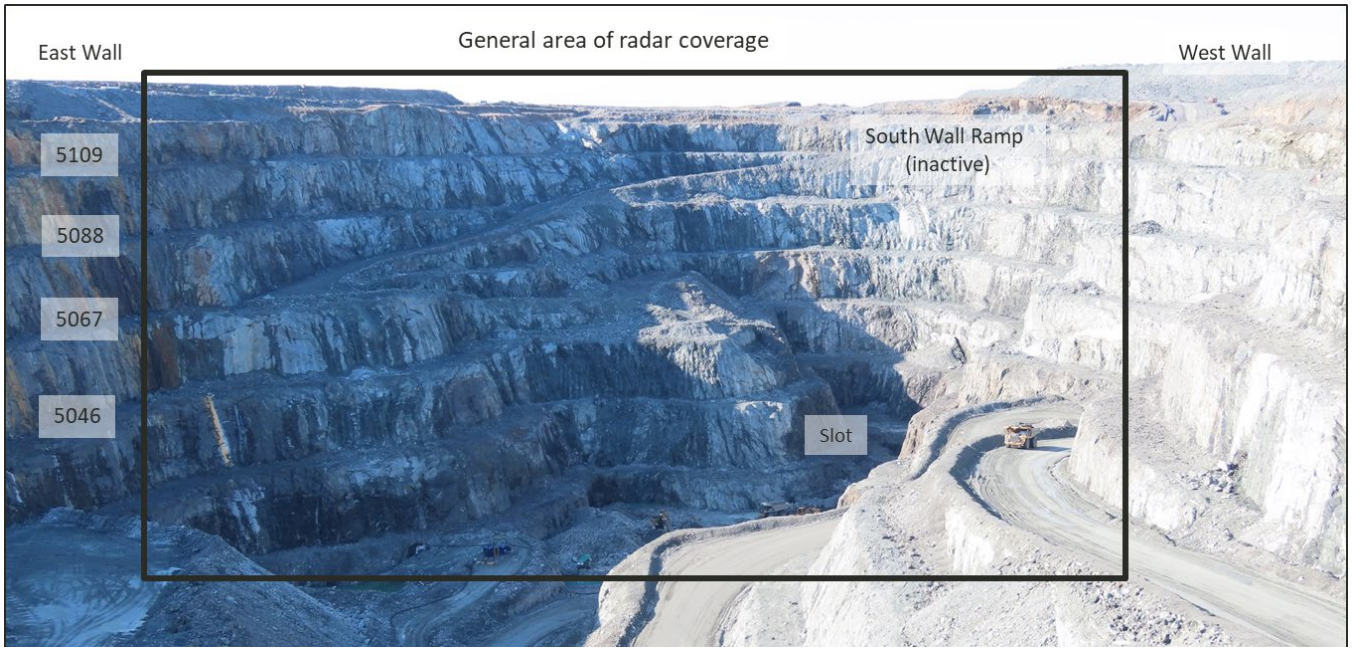
Table 6-1: Rock fall event log for Pit E remainder of 2018 and during 2019

Date of Rock fall	Location	Rock type	Estimated or calculated tonnage	Predicted by radar	Comment
9/27/2018	Bench 5033	Ultramafic	10,100	Yes	"Crack was observed in wall, then looked at radar and signature was observed that rock fall was going to occur. And it did."
1/14/2019	5011651 - East Wall	Ultramafic	127	No	Post fall radar analysis show a small visible trend but it was not detected prior to the event
5/8/2019	5004	Ultramafic	110	No	The signature of the rockfall with back analysis only allowed for less than one hour of notice. In a highly fractured corner
7/22/2019	E3 Ramp Top above Sump Area	Ultramafic/QZ/FAULT	80	No	The area was flagged 2 days earlier. Berms and candles were in place. We expect it.

Reference: Agnico Eagle Rock Fall Log 2019

The dominant failure mechanism is generally planar sliding along outward dipping foliation surfaces or a combination of planar and wedge mechanisms. AEM manage local bench scale instability adjacent to working areas and high-traffic areas by regular geotechnical inspections, appropriate scaling of instabilities when noted, and access restrictions in areas when required.

The south wall of the pit is currently monitored using radar in addition to instrumentation. The following photograph shows the approximate coverage by radar of the south wall of Pit E5.



Photograph 6-4: General radar coverage of south wall Pit E5 2019

The wedge and planar instability that have occurred have in many cases been predicted by the radar. AEM have taken proactive steps to buttress areas of instability, to restrict access to others, to sequence mining in higher risk areas during winter months, and to develop a containment platform and berm beneath the broader rockfall zone below the south wall ramp.

The following actions are recommended:

- Continue visual monitoring and recording of observations as part of regular site geotechnical inspections.
- Continue to monitor ADAS as per GCMP.
- Continue to monitor south wall with radar until end of mining.

6.3.1 Toppling Slab

In addition to the rock fall events which occurred, the geotechnical team identified an area of potential toppling during regular inspections of the south wall of the pit. The toppling is associated with the Bay Fault or a splay forming a steeply west dipping back release plane along which toppling is occurring. It is not clear if the mechanism is direct or flexural toppling. Nonetheless, and in response a stabilization berm was constructed, and this has been very effective in buttressing the toppling mechanism.

Photograph 6-5: Buttressed toppling slab in the south wall of Pit E

6.3.2 Additional Observations in Pit E

The following additional general observations were made during the inspection of the south wall area of Pit E5.

6.3.2.1 Water Management at Crest

The sump at the crest of south pit wall continues to collect water. A pump has been set up to mange the water that accumulates in the crest area. This is of lesser concern now that the south wall access road is inactive.

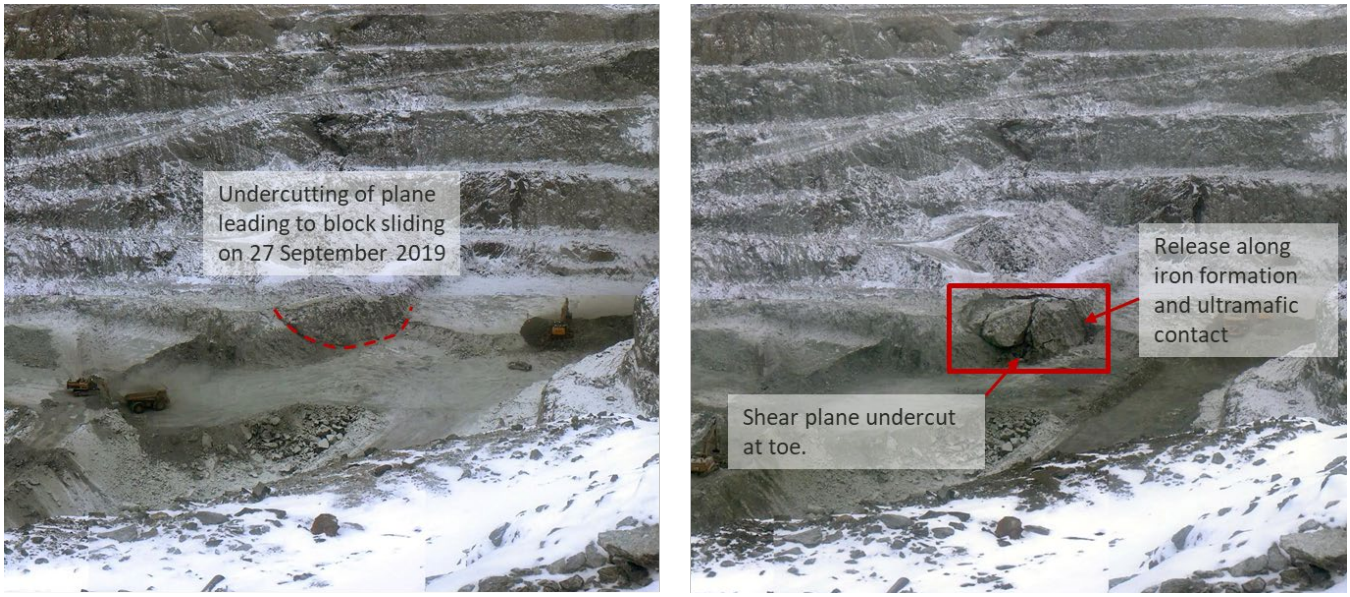
Photograph 6-6: Sump at crest of Pit E south wall

The following actions are recommended:

- Water should not be allowed to collect at the crest area during mining, and sumps should be pumped down regularly to prevent water from contributing to instability. Once mining is complete, the management of sumps and ponds can be re-evaluated.

6.3.3 Shear Zone in Ultramafic Rock

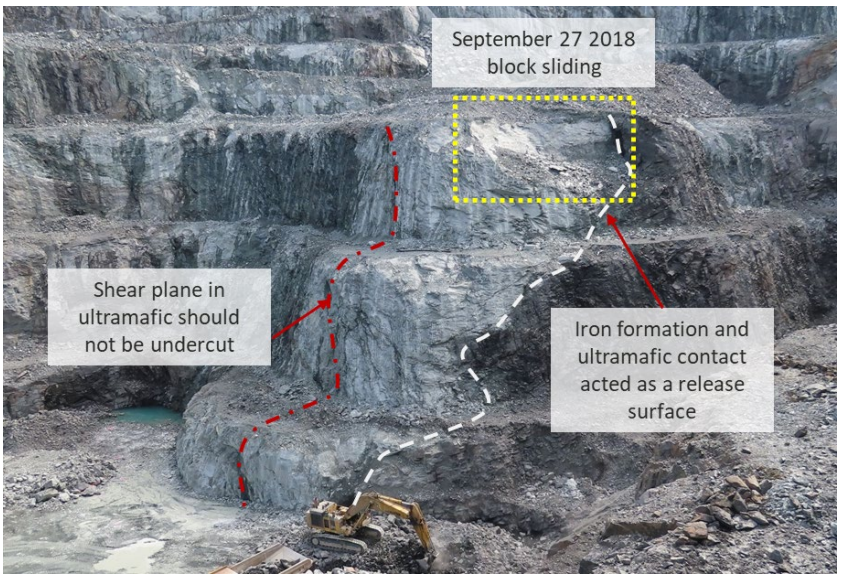
On September 27 2018, a significant rock fall event occurred, approximately 10,100 tonnes. The event occurred within ultramafic rock, and was indicated by the radar system. The event was associated with the shear zone known to exist within the ultramafic rock comprising a significant portion of the south wall and has been interpreted to have resulted from undercutting of a steep west dipping plane. During the 2018 site visit, the general area was visited on the 5032 mRL bench, and the shear zone noted. At that time, the steep west dipping plane was buttressed, and hence stable. Subsequently, the 5032 mRL bench continued to be mined down and eventually undercut the west dipping plane. Undercutting of the plane, coupled with the presence of the sheared ultramafic and iron formation contact, allowed freedom for the block to slide on the shear plane.



Photograph 6-7: September 27 2019 failure

The area was bermed off and loose material was removed back to the shear plane to allow mining to continue.

A review of this area during the 2019 inspection indicates subparallel west dipping shear planes exist within the ultramafic rock. The re-orientation of the wall through the ultramafic material reduces the potential for additional sliding on the sheared surfaces by intersecting the west dipping features at an oblique angle, although some additional crest loss can be attributed to these features on subsequent benches. It is essential that these planes are not undercut by the remaining bench faces or inter-ramp angle. This area of the wall is covered by the radar monitoring.



Photograph 6-8: Shear planes in ultramafic rock below September 27 2018 failure

The following actions are recommended:

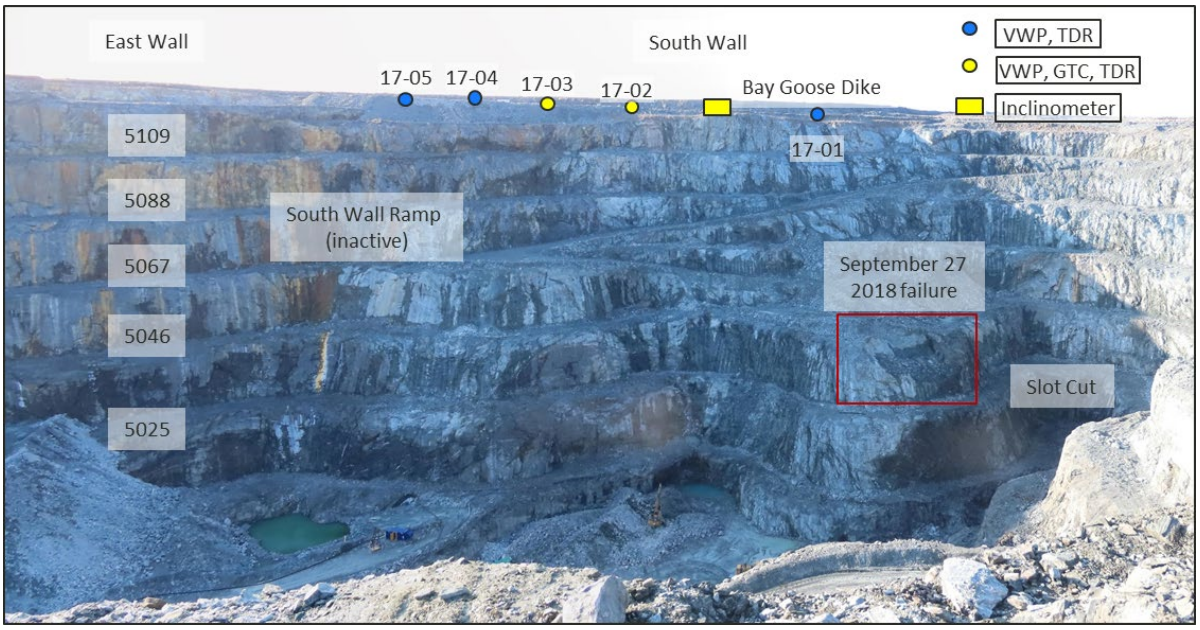
- Continue to monitor wall closely during final mining of the pit.
- Do not undercut shear plane development in the ultramafic rock.
- Protect damage of the ultramafic rock with appropriate pre-shear blasting methods, and subsequent scaling.

6.3.4 Pit E5 Instrumentation

The instrumentation data are contained in Appendix A and some observations are summarized below.

The instrumentation consists of vibrating wire piezometers, time-domain reflectometry (TDR) cables, thermistors, and an In Place (IP) inclinometer. The current instrumentation continues to adequately monitor the south wall of Pit E.

The following photograph shows approximately where the instrumentation is installed.



Photograph 6-9: Pit E south wall instrumentation locations (estimated)

The following table summarizes the instrumentation installed in the south wall of the pit.

Table 6-2: Pit E5 list of instrumentation

Borehole	Inclination	Comments	Vibrating Wire Piezometer depth (in hole)	Thermistor	TDR Cable
E4-01 (E5-17-01)	-60	From pit crest, toward pit, sub-parallel to wall dip	150m (A)/75m (B)/37.5m (C)	No	Yes
E4-02 (E5-17-02)	-90	From in-field between crest and dike, vertical.	100m (A)/32.5m (B)	Yes	Yes
E4-03 (E5-17-03)	-60	From pit crest, toward pit, sub-parallel to wall dip	150m (A)/75m (B)/37.5m (C)	Yes	Yes
E4-04 (E5-17-04)	-90	From in-field between crest and dike, vertical.	100m (A)/32.5m (B)	No	Yes
E4-05 (E5-17-05)	-60	From pit crest, toward pit, sub-parallel to wall dip	150m (A)/75m (B)/37.5m (C)	No	Yes
Inclinometer (E5-17-06)	-90	Vertical	No	No	No
Surface Prisms	N/A	N/A	N/A	N/A	No

6.3.4.1 TDR Cables

Five TDR cables were installed in boreholes drilled behind the south wall of the Pit E in 2017 to monitor slope movement. The TDR instrumentation has been connected to the site Automated Data Acquisition System (ADAS).

A review of the data indicates no changes in the data trends.

6.3.4.2 Thermistors

The data from the two thermistors installed in PE5-17-02 (vertical) and PE5-17-03 (inclined) continue to show steady-state conditions have been reached. There are no notable changes in the ground thermal profile trends since monitoring began. The data are consistent with the permafrost and hydrogeological conceptual models that the area of the wall beneath the former lake is not frozen.

Thermistor PE5-17-02 is a vertical thermistor in the infield between the pit crest and the Bay-Goose Dike. There is no noticeable change in the general trend of the ground thermal regime. The data continue to indicate frozen ground conditions from 5125 mRL down to approximately 5108 mRL. Below this depth the ground is not frozen, with temperatures reaching almost 2.5 degrees C.

Thermistor PE5-17-03 is inclined towards the pit. The data indicate the near surface ground to be frozen to approximately 5119 mRL, after which ground temperatures increase to between 1- and 2-degrees C, to an elevation of approximately 5070 mRL. The depth at which the ground temperature becomes negative has decreased by about 15 m since the thermistor was installed, suggesting some freeze-back of the south wall. Below the elevation 5045 mRL, the ground temperatures increase to positive values.

6.3.4.3 Piezometers

Nested piezometers were installed in PE5-17-01 (3 VW), 17-02 (2 VW), 17-03 (3 VW), 17-04 (2V VW), and 17-05 (3 VW). The piezometers are connected to the ADAS monitoring as part of the GCMP.

The review of the 2018 data indicate that the shallow piezometers installed in 17-01, 17-03, and 17-04 are at or below freezing, while the deeper piezometers remain within non-frozen ground. Instrument 17-05 continues to show all piezometers installed are at negative ground temperatures. The data from the frozen piezometers are unreliable.

The piezometer data are generally consistent between the different installation locations. Piezometer PE5-17-03-A (deepest) shows a steady rise in pressure head of about 3m from approximately February of 2019 to April 2019, followed by a rapid drop in pressure on April 27 2019 of 4m, and an additional 2 m loss of pressure head over the subsequent 6 days. There are no corresponding anomalous changes in temperature, or in the pressure head in 17-03-B. Based on the thermal profile of E5-17-03 this could be an effect of the freezing front within the geothermal profile, and the location of the deepest piezometer relative to the anomalous ground thermal profile. It is suggested that AEM review this event in greater detail.

A detailed review of the piezometer data is not part of the current scope. It is understood that AEM frequently monitor the instrumentation and investigate all events. Some of the piezometers appear to be on an upward trend, and so the instrumentation data should be reviewed more frequently to understand if this trend is real. AEM have indicated the upward trend in the piezometer data is most likely related to the advancement of permafrost into the wall, as indicated by other instrumentation both in the wall, and in the dewatering dike.

- Review the anomalous pressure drop in PE5-17-03-A on 27 April 2019 and correlate to mining events, or meteorological events.

6.3.5 Inclinometer

One inclinometer was installed in a dedicated borehole behind the wall. The installation details are tabulated below.

Table 6-3: Inclinometer installation details

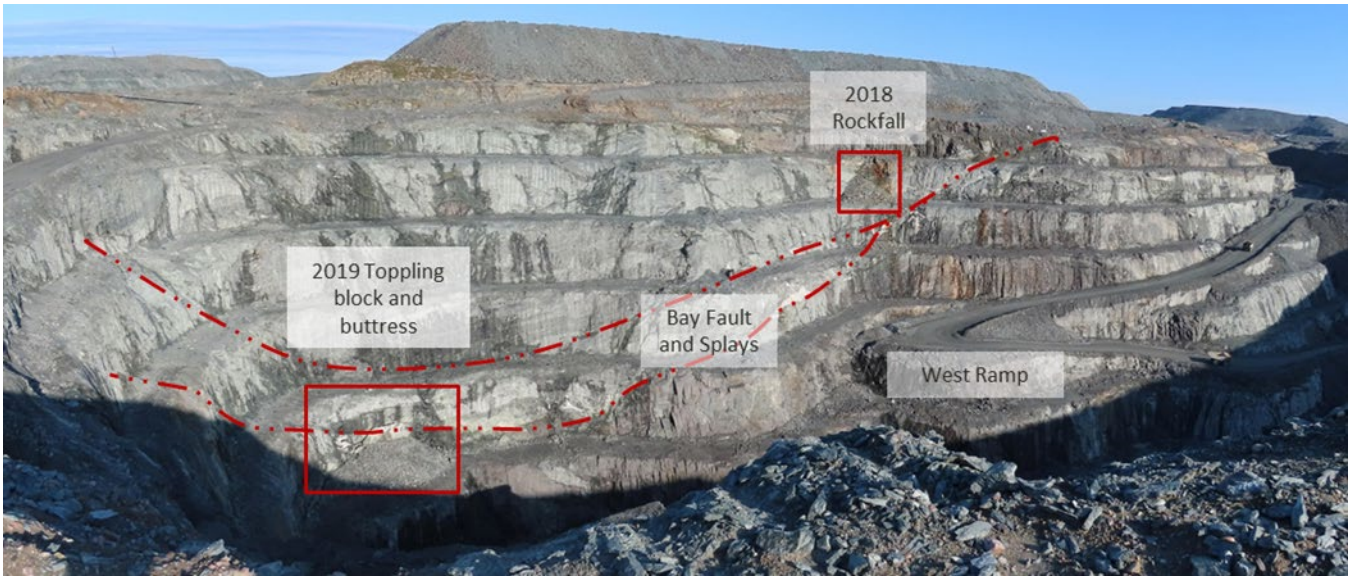
Instrument	Baseline Reading	Top of Casing Elevation (metres above sea level)	Easting, m (Mine Grid)	Northing, m (Mine Grid)	Elevation, m (mRL)	A-Axis orientation (+'ve direction)	B-Axis orientation (+'ve direction)
In-Place Inclinometer (IPI)	2018-06-14 9h30am	130.660	2080.803	5516.495	130.113	West-northwest, towards Portage Pit	North-northeast, parallel to pit wall

Based on the thermal profile provided by the instrument, the upper segment of the instrument was installed in permafrost, with the base of permafrost in the hole at elevation of approximately 92 m above sea level (5092 mRL). Below this elevation the inclinometer is within non-frozen ground. The cumulative displacements shown by the inclinometer A and B axes are millimeter-scale. There does not appear to be a discernible trend in the data, suggesting the ground to be stable. The displacements shown were compared with adjacent TDR cables which show no indications of ground deformations. The displacements are primarily in the B+ direction (parallel to pit wall strike).

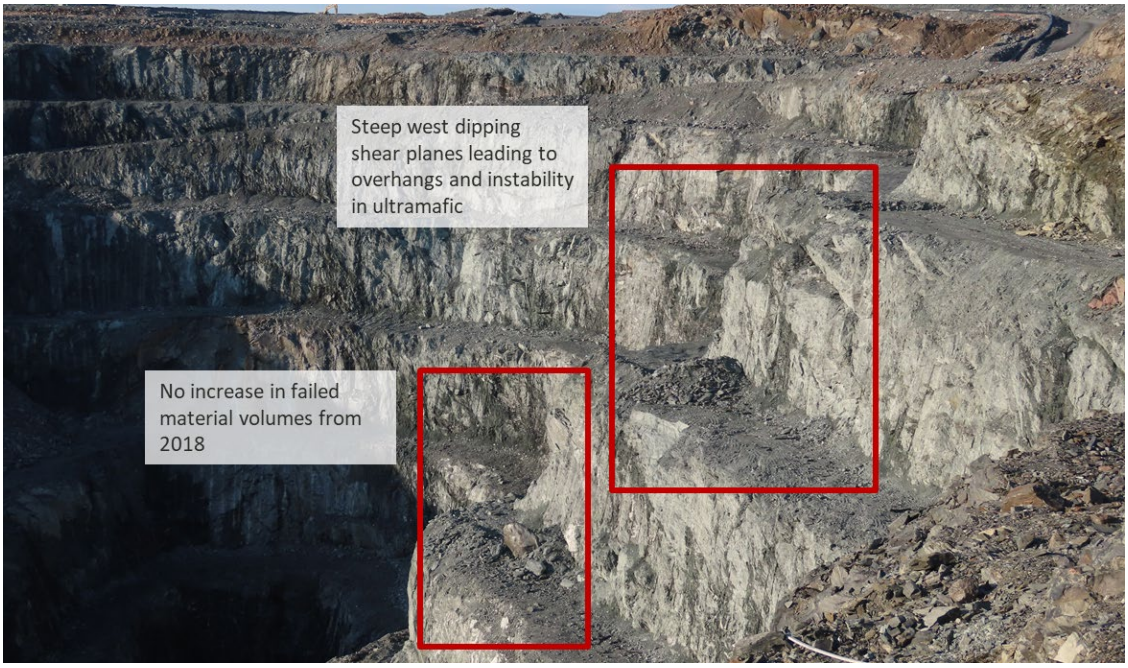
- The inclinometer should continue to be monitored and the data evaluated in the context of the overall GCMP for the project.

6.4 Pit E West Wall

Mining of the current pit is accessed by the West Wall Ramp. The Pit E west wall exposes predominantly quartzite, iron formation and intermediate volcanic rock in the upper benches of the wall, overlying ultramafic rock in the lower benches. Ultramafic rock is exposed along a substantial portion of the West Wall Ramp as it descends into the pit. Of significance is the presence of the Bay Fault which parallels the crest through the middle portion of the pit wall, and then is exposed in the lower benches through the southern portion of the wall.



Photograph 6-10: Pit E west wall showing Bay Fault (2019) and toppling



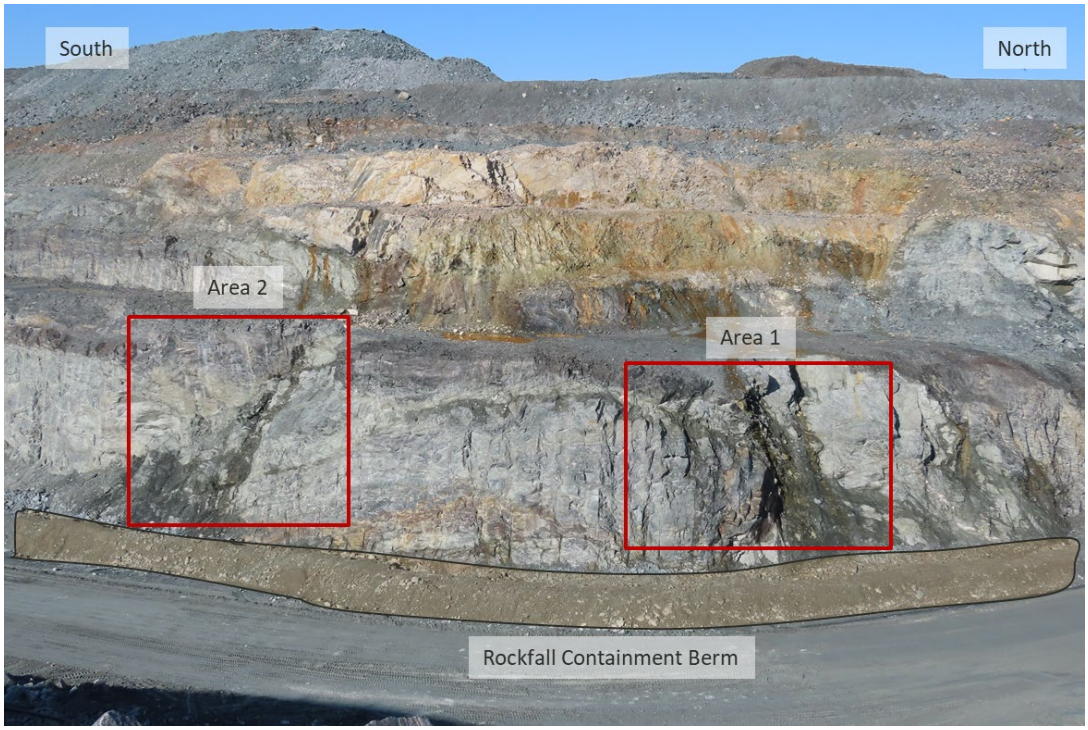
Photograph 6-11: Pit E west wall (2019)

At the south end of the west wall, the contact of the ultramafic rock and overlying intermediate volcanic rock is inclined into the wall, which is generally beneficial for overall slope stability, but can lead to bench-scale instability within the weaker underlying ultramafic rock. The presence of the Bay Fault and associated parallel structures within the ultramafic rock also lead to the potential for toppling, as seen in the transition from the west wall of the pit to the south wall of the pit.

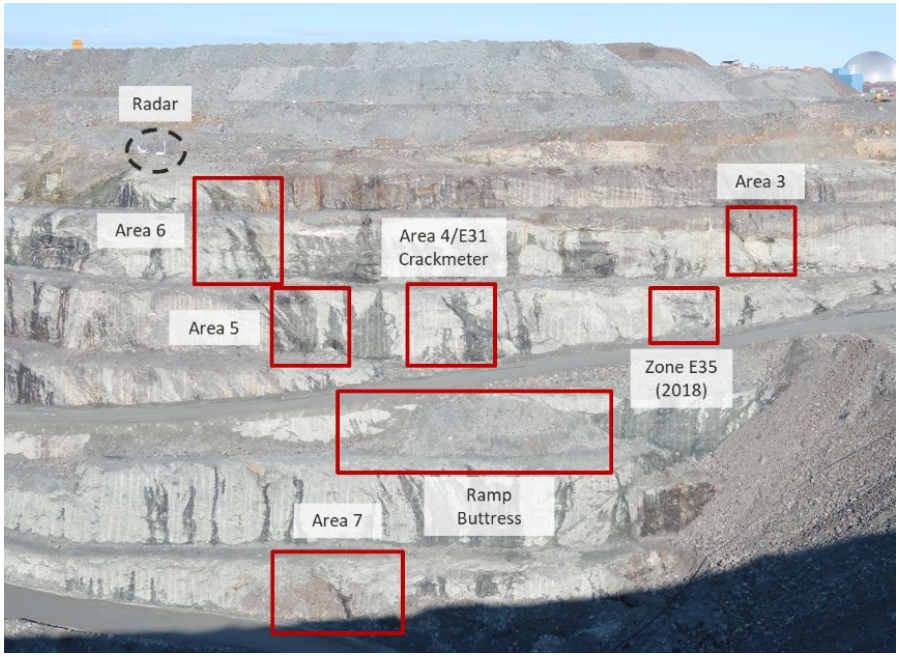
While several rockfall events were recorded following the 2018 site visit, a review of these areas showed no significant increases in debris accumulation on the benches in these areas.

6.5 Pit E3 West Wall Ramp

The Pit E ramp descends southward into the pit along the west wall. Nine key areas of geotechnical hazards identified during previous inspections continue to be monitored and are discussed below.



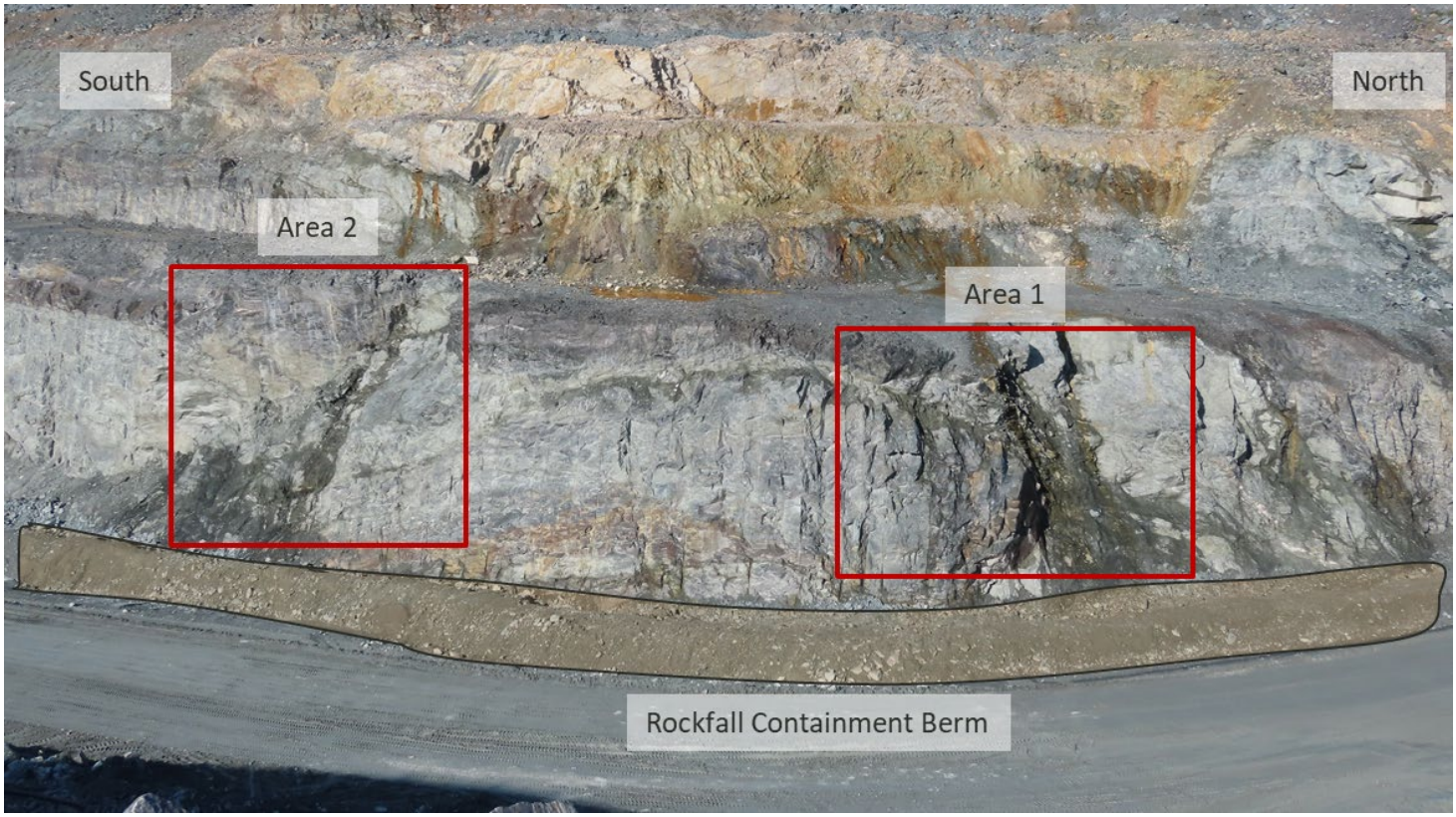
Photograph 6-12: Pit E west wall ramp summary hazard identification (2019)



Photograph 6-13: Pit E west wall ramp summary hazard identification (2019)

6.5.1 Ramp Areas 1 and 2

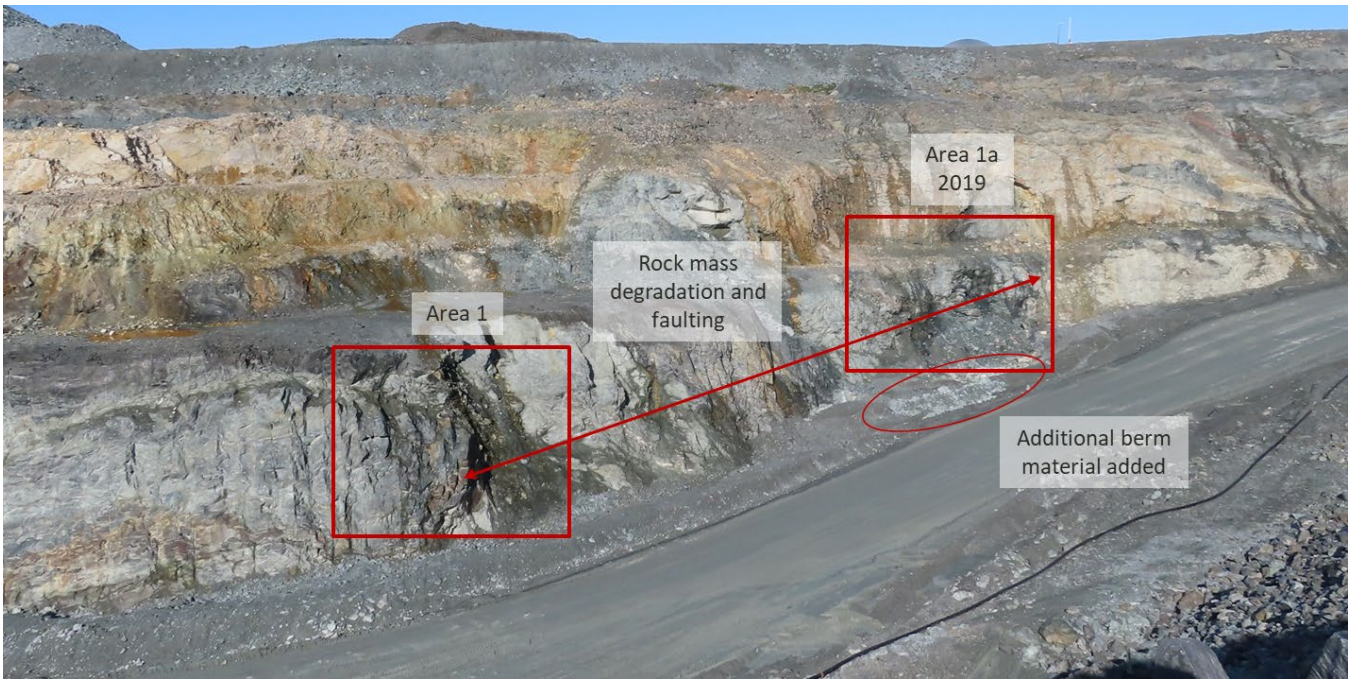
The West Wall Ramp enters the Portage Pit along the west side of the pit, and ramps down to the south towards Pit E3/E5. The ramp passes beneath an area of wall that was experienced several rock falls in 2014 (Area 1 and



Photograph 6-14: Pit E Ramp Areas 1 and 2 (2019)

Area 2). The area of wall is associated with a fault zone – the Bay Fault or a splay off that fault trend - trending along the west wall of the pit. This fault, or shear, is several metres wide, and steeply inclined to the west. The rockfall containment berm along the inside shoulder of the ramp has been re-established to an effective height to contain rockfall runout as recommended following the 2018 site visit.

During 2019 additional instability was noted approximately 20 m to 30 m north of Area 1, along the West Wall Ramp, and associated with a degraded rock mass affected by the Bay Fault or a fault splay. The area was noted as potentially unstable, and additional rockfill material was placed along the inside ramp edge. This is shown in the following photograph.



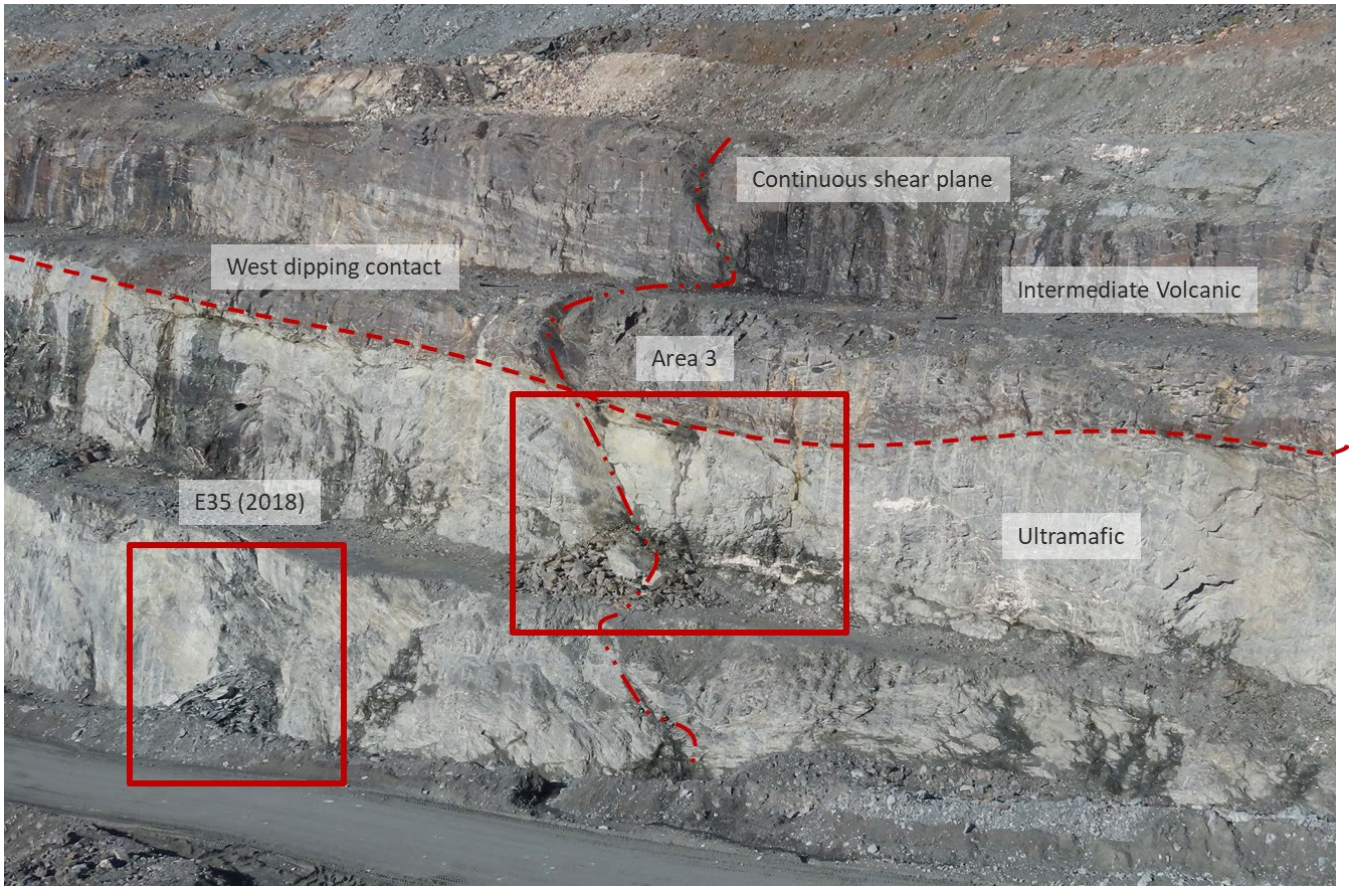
Photograph 6-15: Portage Pit West Ramp Area 1a instability

The following actions are recommended:

- Maintain rockfall containment berm along inside edge of ramp while Pit E is used for tailings and water management.
- Continue visual monitoring and recording of observations as part of regular site geotechnical inspections.

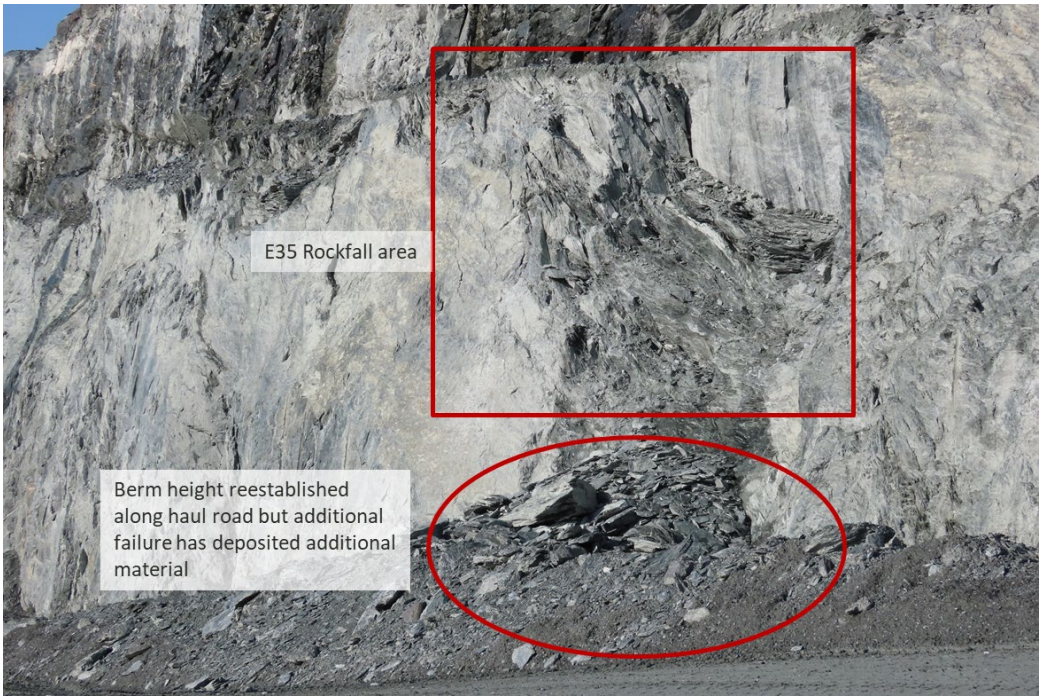
6.5.2 Ramp Area 3

Area 3 is defined by a moderately to steeply north dipping continuous shear plane that strikes into the west wall of the pit above the ramp, and cross cuts the contact between the ultramafic rock and the overlying intermediate volcanic rock. At the contact, the combination of the continuous plane and associated open features, the west dipping contact, and vertically oriented jointing has resulted in historical rockfalls. A review of this area during the 2019 site visit shows no increase in accumulated material on the bench below. This is shown in Photograph 6-16.



Photograph 6-16: Pit E Ramp Area 3 (2019)

In 2018 a rockfall occurred from an area identified as E35. At the time of the 2018 site visit material had spilled over the rockfall containment berm along the edge of the ramp. Furthermore, it was noted that the containment berm in this area had settled. It was recommended that the spill material be cleaned, and that the berm height be restored. Both recommendations were implemented by Agnico. However, some additional material has failed in 2019 and deposited to the crest of the berm but has not over-topped it (see Photograph 6-17). During the site visit it was discussed with AEM to clean this material down using a backhoe to improve catchment at the toe.



Photograph 6-17: Zone E35 rockfall

The following recommendations were made:

- Clean as best possible additional material deposited behind the rockfall berm.
- Maintain the rock fall containment berm on the ramp.
- Continue visual monitoring and recording of observations as part of regular site geotechnical inspections

6.5.3 Ramp Areas 4, 5 and 6

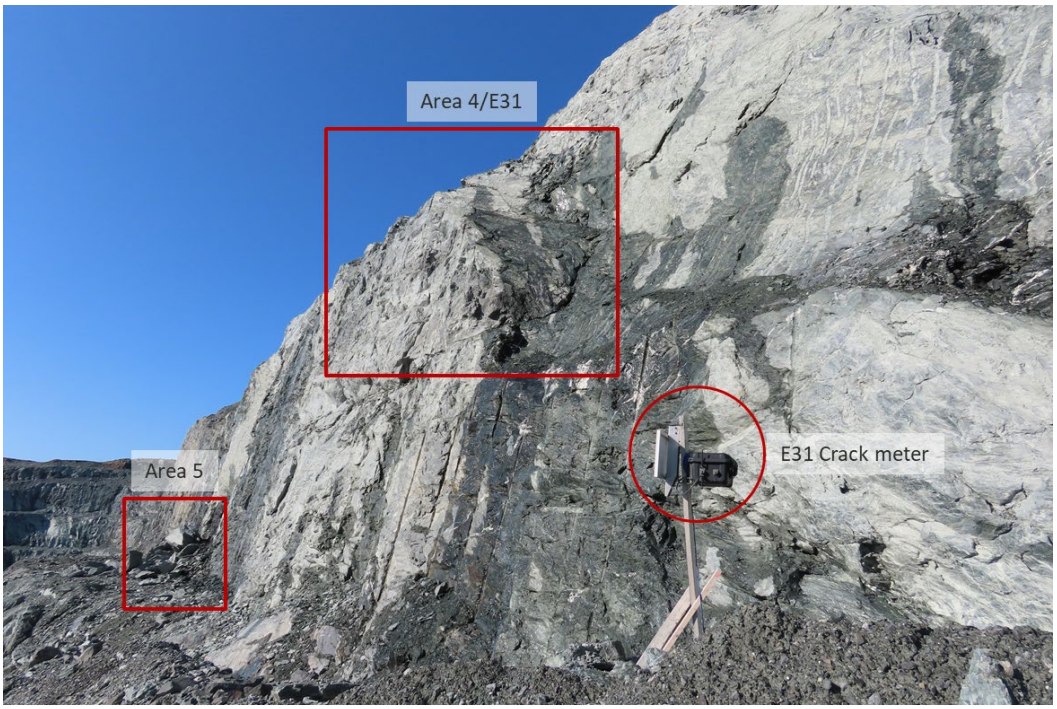
Area 4 is characterized by the presence of a steeply east dipping continuous plane that is undercut by the bench face and exposes a rock block which could conceivably slide. A portion of the rock block was scaled down during mining. AEM installed a crack extensometer into the rock to continuously monitor this block. The monitoring has shown no movement of the block. The rockfall containment berm constructed on the inside of the ramp would be enough to contain this block if it were to fail.

Area 5 is defined by a series of closely spaced bench-scale joints trending into the wall and forming steeply plunging wedges.

Area 6 is located above the 5088 mRL bench and is a vertical extension of the closely spaced jointing of Area 5. These are steeply north dipping shear joints, which intersect the volcanic rock. The close spacing and continuous nature of these joints may result in increased raveling of material particularly during freshet and spring thaw.

No new material was observed to have accumulated beneath each of these areas since the 2018 inspection.

Photograph 6-18: Pit E Ramp Areas 4,5, and 6 (2019)



Photograph 6-19: Area 4/Zone E31 crack meter monitoring (2019)

The following actions are recommended:

- Continue monitoring the crack meter installed across Area 4/Zone E31.
- Continue visual monitoring and recording of observations as part of regular site geotechnical inspections.

6.5.4 Ramp Area 7

Area 7 is at the base of the ramp, at the north end of the pit, and near the contact between iron formation and ultramafic rock.

The potential instability is characterized by strongly sheared ultramafic rock in contact with iron formation, with associated shear planes dipping out of the bench face. Some of the sheared planes are open and appear to form potential wedge and planar mechanisms. It was noted during the 2019 site visit that this area is now partly buttressed with backfilled waste rock, and no longer presents a hazard.

Photograph 6-20: Pit E Ramp Area 7 at bottom of ramp (2019)

The following actions are recommended:

- Continue visual monitoring and recording of observations as part of regular site geotechnical inspections.

6.5.5 West Wall Ramp – Ramp Buttress

A ramp instability identified in 2015 by AEM and associated with the weak ultramafic rock in the lower wall benches below the ramp was mitigated with the construction of a counter-balancing rock fill berm. This was originally documented during the 2015 inspection. The berm continues to effectively stabilize the ramp. There is no indication of instability of the buttress or the ramp surface. No tension cracks were noted along the ramp crest.

The following actions are recommended:

- Continue visual monitoring and recording of observations of the ramp buttress as part of regular site geotechnical inspections.

Photograph 6-21: Buttress support of ramp on west wall of Portage Pit

6.5.6 Pit E Slot South and East Wall

The slot at the south end of Pit E is defined by the transition of the south wall to the west wall of the pit, and is exposed to the east-west trending shear planes which strike obliquely into the south and east walls and have led to many of the rock falls recorded during 2018.

During the 2018 site inspection, a strategy for additional risk management and mitigation was discussed with AEM for mining the slot area. The strategy was based on site experience with the performance of the ultramafic rock and other rock types which indicate a general reduction of rockfall activity during the period October to April. It was discussed with AEM that an additional risk management strategy could be to schedule the final mining of the Portage Pit E based on the knowledge of rockfall activity, with mining of the slot area during the period of lowest risk (October to April) when the pit walls, and specifically the ultramafic rock, are frozen. AEM adopted this strategy and successfully mined the slot area during winter months. Prior to mining of the slot area, the September 27 2018 rockfall was scaled back to the undercut shear plane, and the toppling area on the 5025 mRL bench was buttressed.

Shear planes are noted to be developed within the ultramafic rock exposed at the north end of the slot and through the nose around to the east. It is important to continue to observe bench performance within the ultramafic rock, and specifically not to undercut the shear plane orientations with bench face or inter-ramp slope angles.

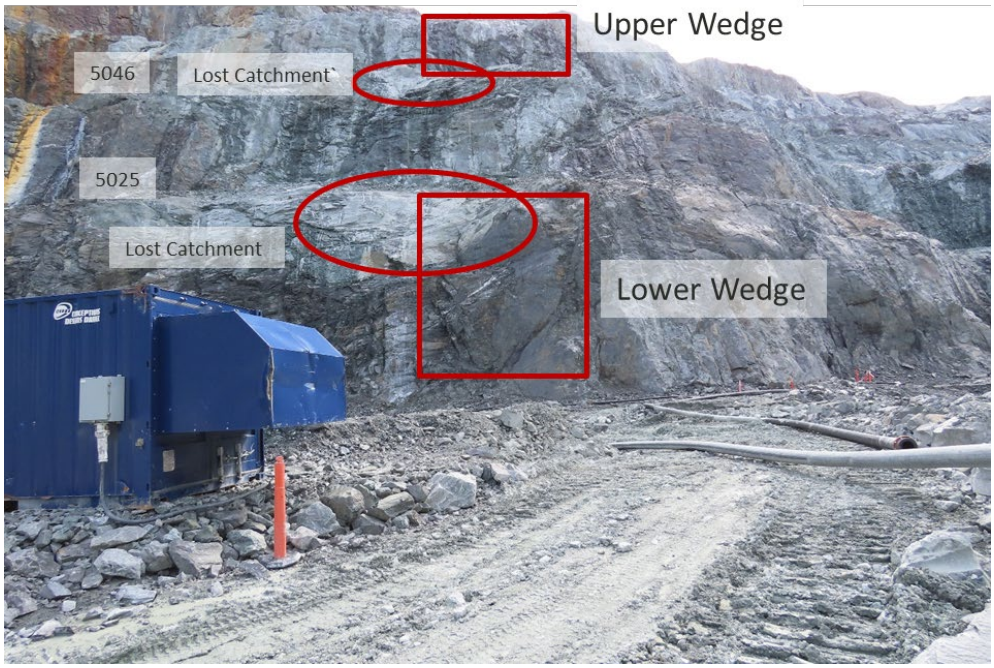
The following actions are recommended:

- During final mining, ensure bench face and inter-ramp angles do not undercut the continuous shear planes that are observed in the ultramafic rock. There is a risk of planar failure along these shear planes if undercut.
- During final mining continue to closely monitor the lower slopes using the radar, and to visually inspect the final benches as they are excavated, especially during rainfall events.

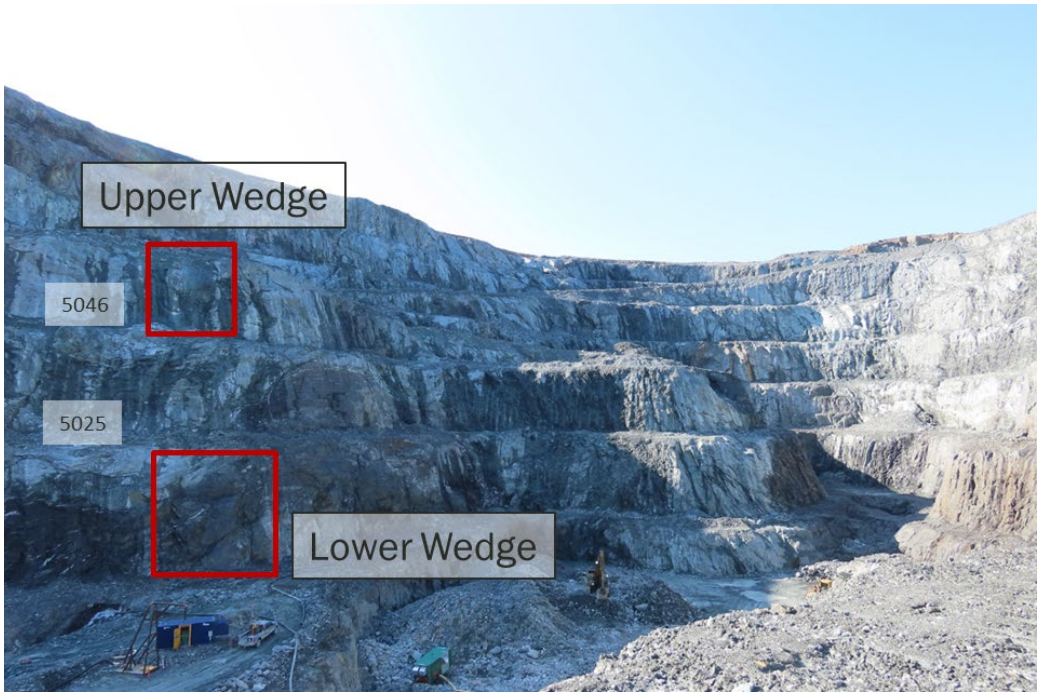
Photograph 6-22: Pit E slot (2019)

6.5.7 Pit E Sump Area

The Pit E sump is in the southeast corner of the pit, directly south of the D Dump 5030 mRL platform and adjacent to the south pit wall, at the contact between ultramafic rock and iron formation. A pump station is located approximately 25 m from the pit wall. AEM geotechnical personnel have noted two potential wedges in the wall above the sump area, one directly in the 5025 mRL bench at the sump level, and one directly above the 5046 mRL bench. The lowest wedge (5025 RL) is within iron formation, while the upper wedge is within ultramafic rock. Attempts to scale out the lowest wedge in the iron formation were not successful, indicating it is currently stable. The ultramafic rock, however has lost catchment on both the 5025 mRL and 5046 mRL benches, below the upper wedge. If the upper wedge in ultramafic rock were to fail, it is likely that some material would spill to the current sump and pump shack platform. Consequently, it was agreed that access to this area would be restricted to no further than the pump station, and that the current pipe location would be moved to the north of the pump station to remove any need for personnel to go beyond the pump station.



Photograph 6-23: Pit E sump area showing lost catchment



Photograph 6-24: Pit E sump area showing potential wedge instability

- Restrict access no further than pump shack.
- Move current pipe location to north side of pump shack and remove any need to go beyond shack.

7.0 GOOSE PIT INSPECTION

The weather conditions during the site visit to the Goose Pit (August 5 2019) were heavy overcast and moderate to heavy rainfall. The light conditions for photography were poor.

Mining of the Goose Pit to a final floor elevation of 4997 mRL was completed in 2015. End dumping of waste rock to the northwest corner of the pit near the access ramp entry point (North Dump) was carried out in 2016, finishing in June of that year. Dumping recommenced in 2017 creating a second and contiguous dump south of the first (South Dump). Dumping from the South Dump stopped in September 2017, and both dump areas are currently inactive.

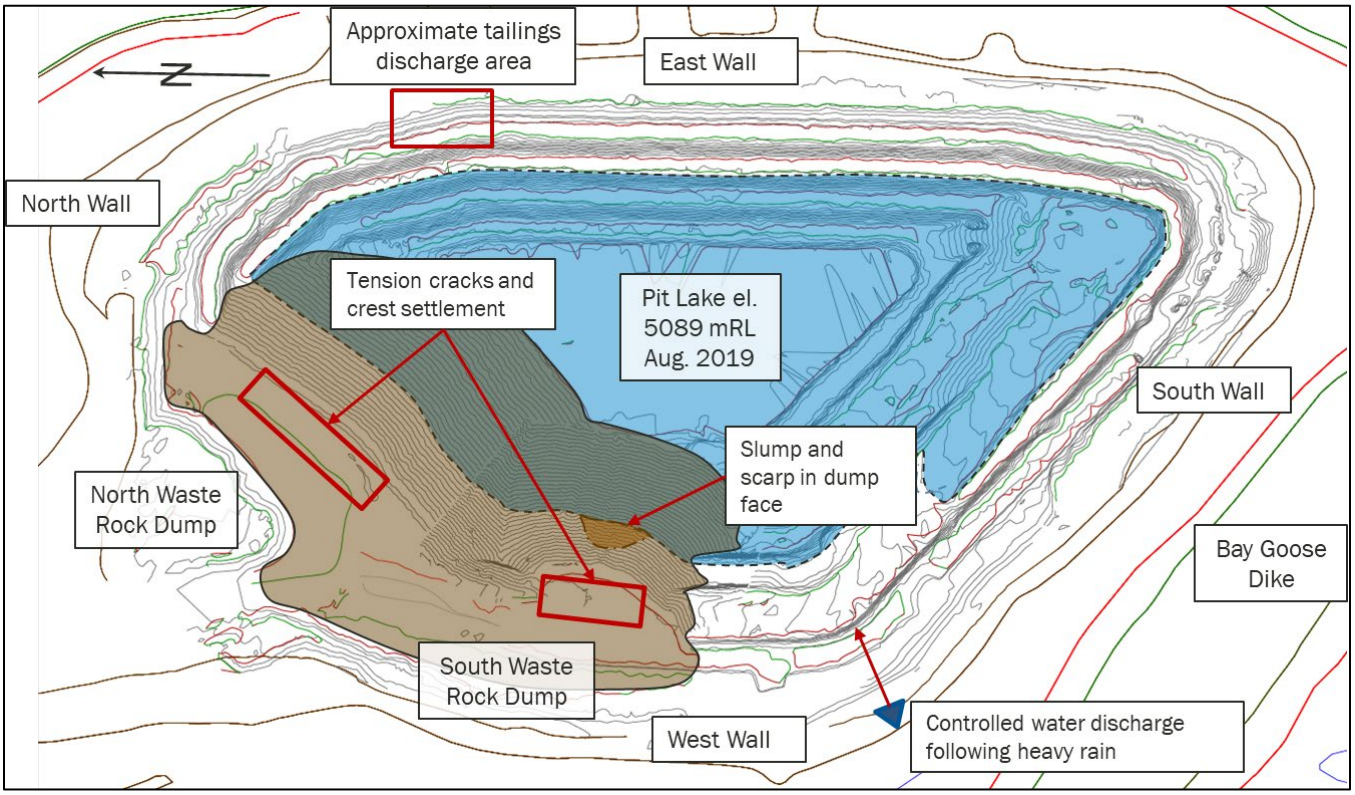


Figure 7-1: Goose Pit general configuration, August 2019

On the day of the Goose Pit site inspection, the elevation of the pit lake was approximately 5089 mRL. The inspection of the Goose Pit comprised a series of stops around the crest of the pit for an overview of the current conditions. The pit is currently being used for tailings storage, and tailings are discharged from a spigot point at the north end of the east wall of the pit. Light vehicle traffic access can be gained by the ramp which allows access to water reclaim pumps for maintenance and for relocation. A water reclaim line runs beside the ramp, on its outside edge. At the time of the site visit water was being discharged from the west-southwest corner pit crest, from a runoff storage area between the pit crest and the Bay Goose Dike. Heavy rainfall occurred in the 2 weeks prior to the site visit, and the discharge in this water storage area was directed toward the pit.

Slope monitoring instrumentation is installed along the east crest of the pit, in the in-field between the pit crest and the Bay Goose Dike toe. In addition to the observations made during the site visit, the data from thermistors, TDR cables, and piezometers were reviewed.

7.1 Goose Pit East Wall

The east wall of the Goose Pit is predominantly intermediate volcanic rock and iron formation. The stratigraphy is inclined steeply at a consistent angle to the west. Steep bench faces were achieved with the use of careful pre-shear blasting, and there was little catchment loss due to overbreak. Tailings are being discharged from a spigot point at the north end of the east wall of the pit and are being discharged over the competent and strong intermediate volcanic rock.

The wall continues to perform well. Currently, there are no geotechnical concerns. The following photograph shows the east pit wall looking north.

Photograph 7-1: Goose Pit east wall looking north (2019)

Photograph 7-2: Tailings discharge to Goose Pit from north end of east wall

The following actions are recommended:

- Continue to discharge tailings over competent intermediate volcanic or iron formation rock.
- Continue visual monitoring and recording of observations as part of regular site geotechnical inspections.
- Continue collecting and reviewing data from instrumentation.

7.1.1 Goose Pit Instrumentation

As part of the site inspection, the instrumentation data from Time Domain Reflectometry (TDR) cables, thermistors, and piezometers installed in the east pit wall were reviewed. The instrumentation is connected to the ADAS at the site and accessed through GeoExplorer. There has been no indication in the instrumentation of any instability of the east wall since monitoring began in 2013.

A location plan for the instrumentation is shown in the following figure, and the data are presented in Appendix B.

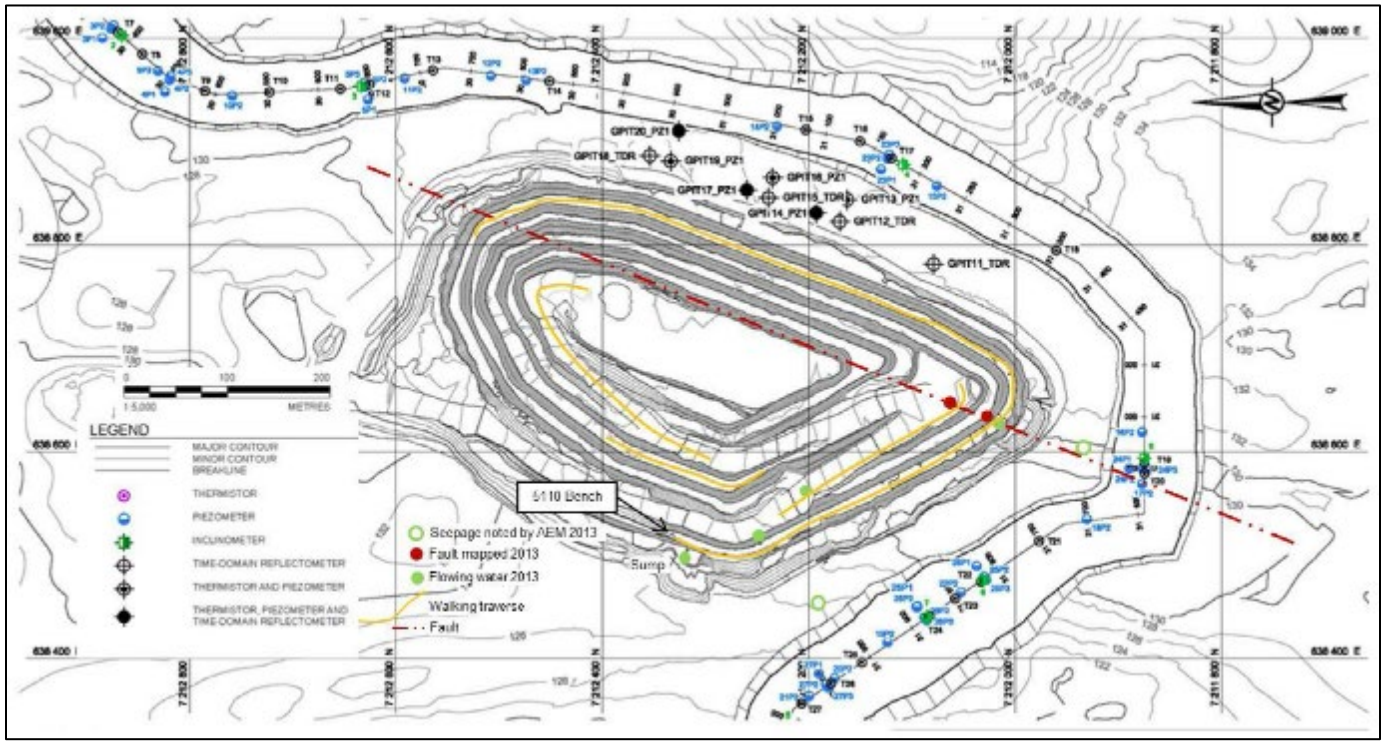


Figure 7-2: Goose Pit instrumentation plan

7.1.1.1 TDR Cables

Seven TDR cables were installed in geotechnical boreholes drilled behind the east wall of the Goose pit in 2013 to monitor slope movement. A review of the data indicates no shear displacements. The TDR profiles are consistent with previous year's data.

7.1.1.2 Thermistors

Thermistors were installed in 6 geotechnical boreholes drilled behind the east wall in 2013. A review of the data indicates no significant change from the 2018 site visit. The data indicate generally steady-state conditions.

Data from GPIT-14, which previously had suggested that freeze back was occurring in to the wall, appears to have reached a steady state.

The thermistor data were reviewed to observe if any significant warming trends could be noted resulting from the increase in the pit lake elevation, as well as the deposition of tailings in to the pit bottom. Despite the current pit lake elevation of 5089 mRL, and despite the introduction of tailings, there does not appear to be any change in the ground thermal regime in the east wall as a result of this, based on the thermistor data.

7.1.1.3 Piezometers

Piezometers were installed in 6 geotechnical boreholes drilled behind the east wall in 2013. A review of the piezometer data comparing 2018 with 2019 has included a review of the ground temperature at each piezometer tip. While there are some fluctuations in pressure head for certain piezometer tips from year-to-year, many of the tips are at 0 degrees C or slightly below. Consequently, the reliability of these pressure readings is questionable.

A review of the piezometers that are not frozen indicates them to be either at a relatively constant pressure, or steady state, or showing a slight upward trend in pressure head over the year. A review of the piezometer tip temperatures also shows generally steady state conditions, or slightly downward (negative) trend. No significantly anomalous pressure or temperature changes are present.

GPIT-14-PZ4-C continues to record erratic pressure heads and is considered to be unreliable.

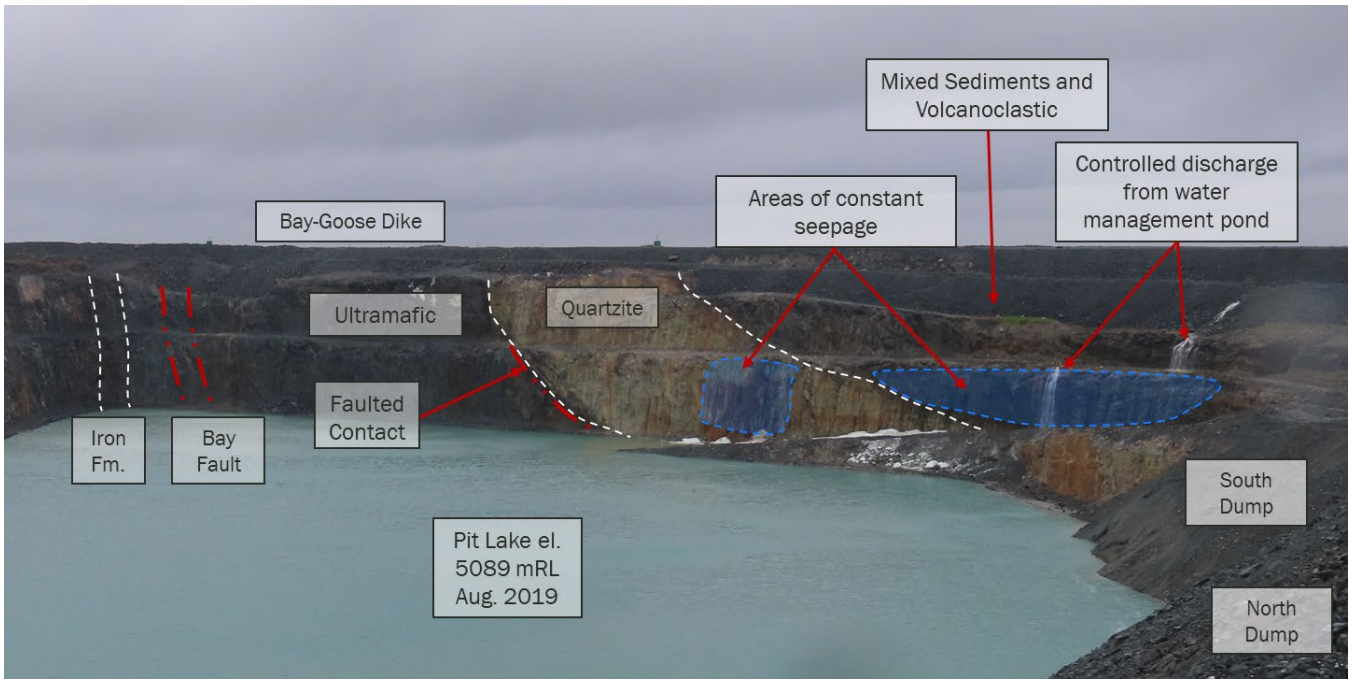
7.2 Goose Pit South Wall

Access to some areas of the South Pit Wall that were visited in 2018 and previous site visits was not possible in 2019 due to the rising water levels in the pit lake. The performance of the overall south wall continues to be satisfactory.

The south wall of the Goose pit comprises iron formation and intermediate volcanic rock in the east, transitioning through a sequence of iron formation, ultramafic rock, quartzite, and mixed volcaniclastic sediments in the west. The most prominent structural feature is the Bay Fault which intersects the south wall of the pit, within the ultramafic rock.

Seepage along the contact of the quartzite and overlying mixed sediments and volcaniclastic rocks continues to flow to the pit along the ditch on the inside edge of the ramp.

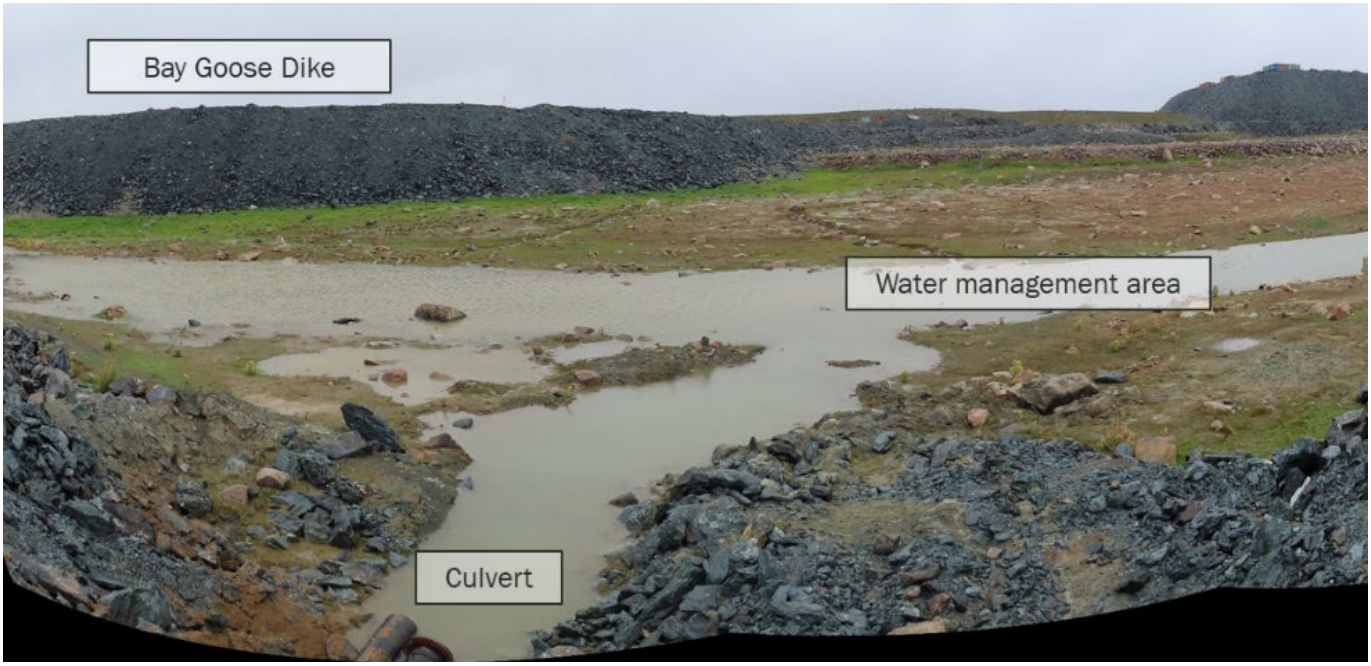
The various lithological units and key observations are shown in the following photograph.



Photograph 7-3: Goose Pit south wall (2018)

Water is being discharged from the southwest corner of the wall, from a water management and storage pond behind the crest. The crest area where the water is being discharged was reviewed, and no indication of crest erosion was noted. Once reaching the ramp, the water is directed down the inside edge of the ramp to the pit lake.

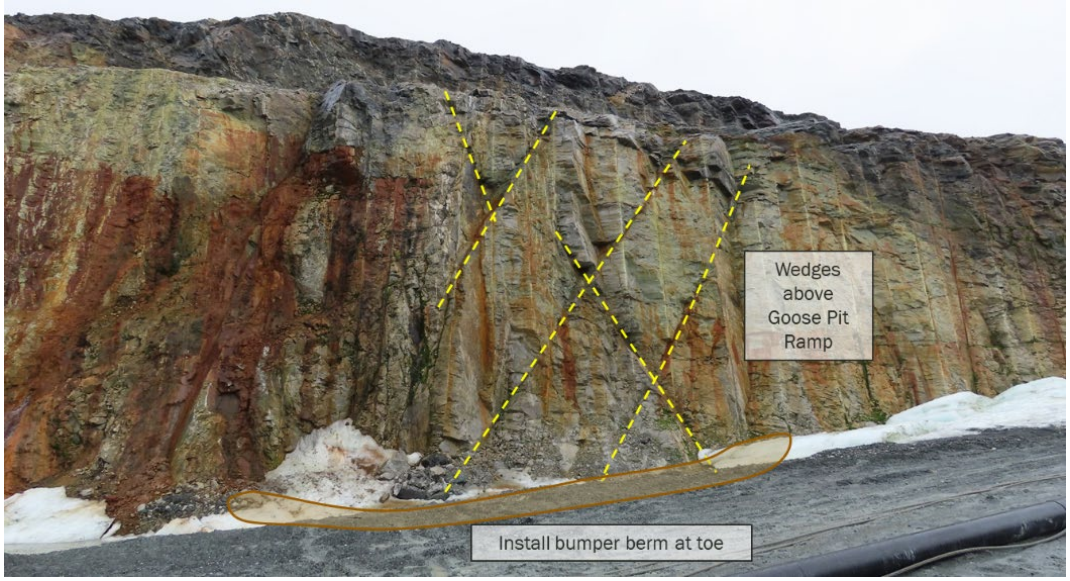
Photograph 7-4: Discharge of water from the water management pond between the ring road and Bay Goose Dike



Photograph 7-5: Water management area between ring road at south crest of Goose Pit

It is understood that the Goose Pit will be operated as a tailings storage facility, and that access to the pit via the ramp will continue for some time. As such, it was noted that a geotechnical risk area that was identified as part of a study by Tetra Tech (2018X) to assess the risks associated with tailings deposition back in the pits remains exposed. Area 21 is comprised of several wedge structures directly above the ramp area. A kinematic assessment

of the wedges suggests these to have a factor of safety of about 1.0. The plunge of the wedges is relatively steep at 46 degrees, and if a failure were to occur it is unlikely it would spill far on to the ramp. It was recommended during the site visit that a bumper berm be constructed to prevent personnel and equipment from stopping directly adjacent to this area.



Photograph 7-6: Wedges above Goose Pit Ramp

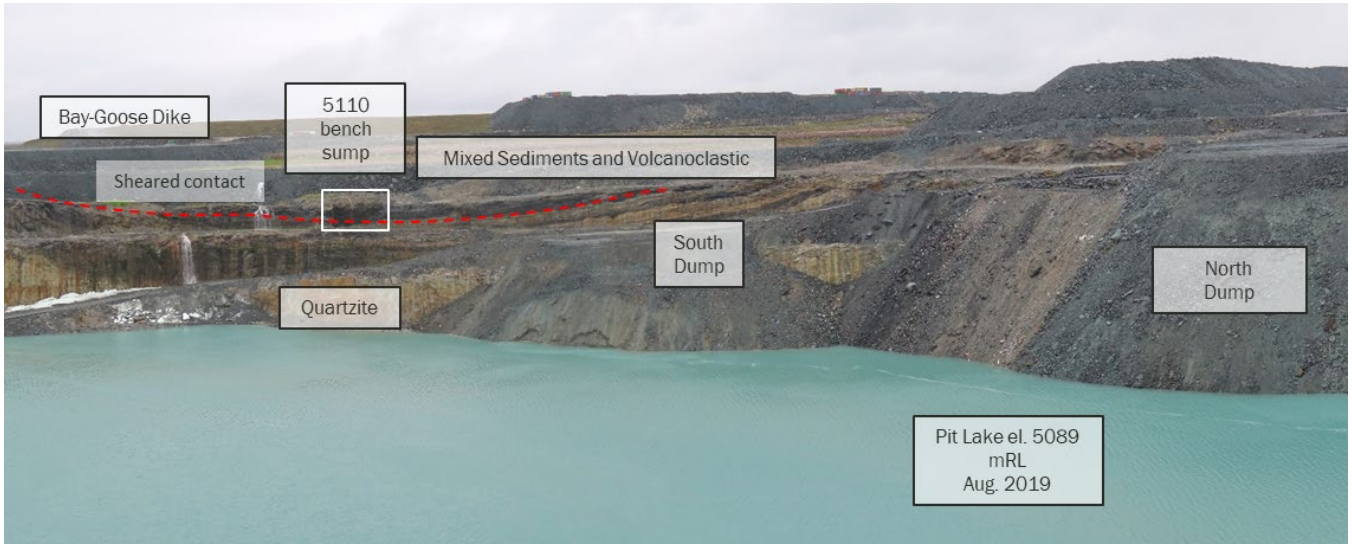
During the 2018 inspection, a fault was identified at the contact between the ultramafic and quartzite, and it was noted that the fault gouge associated with the fault was being eroded, resulting in a widening gap. At the time, this was identified as a potential risk area if the pit and ramp was reactivated for use for tailings disposal, and recommendations were made for this circumstance. However, the current pit lake water level now effectively prevents any access below the area identified during the 2018 site visit.

The following actions are recommended in the area of the Goose Pit South Wall:

- Install bumper berm below wedges above ramp to prevent equipment or personnel from parking adjacent to this area.
- Continue visual monitoring and recording of observations as part of regular site geotechnical inspections.

7.3 Goose Pit West Wall

Much of the west wall of the pit is now covered and buttressed by the South and North Waste Rock Dumps. Where not covered by waste rock, only the upper benches of the west wall are visible, exposing quartzite and mixed sedimentary and volcaniclastic units. The poor quality ultramafic rock exposed in the lower west wall is now covered by pit lake and waste rock dumps.



Photograph 7-7: Goose Pit west wall (2019)

There are no significant geotechnical concerns observed with the performance of the west pit wall of the Goose Pit.

The following actions are recommended:

- Continue visual monitoring and recording of observations as part of regular site geotechnical inspections.

7.3.1 Goose Pit Waste Rock Dumps

The in-pit waste rock dumps at the Goose Pit have been inactive since 2017. The toe of the dumps extends out into the Goose Pit Lake.

Photograph 7-8: Goose Pit waste rock dumps (2019)

Tension cracks on the North and South Dump platform were first noted during the 2015 inspection. During the 2018 inspection additional shallow slumping of the South Dump face was noted, along with significant crest sag.

Tension cracks and crest sag continue to be evident on the North Dump crest. Currently, there is no active monitoring of the dump crest because the dumps are inactive. As such it is difficult to determine if any additional displacement has occurred since the 2018 inspection.

Photograph 7-9: Tension cracks and crest sag Goose Pit North Dump (2019)

Photograph 7-10: Sloughing of Goose Pit South Dump face (2019)

During the 2018 site visit a scarp was observed to be forming on the South Dump face, as the pit lake was rising. In 2019, the dump face had sloughed back to the scarp that was identified. Access by any vehicle traffic to the dump crests should be restricted.

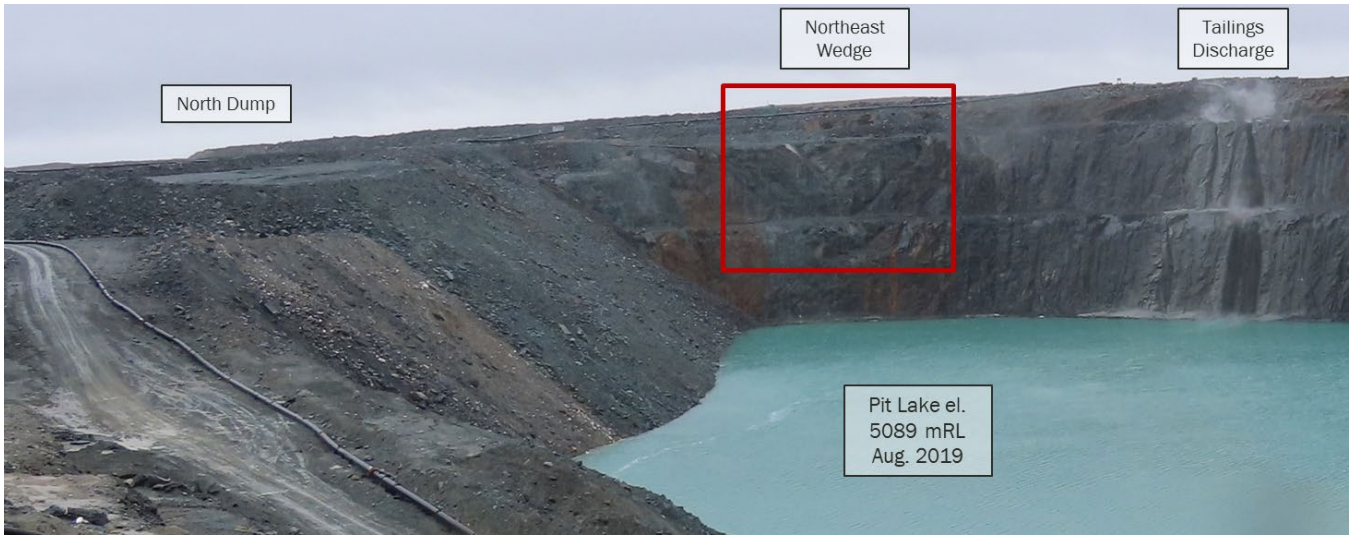
Since the Goose Pit is currently being used for tailings deposition, and their remains access to the pit by the ramp on the south wall for pump control panel access, it is suggested that wireline extensometers be reinstalled on the North and South Dump platforms to monitor movement rates at the dump crests during the time the pit is operated for tailings storage. If a dump failure were to occur into the pit lake, it could potentially create a wave surge. The extensometers should be monitored daily, following the waste dump monitoring protocol established by AEM.

The following actions are recommended:

- Install wireline extensometers across the tension cracks on the dump platforms and monitor daily according to established monitoring protocols to monitor changes.
- Mark the position and extents of the existing tension cracks on a dump plan for on-going monitoring purposes.
- Measure the vertical displacement across the tension cracks as a record of settlement.
- Continue visual monitoring and recording of observations as part of regular site geotechnical inspections.

7.4 Goose Pit Northwest through Northeast Walls (North End-Wall)

The northwest through northeast (north end-wall) walls of the Goose Pit exposes the stratigraphic sequence of the deposit, from ultramafic rock in the west, through iron formation, and then intermediate volcanic in the east. The stratigraphy and major structural features (faults and dominant foliation) strike approximately perpendicular to the wall. The wall also exposes the Bay Fault, and associated splays. A large stable wedge (Northeast Wedge) can be observed in the northeast pit wall. Tailings are currently being discharged from the north end of the east wall of the pit.



Photograph 7-11: Goose Pit northwest through northeast wall (north end wall 2019)

During the 2018 site inspection, it was noted that water was being discharged on to the ring road and thermal cap at the north pit crest and flowing through the rockfill before spilling on to the rock face. This was inspected in 2019 and noted that water is no longer being discharged in this area.

There are currently no concerns with the performance of the northwest through northeast end wall of the Goose Pit.

The following actions are recommended:

- Continue visual monitoring and recording of observations as part of regular site geotechnical inspections.

8.0 VAULT PIT INSPECTION

8.1 General Observations

Mining of the Vault Pit was completed in March 2019 to a final depth of approximately 4955 m. The pit is still accessible by the footwall ramp, and the pit walls continue to perform well. On the day of the site visit (August 6 2019) the Vault Pit lake was at an elevation of approximately 4986 mRL. A small sump adjacent to a switchback in the ramp is located at the south end of the pit at approximately 5018 mRL. There is no active water management for the pit, and all pumps and dewatering systems have been removed.

There are two in-pit waste rock dumps constructed in the north part of the pit, with crest platform elevations of approximately 5088 mRL and 5130 mRL.

The following figure shows the extents of the Vault Pit, Phaser Pit, and BB Phaser Pit.

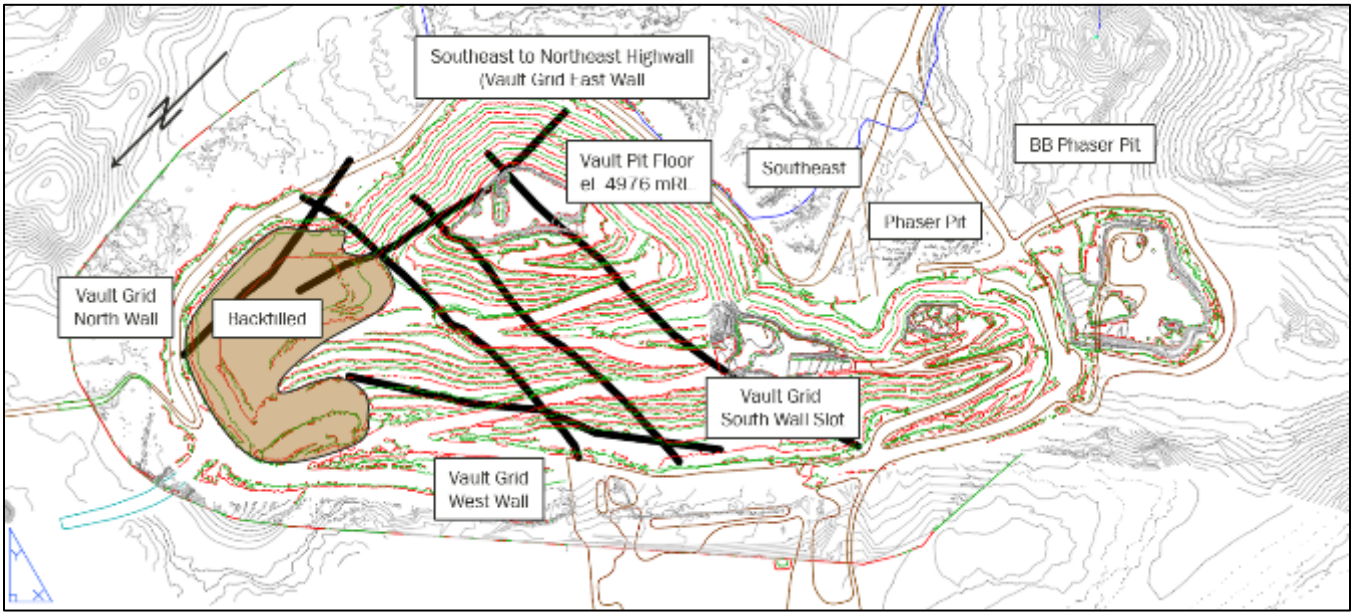


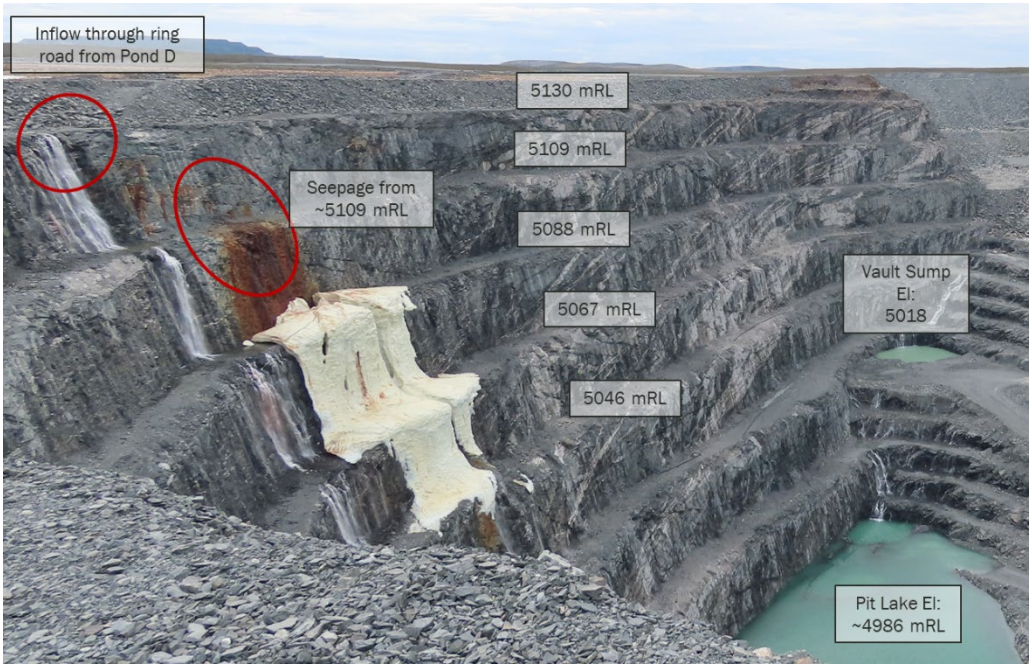
Figure 8-1: Vault Pit

8.1.1 Water Inflows and Seepage

During the 2019 site visit, water seepage on the footwall (formerly called west wall seepage) was noted in an area above the ramp which has been flowing at a very low rate since mining of the pit began.

Photograph 8-1: Minor wall seepage noted on west footwall of Vault Pit (2019)

Water from Pond D (the former Vault Lake) located behind the southeast pit wall crest flows freely through the ring road at the crest, and spill over the pit crest. The flow is uncontrolled and is governed by the current elevation of Pond D, which was 5134 mRL at the time of the site visit. During operation of the pit, the water elevation in Pond D was pumped down to control the development of the ice wall from the 5109 mRL. The water currently flowing through the ring road is discharging from the southeast crest and is adjacent to the seepage area responsible for the annual formation of the ice wall.



Photograph 8-2: Vault Pit water inflow from Pond D

Photograph 8-3: Pond D attenuation storage (2019)

The ring road at the south to southeast pit crest and separating Pond D from its inflow to Vault Pit was inspected during the site visit for signs of settlement or distress and no visible signs were noted. It was discussed that indications of impact to the ring road related to water flow through the road fill material might include settlement of the road surface, the development of tension cracks at the road edge, and potentially sinkholes depending on the materials used to construct the road. The road is constructed with coarse rockfill. Water flows relatively freely through the road. Since the water flow is not through an engineered structure such as a culvert, it was recommended that the road access be bermed off or decommissioned to prevent full use of the road to travel around the pit.

Photograph 8-4: Inflow to Vault Pit from Phaser Pit

8.2 Footwall Slope (Vault Grid West Wall)

The west wall (grid west) of the Vault was mined as a series of single-benches (7m high) to create a footwall slope. The deposit dips at relatively shallow angles to the east (grid east), parallel to the foliation and stratigraphy. The average inclination is 22 degrees but ranges from as shallow as 10 degrees to as steep as 40 degrees. Bench faces were not pre-sheared but were bulk blasted at steep angles, and generally broke back, or were scaled back, to the orientation of the foliation. Consequently, there are some benches with considerable loss of catchment which was anticipated during the design process. To account for the expected performance, the bench design heights were restricted to single-height to minimize failure volumes. The footwall slope has performed as expected through the life cycle of the pit, and no large scale multiple bench instabilities were encountered.

Photograph 8-5: Vault Pit west wall looking north (2019)

Photograph 8-6: Vault Pit west wall looking south (2019) showing dump advance

There are no significant geotechnical concerns for the footwall slope.

- Continue visual monitoring and recording of observations as part of regular site geotechnical inspections.

8.3 Southwest Wall (Vault Grid South Wall)

The southwest wall (grid south) intersects the stratigraphy and foliation perpendicular to their trend. The gently east dipping structure is visible in this end wall. The overall wall continues to perform well, with little accumulation of material noted on the benches.

At the west end of the wall, the slot cut joining Vault Pit with Phaser Pit has been backfilled as part of the long-haul road extending north to the Amaruq Project area. Water was also noted to be flowing from the southwest corner of the pit towards the pit sump on the ramp at approximately elevation 5018 mRL. The water is flowing beneath the rock fill material used to backfill the slot between Vault Pit and Phaser Pit as part of the road alignment for the long-haul road to the Amaruq Project. The water elevation in Phaser Pit lake was approximately 5107 mRL at the time of the site visit, and approximately 5018 mRL in the Vault Sump.

Photograph 8-7: Vault Pit grid south wall (2019) and backfilled slot cut to Phaser Pit

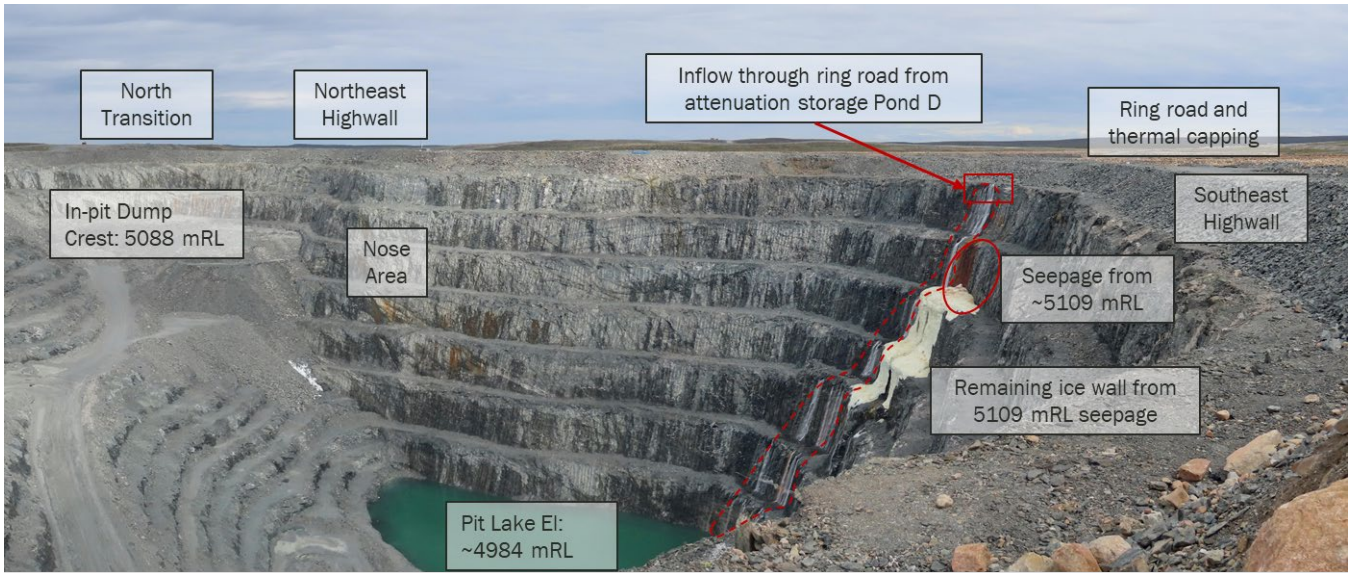
Photograph 8-8: Vault Pit sump and water flow from Phaser Pit

The following actions are recommended:

- Monitor for any indications of settlement in the long-haul road where it crosses the backfilled slot.
- Continue visual monitoring and recording of observations as part of regular site geotechnical inspections.

8.4 Southeast to Northeast Highwall (Vault Grid East Wall)

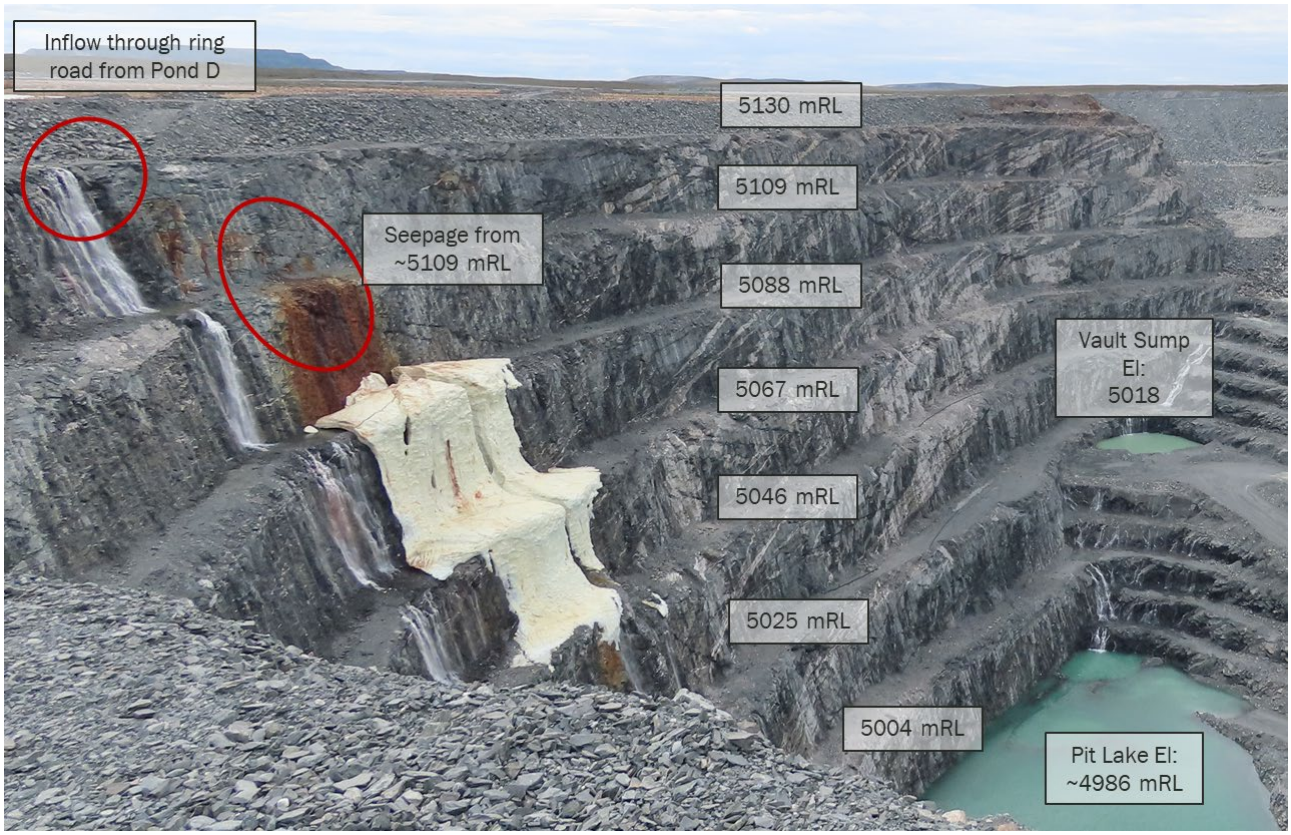
The southeast to northeast highwall (grid east wall) has mined to its final height. The catch benches developed for the highwall continue to perform very well. The pit floor has been deepened since the 2018 site visit by approximately one triple-bench, or approximately 21 metres, to an elevation of 4955 mRL.



Photograph 8-9: Vault Pit east and northeast highwall (2019)

The benches are cleaned well, and there is no indication of significant raveling and no significant accumulation of material on the benches. There is some over break of bench crests due to blasting but this is not significant. In general, the toe of the thermal capping material is greater than 2 m back from the pit crest.

Photograph 8-10: Vault Pit east highwall bench performance, southeast end looking north (2019)



Photograph 8-11: Vault Pit east wall northeast end looking south (2019)

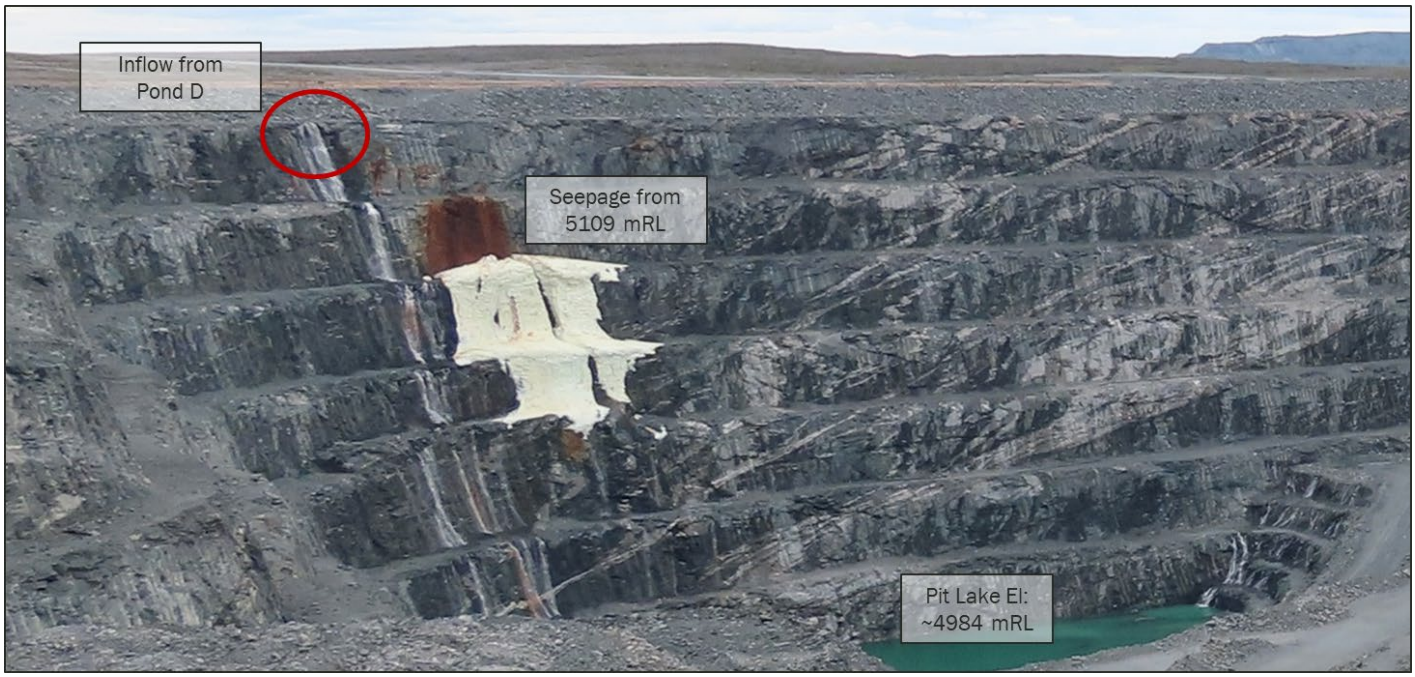
The following actions are recommended:

- Continue visual monitoring and recording of observations as part of regular site geotechnical inspections.

8.4.1 Southeast Wall Seepage and Inflows from Pond D

On the day of the site visit, some ice remained on the southeast wall below the seepage source above the 5109 mRL bench which leads to the annual formation of the Vault ice wall. Seepage still discharges from a fracture in the rock just above the 5109 mRL bench. The bench is heavily stained by iron oxidation. While the seepage area had been expected to freeze back during mining of the pit, it never did, thus creating the ice wall which formed a risk to mining during the freshet period when ambient air temperatures would rise above 0°C. Since mining of the pit was completed before the freshet period for 2019, this risk was avoided. During winter mining, Agnico carried out bi-weekly inspections of the ice wall, noting any significant changes and communicating this information to operators as part of their standard management procedures.

During mining, AEM managed the water elevation in Pond D (former Vault Lake) at a low level to assist in lowering water levels behind the wall. During the 2019 inspection, it was noted that the water elevation in Pond D has been allowed to rise and was at an elevation of 5134 mRL. Consequently, water is flowing freely through the ring road and discharging from the crest of the 5130 mRL bench.



Photograph 8-12: Vault Pit seepage from southeast pit wall 5109 bench (2018)

The ring road adjacent to the discharge from Pond D at the Vault Pit crest was inspected for the formation of sink holes, tension cracks, settlement, or other signs of instability or erosion; none were observed at the time of the site visit. However, it was discussed with AEM that since there is no culvert in place to allow flow from Pond D to the Vault Pit, there is the potential for erosion of the ring road material as finer material is washed out. It was also noted that the ice wall that will form in 2019 will begin significantly higher on the wall, and in fact will likely originate from the ring road base flow from Pond D. It is possible that this could impact the on-going performance of the road and could potentially destabilize the road. There is a risk that during the freshet period in 2020 that water levels in

Pond D will continue to rise if not actively pumped down, and ice could dam the upstream side of the ring road creating a risk of over-topping of the ring road leading to significant downstream erosion of the road structure and possibly failure.

Photograph 8-13: Pond D water elevation 5134 mRL

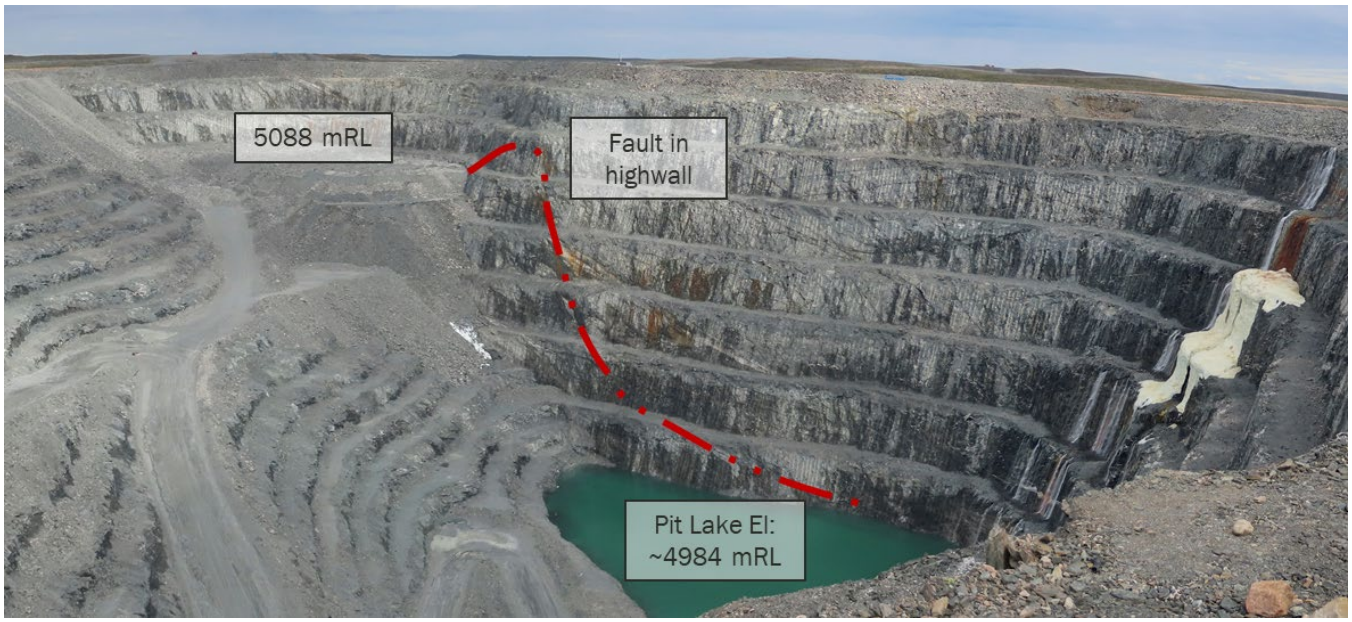
It was recommended during the close out site visit meeting that the road be completely closed to use. Consideration should be given to either pumping water from Pond D to Vault Pit during freshet period, or to excavating a trench through the road to connect Pond D with Vault Pit and allow the free flow of water between the two.

The following are recommended:

- Deactivate and close road.
- Continue visual monitoring of the ring road base flow on the downstream and upstream sides of the road.

8.4.2 Highwall Nose Area

A series of widely spaced faults and open continuous joints dip into an area of the northeast wall. During mining this presented a risk of toppling; this area is now buttressed with waste rock and the risk eliminated.



Photograph 8-14: Vault Pit east highwall nose and fault

The following actions should continue to be implemented.

- No additional monitoring is necessary apart from any regularly scheduled site geotechnical inspections.

8.4.3 Northeast and North Transition Walls – Vault Dumps

The north end of the Vault Pit has been used for in-pit disposal of waste rock. There are three main in-pit dumps with dump crests at three different elevations. The westernmost dump platform is at approximately 5130 mRL; the north through northeast platform is at approximately 5088 mRL; and, the southernmost platform is at approximately l5046 mRL.

Photograph 8-15: Vault In-Pit dumps

The dump crest areas were reviewed during the site inspection, along with the dump faces, for any indicators of potential instability such as tension cracks, subsidence, or bulging of the dump face. While some minor settlement and tension cracks were noted at the very north end of the westernmost dump platform, these are not considered significant to warrant monitoring other than observation during regular geotechnical inspections. Since the dumps are no longer active, access to the dump crest areas should be bermed off.

There do not appear to be any significant stability concerns with the Vault in-it dumps. Many of the geotechnical hazards identified during previous inspections no longer exist. The following are recommended:

- Continue visual monitoring and recording of observations as part of regular site geotechnical inspections.

Photograph 8-16: Vault Pit northeast wall bench performance and 5088 mRL dump platform

Photograph 8-17: Minor settlement of dump crest at north end

8.5 Vault Instrumentation

Following the 2016 field thermal exploration study, AEM installed piezometer and thermistor instrumentation to monitor the thermal and hydrogeological conditions in specific areas of the Vault Pit. The areas selected were areas where the thermal exploration study indicated talik conditions. The piezometers and thermistors are attached to data loggers, and the loggers are regularly downloaded and reviewed.

The approximate locations for the instrumentation at the Vault Pit at the time of the site visit is shown in Figure 8-2. The available instrumentation data are presented in Appendix C. Prism data are not collected.

8.5.1 Thermistors

Thermistors installed at VPIT-1 and VPIT-2 are installed in what formerly was a shallow drained bay of Vault Lake. VPIT-1 is currently located adjacent to water management Pond C and VP2 is adjacent to the north end of the pit. Since the former lake in this bay was shallow, the talik was not well developed and this is seen in the thermal profile of the thermistors which show frozen conditions.

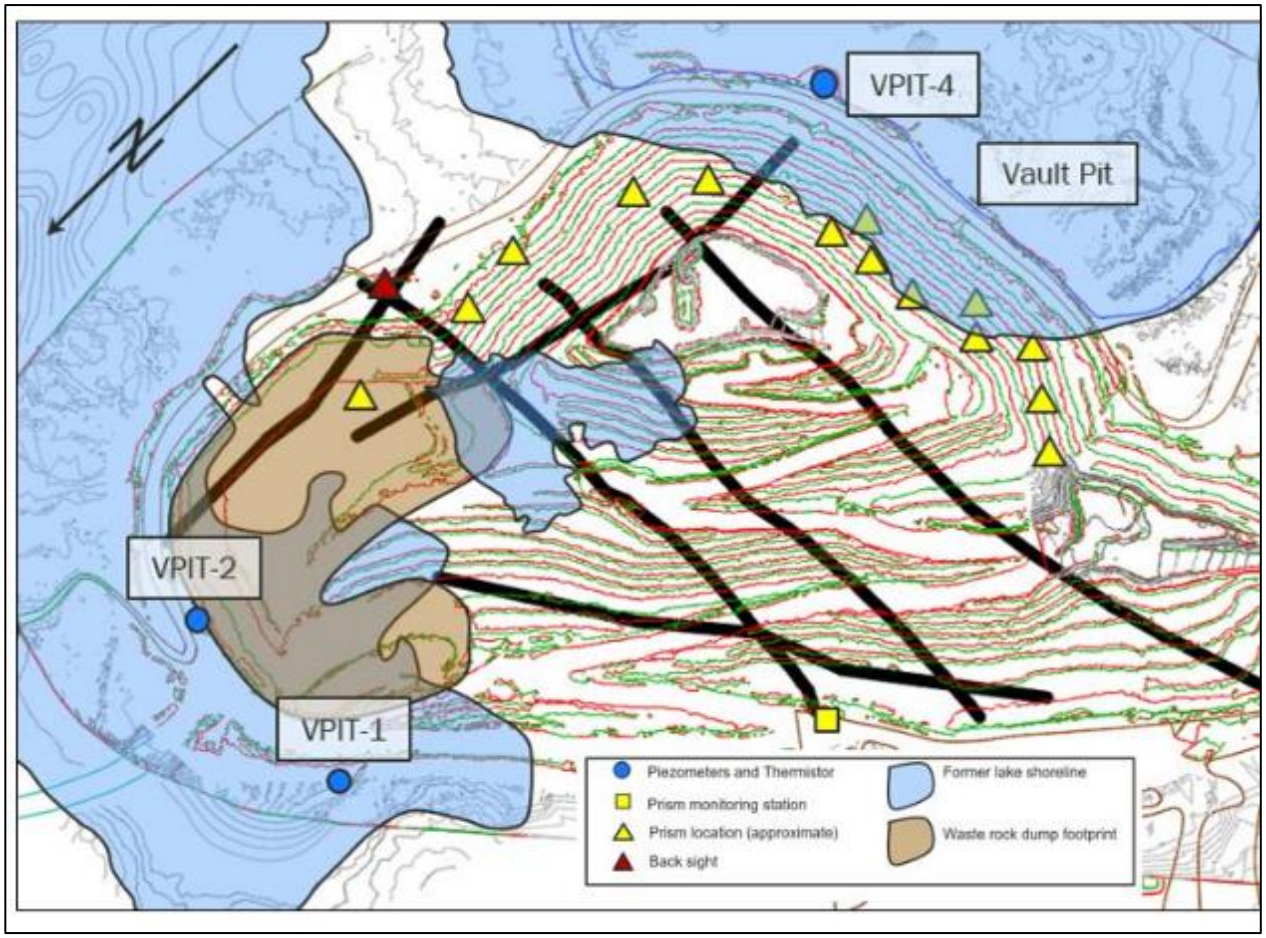


Figure 8-2: Vault Pit instrumentation plan

VPIT-1 continue to show fluctuating ground temperatures, between 0 degrees C and -1 degree C. The location of the depth of zero annual amplitude is not well defined, nor is the active layer depth. There is no noticeable change in the ground thermal profile from 2018.

VPIT-2 continues to show a cooling trend and all thermistor beads show sub-zero temperatures.

VPIT-4 is installed from the ring road behind the southeast pit crest. The geothermal profile continues to show the upper portion of the wall to be permafrost, now to an elevation of approximately 5098 mRL. Between 5098 mRL and 5092 mRL, ground temperatures are approximately 0.5 degree C in the region that seepage is noted from the wall. Water will continue to flow from this elevation.

8.5.2 Piezometers

The piezometer data from the three installations was reviewed. Since VPIT-1 and VPIT-2 are installed in ground with temperatures below 0 degrees C, the data are unreliable.

The deepest piezometer installed at VP-4 (VP-4A, 5068.7 mRL) is installed in frozen ground, with a ground temperature of -2 degrees C. The data are considered unreliable.

VP-4B (5094.7 mRL) was installed in non-frozen ground. Annual fluctuations in pressure head were noted in 2017 and 2018, increasing in spring and then decreasing from October onward. In 2017 the pressure heads stabilized but in 2018 pressure heads continued to drop from October to May of 2019 by about 9 m before beginning to rise again. This could be associated with final mining of the pit which was completed in March 2019. Since March of 2017, the ground temperature at the depth of the piezometer has been relatively constant at +0.2^{o}C.

VP-4C (5116.4 mRL) is the shallowest installation, and as been below 0oC since April 2017, resulting in unreliable piezometer data. The ground temperature at the depth of the piezometer tip has continued to fall and is currently at approximately -3.8^{o}C.

8.5.3 Prisms

There are no prism data to review for the Vault Pit. Prisms have not been installed since 2017 due to difficulties in collecting data regularly for monitoring purposes. The excellent performance of the wall has also precluded the need for prism monitoring.

8.6 Phaser Pit

The Phaser Pit is a southward extension of the Vault Pit. The pit is inactive. The general layout is shown in Figure 8-5.

The Phaser Pit stratigraphy is an extension of the Vault Pit stratigraphy and is inclined to the east to southeast at relatively shallow angles. Mining of Phaser Pit was completed in Q3 2018 to a final elevation of approximately 5090 mRL. On the day of the site visit (August 06, 2019) the Phaser Pit lake was at an elevation of approximately 5107 mRL. Only one bench remains visible due to the pit lake. The pit walls continue to perform well and there are no signs of instability.

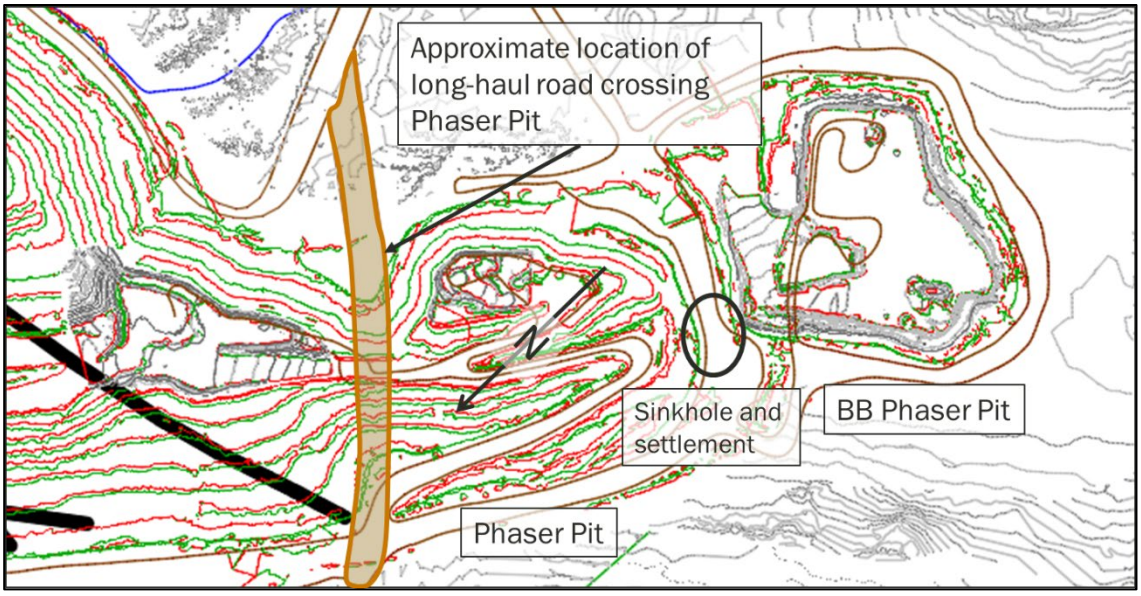
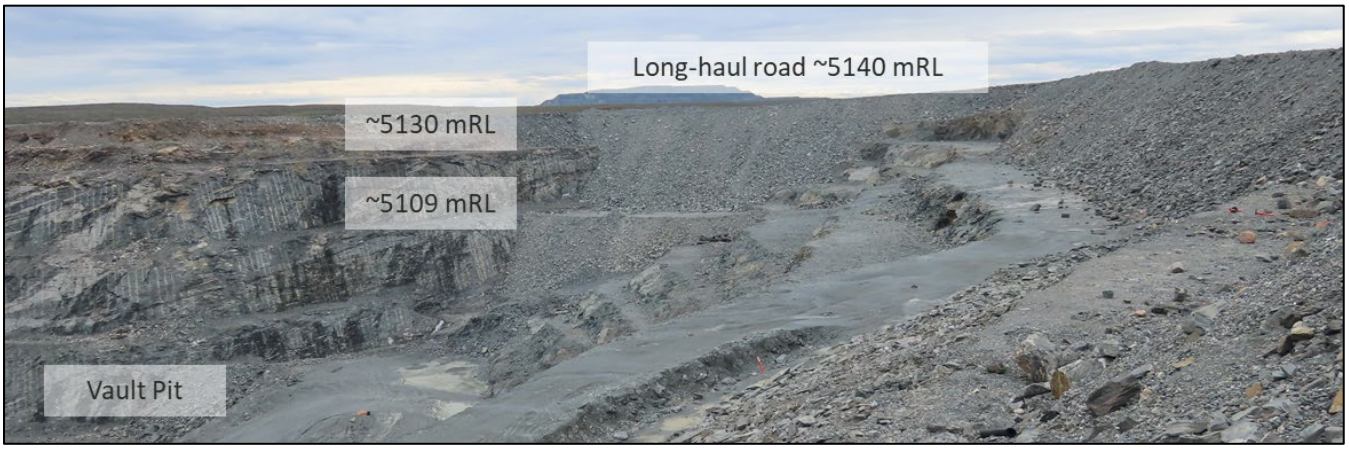


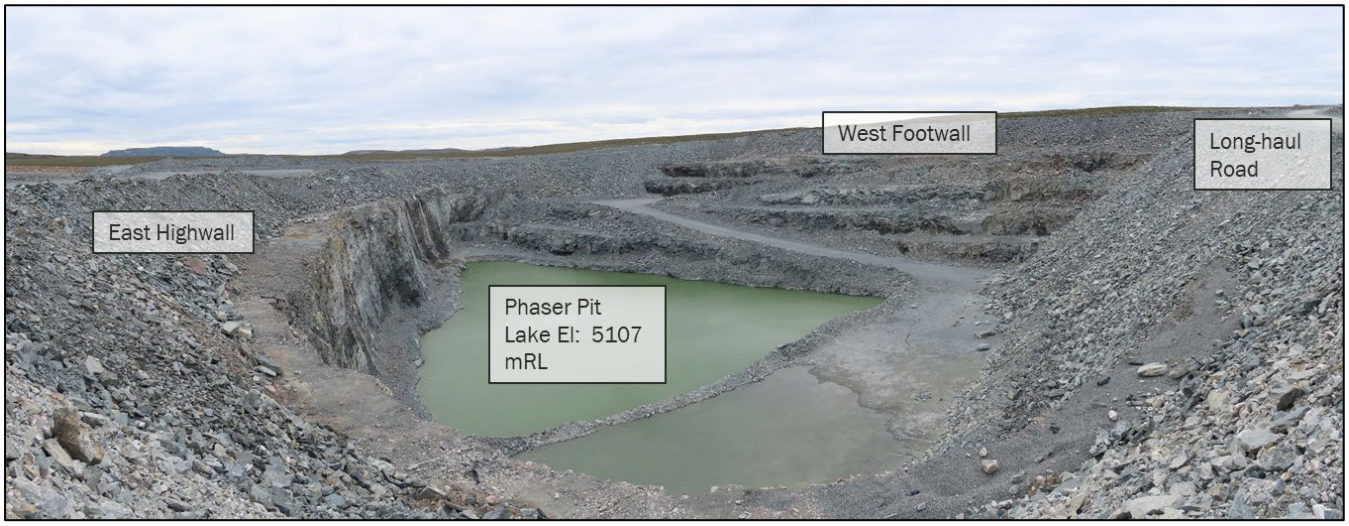
Figure 8-3: Phaser and BB Phaser Pits

The final depth of the Phaser Pit is 40 to 50 m (2 to 3 benches), not including the overburden at the crest of the pit. The west wall (footwall) of the pit was excavated in permafrost; a portion of the east wall of the pit may be within talik beneath the former Phaser Lake, which reached a maximum depth of about 3 m. The pit was mined over a period of approximately 1 year, from Q3 2017 to Q3 2018.

The pit is ovoid in shape with three walls: an east-southeast highwall, a south-southwest endwall, and a west-northwest footwall. There is no north-northeast endwall as this was the transition slot cut to the Vault Pit which has been backfilled. Wedge-forming joints were noted in the wall of the transition slot during the 2018 site visit. These have now been covered as the transition slot to Vault Pit has been backfilled as part of the long-haul road to the Amaruq Project.



Photograph 8-18: Slot from Vault to Phaser Pit backfilled to as part of long-haul road from Amaruq



Photograph 8-19: Phaser Pit highwall (east wall) and footwall (west wall) performance (2019)

The west-northwest footwall slope was also reviewed. The excavation of the footwall slope follows similar design to the Vault Pit footwall slope, and experiences similar performance issues relating to undercutting of the bedding by the steep bench face angles. The wall is performing as expected with some accumulation of raveling material on the benches.

Pit lake water is ponding at the toe of the long-haul road to the Amaruq Project. Some water is flowing through the fill material and then in to the adjacent Vault Pit, at a lower elevation. While this is currently not affecting the performance of the long-haul road, it is possible that over time that if the pit lake rises, a signficant hydraulic gradient will develop across the road structure.

The following actions are recommended:

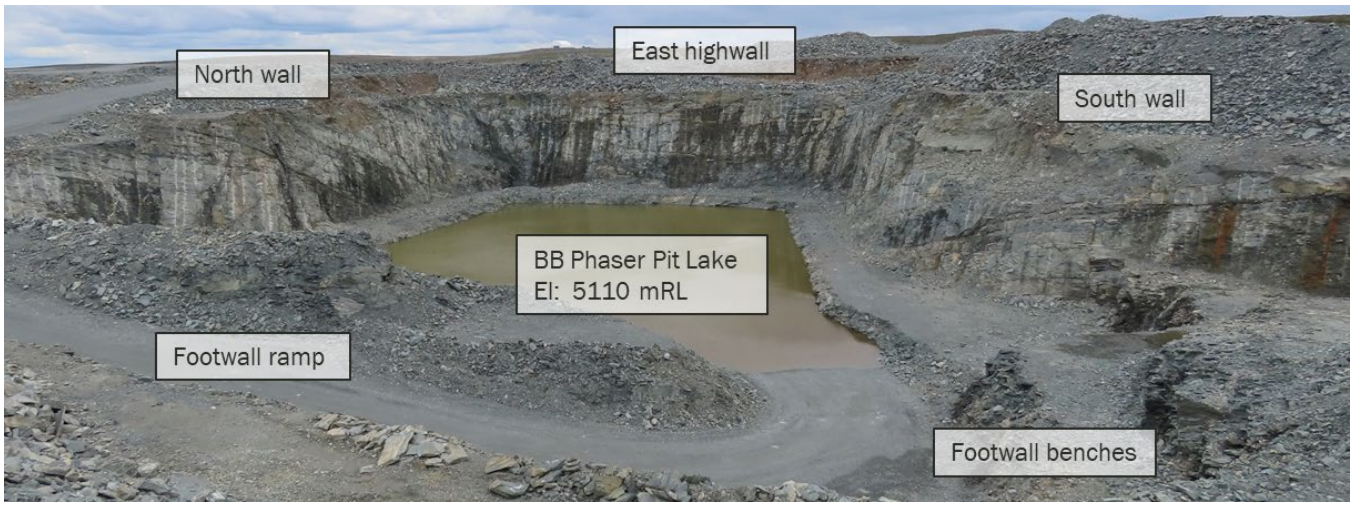
- Restrict access to the inactive Phaser Pit and to the ring road around the crest.
- Monitor the performance of the long-haul road, specifically for the development of tension cracks and sinkholes which could be indicative of erosion of finer grained material from the rockfill, and particularly during spring freshet when high flows through the rockfill can be expected.
- Continue monitoring as part of regular geotechnical inspections.

8.7 BB Phaser Pit

BB Phaser Pit is approximately 40 to 50 m south of the Phaser Pit. The pit is inactive. The BB Phaser Pit stratigraphy is an extension of the Vault Pit/Phaser Pit stratigraphy and is inclined to the east to southeast at relatively shallow angles.

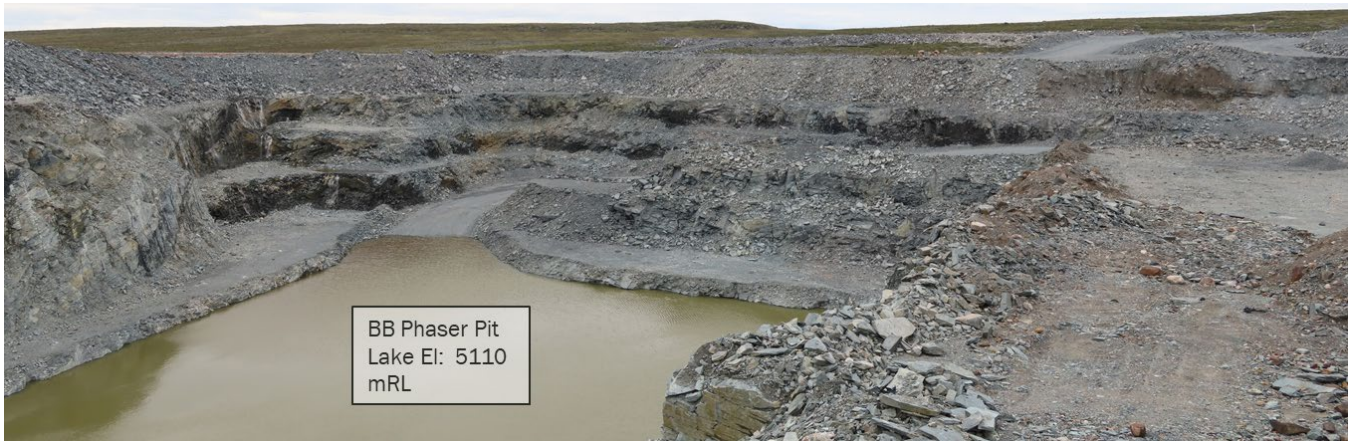
Mining of BB Phaser Pit was completed in Q3 2019 to a final elevation of approximately 5088 mRL. On the day of the site visit (August 06, 2019) the BB Phaser Pit lake was at an elevation of approximately 5110 mRL. The pit lake in BB Phaser Pit may be hydraulically connected to the Phase Pit lake which is 3 m lower in elevation. Water may flow during summer along open joints and bedding which may connect the two.

The BB Phaser Pit is relatively small, measuring about 250 m along each wall. The pit shape is generally square, consisting of an east-southeast highwall, a south-southwest endwall, a west-northwest footwall and a north-northeast endwall. Only one bench remains visible due to the pit lake. The pit walls continue to perform well and there are no signs of instability.



Photograph 8-20: BB Phaser Pit east highwall ,endwalls and pit lake (2019)

`In many areas the set back of the thermal cap toe from the crest of the pit is narrow. Thaw settlement, sinkholes, hummocky ground, and tension cracks that have been noted previously in the thermal cap and pit ring road around the pit crest have not developed further to any significant extent. If access to the crest area is restricted this is no longer a significant geotechnical concern.



Photograph 8-21: BB Phaser Pit south through east highwall showing south end wall and west footwall slope performance (2019)

The east highwall, north and south endwalls, and west footwall were inspected. In general, all walls are performing well.

An area of the south and west wall of the pit noted during 2018 as displaying poor performance in response to heavy blast damage, local faulting, and continuous open jointing shows no further degradation and is no longer considered a concern for the inactive pit.

The following actions are recommended:

- Restrict access to the inactive BB Phaser Pit and to the ring road around the crest.
- Continue monitoring as part of regular geotechnical inspections.

8.7.1 Sinkholes and Road Erosion

During the inspection of BB Phaser Pit, sinkholes were noted to be developing on the access road that separates the two pits. The general location of the sinkholes is shown on the following figure. The road is no longer considered active but is still accessible. It was discussed with AEM that the road should be deactivated and bermed off to remove it from future use.

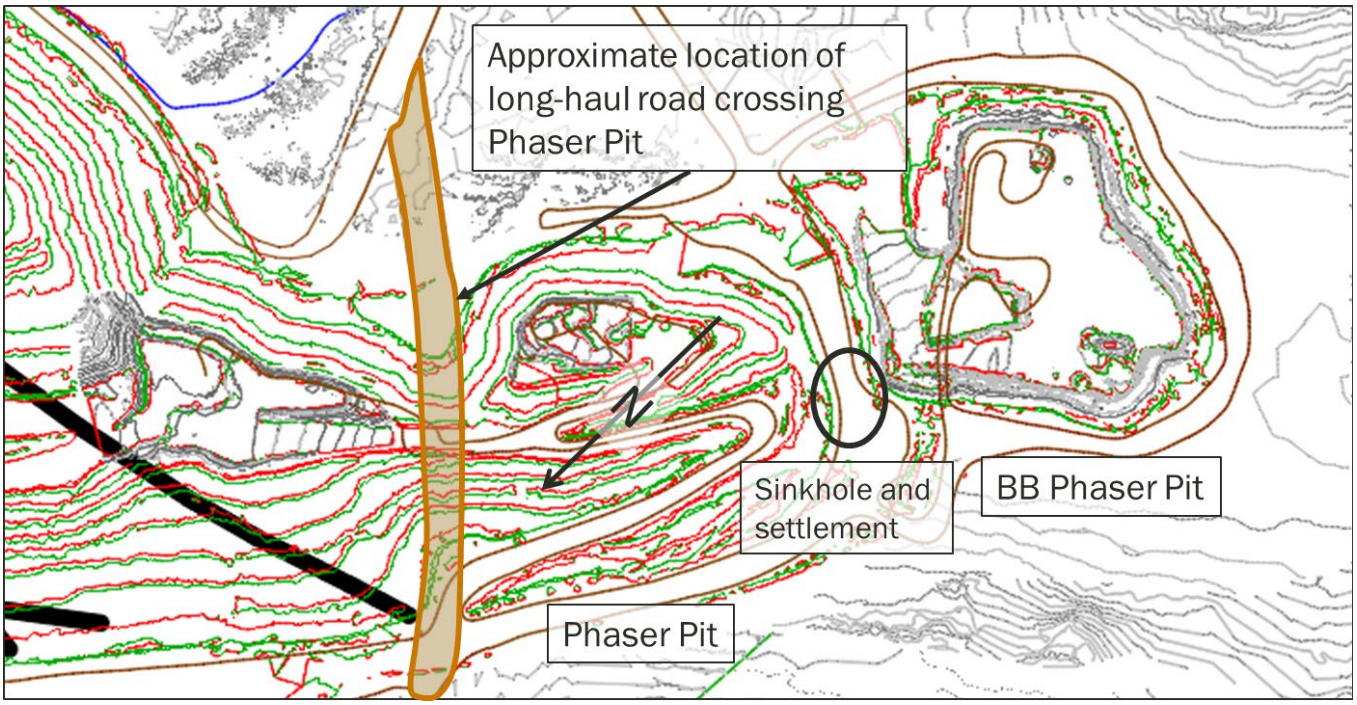


Figure 8-4: Location of sinkholes in road at BB Phaser Pit (2019)

Photograph 8-22: Sinkhole development and settlement of road surface between Phaser Pit and BB Phaser Pit

Photograph 8-23: Sinkhole formation on road between BB Phaser and Phaser pits

The following actions are recommended:

- Deactivate road and berm off to prevent use.
- Continue monitoring as part of regular geotechnical inspections.

9.0 SUMMARY OF KEY OBSERVATIONS AND RECOMMENDATIONS

TO BE COMPLETED.

10.0 CLOSURE

The reader is referred to the Study Limitations which precede the text and forms an integral part of this report.

We trust this report meets your requirements. Should you have any questions or concerns, please do not hesitate to contact the undersigned.

Respectfully submitted,
Tetra Tech Canada Inc.

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APPENDIX A

PORTAGE PIT INSTRUMENTATION DATA

LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE
MEADOWBANK

TETRA TECH

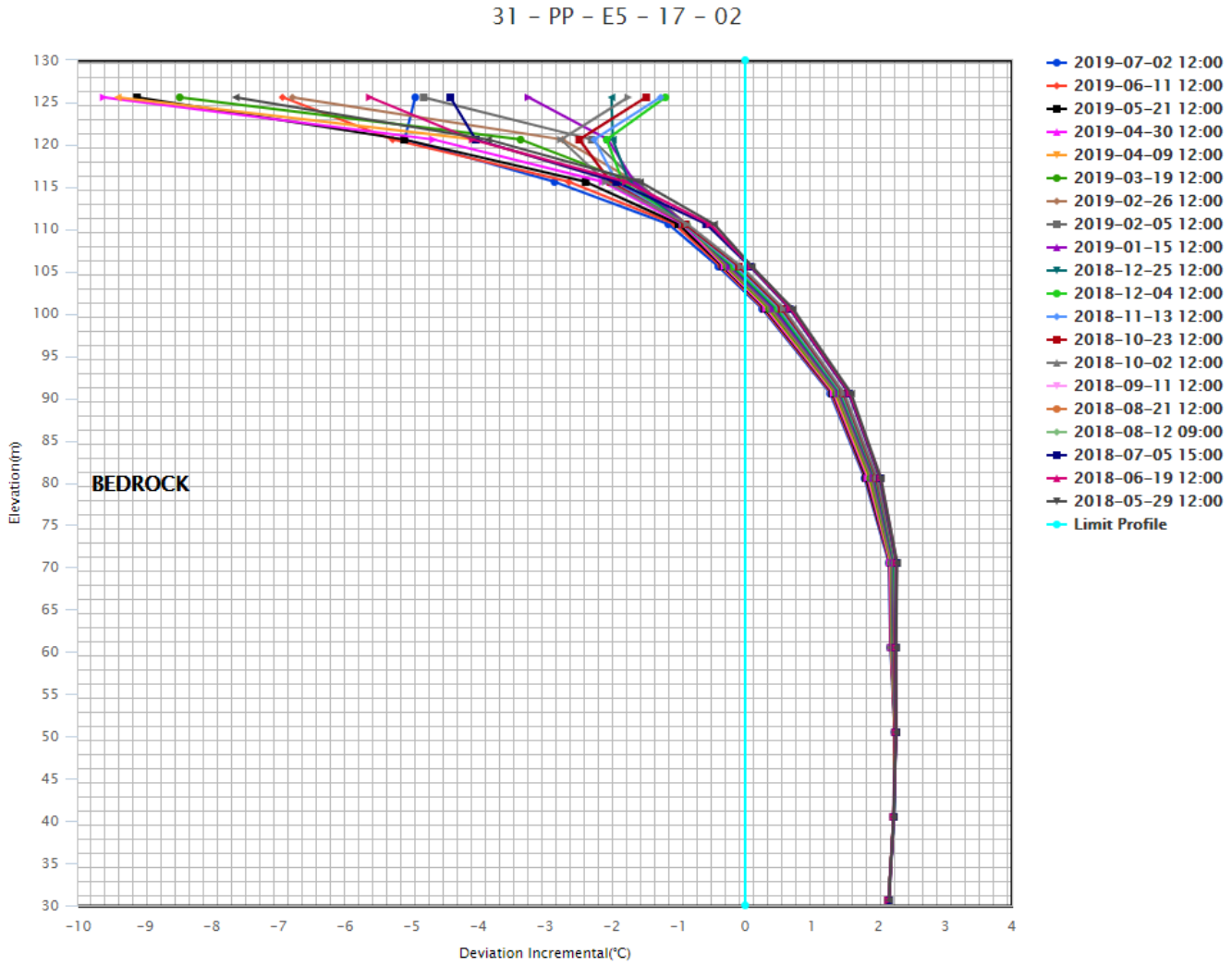
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Portage Pit E5
Instrumentation Location

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure A-1



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE MEADOWBANK

TETRA TECH

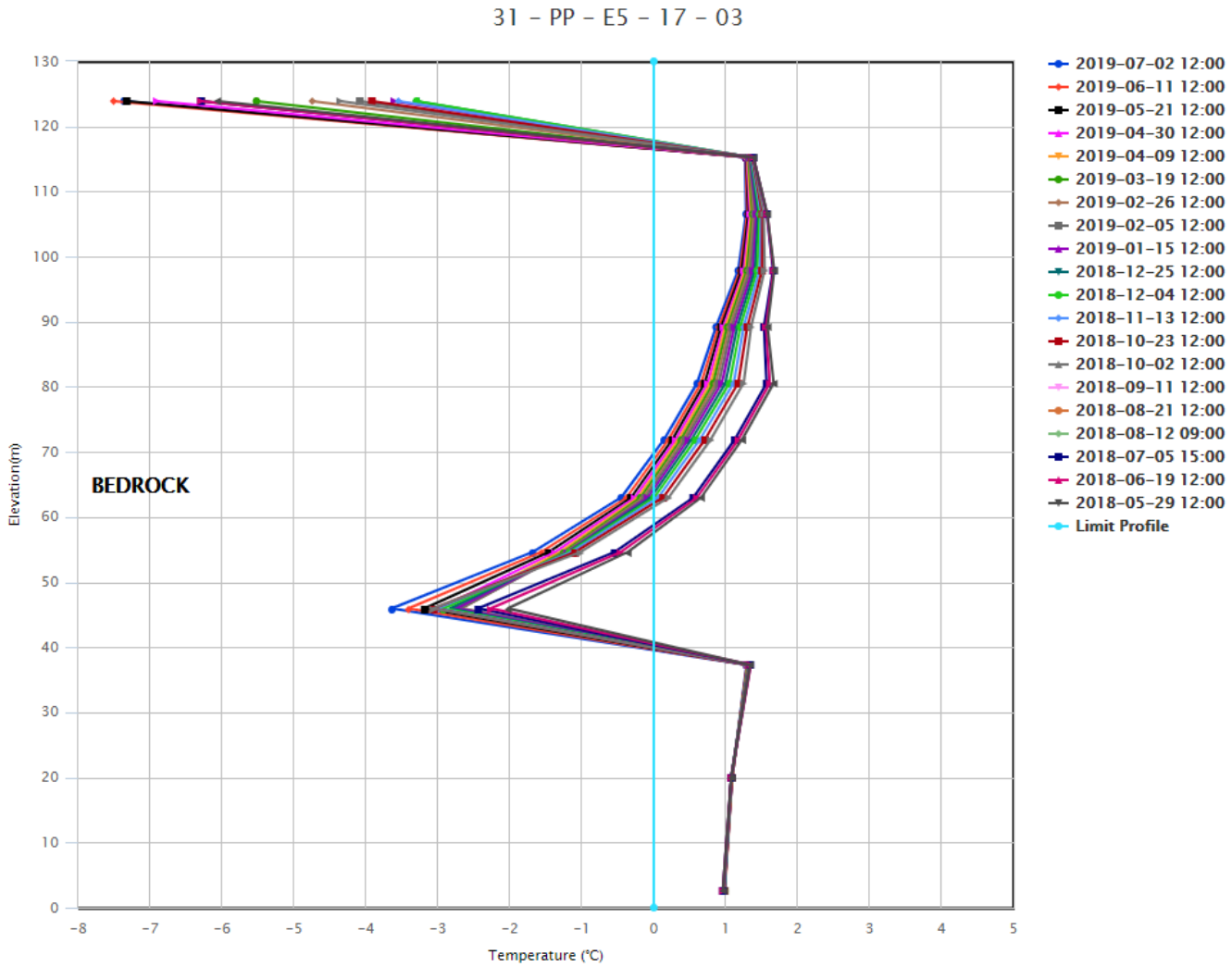
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Portage Pit E5
Thermistor Cable PE5-17-02 TH
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure A-2



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE MEADOWBANK

TETRA TECH

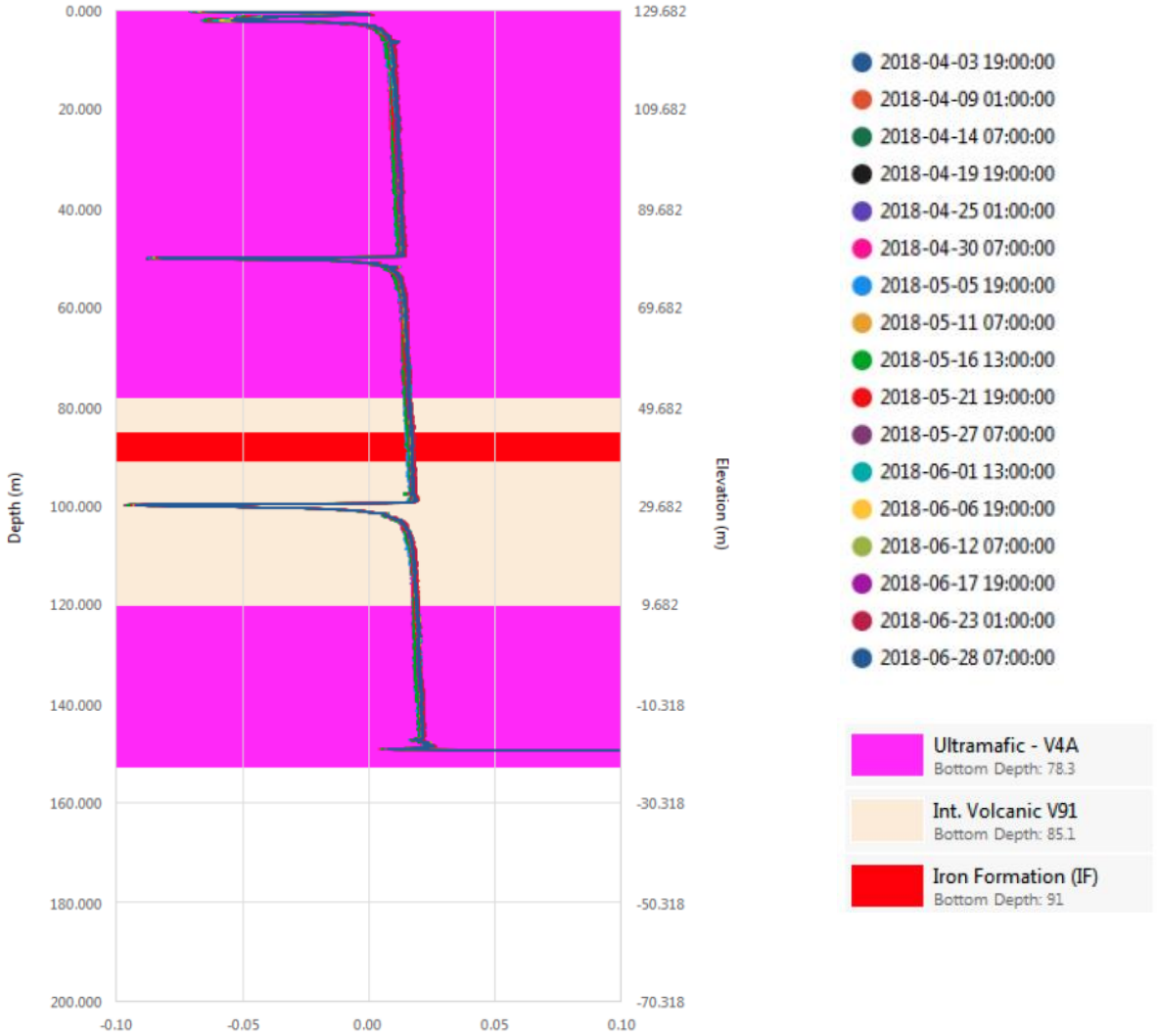
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Portage Pit E5
Thermistor Cable PE5-17-03 TH
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure A-3



LEGEND

No 2019 update

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE
MEADOWBANK

TETRA TECH

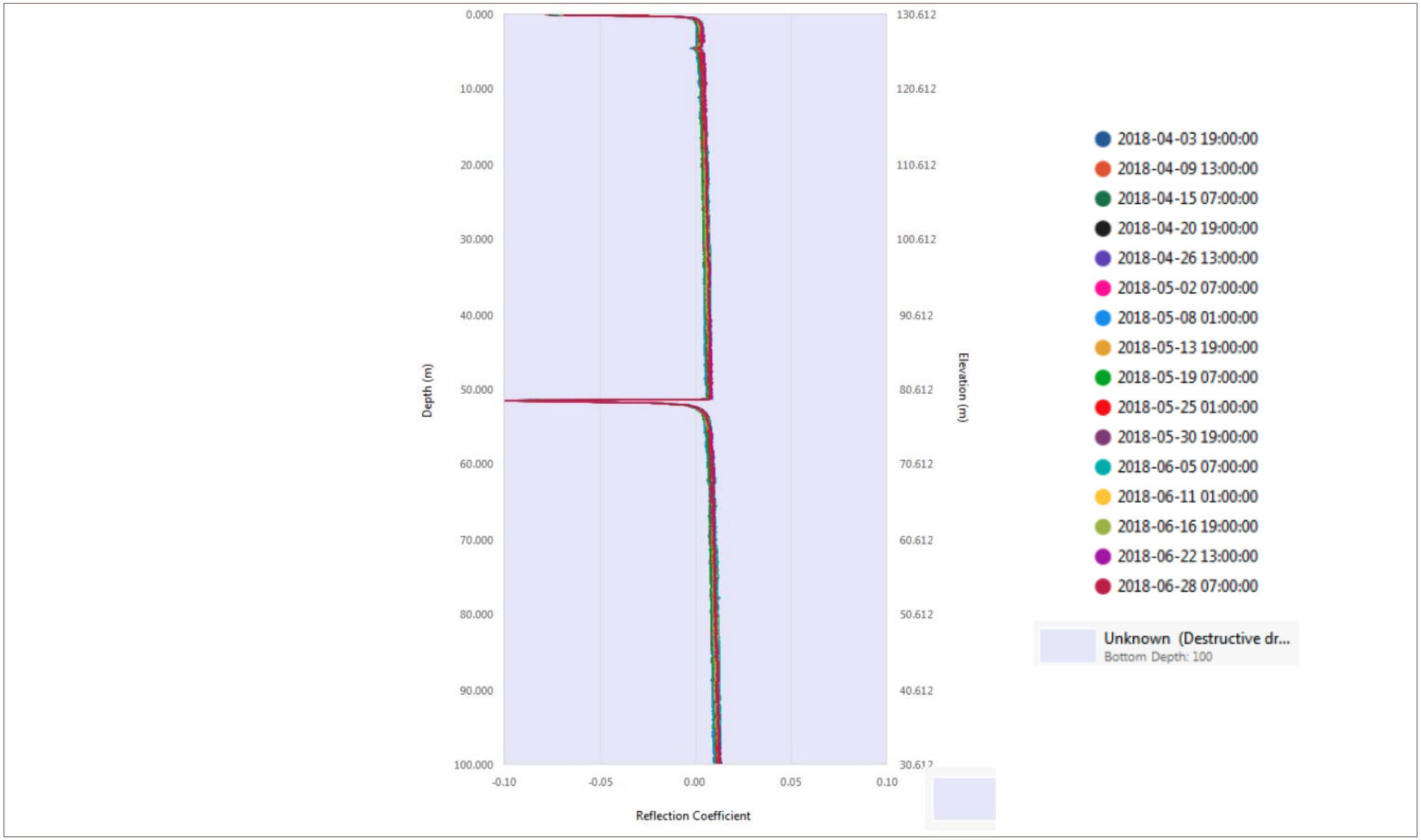
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Portage Pit E5
TDR Data TDR-01

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure A-4



LEGEND

No 2019 update

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE MEADOWBANK

TETRA TECH

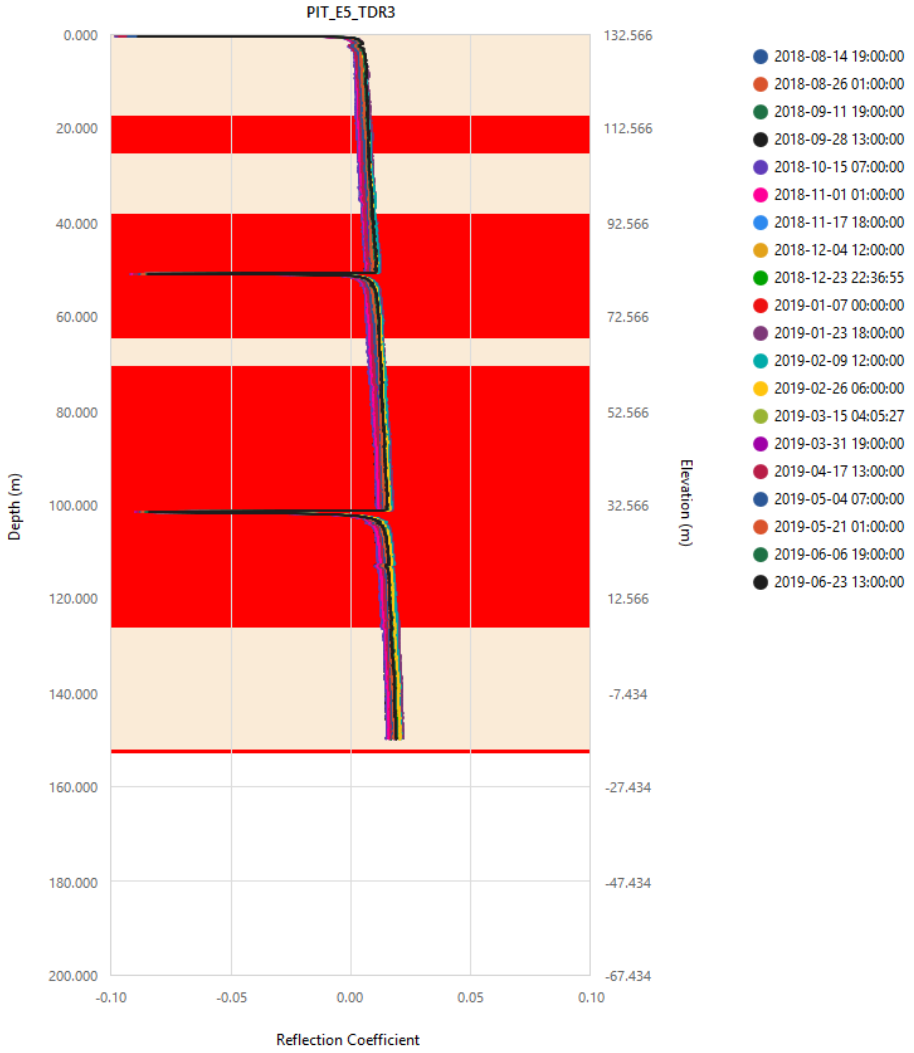
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Portage Pit Hole E5-17-2
TDR Data TDR-02

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure A-5



LEGEND

- Ultramafic - V4A
  Bottom Depth: 78.3
- Int. Volcanic V91
  Bottom Depth: 85.1
- Iron Formation (IF)
  Bottom Depth: 91

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE
MEADOWBANK

TETRA TECH

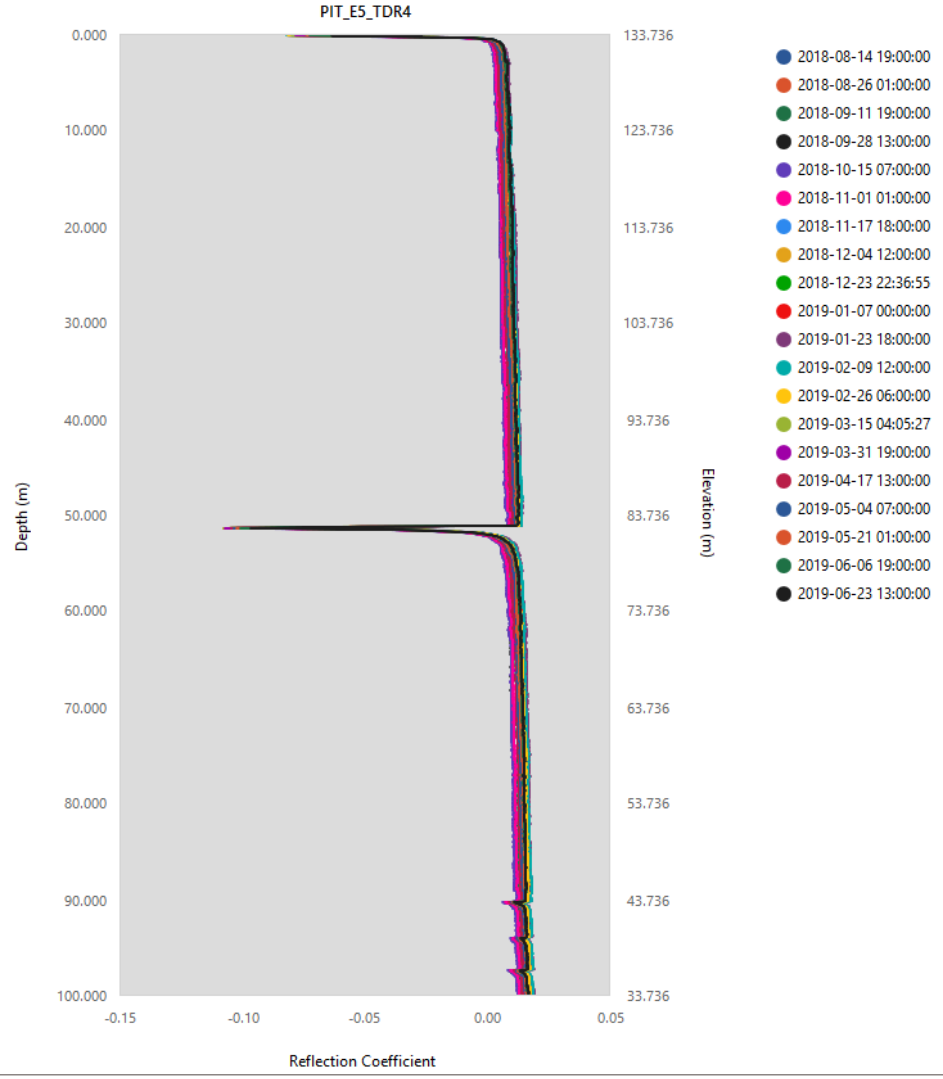
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Portage Pit E5
TDR Data TDR-03
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure A-6



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE MEADOWBANK

TETRA TECH

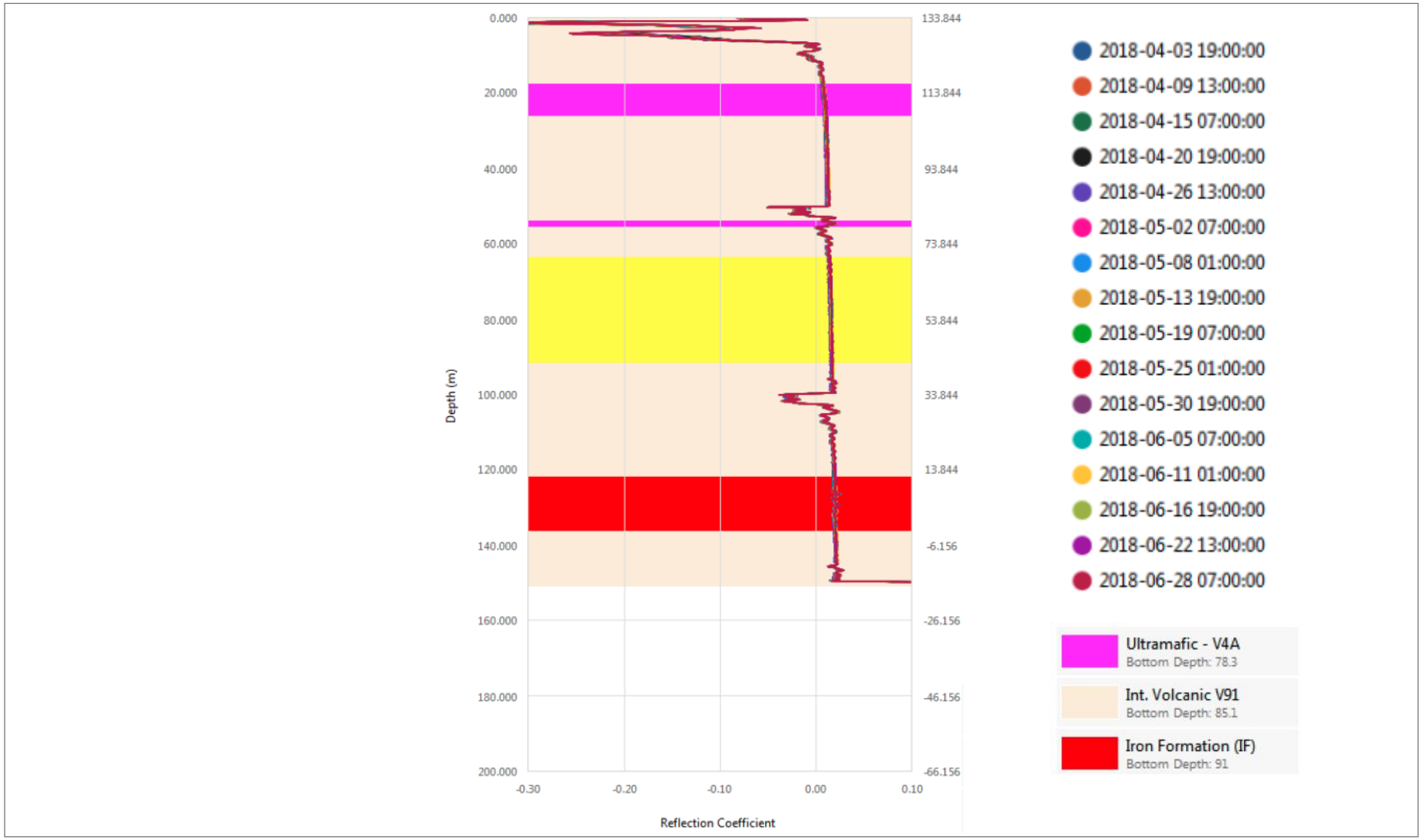
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Portage Pit E5
TDR Data TDR-04
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure A-7



LEGEND

No 2019 update

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE
MEADOWBANK

TETRA TECH

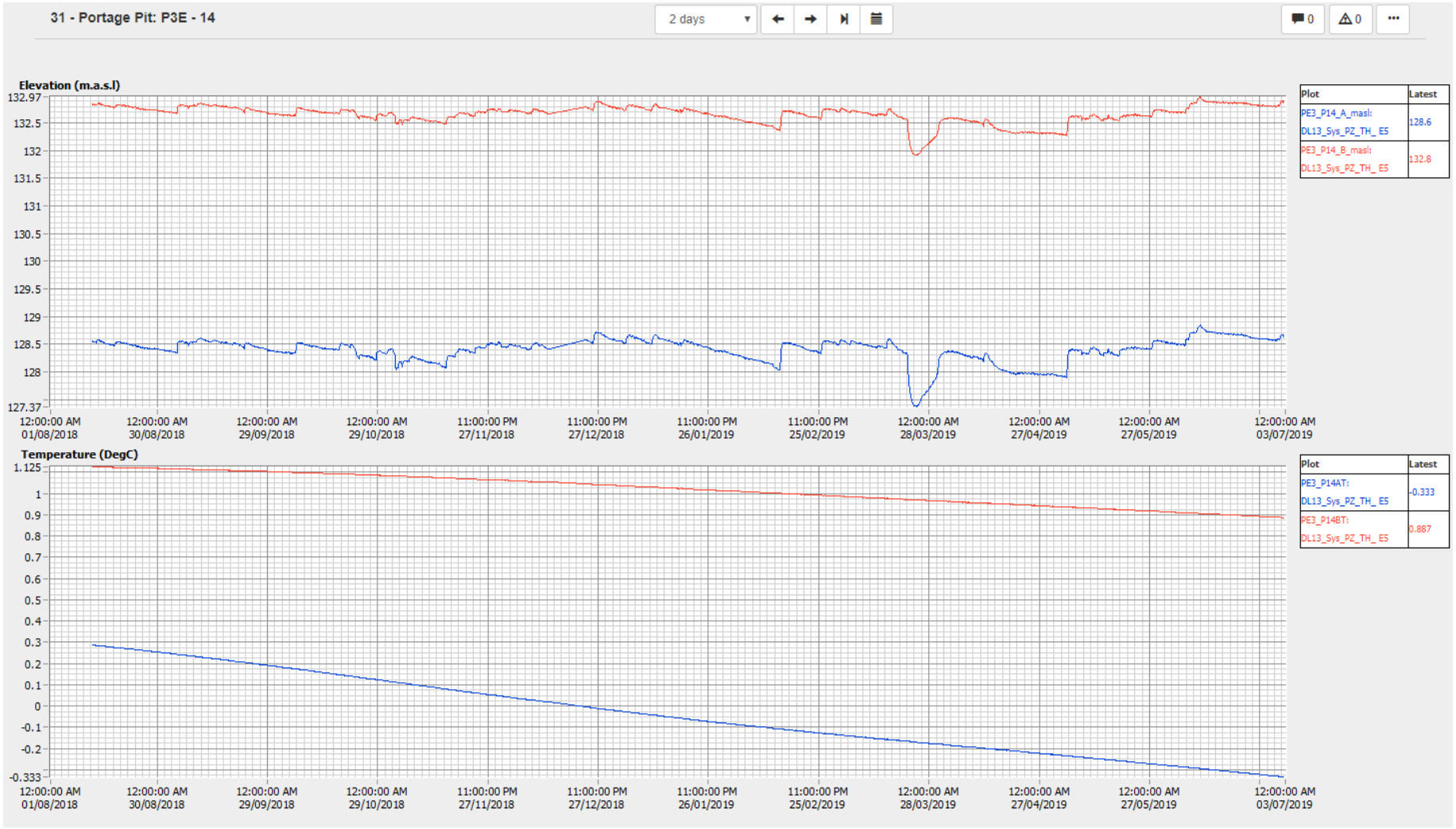
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Portage Pit
TDR Data TDR-05

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure A-8



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE MEADOWBANK

TETRA TECH

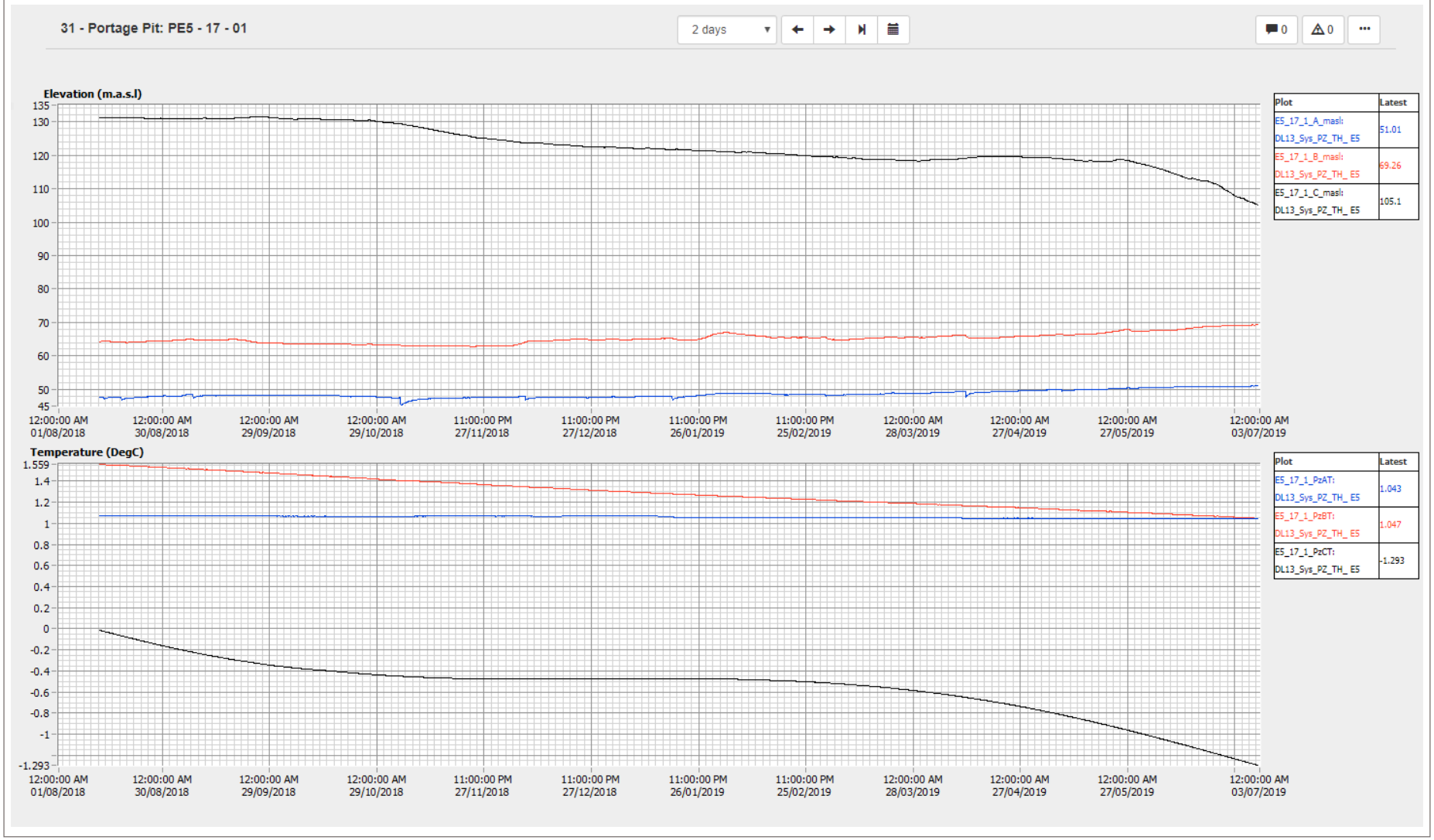
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Portage Pit E5
Piezometer Data P3E-14
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure A-9



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE MEADOWBANK

TETRA TECH

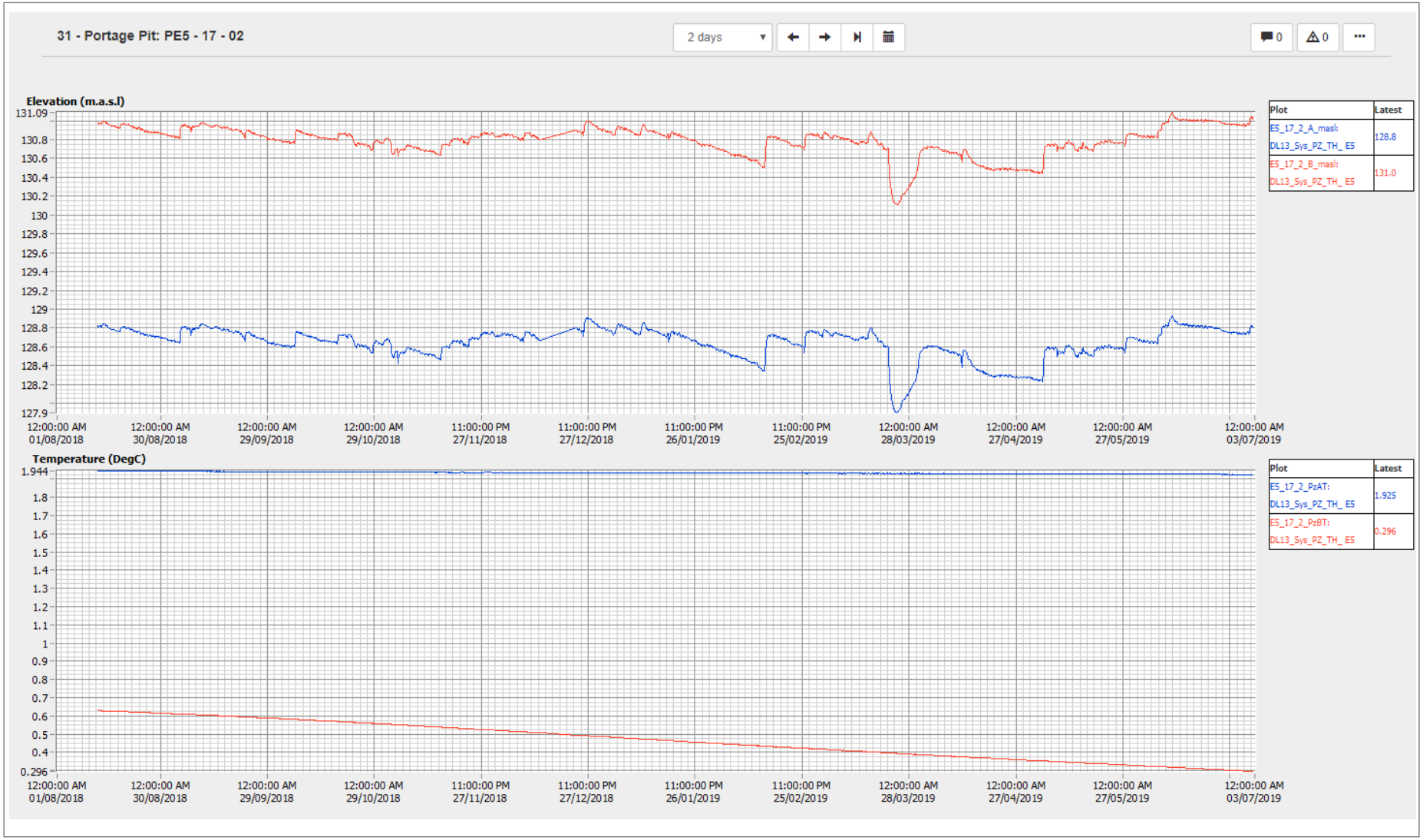
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Portage Pit E 5
Piezometer Data PE5-17-01
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure A-10



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE MEADOWBANK

TETRA TECH

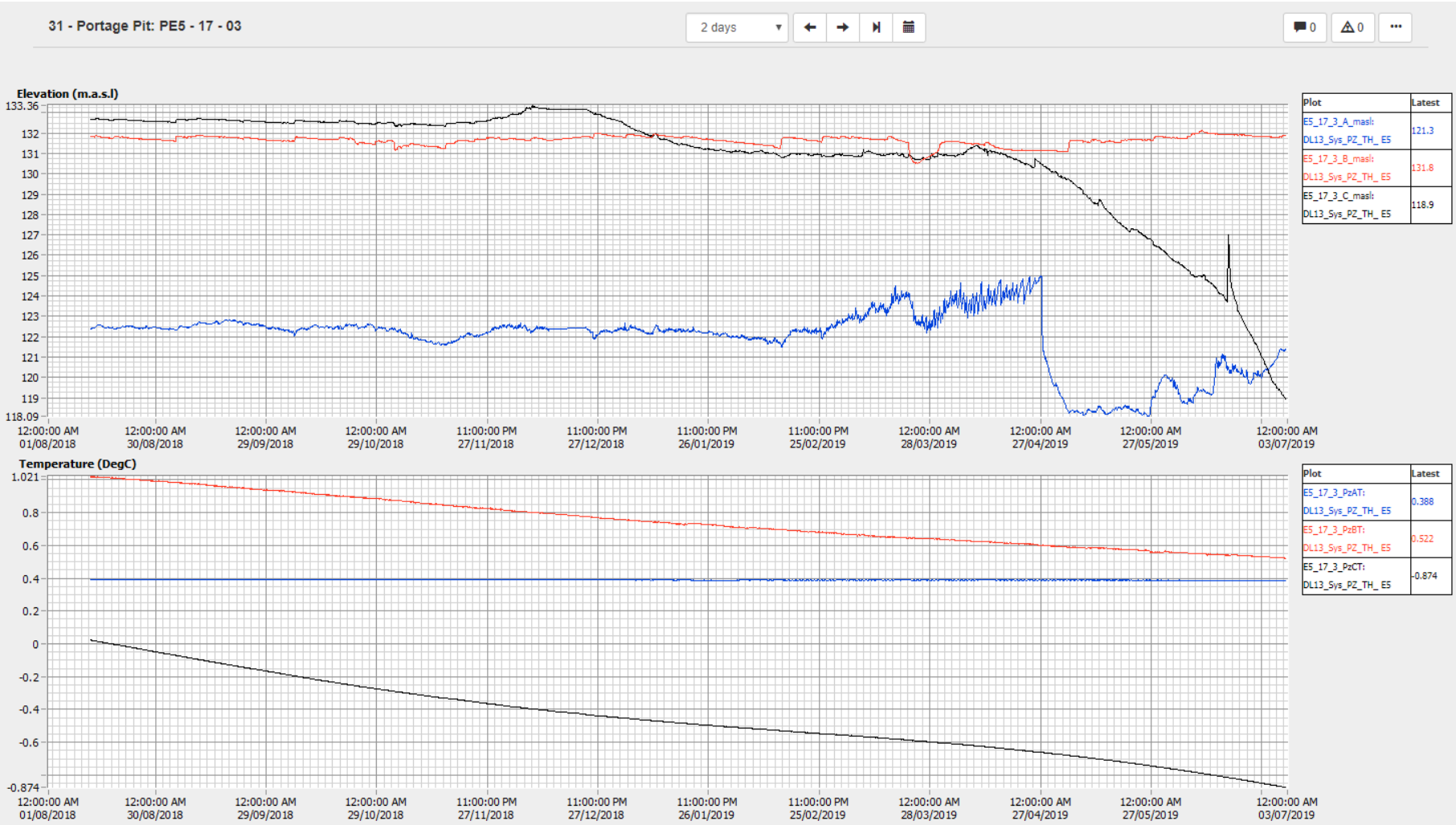
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Portage Pit E 5
Piezometer Data PE5-17-02
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure A-11



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE MEADOWBANK

TETRA TECH

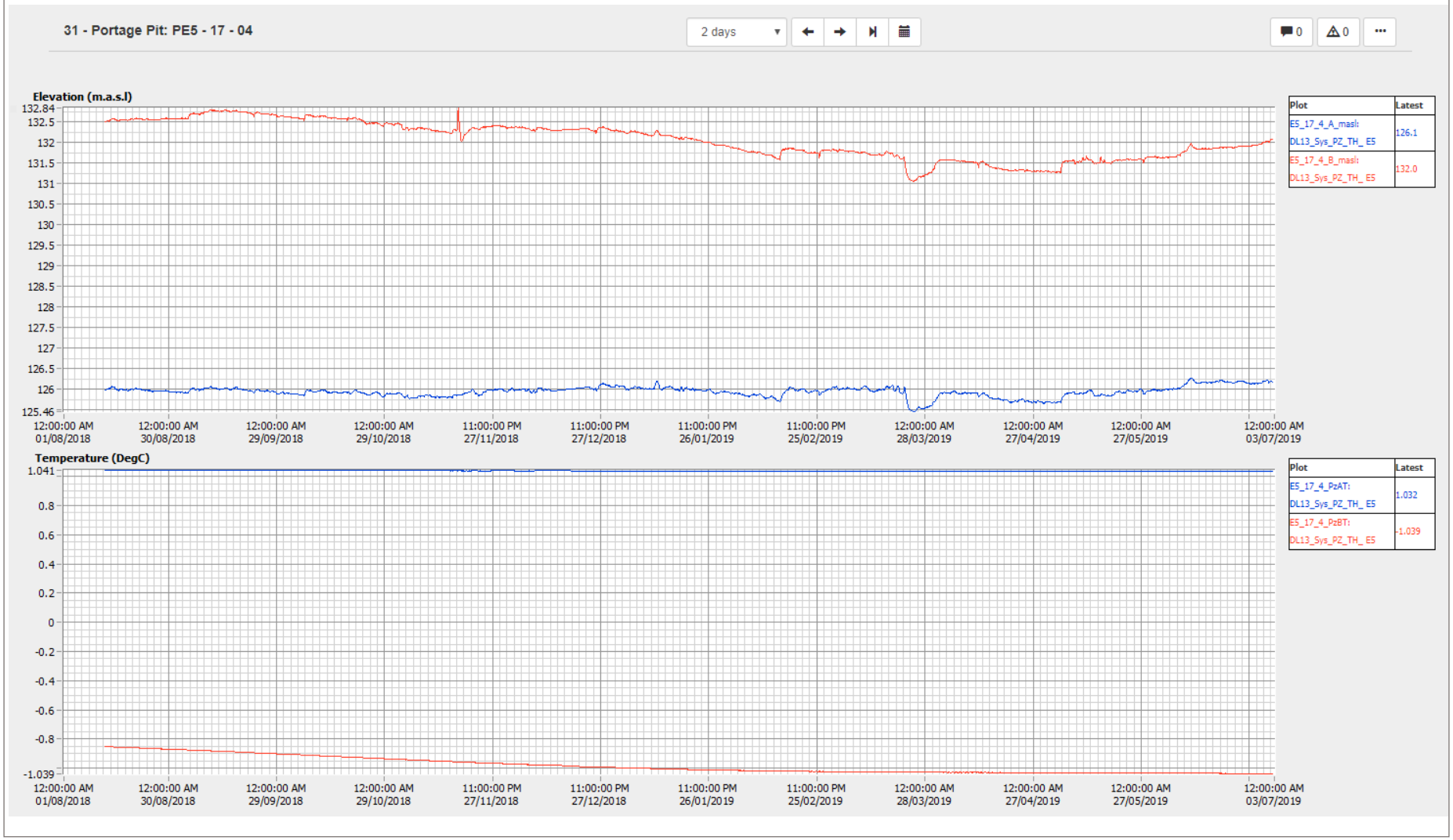
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Portage Pit E 5
Piezometer Data PE5-17-03
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure A-12



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE
MEADOWBANK

TETRA TECH

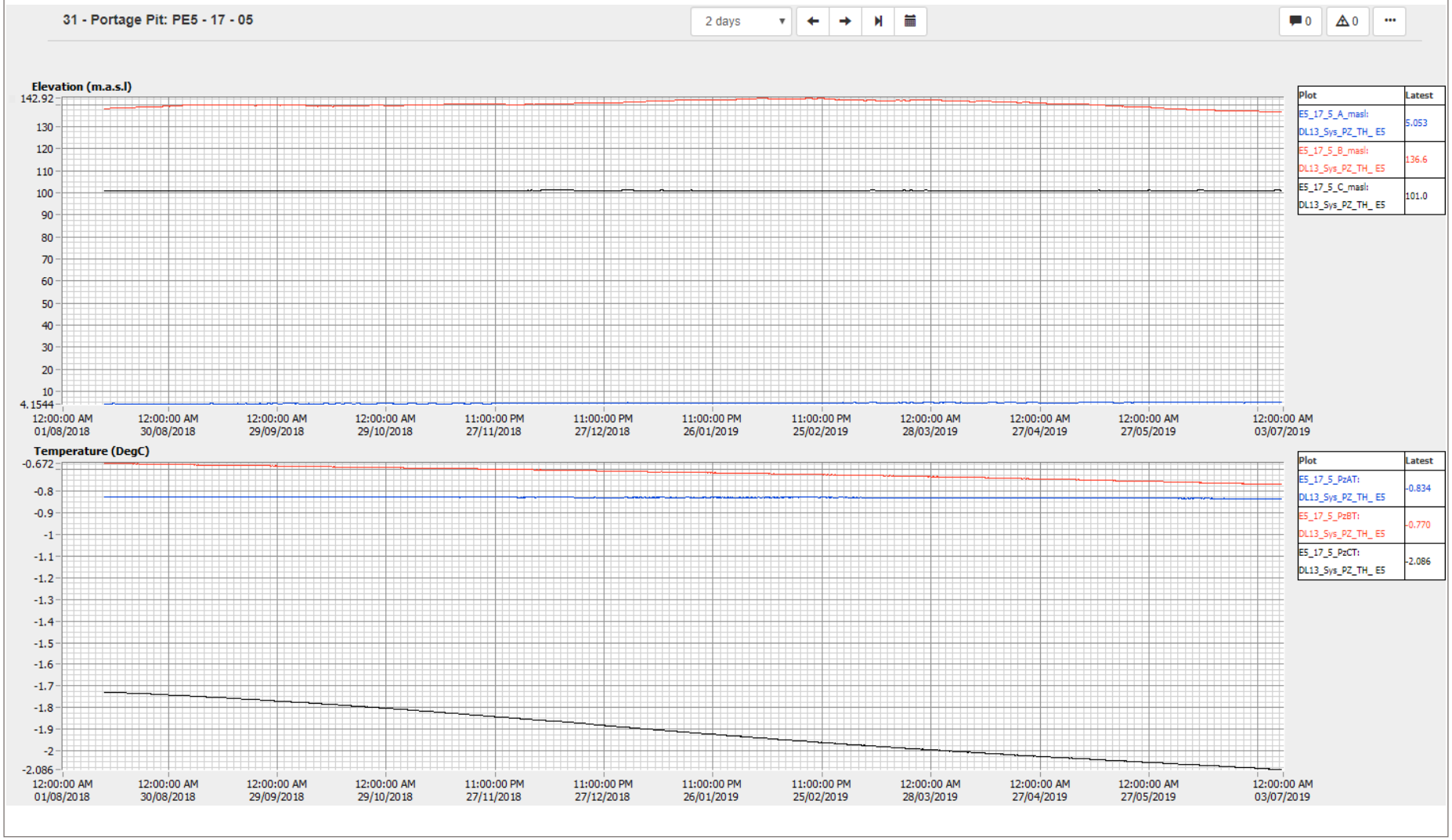
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Portage Pit E 5
Piezometer Data PE5-17-04
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure A-13



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE MEADOWBANK

TETRA TECH

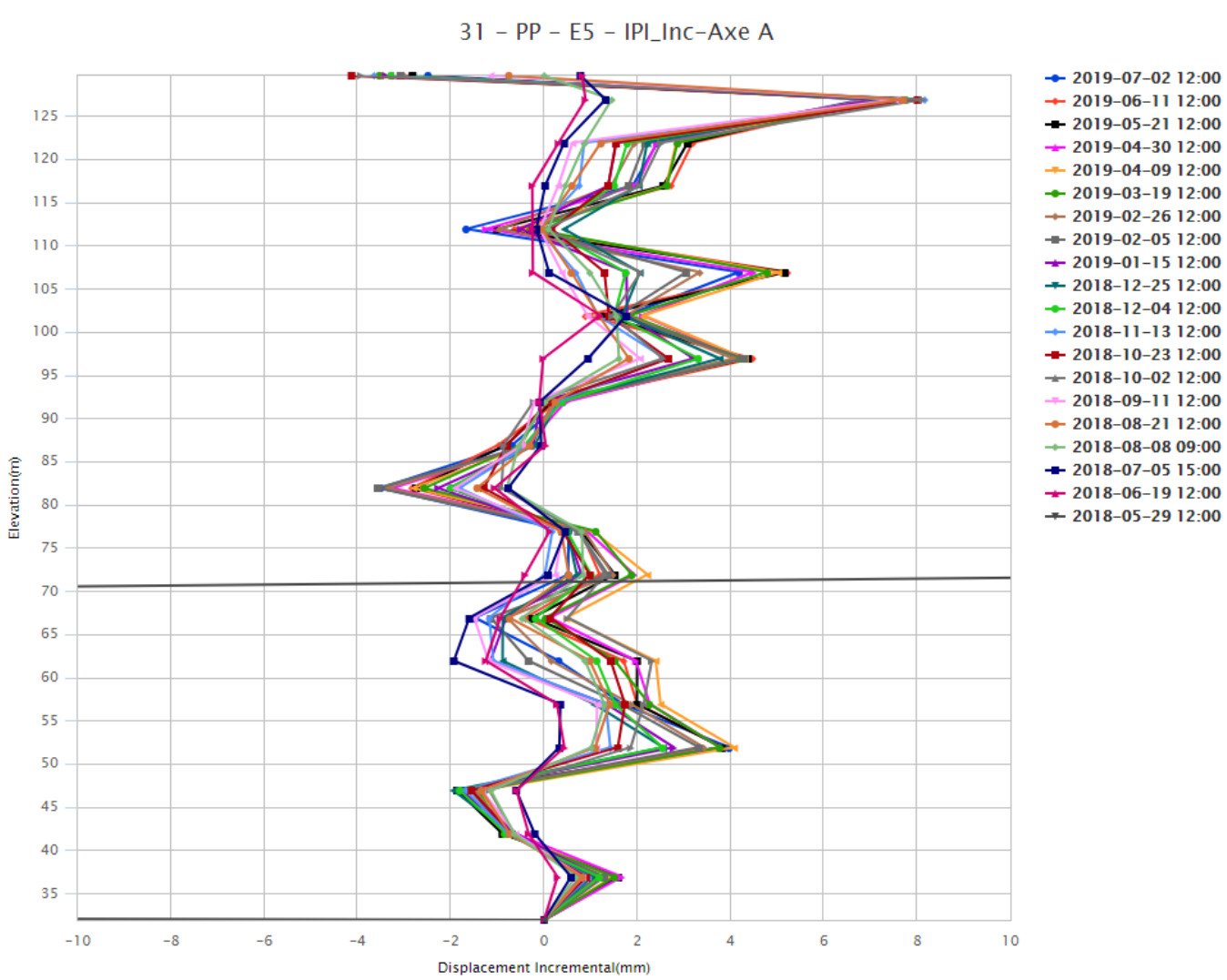
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Portage Pit E 5
Piezometer Data PE5-17-05
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure A-14



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE
MEADOWBANK

TETRA TECH

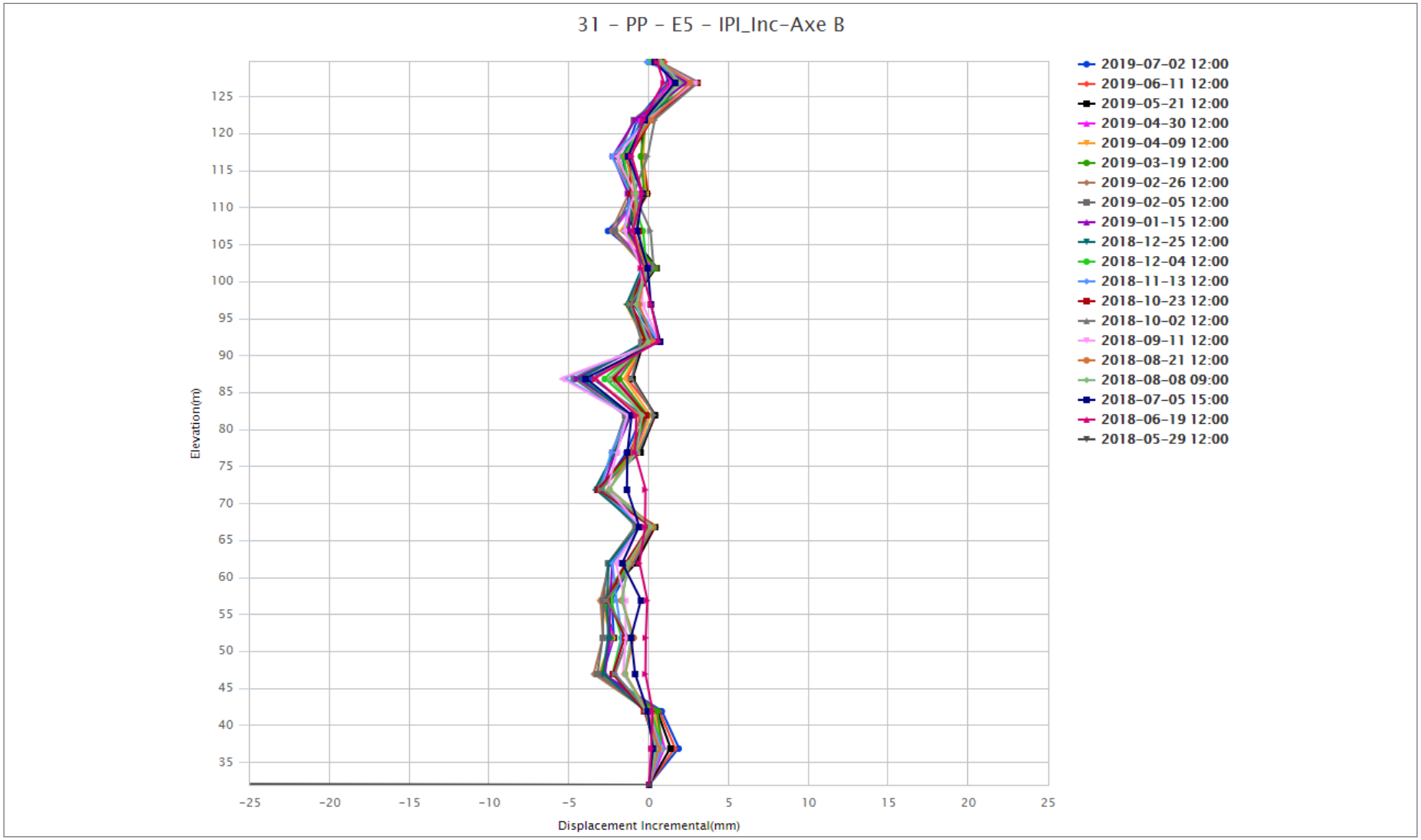
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Portage Pit E5
Inclinometer Data PE5 A-Axis
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure A-15



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE MEADOWBANK

TETRA TECH

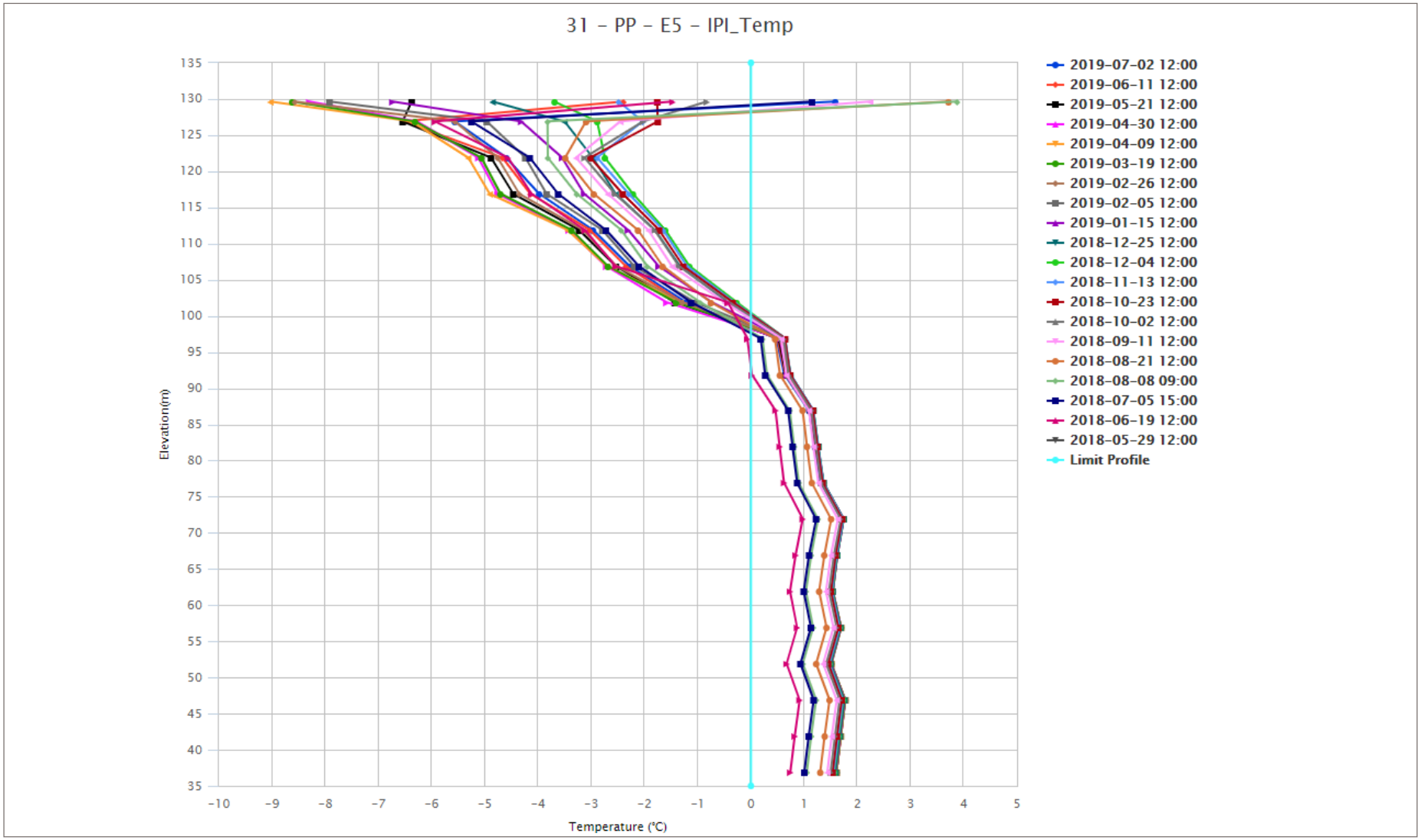
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Portage Pit E 5
Inclinometer Data PE5 B-Axis
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure A-16



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE MEADOWBANK

TETRA TECH

MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Portage Pit E 5
Inclinometer Temperature
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

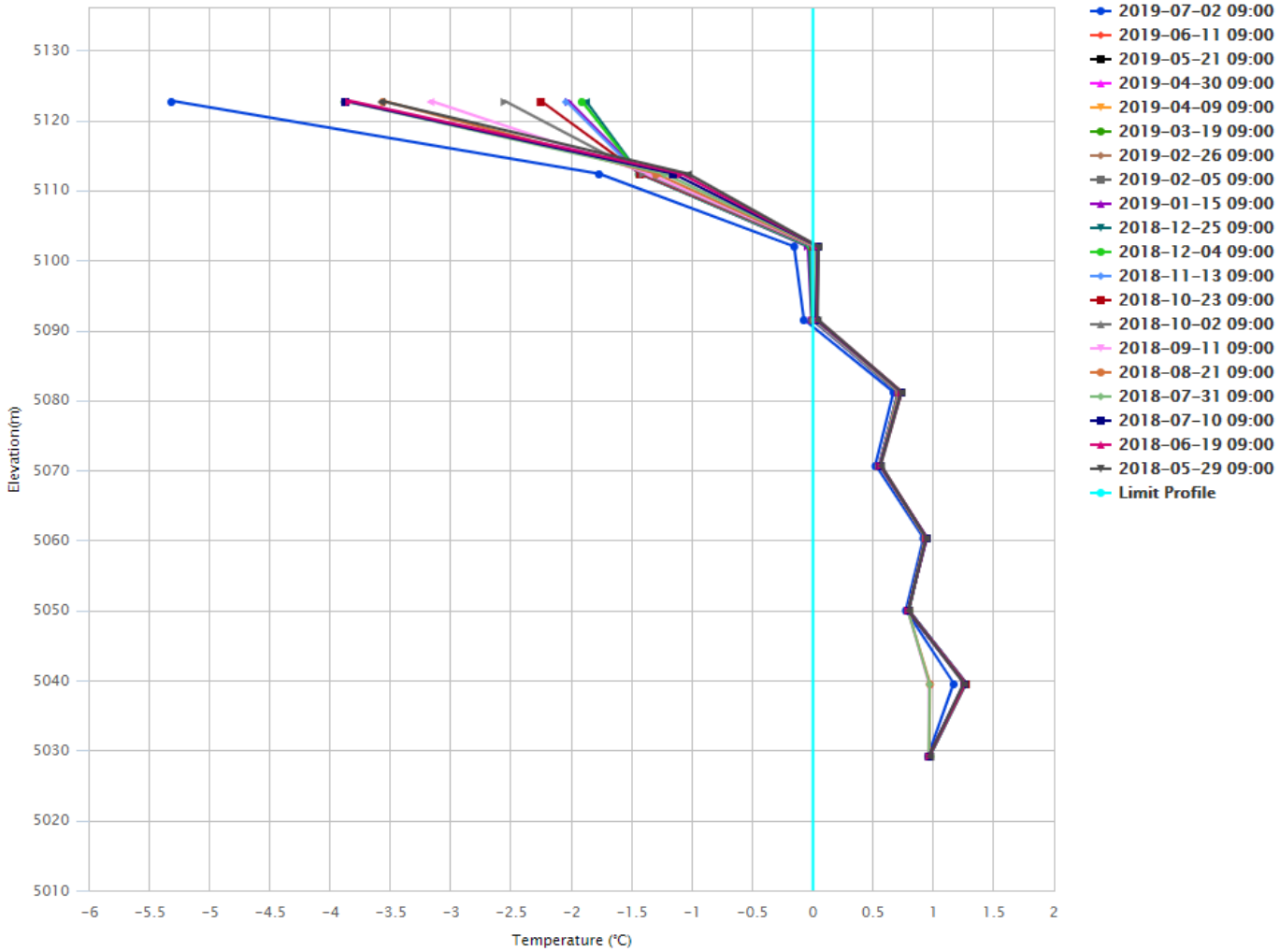
OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure A-17

APPENDIX B

GOOSE PIT INSTRUMENTATION DATA

- Figure B-1 Goose Pit Thermistor Cable GPIT-13 2019 Data
- Figure B-2 Goose Pit Thermistor Cable GPIT-14 2019 Data
- Figure B-3 Goose Pit Thermistor Cable GPIT-16 2019 Data
- Figure B-4 Goose Pit Thermistor Cable GPIT-17 2019 Data
- Figure B-5 Goose Pit Thermistor Cable GPIT-19 2019 Data
- Figure B-6 Goose Pit Thermistor Cable GPIT-20 2019 Data
- Figure B-7 Goose Pit TDR Data TDR-11
- Figure B-8 Goose Pit TDR Data TDR-12 2019 Data
- Figure B-9 Goose Pit TDR Data TDR-14 2019 Data
- Figure B-10 Goose Pit TDR Data TDR-15 2019 Data
- Figure B-11 Goose Pit TDR Data TDR-17 2019 Data
- Figure B-12 Goose Pit TDR Data TDR-18 2019 Data
- Figure B-13 Goose Pit TDR Data TDR-20 2019 Data
- Figure B-14 Goose Pit Piezometer Data GPIT-13 2019 Data
- Figure B-15 Goose Pit Piezometer Data GPIT-14 2019 Data
- Figure B-16 Goose Pit Piezometer Data GPIT-16 2019 Data
- Figure B-17 Goose Pit Piezometer Data GPIT-17 2019 Data
- Figure B-18 Goose Pit Piezometer Data GPIT-19 2019 Data
- Figure B-19 Goose Pit Piezometer Data GPIT-20 2019 Data



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE
MEADOWBANK

TETRA TECH

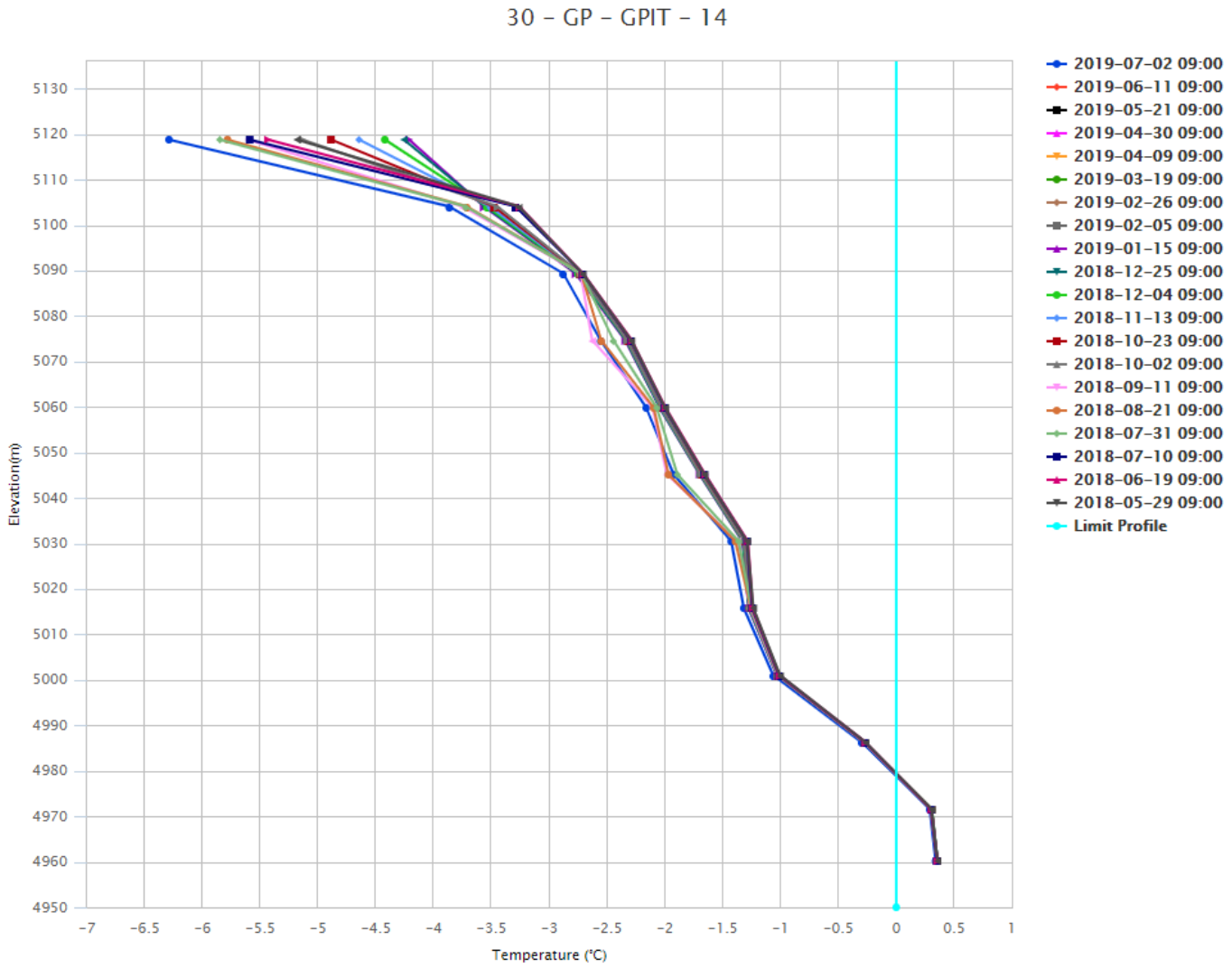
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Goose Pit
Thermistor Cable GPIT-13
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure B-1



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE
MEADOWBANK

TETRA TECH

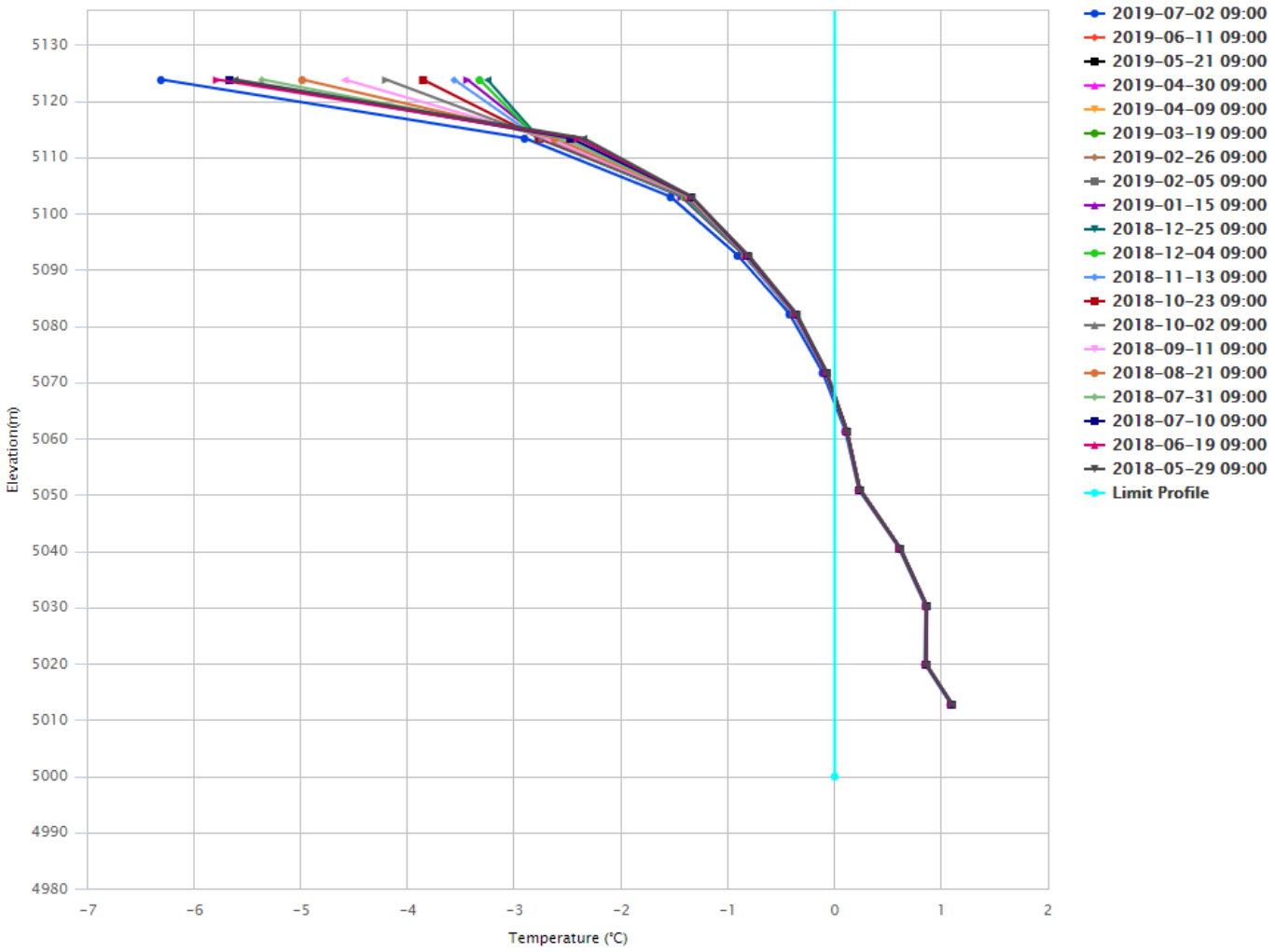
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Goose Pit
Thermistor Cable GPIT-14
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure B-2



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE MEADOWBANK

TETRA TECH

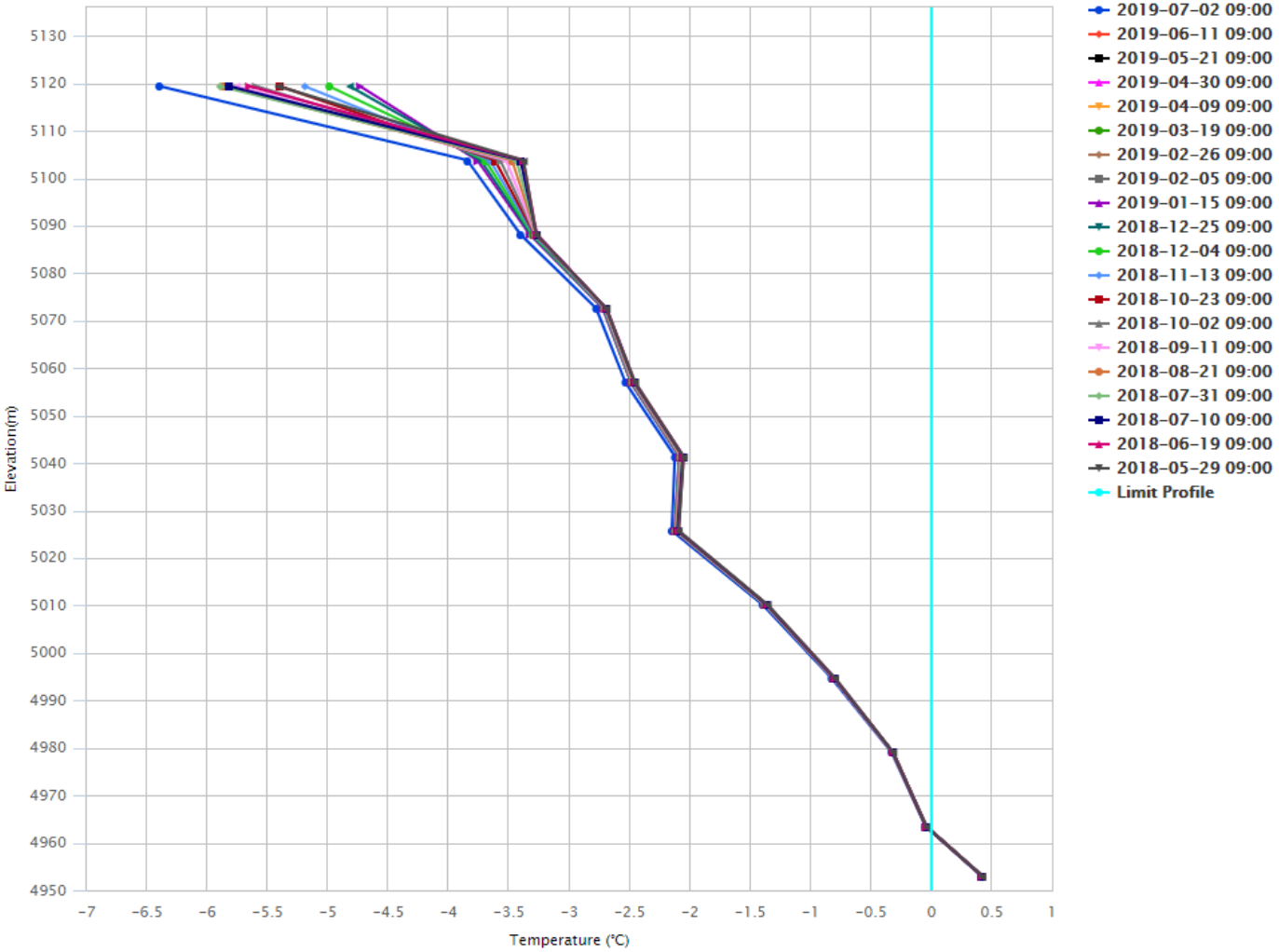
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Goose Pit
Thermistor Cable GPIT-16
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure B-3



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE
MEADOWBANK

TETRA TECH

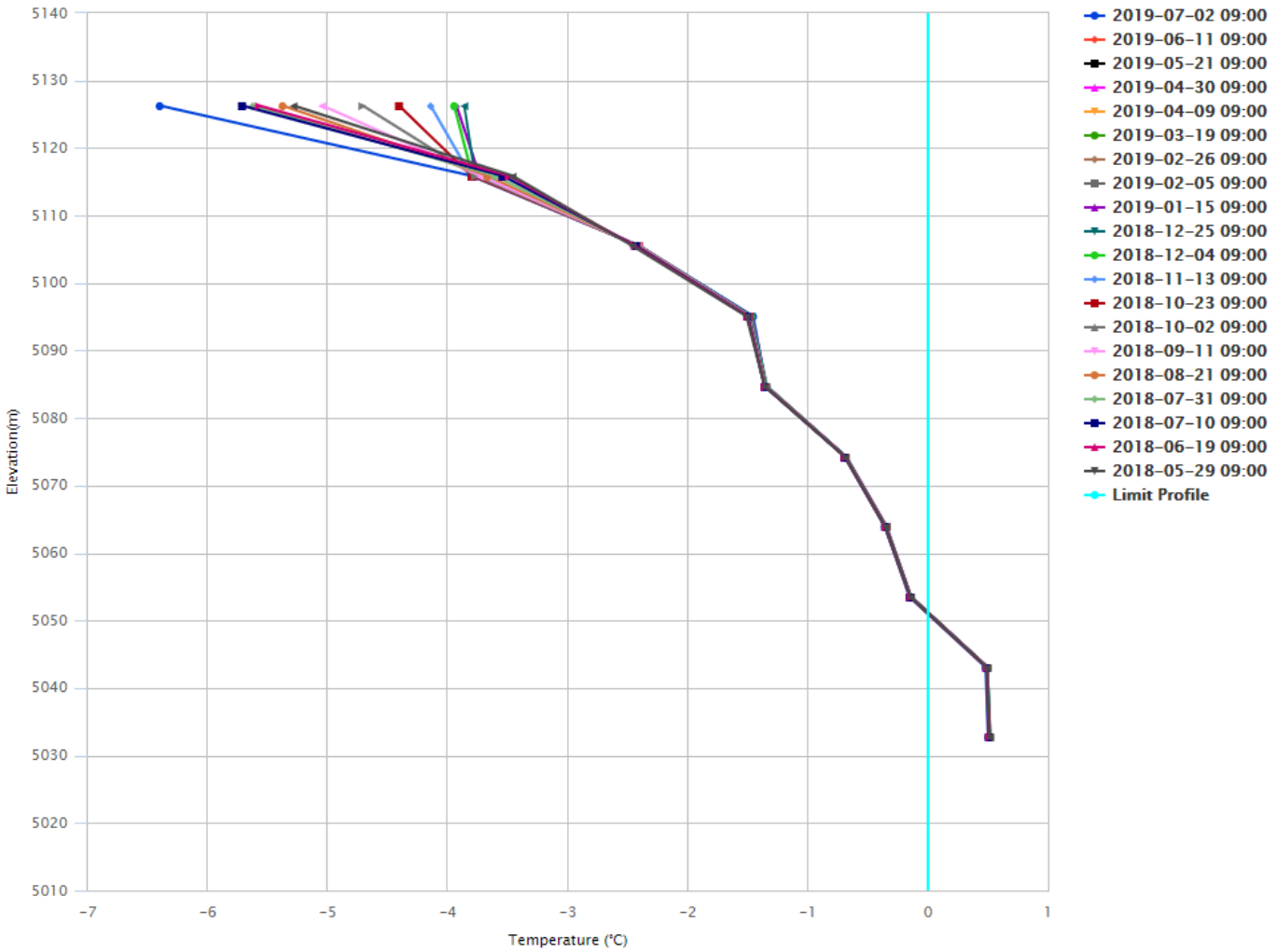
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Goose Pit
Thermistor Cable GPIT-17
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure B-4



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE
MEADOWBANK

TETRA TECH

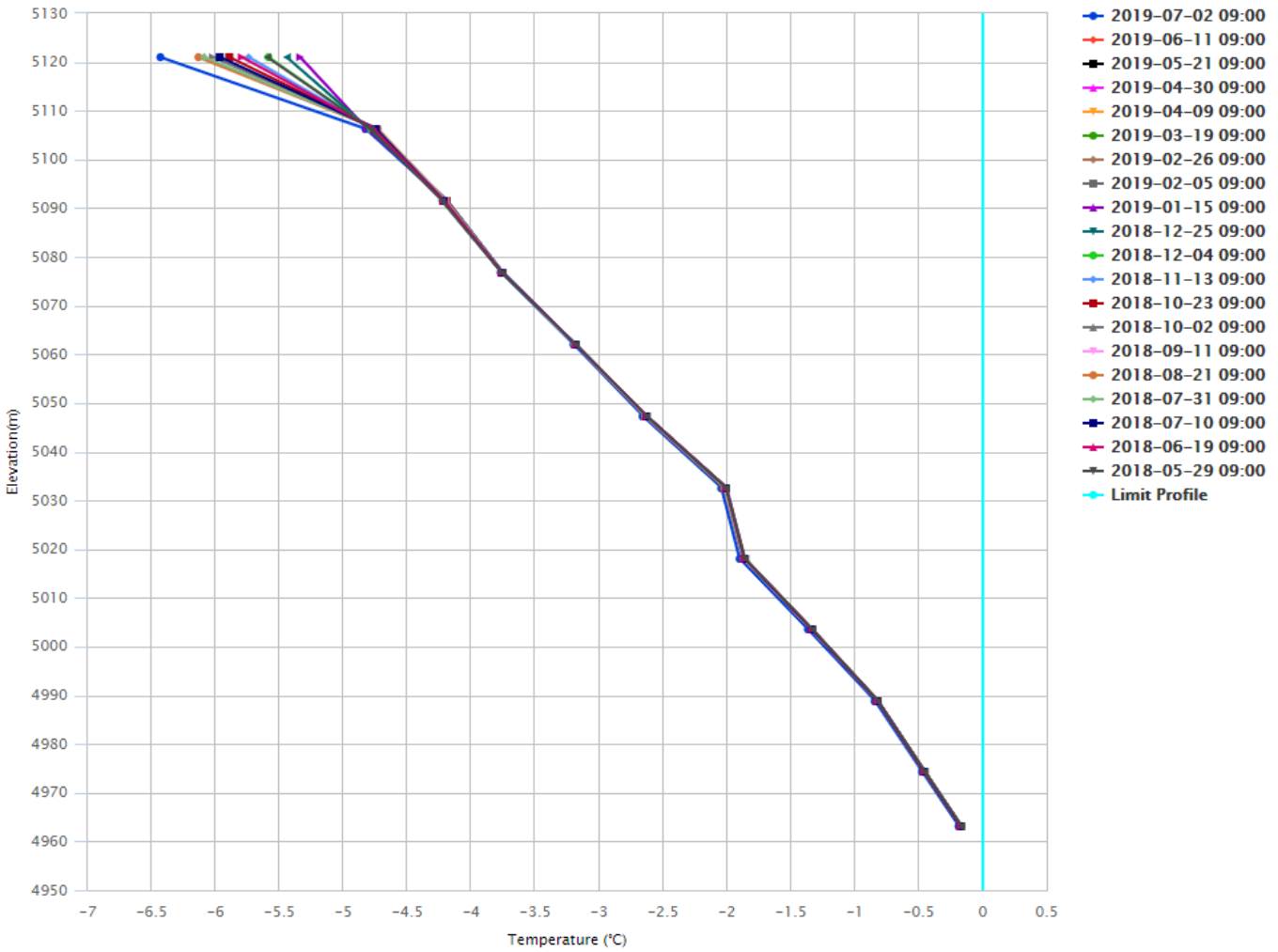
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Goose Pit
Thermistor Cable GPIT-19
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure B-5



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS
ISSUED FOR REVIEW

CLIENT
AGNICO EAGLE
MEADOWBANK

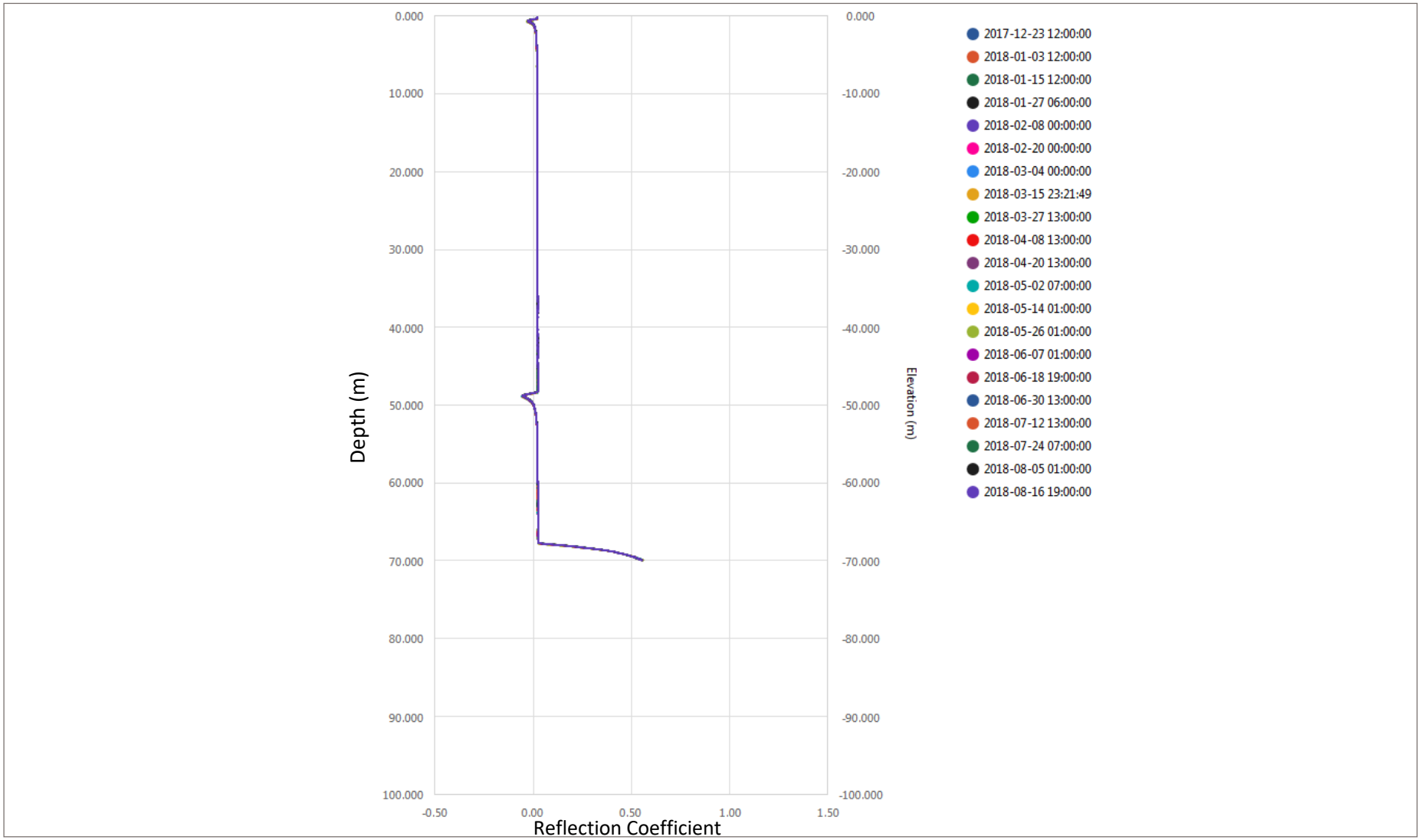
TETRA TECH

MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION
Goose Pit
Thermistor Cable GPIT-20
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE: VANCOUVER
DATE: OCTOBER 11, 2019

Figure B-6



LEGEND

No 2019 update

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE MEADOWBANK

TETRA TECH

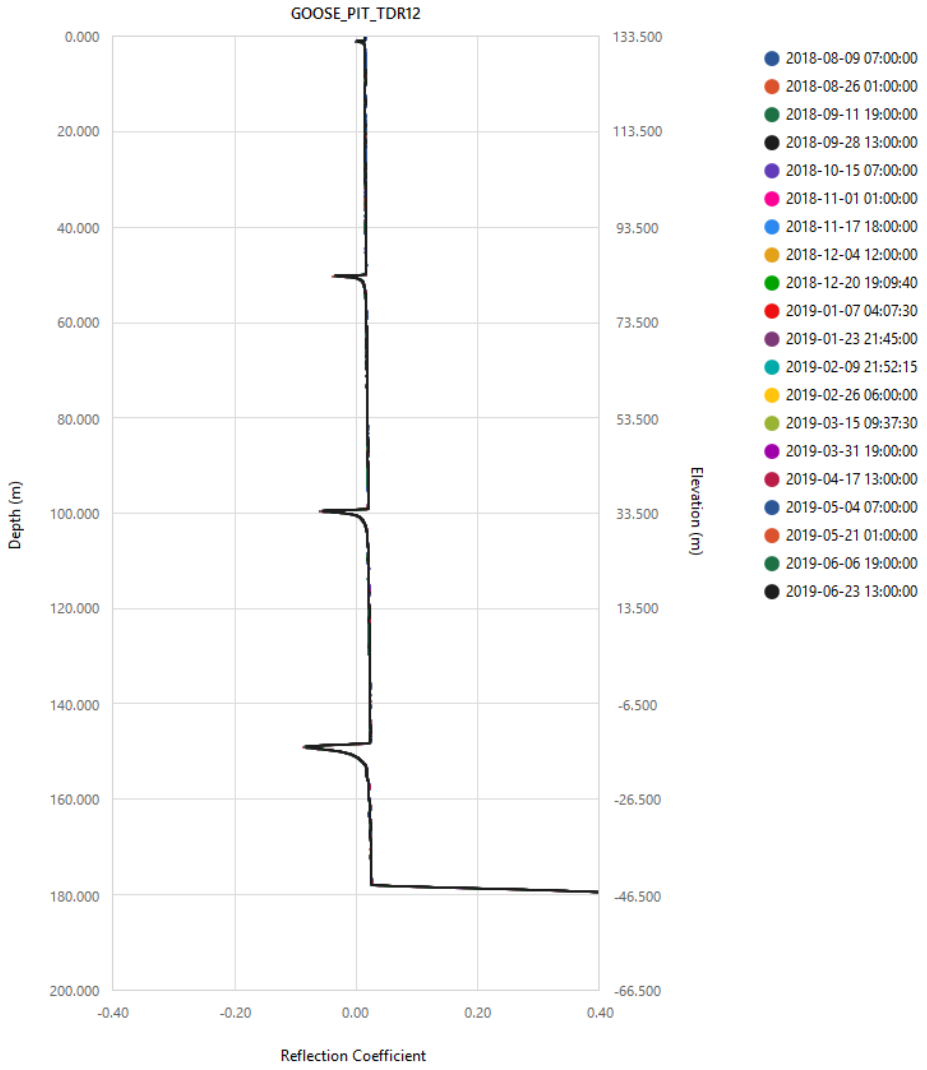
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Goose Pit
TDR Data TDR-11

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure B-7



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE MEADOWBANK

TETRA TECH

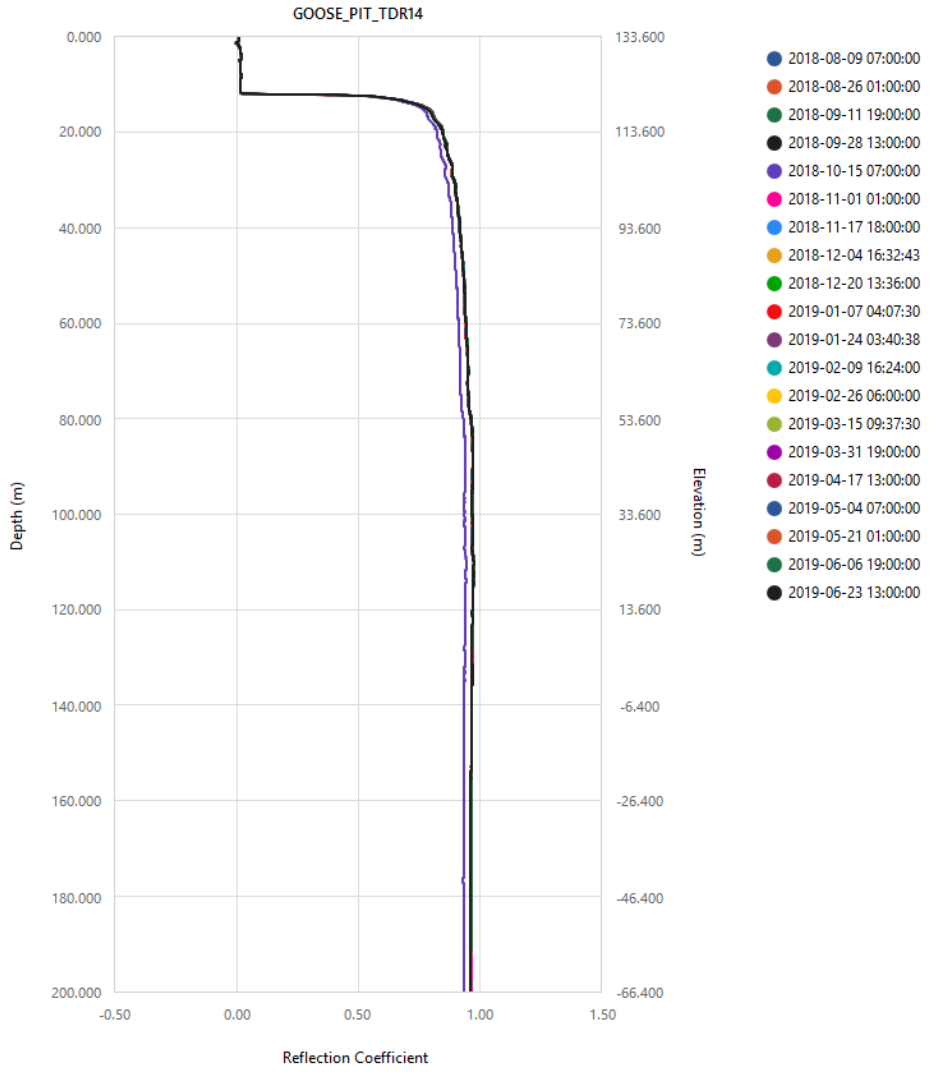
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Goose Pit
TDR Data TDR-12
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure B-8



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE
MEADOWBANK

TETRA TECH

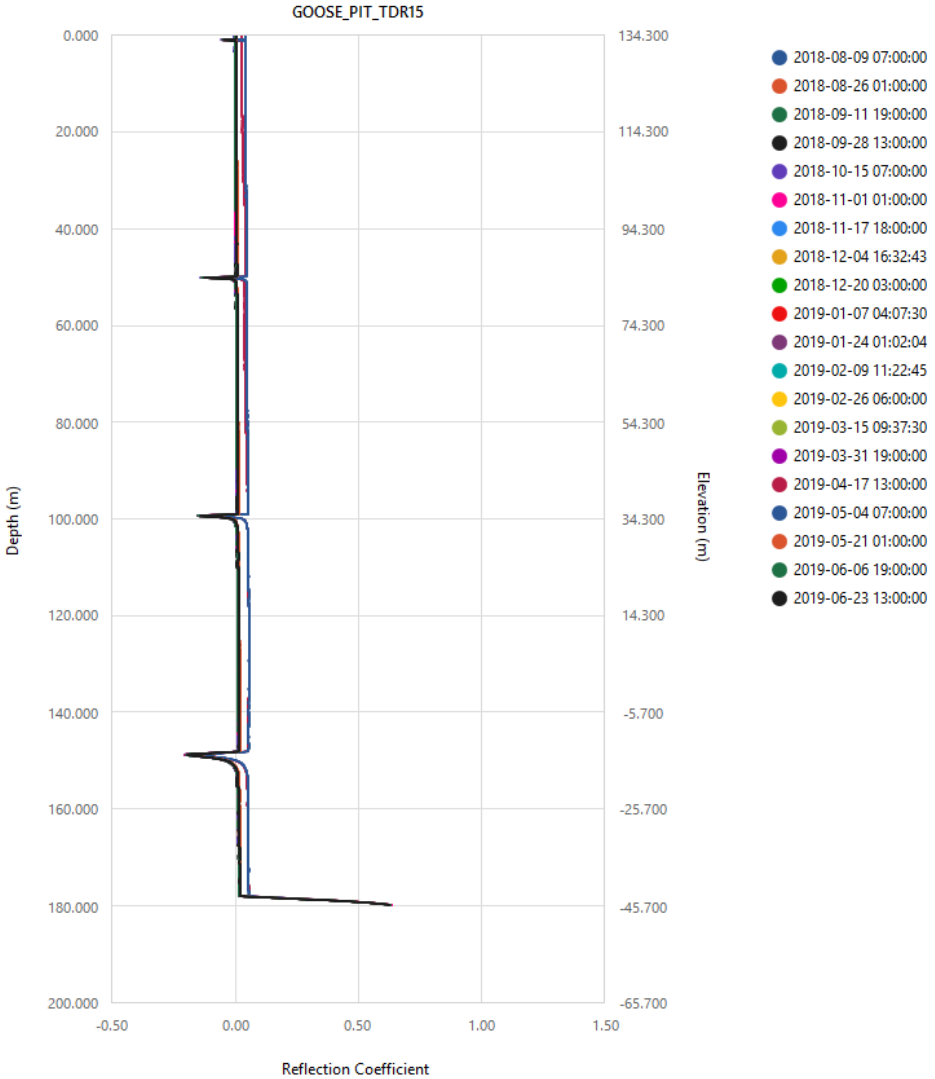
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Goose Pit
TDR Data TDR-14
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure B-9



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE MEADOWBANK

TETRA TECH

MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Goose Pit
TDR Data TDR-15
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure B-10

LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE
MEADOWBANK

TETRA TECH

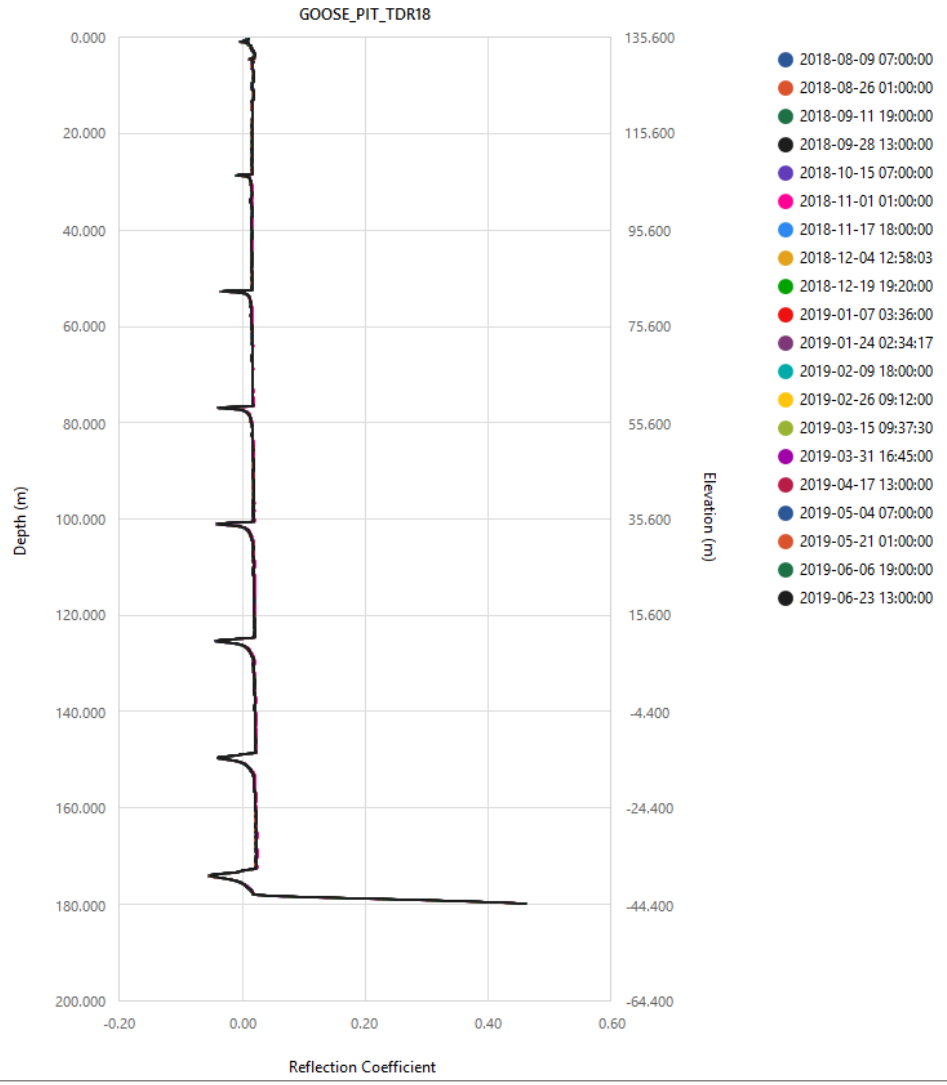
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Goose Pit
TDR Data TDR-17
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure B-11



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE MEADOWBANK

TETRA TECH

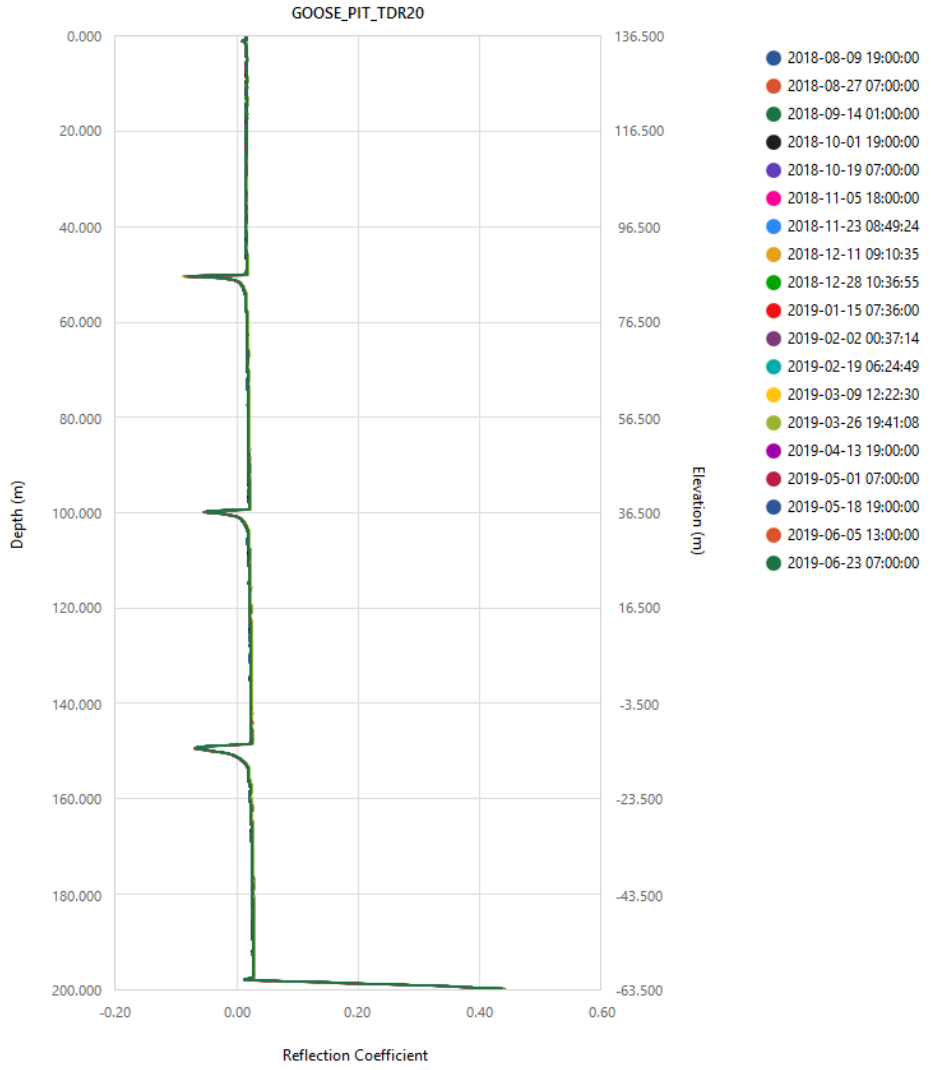
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Goose Pit
TDR Data TDR-18
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure B-12



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE MEADOWBANK

TETRA TECH

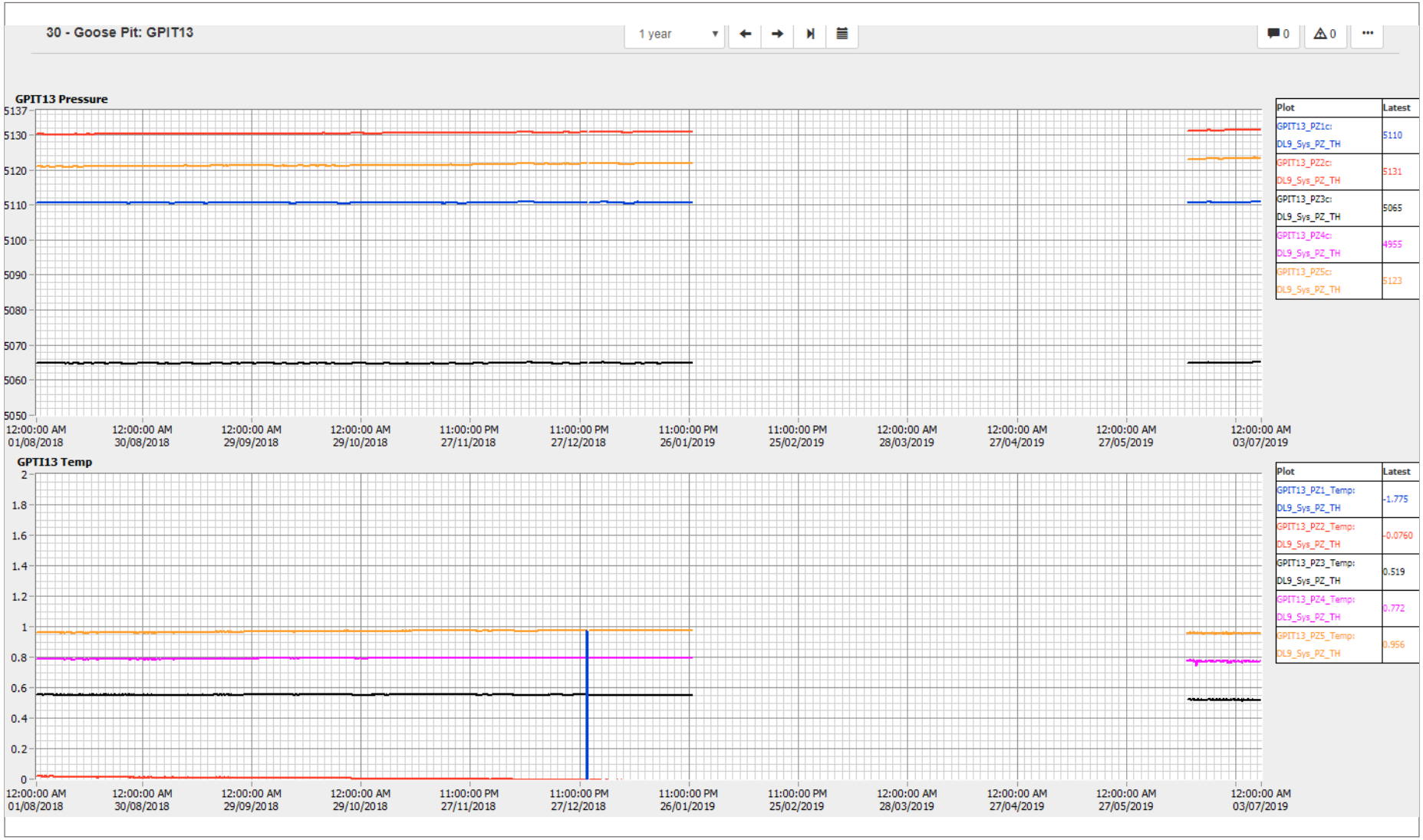
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Goose Pit
TDR Data TDR-20
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure B-13



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE MEADOWBANK

TETRA TECH

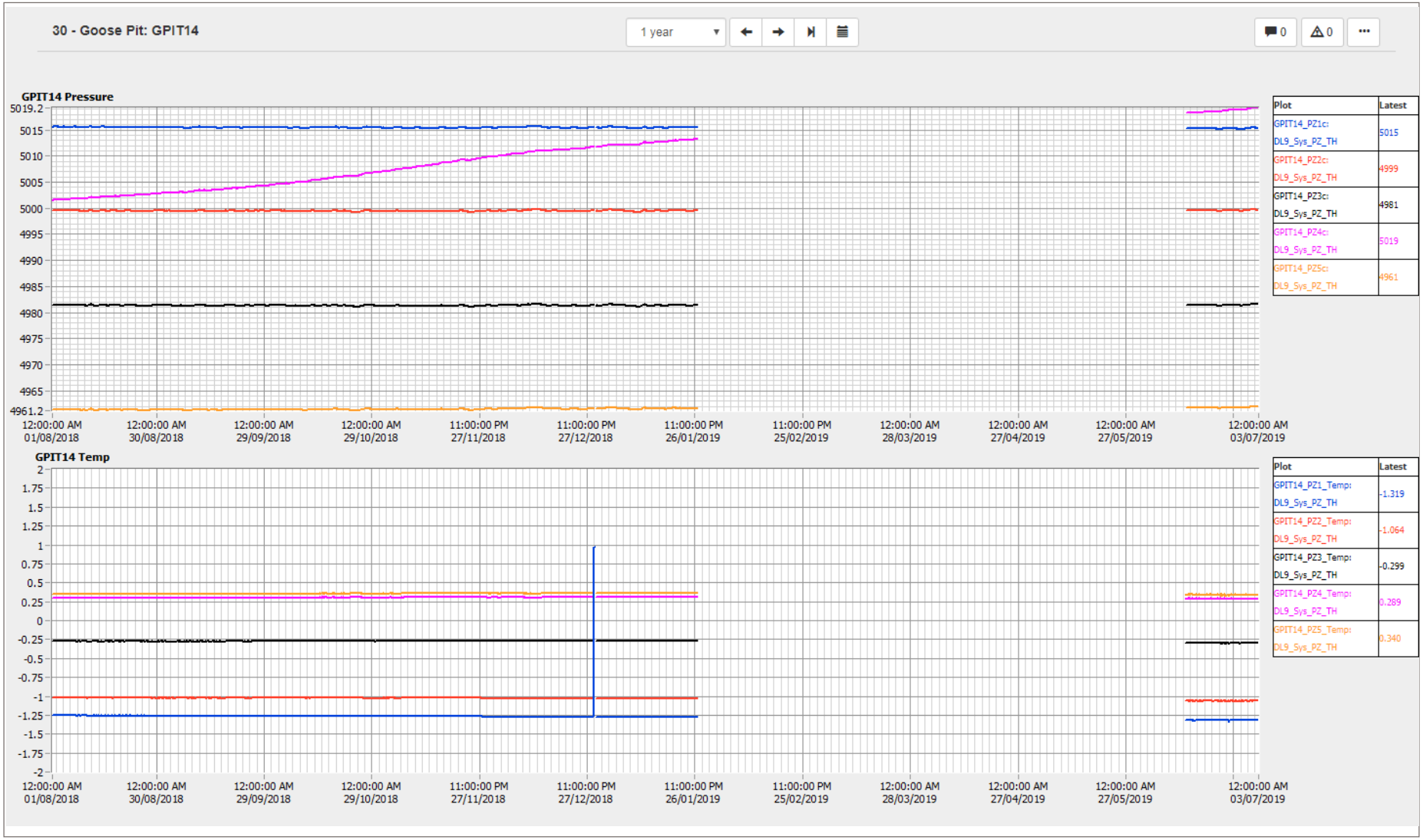
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Goose Pit
Piezometer Data GPIT-13
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure B-14



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE MEADOWBANK

TETRA TECH

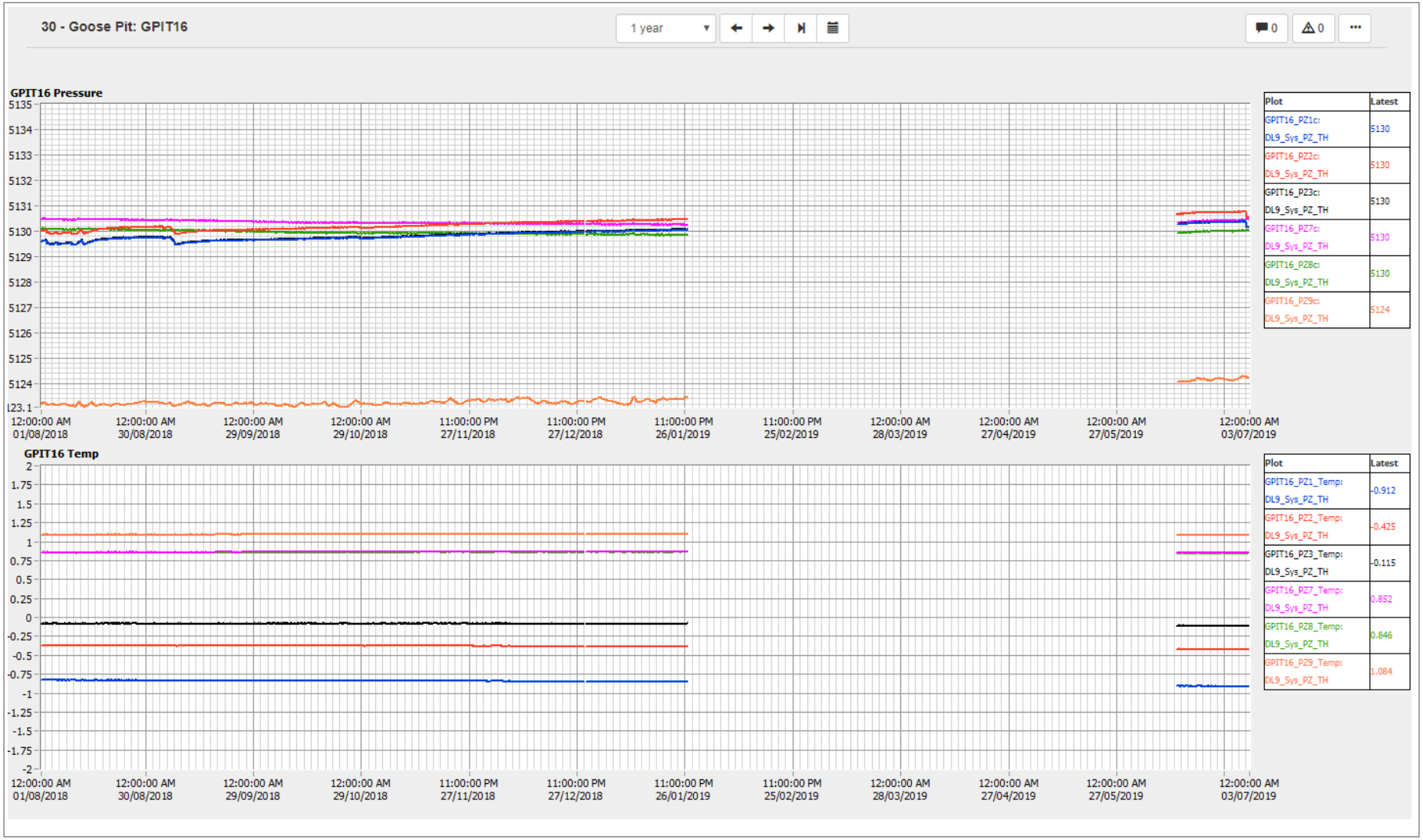
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Goose Pit
Piezometer Data GPIT-14
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure B-15



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE MEADOWBANK

TETRA TECH

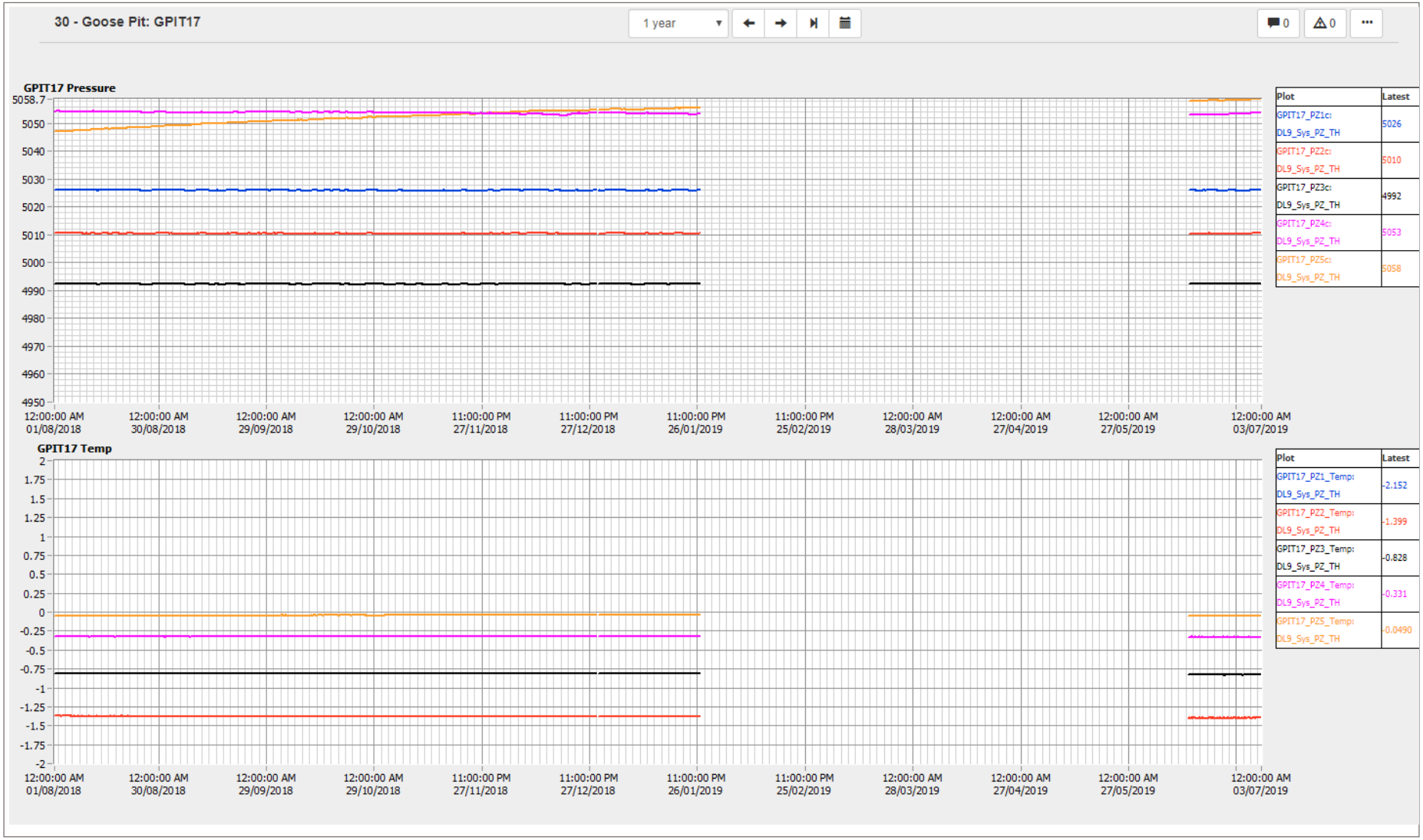
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Goose Pit
Piezometer Data GPIT-16
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure B-16



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE MEADOWBANK

TETRA TECH

MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Goose Pit
Piezometer Data GPIT-17
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure B-17

LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE MEADOWBANK

TETRA TECH

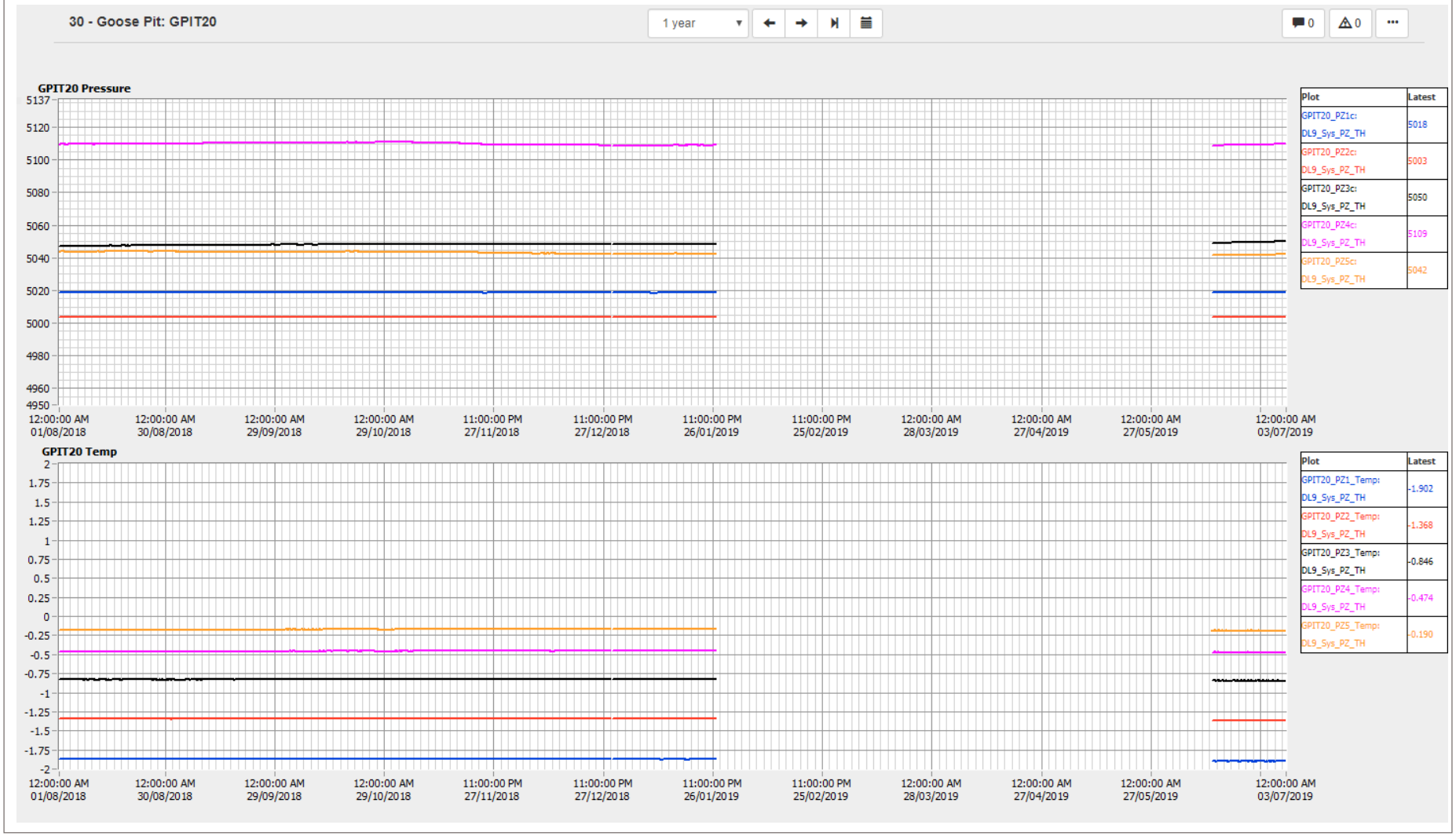
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Goose Pit
Piezometer Data GPIT-19
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure B-18



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE
MEADOWBANK

TETRA TECH

MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Goose Pit
Piezometer Data GPIT-20
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

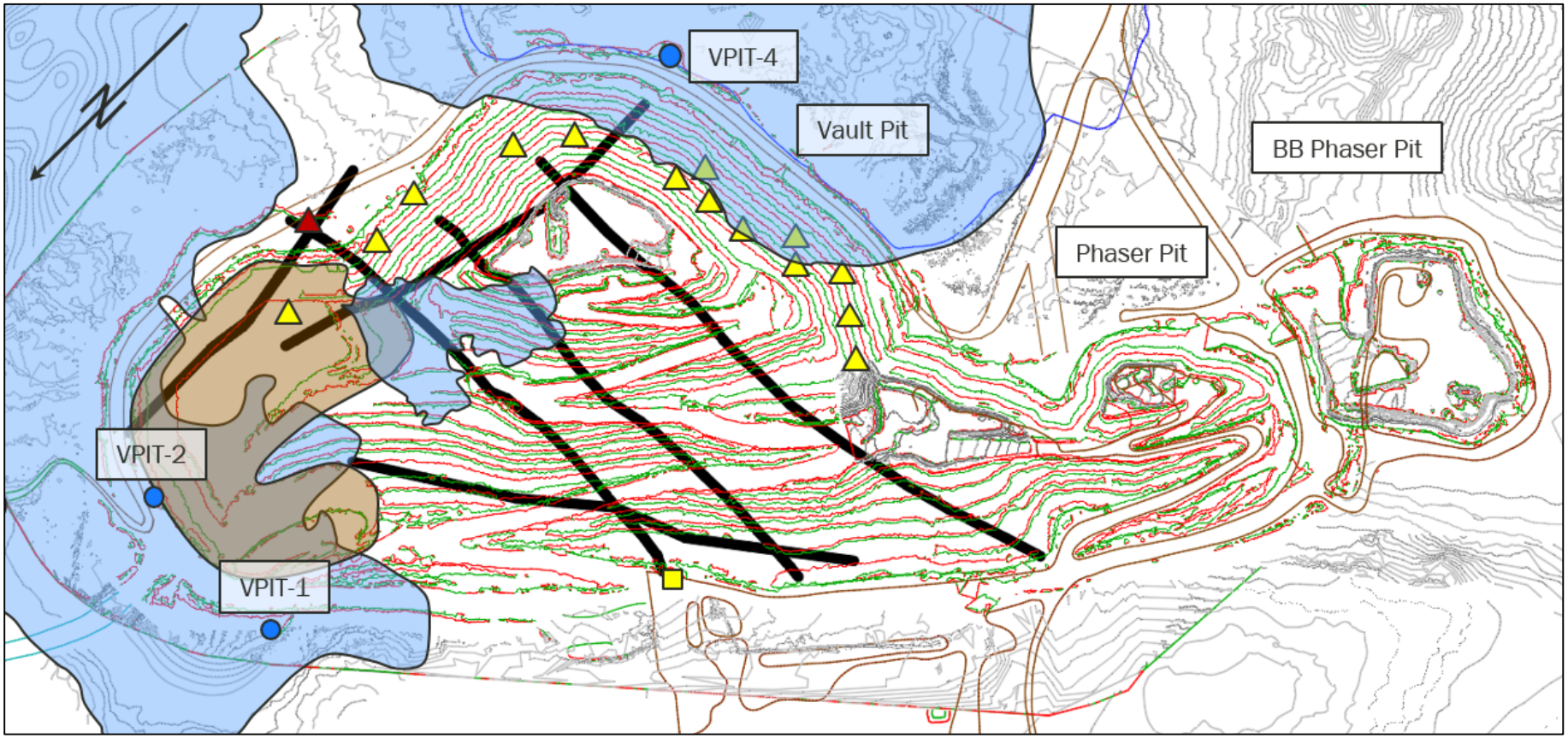
OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure B-19

APPENDIX C

VAULT PIT INSTRUMENTATION DATA

- Figure C-1 Vault Pit Prism and Instrumentation Plan
- Figure C-2 Vault Pit Prism Data Plot
- Figure C-3 Vault Pit Thermistor Cable VP1 – TH1 2019 Data
- Figure C-4 Vault Pit Thermistor Cable VP2 – TH1 2019 Data
- Figure C-5 Vault Pit Thermistor Cable VP4 – TH1 2019 Data
- Figure C-6 Vault Pit Piezometer Data VP1-A 2019 Data
- Figure C-7 Vault Pit Piezometer Data VP1-B 2019 Data
- Figure C-8 Vault Pit Piezometer Data VP2-A 2019 Data
- Figure C-9 Vault Pit Piezometer Data VP2-B 2019 Data
- Figure C-10 Vault Pit Piezometer Data VP4-A 2019 Data
- Figure C-11 Vault Pit Piezometer Data VP4-B 2019 Data
- Figure C-12 Vault Pit Piezometer Data VP4-C 2019 Data



LEGEND

- Piezometers and Thermistor
- Prism monitoring station
- Prism location (approximate)
- Back sight
- Former lake shoreline
- Waste rock dump footprint

NOTES

Data provided by Agnico Eagle Mines Ltd. Locations are approximate.

STATUS
ISSUED FOR REVIEW

CLIENT
AGNICO EAGLE MEADOWBANK

TETRA TECH

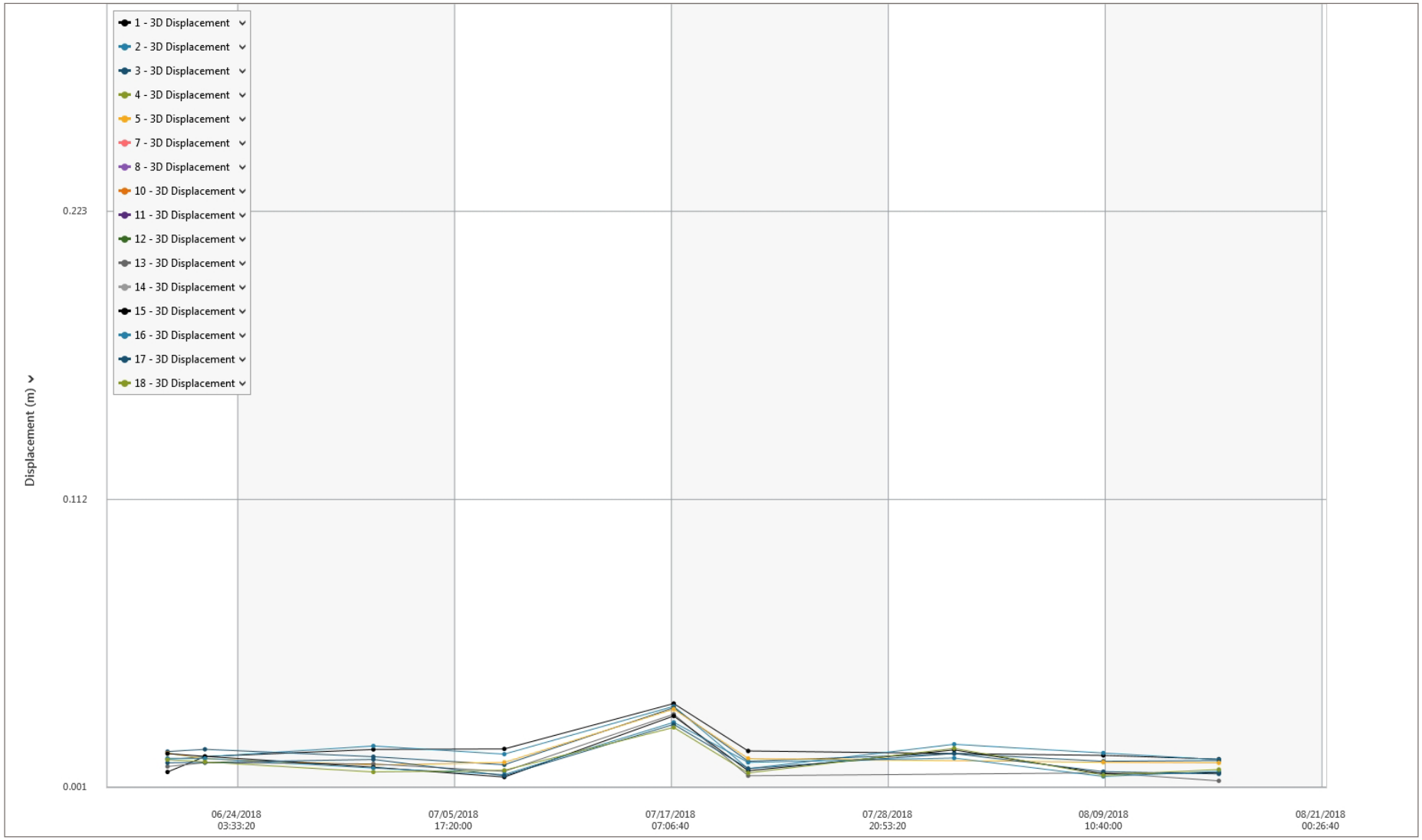
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Vault Pit
Prism and Instrumentation Plan

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	CJC	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure C-1



LEGEND

No 2019 update

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE MEADOWBANK

TETRA TECH

MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

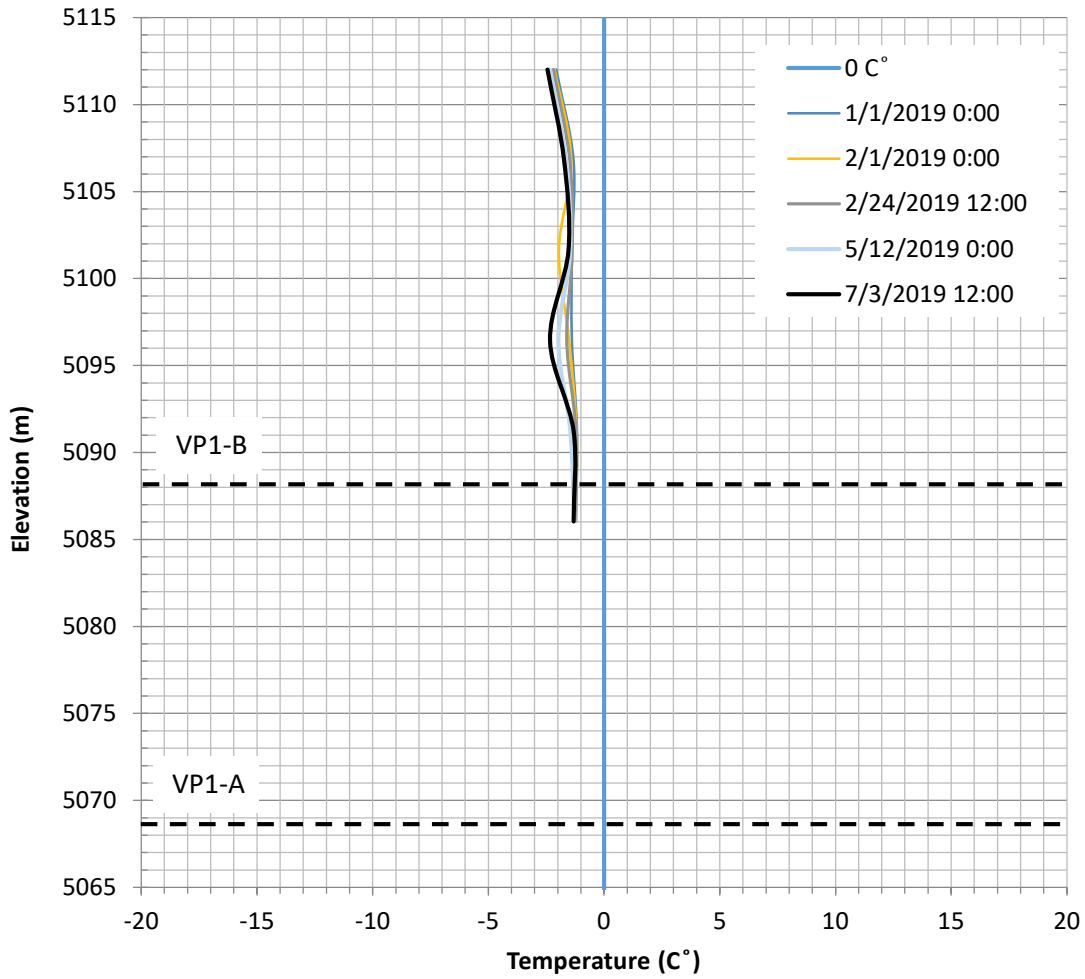
Vault Pit
Prism Data Plot

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure C-2

VP1-TH1 2019



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS
ISSUED FOR REVIEW

CLIENT
AGNICO EAGLE MEADOWBANK

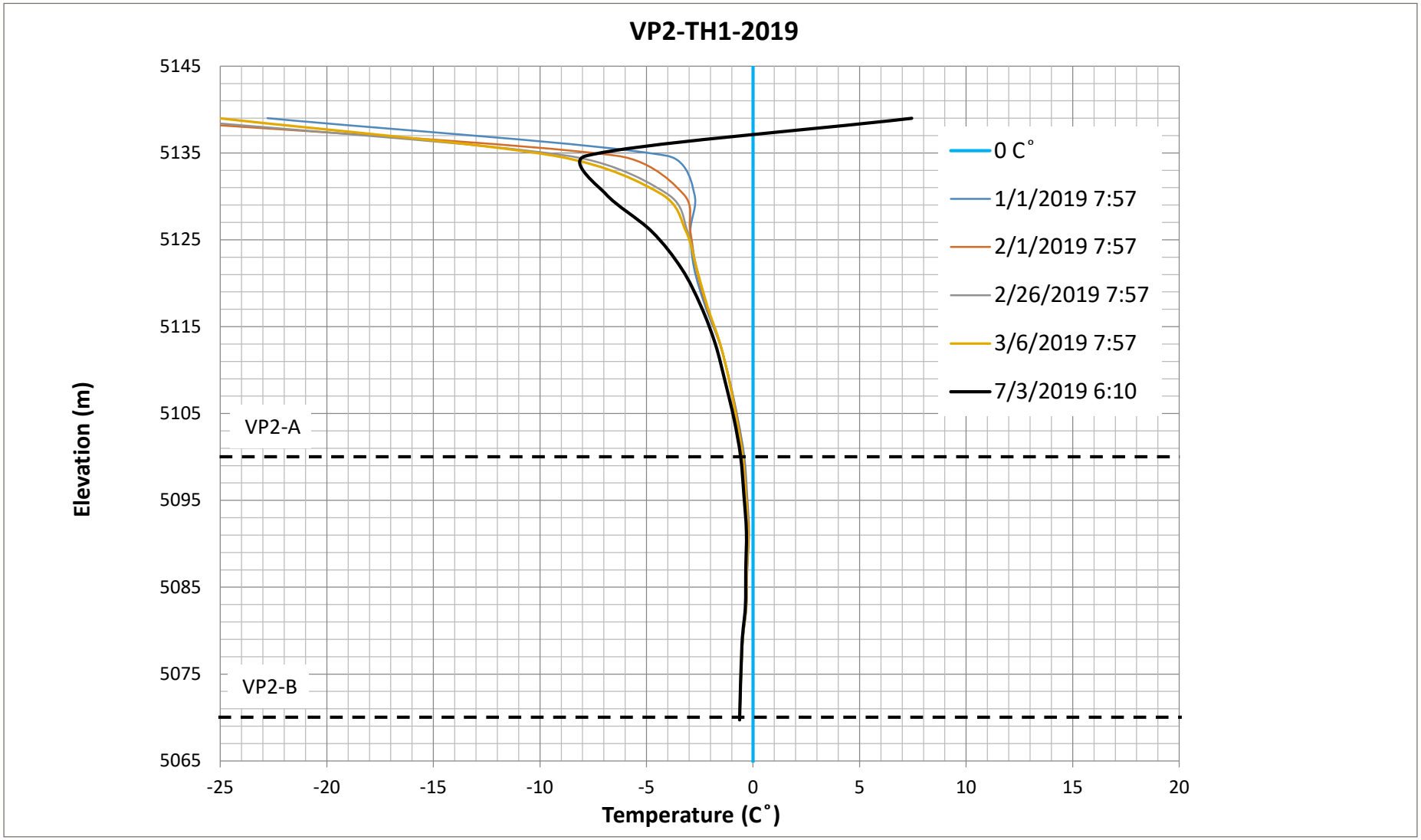
TETRA TECH

MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION
Vault Pit
Thermistor Cable VP1 – TH1
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure C-3



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE MEADOWBANK

TETRA TECH

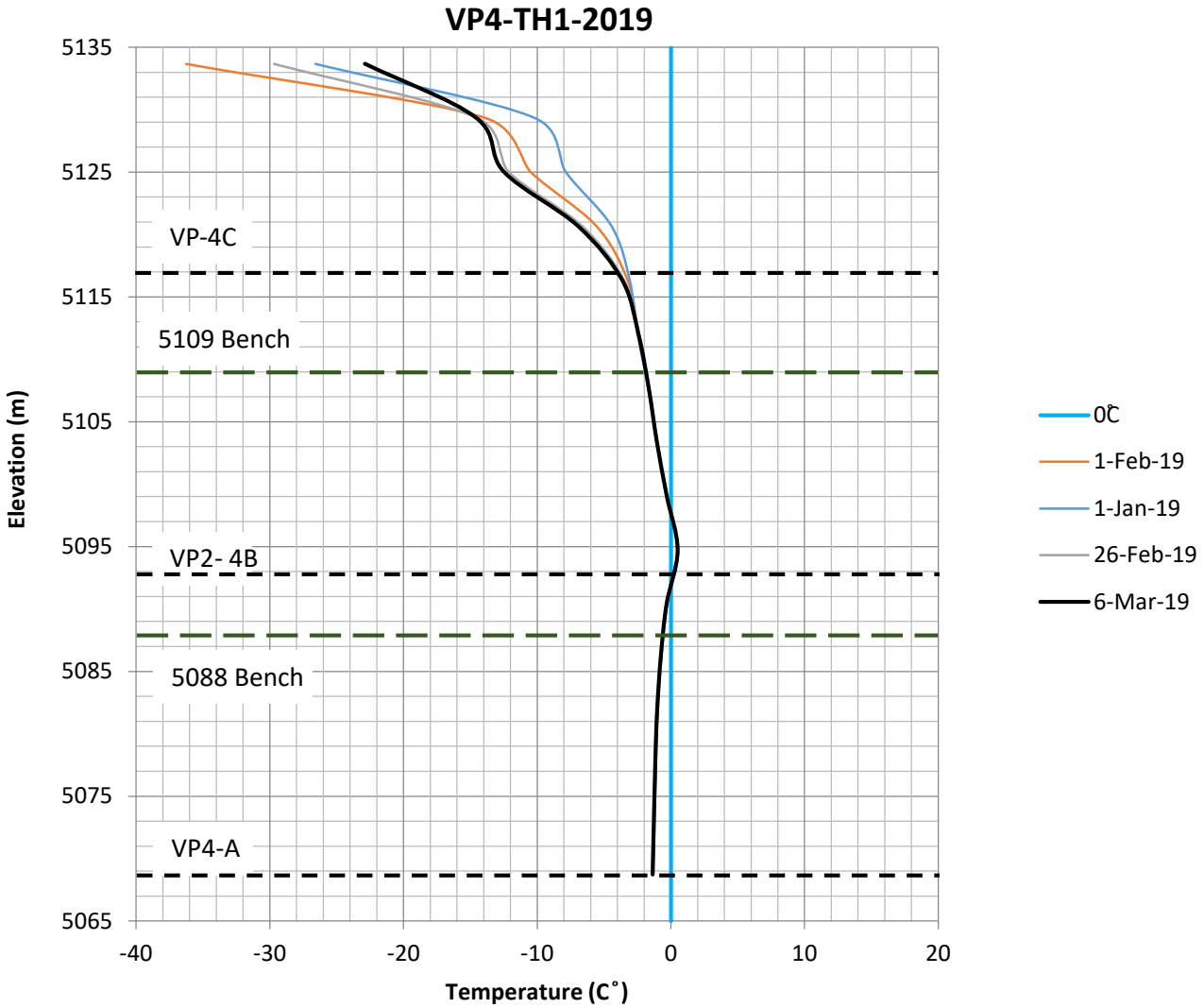
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Vault Pit
Thermistor Cable VP2 – TH1
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure C-4



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE MEADOWBANK

TETRA TECH

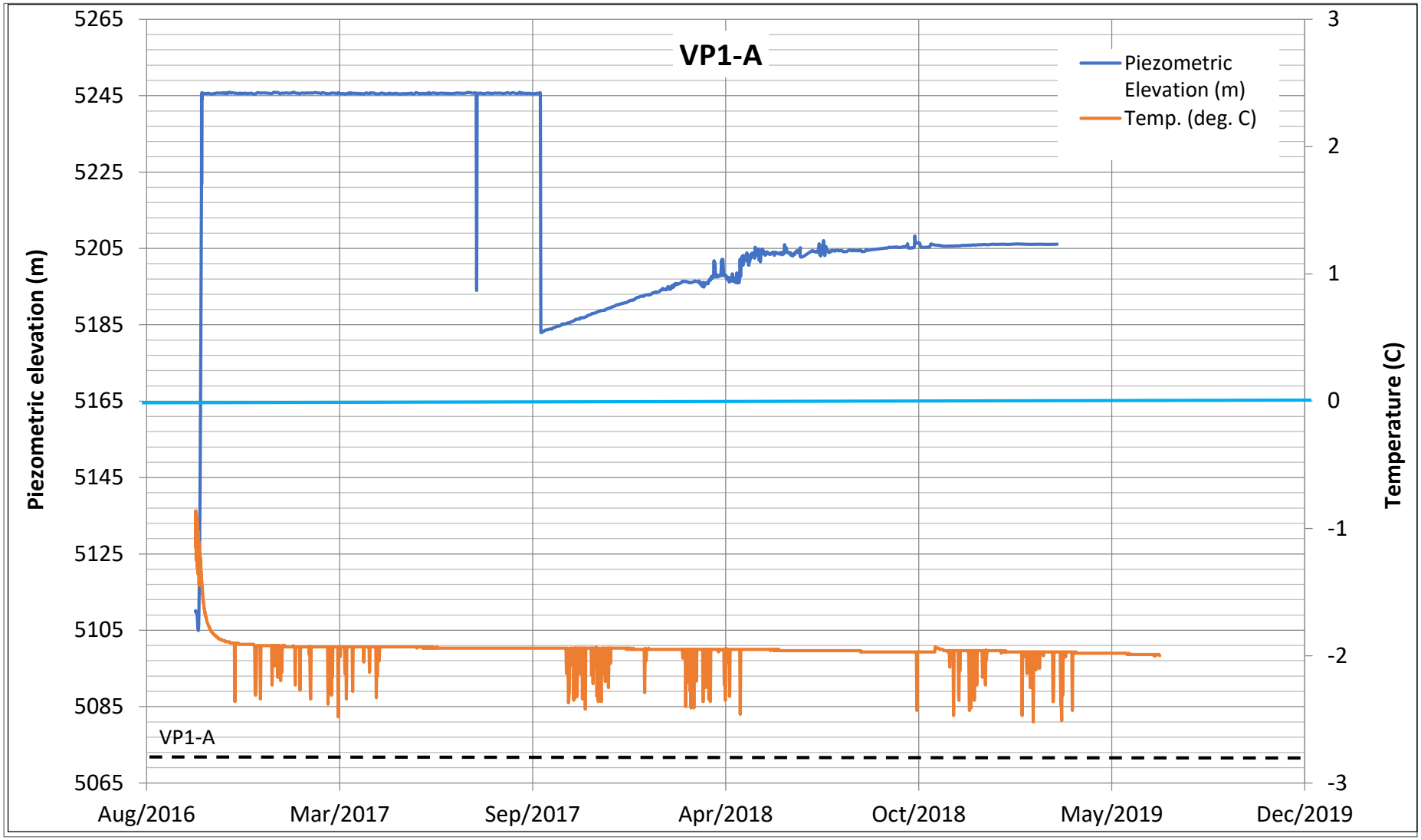
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Vault Pit
Thermistor Cable VP4 – TH1
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure C-5



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE MEADOWBANK

TETRA TECH

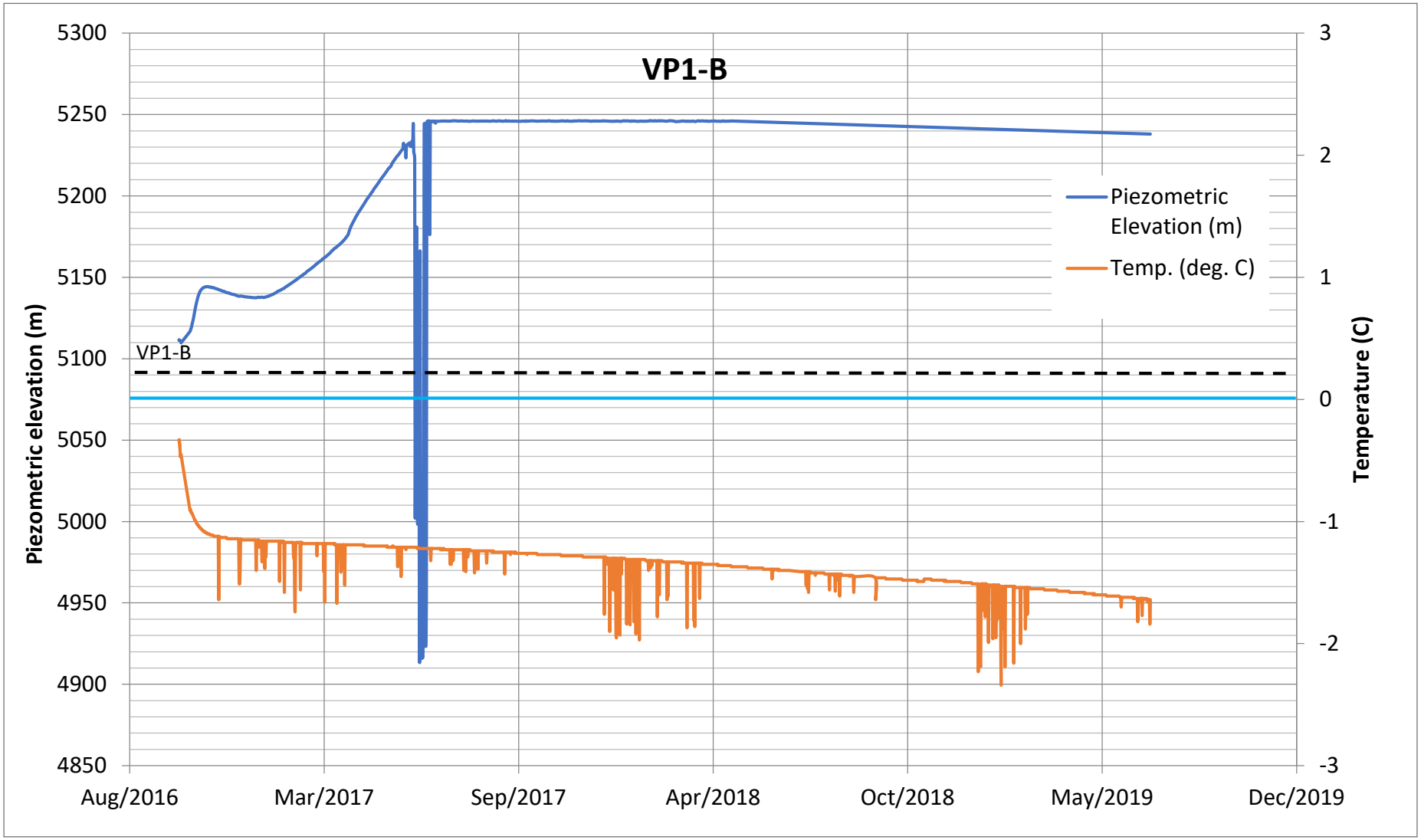
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Vault Pit
Piezometer Data VP1-A
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-02	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure C-6



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE MEADOWBANK

TETRA TECH

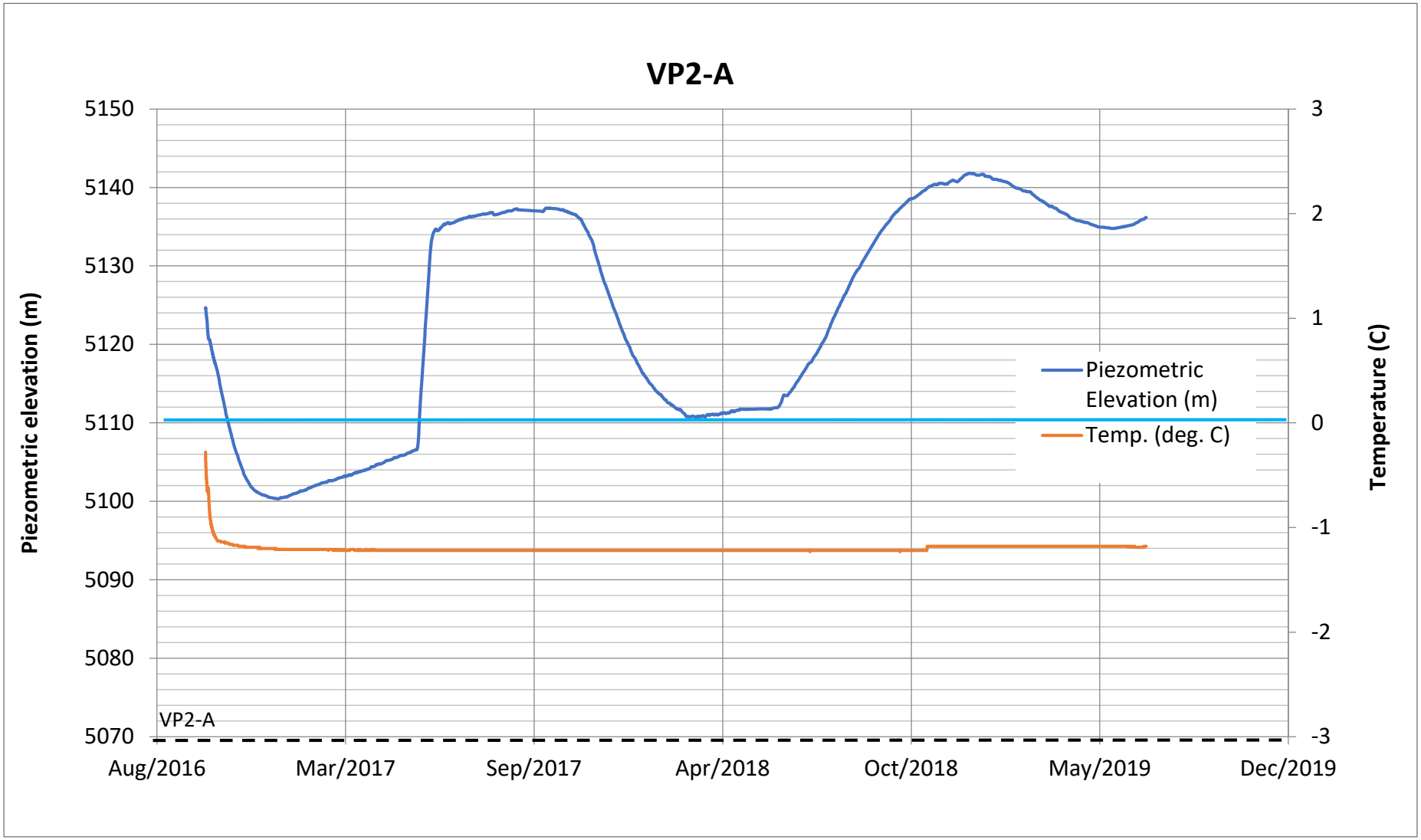
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Vault Pit
Piezometer Data VP1-B
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure C-7



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE MEADOWBANK

TETRA TECH

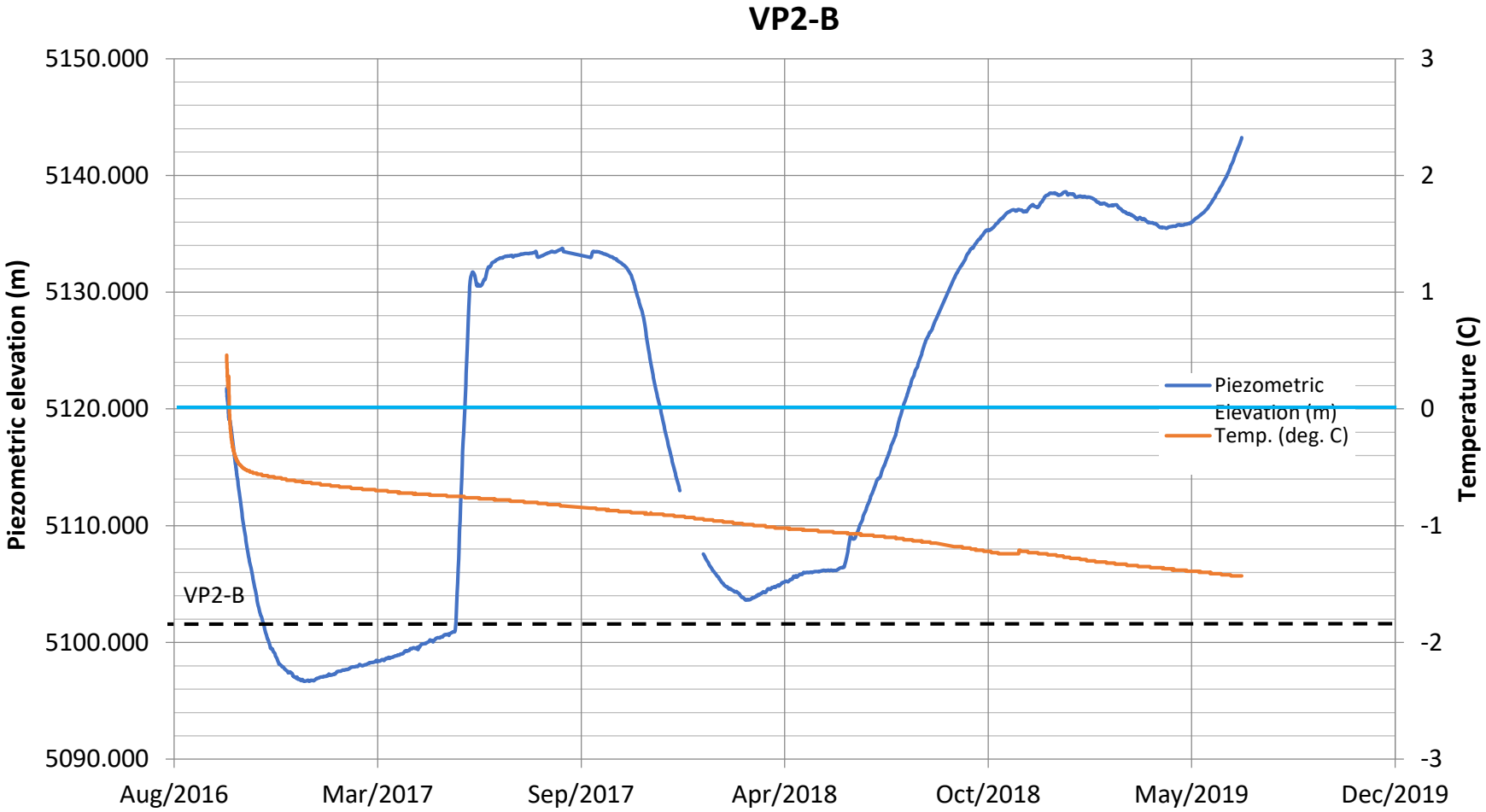
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Vault Pit
Piezometer Data VP2-A
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure C-8



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE MEADOWBANK

TETRA TECH

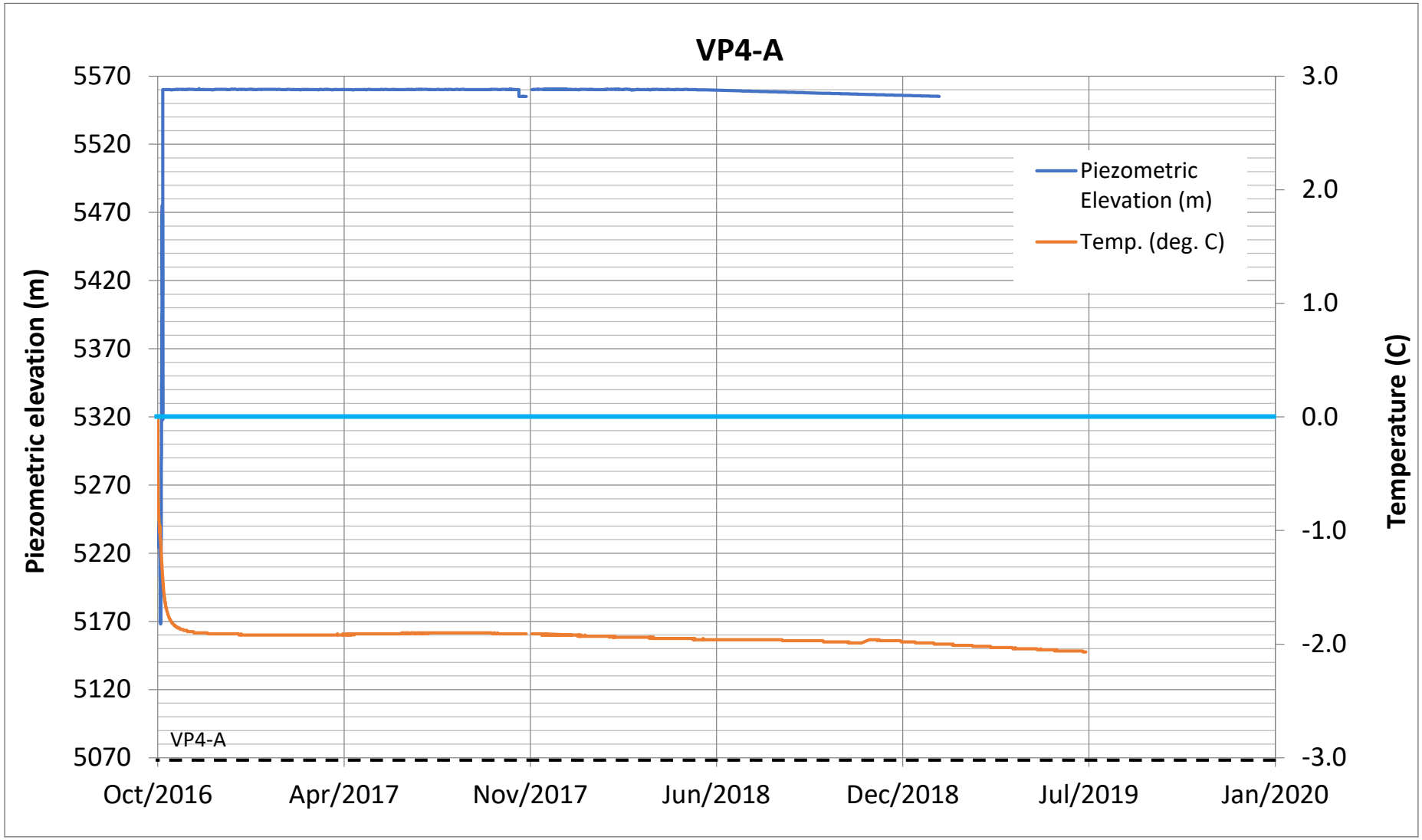
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Vault Pit
Piezometer Data VP2-B
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure C-9



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE MEADOWBANK

TETRA TECH

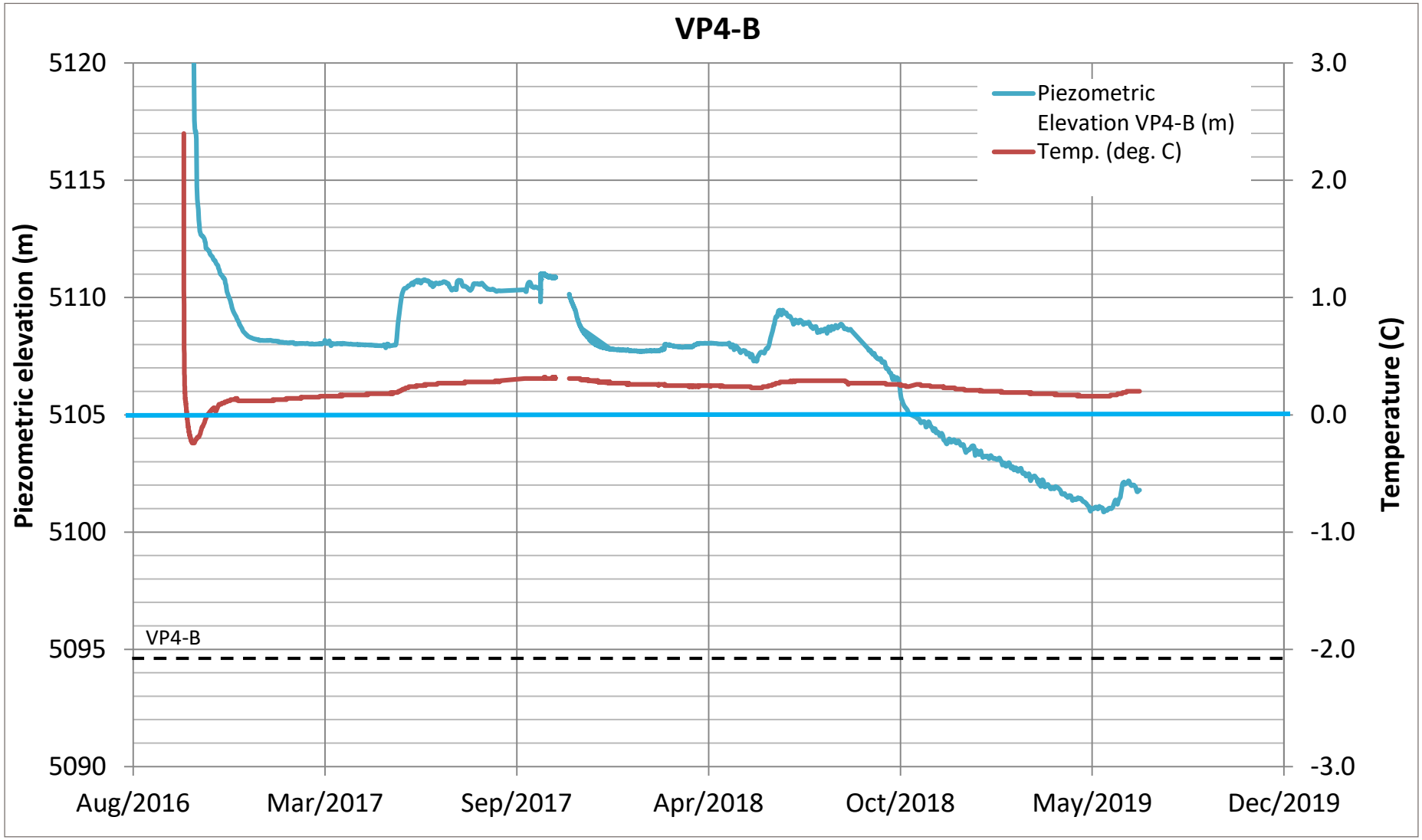
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Vault Pit
Piezometer Data VP4-A
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure C-10



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE MEADOWBANK

TETRA TECH

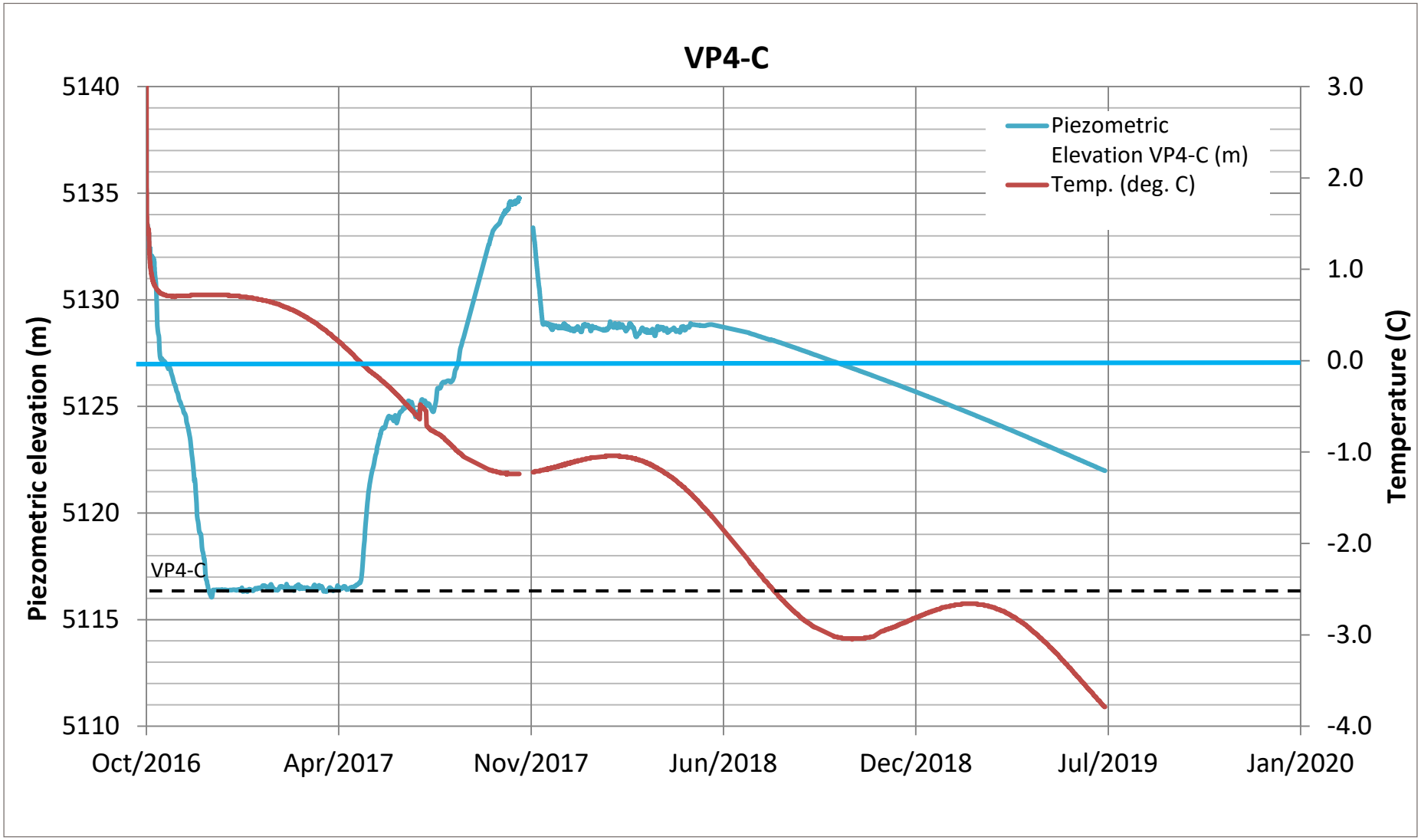
MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Vault Pit
Piezometer Data VP4-B
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure C-11



LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS
ISSUED FOR REVIEW

CLIENT
AGNICO EAGLE
MEADOWBANK

TETRA TECH

MEADOWBANK MINE
ANNUAL PIT WALL INSPECTION

Vault Pit
Piezometer Data VP4-C
2019 Data

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-04	LT	CJC	CJC	00

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure C-12

APPENDIX D

QUARTERLY GEOTECHNICAL INSPECTION REPORTS

- Period: Q3 – July 1st to September 30th, 2018
- Period: Q4 – October 1st to December 31st, 2018
- Period: Q1 – January 1st to March 31st ,2019

PERIOD: Q3 – JULY 1ST TO SEPTEMBER 30TH, 2018

Open Pits - Quarterly Report
Instrumentation Monitoring and Field Observation Summary
Agnico Eagle Mines Limited
Meadowbank Project

Written: Thomas Dahm
Reviewed: Alexandre Lavallee

Period: Q3 – July 1st ,2018 to September 30th, 2018

TABLE OF CONTENTS

INTRODUCTION

This quarterly report present and provide interpretation on all instrumentation data associated to ground control of active and inactive open pits at Meadowbank. Key observations made during the previous biweekly pit wall inspections are also integrated in the data analyses.

The frequencies of the inspection and instrumentation data acquisition/review is provided in the latest Ground Control Management Plan (GCMP).

MEADOWBANK OPEN PITS

Open pits from the Meadowbank mine are presented in the map below. The mine consists of 4 active and 4 inactive open pits as presented below.

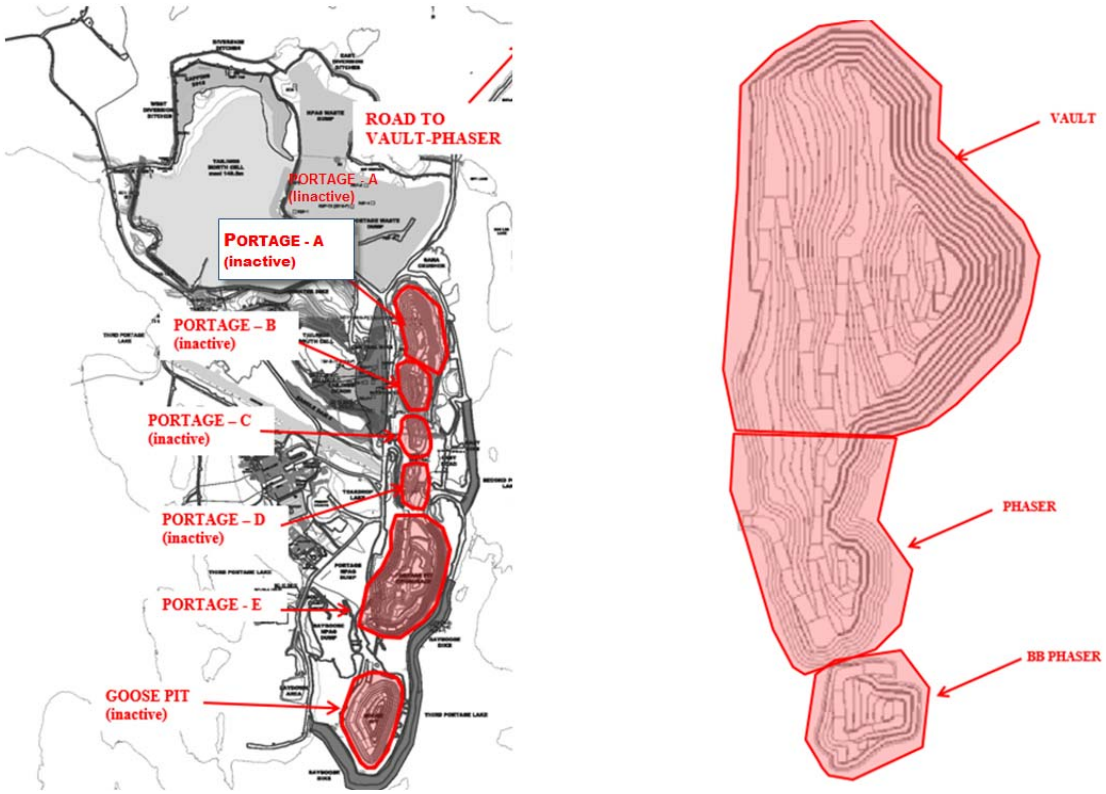


Figure 1 : Meadowbank open pits location

INSTRUMENTATION AND INSPECTION HIGHLIGHTS

ACTIVE OPEN PITS

Portage Pit E

- There was a consistent deformation trend of 5mm on Aug 11th which could be contributed to the large amount of rain fall and the settling of the material that the radar is placed on.
- Nine (9) rock fall events were reported during Q3 from July 5th to Sept. 27th. The total tonnage that was calculated for all the rock falls was 17,050T. The majority of the rock falls occurred in the South Wall in the Ultramafic material. One (1) rock fall of 2900T occurred in the Intermediate Volcanics on the West wall of Bench 5109. The largest rock fall during the Q3 period occurred on the 5033 bench, with 10,100T coming off the Ultramafic wall in a recently exposed wall in the mining operations.
- During a blast event on Aug. 11th there was a PVS of 44.2 mm/s. This was a high PVS and within the threshold of 50 mm/s for Bay Goose Dike. It was discussed with the Mine Department to adjust the blast so the vibrations are lower.
- A crack metre was installed on the Pit E3 South Ramp wall on Aug. 14th. Data shows there has be <0.1mm movement which could be normal fluctuations due to temperature change.
- No movement recorded on all of the TDRs.
- In-Place inclinometer was reinstalled in the Q2. The results of the IPI are still under investigation to determine whether or not they are reliable.
- The ramp to Pit E5 was blocked off to all traffic and switched to the E3 South Pit Ramp for all mining traffic.
- Piezometers within the setback distance from the dike are showing normal response to mining activities (PE3-14, PE5-17-01, and PE5-17-02), spikes and gradual decrease in pressure are displayed.

Vault Pit

- As of Aug 17th the majority of the Vault Ice Wall was off of the wall and only minor ice remaining on the catch bench was left. Mining resumed in the area below the ice wall.
- One (1) ice fall was reported on July 26th with a total of 150T.
- There is new ice forming on the wall since the onset of winter conditions in Q3. The ice is currently attached to the wall with no free standing pillars. Sump is put in place to collect water runoff from the wall

- Prism monitoring has restarted and 3 sets of data are available in the present report.
- Thermistor in VP4 hole suggests a layer of talik at 5095, This layer is considered the cause of the ice wall.

Phaser Pit

- No instrumentation installed in this pit at the moment.

BB PhaserPit

- No instrumentation installed in this pit at the moment.

INACTIVE OPEN PITS

Goose Pit

- The North and west parts of the pit has been partially backfilled with waste rock
- Tension cracks observed in the in-pit dump are stable. No active dumping ongoing.
- No movement recorded on the TDRs.
- No anomaly detected in the piezometers and thermistors.

Portage Pits B, C, D

- These pits are now almost fully back filled with waste rock.
- There were some cracks forming on near the edge of the waste dump pile. An extensometer was installed on Aug. 17th to monitor the area. There has been a total movement 0.4m since that time with a maximum daily movement of .010mm/day recorded. This is within the normal movement range with no actions required.

Portage Pit A

- No instrumentation installed in this pit at the moment.
- Tension cracks observed on the upper west wall are considered stable. Visual inspection was performed of this area and no progression has been noted.
- The mining was completed around mid-March 2018. Mining activities are completed for this pit but water management will still be carried on.

INSTRUMENTATION LIST AND LOCATION

PORTAGE PIT A

No instrument installed in this pit.

PORTAGE PIT E

Radar

Table 1: Radar location and status

Unit	Radar location	Monitoring	Status	Reliability
			Operational (✓)/Not operational (×)	Operational Days
GP SSR253XT	West wall (crest) of Pit E	Southern and eastern portion of pit E	✓	88/91

- The Radar was off line a total of 3 days during the Q3, 2018. Two consecutive days for MTM maintenance.

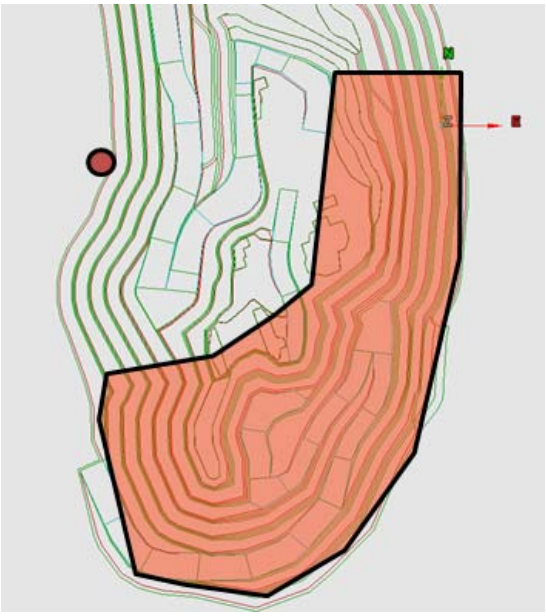


Figure 2: Radar location and coverage

Downhole instruments

Table 2: List of downhole instruments

Hole	Instrument ID	Type	Status	Readings
			Operational (✓)/Not operational (×)	Manual/ Automatic
PE3-14	PE3-P14A	Piezo	✓	Automatic
	PE3-P14B	Piezo	✓	Automatic
PE5-17-01	PE5-17-01-A	Piezo	✓	Automatic
	PE5-17-01-B	Piezo	✓	Automatic
	PE5-17-01-C	Piezo	× (frozen)	Automatic
	PE5-17-01-TH	Thermistor	✓	Automatic
	PE5-TDR1	TDR	✓	Automatic
PE5-17-02	PE5-17-02-A	Piezo	✓	Automatic
	PE5-17-02-B	Piezo	✓	Automatic
	PE5-TDR2	TDR	✓	Automatic
PE5-17-03	PE5-17-03-A	Piezo	✓	Automatic
	PE5-17-03-B	Piezo	✓	Automatic
	PE5-17-03-C	Piezo	× (frozen)	Automatic
	PE5-17-03-TH	Thermistor	✓	Automatic
	PE5-TDR3	TDR	✓	Automatic
PE5-17-04	PE5-17-04-A	Piezo	✓	Automatic
	PE5-17-04-B	Piezo	× (frozen)	Automatic
	PE5-TDR4	TDR	✓	Automatic
PE5-17-05	PE5-17-05-A	Piezo	× (frozen)	Automatic
	PE5-17-05-B	Piezo	× (frozen)	Automatic
	PE5-17-05-C	Piezo	× (frozen)	Automatic
	PE5-TDR5	TDR	✓	Automatic
PE5-17-06	PE5-IPI	In-Place Inclinometer	✓	Automatic

Figure 3: Location of Pit E instrumented holes collars

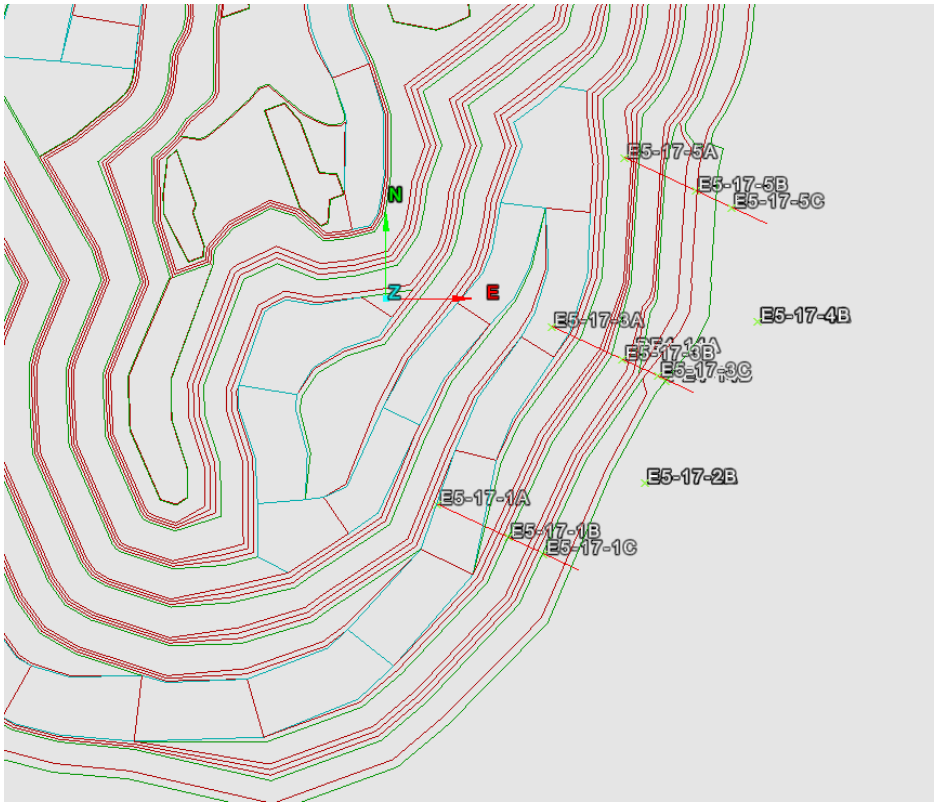


Figure 4: Location of Pit E piezometers

VAULT PIT

Downhole instruments

Table 3: List of downhole instruments

Hole	Instrument ID	Type	Status	Readings
			Operational (✓)/Not operational (×)	Manual/ Automatic
VP1	VP1-A	Piezo	× (frozen)	Semi – Manual
	VP1-B	Piezo	× (frozen)	Semi – Manual
	VP1-TH1	Thermistor	✓	Semi – Manual
VP2	VP2-A	Piezo	× (frozen)	Semi – Manual
	VP2-B	Piezo	× (frozen)	Semi – Manual
	VP2-TH1	Thermistor	✓	Semi – Manual
VP4	VP4-A	Piezo	× (frozen)	Semi – Manual
	VP4-B	Piezo	✓	Semi – Manual
	VP4-C	Piezo	✓	Semi – Manual
	VP4-TH1	Thermistor	✓	Semi – Manual

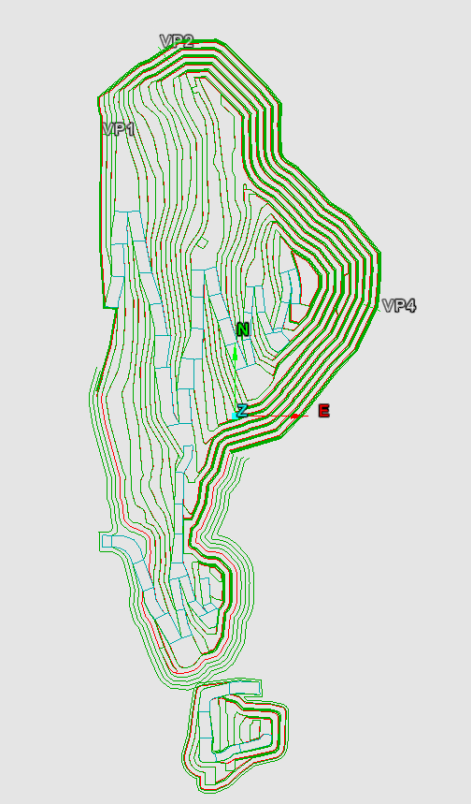


Figure 5: Vault downhole instrumentation location

Prims monitoring

Prism ID	Type	Status	Readings
		Operational (✓)/Not operational (×)	Manual/ Automatic
1	Prism	✓	Manual
2	Prism	×under snow or ice	Manual
3	Prism	✓	Manual
4	Prism	× under snow or ice	Manual
5	Prism	✓	Manual
7	Prism	× under snow or ice	Manual
8	Prism	× under snow or ice	Manual
10	Prism	× under snow or ice	Manual
11	Prism	× under snow or ice	Manual
12	Prism	× under snow or ice	Manual
13	Prism	✓	Manual
14	Prism		Manual
15	Prism	✓	Manual
16	Prism	✓	Manual
17	Prism	✓	Manual
18	Prism	✓	Manual

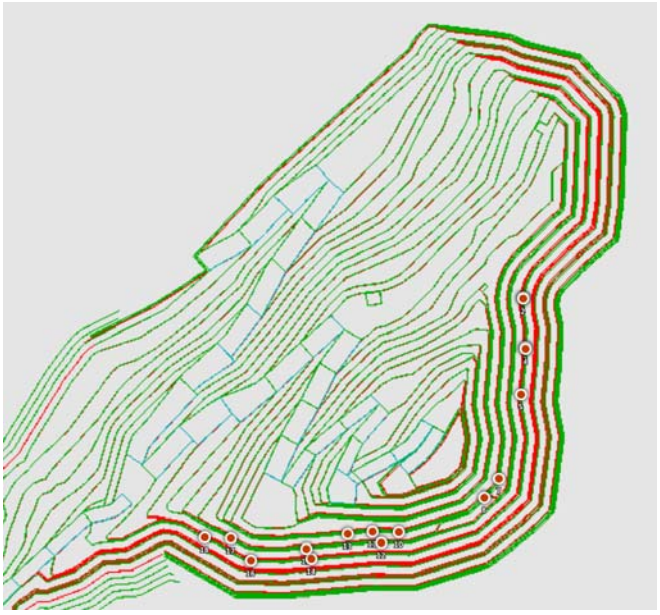


Figure 6: Prisms location

PHASER PIT

No permanent instrument installed in this pit.

GOOSE PIT

Downhole instruments

Hole	Instrument ID	Type	Status	Readings
			Operational (✓)/Not operational (×)	Manual/ Automatic
GPIT-11	GPIT-TDR11	TDR	✓	Automatic
GPIT-12	GPIT-TDR12	TDR	✓	Automatic
GPIT-13	GPIT13-PZ1	Piezo	× (frozen)	Automatic
	GPIT13-PZ2	Piezo	✓	Automatic
	GPIT13-PZ3	Piezo	✓	Automatic
	GPIT13-PZ4	Piezo	✓	Automatic
	GPIT13-PZ5	Piezo	✓	Automatic
	GPIT-TH13	Thermistor	✓	Automatic
GPIT-14	GPIT14-PZ1	Piezo	× (frozen)	Automatic
	GPIT14-PZ2	Piezo	× (frozen)	Automatic
	GPIT14-PZ3	Piezo	× (frozen)	Automatic
	GPIT14-PZ4	Piezo	✓	Automatic
	GPIT14-PZ5	Piezo	✓	Automatic
	GPIT-TH14	Thermistor	✓	Automatic
	GPIT-TDR14	TDR	✓	Automatic
GPIT-15	GPIT-TDR15	TDR	✓	Automatic
GPIT-16	GPIT16-PZ1	Piezo	× (frozen)	Automatic
	GPIT16-PZ2	Piezo	× (frozen)	Automatic
	GPIT16-PZ3	Piezo	× (frozen)	Automatic
	GPIT16-PZ4	Piezo	✓	Automatic
	GPIT16-PZ5	Piezo	✓	Automatic
	GPIT16-PZ6	Piezo	✓	Automatic
	GPIT16-PZ7	Piezo	✓	Automatic
	GPIT16-PZ8	Piezo	✓	Automatic
	GPIT16-PZ9	Piezo	✓	Automatic
	GPIT-TH16	Thermistor	✓	Automatic
GPIT-17	GPIT17-PZ1	Piezo	× (frozen)	Automatic
	GPIT17-PZ2	Piezo	× (frozen)	Automatic
	GPIT17-PZ3	Piezo	× (frozen)	Automatic
	GPIT17-PZ4	Piezo	× (frozen)	Automatic
	GPIT17-PZ5	Piezo	× (frozen)	Automatic
	GPIT17-PZ6	Piezo	✓	Automatic
	GPIT-TH17	Thermistor	✓	Automatic
	GPIT-TDR17	TDR	✓	Automatic
GPIT-18	GPIT-TDR18	TDR	✓	Automatic
GPIT-19	GPIT19-PZ1	Piezo	× (frozen)	Automatic
	GPIT19-PZ2	Piezo	× (frozen)	Automatic
	GPIT19-PZ3	Piezo	× (frozen)	Automatic
	GPIT19-PZ4	Piezo	× (frozen)	Automatic
	GPIT19-PZ5	Piezo	✓	Automatic
	GPIT19-PZ6	Piezo	✓	Automatic
	GPIT-TH19	Thermistor	✓	Automatic
GPIT-20	GPIT20-PZ1	Piezo	× (frozen)	Automatic
	GPIT20-PZ2	Piezo	× (frozen)	Automatic
	GPIT20-PZ3	Piezo	× (frozen)	Automatic
	GPIT20-PZ4	Piezo	× (frozen)	Automatic
	GPIT20-PZ5	Piezo	× (frozen)	Automatic
	GPIT-TH20	Thermistor	✓	Automatic
	GPIT-TDR20	TDR	✓	Automatic

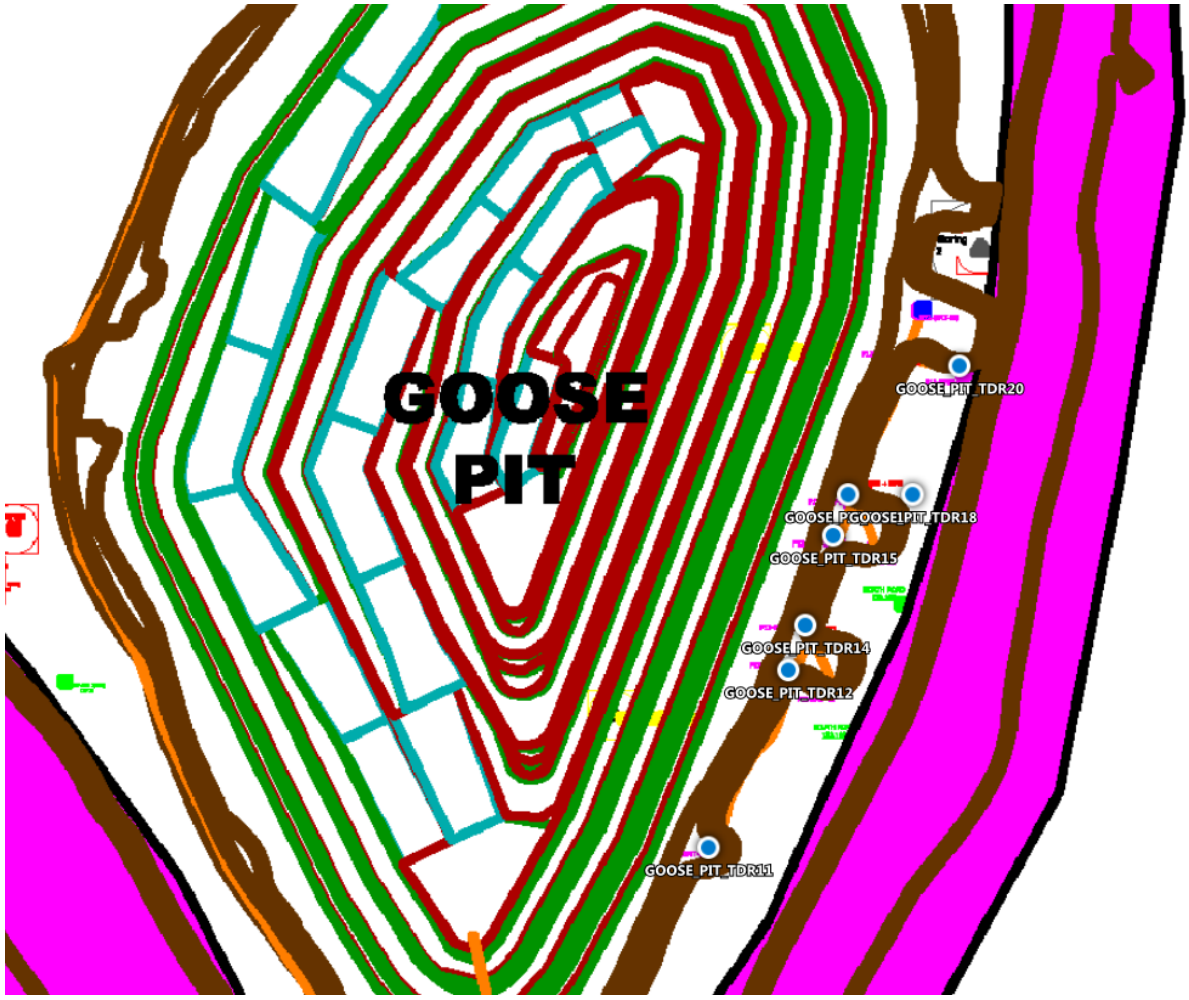


Figure 7: Location of downhole instruments at Goose pit

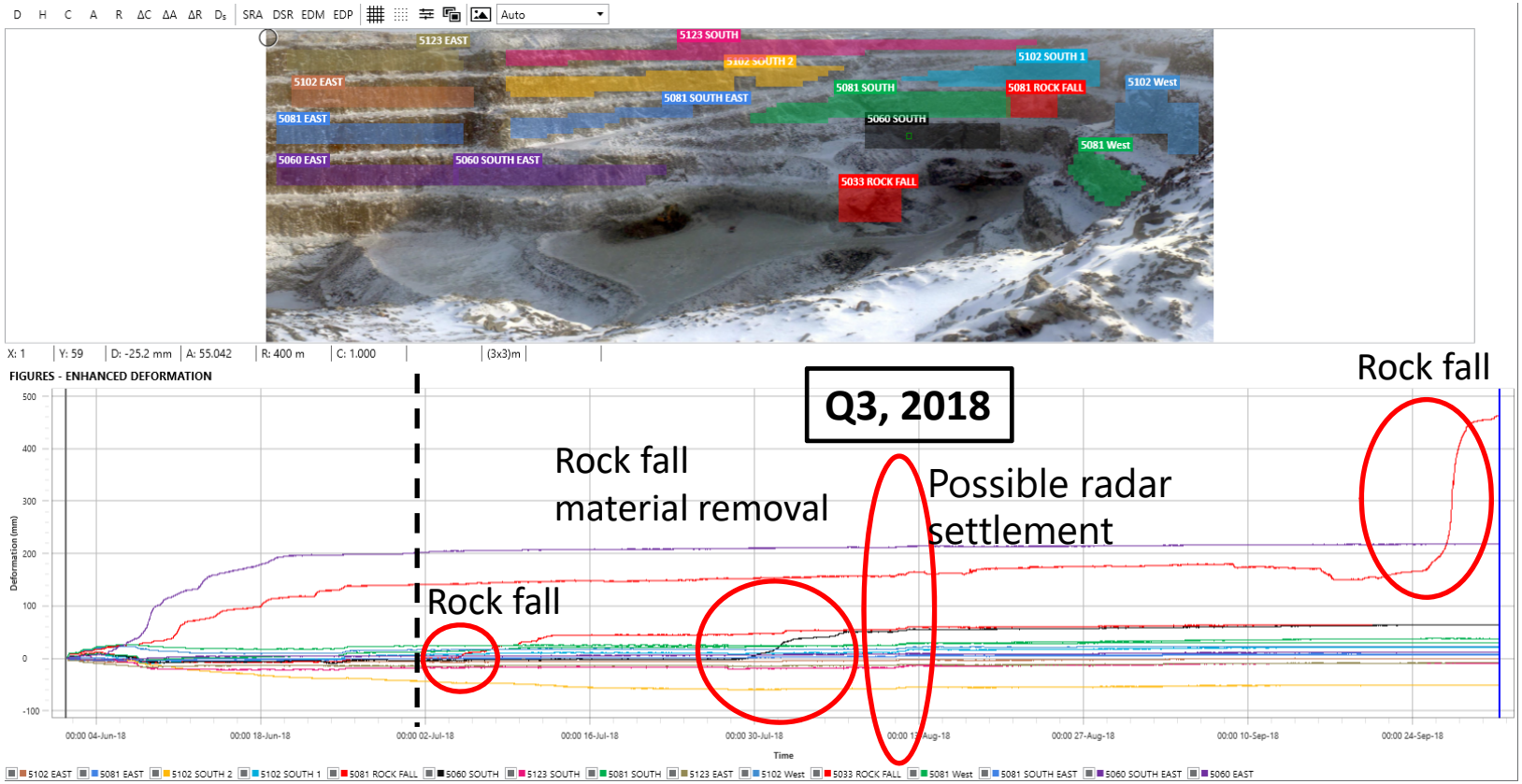
PORTAGE PIT B, C & D

- No instrument installed in these pits.

INSTRUMENTATION RESULTS

PORTAGE PIT E

RADAR



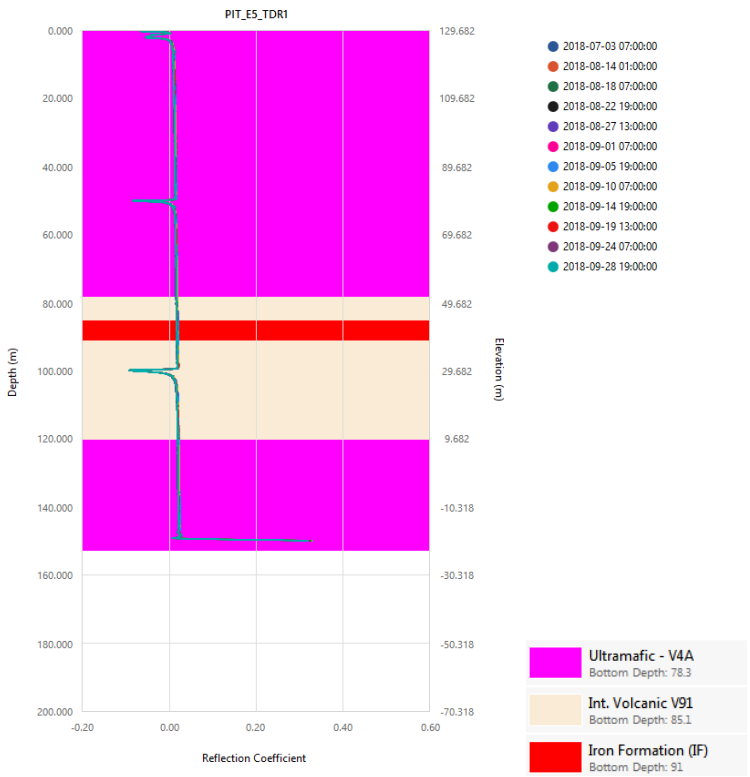
Enhanced deformation per sector (July 1st– Sept. 30th) – Wall folder: SSR253_180601_Meadowbank_E5_South_Wall**).**

Comments: During the Q3 period, the deformation was relatively stable. There was a consistent deformation trend of 5mm on Aug 11th which could be contributed to the large amount of rain fall and the settling of the material that the radar is placed on. During Q3 there were nine (9) rock falls with the largest being on Sept. 27th, of 10,100T on the 5033 Bench.

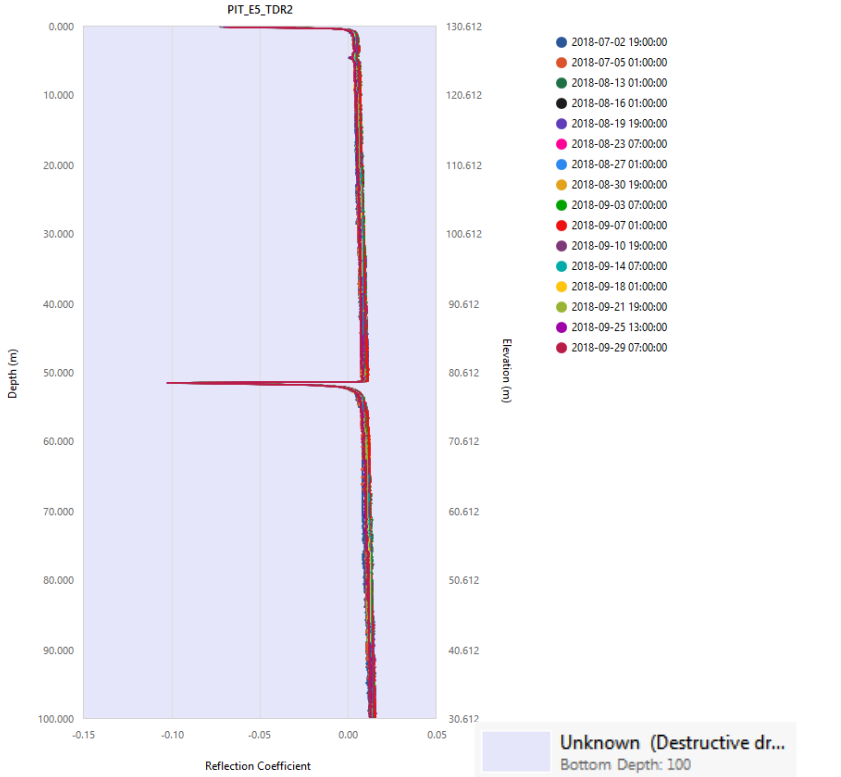
PORTAGE PIT E

TDR

TDR1



TDR2



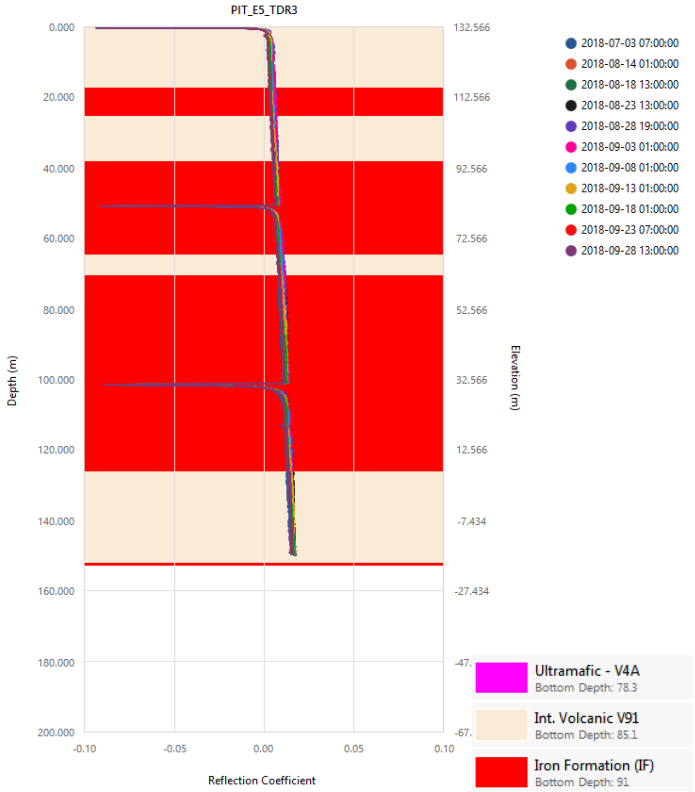
Comments:

- No sign of deformation observed in TDR1 & TDR2.
- No anomalies from the TDR logger were found in the graphs in Q3.

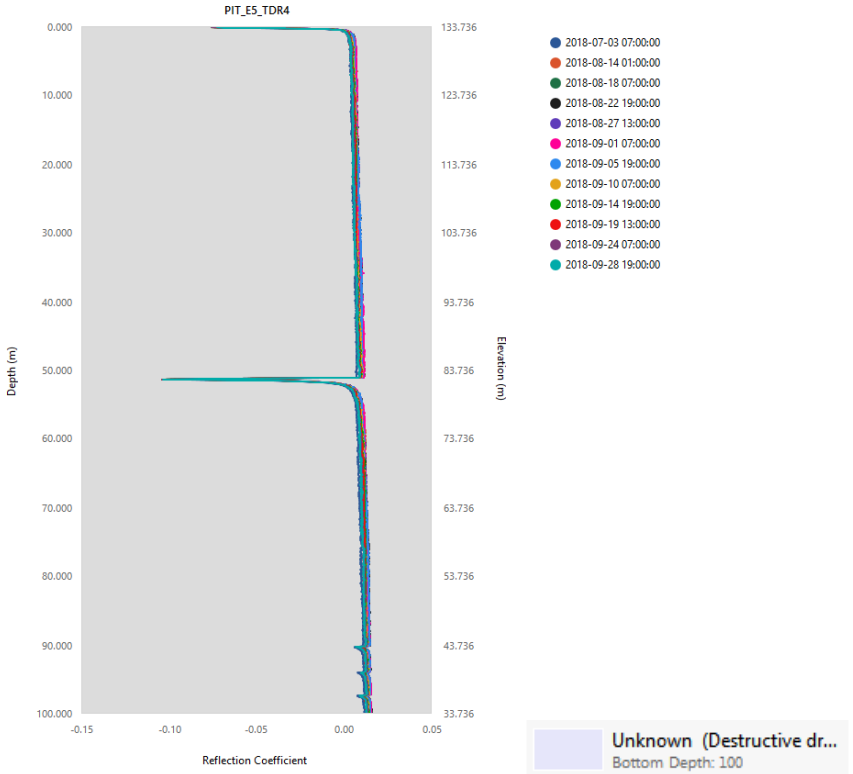
PORTAGE PIT E

TDR

TDR3



TDR4



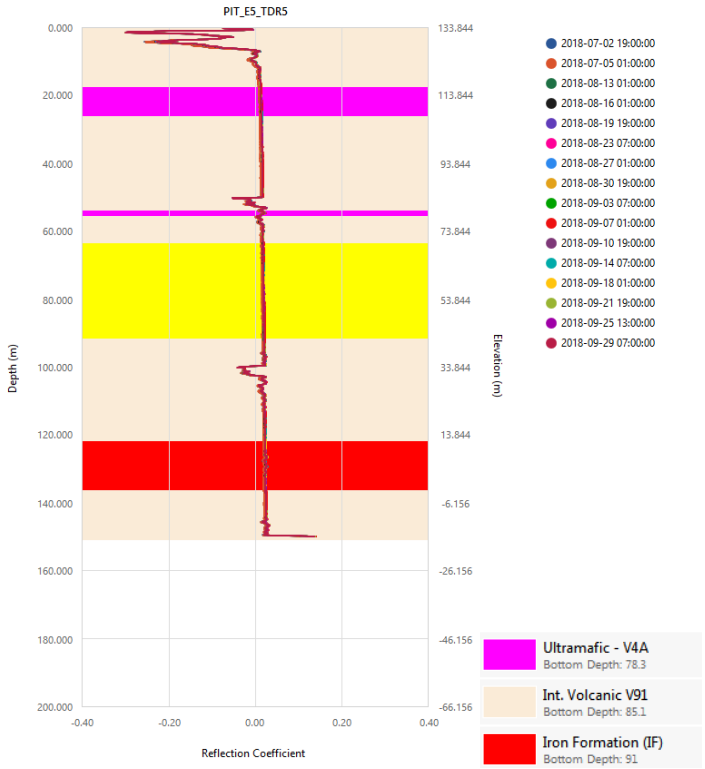
Comments:

- No sign of deformation observed in TDR3.
- The small reflection coefficient spikes in between elevation 44 and 34 MASL on TDR4 are present since installation.
- No anomalies from the TDR logger were found in the graphs in Q3.

PORTAGE PIT E

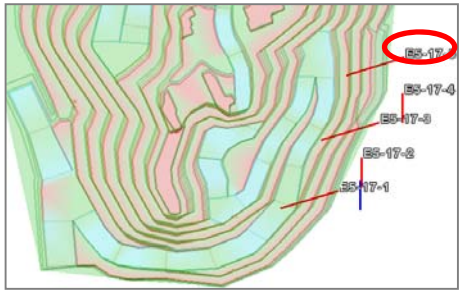
TDR

TDR5



Comments:

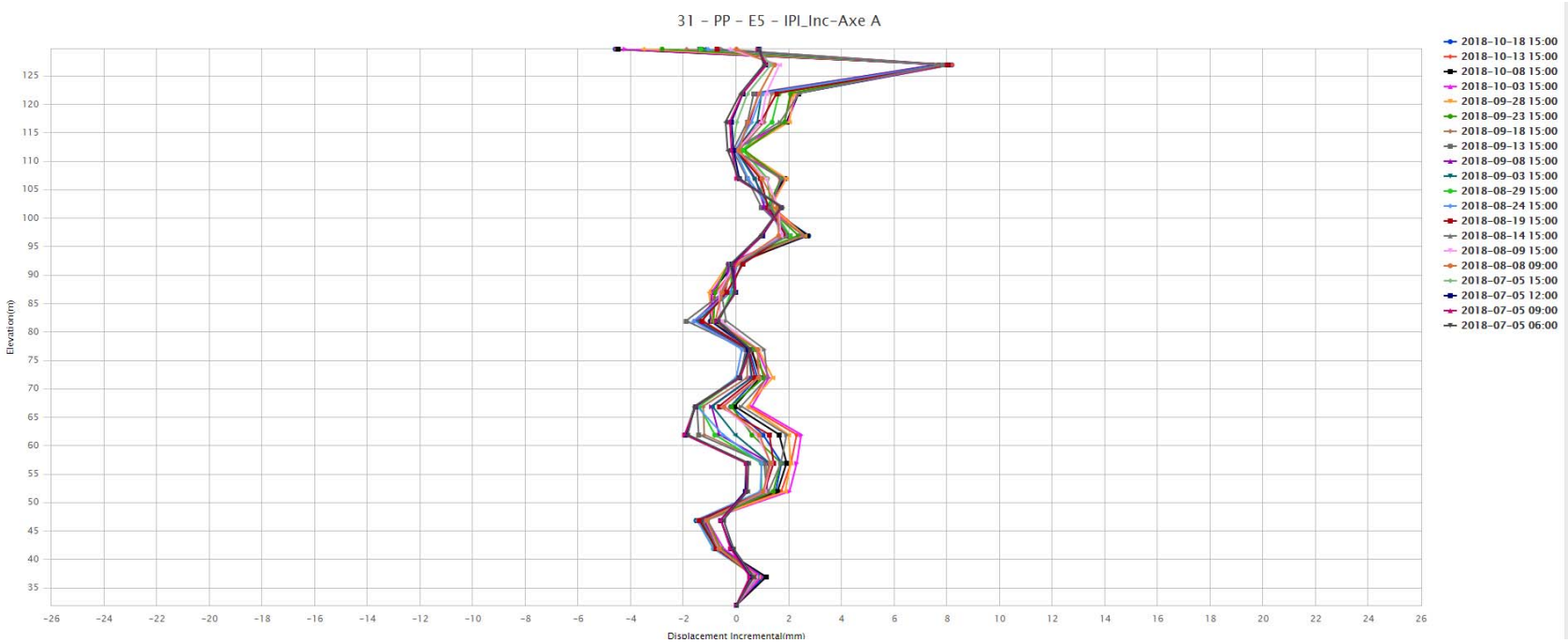
- No sign of deformation observed in TDR5.
- The small reflection coefficient spikes in between elevation 14 and -6 MASL on TDR5 are present since the installation.
- No anomalies from the TDR logger were found in the graphs in Q3.



PORTAGE PIT E

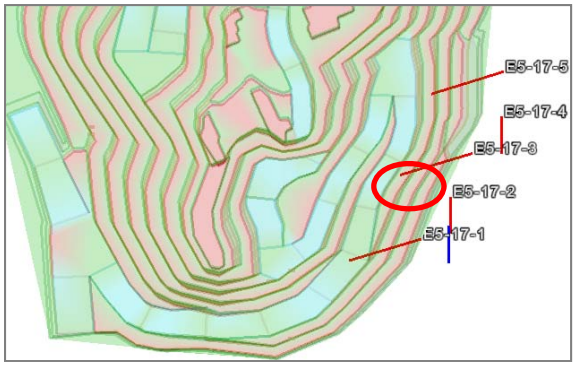
INCLINOMETER

PP-E5-IPI



Comments:

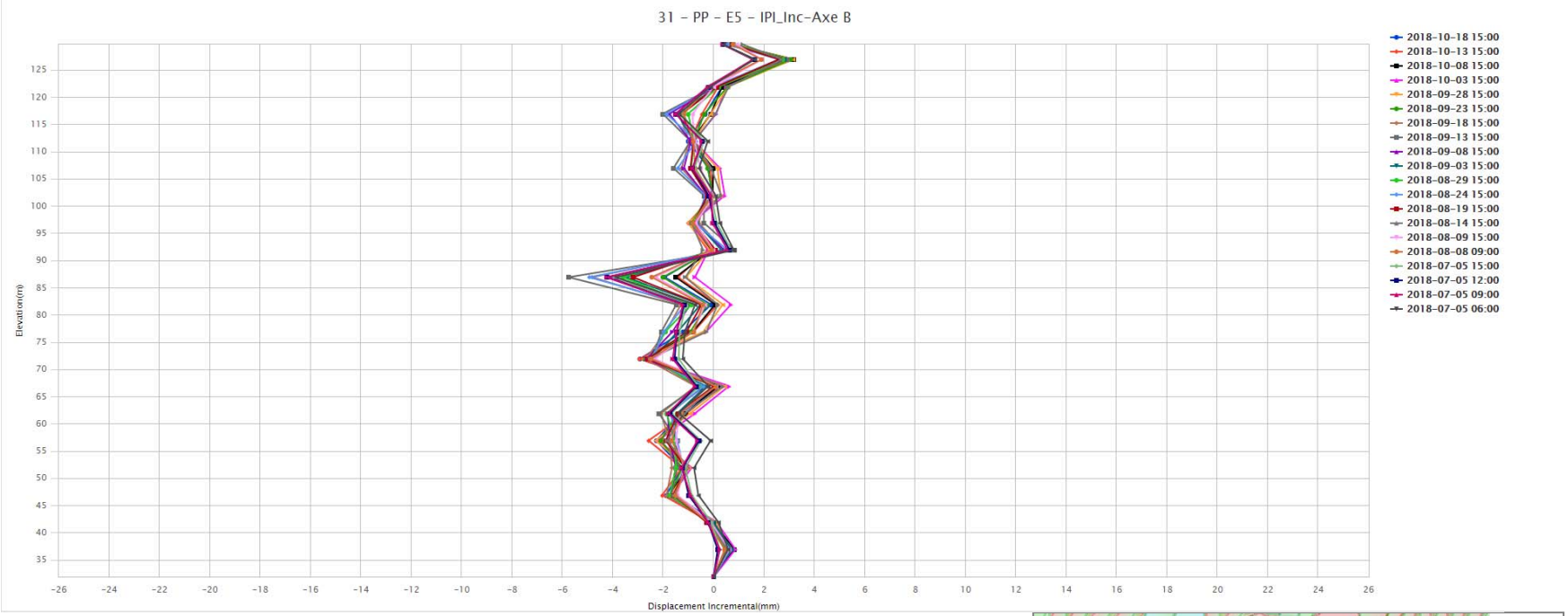
- The results of the IPI are still under investigation to determine whether or not they are reliable.
- The results fall within the Acceptable range for the TARP for Pit E Pushback.



PORTAGE PIT E

INCLINOMETER

PP-E5-IPI



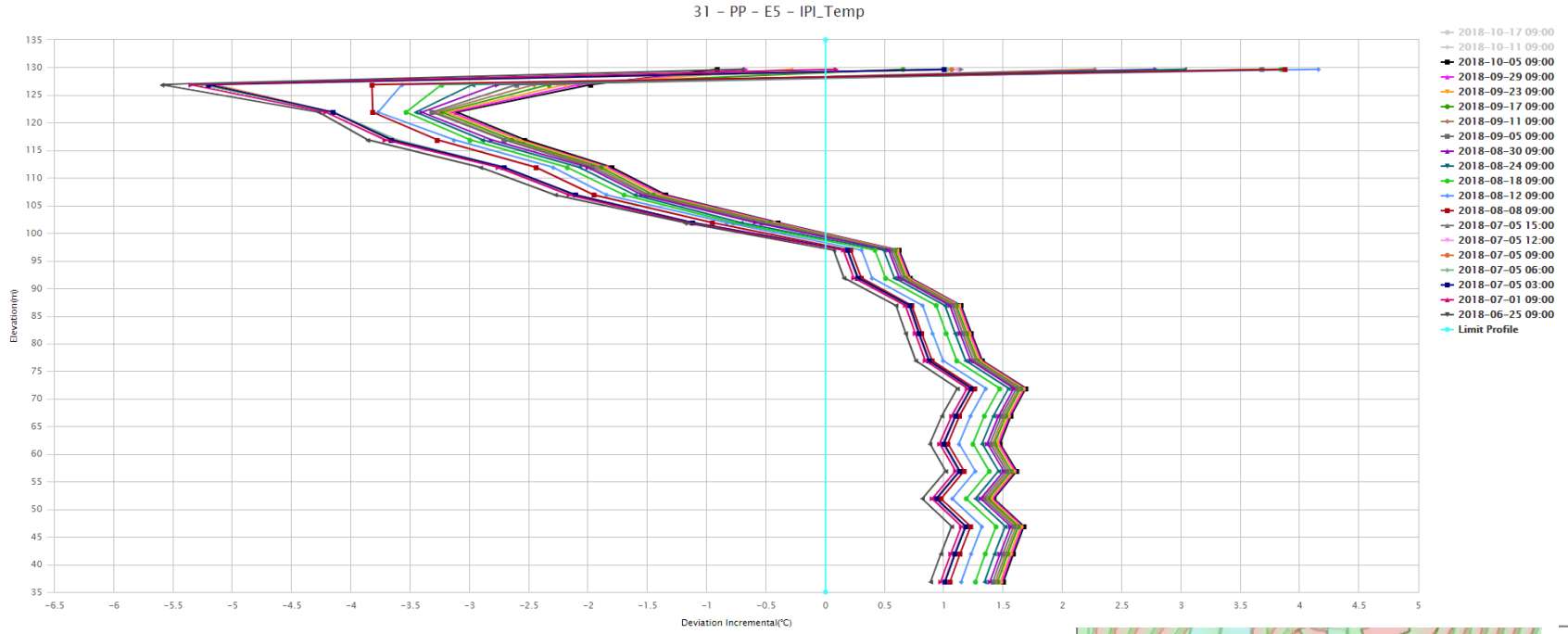
Comments:

- The results of the IPI are still under investigation to determine whether or not they are reliable.
- The results fall within the Acceptable range for the TARP for Pit E Pushback.

PORTAGE PIT E

INCLINOMETER

PP-E5-IPI



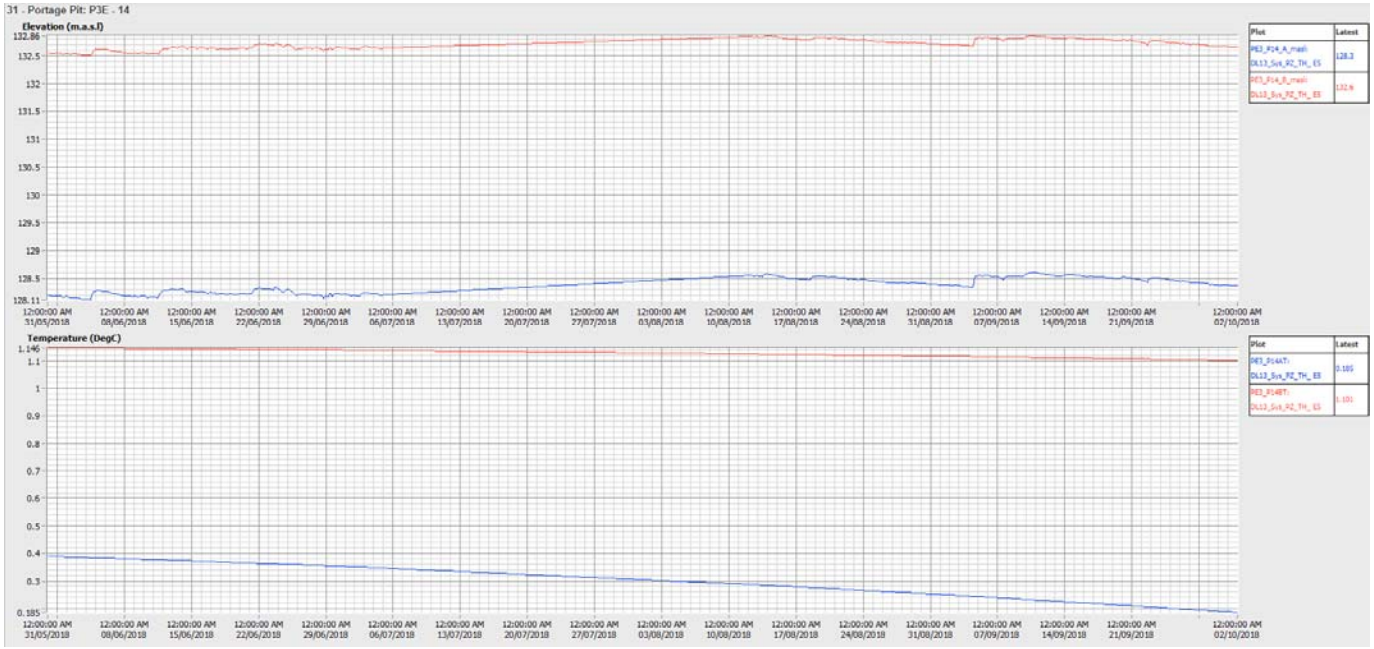
Comments:

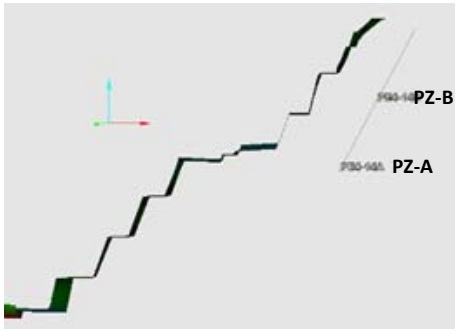
- Unfrozen (Talik) condition under elevation 100 m.a.s.l.
- There is a gradual cooling trend in the talik zone.

PORTAGE PIT E

PIEZOMETERS

PE3-14 PZ-A,B





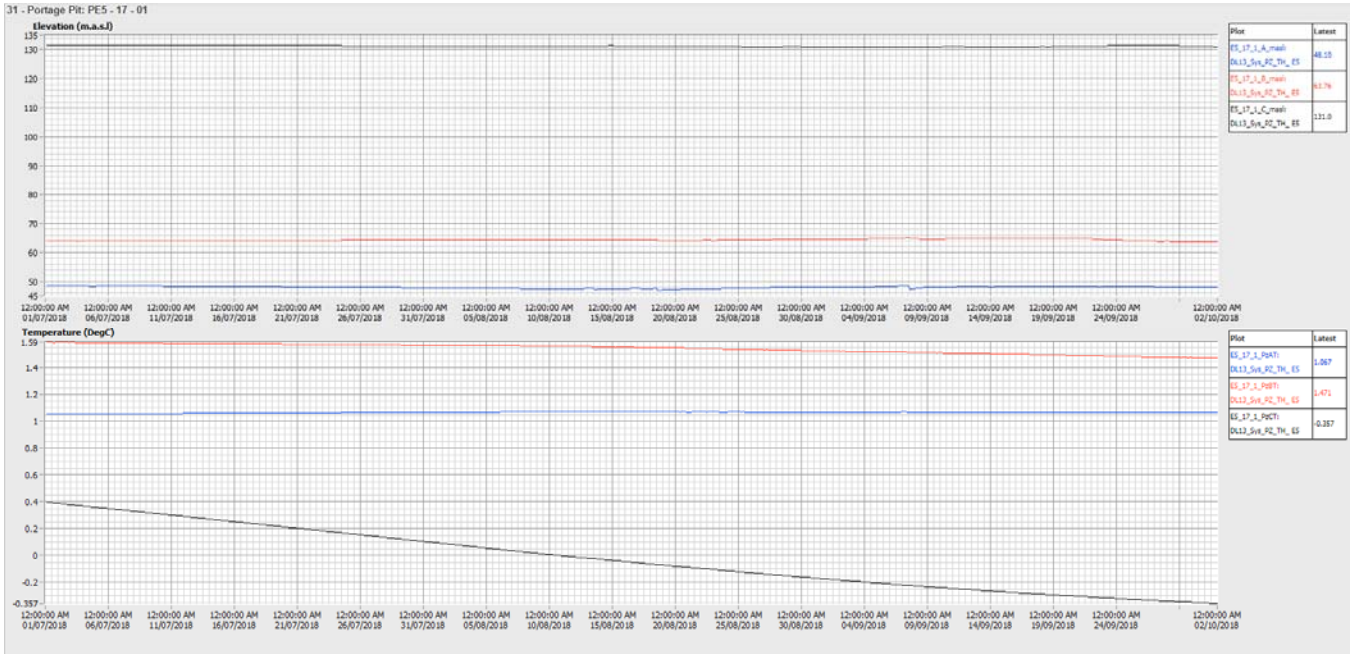
Comments:

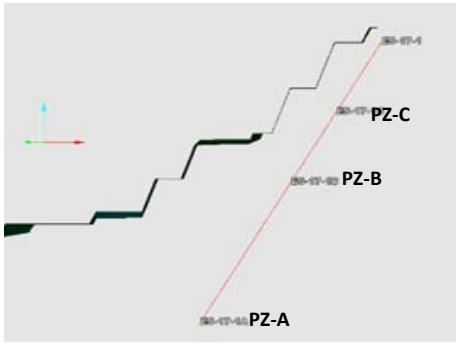
- Minor variations in pore water pressure are related to mining activities (drilling/blasting) in Pit E5.
- Overall downward trend for piezometer's temperature.

PORTAGE PIT E

PIEZOMETERS

PE5-17-01 PZ-A,B,C





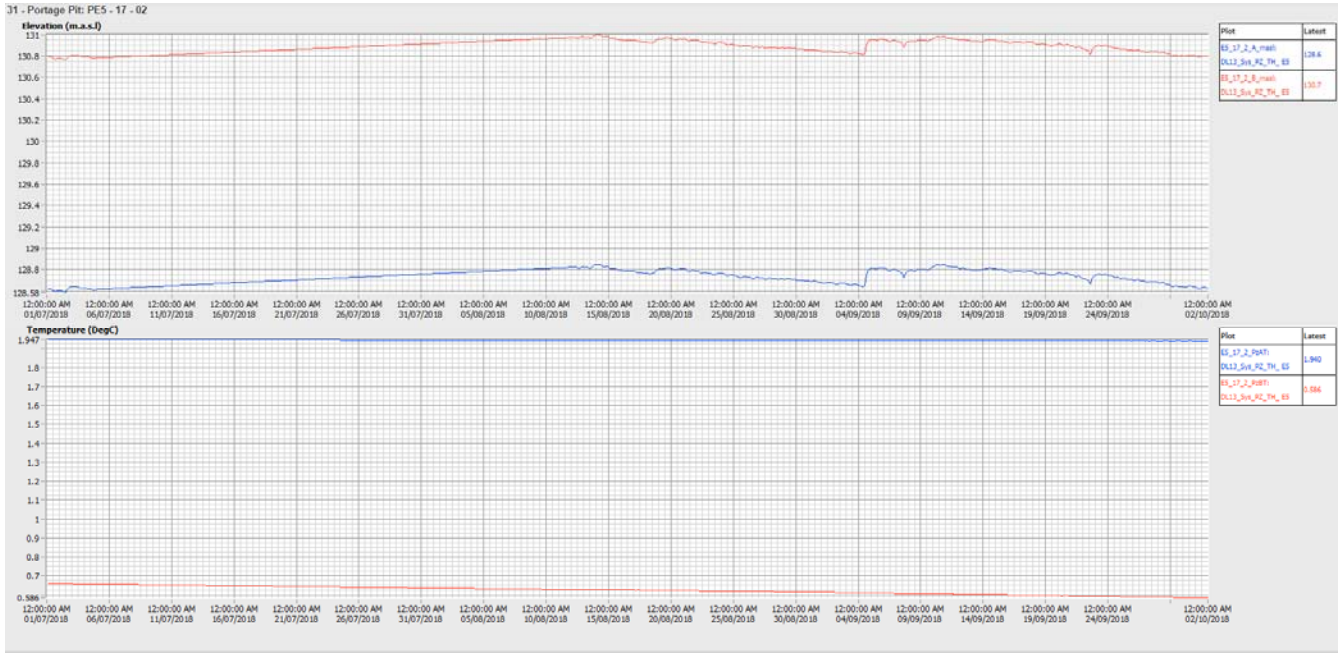
Comments:

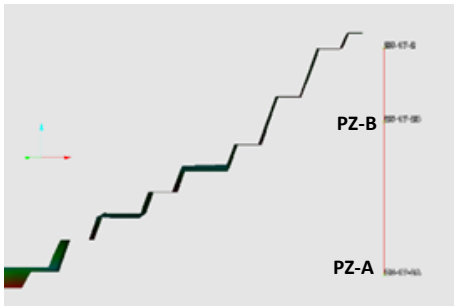
- Minor variations in pressure are related to mining activities (drilling/blasting) in Pit E5. PzB is showing a negative pressure of -1m.
- E5_17_1 PzC is frozen.

PORTAGE PIT E

PIEZOMETERS

PE5-17-02 PZ-A,B





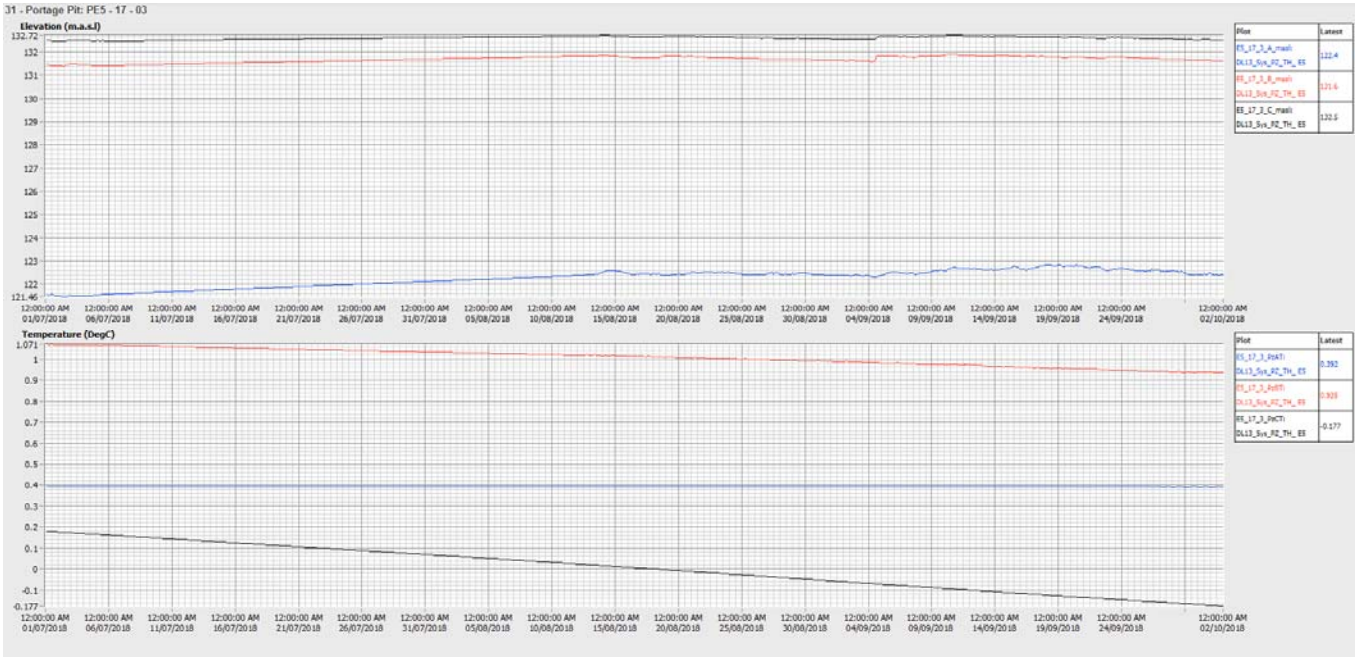
Comments:

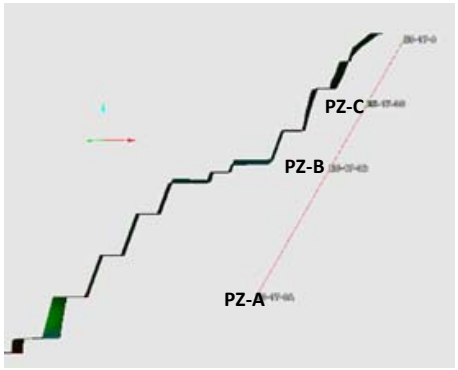
- Minor variations in pressure are related to mining activities (drilling/blasting) in Pit E5.
- There is slight downward trend in PZ-B temperature's.

PORTAGE PIT E

PIEZOMETERS

PE5-17-03 PZ-A,B,C





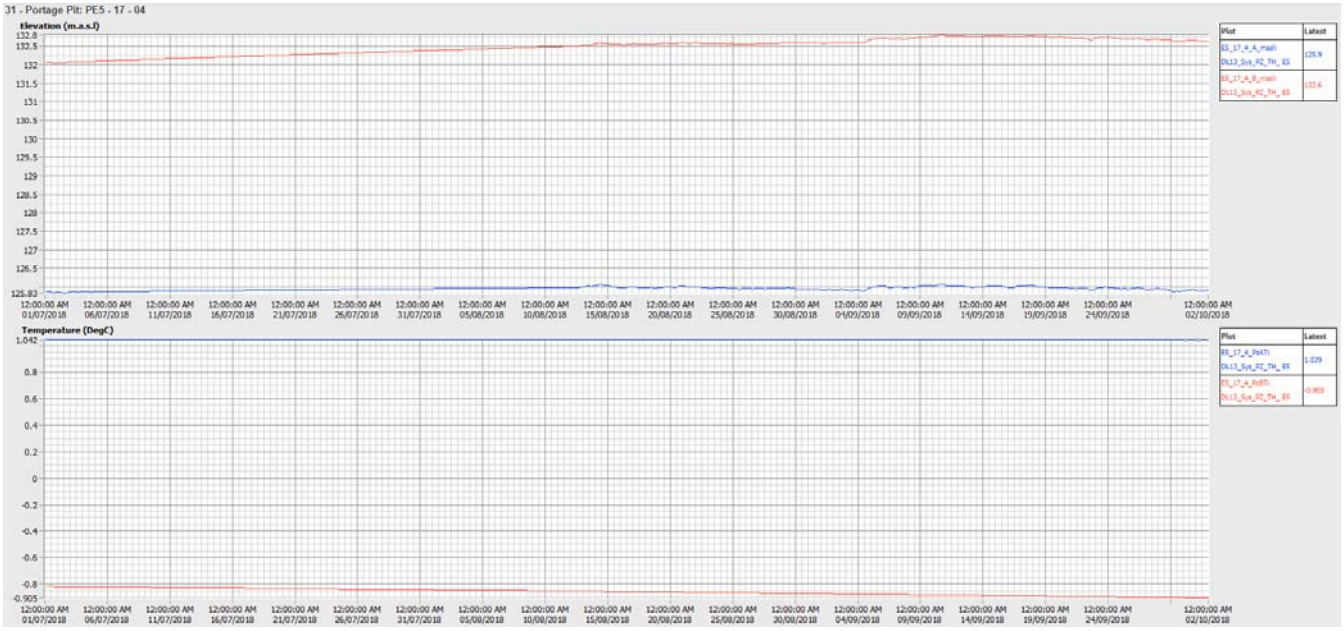
Comments:

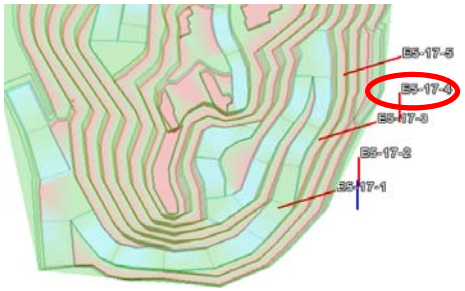
- Minor variations in pressure are related to mining activities (drilling/blasting) in Pit E5
- The temperature for PzA is holding at a steady trend, meanwhile PzB and PzC are showing a cooling trend with PzC now in a negative temperature (-0.18 ˚C) and considered frozen.

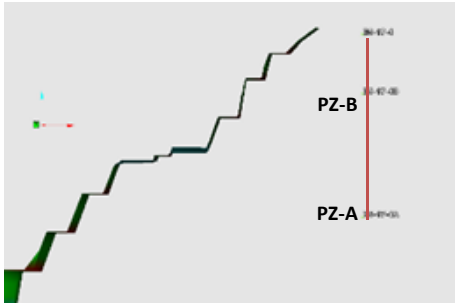
PORTAGE PIT E

PIEZOMETERS

PE5-17-04 PZ-A,B







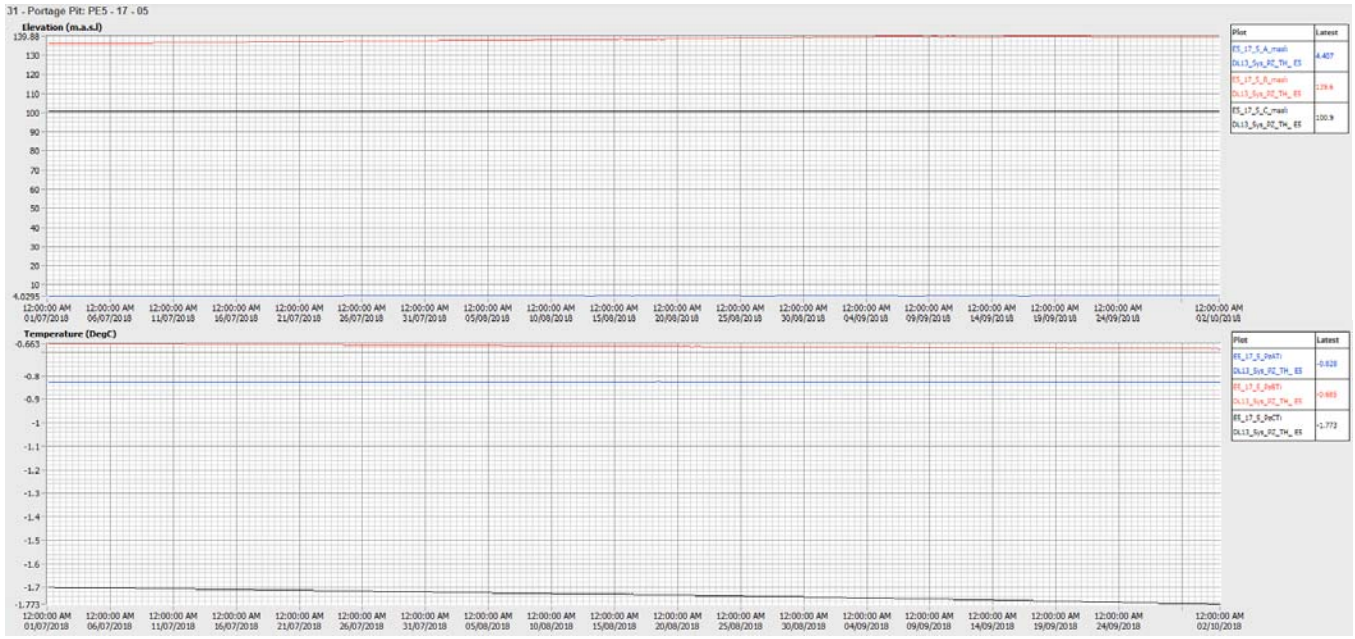
Comments:

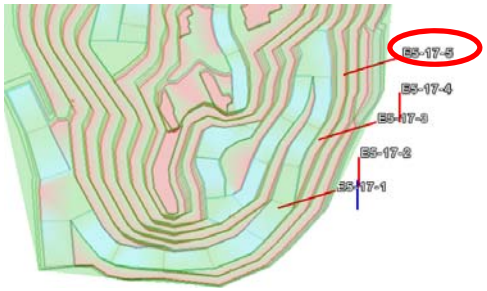
- Minor variations in pressure are related to mining activities (drilling/blasting) in Pit E5.
- Temperatures for both Pz are in a downward trend with PzB considered to be frozen.

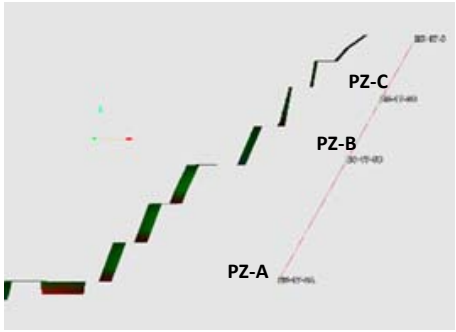
PORTAGE PIT E

PIEZOMETERS

PE5-17-05 PZ-A,B,C







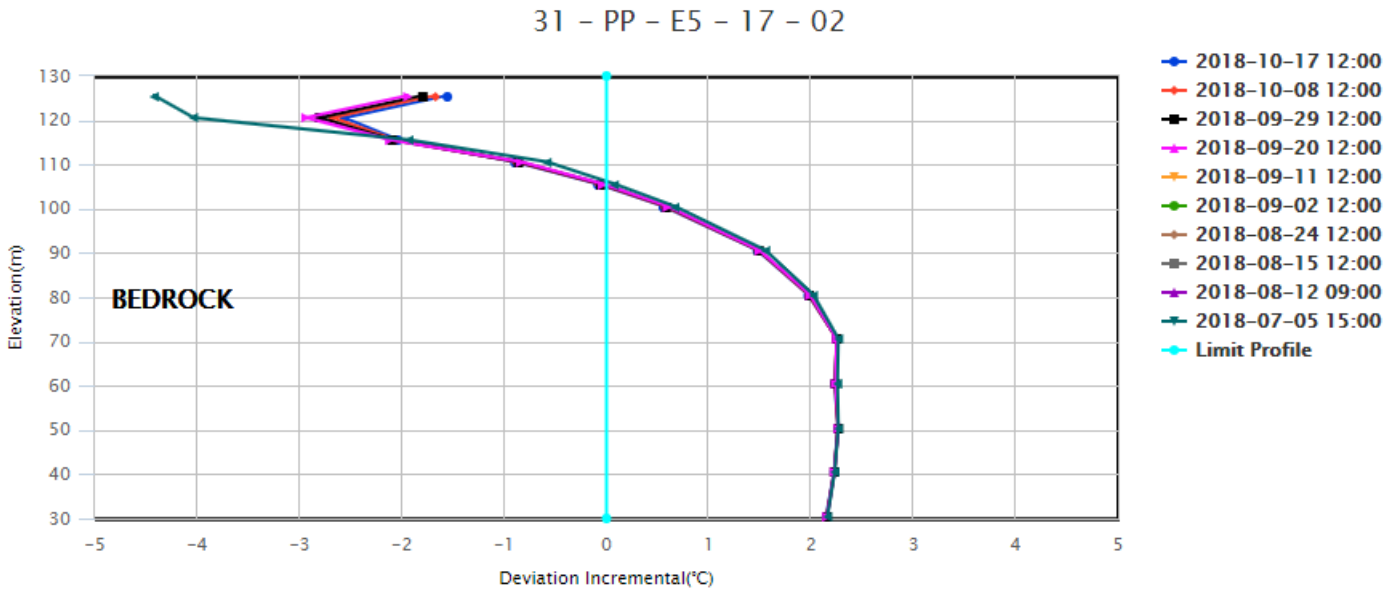
Comments:

- PZ-A,B and C are frozen. The pressure measurements are considered unreliable.

PORTAGE PIT E

THERMISTORS

PP-E5-17-02



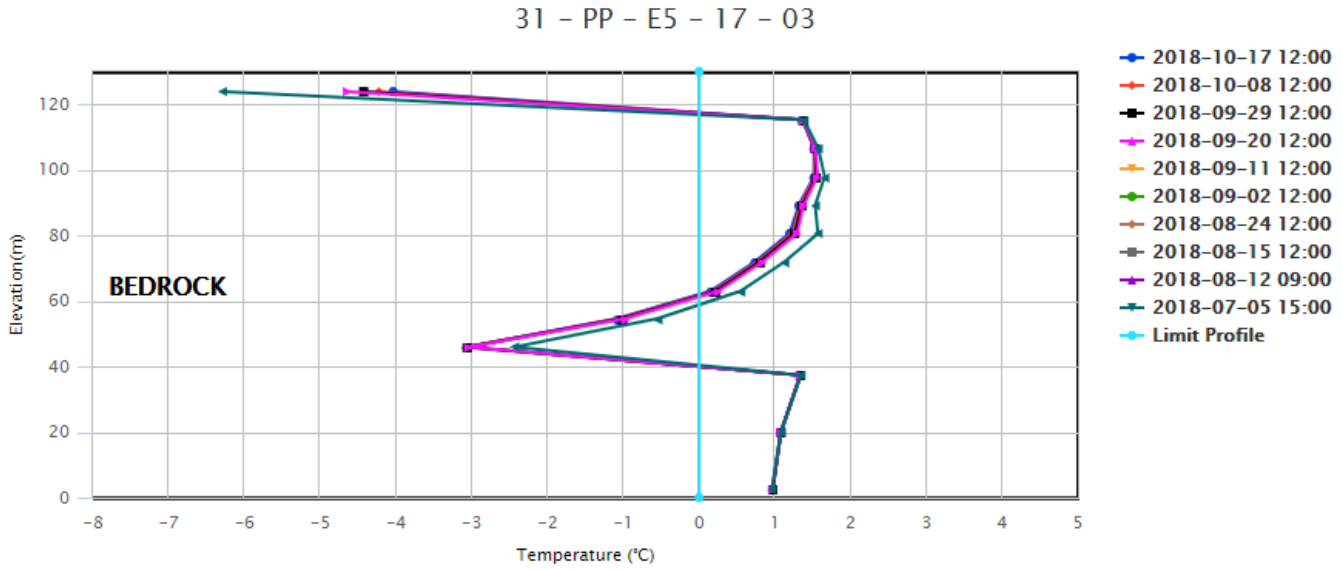
Comments:

- There is a permafrost layer form the top of the hole at elev. 125 to the elev. 105 MASL. It suggests an aggradation of the permafrost from the surface since the dewatering of the lake in 2011.
- Apart form the 2 first beads (which are showing a normal cooling trend for onset of winter conditions), only minimal variations were recorded during the period.

PORTAGE PIT E

THERMISTORS

PP-E5-17-03



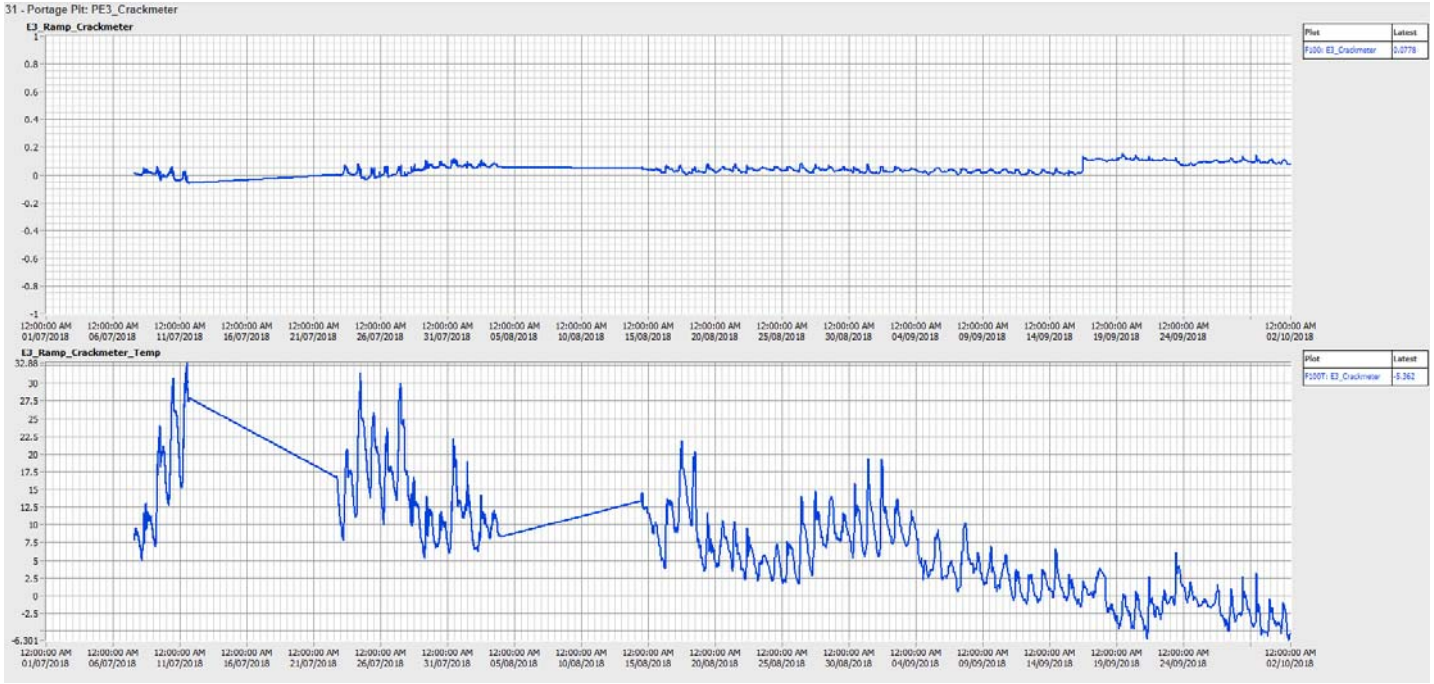
Comments:

- Small variations occurred only on the first bead during the Q3 which are consistent with the cooling trend that occurs with the onset of winter conditions. The rest of the thermistor remained consistent with previous data sets.
- There is a unexplained permafrost layer between elevation 40 and 55 m.a.s.l.

PORTAGE PIT E

CRACK METER

PE3_Crackmeter

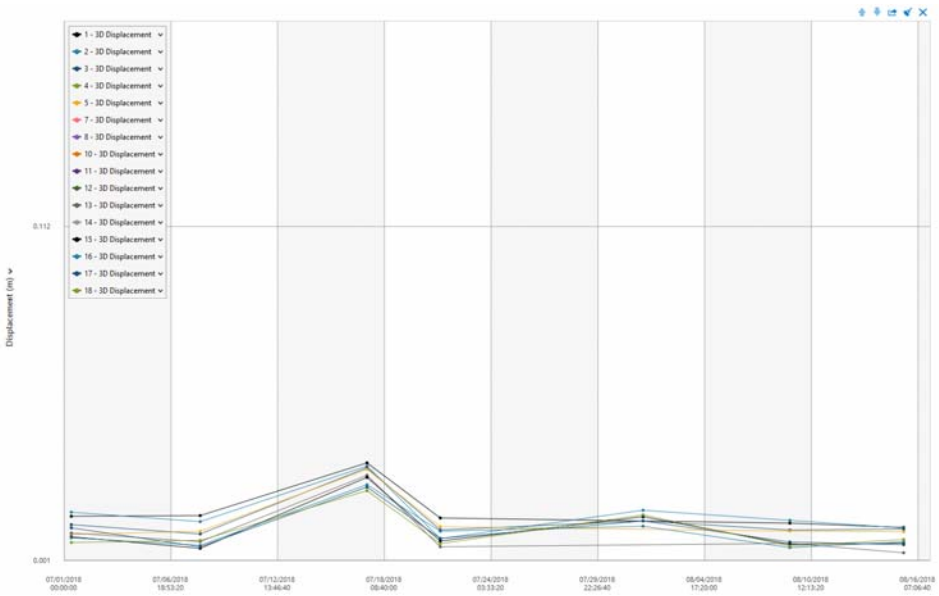


Comments:

- The large straight lines in data were issues with the DL13 data logger.

VAULT PIT

PRISMS



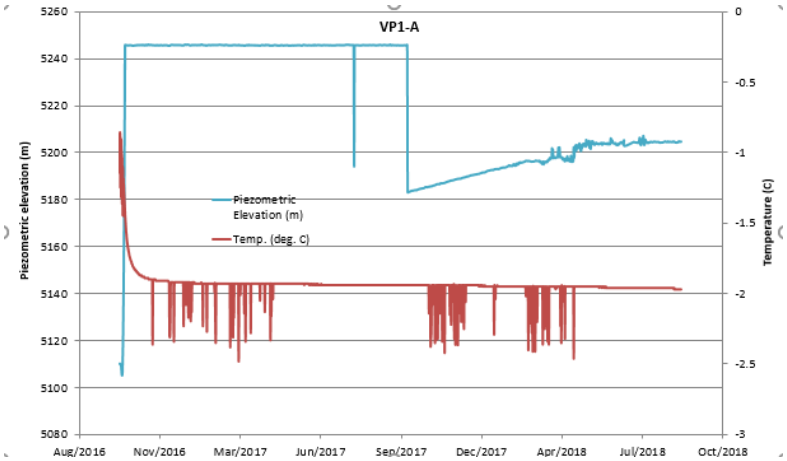
Comments:

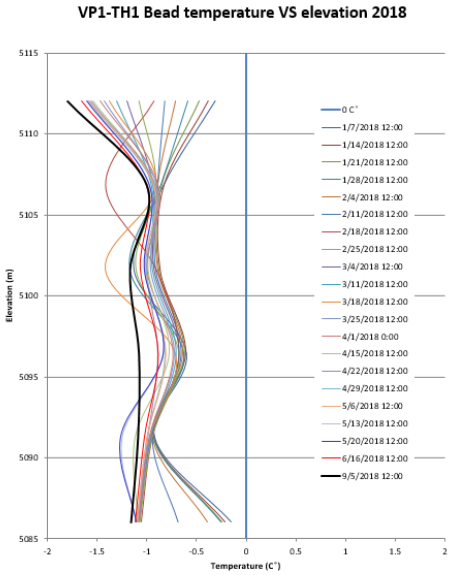
- Six (6) sets of reading were taken for the Q3 Period. No significant movement was detected.
- During the latest survey of the prisms, only 9 were successfully surveyed, the others are either gone or damaged.

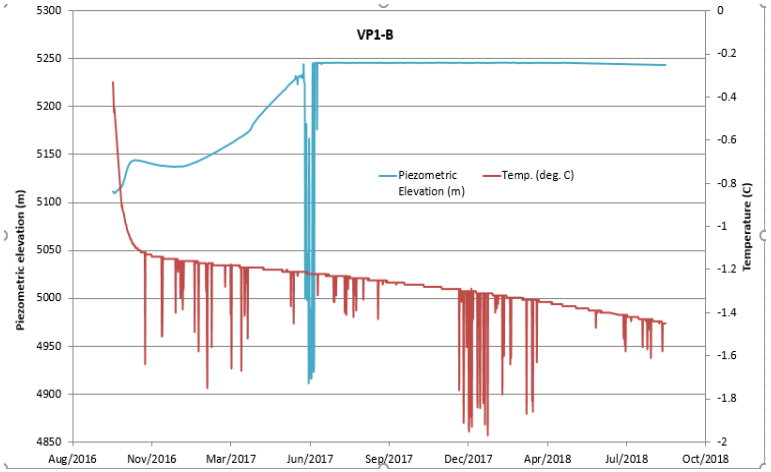
VAULT PIT

PIEZOMETERS & THERMISTORS

VP1-A, VP1-B, VP1-TH1

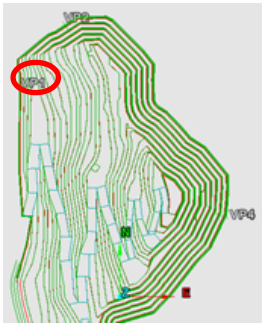






Comments:

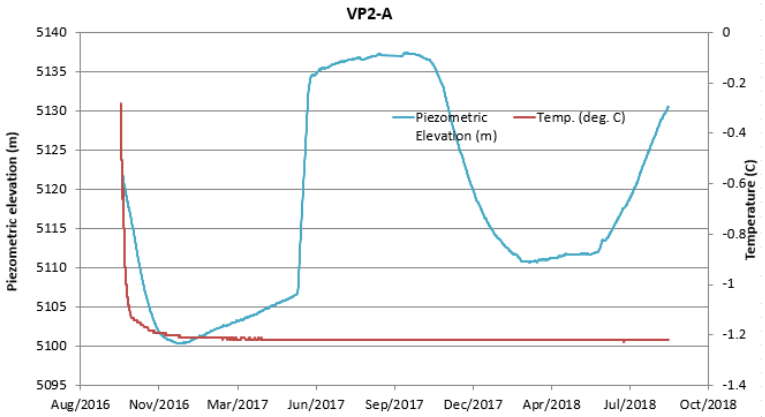
- PZ-A&B are below the freezing point. Pressure measurements are therefore considered unreliable and will not be discussed here.
- The thermistor remained frozen during Q3, 2018.

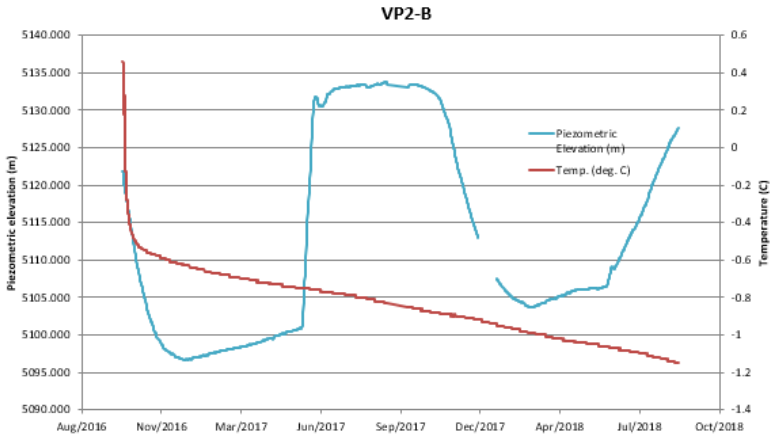


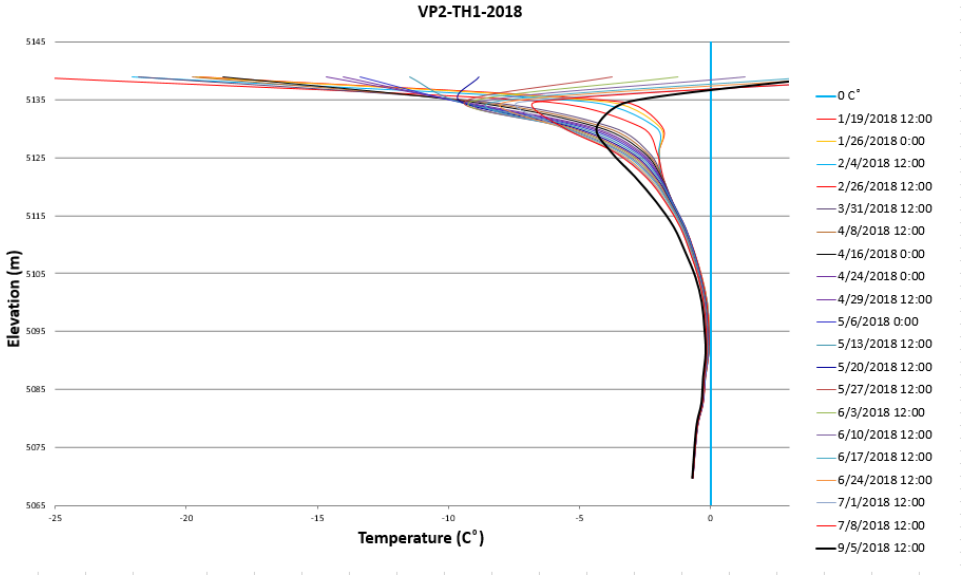
VAULT PIT

PIEZOMETERS & THERMISTORS

VP2-A, VP2-B, VP2-TH1

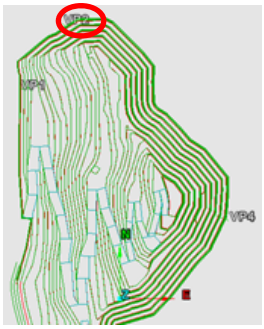






Comments:

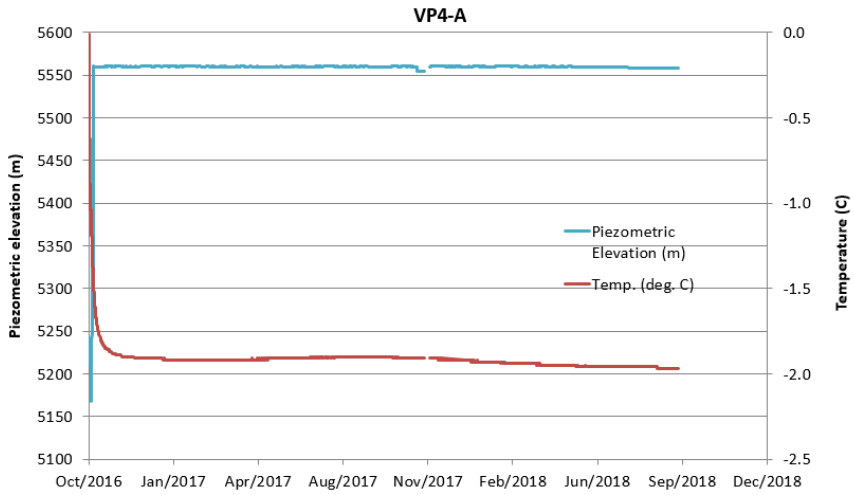
- PZ-A&B are below the freezing point since their installation and their data are considered unreliable.
- The section between 5105 and 5085 is close to the freezing but still below. Apart the top beads, minimal variations were recorded for the rest of the hole.

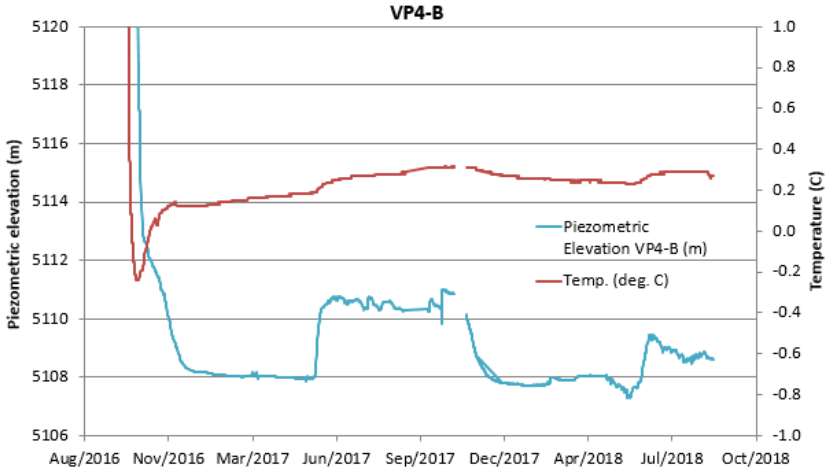


VAULT PIT

PIEZOMETERS & THERMISTORS

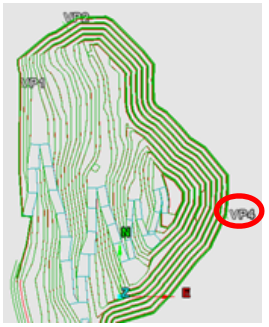
VP4-A, VP4-B





Comments:

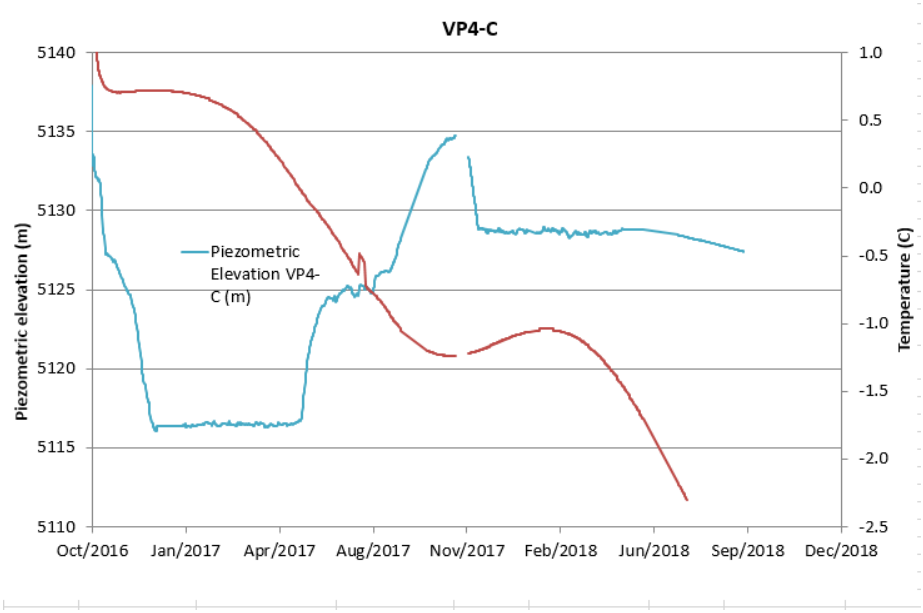
- PZ-A is under the freezing point and considered unreliable.
- PZ-B shows minor varations. The instrument is installed in the confined layer of talik between 5105 and 5095 at the source of the seepage causing the major ice wall in the area.
- The temperature of PZ-B is on a very slight downward trend suggesting a freeze back of the slope and aggradation of permafrost.

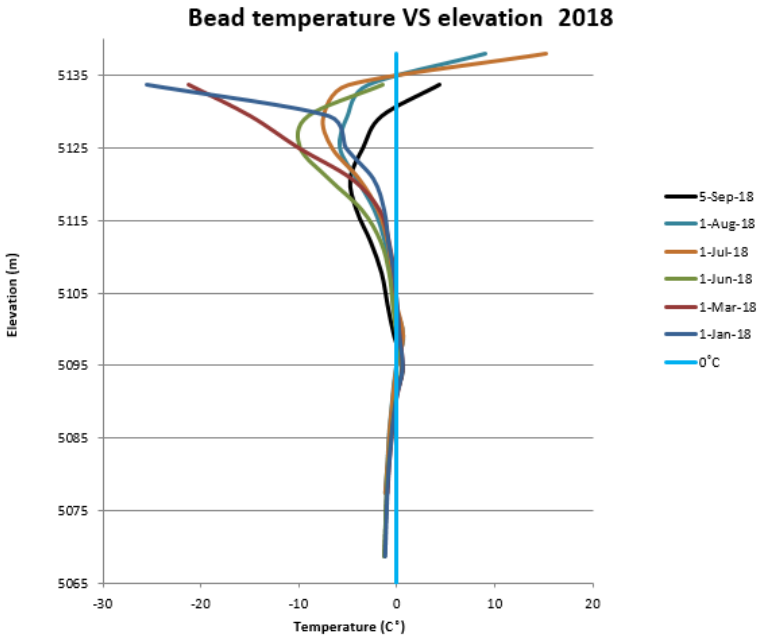


VAULT PIT

PIEZOMETERS & THERMISTORS

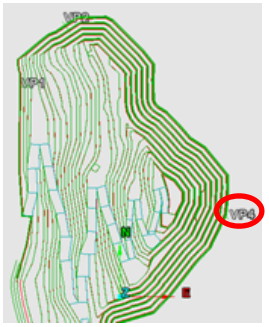
VP4-C, VP4-TH1





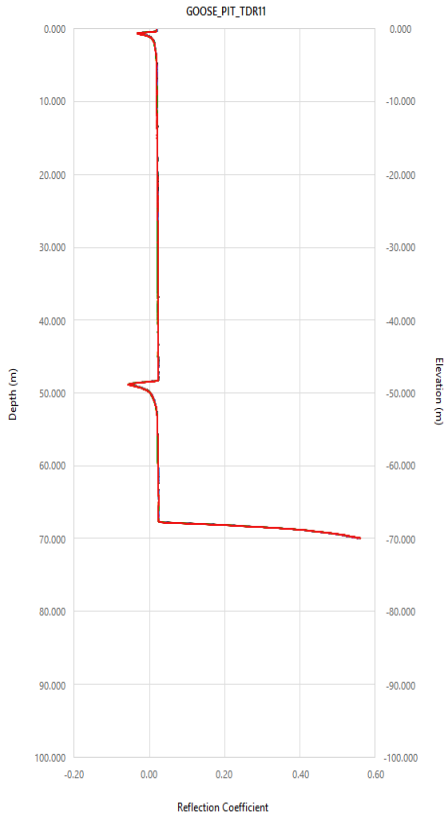
Comments:

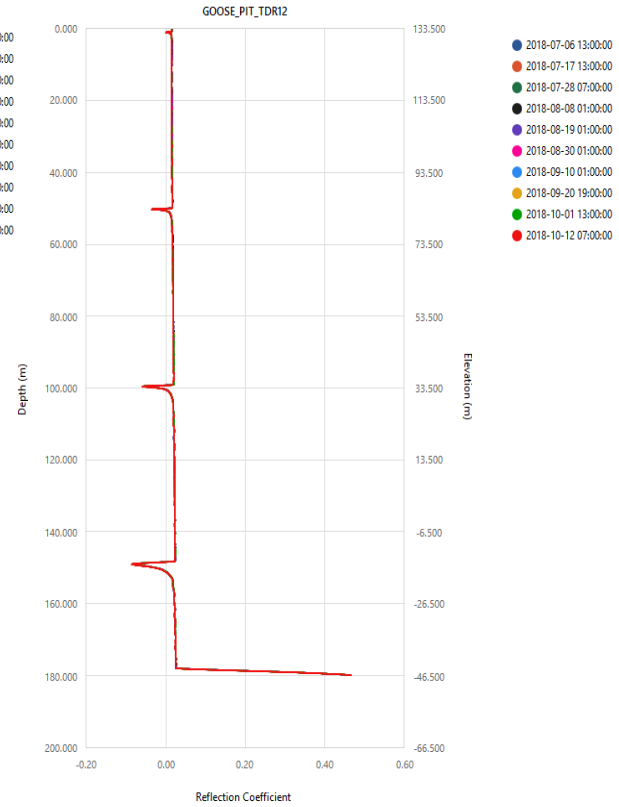
- PZ-C is frozen and data is considered unreliable.
- The thermistor show that the hole is mainly in the permafrost at the exception of the section in between 5100 and 5095 (0.57˚C). This zone causes the seepage and therefore the ice wall.

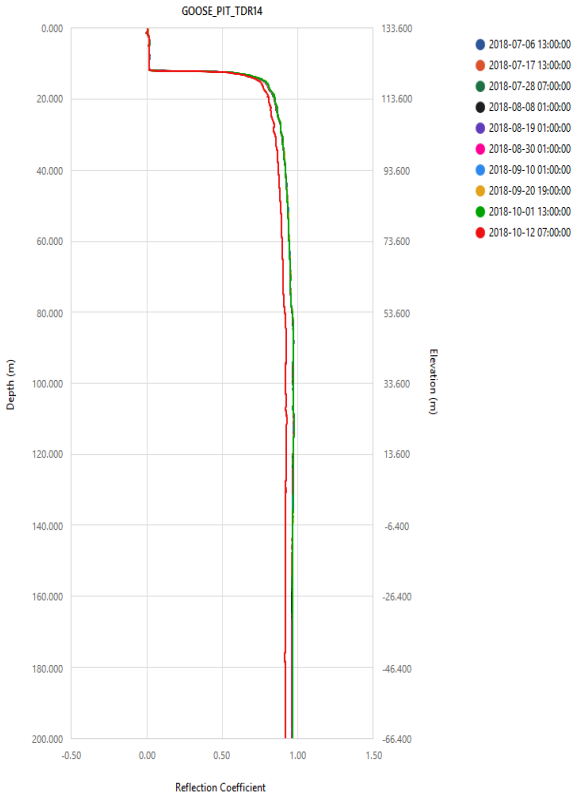


GOOSE PIT

TDR





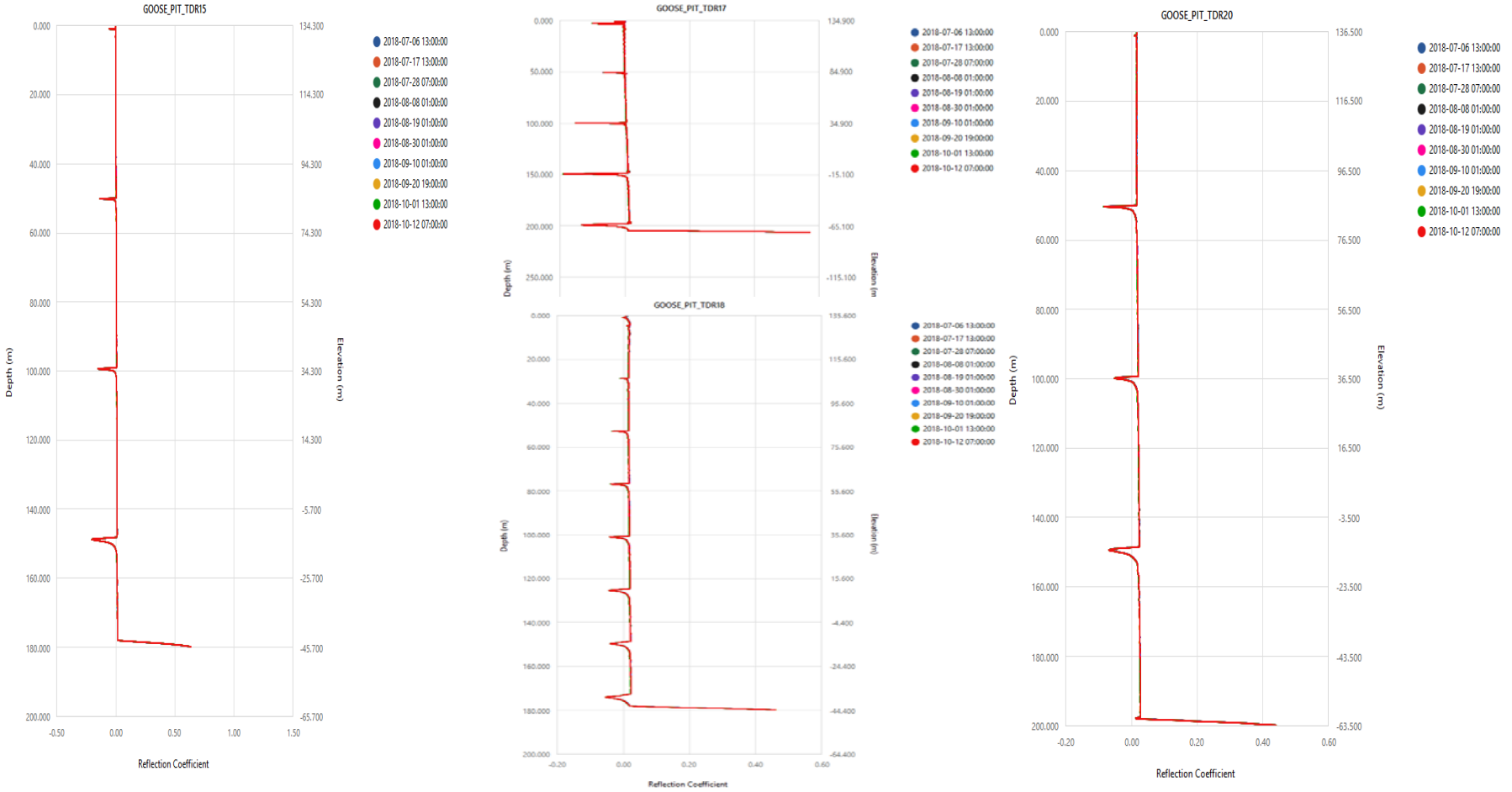


Comments:

- No sign of deformation was observed in these TDRs.
- Anomalies from the TDR logger are still presents and were disregarded in the presented graphs. We are currently still trying to find a solution for this problem but it does not compromise the data integrity.
- TDR 14 was pinched at installation and therefore result might be compromise in the case of an event raising the reflection coefficient.

GOOSE PIT

TDR

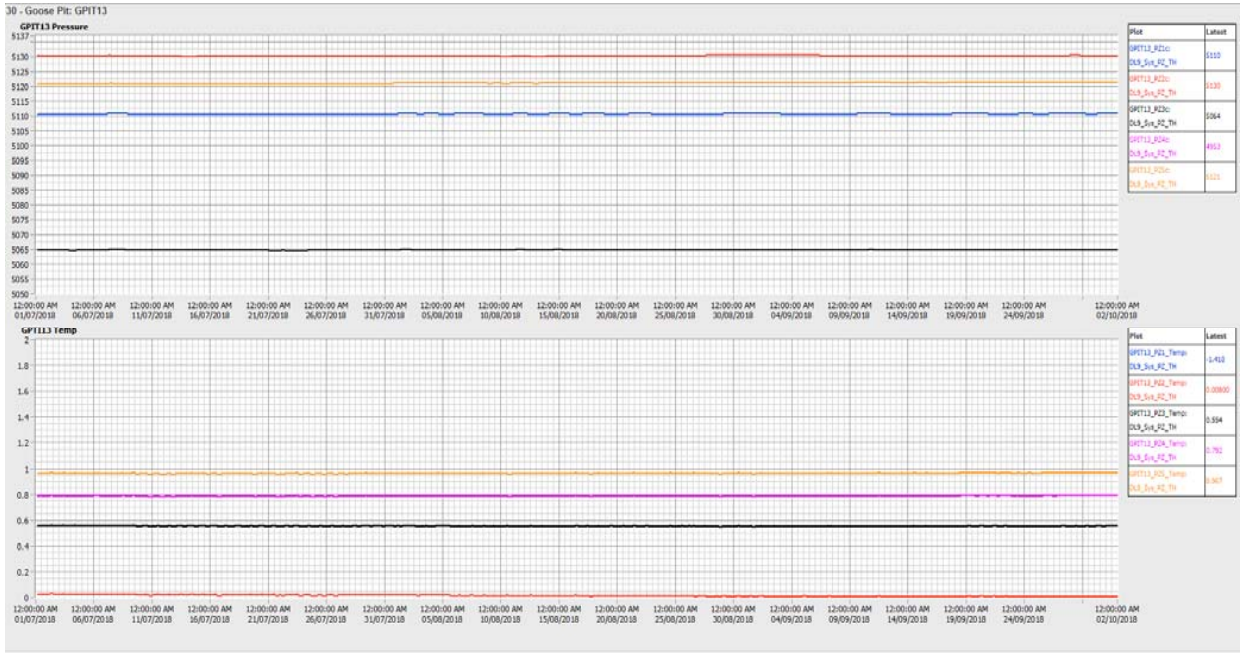


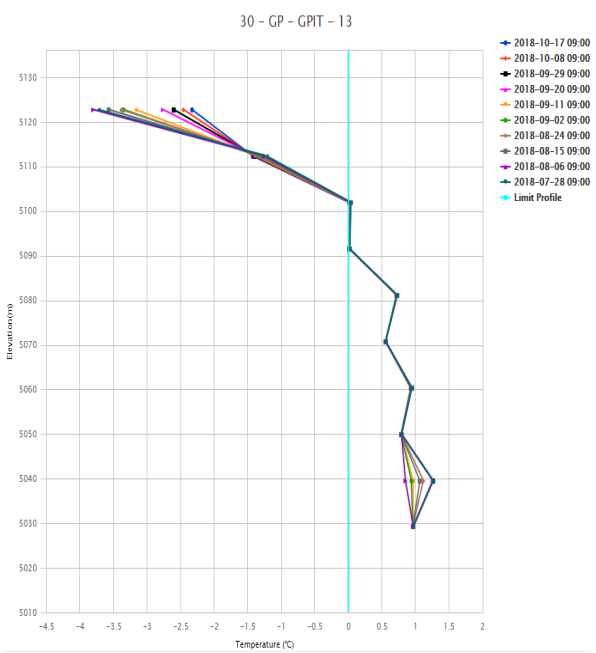
- No sign of deformation was observed in these TDRs.
- Anomalies from the TDR logger are still presents and were disregarded in the presented graphs. We are currently still trying to find a solution for this problem but it does not compromise the data integrity.

GOOSE PIT

PIEZOMETERS & THERMISTORS

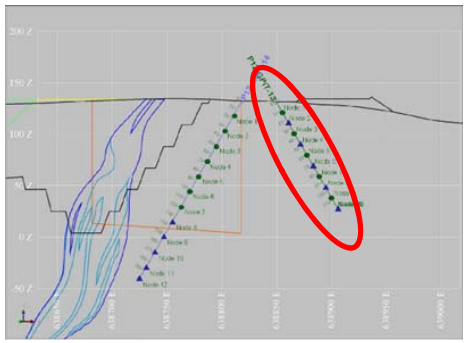
GPIT-13-PZ-1-2-3-4-5, GPIT-13-TH





Comments:

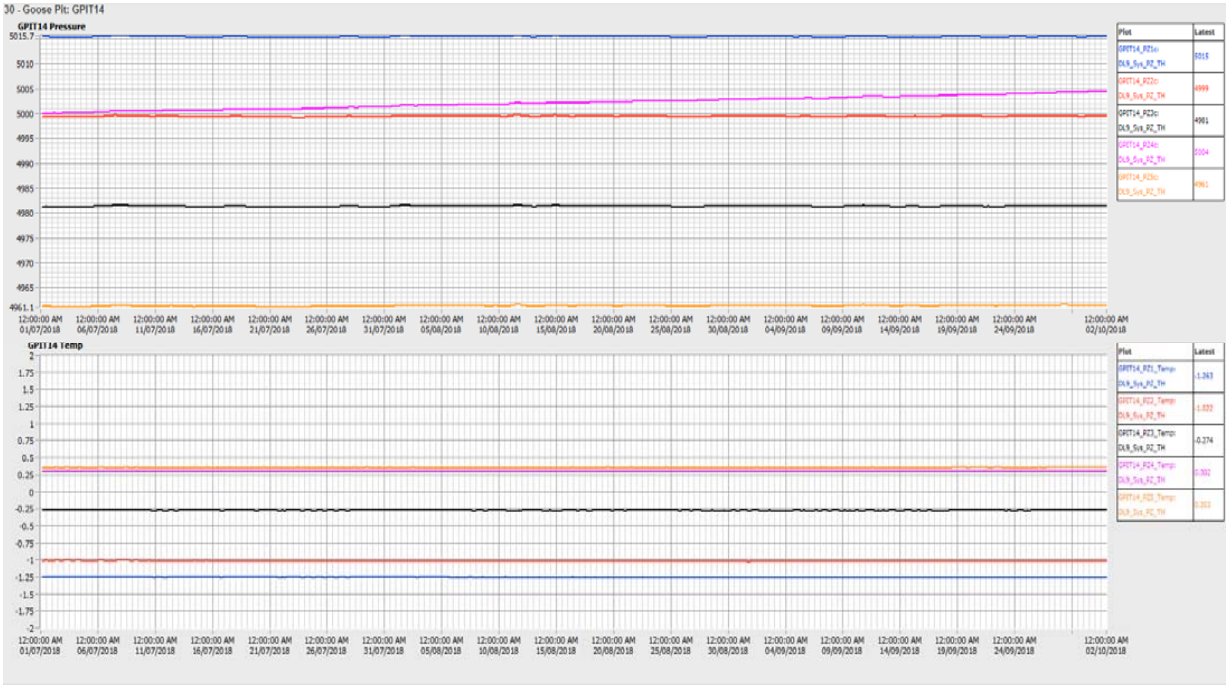
- All piezometers presents little or no variation during the Q3, 2018. All of them are above freezing point.
- TH-GPIT-13 at masl 5040 has shown a rise in temperature of .409 ˚C, which could be a capacitance effect, while the first bead temperature change is consistent with the cooling trend during the onset of winter conditions. The rest of the beads are stable.

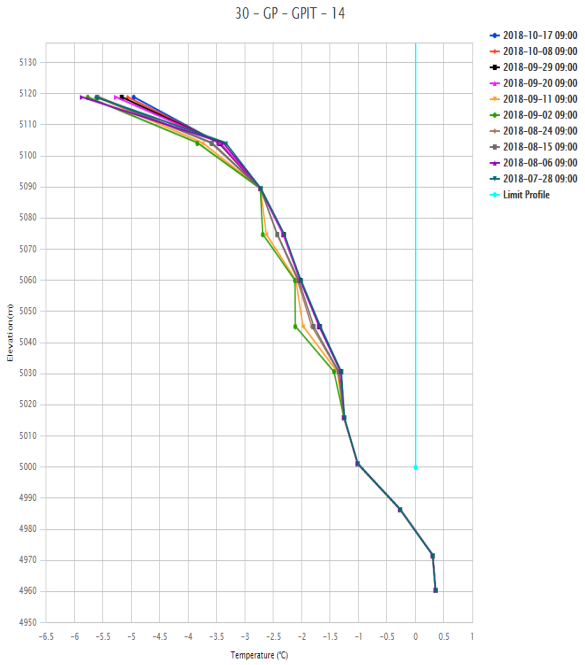


GOOSE PIT

PIEZOMETERS & THERMISTORS

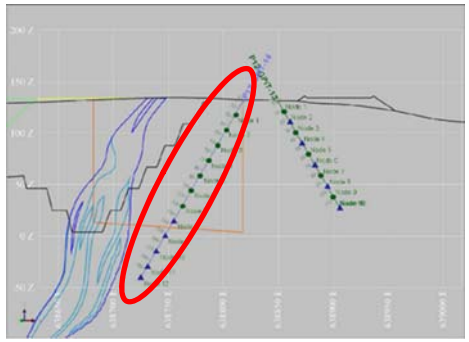
GPIT-14-PZ-1-2-3-4-5, GPIT-14-TH





Comments:

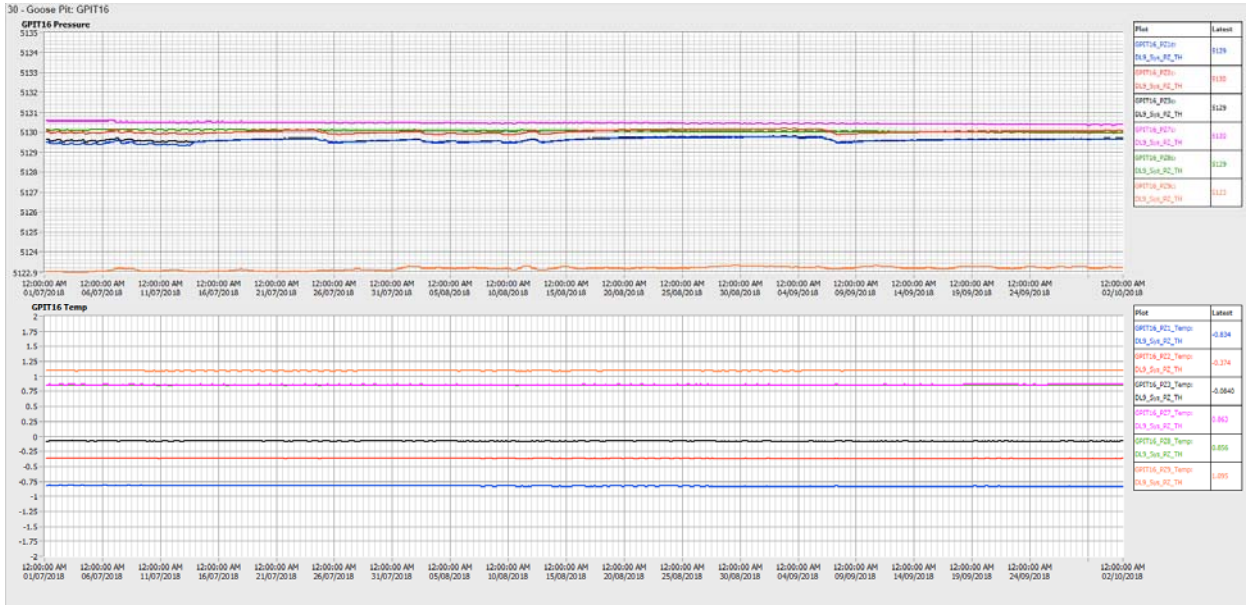
- Pz4 is on a slow rising trend. It rose 4 m of pore water pressure during the third quarter and that could be related to the water level within the Goose pit that is raising (natural flooding).
- PZ-1,2,3 are below the freezing point.
- TH-GPIT-14 is in the permafrost from top at elevation 5120 to 4980. The last 20m of the hole is above the freezing line. The first bead temperature change is consistent with the cooling trend during the onset of winter conditions.

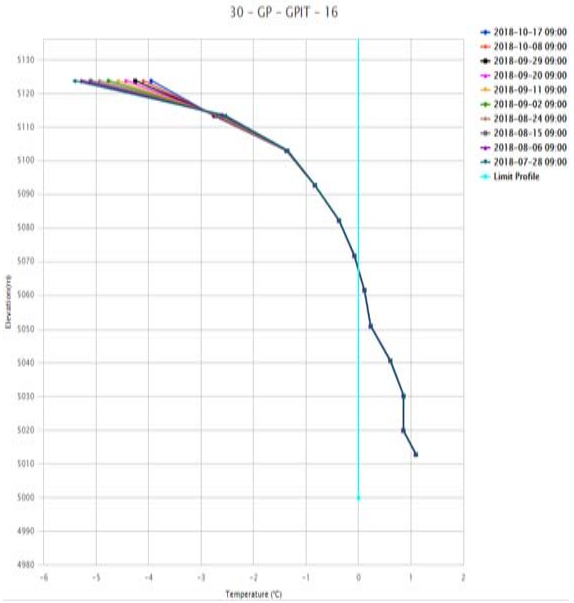


GOOSE PIT

PIEZOMETERS & THERMISTORS

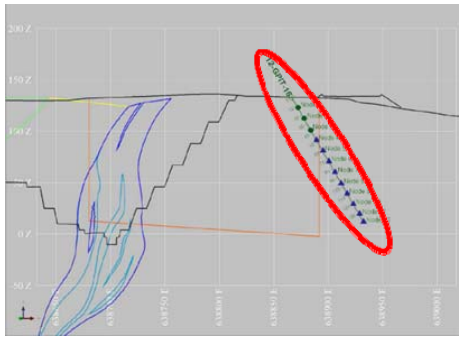
GPIT-16-PZ-1-2-3-7-8-9, GPIT-16-TH





Comments:

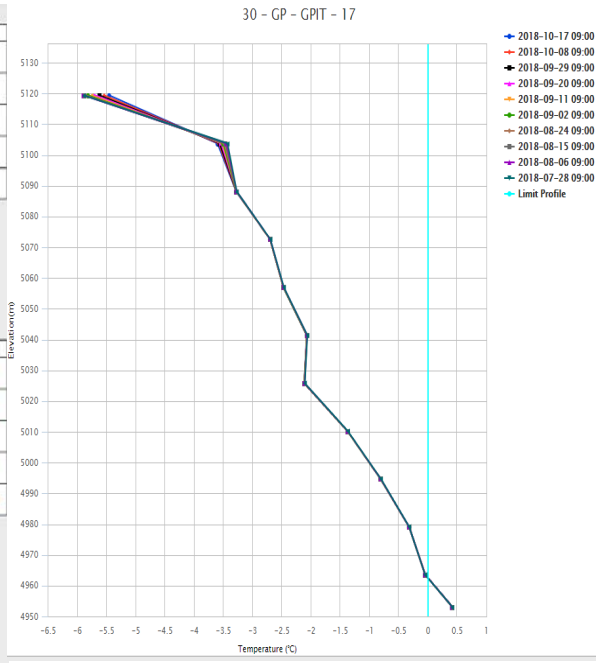
- PZ-7,8,9 are on a very slow rinsing trend.
- PZ-1,2,3 are below the freezing point and can't be considered reliable.
- TH-GPIT-16 is in the permafrost from top at elevation 5124 to 5070. The first bead temperature change is consistent with the cooling trend during the onset of winter conditions.



GOOSE PIT

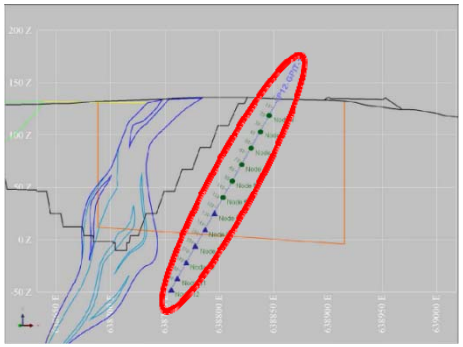
PIEZOMETERS & THERMISTORS

GPIT-17-PZ-1-2-3-4-5, GPIT-17-TH



Comments:

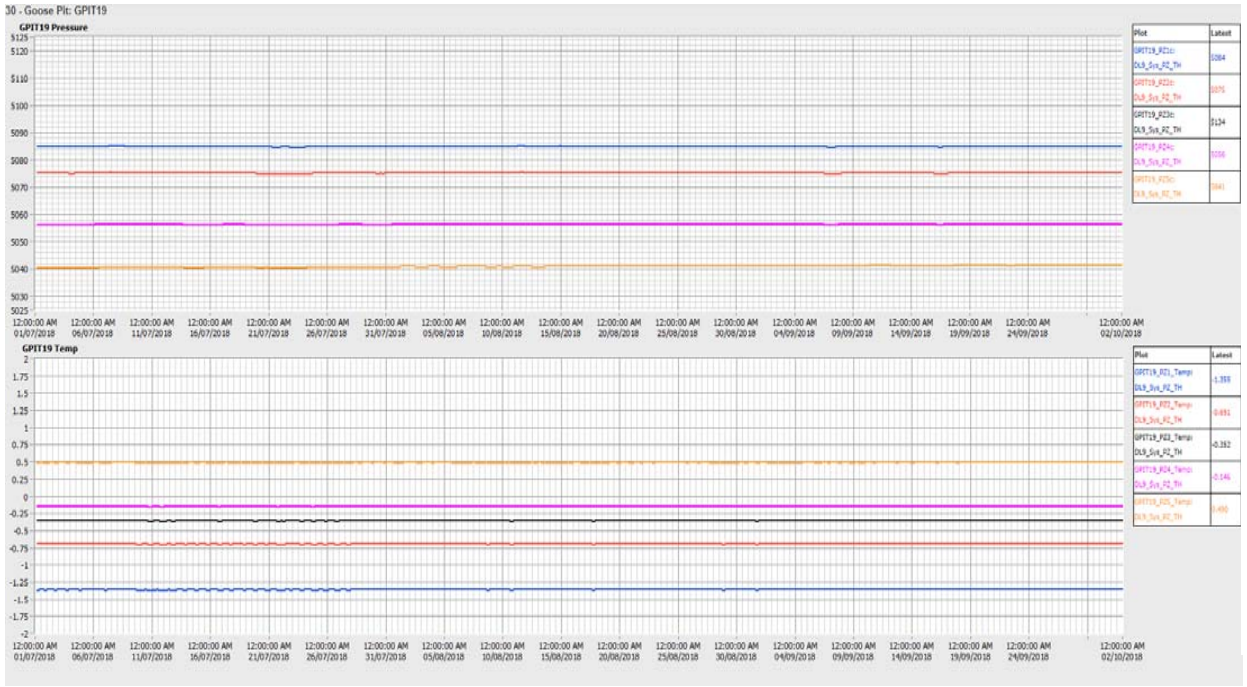
- PZ-1,2,3,4&5 are below the freezing point and can't be considered reliable.
- TH-GPIT-17 is in the permafrost from top at elevation 5119 to 4963. The first bead temperature change is consistent with the cooling trend during the onset of winter conditions.

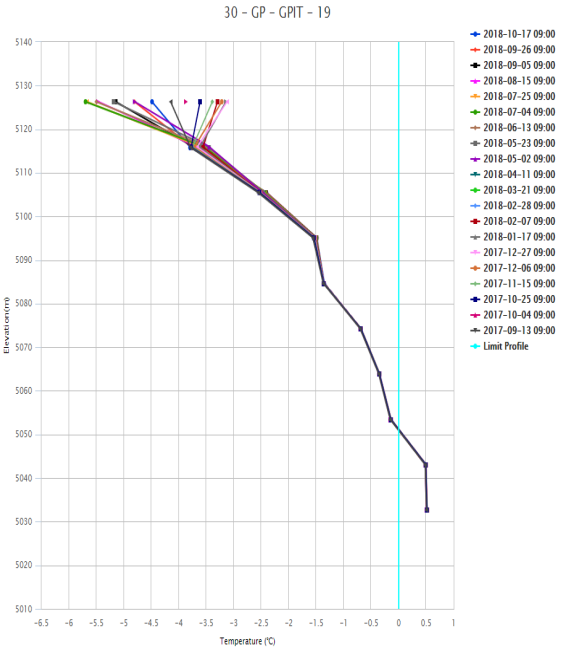


GOOSE PIT

PIEZOMETERS & THERMISTORS

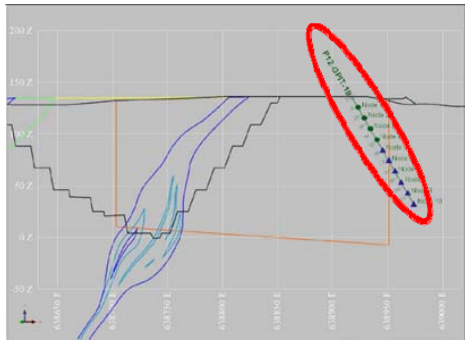
GPIT-19-PZ-1-2-3-4-5, GPIT-19-TH





Comments:

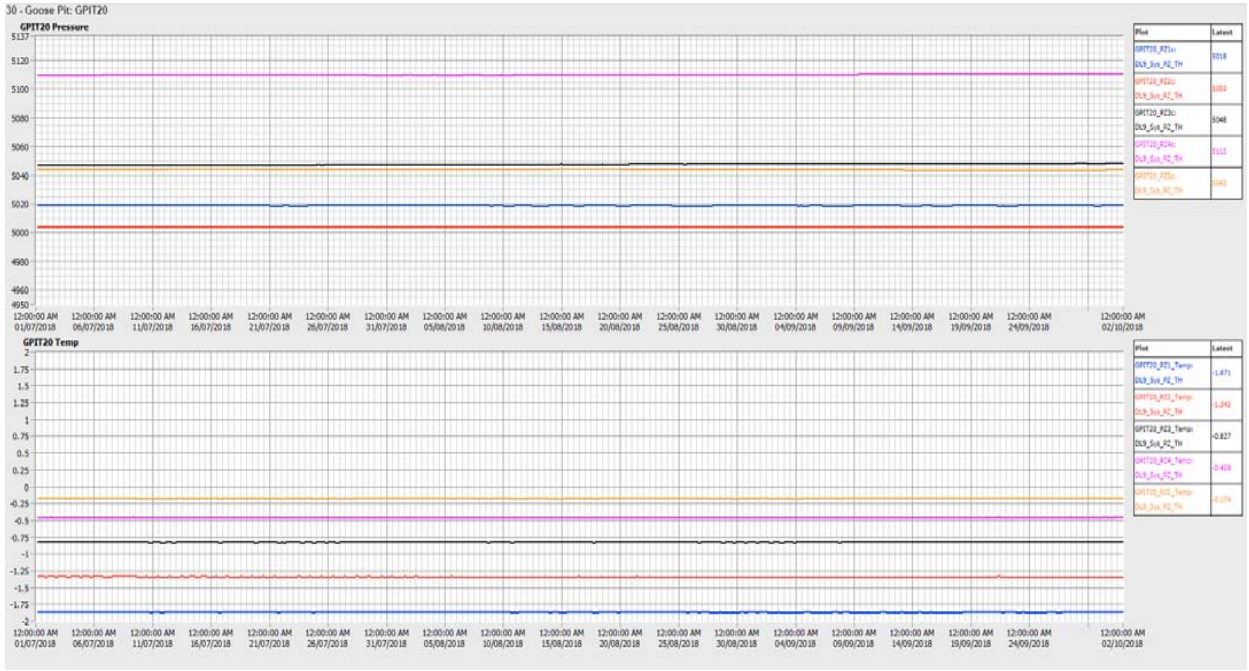
- PZ-5 is above the freezing line and it shows little or no pore water pressure variations during the Q3, 2018.
- PZ-1,2,3,4 are below the freezing point and can't be considered reliable.
- TH-GPIT-19 is in the permafrost from top at elevation 5126 to 5051. The first bead temperature change is consistent with the cooling trend during the onset of winter conditions.

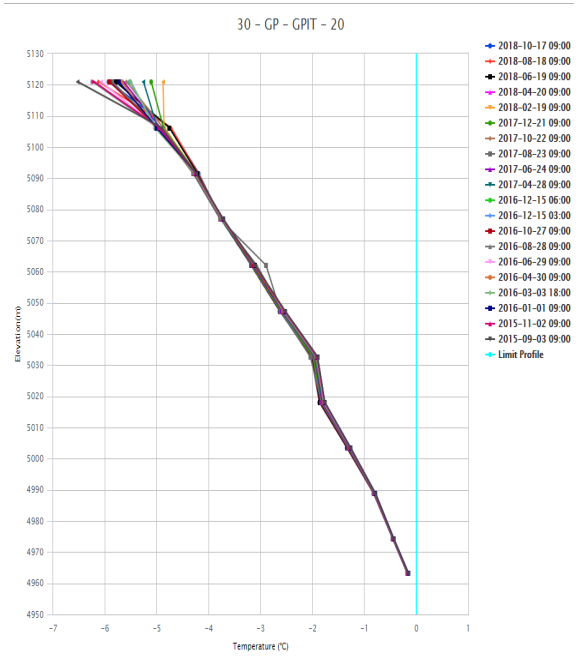


GOOSE PIT

PIEZOMETERS & THERMISTORS

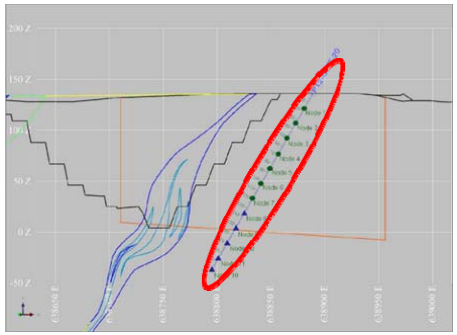
GPIT-20-PZ-1-2-3-4-5, GPIT-20-TH





Comments:

- PZ-1,2,3,4,5 are below the freezing point and can't be considered reliable.
- TH-GPIT-20 is in the permafrost on its entire length from is top at elevation 5121 to the bottom at 4963. The first bead temperature change is consistent with the cooling trend during the onset of winter conditions.



PERIOD: Q4 – OCTOBER 1ST TO DECEMBER 31ST, 2018

Open Pits - Quarterly Report
Instrumentation Monitoring and Field Observation Summary
Agnico Eagle Mines Limited
Meadowbank Project

Written: Arnaud Fortier-Morissette
Reviewed: Alexandre Lavallee

Period: Q4 – October 1st to December 31th, 2018

TABLE OF CONTENTS

INTRODUCTION

This quarterly report present and provide interpretation on all instrumentation data associated to ground control of active and inactive open pits at Meadowbank. Key observations made during the previous biweekly pit wall inspections are also integrated in the data analyses.

The frequencies of the inspection and instrumentation data acquisition/review is provided in the latest Ground Control Management Plan (GCMP).

MEADOWBANK OPEN PITS

Open pits from the Meadowbank mine are presented in the map below. The mine consists of 4 active and 4 inactive open pits as presented below.

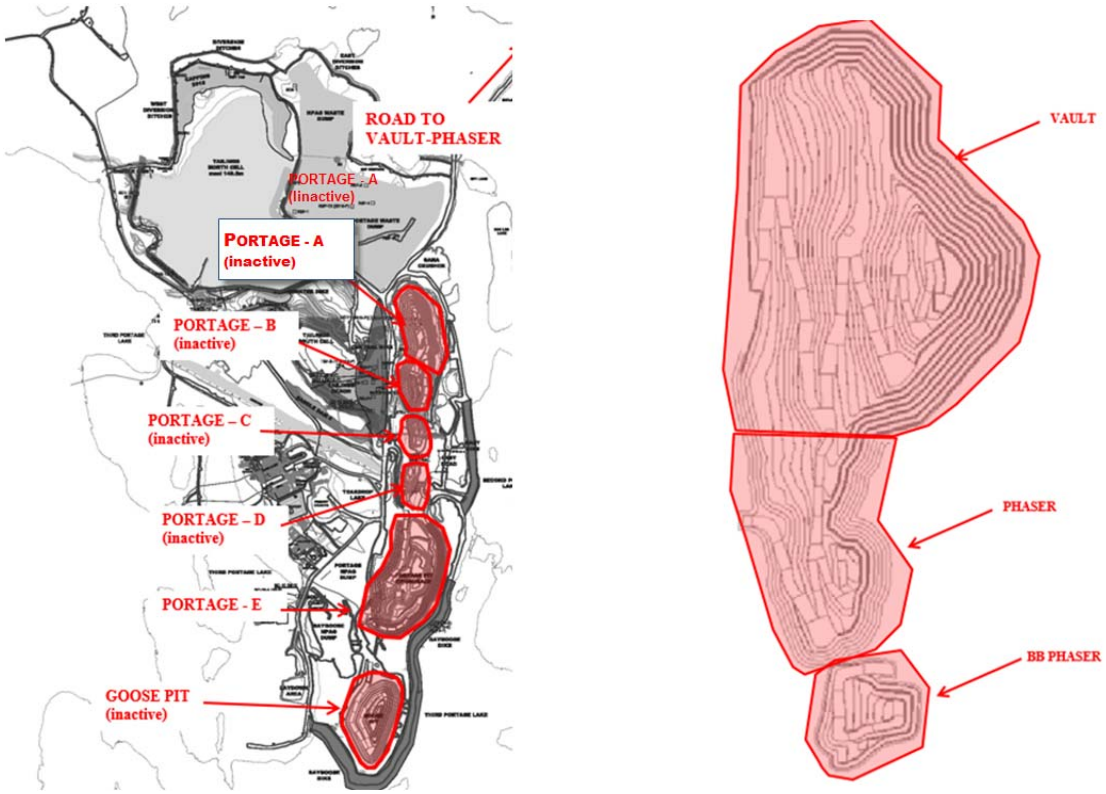


Figure 1 : Meadowbank open pits location

INSTRUMENTATION AND INSPECTION HIGHLIGHTS

ACTIVE OPEN PITS

Portage Pit E

- The radar was in regular scheduled MTM maintenance during Oct. 2nd and 3rd. There is an uptrend on the 5060 South section which is an ice build-up. On Dec. 15th there is an anomaly which shows a drop in deformation on all sectors. This appears to be attributed to the settling or movement of the radar unit itself.
- Deformation in sectors 5039 Rockfall and 5039 South 1 during the beginning of Q4 is attributed to the operations clean-up of the rock fall that occurred in late Q3.
- No rock fall events were reported during the period of Q4.
- During Q4 all blast vibration the PVS were lower than 10 mm/s. No actions required.
- A crack meter installed on the Pit E3 South Ramp wall showed minor movements (app. 1.5 mm) in December. Ice or snow accumulation is believed to cause this movement. During visual inspection there was snow covered the instrument and the minor movement is contributed to the snow and freezing of the rock that the instrument is installed in.
- No movement recorded on all of the TDRs.
- The results of the IPI are still under investigation to determine whether or not they are reliable. Erroneous data between Dec. 14th and Dec. 24th were confirmed to be caused by low battery level.
- Piezometers within the setback distance from the dike are showing normal response to mining activities (PE3-14, PE5-17-01, and PE5-17-02), gradual increase and decrease in pressure are displayed and consistent throughout the year.

Vault Pit

- There is new ice forming on the wall since the onset of winter conditions in Q3. The ice is currently attached to the wall with no free standing pillars. Sump is put in place to collect water runoff from the wall
- There was no prism monitoring during Q4.
- Thermistor in VP4 hole suggests a layer of talik at 5095. This layer is considered the cause of the ice wall. The thermistor is on cooling trend above elevation 5115.

Phaser Pit

- No instrumentation installed in this pit at the moment. Currently operations are building a rock fill road across the pit for short hauling on the Amaruq road.

BB PhaserPit

- No instrumentation installed in this pit at the moment. Multiple benches have been overmucked in the pit.

INACTIVE OPEN PITS

Goose Pit

- No movement recorded on the TDRs.
- No anomaly detected in the piezometers and thermistors.

Portage Pits B, C, D

- These pits are now almost fully back filled with waste rock.
- There were some cracks forming on near the edge of the waste dump pile in Pit B. An extensometer was installed on Aug. 17th to monitor the area. There has been a total movement 0.8m during the Q4 period with a maximum daily movement of .010m/day recorded. This is within the normal movement range with no actions required.

Portage Pit A

- No instrumentation installed in this pit at the moment.
- The mining was completed around mid-March 2018.

INSTRUMENTATION LIST AND LOCATION

PORTAGE PIT A

No instrument installed in this pit.

PORTAGE PIT E

Radar

Table 1: Radar location and status

Unit	Radar location	Monitoring	Status	Reliability
			Operational (✓)/Not operational (×)	Operational Days
GP SSR253XT	West wall (crest) of Pit E	Southern and eastern portion of pit E	✓	90/92

- The Radar was off line a total of 2 days during the Q4, 2018. Two consecutive days for MTM maintenance.

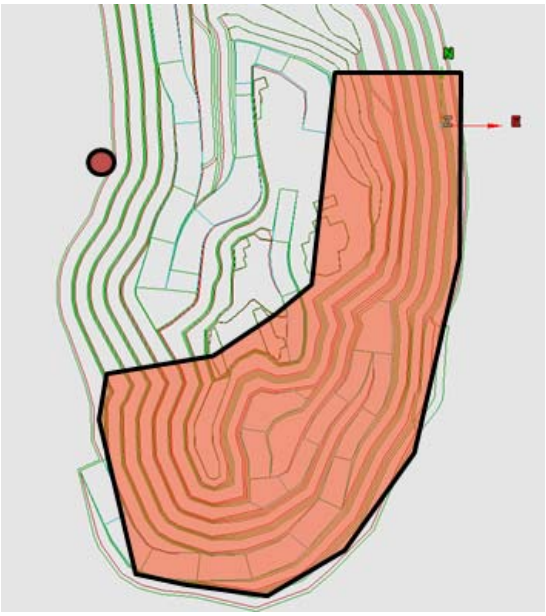


Figure 2: Radar location and coverage

Downhole instruments

Table 2: List of downhole instruments

Hole	Instrument ID	Type	Status	Readings
			Operational (✓)/Not operational (×)	Manual/ Automatic
PE3-14	PE3-P14A	Piezo	✓ (close to 0)	Automatic
	PE3-P14B	Piezo	✓	Automatic
PE5-17-01	PE5-17-01-A	Piezo	✓	Automatic
	PE5-17-01-B	Piezo	✓	Automatic
	PE5-17-01-C	Piezo	× (frozen)	Automatic
	PE5-17-01-TH	Thermistor	✓	Automatic
	PE5-TDR1	TDR	✓	Automatic
PE5-17-02	PE5-17-02-A	Piezo	✓	Automatic
	PE5-17-02-B	Piezo	✓	Automatic
	PE5-TDR2	TDR	✓	Automatic
PE5-17-03	PE5-17-03-A	Piezo	✓	Automatic
	PE5-17-03-B	Piezo	✓	Automatic
	PE5-17-03-C	Piezo	× (frozen)	Automatic
	PE5-17-03-TH	Thermistor	✓	Automatic
	PE5-TDR3	TDR	✓	Automatic
PE5-17-04	PE5-17-04-A	Piezo	✓	Automatic
	PE5-17-04-B	Piezo	× (frozen)	Automatic
	PE5-TDR4	TDR	✓	Automatic
PE5-17-05	PE5-17-05-A	Piezo	× (frozen)	Automatic
	PE5-17-05-B	Piezo	× (frozen)	Automatic
	PE5-17-05-C	Piezo	× (frozen)	Automatic
	PE5-TDR5	TDR	✓	Automatic
PE5-17-06	PE5-IPI	In-Place Inclinometer	✓	Automatic

Figure 3: Pit E instrumented hole location

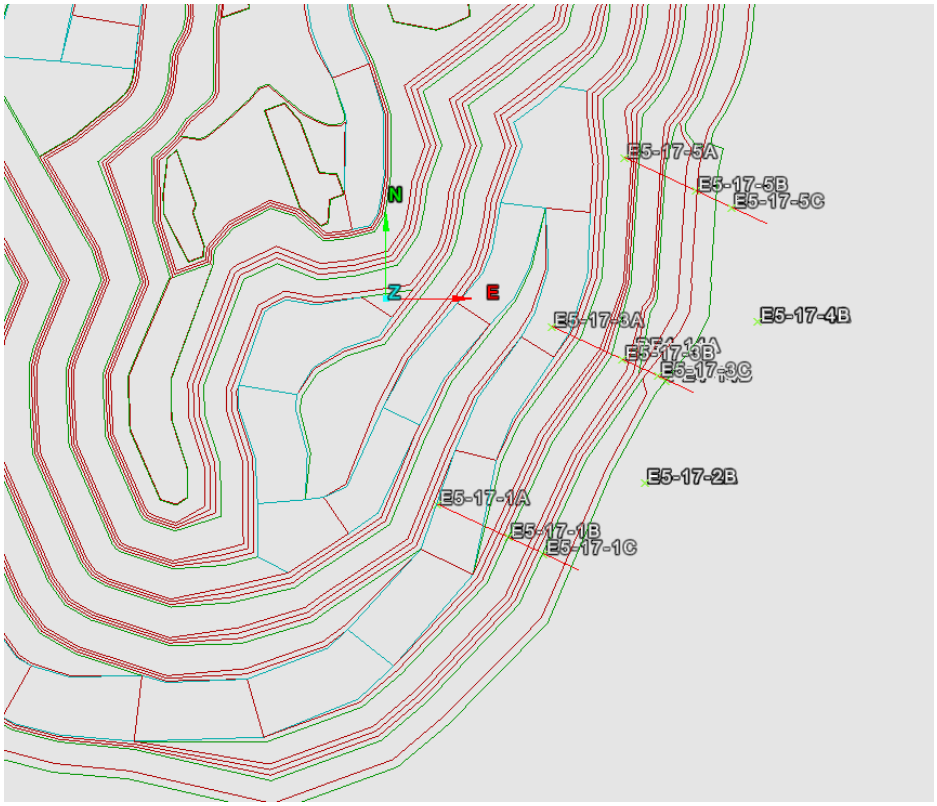


Figure 4: Pit E piezometers location

VAULT PIT

Downhole instruments

Table 3: List of downhole instruments

Hole	Instrument ID	Type	Status	Readings
			Operational (✓)/Not operational (×)	Manual/ Automatic
VP1	VP1-A	Piezo	× (frozen)	Semi – Manual
	VP1-B	Piezo	× (frozen)	Semi – Manual
	VP1-TH1	Thermistor	✓	Semi – Manual
VP2	VP2-A	Piezo	× (frozen)	Semi – Manual
	VP2-B	Piezo	× (frozen)	Semi – Manual
	VP2-TH1	Thermistor	✓	Semi – Manual
VP4	VP4-A	Piezo	× (frozen)	Semi – Manual
	VP4-B	Piezo	✓	Semi – Manual
	VP4-C	Piezo	✓	Semi – Manual
	VP4-TH1	Thermistor	✓	Semi – Manual

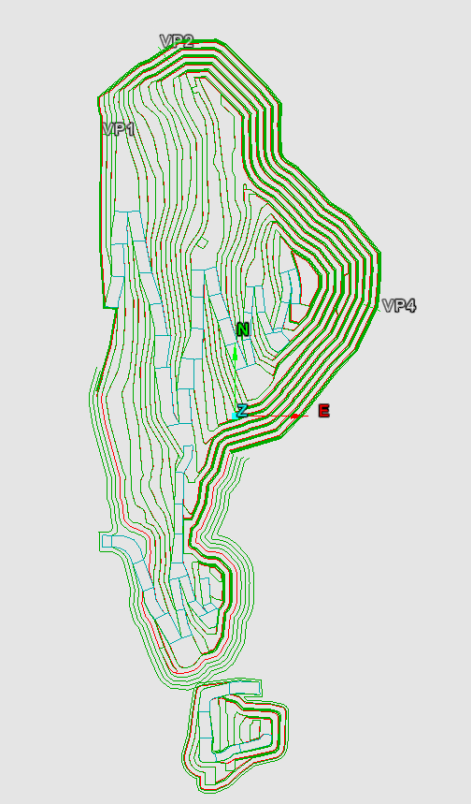


Figure 5: Vault instrumentation location

Prims monitoring

- No data taken for this period

PHASER PIT

No permanent instrument installed in this pit.

GOOSE PIT

Downhole instruments

Hole	Instrument ID	Type	Status	Readings
			Operational (✓)/Not operational (×)	Manual/ Automatic
GPIT-11	GPIT-TDR11	TDR	✓	Automatic
GPIT-12	GPIT-TDR12	TDR	✓	Automatic
GPIT-13	GPIT13-PZ1	Piezo	× (frozen)	Automatic
	GPIT13-PZ2	Piezo	✓	Automatic
	GPIT13-PZ3	Piezo	✓	Automatic
	GPIT13-PZ4	Piezo	✓	Automatic
	GPIT13-PZ5	Piezo	✓	Automatic
	GPIT-TH13	Thermistor	✓	Automatic
GPIT-14	GPIT14-PZ1	Piezo	× (frozen)	Automatic
	GPIT14-PZ2	Piezo	× (frozen)	Automatic
	GPIT14-PZ3	Piezo	× (frozen)	Automatic
	GPIT14-PZ4	Piezo	✓	Automatic
	GPIT14-PZ5	Piezo	✓	Automatic
	GPIT-TH14	Thermistor	✓	Automatic
	GPIT-TDR14	TDR	✓	Automatic
GPIT-15	GPIT-TDR15	TDR	✓	Automatic
GPIT-16	GPIT16-PZ1	Piezo	× (frozen)	Automatic
	GPIT16-PZ2	Piezo	× (frozen)	Automatic
	GPIT16-PZ3	Piezo	× (frozen)	Automatic
	GPIT16-PZ4	Piezo	✓	Automatic
	GPIT16-PZ5	Piezo	✓	Automatic
	GPIT16-PZ6	Piezo	✓	Automatic
	GPIT16-PZ7	Piezo	✓	Automatic
	GPIT16-PZ8	Piezo	✓	Automatic
	GPIT16-PZ9	Piezo	✓	Automatic
	GPIT-TH16	Thermistor	✓	Automatic
GPIT-17	GPIT17-PZ1	Piezo	× (frozen)	Automatic
	GPIT17-PZ2	Piezo	× (frozen)	Automatic
	GPIT17-PZ3	Piezo	× (frozen)	Automatic
	GPIT17-PZ4	Piezo	× (frozen)	Automatic
	GPIT17-PZ5	Piezo	× (frozen)	Automatic
	GPIT17-PZ6	Piezo	✓	Automatic
	GPIT-TH17	Thermistor	✓	Automatic
	GPIT-TDR17	TDR	✓	Automatic
GPIT-18	GPIT-TDR18	TDR	✓	Automatic
GPIT-19	GPIT19-PZ1	Piezo	× (frozen)	Automatic
	GPIT19-PZ2	Piezo	× (frozen)	Automatic
	GPIT19-PZ3	Piezo	× (frozen)	Automatic
	GPIT19-PZ4	Piezo	× (frozen)	Automatic
	GPIT19-PZ5	Piezo	✓	Automatic
	GPIT19-PZ6	Piezo	✓	Automatic
	GPIT-TH19	Thermistor	✓	Automatic
GPIT-20	GPIT20-PZ1	Piezo	× (frozen)	Automatic

	GPIT20-PZ2	Piezo	× (frozen)	Automatic
	GPIT20-PZ3	Piezo	× (frozen)	Automatic
	GPIT20-PZ4	Piezo	× (frozen)	Automatic
	GPIT20-PZ5	Piezo	× (frozen)	Automatic
	GPIT-TH20	Thermistor	✓	Automatic
	GPIT-TDR20	TDR	✓	Automatic

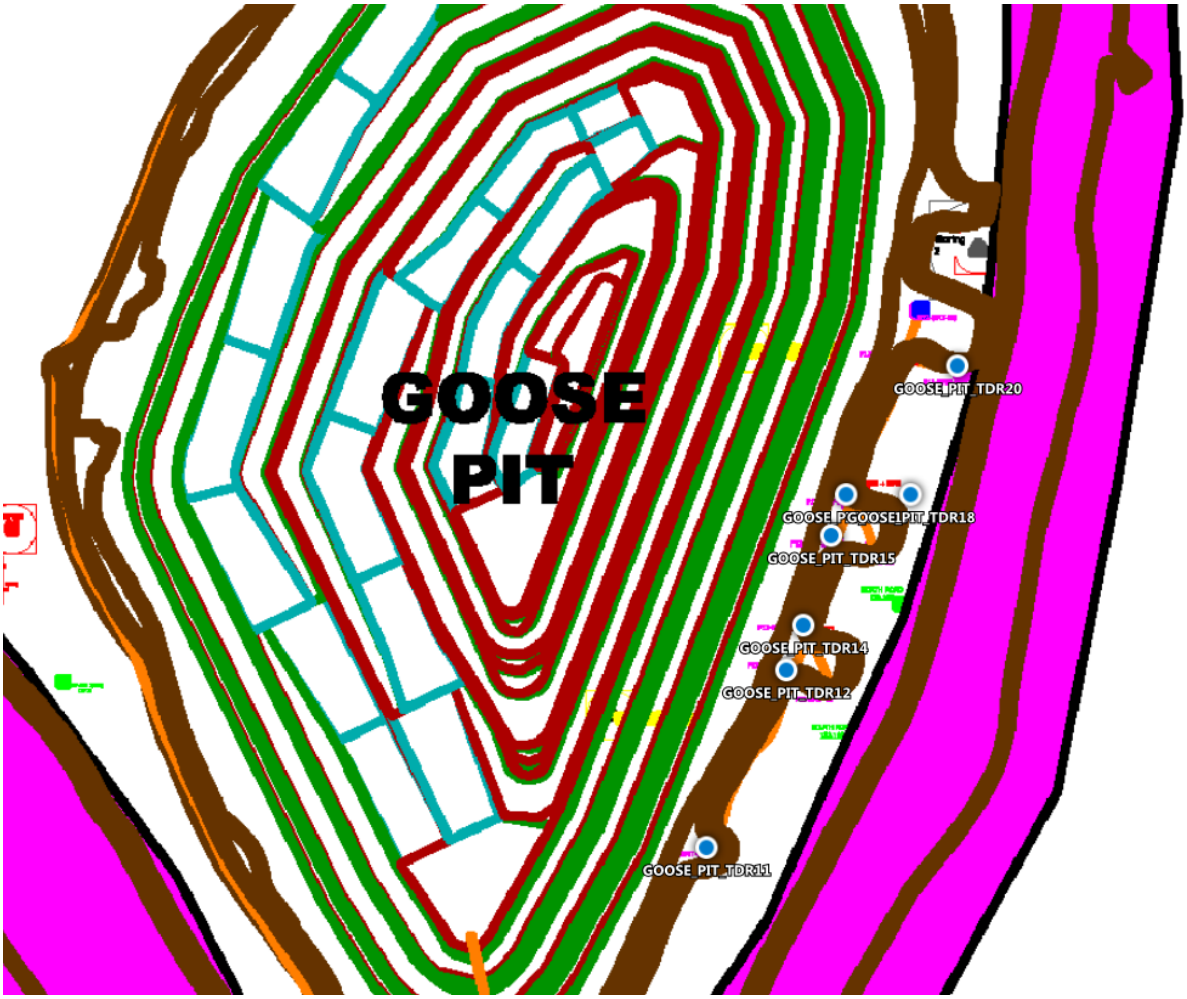


Figure 67: Location of downhole instruments at Goose pit

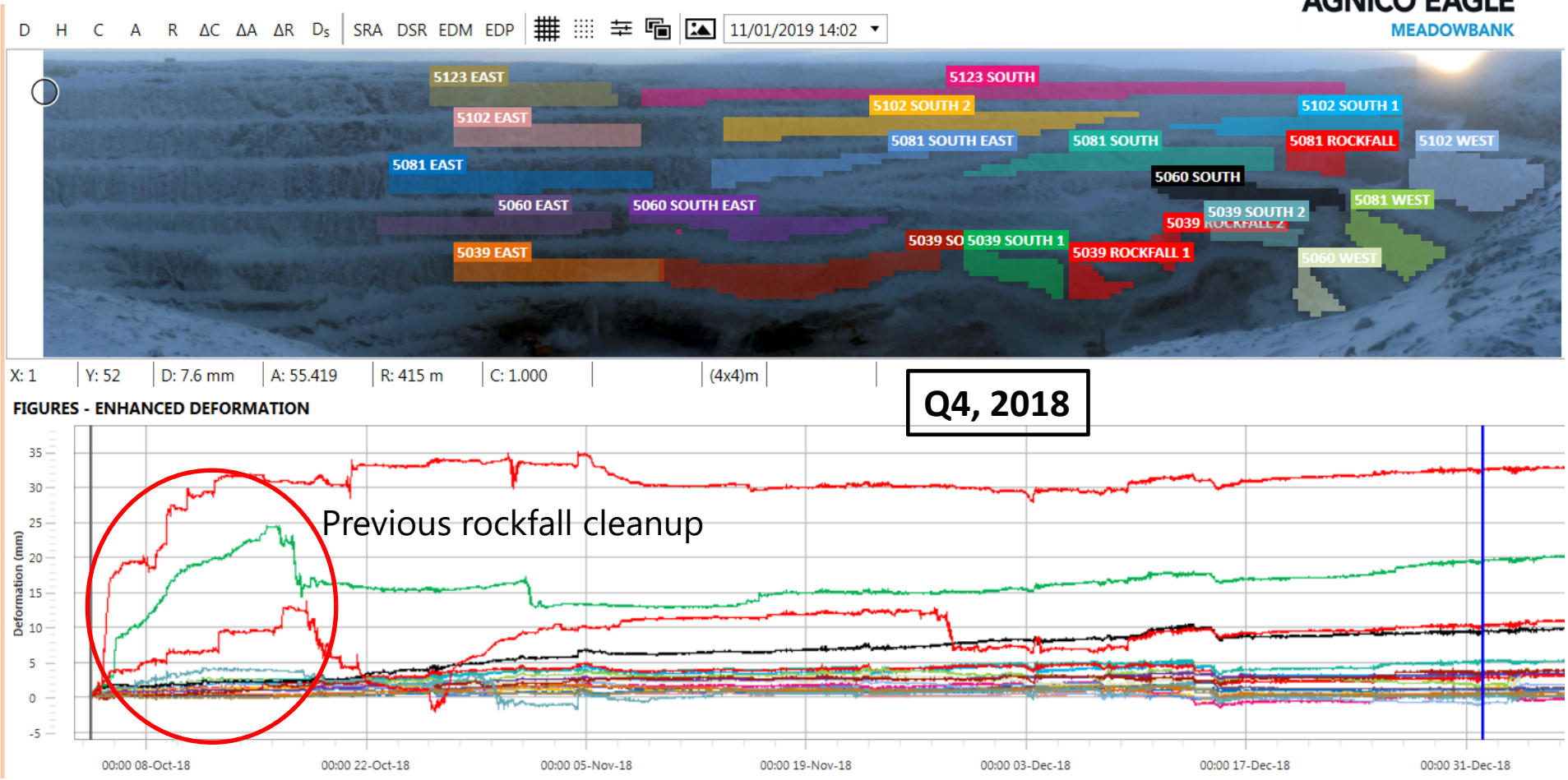
PORTAGE PIT B, C & D

- No instrument installed in these pits.

INSTRUMENTATION RESULTS

PORTAGE PIT E

RADAR



Enhanced deformation per sector (October 4th to December 31th) – Wall folder: SSR253_181004_Meadowbank_E5_South_Wall**.**

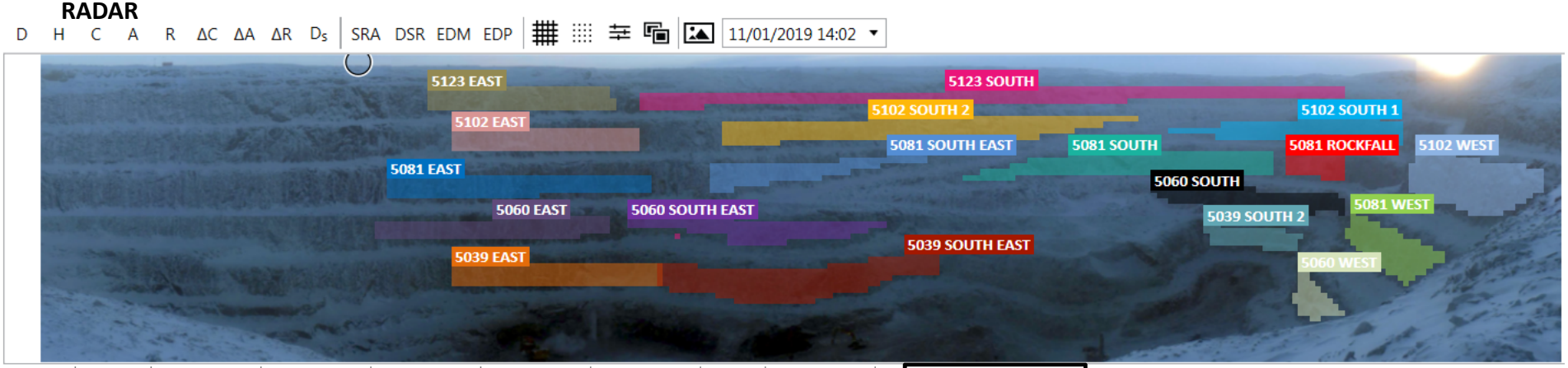
Comments: October 1st is in Wall folder SSR253_1810601_Meadowbank_E5_South_Wall while during October 2nd and 3rd the is radar is in regular scheduled MTM maintenance.

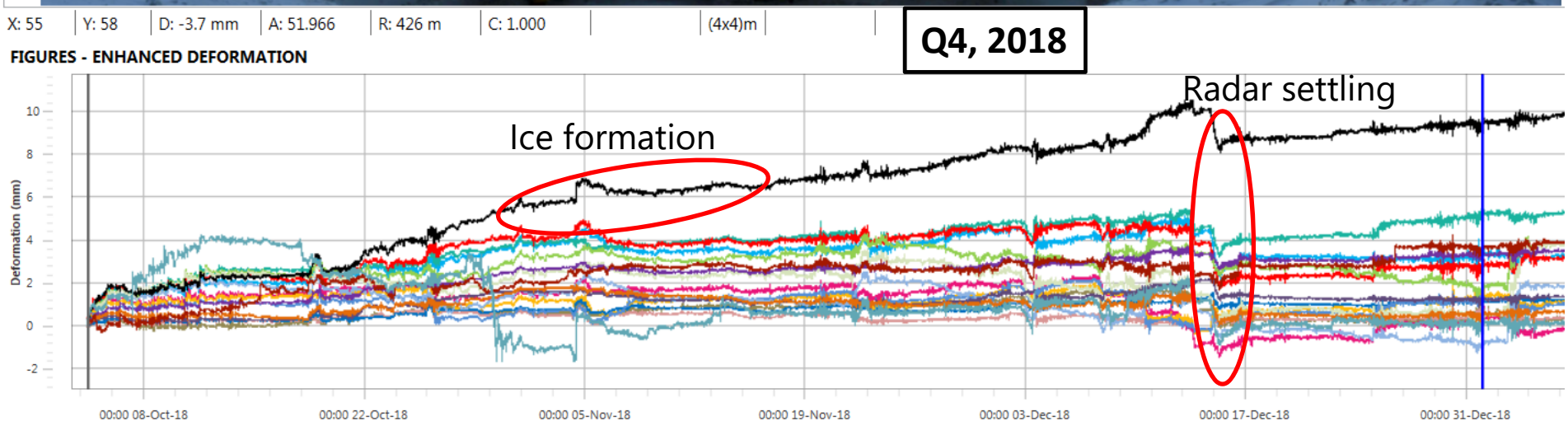
Level 5039 is still in operation during the first days of October.

Significant movements observed in the area of the rock fall at level 5039 during the first days of October and then small movement over the period. This can be contributed to Operations clean-up of the Rockfall area which occurred in late Q3.

PORTAGE PIT E

RADAR





Enhanced deformation per sector (October 4th to December 31th) – Wall folder: SSR253_181004_Meadowbank_E5_South_Wall**.**

Comments: Image shown without section 5039 South 1 and the Rockfall sections.

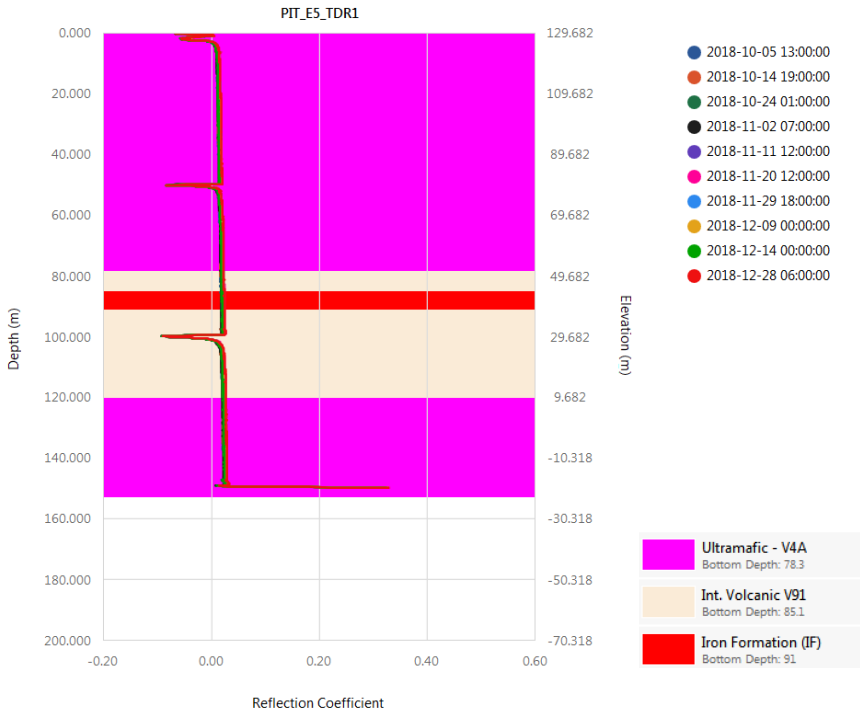
During the Q4 period, the deformation was relatively stable except in section 5060 South which shows little movement which appears to be ice forming on the wall. There was no pore pressure raised behind the wall. During Q4, there were no rock falls.

The radar seems to have settled or shifted around December 15th since all the zones show this anomaly.

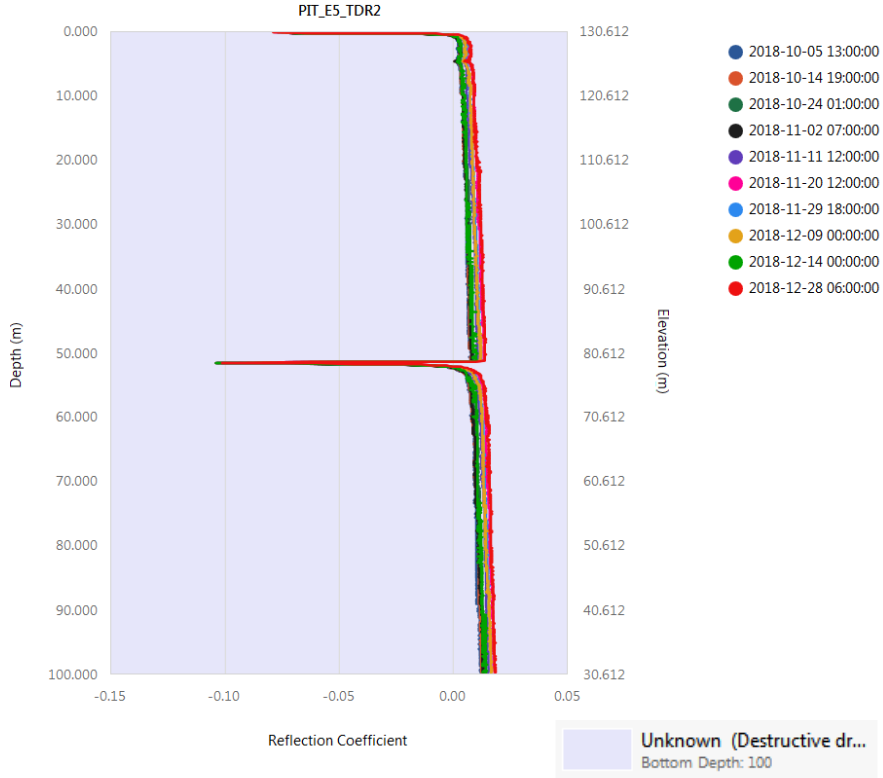
PORTAGE PIT E

TDR

TDR1



TDR2



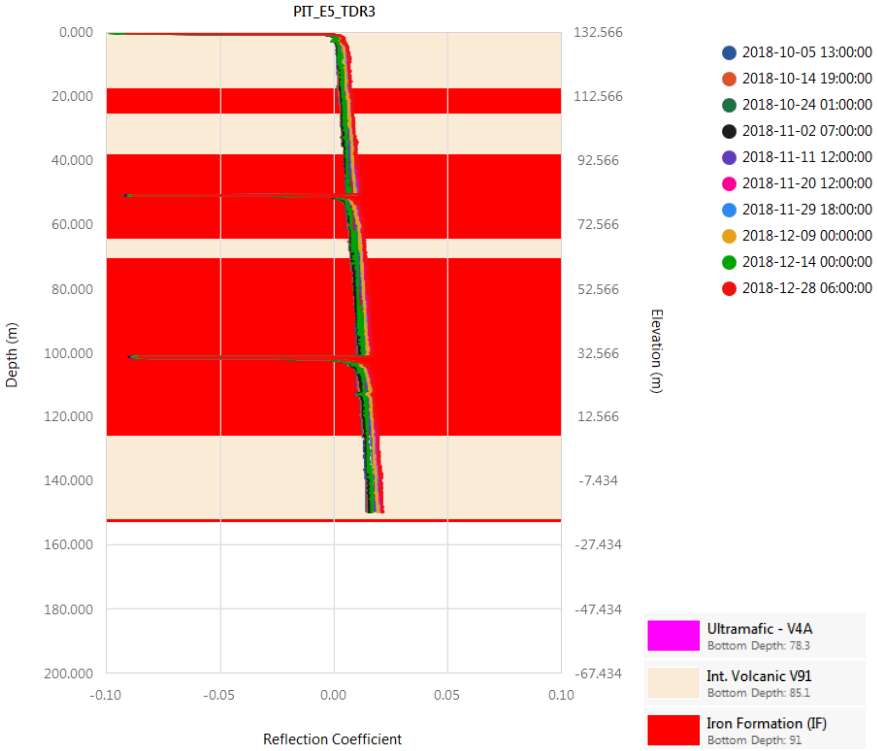
Comments:

- No sign of deformation observed in TDR1 & TDR2.
- No anomalies from the TDR logger were found in the graphs in Q4.

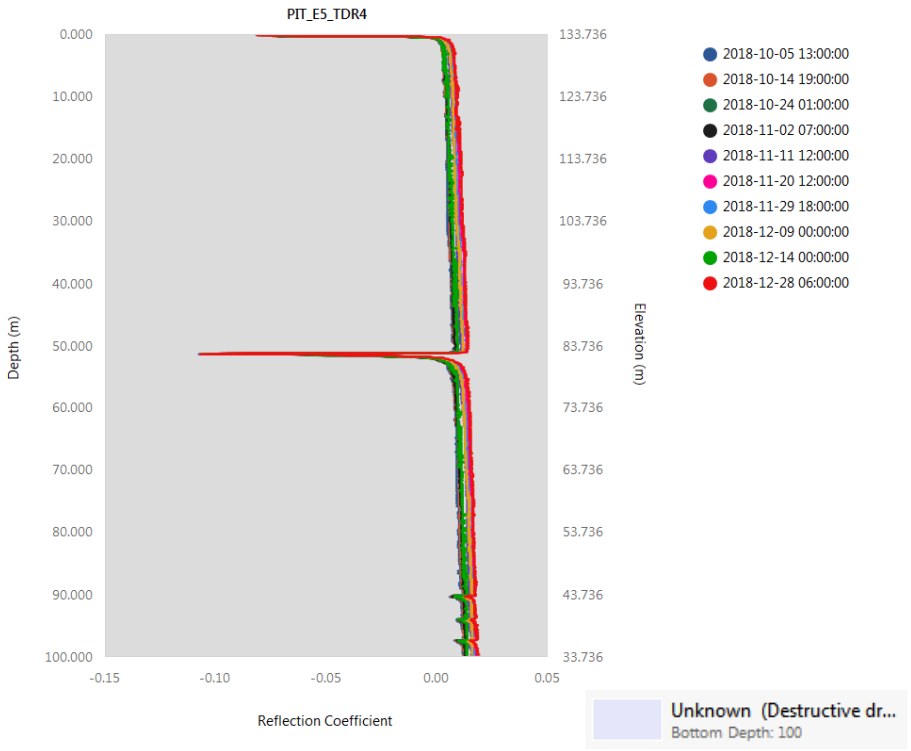
PORTAGE PIT E

TDR

TDR3



TDR4



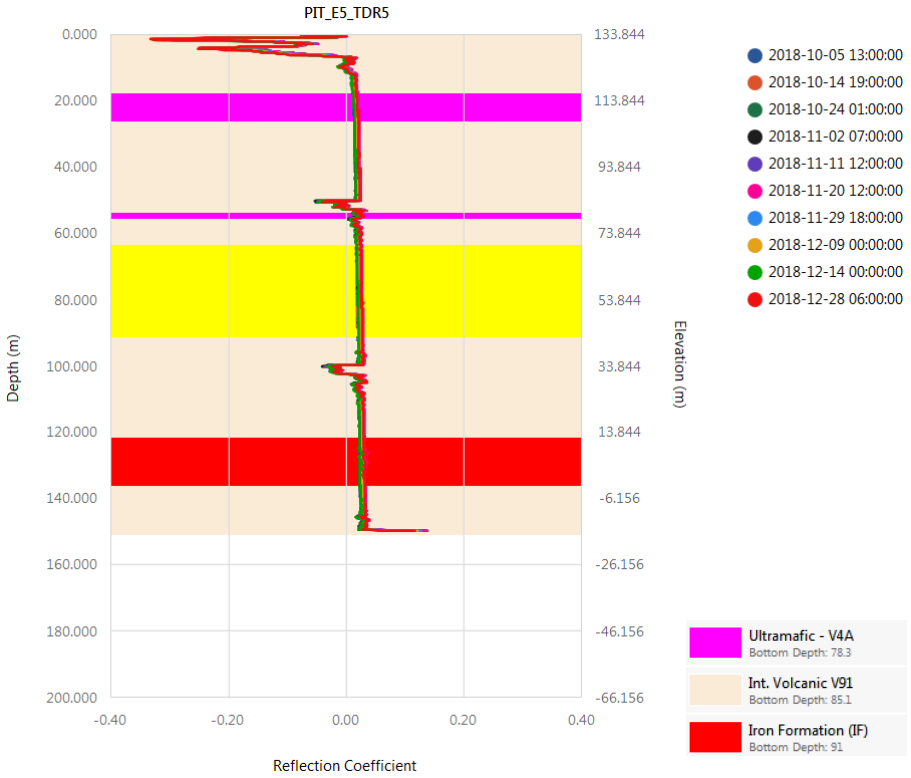
Comments:

- No sign of deformation observed in TDR3.
- No anomalies from the TDR logger were found in the graphs in Q4.

PORTAGE PIT E

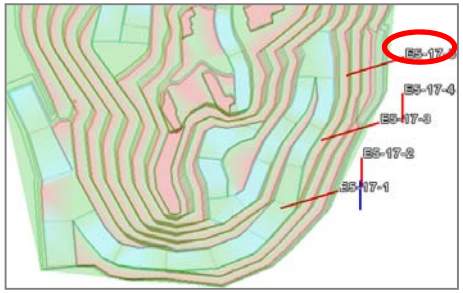
TDR

TDR5



Comments:

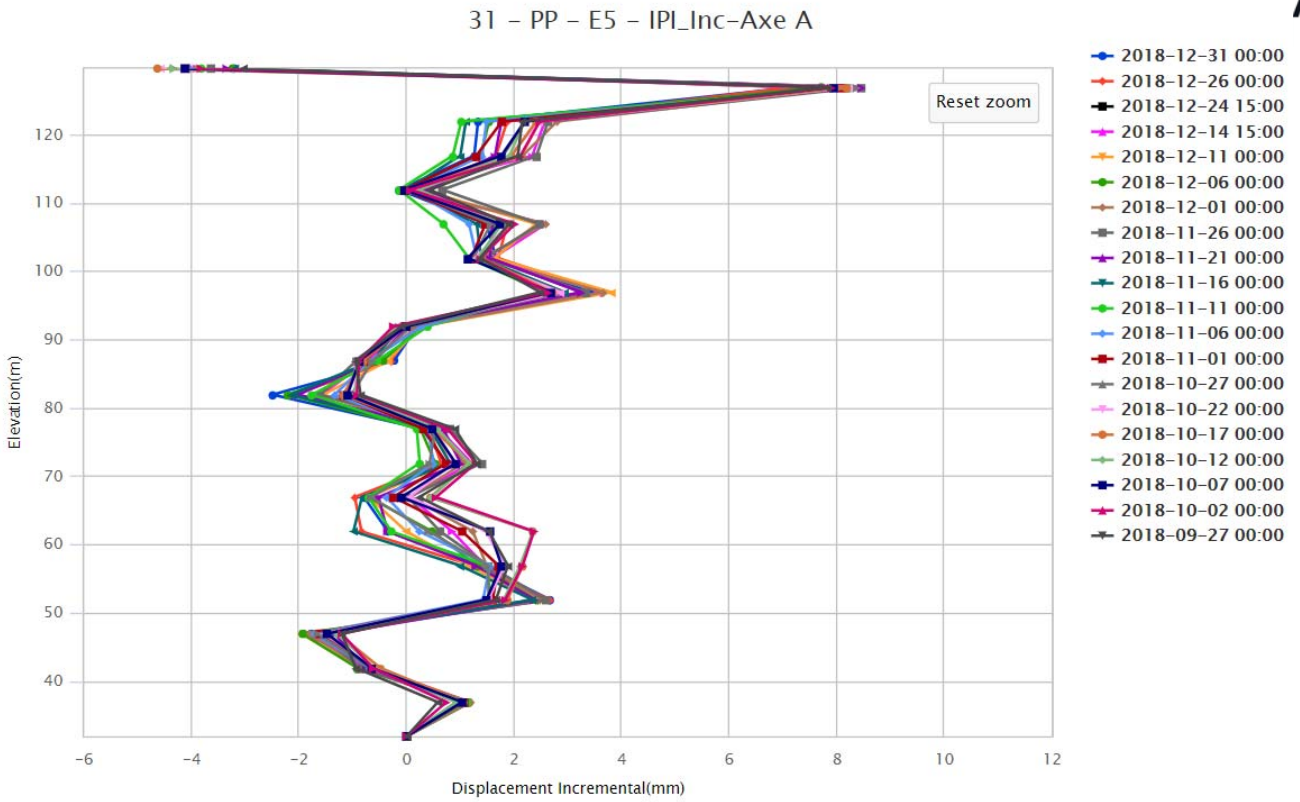
- No sign of deformation observed in TDR5.
- No anomalies from the TDR logger were found in the graphs in Q4.



PORTAGE PIT E

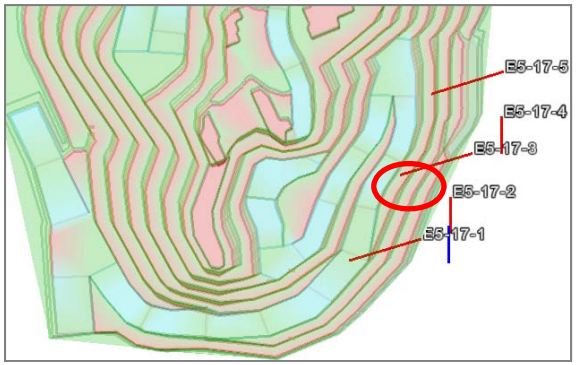
INCLINOMETER

PP-E5-IPI



Comments:

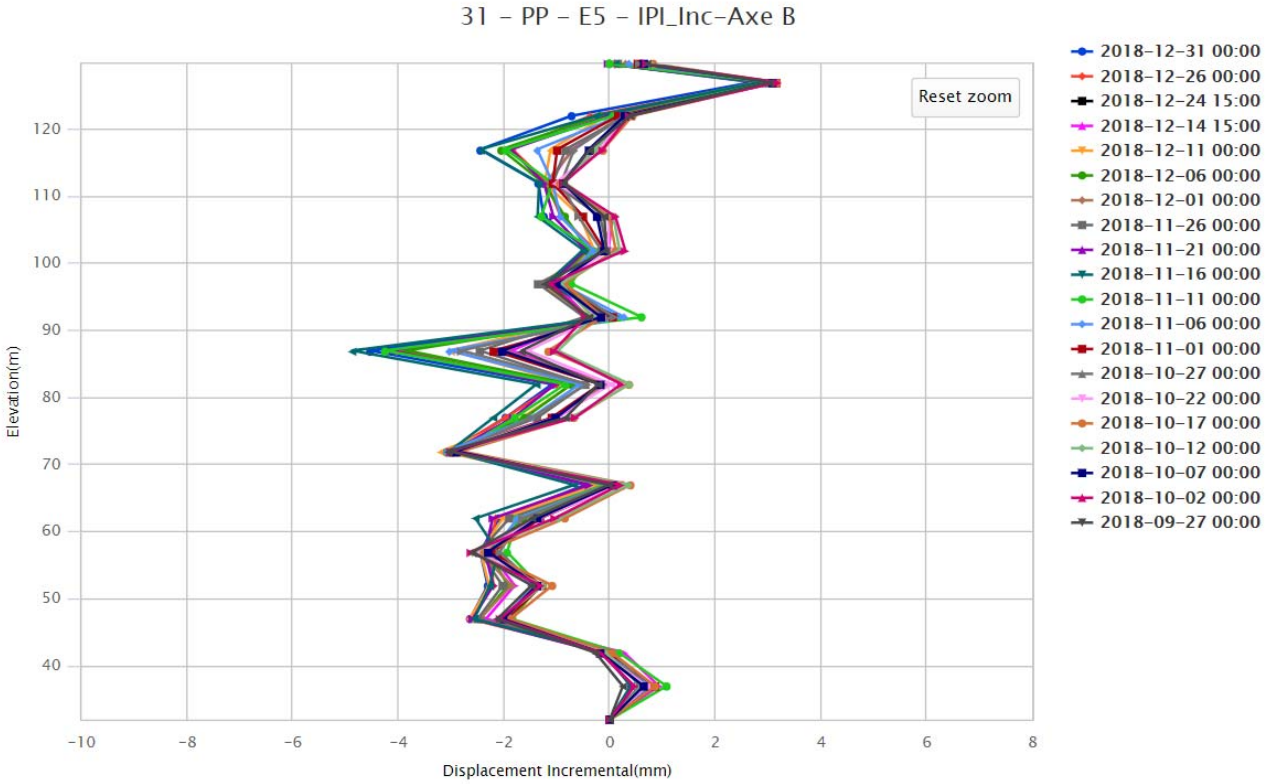
- Erroneous line data between Dec. 14th and Dec, 24th due to low battery voltage.
- Deformation are within the green level for the TARP for Pit E Pushback.



PORTAGE PIT E

INCLINOMETER

PP-E5-IPI



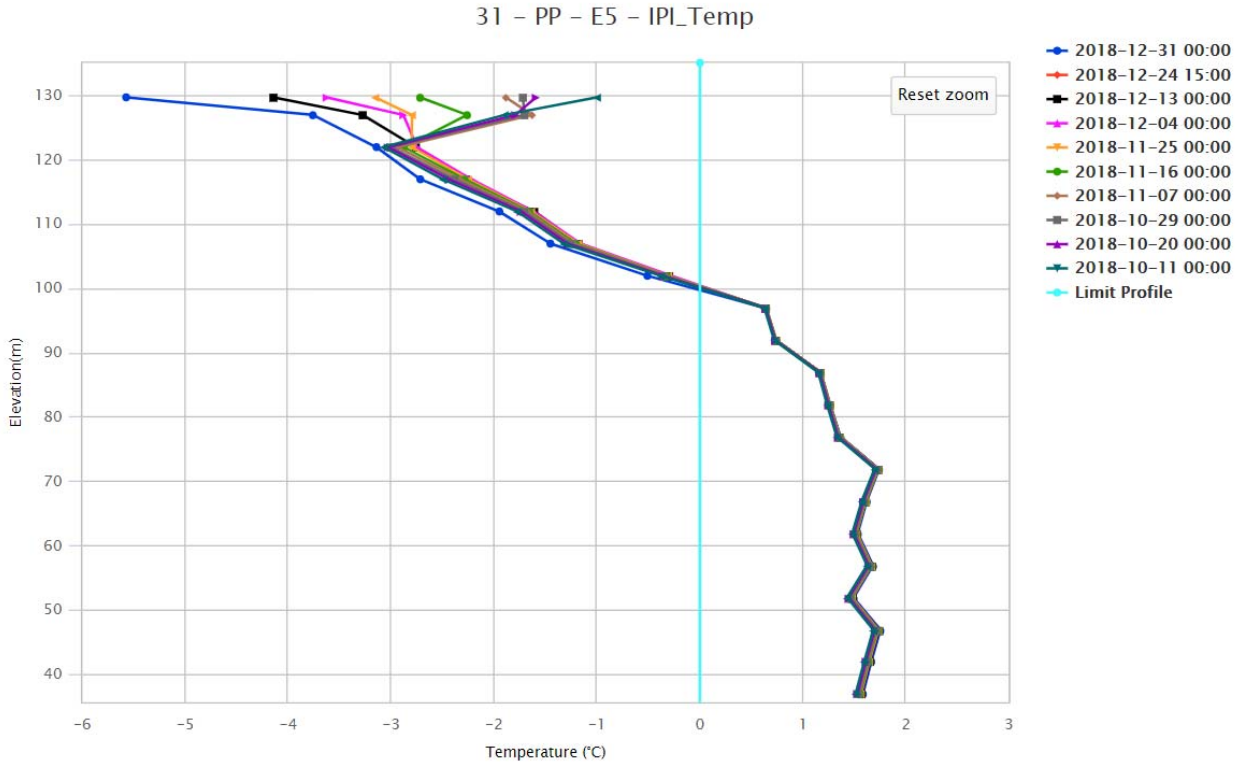
Comments:

- With only a bad line data between Dec. 14th and Dec, 24th due to low battery voltage, the results of the data are viable.
- The results fall within the Acceptable range for the TARP for Pit E Pushback.

PORTAGE PIT E

INCLINOMETER

PP-E5-IPI



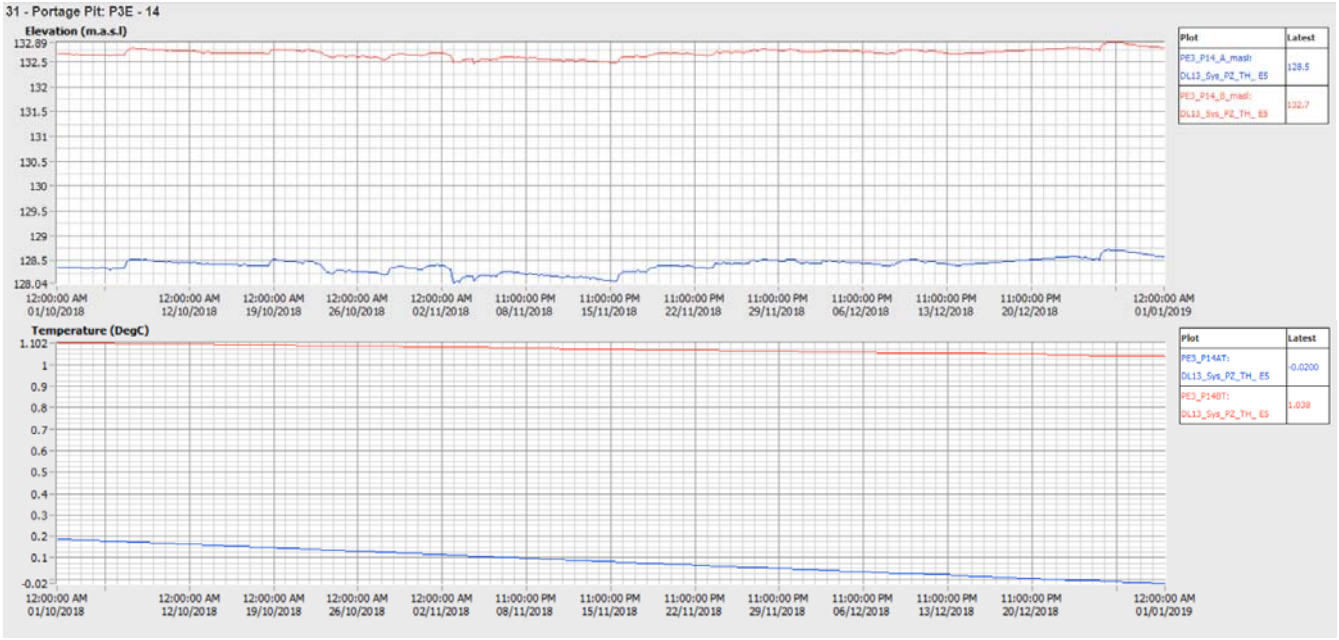
Comments:

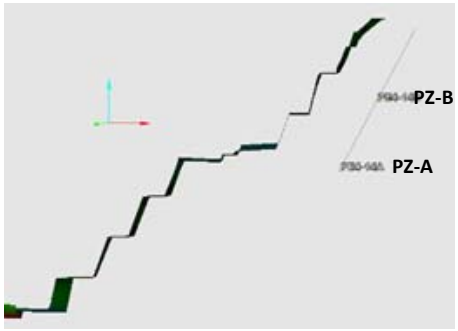
- Unfrozen (Talik) condition under elevation 100 MASL.
- There is a gradual cooling trend in the talik zone.

PORTAGE PIT E

PIEZOMETERS

PE3-14 PZ-A,B





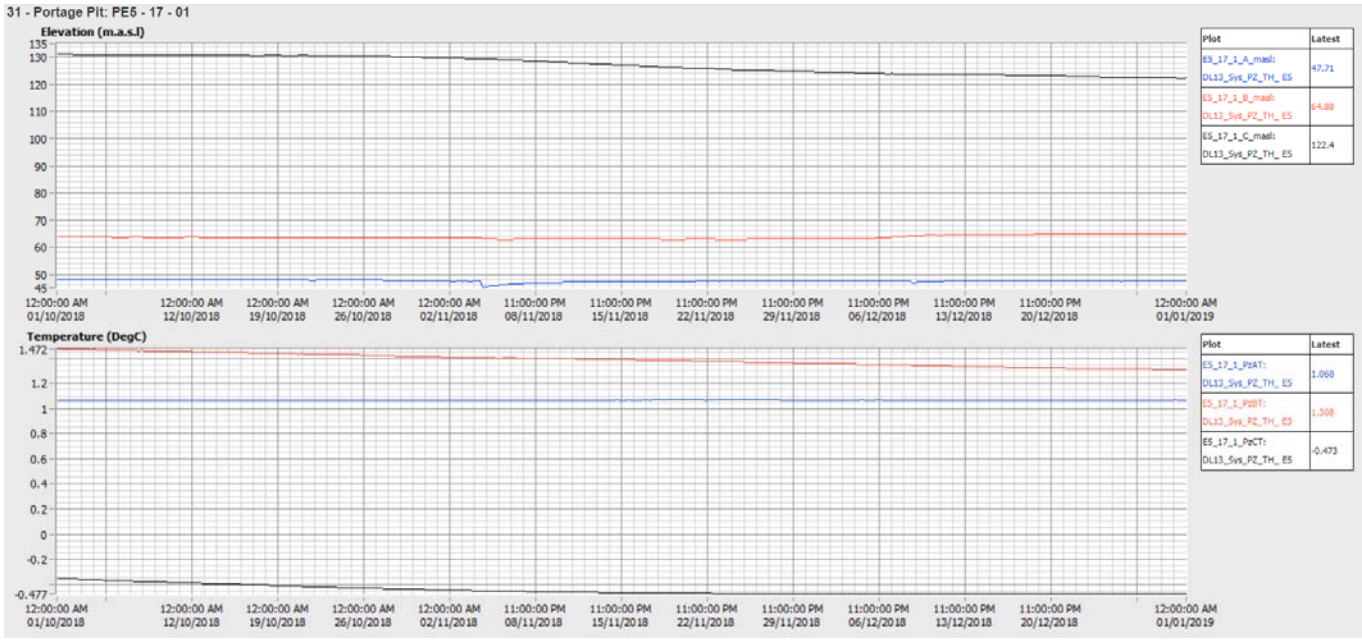
Comments:

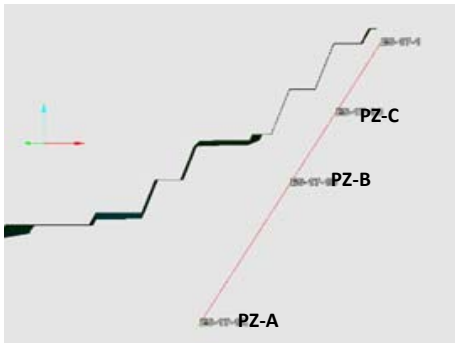
- Minor variations in pore water pressure are related to mining activities (drilling/blasting) in Pit E5.
- Overall downward trend for piezometer's temperature.
- PE3-14 PzA is close to be frozen. Latest temperature is -0.02 °C.

PORTAGE PIT E

PIEZOMETERS

PE5-17-01 PZ-A,B,C





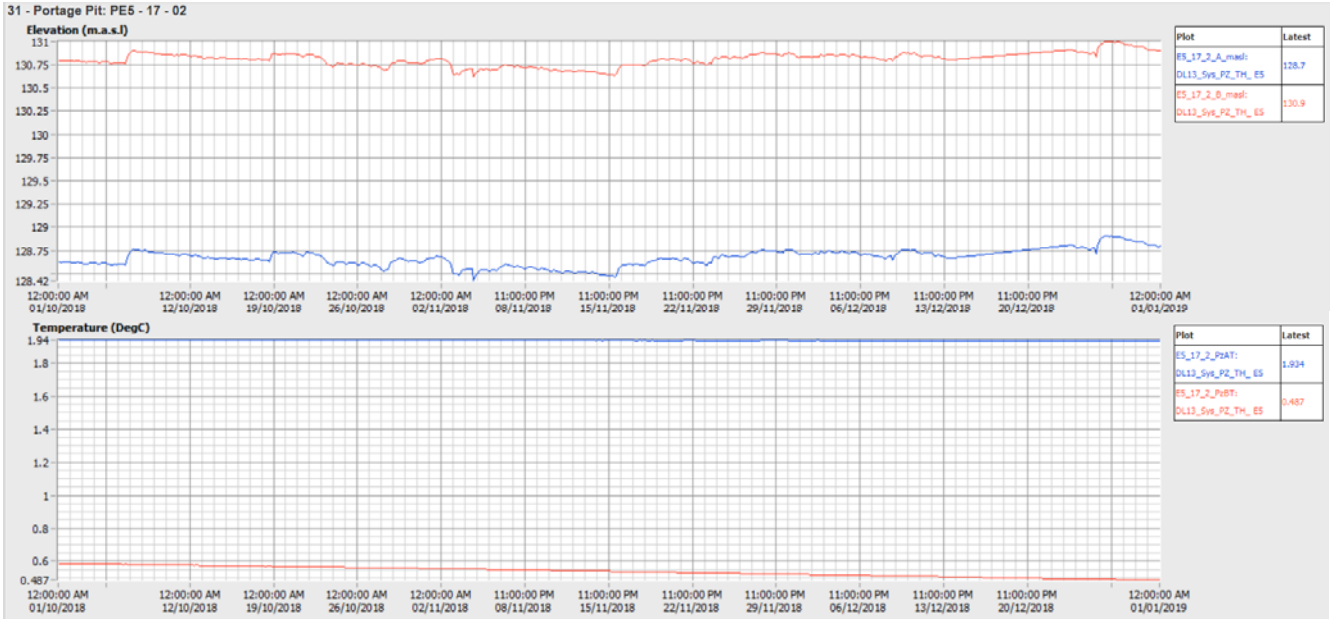
Comments:

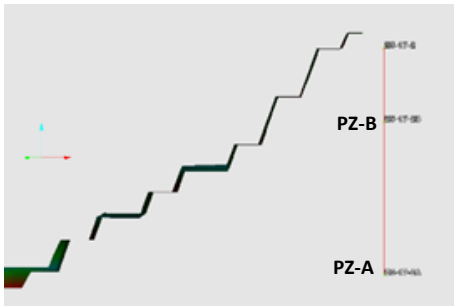
- Minor variations in pressure are related to mining activities (drilling/blasting) in Pit E5.
- PzB has a low PWP of 19 is to be considered to be in a dry area in the wall.
- E5_17_1 PzC is considered to be frozen (-.047 °C).

PORTAGE PIT E

PIEZOMETERS

PE5-17-02 PZ-A,B





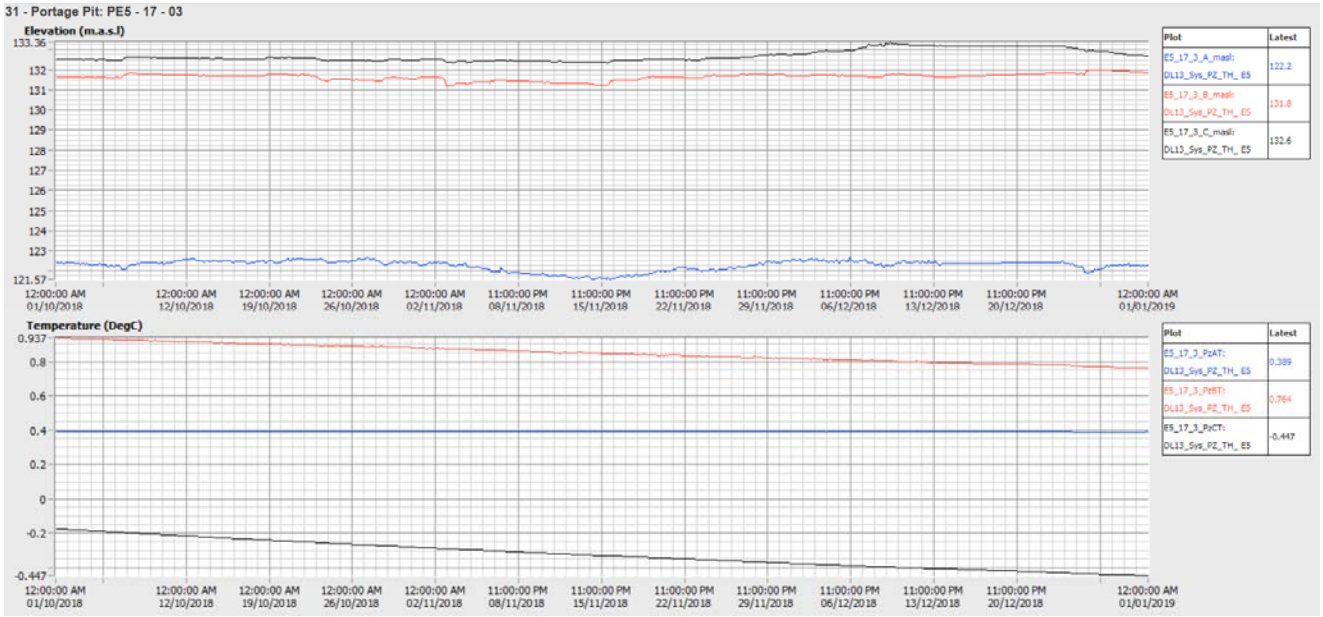
Comments:

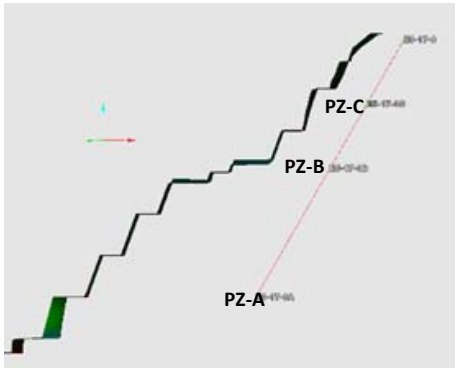
- Minor variations in pressure are related to mining activities (drilling/blasting) in Pit E5.
- There is slight cooling trend in PzB temperature.

PORTAGE PIT E

PIEZOMETERS

PE5-17-03 PZ-A,B,C





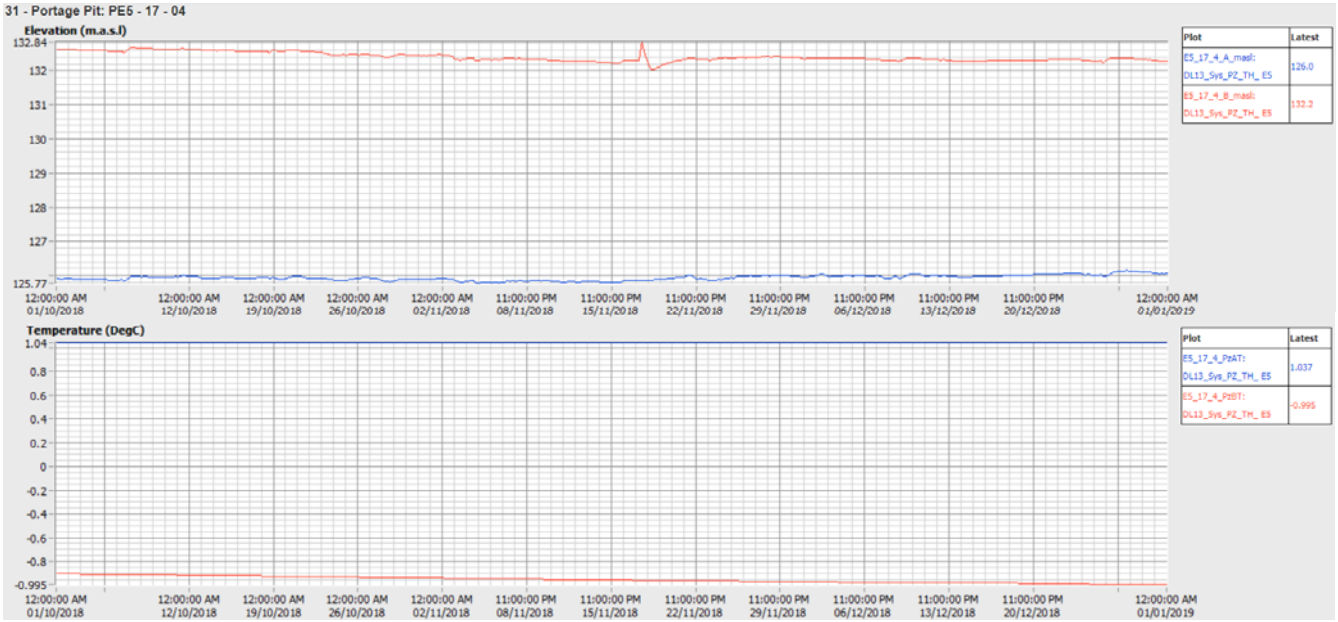
Comments:

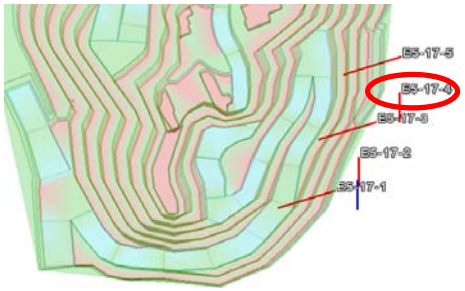
- Minor variations in pressure are related to mining activities (drilling/blasting) in Pit E5
- The temperature for PzA is holding at a steady trend, meanwhile PzB and PzC are showing a cooling trend .
- PzC is considered to frozen (-0.447˚C) . Augmentation of the pressure level is attributed to that.

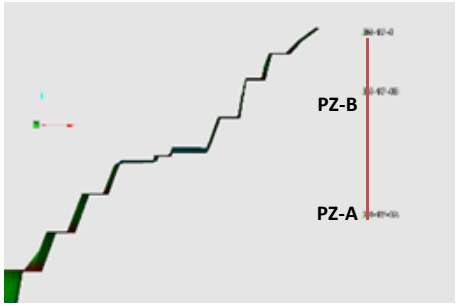
PORTAGE PIT E

PIEZOMETERS

PE5-17-04 PZ-A,B







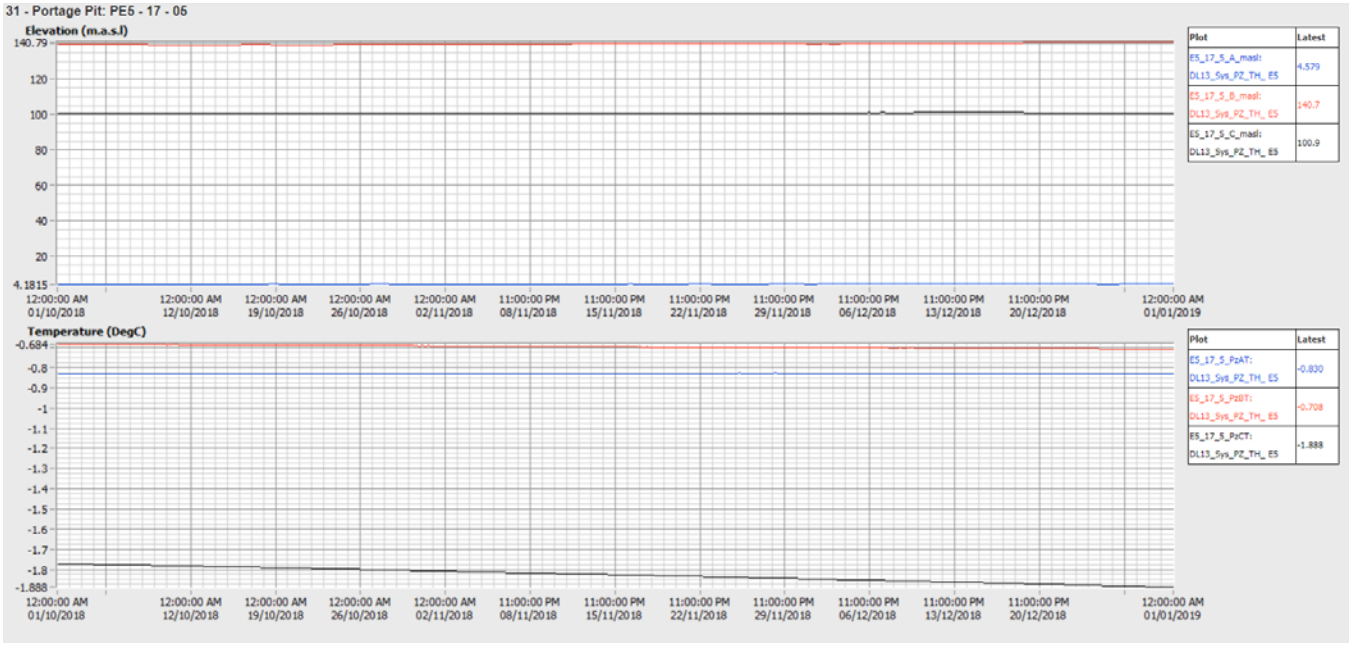
Comments:

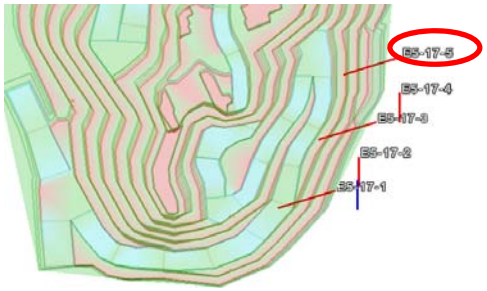
- Minor variations in pressure are related to mining activities (drilling/blasting) in Pit E5.
- Temperatures in PzA is on a constant trend, whilst temperature in PzB is showing a cooling trend.
- PzB is considered to be frozen (-0.995˚C).

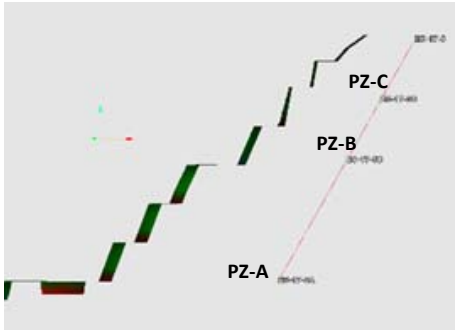
PORTAGE PIT E

PIEZOMETERS

PE5-17-05 PZ-A,B,C







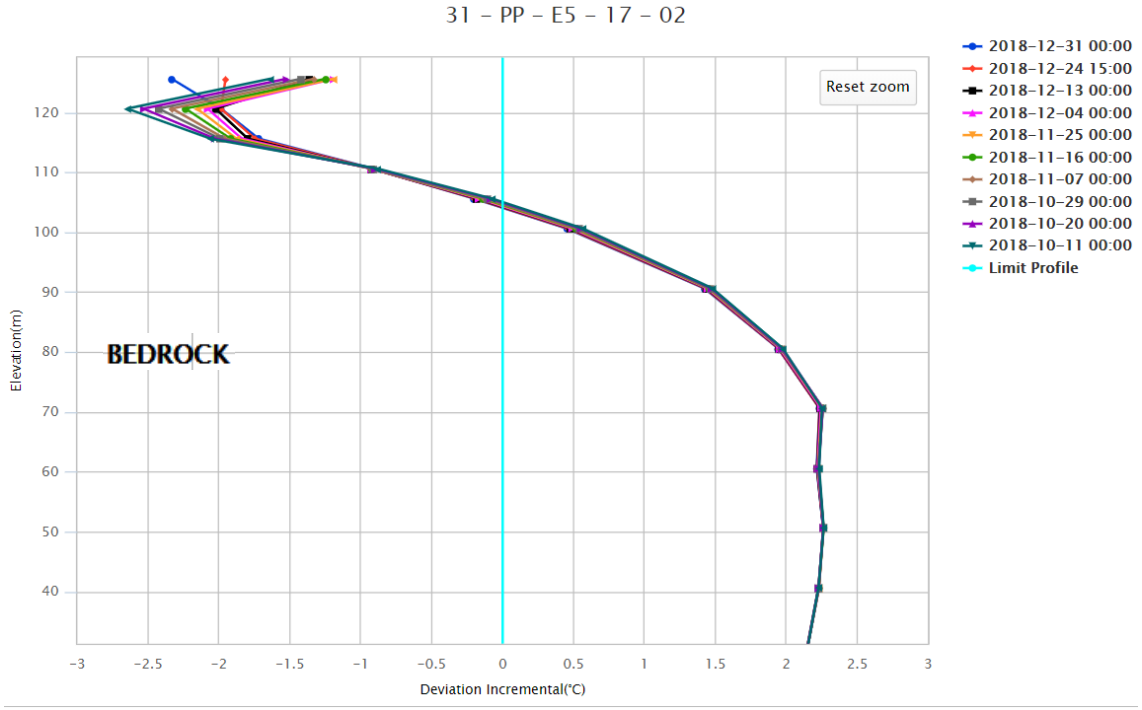
Comments:

- PZ-A,B and C are considered to be frozen. The pressure measurements are considered unreliable.

PORTAGE PIT E

THERMISTORS

PP-E5-17-02



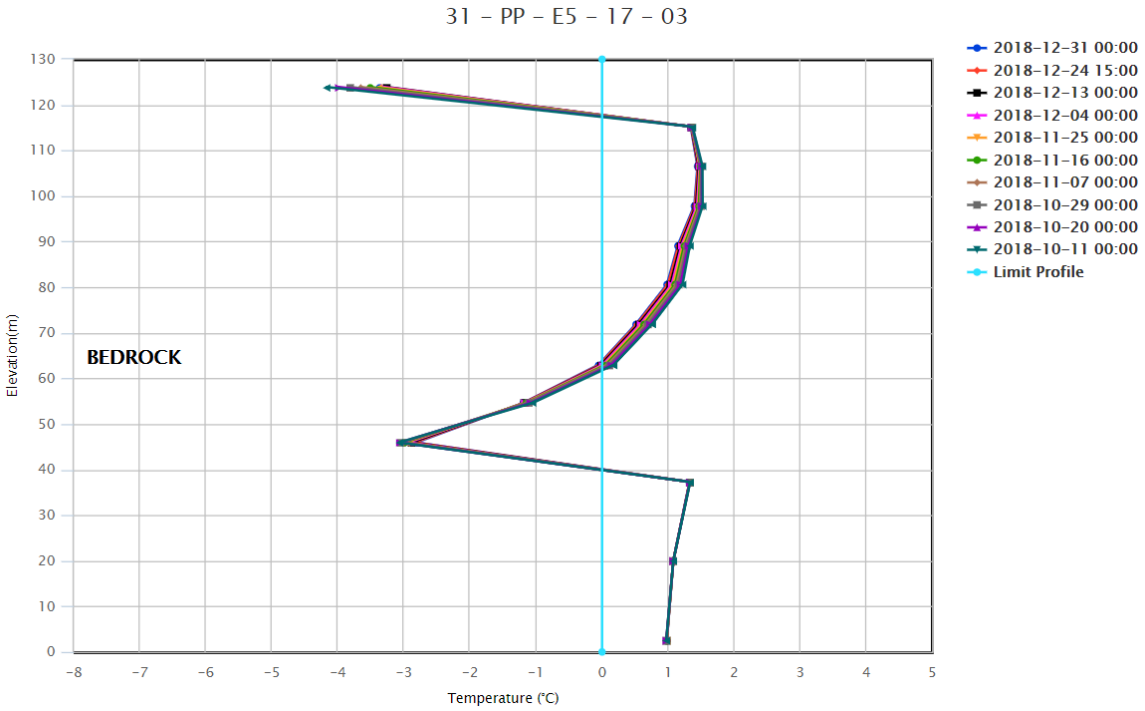
Comments:

- There is a permafrost layer from the top of the hole at elev. 125 to the elev. 105 MASL. It suggests an aggradation of the permafrost from the surface since the dewatering of the lake in 2011.
- Apart form the 2 upper beads (which are showing a slight variation in the first 5 meters), only minimal variations were recorded during the period.

PORTAGE PIT E

THERMISTORS

PP-E5-17-03



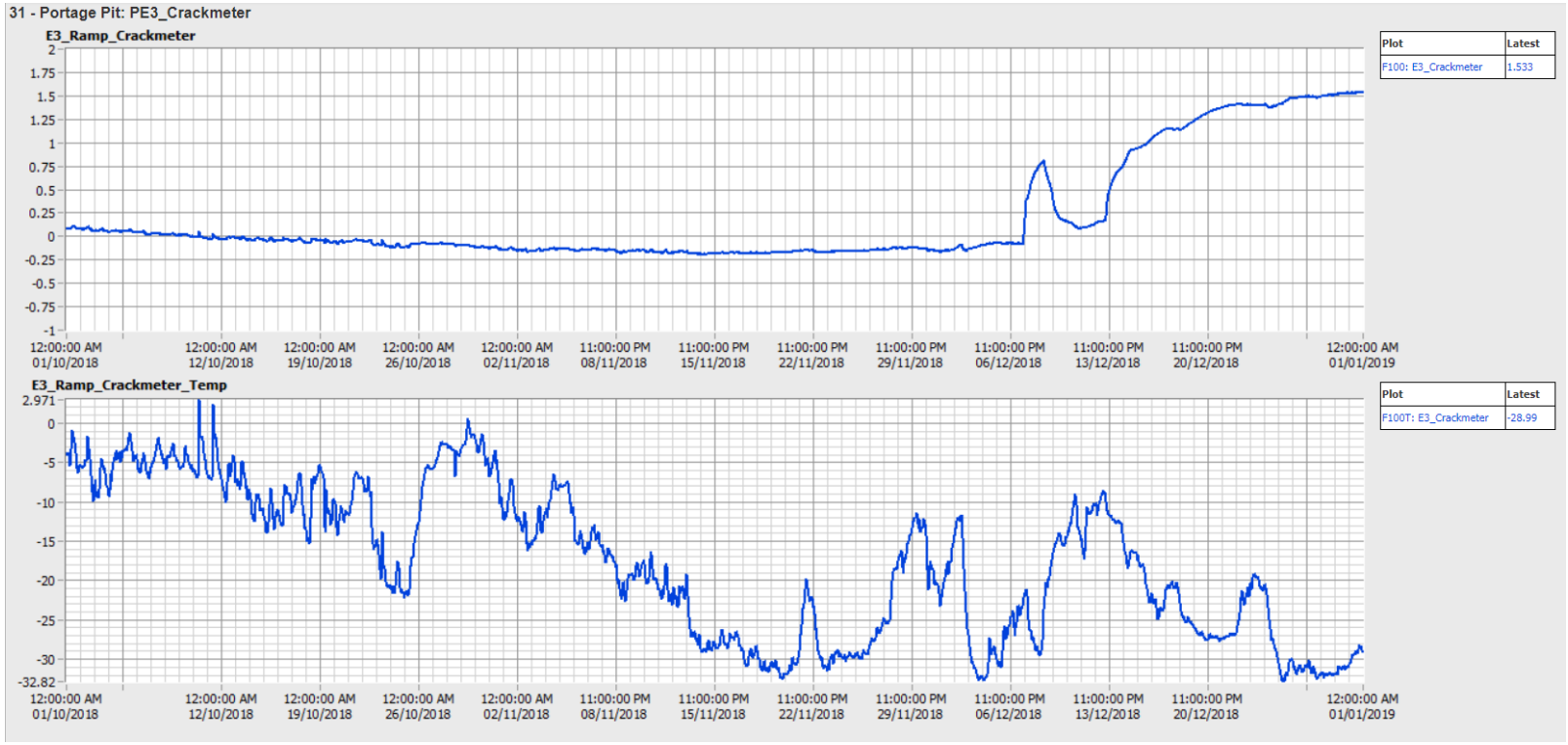
Comments:

- Only small variations of the thermistor occurred during Q4.
- There is a unexplained permafrost layer between elevation 40 and 55 m.a.s.l.

PORTAGE PIT E

CRACK METER

PE3_Crackmeter



Comments:

- Variation start appearing around December 7th. Ice formation or snow accumulation is a contributing factor in the variations of the deformation

VAULT PIT

PRISMS

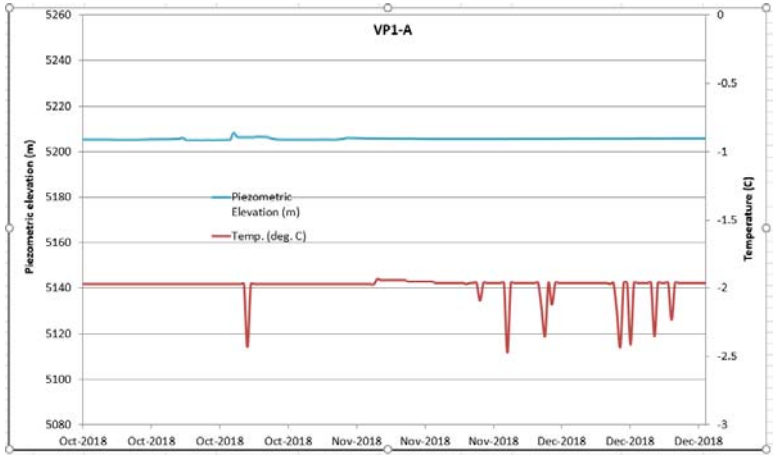
Comments:

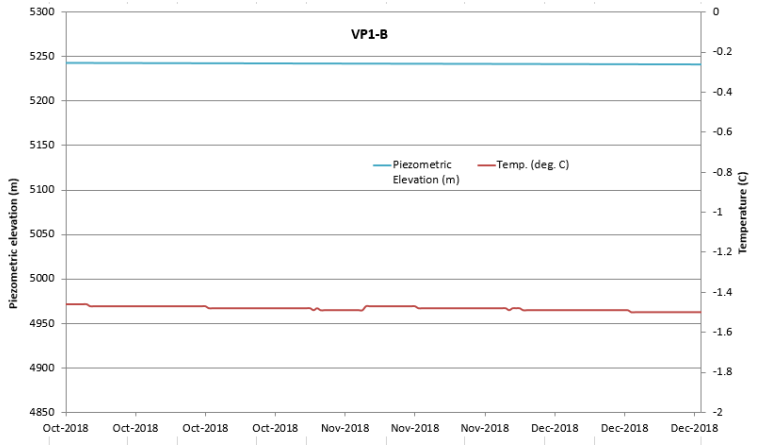
- No data taken for this period, due to the total station being sent off for repairs and frozen prisms.

VAULT PIT

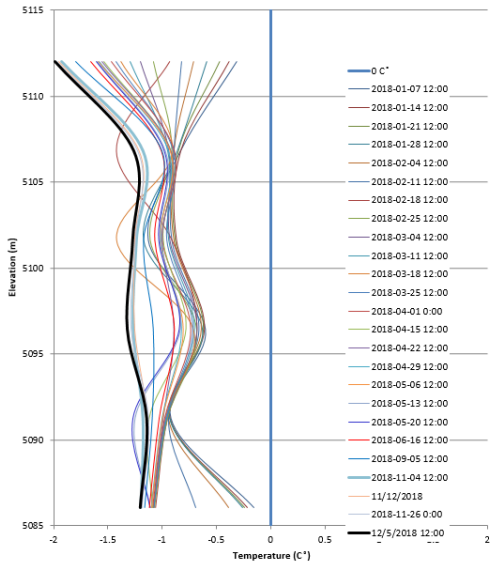
PIEZOMETERS & THERMISTORS

VP1-A, VP1-B, VP1-TH1



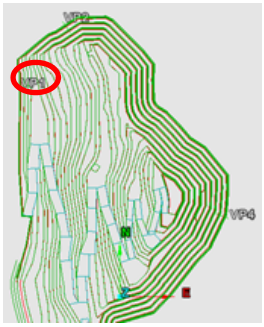


VP1-TH1 Bead temperature VS elevation 2018



Comments:

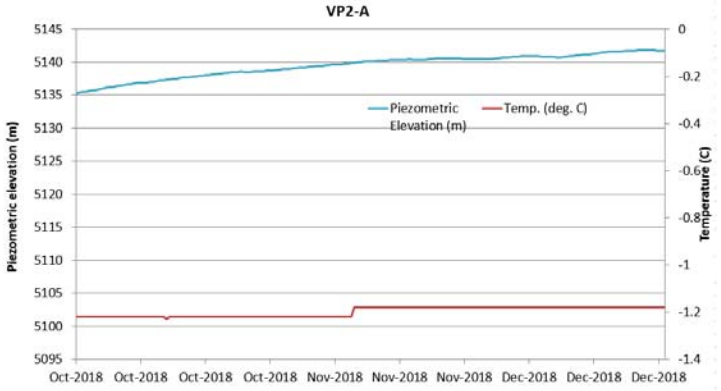
- PZ-A&B are below the freezing point. Pressure measurements are therefore considered unreliable.
- The thermistor remained frozen during Q4, 2018.

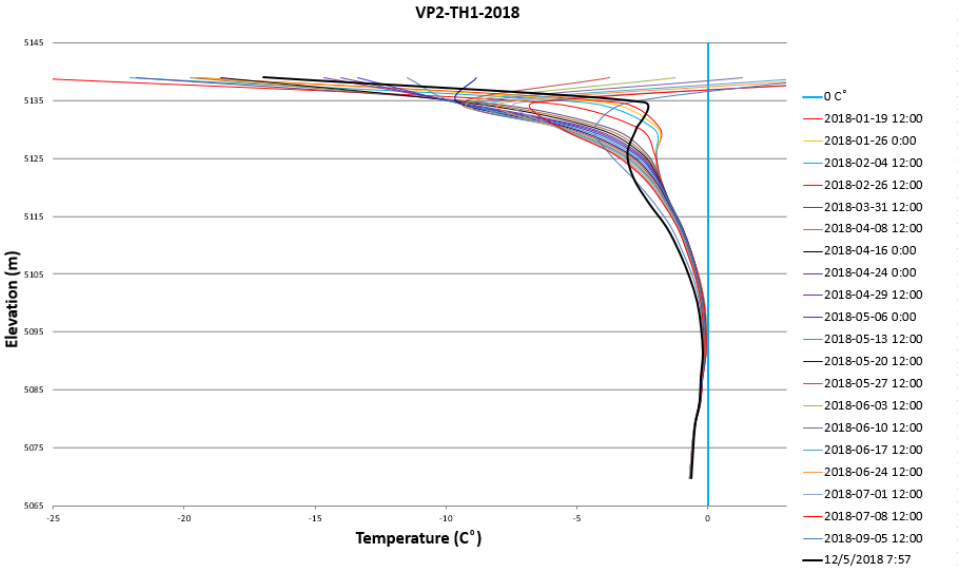


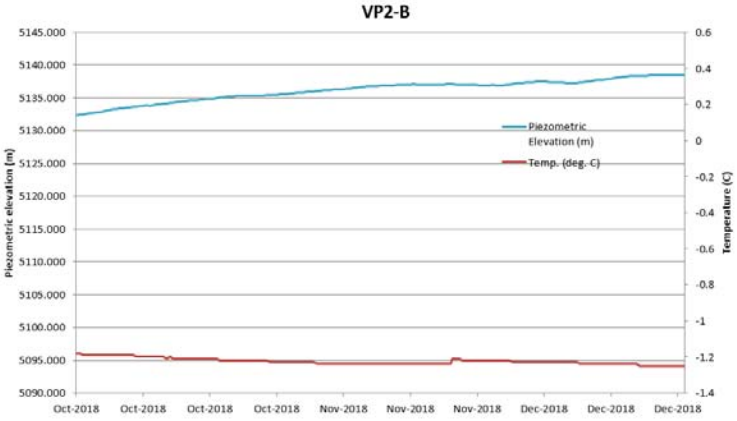
VAULT PIT

PIEZOMETERS & THERMISTORS

VP2-A, VP2-B, VP2-TH1

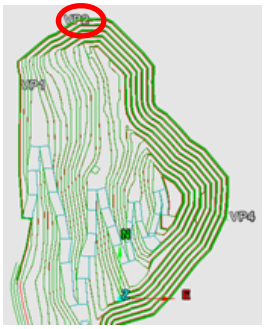






Comments:

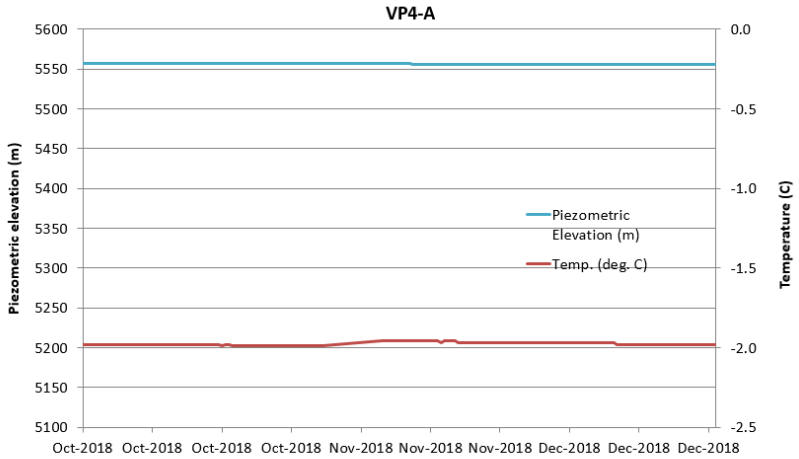
- PZ-A&B are below the freezing point since their installation and their data are considered unreliable.
- The section between 5105 and 5085 is close to the freezing but still below. Apart the top beads, minimal variations were recorded for the rest of the hole.

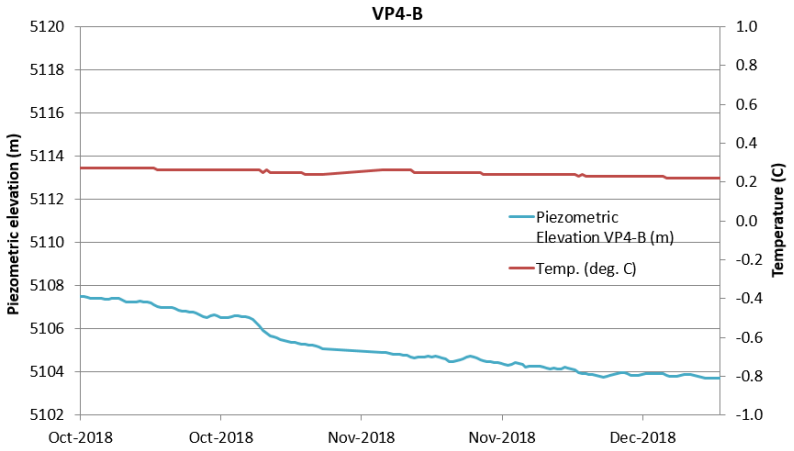


VAULT PIT

PIEZOMETERS & THERMISTORS

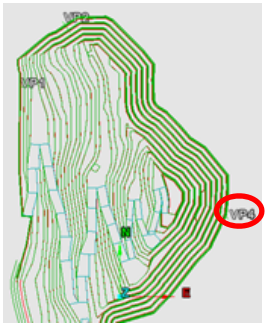
VP4-A, VP4-B





Comments:

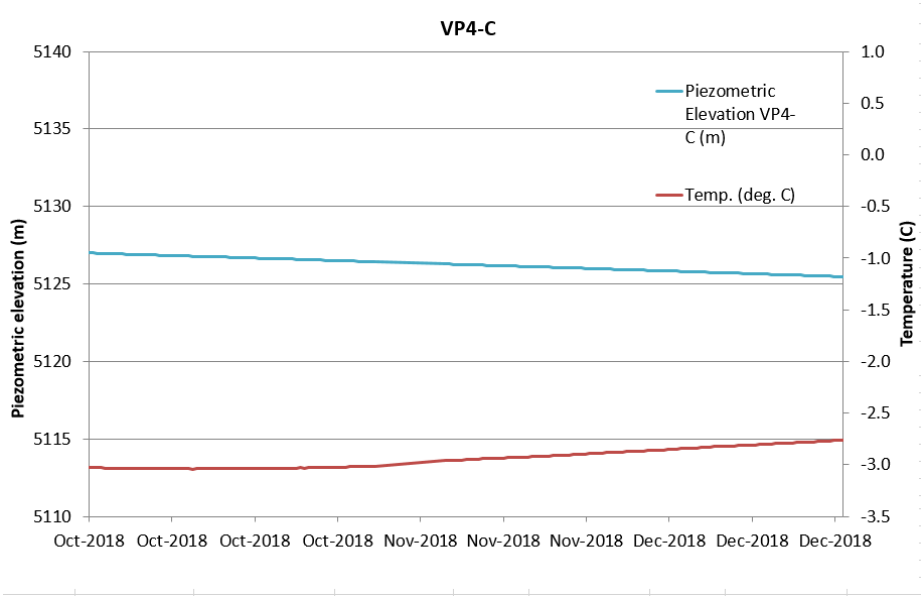
- PZ-A is under the freezing point and considered unreliable.
- PZ-B shows minor varations. The instrument is installed in the confined layer of talik between 5105 and 5095 at the source of the seepage causing the major ice wall in the area.
- The temperature of PZ-B is on a very slight downward trend suggesting a freeze back of the slope and aggradation of permafrost.

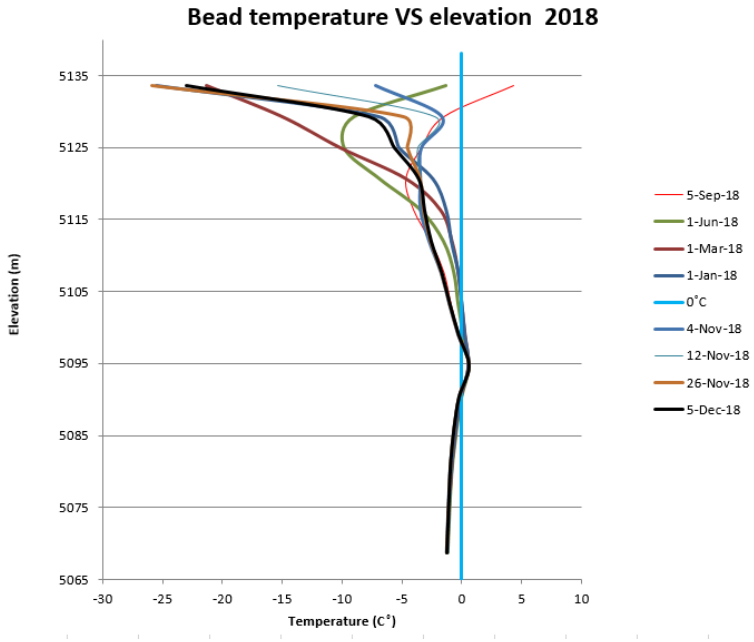


VAULT PIT

PIEZOMETERS & THERMISTORS

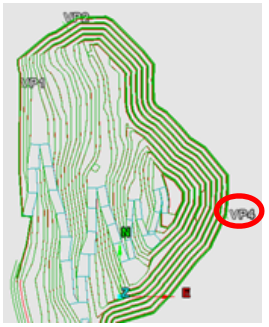
VP4-C, VP4-TH1





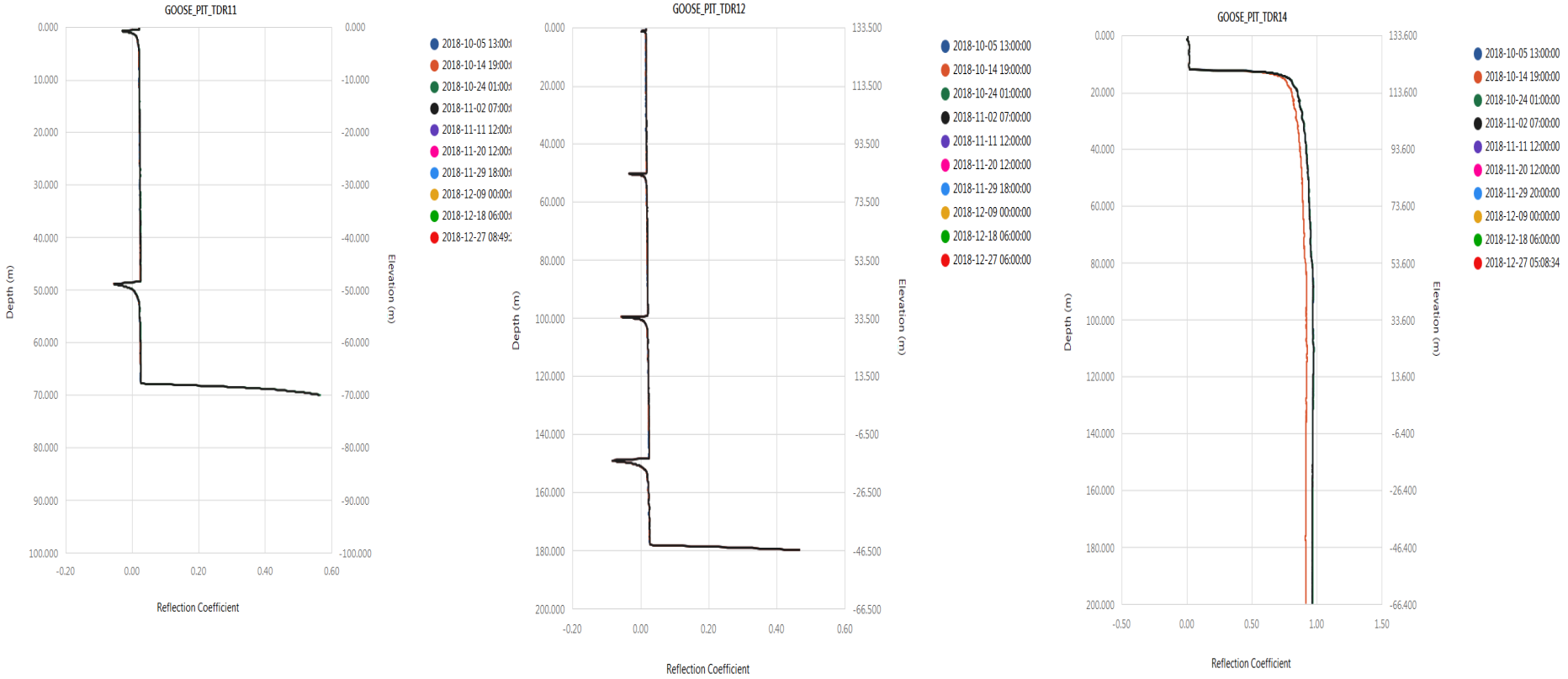
Comments:

- PZ-C is frozen and data is considered unreliable.
- The thermistor show that the hole is mainly in the permafrost at the exception of the section in between 5100 and 5095 (0.57˚C). This zone causes the seepage and therefore the ice wall.



GOOSE PIT

TDR

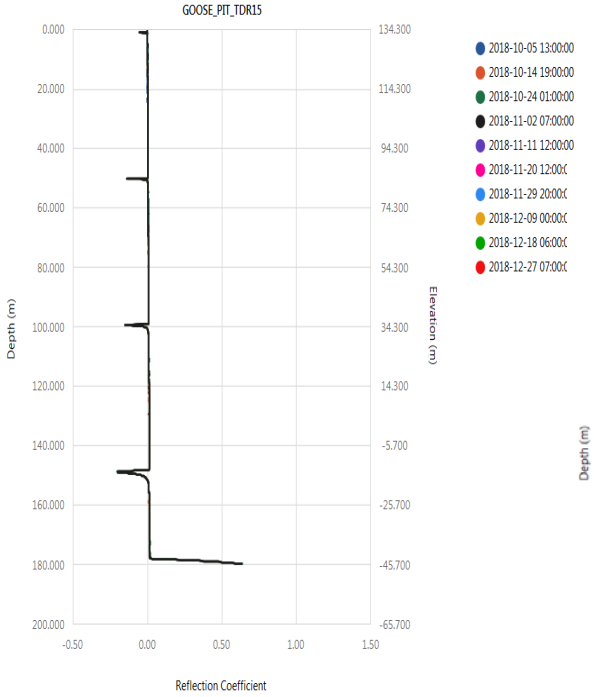


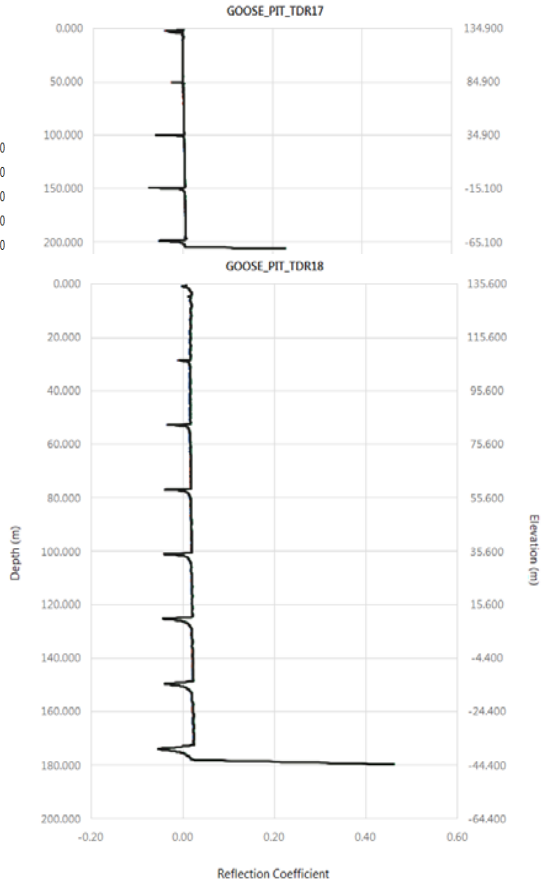
Comments:

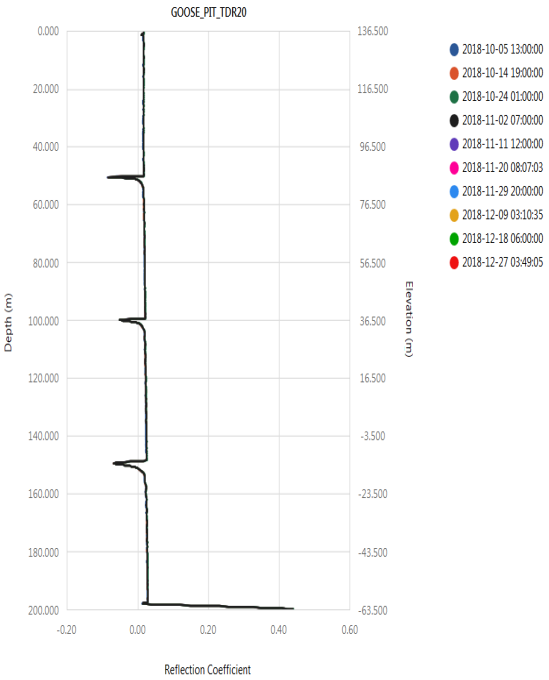
- No sign of deformation was observed in these TDRs.
- Anomalies from the TDR logger are still presents and were disregarded in the presented graphs. We are currently still trying to find a solution for this problem but it does not compromise the data integrity.
- TDR 14 was pinched at installation and therefore result might be compromise in the case of an event raising the reflection coefficient.

GOOSE PIT

TDR





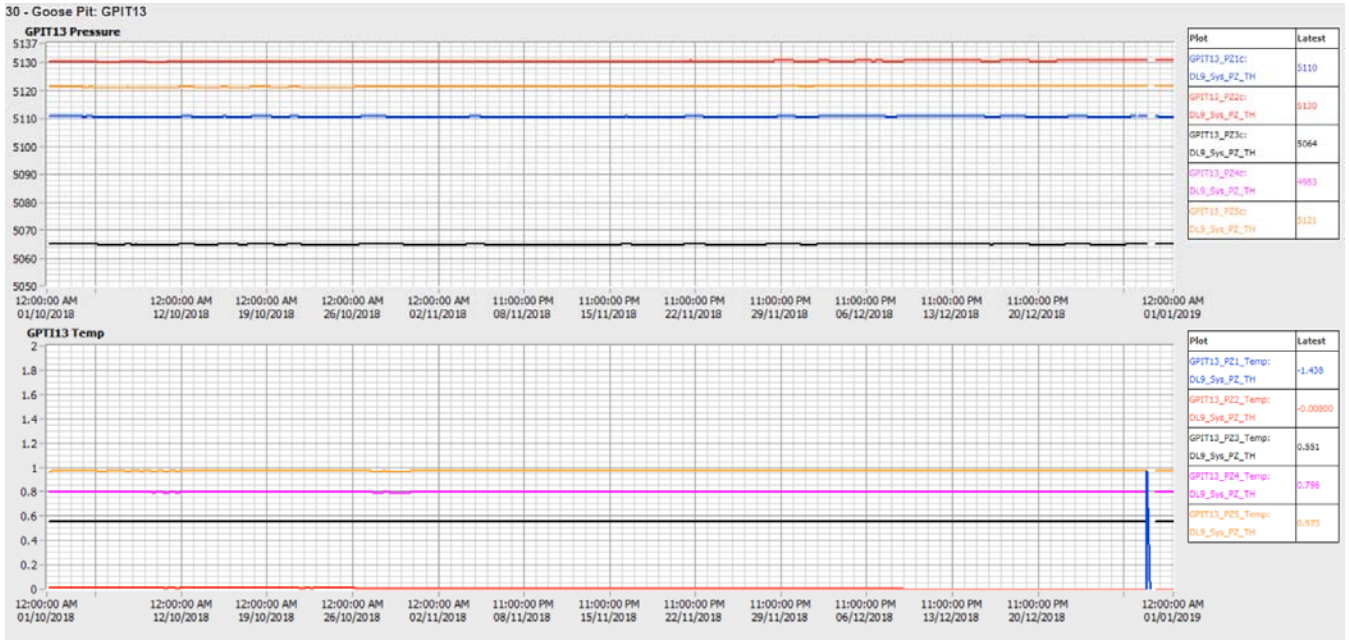


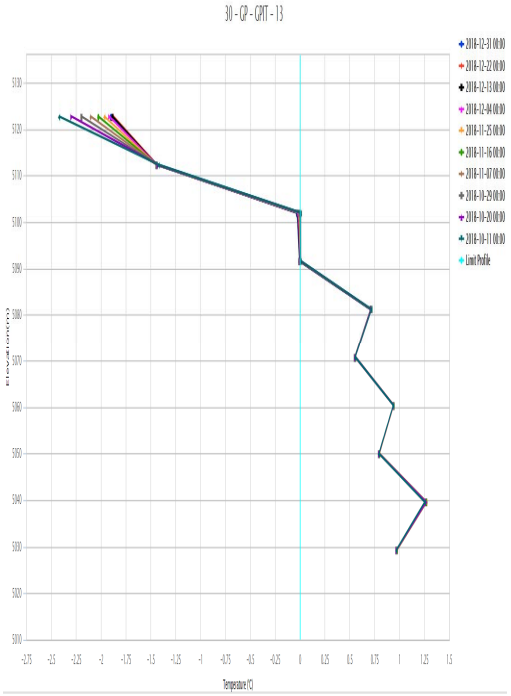
- No sign of deformation was observed in these TDRs.
- Anomalies from the TDR logger are still presents and were disregarded in the presented graphs. We are currently still trying to find a solution for this problem but it does not compromise the data integrity.

GOOSE PIT

PIEZOMETERS & THERMISTORS

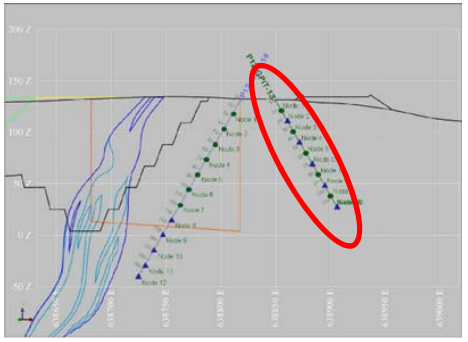
GPIT-13-PZ-1-2-3-4-5, GPIT-13-TH





Comments:

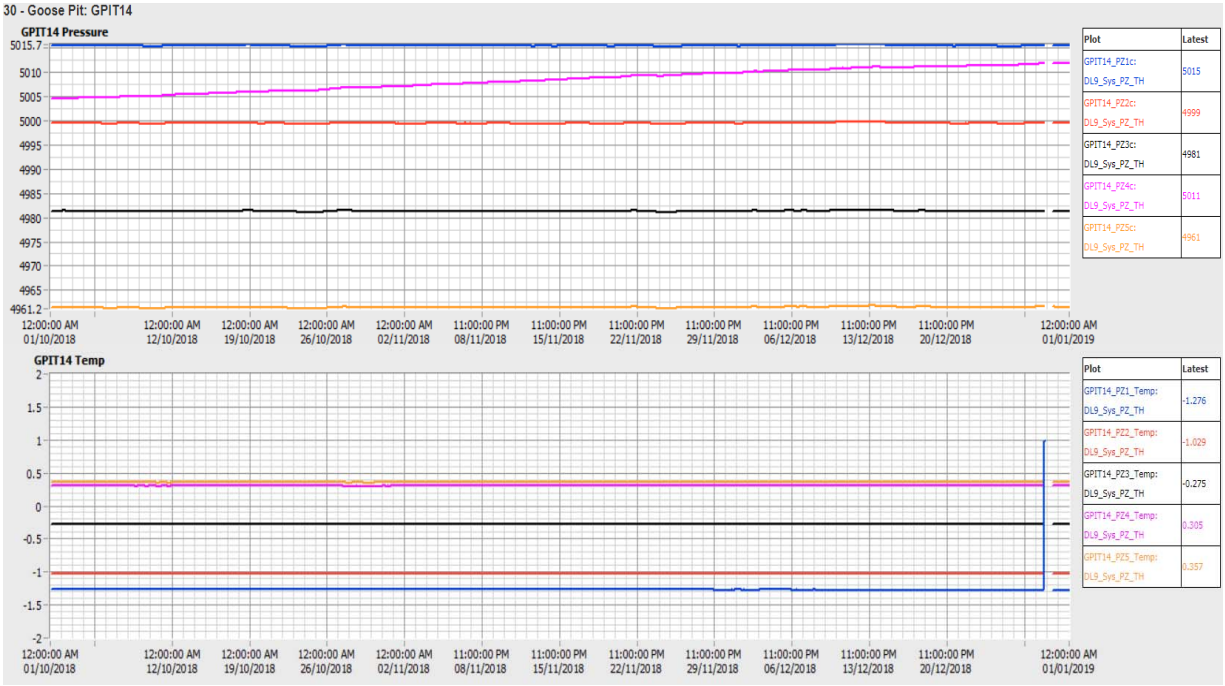
- Piezometer battery went down on December 30th and stop measurements for 24 hours.
- All piezometers presents little or no variation during the Q4, 2018. Piezometer GPIT-13-PZ1 is frozen. GPIT-13-PZ2 is just below 0 °C.
- The beads of thermistor GPIT-13 are stable. The first bead temperature change is consistent with the warming trend during at this time of year. This is consistent with the previous years and with the thermal dynamics of the area.

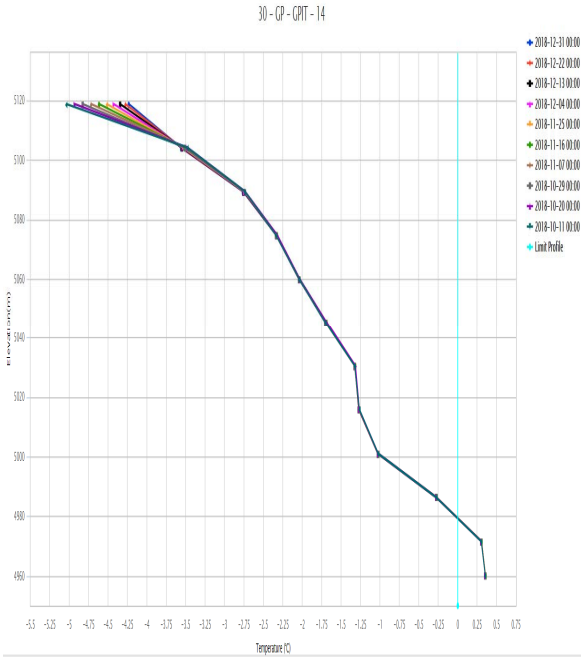


GOOSE PIT

PIEZOMETERS & THERMISTORS

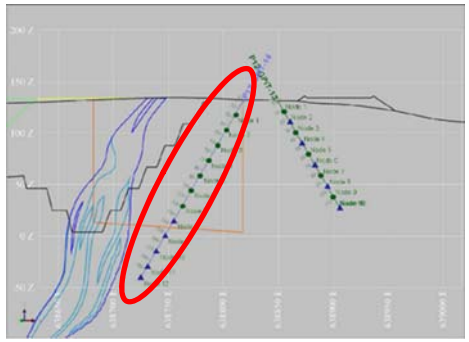
GPIT-14-PZ-1-2-3-4-5, GPIT-14-TH





Comments:

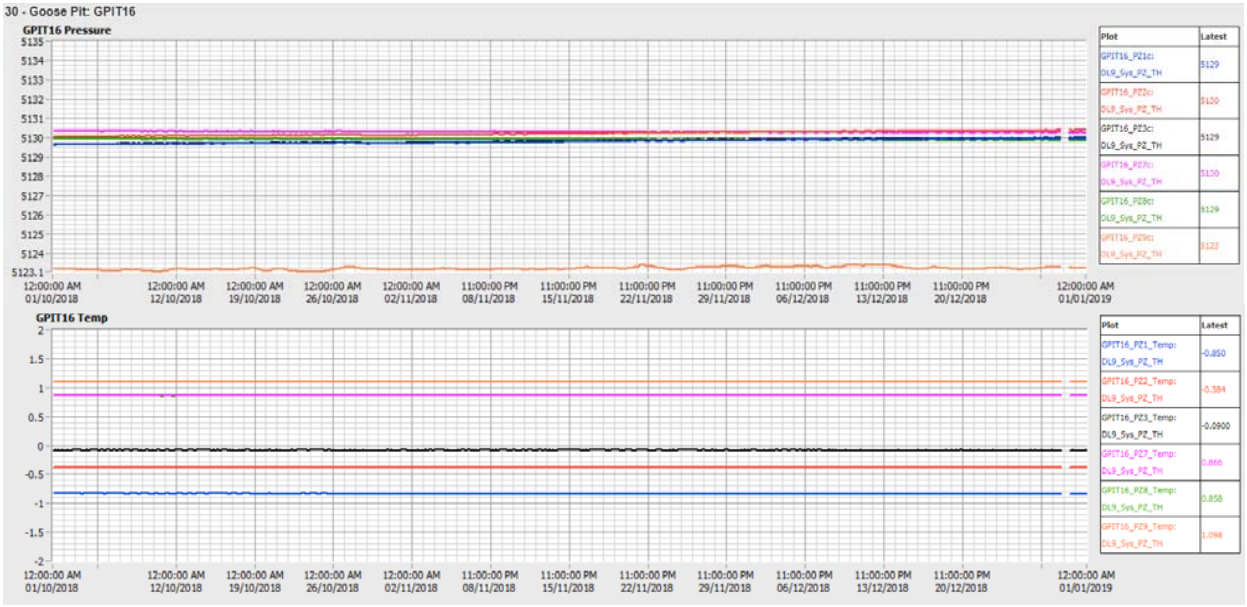
- Piezometer battery went down on December 30th and stop measurements for 24 hours.
- Pz4 is on a slow rising trend. It rose 4 m of pore water pressure during the fourth quarter and that could be related to the water level within the Goose pit that is raising (natural flooding).
- PZ-1,2,3 are below the freezing point.
- TH-GPIT-14 is in the permafrost from top at elevation 5120 to 4980. The last 20m of the hole is above the freezing line. The first bead temperature change is consistent with the warming trend during at this time of year. This is consistent with the previous years and with the thermal dynamics of the area.

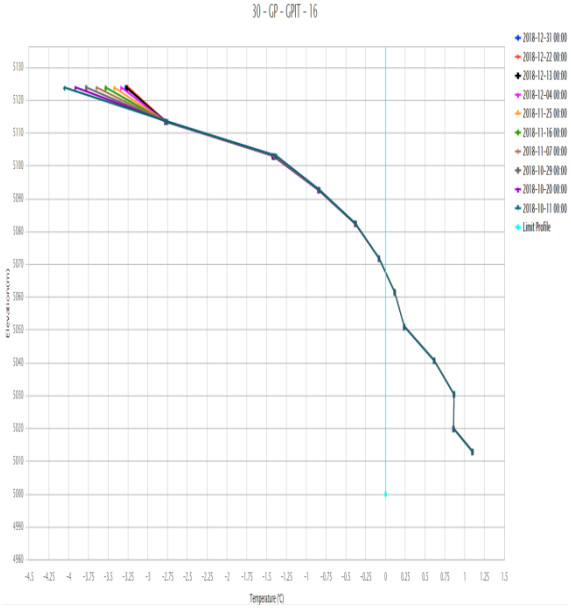


GOOSE PIT

PIEZOMETERS & THERMISTORS

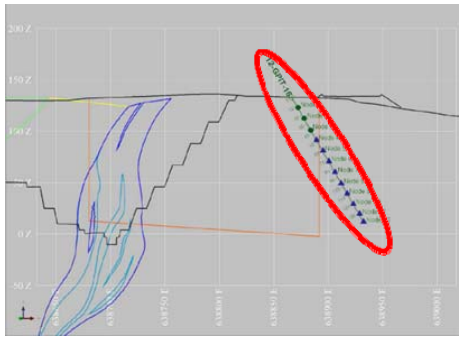
GPIT-16-PZ-1-2-3-7-8-9, GPIT-16-TH





Comments:

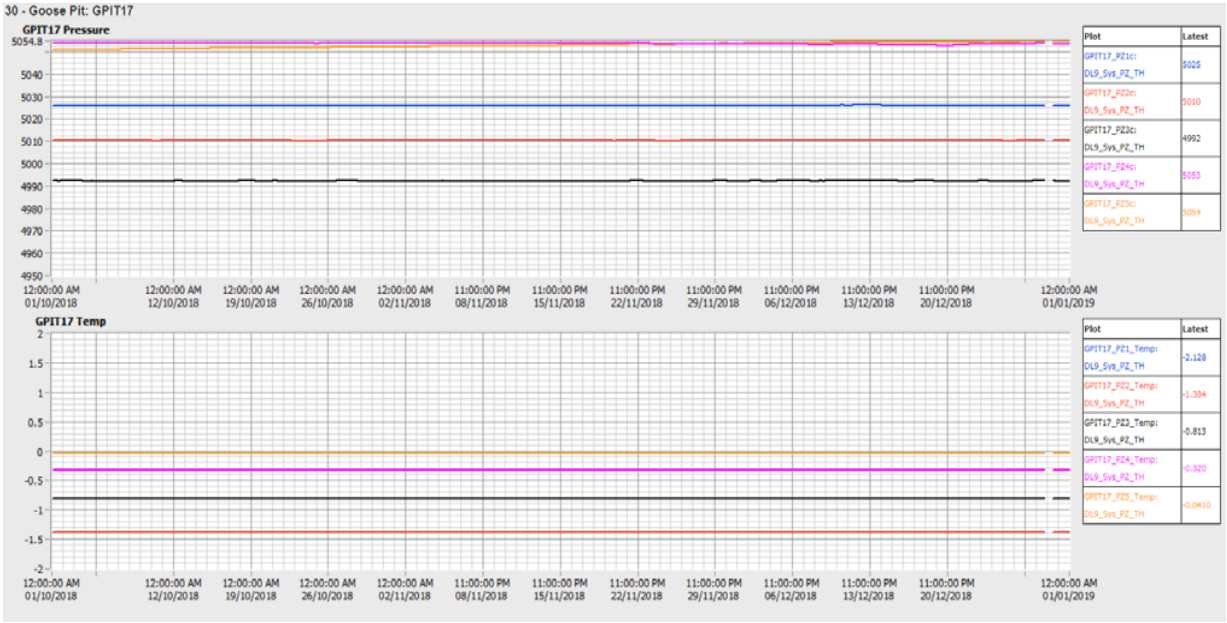
- Piezometer battery went down on December 30th and stop measurements for 24 hours.
- PZ-1,2,3 are below the freezing point and can't be considered reliable.
- TH-GPIT-16 is in the permafrost from top at elevation 5124 to 5068. The first bead temperature change is consistent with the warming trend during at this time of year. This is consistent with the previous years and with the thermal dynamics of the area.

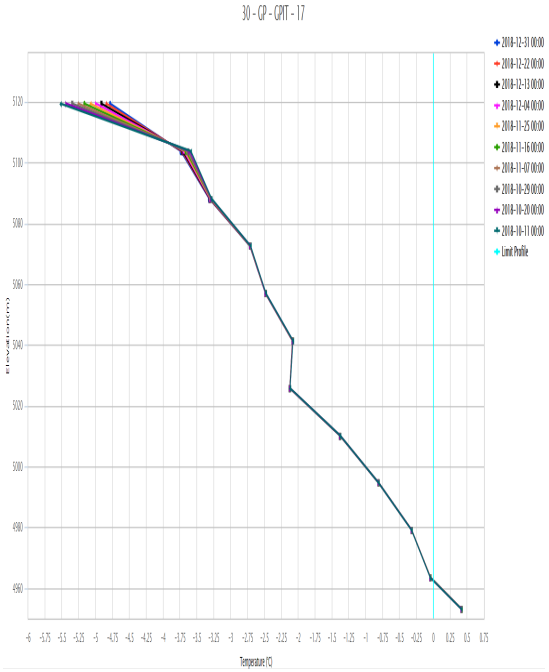


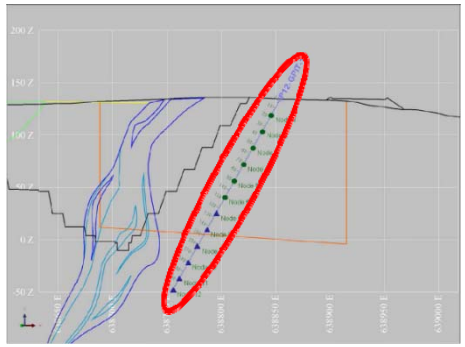
GOOSE PIT

PIEZOMETERS & THERMISTORS

GPIT-17-PZ-1-2-3-4-5, GPIT-17-TH







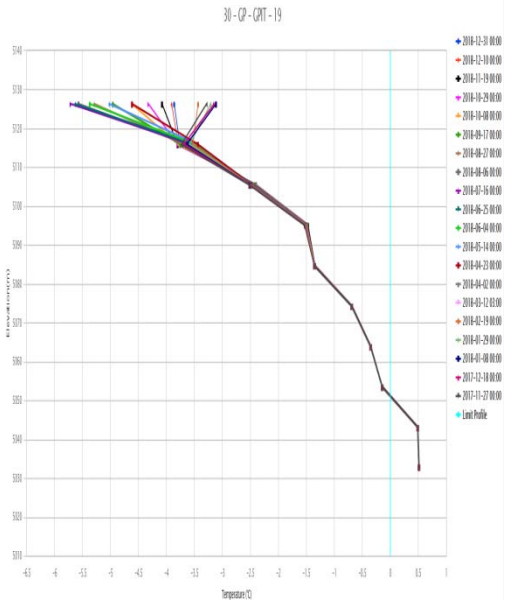
Comments:

- Piezometer battery went down on December 30th and stop measurements for 24 hours.
- PZ-1,2,3,4&5 are below the freezing point and can't be considered reliable.
- TH-GPIT-17 is in the permafrost from top at elevation 5119 to 4962. The first bead temperature change is consistent with the warming trend during at this time of year. This is consistent with the previous years and with the thermal dynamics of the area.

GOOSE PIT

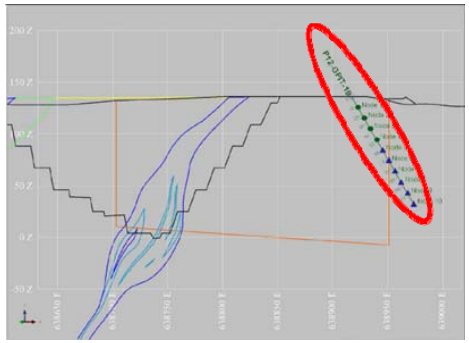
PIEZOMETERS & THERMISTORS

GPIT-19-PZ-1-2-3-4-5, GPIT-19-TH



Comments:

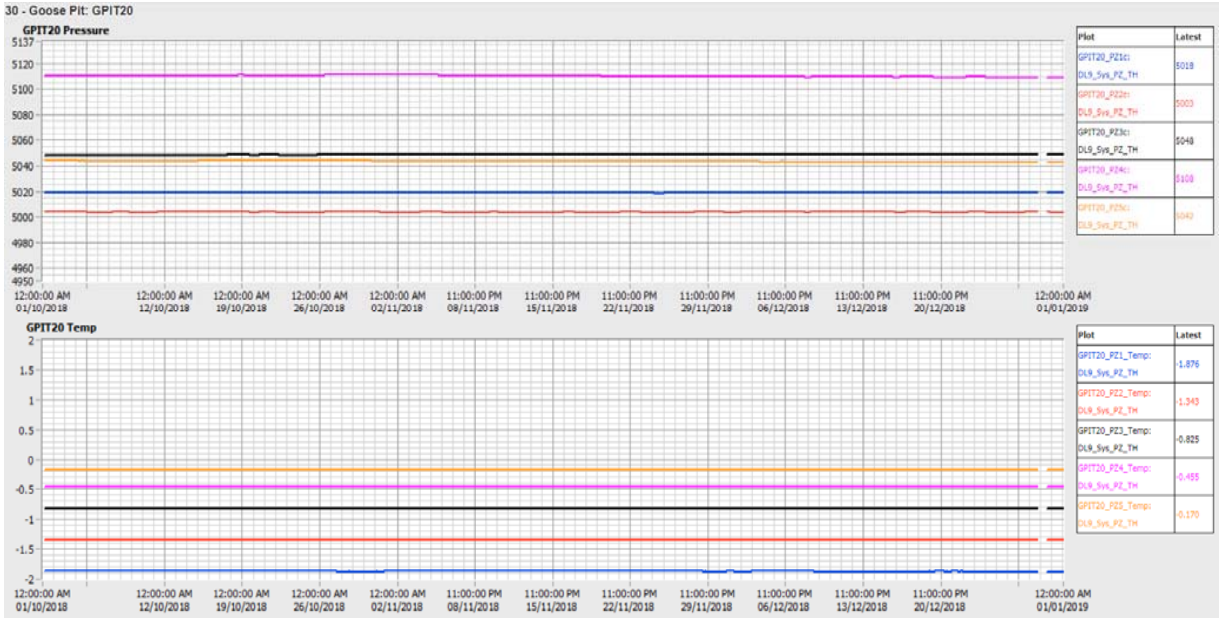
- Piezometer battery went down on December 30th and stop measurements for 24 hours.
- PZ-5 is above the freezing line and it shows little or no pore water pressure variations during the Q4, 2018.
- PZ-1,2,3,4 are below the freezing point and can't be considered reliable.
- TH-GPIT-19 is in the permafrost from top at elevation 5126 to 5051. The first bead temperature change is consistent with the warming trend during at this time of year. This is consistent with the previous years and with the thermal dynamics of the area.

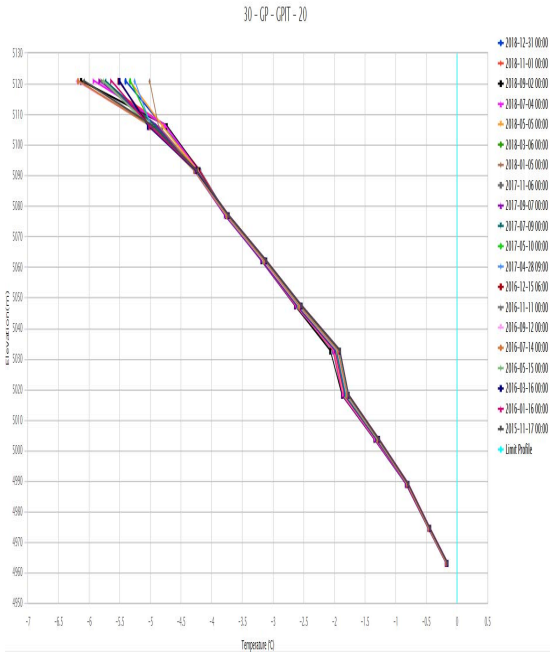


GOOSE PIT

PIEZOMETERS & THERMISTORS

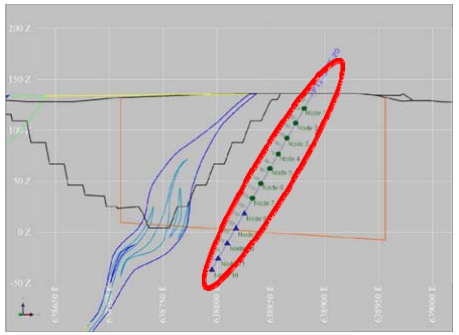
GPIT-20-PZ-1-2-3-4-5, GPIT-20-TH





Comments:

- Piezometer battery went down on December 30th and stop measurements for 24 hours.
- PZ-1,2,3,4,5 are below the freezing point and can't be considered reliable.
- TH-GPIT-20 is in the permafrost on its entire length from is top at elevation 5121 to the bottom at 4963. The first bead temperature change is consistent with the warming trend during at this time of year. This is consistent with the previous years and with the thermal dynamics of the area.



PERIOD: Q1 – JANUARY 1ST TO MARCH 31ST, 2019

Open Pits - Quarterly Report
Instrumentation Monitoring and Field Observation Summary
Agnico Eagle Mines Limited
Meadowbank Project

Written: Thomas Dahm\Arnaud Fortier-Morissette
Reviewed: Alexandre Lavallee

Period: Q1– January 1st to March 31th, 2019

TABLE OF CONTENTS

INTRODUCTION

This quarterly report present and provide interpretation on all instrumentation data associated to ground control of active and inactive open pits at Meadowbank. Key observations made during the previous biweekly pit wall inspections are also integrated in the data analyses.

The frequencies of the inspection and instrumentation data acquisition/review is provided in the latest Ground Control Management Plan (GCMP).

MEADOWBANK OPEN PITS

Open pits from the Meadowbank mine are presented in the map below. The mine consists of four (4) active and four (4) inactive open pits as presented below.

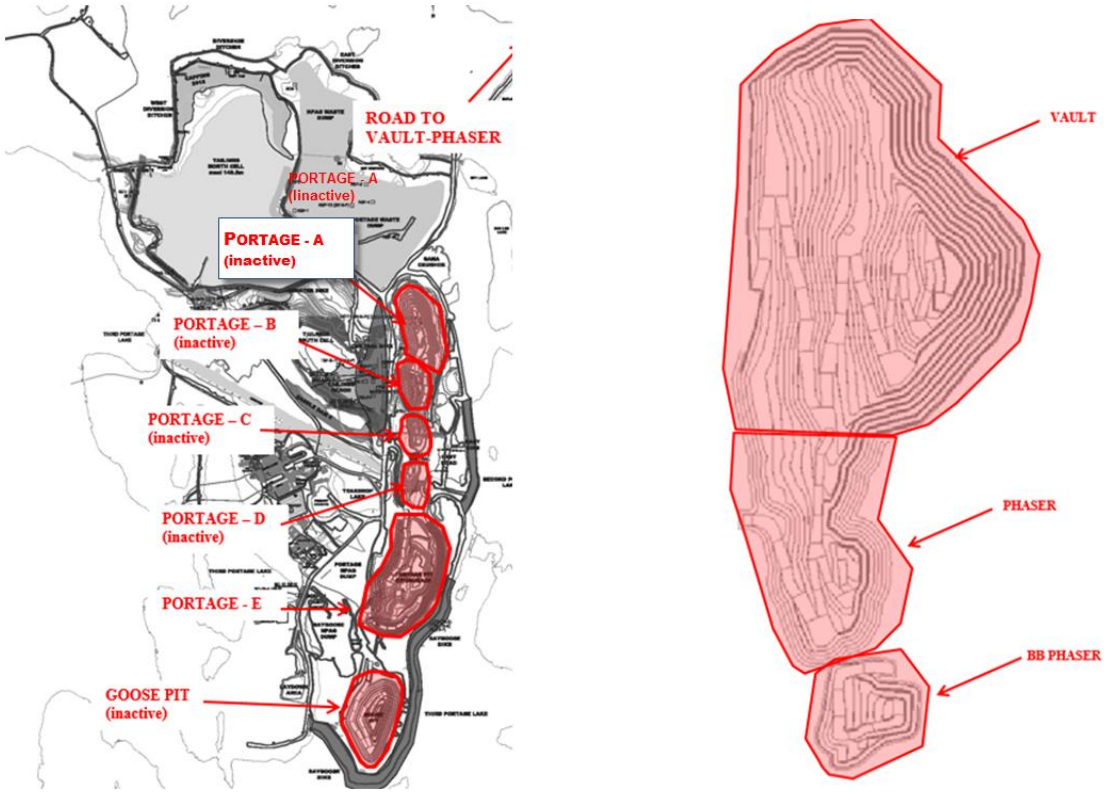


Figure 1 : Meadowbank open pits location

INSTRUMENTATION AND INSPECTION HIGHLIGHTS

ACTIVE OPEN PITS

Portage Pit E

- The radar was in regular scheduled MTM maintenance during February 18th to February 20th. During the Q1 2019 there was no significant movement recorded on the radar. There were some false alarms that were triggered during snow events. There was a plan in place to move the radar to have better coverage as the Pit goes deeper. This is planned for Q2 2019.
- On January 12th, there was full movement of the data, which can indicate settling or something on the radar itself moving. There were also two other anomaly events in March.
- No rock fall events were reported during the period of Q1 2019.
- During Q1 2019, all blast vibrations, the PVS was lower than 10 mm/s. No actions required.
- A crack meter installed on the Pit E3 South Ramp wall showed minor movements (app. 1.5 mm) in the Q1 2019. Ice or snow accumulation is believed to cause this movement. During visual inspection there was snow covered the instrument and the minor movement is contributed to the snow and freezing of the rock that the instrument is installed in.
- No movement recorded on all of the TDRs.
- The results of the IPI were checked, and data is back to normal range of readings.
- Piezometers within the setback distance from the dike are showing normal response to mining activities (PE3-14, PE5-17-01, and PE5-17-02), gradual increase and decrease in pressure are displayed and consistent throughout the year.

Vault Pit

- The ice on the wall in Vault is currently attached to the wall with no free standing pillars. The mining sequence was completed in the Q1 period and no further inspections were done.
- There was no prism monitoring during Q1 2019.
- Thermistor in VP4 hole suggests a layer of talik at 5095. This layer is considered the cause of the ice wall. The thermistor is on cooling trend above elevation 5115.

Phaser Pit

- No instrumentation installed in this pit at the moment. Currently operations are building a rock fill road across the pit for short hauling on the Amaruq road.

BB PhaserPit

- No instrumentation installed in this pit at the moment. Multiple benches have been overmucked in the pit.

INACTIVE OPEN PITS

Goose Pit

- No movement recorded on the TDRs.
- No anomaly detected in the piezometers and thermistors.

Portage Pits B, C, D

- These pits are now almost fully back filled with waste rock.
- There were some cracks forming on near the edge of the waste dump pile in Pit B. There has been a total movement 0.2m during the Q1 period with a maximum daily movement of .010m/day recorded. This is within the normal movement range with no actions required.

Portage Pit A

- No instrumentation installed in this pit at the moment.
- The mining was completed around mid-March 2018.

INSTRUMENTATION LIST AND LOCATION

PORTAGE PIT A

No instrument installed in this pit.

PORTAGE PIT E

Radar

Table 1: Radar location and status

Unit	Radar location	Monitoring	Status	Reliability
			Operational (✓)/Not operational (✗)	Operational Days
GP SSR253XT	West wall (crest) of Pit E	Southern and eastern portion of pit E	✓	90/92

- The Radar was off line a total of 2 days during the Q1, 2019. Two consecutive days for MTM maintenance.

Figure 2: Radar location and coverage

Downhole instruments

Table 2: List of downhole instruments

Hole	Instrument ID	Type	Status	Readings
			Operational (✓)/Not operational (×)	Manual/ Automatic
PE3-14	PE3-P14A	Piezo	✓ (close to 0)	Automatic
	PE3-P14B	Piezo	✓	Automatic
PE5-17-01	PE5-17-01-A	Piezo	✓	Automatic
	PE5-17-01-B	Piezo	✓	Automatic
	PE5-17-01-C	Piezo	× (frozen)	Automatic
	PE5-17-01-TH	Thermistor	✓	Automatic
	PE5-TDR1	TDR	✓	Automatic
PE5-17-02	PE5-17-02-A	Piezo	✓	Automatic
	PE5-17-02-B	Piezo	✓	Automatic
	PE5-TDR2	TDR	✓	Automatic
PE5-17-03	PE5-17-03-A	Piezo	✓	Automatic
	PE5-17-03-B	Piezo	✓	Automatic
	PE5-17-03-C	Piezo	× (frozen)	Automatic
	PE5-17-03-TH	Thermistor	✓	Automatic
	PE5-TDR3	TDR	✓	Automatic
PE5-17-04	PE5-17-04-A	Piezo	✓	Automatic
	PE5-17-04-B	Piezo	× (frozen)	Automatic
	PE5-TDR4	TDR	✓	Automatic
PE5-17-05	PE5-17-05-A	Piezo	× (frozen)	Automatic
	PE5-17-05-B	Piezo	× (frozen)	Automatic
	PE5-17-05-C	Piezo	× (frozen)	Automatic
	PE5-TDR5	TDR	✓	Automatic
PE5-17-06	PE5-IPI	In-Place Inclinometer	✓	Automatic

Figure 3: Pit E instrumented hole location

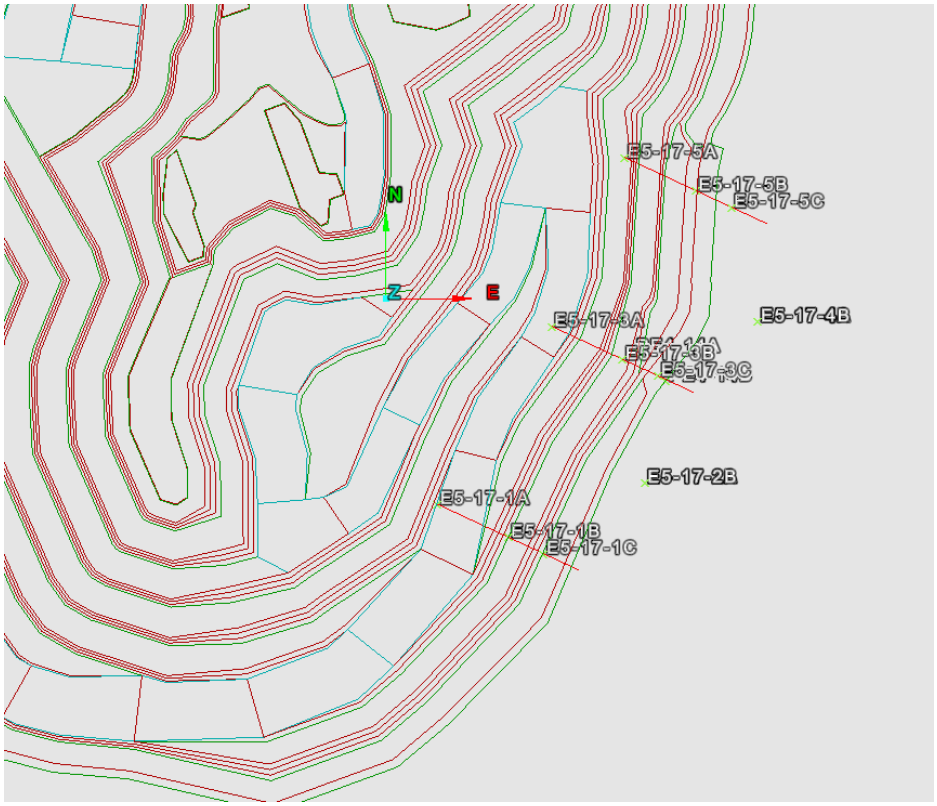


Figure 4: Pit E piezometers location

VAULT PIT

Downhole instruments

Table 3: List of downhole instruments

Hole	Instrument ID	Type	Status	Readings
			Operational (✓)/Not operational (×)	Manual/ Automatic
VP1	VP1-A	Piezo	× (frozen)	Semi – Manual
	VP1-B	Piezo	× (frozen)	Semi – Manual
	VP1-TH1	Thermistor	✓	Semi – Manual
VP2	VP2-A	Piezo	× (frozen)	Semi – Manual
	VP2-B	Piezo	× (frozen)	Semi – Manual
	VP2-TH1	Thermistor	✓	Semi – Manual
VP4	VP4-A	Piezo	× (frozen)	Semi – Manual
	VP4-B	Piezo	✓	Semi – Manual
	VP4-C	Piezo	✓	Semi – Manual
	VP4-TH1	Thermistor	✓	Semi – Manual

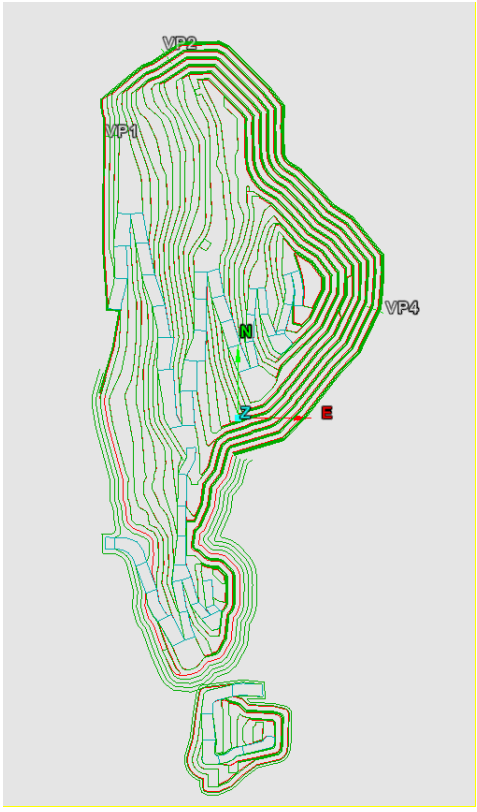


Figure 5: Vault instrumentation location

Prims monitoring

- No data taken for this period

PHASER PIT

No permanent instrument installed in this pit.

GOOSE PIT

Downhole instruments

PZ GPIT, no data means not operational?

Hole	Instrument ID	Type	Status	Readings
			Operational (✓)/Not operational (×)	Manual/ Automatic
GPIT-11	GPIT-TDR11	TDR	✓	Automatic
GPIT-12	GPIT-TDR12	TDR	✓	Automatic
GPIT-13	GPIT13-PZ1	Piezo	× (frozen)	Automatic
	GPIT13-PZ2	Piezo	✓	Automatic
	GPIT13-PZ3	Piezo	✓	Automatic
	GPIT13-PZ4	Piezo	✓	Automatic
	GPIT13-PZ5	Piezo	✓	Automatic
	GPIT-TH13	Thermistor	✓	Automatic
GPIT-14	GPIT14-PZ1	Piezo	× (frozen)	Automatic
	GPIT14-PZ2	Piezo	× (frozen)	Automatic
	GPIT14-PZ3	Piezo	× (frozen)	Automatic
	GPIT14-PZ4	Piezo	✓	Automatic
	GPIT14-PZ5	Piezo	✓	Automatic
	GPIT-TH14	Thermistor	✓	Automatic
	GPIT-TDR14	TDR	✓	Automatic
GPIT-15	GPIT-TDR15	TDR	✓	Automatic
GPIT-16	GPIT16-PZ1	Piezo	× (frozen)	Automatic
	GPIT16-PZ2	Piezo	× (frozen)	Automatic
	GPIT16-PZ3	Piezo	× (frozen)	Automatic
	GPIT16-PZ4	Piezo	✓	Automatic
	GPIT16-PZ5	Piezo	✓	Automatic
	GPIT16-PZ6	Piezo	✓	Automatic
	GPIT16-PZ7	Piezo	✓	Automatic
	GPIT16-PZ8	Piezo	✓	Automatic
	GPIT16-PZ9	Piezo	✓	Automatic
	GPIT-TH16	Thermistor	✓	Automatic
GPIT-17	GPIT17-PZ1	Piezo	× (frozen)	Automatic
	GPIT17-PZ2	Piezo	× (frozen)	Automatic
	GPIT17-PZ3	Piezo	× (frozen)	Automatic
	GPIT17-PZ4	Piezo	× (frozen)	Automatic
	GPIT17-PZ5	Piezo	× (frozen)	Automatic
	GPIT17-PZ6	Piezo	✓	Automatic
	GPIT-TH17	Thermistor	✓	Automatic
	GPIT-TDR17	TDR	✓	Automatic
GPIT-18	GPIT-TDR18	TDR	✓	Automatic
GPIT-19	GPIT19-PZ1	Piezo	× (frozen)	Automatic
	GPIT19-PZ2	Piezo	× (frozen)	Automatic
	GPIT19-PZ3	Piezo	× (frozen)	Automatic
	GPIT19-PZ4	Piezo	× (frozen)	Automatic
	GPIT19-PZ5	Piezo	✓	Automatic
	GPIT19-PZ6	Piezo	✓	Automatic
	GPIT-TH19	Thermistor	✓	Automatic
GPIT-20	GPIT20-PZ1	Piezo	× (frozen)	Automatic

	GPIT20-PZ2	Piezo	× (frozen)	Automatic
	GPIT20-PZ3	Piezo	× (frozen)	Automatic
	GPIT20-PZ4	Piezo	× (frozen)	Automatic
	GPIT20-PZ5	Piezo	× (frozen)	Automatic
	GPIT-TH20	Thermistor	✓	Automatic
	GPIT-TDR20	TDR	✓	Automatic

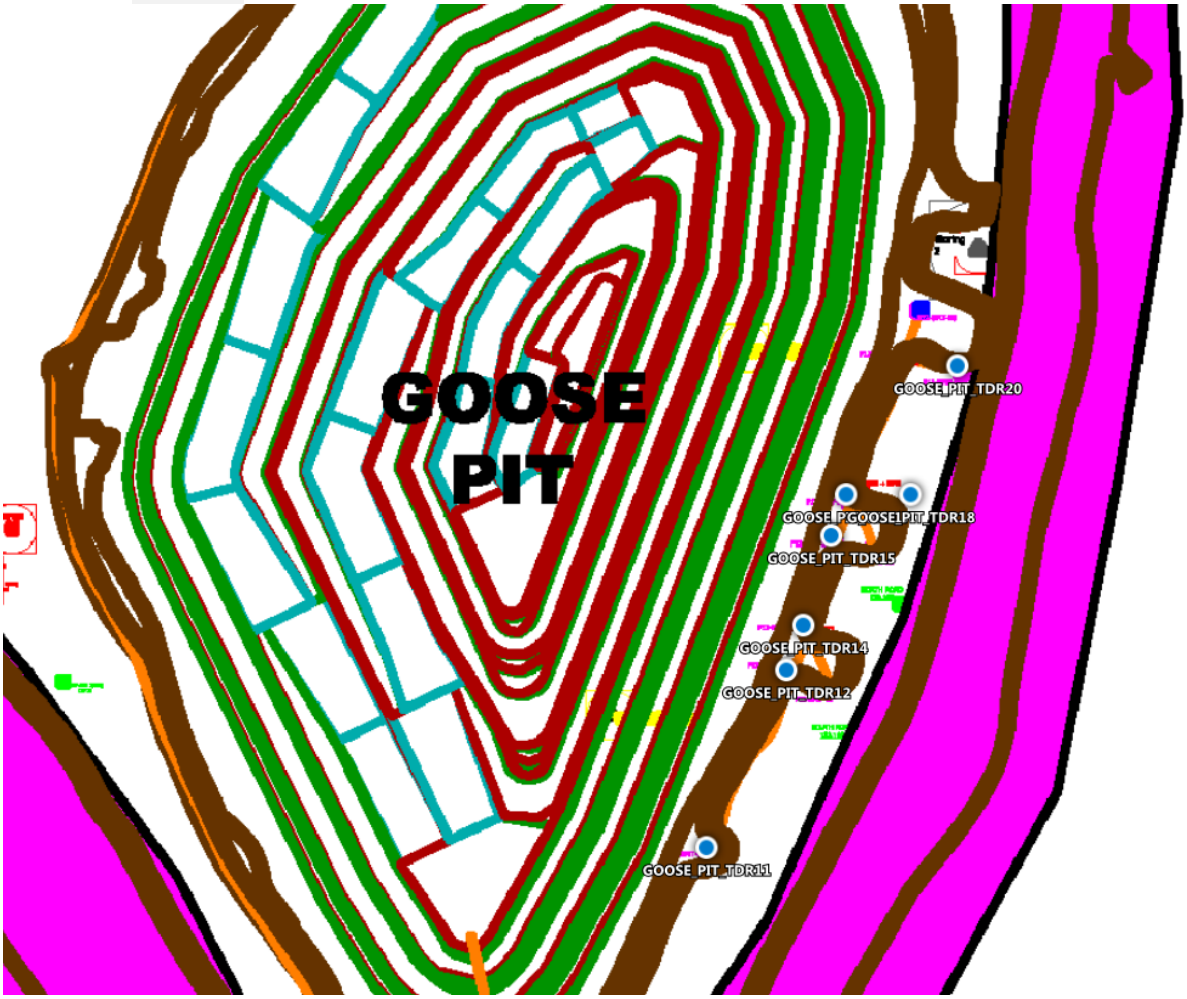


Figure 6: Location of downhole instruments at Goose pit

PORTAGE PIT B, C & D

- No instrument installed in these pits.

INSTRUMENTATION RESULTS

APPENDIX E

EXAMPLE WALL INSPECTION REPORTS

- Pit Wall Inspection Map
- Agnico Eagle Pit Wall Inspection

PIT WALL INSPECTION MAP

Wall Inspection

February 8th, 2019

Very High Risk, NO ENTRY

High Risk
Requires Remedial Measures

Medium Risk
Precautionnary or Remedial Measures

Low Risk
Perform assessment before entering

Wall not exposed
during inspection

MISHOLE OR POTENTIAL MISHOLE

Pit E

Zone BB13: Major toe protruding from the wall and covering the entire corner.

Zone: BB14: Lightly Scale the wall.

Zone BB12: Scale and hammer the toes protruding from the wall and pick up debris prior

5102B04

5102B06

5102RAB08

BB Phaser

Vault

Zone V45: No action required at the moment while finishing mucking. Limit on-foot personal access within 10m of the wall.

Zone E60: Hammer the protruding toes from the wall while easily accessible from the mid-bench elevation.

Zone E53: Fair size broken blocks to be monitor with radar.

Zone E01- Restricted Access for Pumping

5004650
Density: 2.8

5011657
Density: 2.8

5011655

5011653

5011659

5011661

Zone E62: Stop mucking at the stakes on the field. Will be reassessed once the bottom bench is mucked out.

Zone E54: The potential was investigated with the shovel and stayed in place.

Zone E36:E5 Ramp Restricted Access, light vehicle only.

AGNICO EAGLE
MEADOWBANK

DRAWN BY	DATE	MODIFIED BY	DATE
SURVEY CHECK	DATE		
GEOLOGY CHECK	DATE		
ENGINEERING CHECK	DATE		

MEADOWBANK DIVISION
ENGINEERING
WALL INSPECTION
FEBRUARY 8th, 2019

SCALE NTS | DATE | FILE .DWG

P:\Engineering\05–Geotechnic\07–RockMechanic\10 – FIELD INSPECTION\WALL INSPECTION\2019\2019–02–08\Misc\2019–02–03–Mucking for Wall Inspection.dwg, 09 Feb 2019

AGNICO EAGLE PIT WALL INSPECTION

Pit Wall Inspection

Agnico Eagle Meadowbank Division

February 8th, 2019

Attendees: K. Champagne, P. Sikonpe, Carol Ann Griffin, T. Dahm

Distributed to: Meadowbank Wall Inspection Group.

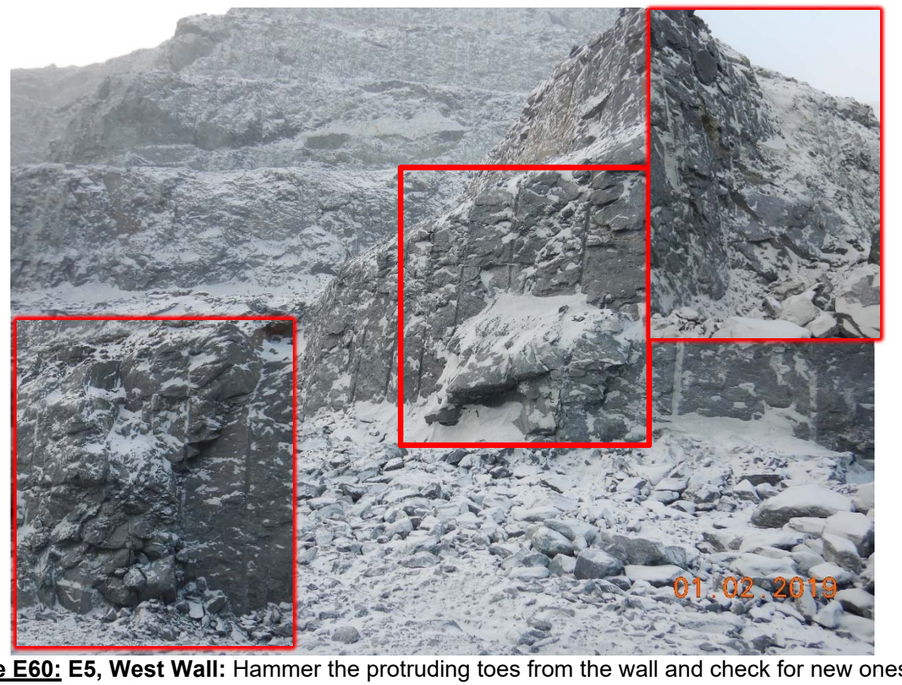
Location	*Observations*	*Recommendations*	*Due date*	*Date completed*
Zone : **E01** Pit : E3 Wall : South Bench : 5053 Status:	PREVIOUSLY: The No Entry area is applying only to the lower south pit portion (former flooded section). The pumping has stopped. UPDATE: A ramp was pushed to access the lower flooded and icy level.	PREVIOUSLY: Keep the bumpers in place around the area. UPDATE: Access is to be restricted for pumping purpose only.	NA	NA
Zone: **E53** Pit: E3 Ramp Wall: East Bench: 5018 Status:	PREVIOUSLY: There are fair size blocks cracked along three planes and part of a partially dislodged wedge and dipping toward the pit right below the crest of the high wall. These are located on the eastern corner at the junction in between the old pit part and the newly mined one. UPDATE: The blocks are still present and for mechanical availability reasons they were not dislodged. However, with the blasting occurring nearby it was judged stable enough to be monitor only, since we got down one bench already.	PREVIOUSLY: Scale and hammer the unstable blocks prior of going further down. UPDATE: Those blocks will be monitored as they may presents risk during freshet.	NA	NA
Zone: **E54** Pit: E5 Wall: East Bench: 5018 Status:	PREVIOUSLY: A potential wedge was identified on the eastern corner on the bench below the once problematic zone (E40). The ultramafic rock type, dipping direction and dimension of the potential wedge are all conditions worth of concern. UPDATE: The condition of the structure hasn't changed from previously. The shovel has tried to dislodge the massive structure but it hasn't moved. Shovel's teeth marks are visible around the area. Monitor during freshet	PREVIOUSLY: Scale the lower corner of the wedge as it is already broken. The scaling operation should be followed with an evaluation of what could come out of this potential wedge and the action to be taken. UPDATE: Since the structure is still present it will be monitor especially during freshet.	NA	NA
Zone: **E60** Pit: E5 Wall: East Bench: 5018 Status:	PREVIOUSLY: Toe structures are present on the mid-bench of the 5011's patterns. UPDATE: Due to the activity in the pit and equipment availability, the area was not able to be visually checked.	PREVIOUSLY: Hammer the toes to the pre-shears. Again, use the opportunity to work on the mid-bench instead of working from below (5011 floor). UPDATE: Same as previous once area is cleared.	Mar 1st, 2019	NA
Zone: **E62** Pit: E5 Wall: East Bench: 5011 Status:	PREVIOUSLY: This section of the pit is made of foliated ultramafic rock. The first half of the current high wall was scaled to the slips and made safe. However, most of the catchment above was lost during the process. UPDATE: Due to the activity in the pit and equipment availability, the area was not able to be visually checked. Mine is aware of the situation and will address accordingly.	PREVIOUSLY: Survey stakes were installed on the planned wall. Stop mucking the bottom bench at the stakes limit. It will be reassessed once the pattern is mucked out on whether or not scaling to existing slip.	Mar 1st, 2019	NA

Zone: **BB12** Pit: BB Phaser Wall: North Bench: 5109 Status:	PREVIOUSLY: The lower section of the high wall was mucked out and presents a rather competent wall with occasional toes and debris at its base. UPDATE: Work haven't been done because of mechanical availability and blasted material in the way. The lower south east corner is having the more debris and loose rocks on its wall.	PREVIOUSLY: Hammer the toes along the wall and clean the debris of this area as it is meant to become a catch bench. UPDATE: A good clean up is mandatory especially on the south east corner.	Mar 1st, 2019	NA
Zone: **BB13** Pit: BB Phaser Wall: North East Bench: 5109 Status:	PREVIOUSLY: The lower north east corner of the high wall is made of a toe with considerable proportions (10mx20mx2m). UPDATE: Work haven't been done because of mechanical availability and blasted material in the way.	PREVIOUSLY: It is recommended to hammer this toe. However, depending on the hammer availability effort should be concentred on pit E5 south section for the time being. UPDATE: Hammer the toe whenever possible.	Mar 1st, 2019	NA
Zone: **BB14** Pit: BB Phaser Wall: North East Bench: 5109 Status:	PREVIOUSLY: A new section of the ramp was exposed. This zone is not pre-sheared and presents slips and debris on its toe. UPDATE: Area was not accessible due to blasted muck so we will keep the same as previous until all material is removed.	PREVIOUSLY: Only light scaling is required and debris should be picked up. UPDATE: Area was not accessible due to blasted muck so we will keep the same as previous until all material is removed.	Mar 1st, 2019	NA
Zone : **V45** Pit : Vault Wall: North East Bench: Status:	PREVIOUSLY: The very bottom of Vault pit is made of competent rock. However, it is mostly beyond rehabilitation due to a combination of various factors; ice wall, 200's hole not blasting, hammer availability, weather restriction. UPDATE: Same as previous until all material is removed.	PREVIOUSLY: No action is required at the moment while finishing mucking the pad. Personal on foot should stay at a minimum of 10m of the wall. UPDATE: Same as previous until all material is removed.	NA	NA

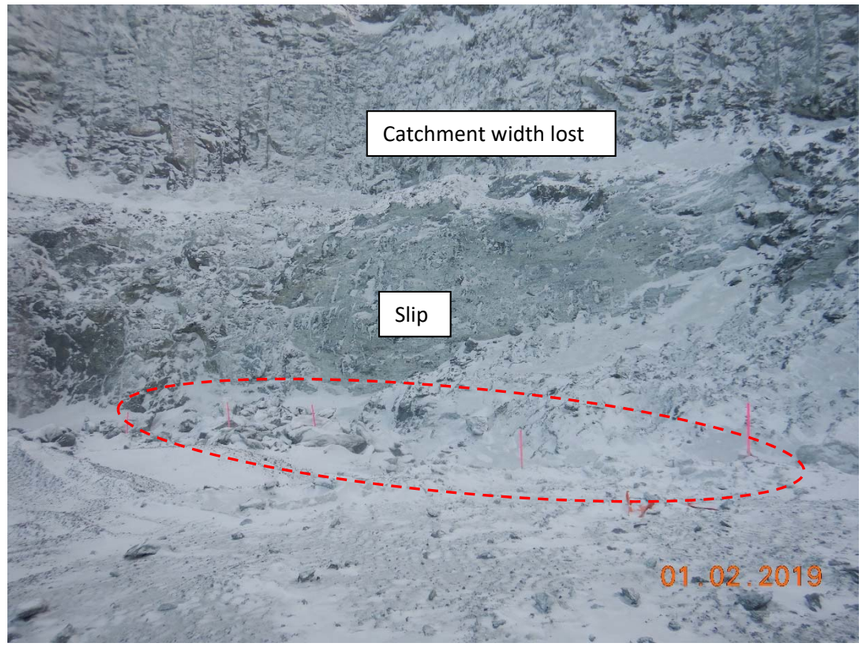
Zone E01: **Pit E3**: E01: Restricted access for pumping.

Zone E53: **E5, East Wall:** to be monitored with the radar.

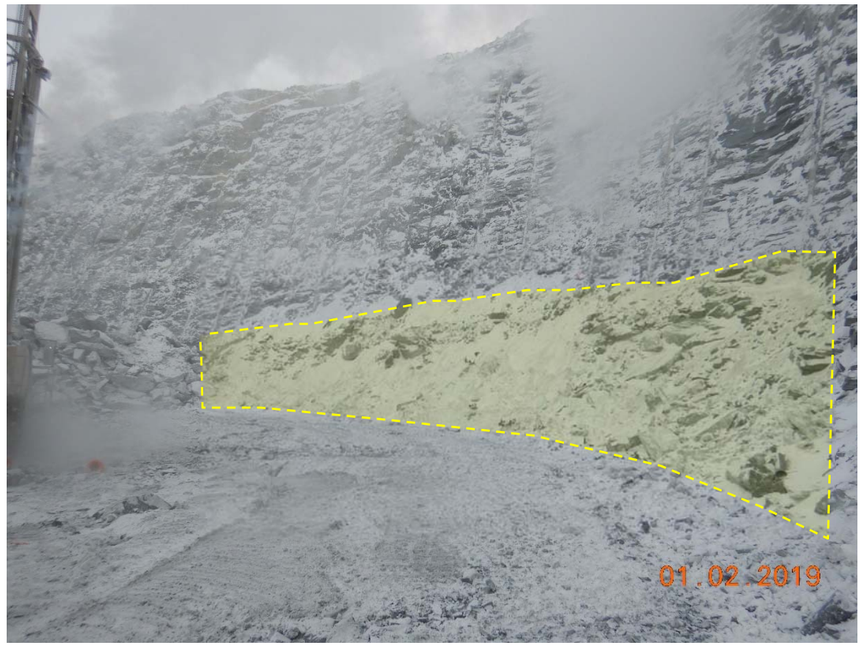
Zone E54: **E5, East Wall:** Potential wedge was investigated with the shovel and stayed in place.



Zone E60: **E5, West Wall:** Hammer the protruding toes from the wall and check for new ones once mucking is done.

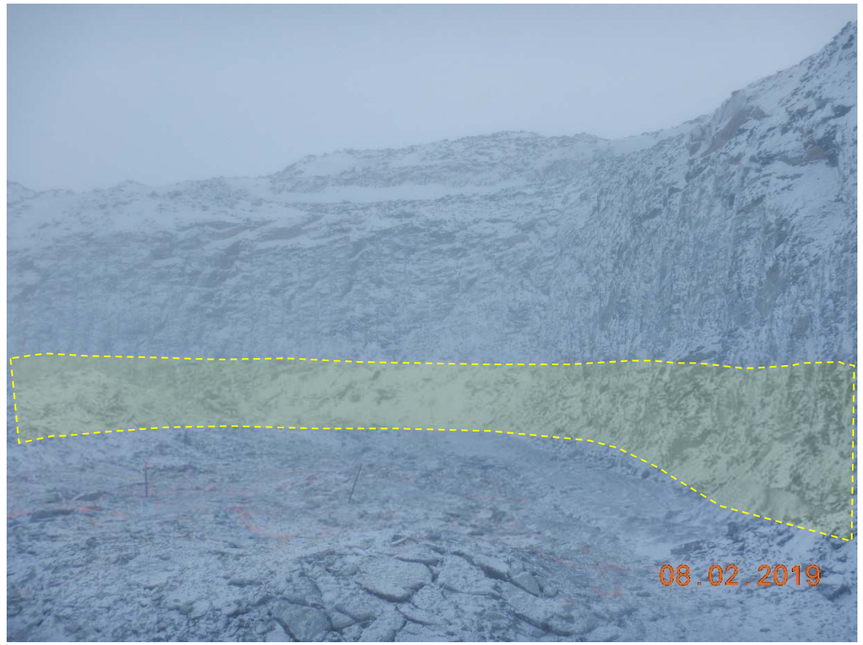


<u>Zone E62:</u> E5, South Wall: Stop mucking at the survey stakes on the filed. Recheck when area is accessible



<u>Zone BB12:</u> BB Phaser, North Wall: Hammer the toes along the wall and clean the debris of this area as it is meant to become a catch bench.

Zone BB13: BB Phaser, North East Wall: Fair dimension toe covering the corner; Hammering is recommended if possible.



Zone BB14: BB Phaser, South West Wall: Lightly scale the wall and pick up debris.

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Zone V45: Vault Bottom: No remedial actions required while finishing mucking. Limit on-foot personal access within 10 m of the wall. (East Wall)

Zone V45: Vault Bottom: No remedial actions required while finishing mucking. Limit on-foot personal access within 10 m of the wall. (West wall)

APPENDIX F

ROCKFALL RECORDS

- Figure F-1: Rockfall Log – Table 1
- Figure F-2: Rockfall Log – Table 2
- Figure F-3: Rockfall Log – Table 3
- Rock Fall Report to Mines Inspector – September 27, 2018
- Rock Fall Report to Mines Inspector – January 14, 2019
- Rock Fall Report to Mines Inspector – May 08, 2019

ROCKFALL LOG – F-1: TABLE 1, F-2: TABLE 2, F-3: TABLE 3

TETRA TECH

ROCKFALL LOG - Table 1

Date of Rock fall	Time	Exact Time ?	Pit	Location	Rock type	Easting	Northing	Elevation	Reported by	Estimated tonnage	Calculated tonnage (MAPTEK)	Reported to mine Inspector	Predicted by radar	Comment
1/29/2015	9:00		E3	West wall - South Ramp		1802	5984	5077	Engineering personnel		410	Yes	No radar yet	
5/22/2015	Between May 21 - 20h17 & May 22-02h05		E3	West wall - South Ramp (below)		1843	5990	5059	Pit personnel	10		No	No radar yet	Large ammount of material scaled after rock fell
6/7/2015	Day		E3	West wall - South Ramp		1812	5961	5066	Pit personnel	<10		No	No radar yet	
6/13/2015	14:30		E3	West wall - South Ramp		1812	5961	5066	Pit personnel		120	Yes	No	
6/14/2015	21:00		E3	South Wall		2024	5690	5084	Pit personnel	40		No	No	
6/21/2015	23:50		E3	West wall - South Ramp		1760	6131	5090	Pit personnel		95	Yes	No	
6/24/2015	7:05		E3	South Wall		2024	5690	5084	Pit personnel		275	Yes	No	
6/25/2015	12:05		E3	West wall - South Ramp		1820	5941	5065	Pit personnel	30		No	No	Large ammount of material scaled after rock fell
6/25/2015	Night		E3	South Wall		2024	5690	5084	Pit personnel		177	Yes	No	
6/27/2015	7:55		E3	South Wall		2024	5690	5084	Pit personnel		30	No	No	
6/28/2015	1:10		E3	South Wall		2024	5690	5084	Night shift Operator		<10	No	No	
6/29/2015	13:30		E3	South Wall		1991	5652	5087	Rock Mechanic Eng (witness)		39	No	No	
6/29/2015	Night		Vault	West Wall		3018 (estimated)	4739 (estimated)	5116 (estimated)	Pit personnel	<10		No	No	
6/30/2015	7:00		E3	South Wall		1984	5655	5080	Pit personnel		76	Yes	No	
7/6/2015	7:00	Yes	E3	South Wall		2007	5673	5084	Pit personnel		1770	Yes	No	
7/7/2015	10:44	Yes	E3	East Wall					Pit personnel		350	Yes	Blind Spot	
7/9/2015	0:45		E3	South Wall					Pit personnel		550	Yes	No	
7/15/2015	2:00		E3	South Wall					Pit personnel		650	Yes	Yes	
7/21/2015	21:30	No	E3	South Wall					Pit personnel		1440	Yes	Yes	

LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE MEADOWBANK

TETRA TECH

MEADOWBANK MINE ANNUAL PIT WALL INSPECTION

Rockfall Log – Table 1

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-02	JV	CJC	CJC	CJC

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure F-1

TETRA TECH

ROCKFALL LOG - Table 2

Date of Rock fall	Time	Exact Time ?	Pit	Location	Rock type	Easting	Northing	Elevation	Reported by	Estimated tonnage	Calculated tonnage (MAPTEK)	Reported to mine Inspector	Predicted by radar	Comment
7/27/2015	22:05	No	E3	South Wall					Engineering personnel		499	Yes	Yes	
8/3/2015	10:03	Yes	E3	South Wall					Pit personnel		7500	Yes	Yes	
8/7/2015	15:36	Yes	E3	South Wall					Pit personnel		2500	Yes	Yes	
8/9/2015	11:07	Yes	E3	South Wall					Pit personnel		1650	Yes	Yes	
8/22/2015	10:50	Yes	E3	South Wall					No Pit Personnel. Radar alarms showed us		115	Yes	Yes	
8/30/2015	0:45	No	E3	South Wall					No Pit Personnel. Radar alarms showed us		5	No	Yes	
8/31/2015	2:30	No	E3	South Wall					No Pit Personnel. Radar alarms showed us		950	Yes	Yes	
9/21/2015	16:31	Yes	E3	South Wall					Pit personnel		9200	Yes	Yes	On video
6/1/2016	12:00	No	Vault	North					Pit personnel		30	No	Not monitored	
6/19/2016	12:00	No	A	East Wall - ramp	Intermediate Volcanic				Pit personnel		29	No	Not monitored	Contained within safety berm; At the junction of 2 pit designs
7/1/2016	21:00	No	A	West wall	Ultramafic				Pit personnel		134	Yes	Not monitored	Rain in the evening
7/3/2016	7:30	No	A	West	Ultramafic				Pit personnel - Witnessed		393	Yes	Not monitored	
7/4/2016	8h30	No	A	West Wall	Ultramafic				Pit personnel		722	Yes	Not monitored	
7/8/2016	06h00	No	A	West wall	Ultramafic				Pit personnel		25	No	Not monitored	
7/27/2016	8h30	No	A	East - Ramp	Intermediate Volcanic				Pit personnel - Witnessed		337	Yes	Not monitored	Just beside backhoe doing hammer
9/24/2016	20h00	No	A	West wall	Ultramafic				Pit personnel	100		Yes	Not monitored	On working platform (mucking bench)
9/25/2016	14h00	No	A	West wall	Ultramafic				Pit personnel		4265	Yes	Not monitored	Upper bench
6/16/2017	1h00	No	E5	South Wall	Intermediate Volcanic				Pit personnel	350	350	Yes	Not monitored	
6/17/2017	12h00	no	E5	South Wall	Ultramafic				Pit personnel	300		yes	No	
6/17/2017	4h00	No	A	North east	Intermediate Volcanic				Pit Personnel	179		yes		
6/19/2017	10h25	No	E5	South East wall	Ultramafic				Pit Personnel		337	Yes	Yes	
6/19/2017	21h30	No	E5	South East wall	Ultramafic				Pit Personnel		172	Yes	Yes	
7/7/2017	8h40	Yes	Vault	East wall	Ice				Pit Personnel		385	yes	Not monitored	ice fall, not rock
7/17/2017	Unknown	No	E5	South East wall	Ultramafic				Visual inspection	60		yes	no	New material observed on catchbench. Fell between July 15th and 17th.

LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE MEADOWBANK

TETRA TECH

MEADOWBANK MINE ANNUAL PIT WALL INSPECTION

Rockfall Log – Table 2

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-02	JV	CJC	CJC	CJC

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure F-2

TETRA TECH

ROCKFALL LOG - Table 3

Date of Rock fall	Time	Exact Time ?	Pit	Location	Rock type	Easting	Northing	Elevation	Reported by	Estimated tonnage	Calculated tonnage (MAPTEK)	Reported to mine Inspector	Predicted by radar	Comment
6/10/2018	unknown	No	E5	South Wall	Ultramafic				Pit Personnel		215	Yes		
6/10/2018	unknown	No	E5	South Wall	Ultramafic				Pit Personnel		75	Yes		
6/10/2018	unknown	No	E5	South Wall	Ultramafic				Pit Personnel		160	Yes		
6/11/2018	unknown	No	E5	South Wall	Ultramafic				Pit Personnel		250	Yes		
6/20/2018	15:22	Yes	E5	South Wall	Ultramafic				Alarm + pit personnel+ geotech		79	Yes	Yes	other rock falls is predicted in the area (the rest of the wedge)
6/25/2018	17:27	No	E5	South Wall	Ultramafic				visual inspection + radar investigation	250		no	no	first high wall of the pit (5123) investigated 3 weeks later when visual inspection. Rock fall took 3 days to completely stop (radar signature)
6/29/2018	unknown	No	E3	Ramp	Ultramafic				Geotech		110	Yes		
6/30/2018	14:12	Yes	E5	South Wall	Ultramafic				Geotech		350	Yes		
7/5/2018	05h10	Yes	E5	South Wall (west)	Ultramafic				Driller and Geotech		2700	Yes	Yes	
7/4/2018	20h15	Yes	E5	South Wall (east)	Ultramafic				Driller and Geotech		310	Yes	Yes	
7/8/2018	17h32	Yes	E5	South Wall (west)	Ultramafic				Driller and Geotech		100	Yes	Yes	Was a continuation of the July 5th large fall
7/9/2018	8h38	Yes	E5	South Wall (east)	Ultramafic				Worker and camera		226	Yes	Yes	Continuation of June 20th Rock fall and mine was cleared prior as it was anticipated
7/11/2018	12h18	Yes	E5	South Wall (west)	Ultramafic				Worker		314	Yes	Yes	
7/26/2018	unknown	No	Vault	East wall	Ice				Pit Personnel		150	Yes	Not monitored	Vault ice wall. Spraying water on it
7/30/2018	unknown	No	E3	West Wall	Ultramafic				Pit Personnel		258	Yes	Not monitored	
8/12/2018	2:30	NO	E5	South Wall	Ultramafic				Dispatch	150		Yes	by alarm only, during the fact	
8/15/2018	14:00	NO	E3	West Wall	Intermediate Volcanic				Mine Inspector Visit!!		2900	Yes	Not monitored	not in the line sight
9/27/2018	11h00	Yes	E5	Bench 5033	Ultramafic				Pit personnel	10,000	10,100	Yes	Yes	Crack was observed in wall, then looked at radar and signature was observed that rock fall was going to occur. And it did
1/14/2019	16:00	No	E5	5011651 - East Wall					Pit personnel		127	Yes	no	Post fall radar analysis show a small visible trend but it was not detected prior to the event
5/8/2019	17:30	No	E5	5004	Ultramafic				Pit personnel	110	110	Yes	No	The signature of the rockfall with back analysis only allowed for less than one hour of notice. In a highly fractured corner
7/22/2019	9:00	No	E3	E3 Ramp Top Behind Sump	Ultramafic/ QZ/Fault				Pit supervisor	80		Yes	No	The area was flagged 2 days earlier. Berms and candles were in place. We expect it.

LEGEND

NOTES

Data provided by Agnico Eagle Mines Ltd.

STATUS

ISSUED FOR REVIEW

CLIENT

AGNICO EAGLE MEADOWBANK

TETRA TECH

MEADOWBANK MINE ANNUAL PIT WALL INSPECTION

Rockfall Log – Table 3

PROJECT NO.	DWN	CKD	APVD	REV
704-ENG.ROCK03053-02	JV	CJC	CJC	CJC

OFFICE	DATE
VANCOUVER	OCTOBER 11, 2019

Figure F-3

ROCK FALL REPORT TO MINES INSPECTOR – SEPTEMBER 27, 2018

REPORT TO MINES INSPECTOR

Date: September 27th, 2018

From: AGNICO-EAGLE Mines Limited
Meadowbank Division

To: Lex Lovatt

Issued pursuant to (Sections 16.01 & 16.02) of the Mine Health and Safety Act and Regulations for NWT & NU.

Event Description:

In the morning of September 27th, 2018 a large crack in the wall was observed by pit personnel in the 5033 bench area of Pit E5. Following these events, a back analysis was done on the area using the radar data and it was determined that there was to be a rock fall event. During this time, the area was bermed off and no personnel were to be present in the area.
The rock fall occurred at approximately 10h50 and was 10,100 tonnes.
No personnel were injured and no equipment was damaged by the rock fall as the area had already been cleared.

Geological context:

The rock fall occurred within the Ultramafic unit (soapstone) in a highly sheared zone. The soapstone in the area is altered and the joint surface is covered in talc. The foliation plane is dipping towards the East (inside the wall) at 72 degrees. The area is located near the hinge of a regional fold. The rock fall was on a slip plane dipping towards the pit, and once the toe of this area was mucked out, there was no support and slipped down the plane. The dip was approximately 70º with a direction of 203º.

AGNICO EAGLE
MEADOWBANK

Remediation plan:

- A monitoring program has been in place since the reopening of E5 and is still active which includes radar monitoring and inspections of the area.
- The area will be continued to be bermed off until a stable trend is observed in the radar monitoring and then the mine will prepare to remove the loose material.
- The plan is to use the RH120 with ramp if needed to be able to take some of the material down safely. If this does not work, then there will be a plan to put a ramp in place to access the area with the drill and blast equipment to try to break the material into smaller pieces for removal. All material will have to be taken back to the smooth stable slip plane visible behind the rock fall. The remediation is planned to begin once the area has stabilized.

Prepared by:
Thomas Dahm, Geotechnical Technician

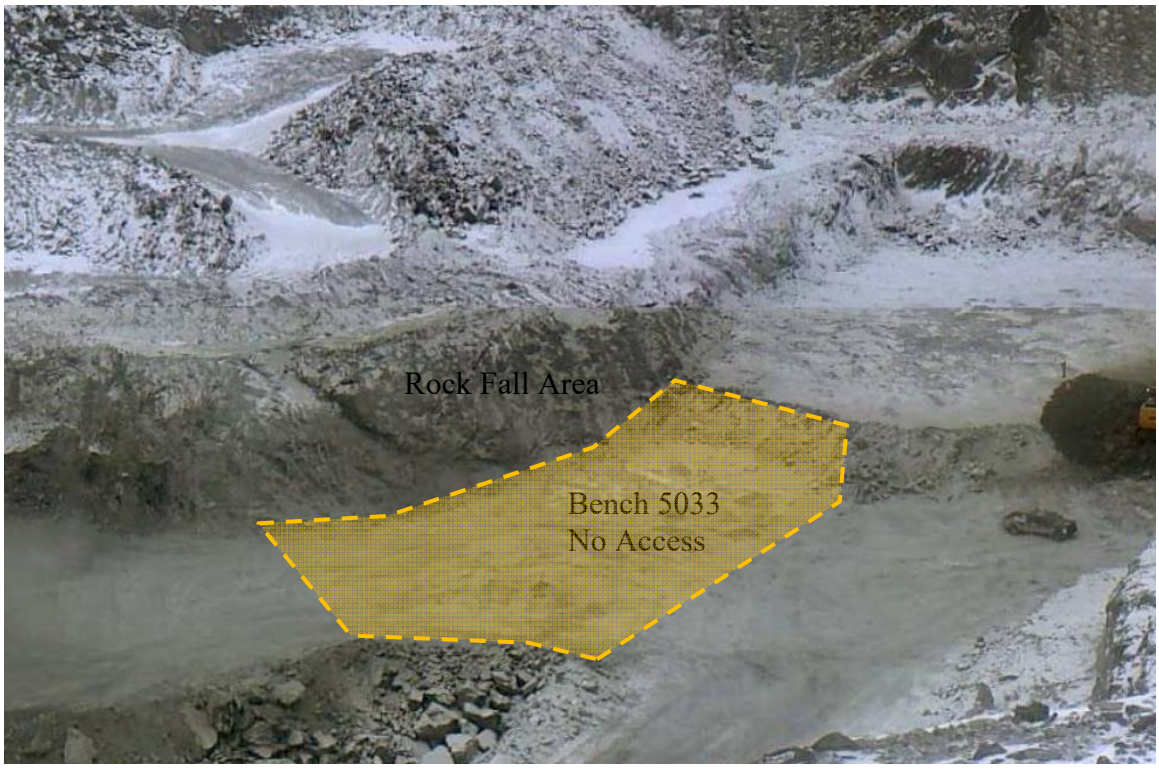

Fig.1: Photo taken from radar location at 9h30 on Sept. 27th, 2018 prior to rock fall.

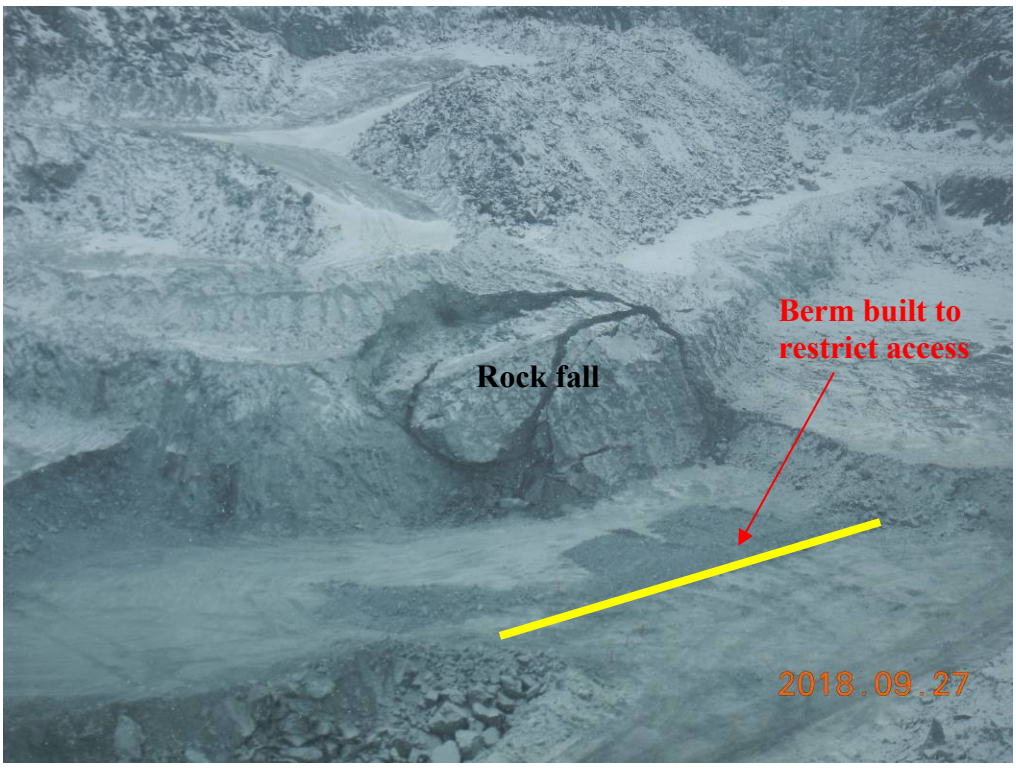

Fig.2: Photo taken from radar location showing the same area after the rock fall occurred. Photo was taken at 11h45 on Sept. 27th, 2018. The rock fall has not stabilized yet and 2 large soapstone blocks will require special care to deal with.

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ROCK FALL REPORT TO MINES INSPECTOR – JANUARY 14, 2019

AGNICO EAGLE
MEADOWBANK

REPORT TO MINES INSPECTOR

Date: January 14th, 2019

From: AGNICO-EAGLE Mines Limited
Meadowbank Division

To: Bert Hausauer, Viktor Mubili

Issued pursuant to (Sections 16.01 & 16.02) of the Mine Health and Safety Act and Regulations for NWT & NU.

Event Description:

In the afternoon of January 14th, 2019, a rock fall of 127 tonnes occurred around 4h30PM. The loose material on the floor was noticed by pit personnel on the 5011 pit floor. No personnel or equipment were nearby during the event, and no injuries or material damage occurred. Following the event, the area was bermed off, preventing any access to the rockfall zone. Preliminary assessment indicated potential of further rockfall of the same magnitude.

Geological context:

The rock fall occurred within the Ultramafic unit (soapstone) in a highly sheared zone. The soapstone in the area is altered and the joint surface is covered in talc. The foliation plane is dipping towards the East (inside the wall) at 72 degrees. The area is located near the hinge of a regional fold. The rock fall was on a slip plane dipping towards the pit, and once the toe of this area was mucked out, there was no support and slipped down the plane. The dip was approximately 70º with a direction of 203º.

Remediation plan:

- A monitoring program has been in place since the reopening of E5 and is still active which includes radar monitoring and inspections of the area.
- The area will remain bermed off until a stable trend is observed in the radar monitoring, and no field anomalies are observed. Following this, the mine will remove the loose material, and proceed to scale this area.

Prepared by:
Eric Haley, Water and Tailings EIT

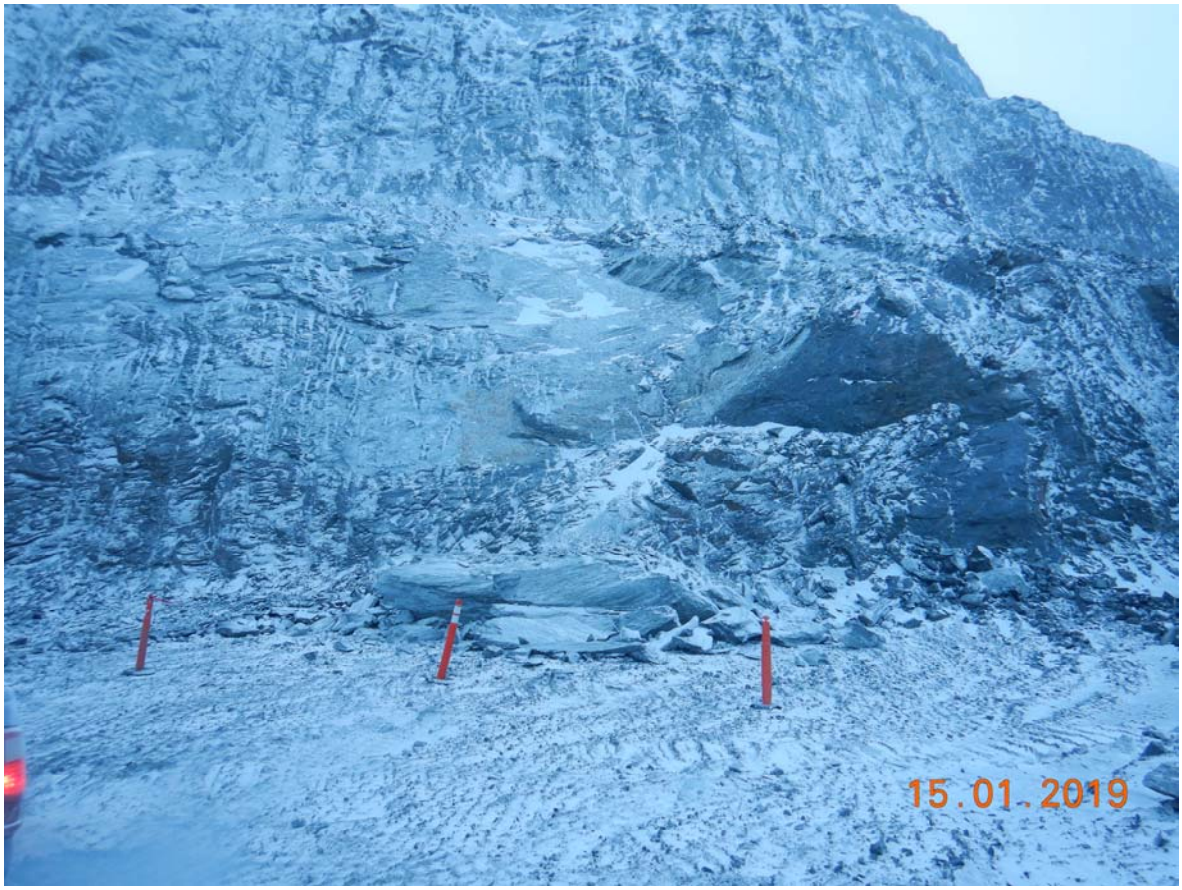


Fig.1: Photo taken in day light at rockfall location at 10:30AM on January 15th, 2019.

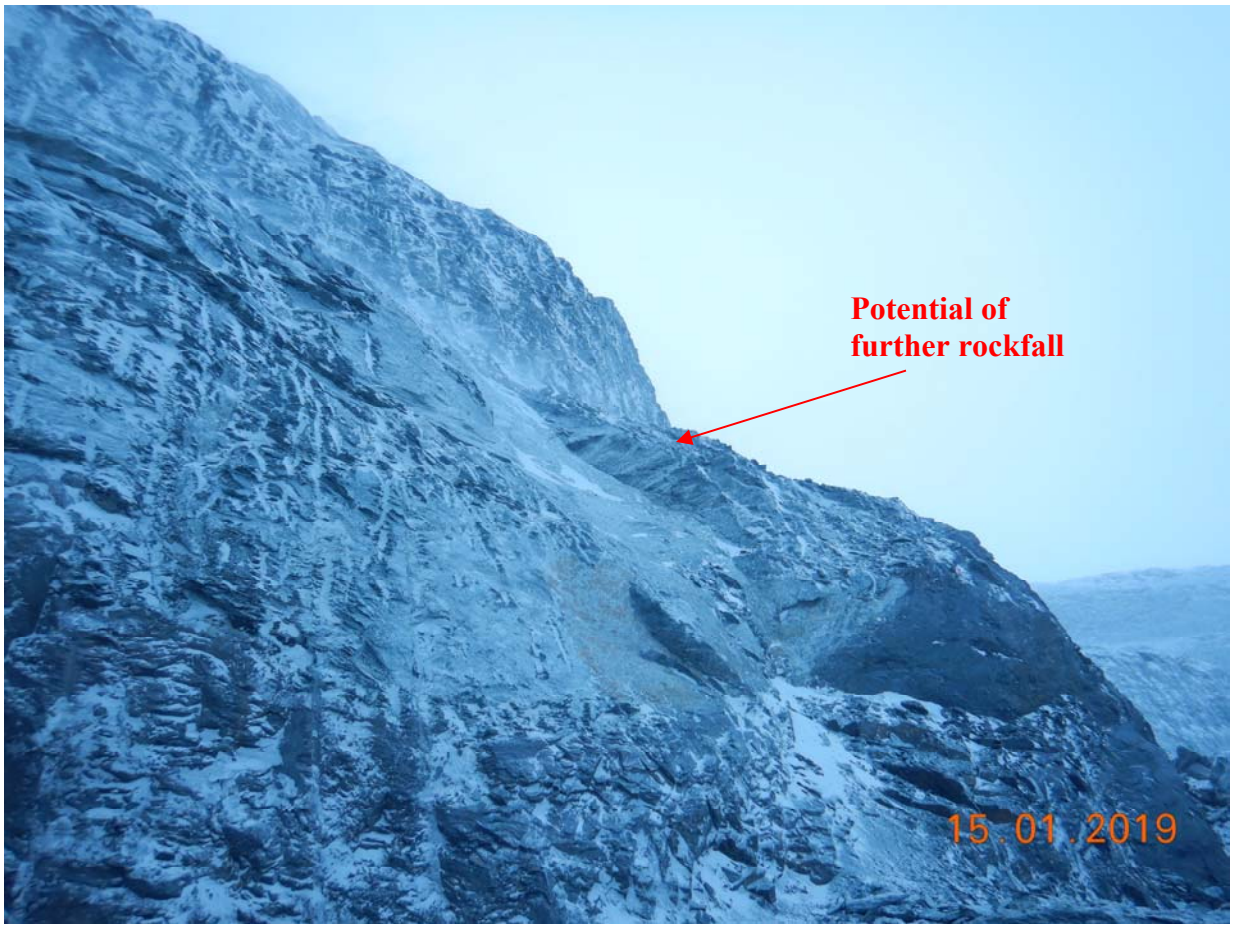
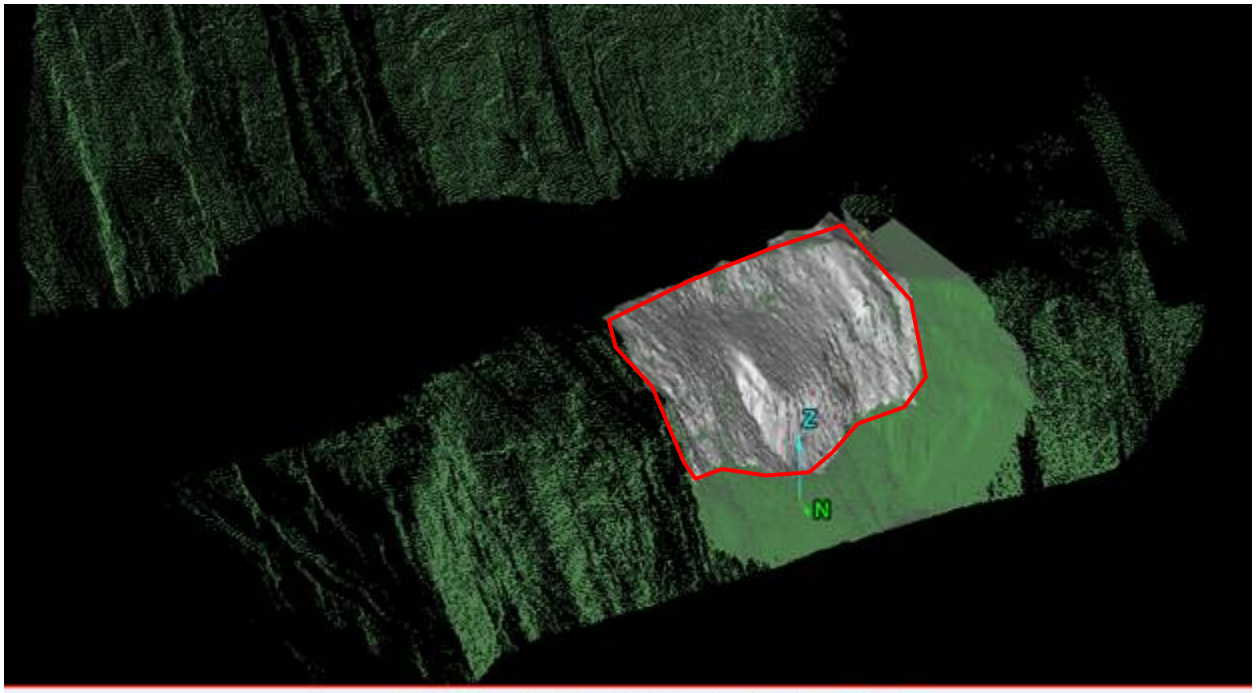


Fig.2: Photo showing potential of further material becoming loose.



Successfully removed 1,428 spikes from "topo of 14-jan-pite-rockfall_a_aa_C2L_01".

volume

Original surface: topo 2
Density used: 0.000lb/yd³

Cut summary

Surface	Volume below original surface (cut)	Mass below original surface (cut)
topo of 14-jan-pite-rockfall_a_aa_C2L_01	47.108m³	0.000t
	47.108m³	**0.000t**

Fig.3: Volumetric Report showing 47.1 m³, or 127 tonnes

ROCK FALL REPORT TO MINES INSPECTOR – MAY 08, 2019

REPORT TO MINES INSPECTOR

Date: May 8th, 2019

From: AGNICO-EAGLE Mines Limited
Meadowbank Division

To: Bert Hausauer, Viktor Mubili

Issued pursuant to (Sections 16.01 & 16.02) of the Mine Health and Safety Act and Regulations for NWT & NU.

Event Description:

In the afternoon (17h30) of May 8th, 2019 a rock fall of approximately 110 tonnes occurred. Personnel working in the area observed the loose material on the floor of the 5004 area of Pit E5. Following the event, the loose material was cleaned up and a protective berm placed at 10m buffer zone around the area.

No personnel were injured and no equipment damaged by the rock fall.

Geological context:

The rock fall occurred within the Ultramafic unit (soapstone) in a highly sheared zone. The soapstone in the area is altered and the joint surface is covered in talc. The foliation plane is dipping towards the West (inside the wall) at 60º degrees with a direction of 220º.

The area is located near the hinge of a regional fold.

Remediation plan:

- A monitoring program has been in place since the reopening of E5 and is still active which includes radar monitoring and inspections of the area.
- Back analysis on the radar's rockfall signature to target better the lower tonnage rockfalls and improve rockfall detection.
- Re-inforce, to all employee working in the pits, the importance of respecting the procedure "MBK-MINE-OPM-PRO Work close to pit walls". This is especially true with the upcoming freshet season.
- This section of the mining will have an 18m catch bench in place. Keep the berm in place during production to help mitigate any further material that may come off the wall during freshet. Keep area clean of any loose material that my collect within the bermed off area.

Prepared by:
Thomas Dahm, Geotechnical Technician

Fig.1: Photo taken after rock fall was reported.

Fig.2: Keep berm in place as potential of further Rockfall during freshet. Also, keep area clean of any loose material.

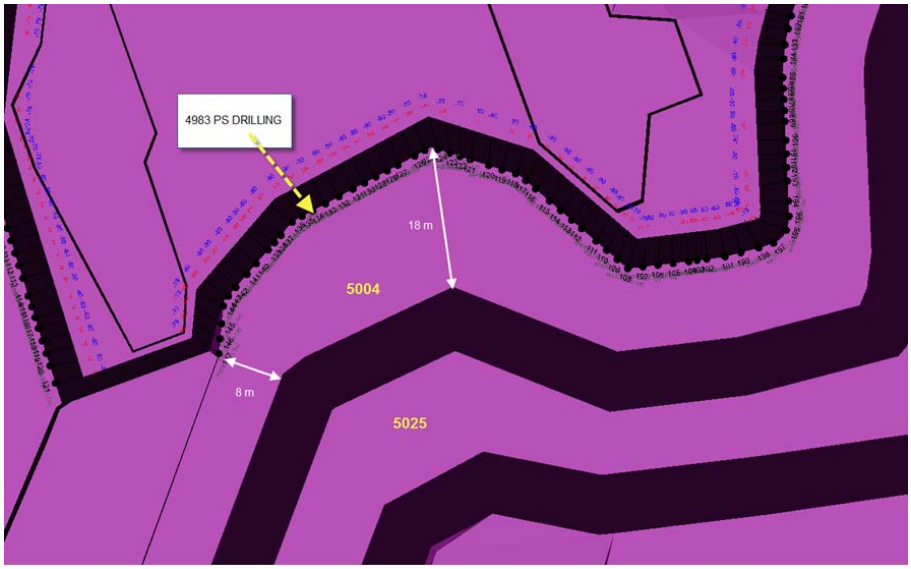


Fig.3: Drilling sequence upcoming showing the 18m catchment.

APPENDIX G

PIT B DUMP MONITORING

Pit B Dump Monitoring Database
2018 and 2019

Fill this section				Automatic	
Date (dd/mm/yyyy)	Time(hh:mm)	Reading (cm)	Wireline was relocated/moved (YES/NO)	Status	Action required
8/14/2018	11:15	13.7	YES	Not Applicable	Not Applicable
8/15/2018	11:15	14.2	NO	1	Normal
8/16/2018	11:15	14.6	NO	1	Normal
8/17/2018	14:00	16.0	YES	Not Applicable	Not Applicable
8/19/2018	15:00	17.8	NO	1	Normal
9/8/2018	15:30	35.4	NO	1	Normal
9/17/2018	11:00	38.9	NO	1	Normal
9/28/2018	10:00	49.5	NO	1	Normal
10/5/2018	10:00	53.5	NO	1	Normal
10/20/2018	11:00	55.6	NO	1	Normal
10/30/2018	15:00	58.0	NO	1	Normal
11/2/2018	10:00	59.5	NO	1	Normal
11/12/2018	15:00	61.0	NO	1	Normal
11/20/2018	10:00	61.6	NO	1	Normal
1/4/2019	18:00	22.3	yes	Not Applicable	Not Applicable
1/7/2019	13:50	22.5	no	1	Normal
1/16/2019	11:45	24.5	no	1	Normal
1/17/2019	11:00	25.0	no	1	Normal
1/18/2019	15:00	25.5	no	1	Normal
1/19/2019	11:00	25.0	NO	1	Normal
1/20/2019	9:00	25.0	NO	1	Normal
1/21/2019	9:00	25.0	no	1	Normal
1/22/2019	9:30	25.0	no	1	Normal
1/23/2019	10:30am	25.0	no		
1/24/2019	7:45	27.0	NO		
1/25/2019	9:45	28.0	no	1	Normal
1/26/2019	7:30	28.0	no	1	Normal
1/27/2019	10:18	28.0	no	1	Normal
1/28/2019	10:56	28.0	no	1	Normal
1/29/2019	15:30	28.0	no	1	Normal
1/30/2019	7:54	28.5	no	1	Normal
1/31/2019	8:43	28.5	no	1	Normal
2/1/2019	9:01	28.5	no	1	Normal
2/2/2019	10:16	28.5	no	1	Normal
2/3/2019	9:45	28.5	no	1	Normal
2/8/2019	8:30	29.0	no	1	Normal
2/9/2019	11:00	29.0	no	1	Normal
2/10/2019	9:00	30.0	NO	1	Normal
2/11/2019	8:30	30.0	no	1	Normal
2/11/2019	10:00	30.5	no	1	Normal
2/13/2019	9:00	30.5	no	1	Normal
2/18/2019	9:00	31.9	no	1	Normal
2/19/2019	17:00	32.5	no	1	Normal
2/24/2019	16:00	33.5	NO	1	Normal
3/6/2019	14:30	35.5	no	1	Normal
3/8/2019	12:00	36.5	NO	1	Normal
3/9/2019	14:00	36.5	NO	1	Normal
3/10/2019	10:30	37.5	NO	1	Normal
3/11/2019	8:00	38.5	NO	1	Normal
3/12/2019	9:00	39.5	NO	1	Normal
3/13/2019	11:15	40.0	NO	1	Normal
3/14/2019	9:00	40.5	NO	1	Normal
3/15/2019	9:00	41.5	NO	1	Normal
3/16/2019	7:45	42.0	NO	1	Normal
3/17/2019	8:45	42.5	NO	1	Normal
3/18/2019	9:00	43.0	NO	1	Normal
3/19/2019	9:00	43.0	no	1	Normal
3/20/2019	3:30	42.5	NO	1	Normal
4/4/2019	9:20	46.5	no	1	Normal
4/8/2019	16:00	54.9	Yes	Not Applicable	Not Applicable

APPENDIX H

TETRA TECH'S LIMITATIONS ON THE USE OF THIS DOCUMENT

LIMITATIONS ON USE OF THIS DOCUMENT

GEOTECHNICAL

1.1 USE OF DOCUMENT AND OWNERSHIP

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

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

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

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

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

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

1.2 ALTERNATIVE DOCUMENT FORMAT

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

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

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

1.3 STANDARD OF CARE

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

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

1.4 DISCLOSURE OF INFORMATION BY CLIENT

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

1.5 INFORMATION PROVIDED TO TETRA TECH BY OTHERS

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

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

1.6 GENERAL LIMITATIONS OF DOCUMENT

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

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

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

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

1.7 ENVIRONMENTAL AND REGULATORY ISSUES

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

1.8 NATURE AND EXACTNESS OF SOIL AND ROCK DESCRIPTIONS

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

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

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

1.9 LOGS OF TESTHOLES

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

1.10 STRATIGRAPHIC AND GEOLOGICAL INFORMATION

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

1.11 PROTECTION OF EXPOSED GROUND

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

1.12 SUPPORT OF ADJACENT GROUND AND STRUCTURES

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

1.13 INFLUENCE OF CONSTRUCTION ACTIVITY

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

1.14 OBSERVATIONS DURING CONSTRUCTION

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

1.15 DRAINAGE SYSTEMS

Unless otherwise specified, it is a condition of this report that effective temporary and permanent drainage systems are required and that they must be considered in relation to project purpose and function. Where temporary or permanent drainage systems are installed within or around a structure, these systems must protect the structure from loss of ground due to mechanisms such as internal erosion and must be designed so as to assure continued satisfactory performance of the drains. Specific design details regarding the geotechnical aspects of such systems (e.g. bedding material, surrounding soil, soil cover, geotextile type) should be reviewed by the geotechnical engineer to confirm the performance of the system is consistent with the conditions used in the geotechnical design.

1.16 DESIGN PARAMETERS

Bearing capacities for Limit States or Allowable Stress Design, strength/stiffness properties and similar geotechnical design parameters quoted in this report relate to a specific soil or rock type and condition. Construction activity and environmental circumstances can materially change the condition of soil or rock. The elevation at which a soil or rock type occurs is variable. It is a requirement of this report that structural elements be founded in and/or upon geological materials of the type and in the condition used in this report. Sufficient observations should be made by qualified geotechnical personnel during construction to assure that the soil and/or rock conditions considered in this report in fact exist at the site.

1.17 SAMPLES

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

1.18 APPLICABLE CODES, STANDARDS, GUIDELINES & BEST PRACTICE

This document has been prepared based on the applicable codes, standards, guidelines or best practice as identified in the report. Some mandated codes, standards and guidelines (such as ASTM, AASHTO Bridge Design/Construction Codes, Canadian Highway Bridge Design Code, National/Provincial Building Codes) are routinely updated and corrections made. TETRA TECH cannot predict nor be held liable for any such future changes, amendments, errors or omissions in these documents that may have a bearing on the assessment, design or analyses included in this report.

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