Appendix 8

Meadowbank 2024 Annual Open Pit Geomechanical Inspection

Knight Piésold CONSULTING

Management System Certified By: bsi ISO 9001 Quality Management Systems CERTIFIED FS 64925 ISO 14001 Environmental Management CERTIFIED EMS 550121 ISO 45001 Occupational Health and Safety Management CERTIFIED OHS 550122

February 13, 2025

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Dear Antoine,

RE: Meadowbank Complex - Meadowbank Site - 2024 Annual Open Pit Geomechanical Inspection

1.0 INTRODUCTION

Agnico Eagle Mines Limited (AEM) operates the Meadowbank Complex, in Nunavut, Canada. The complex consists of the Meadowbank and Amaruq Sites. The Meadowbank Site consists of the Portage, Goose, Vault, and Phaser deposits. The deposits were mined using a series of open pits and mining is now complete. An annual inspection of the open pits by a third-party is required under the Type-A, Part 1, Item 2 Water License for the mine. Mr. Ben Peacock P.Eng. of Knight Piésold Ltd. (KP) completed the inspection of the open pits with Mr. Antoine Laporte (Interim Rock Mechanics Coordinator) of AEM on August 12 and 13, 2024.

2.0 OPEN PITS INSPECTED

Open pit mining at the Meadowbank Site ended in 2019 and this has resulted in decreased activity around the open pits. The open pits are partially flooded and several have been partially or completely backfilled with waste rock or tailings. In general, this has both reduced the likelihood of a failure occurring and the consequences if a failure occurs. As a result, the management of geomechanical risks at the Meadowbank Site primarily consists of monthly visual inspections and monitoring of instrumentation. However, hazards continue to be present and new hazards are periodically identified.

The open pits included in the inspection and their status at the time of the inspection are summarized in Table 1. The results of the inspection are summarized in Appendix A.

Table 1 Open Pits Inspected and their Status

Open Pit	Current Status
Portage Pit A	Inactive, inactive in-pit waste rock dump, partially flooded and actively used for water management
Portage Pit B	Inactive, backfilled with waste rock (B Dump)
Portage Pit C	Inactive, backfilled with waste rock (C Dump)
Portage Pit D	Inactive, backfilled with waste rock (D Dump)
Portage Pit E	Inactive, inactive in-pit waste rock dump, partially flooded and actively used for tailings deposition
Goose Pit	Inactive, inactive in-pit waste rock dump, partially flooded, previously used for tailings deposition with the potential for future deposition
Vault Pit	Inactive, inactive in-pit waste rock dump, partially flooded
Phaser Pit	Inactive, partially flooded
BB Phaser Pit	Inactive, partially flooded

3.0 2024 INSPECTION RESULTS

Observations made during the site visit were grouped according to the following four headings at AEM's request.

- **Priority 1 (P1):** A high priority or structural safety issue considered immediately dangerous to life, health, or the environment. Also includes issues with a significant risk of regulatory enforcement.
- **Priority 2 (P2):** An issue that, if not corrected, could plausibly result in a structural safety issue leading to injury, environmental impact, or significant regulatory enforcement. Also includes repeated deficiencies that demonstrate a systematic breakdown of procedures.
- **Priority 3 (P3):** Single occurrences of deficiencies or non-conformances that in isolation are unlikely to result in structural safety issues. Also includes recommendations for pro-active measures important to the validation of the open pit slope design.
- **Priority 4 (P4):** Opportunity for improvement, for example to meet industry best practices.

New findings as well as the status of findings from previous annual inspections are summarized in Table 2. The details and context for each observation are provided in Appendix A. Eight items were open at the completion of the 2023 annual inspection. Three of these items are now considered closed. However, six new items were identified during the 2024 annual inspection and as a result a total of eleven items are open and need to be addressed.

The observed issues can broadly be grouped into two key limitations in the management of risks associated with the open pits at the Meadowbank Site:

- Managing access to the open pit ramps in order to reduce the exposure of personnel to rockfall and wave hazards. In the past this has been accomplished using a combination of temporary or permanent barricades, signage, and in some cases a requirement to contact the Geotechnical Group before entering the open pit. These controls have eroded over the last year and in many cases were observed to no longer be present or effective.

- Managing the exposure of personnel to a failure of one of the in-pit dumps through a combination of visual inspections and instrumentation. Deformation of the dumps now covers an area that is difficult to monitor using individual instruments and a more holistic approach is required (e.g., using drone photogrammetry). Unexpected changes in the observed deformation should trigger a review of the dump performance and risk.

4.0 CLOSING

We trust this letter meets your present needs. Please do not hesitate to contact us should you require anything further.

PERMIT TO PRACTICE
KNIGHT PIESOLD LTD.
Signature
Date 2025-02-13
PERMIT NUMBER: P 547
The Association of Professional Engineers, Geologists and Geophysicists of NWT/NU

Yours truly,
Knight Piésold Ltd.

REGISTERED PROFESSIONAL ENGINEER
B.D. PEACOCK
LICENSEE
2025-02-13
NT/NU

Prepared: _____
Ben Peacock, P.Eng.
Specialist Engineer | Associate

Reviewed: _____
Robert A. Mercer, Ph.D., P.Eng.
Principal Engineer

Approval that this document adheres to the Knight Piésold Quality System:

Attachments:

Table 2 Rev 0	Summary of Recommendations
Appendix A	Meadowbank Complex - Meadowbank Site - 2024 Annual Open Pit Geomechanical Inspection

/bdp

Knight Piésold CONSULTING

TABLE 2

AGNICO EAGLE MINES LTD. - MEADOWBANK COMPLEX
MEADOWBANK SITE

2024 ANNUAL OPEN PIT GEOMECHANICAL INSPECTION
SUMMARY OF RECOMMENDATIONS

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Category	Original Recommendation	2023 Status and Comments	2023 Recommendations	2024 Status and Comments	2024 Recommendations	Priority
Geotechnical Inspections and Reporting, and Rockfall Log	As the pits transition into various states of closure or use for water management and tailings, the need for bi-weekly instrumentation monitoring and quarterly inspection summaries can be reduced or in some cases eliminated. In some other cases, the instrumentation has been re-purposed. Complete transition to formal monthly geotechnical inspections supported by regular informal day-to-day observations.	Monthly inspections of the open pits and in-pit waste rock dumps are completed by the Geotechnical Group. The inspections are documented in a report with photos and a hazard map. Inspections are often timed to occur shortly before Environmental Staff enter the open pits during the summer months for water sampling. The inspection reports have been updated to include the Goose Pit ramp, the seepage from the toe of the D Dump, the Portage Pit E ramp, and the Vault Ring Road. However, the Portage Pit A ramp and the Vault Pit ramp are not included in the reports.	The inspections of the ramps used to access the pit lakes at Portage Pit A and Vault Pit should be documented in the inspection report during the periods when the open pits are accessed.	The inspection reports have been updated to include the Portage Pit A ramp and the Vault Pit ramp.	Complete	Complete
	Continue to record and report (as appropriate) rockfall events that are within the pits used for tailing and water management and where there is the potential for worker access.	Rockfalls are documented in the monthly inspection reports. A single rockfall was reported over the last year (Pit E, June 2023) and reported to the WSCC.	Complete	Rockfalls are documented in the monthly inspection reports and reported to the WSCC if appropriate. However, rockfalls at the Meadowbank Site are not documented in the Rockfall Database. Documenting these rockfalls in the database would facilitate any future reviews of slope performance.	Consider documenting rockfalls at the Meadowbank Site in the Rockfall Database. A detailed entry is not required; it could be limited to date, location, tonnage, and failure type.	**P4**
	The Ground Control Management Plan (GCMP) for the Meadowbank Site has not been updated since 2018. Review and update the GCMP. The GCMP could be consolidated with the one for the Amaruq Site.	The inspection and reporting requirements for the Meadowbank Site (Meadowbank Open Pit Surveillance Program) are now included as an appendix to the GCMP for the Amaruq Site. Key documents for the design and performance of the Meadowbank open pits are not listed in the GCMP. This information is valuable for closure of the open pits or the interpretation of any future instabilities, and there is a possibility that it may be lost or forgotten over time.	Reference key open pit design documents and open pit slope performance data for Meadowbank in the GCMP so that the information is not lost.	This recommendation remains outstanding.	Reference key open pit design documents and open pit slope performance data for Meadowbank in the GCMP for the Amaruq Site so that the information is not lost.	**P4**
Instrumentation	Instruments relating to the open pits and hence tailings management facilities are located at Goose Pit, Pit E (south crest), and Vault Pit. There are additional in-field instrumentation between Goose Pit and Pit E, and additional instrumentation along the dikes. Some monitoring of instrumentation, such as TDR cables and inclinometers, can be suspended. Monitoring of piezometers and thermistors installed behind the South Wall of Pit E and the East Wall of Goose Pit should continue to build a record of ground thermal and piezometric response to the addition of tailings.	The TDR cables, inclinometers and many of the piezometers and thermistors used to monitor the open pits have been decommissioned. The piezometers and thermistors in the South Wall of Pit E continue to be monitored by the Geotechnical Group. The piezometers and thermistors in the East Wall of the Goose Pit are no longer monitored as tailings deposition has stopped.	This recommendation is being closed as the instrumentation is no longer required to manage the performance of the open pit slopes. Consider periodically monitoring the piezometers and thermistors in the East Wall of the Goose Pit given the potential for future tailings deposition.			N/A
	There is an opportunity to use imagery from the site drone surveys to evaluate the subsidence of the Goose Pit Waste Rock Dump, B Dump, C Dump, D Dump and Vault Pit Waste Rock Dump using photogrammetry. Recommend completing an assessment on an annual basis to supplement the existing visual inspections.	Settlement continues to be observed at the Goose Pit Waste Rock Dump, B Dump and D Dump, all of which extend into open pit lakes that are periodically accessed. Extensometers and survey points have been installed to allow for point measurements of settlement at each of the dumps. However, spatial trends are not captured.	Complete an annual drone photogrammetry assessment of the B Dump, D Dump, and Goose Pit Waste Rock Dump to better understand spatial patterns in the displacement.	This recommendation remains outstanding. The large spatial extents of the settlement at the B Dump and D Dump, cannot be adequately monitored by the existing extensometers. A monitoring tool with greater spatial coverage is needed. The extensometers could be limited to the areas of greatest exposure / consequence (i.e., Ext04 on the D Dump above the pumps on the Pit E West Wall Ramp and Ext24 on the B Dump adjacent the All Weather Road).	Review the deformation monitoring for the Goose Pit Waste Rock Dump, B Dump, and D Dump. Implement drone photogrammetry on at least an annual basis to better understand the spatial distribution of the displacement. If more frequent drone photogrammetry (e.g., twice a year) is implemented, the monitoring of some the extensometers (i.e., EXT01, 03 and 04 on the D Dump) could be reduced in frequency or stopped.	**P3**
		The interpretation of the tension cracks at the Goose Pit Waste Rock Dump, B Dump and D Dump is based on the expectation that the cracks line up with the crest of the rock benches underlying the dumps. In 2022 it was recommended that the position of the cracks be surveyed to confirm this assessment. This has not been done.	Survey the approximate limits of the tension cracks on the B Dump and D Dump, and compare the position of the cracks to the position of the open pit benches. Consider doing the same for the Goose Pit Waste Rock Dump.	This recommendation remains outstanding. Note that a high-resolution geo-referenced drone photo could be as effective as a survey for identifying the general position of the tension cracks.	Compare the position of the tension cracks on the B Dump, D Dump, and Goose Pit Waste Rock Dump to the position of the open pit benches.	**P3**
	-	Extensometers are installed at the B Dump and D Dump, and survey pins installed at the Goose Pit Waste Rock Dump to monitor settlement. The extensometer data are graphed. Several of the graphs are plotting incorrect values, including the daily displacement rate and cumulative displacement. This directly impacts the interpretation of the data relative to the TARP. The survey pin data are graphed. For both data sets, the daily displacement rate is averaged over the lifespan of the instrument.	Review and revise the graphs plotting the extensometer and survey pin data. The daily deformation rate should be calculated over a shorter time interval, such as since the last reading, to capture sudden changes and allow for a better comparison with the TARP. The graphs should be reviewed for trends each time data are collected.	The graphs of the extensometer and survey pin data have been revised and updated. The graphs are presented in the monthly reports and comments on the data provided. The daily deformation rate is now calculated over the reading interval rather than the lifespan of the instrument.	Complete	Complete
	-	-	-	The July 27, 2024 readings for the survey pins installed in the Goose Pit Waste Rock Dump indicate a sudden increase in deformation of between 50 and 250 mm since the readings taken on July 21. Additional measurements made on August 14 confirmed the change in slope performance. The cause of this change has not been confirmed but is likely linked to a 5 m increase in the level of the pit lake over the last year. Personnel are accessing the pit lake at an increased frequency this summer due to Environmental monitoring and closure-related work. As a result, there is increased exposure of personnel to a failure of the dump.	Increase the frequency of visual monitoring and survey pin measurements for the Goose Pit Waste Rock Dump during periods when personnel are accessing the pit lake. The monitoring frequency should be linked to both the deformation rate/trend and the exposure of personnel. Based on the current conditions, weekly monitoring is recommended. Adjust the TARP to reflect the change in monitoring frequency as well as the need to trigger a review in the event of a sudden/unexpected change in the observed deformation.	**P2**
Portage Pit A	-	-	-	Access to the South Ramp was unrestricted at the time of the visit. The ramp passes below both the C Dump and B Dump, and no rockfall berms are present at the toe of the dumps.	Implement measures to restrict access to the ramp. This could consist of signage, candles, movable barriers, etc.	**P2**
Portage Pit B and B Dump	-	The possibility of the settlement of the B Dump progressing back to the Amaruq Road was discussed in 2022 and concluded to be unlikely as the settlement and tension cracks appear to be limited to within the footprint of the pit. SNC Lavalin was retained by AEM to complete a detailed assessment in order to confirm this conclusion.	Review the results of the SNC Lavalin assessment when they become available.	The assessment was recently completed. It is understood that the results of the assessment indicate that settlement or instability in the B Dump will not progress back to the Amaruq Road. However, the details of the work or a draft deliverable are not yet available. Note that the assessment was completed by WSP, not SNC Lavalin.	Review the results of the WSP assessment when they become available.	**P3**
C Dump	No permanent facilities to be constructed on dump platform.	A sea can used to provide power to the dewatering infrastructure in Pit A has been re-located outside the bermed-off area along the crest of the dump. An associated electrical distribution panel remains inside the bermed-off area.	Relocate the electrical distribution panel outside of the bermed-off area along the crest of the dump before the water level in Pit A reaches the toe of the dump.	The electrical distribution panel has been relocated outside of the bermed-off area, and only a single junction box remains.	Complete	Complete
Portage Pit E and Tailings Management Facility	-	-	-	The berm preventing access to the top of the South Ramp has been partially removed and it is no longer an effective barricade.	Re-establish the berm preventing access to the top of the South Ramp.	**P2**
	-	-	-	A vibrating wire piezometer has been installed at the base of the South Ramp. The cable for the piezometer runs along the ramp, within 5 m of the bench face. There are numerous active rockfall hazards along this ramp and a rockfall berm has not been established.	Re-locate the cable for the vibrating wire piezometer away from the wall. Alternatively, establish a rockfall berm along the inside of the ramp.	**P3**
	-	-	-	The rockfall berm along the inside of the West Wall Ramp was re-established to allow the pump controls to be moved further up the ramp. There is a fault in the bench face directly above this area that represents a significant rockfall hazard. The new berm is too short to be an effective control for the rockfall.	Increase the height of the rockfall berm adjacent to the pump controls on the West Wall Ramp.	**P2**
Vault Pit and In-Pit Dumps	-	The stability of the Amaruq AWR embankment could be impacted if the water level in the Phaser Pit increases and water ponds behind the embankment. While this is checked during the visual inspections, the purpose for doing so is not set out in any of the existing documents or procedures.	Update the Meadowbank Project Open Pit Surveillance Program procedure (Appendix K of the GCMP) to note the need to monitor the water level in the Phaser Pit as part of the visual inspections and the potential for the stability of the AWR embankment to be impacted if water ponds behind the embankment.	This recommendation remains outstanding.	Update the Meadowbank Project Open Pit Surveillance Program procedure (Appendix K of the GCMP) to note the need to monitor the water level in the Phaser Pit as part of the visual inspections and the potential for the stability of the AWR embankment to be impacted if water ponds behind the embankment.	**P4**

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NOTES:
1. STATUS AND PRIORITY HAS BEEN UPDATED TO REFLECT THE RESULTS OF THE 2024 ANNUAL INSPECTION.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	13FEB'25	ISSUED WITH LETTER NB24-00917	BDP	RAM

APPENDIX A

Meadowbank Complex - Meadowbank Site - 2024 Annual Open Pit Geomechanical Inspection

(Pages A-1 to A-38)

Meadowbank Complex - Meadowbank Site

2024 Annual Open Pit Geomechanical Inspection

August 12 and 13, 2024

Outline

- Introduction
- Observed Slope Performance
- Monitoring and Inspections

Introduction

Introduction

General

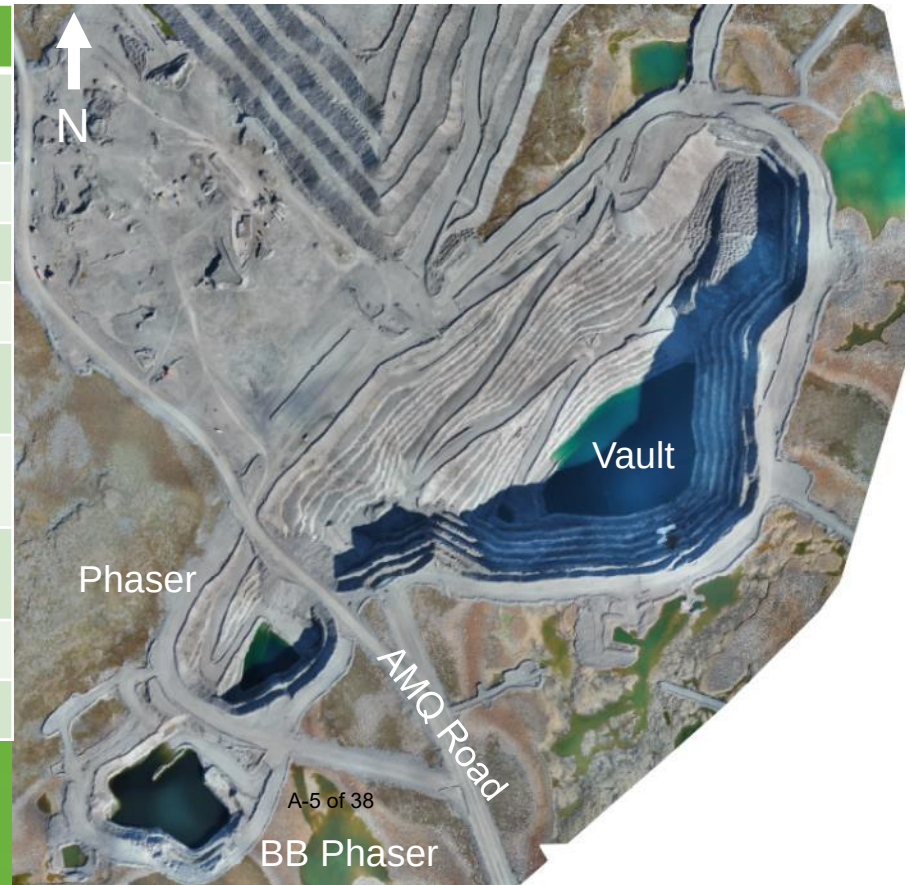
- Agnico Eagle Mines (AEM) operates the Meadowbank Complex in Nunavut. The complex consists of the Meadowbank and Amaruq Sites.
- The Meadowbank Site consists of the Portage, Goose, Vault and Phaser deposits. The deposits were mined using a series of open pits and mining is now complete. The Portage and Goose open pits are currently being used for tailings, waste rock and water management.
- An annual inspection of the open pits by a third-party is required under the Type-A, Part 1, Item 12 Water License for the mine.
- The 2024 annual inspection of the open pits was carried out by Mr. Ben Peacock, P.Eng. of Knight Piésold Ltd. and Antoine Laporte (Interim Rock Mechanics Coordinator) of AEM on August 12 and 13, 2024. The observations are summarized in this presentation.

Introduction

Meadowbank Site Open Pits

- The open pits at the Meadowbank Site that were reviewed, and their current status are summarized below.
- Note that all elevations presented are in metres Relative Level (mRL), which uses a datum 5000 m below sea level. The presented drone photos are from 2021 as new photos are not available.

Open Pit	Current Status
Portage Pit A	Mining complete, actively used for water management, inactive in-pit dump
Portage Pit B	Backfilled with waste rock
Portage Pit C	Backfilled with waste rock
Portage Pit D	Backfilled with waste rock
Portage Pit E	Mining complete, active tailings deposition, inactive in-pit dump
Goose Pit	Mining complete, partially flooded, inactive tailings deposition with the potential for future deposition
Vault Pit	Mining complete, partially flooded, inactive in-pit dump
Phaser Pit	Mining complete, partially flooded
BB Phaser Pit	Mining complete, flooded



Observed Slope Performance

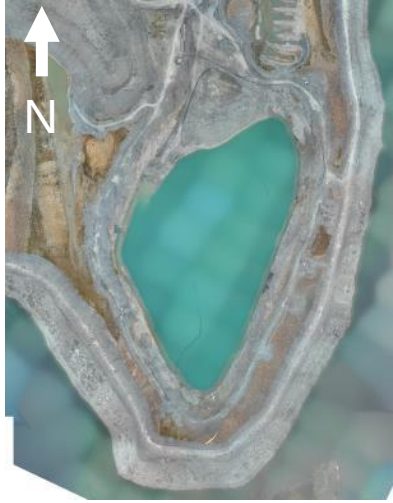
Observed Slope Performance

Goose Open Pit - General

- Mining of the open pit is complete. An inactive in-pit dump is present along the North Wall of the open pit (the North Waste Rock Dump). The approximate current pit geometry is shown at right (as of 2021).
- The open pit reached a final floor elevation of 4997 mRL, with a crest elevation of approximately 5130 mRL.
- Tailings was previously deposited in the open pit from a spigot point on the East Wall to an elevation of 5086 mRL. It is understood that future deposition of tailings is likely to be limited. The water elevation at the time of the inspection was approximately 5119.1 mRL, an increase of 5 m relative to 2023.
- The dump platform is at approximately 5125 mRL.
- Access to the open pit is infrequent, typically limited to monthly water quality sampling when the pit lake is not frozen.
- The East Wall of the open pit was instrumented with Time Domain Reflectometry (TDR) cables, Vibrating Wire Piezometers (VWPs) and thermistors. These instruments are no longer monitored from a geomechanical perspective. The instrumentation is discussed later in this presentation.
- Observations made during the inspection are summarized on the following slide.

Observed Slope Performance

Goose Open Pit



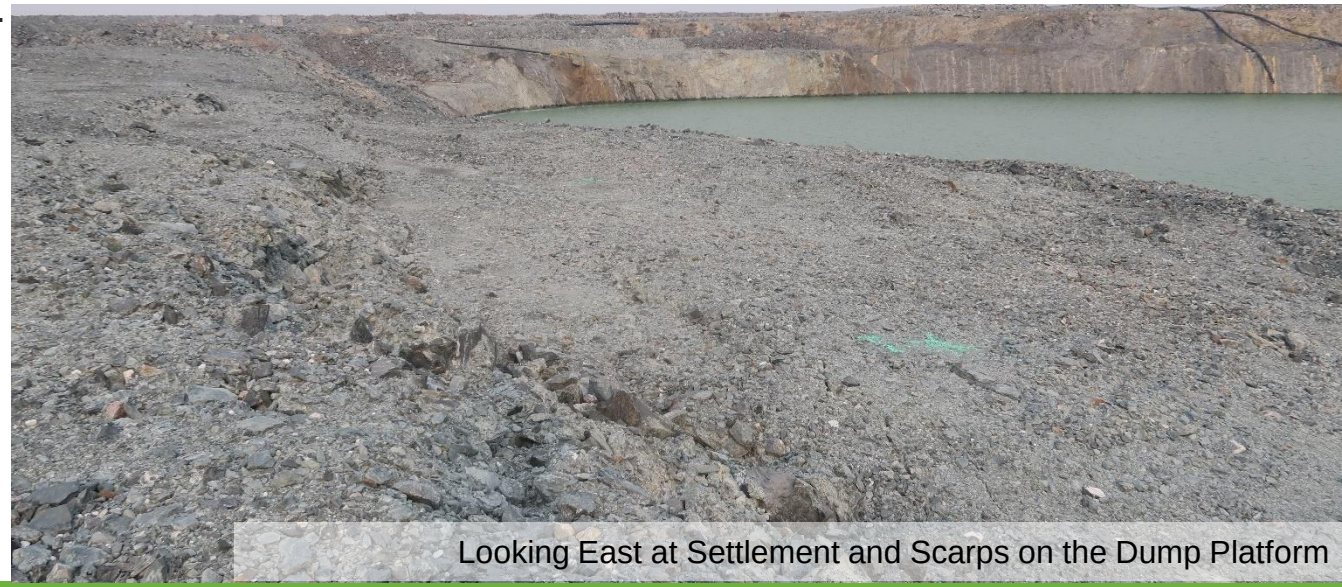
- A portion of the upper bench is exposed above the current pit lake.
- The walls are performing well and no particular geomechanical concerns were noted.
- The exposed bench faces along the ramp at the northern end of the pit are relatively low and there is ample room to transit and work away from the wall. As a result, the rockfall risk is considered to be low.
- A barricade is no longer present at the top of the ramp. However, a restricted access sign has been installed.

East Wall

Observed Slope Performance

Goose Open Pit - North Waste Rock Dump

- The dump is inactive, and access is prevented by both a rockfill berm and the presence of water pipes across the access point.
- The dump has been subsiding since 2015. The settlement is attributed to the deposition of water in the open pit, through a combination of thawing and increasing porewater pressure. The concern is that a sudden failure of the dump could create a wave that poses a hazard to personnel conducting water quality or tailings sampling in the pit lake.
- The settlement has resulted in a series of scarps along the dump platform, that are now 2 to 3 metres in height (see photo below).
- The settlement is monitored as part of monthly inspections by the Geotechnical Group visually and using four survey pins installed in 2022. The observed deformation is discussed further on the following slide.
- Personnel are accessing the pit lake more often this summer due to Environmental monitoring and closure-related work. As a result, there is increased exposure of personnel to a dump failure.

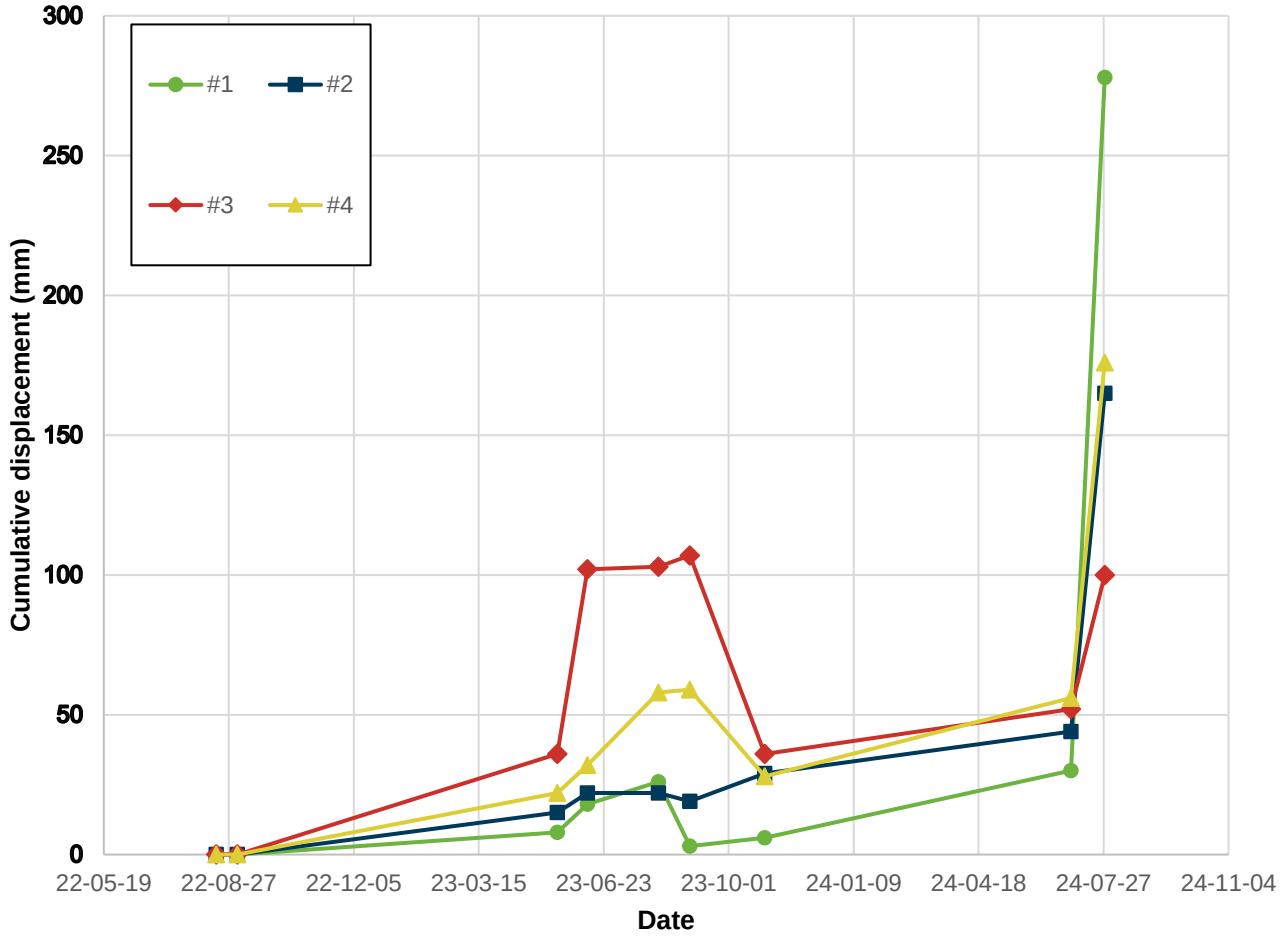


Looking East at Settlement and Scarps on the Dump Platform

Observed Slope Performance

Goose Open Pit - North Waste Rock Dump - Survey Pins

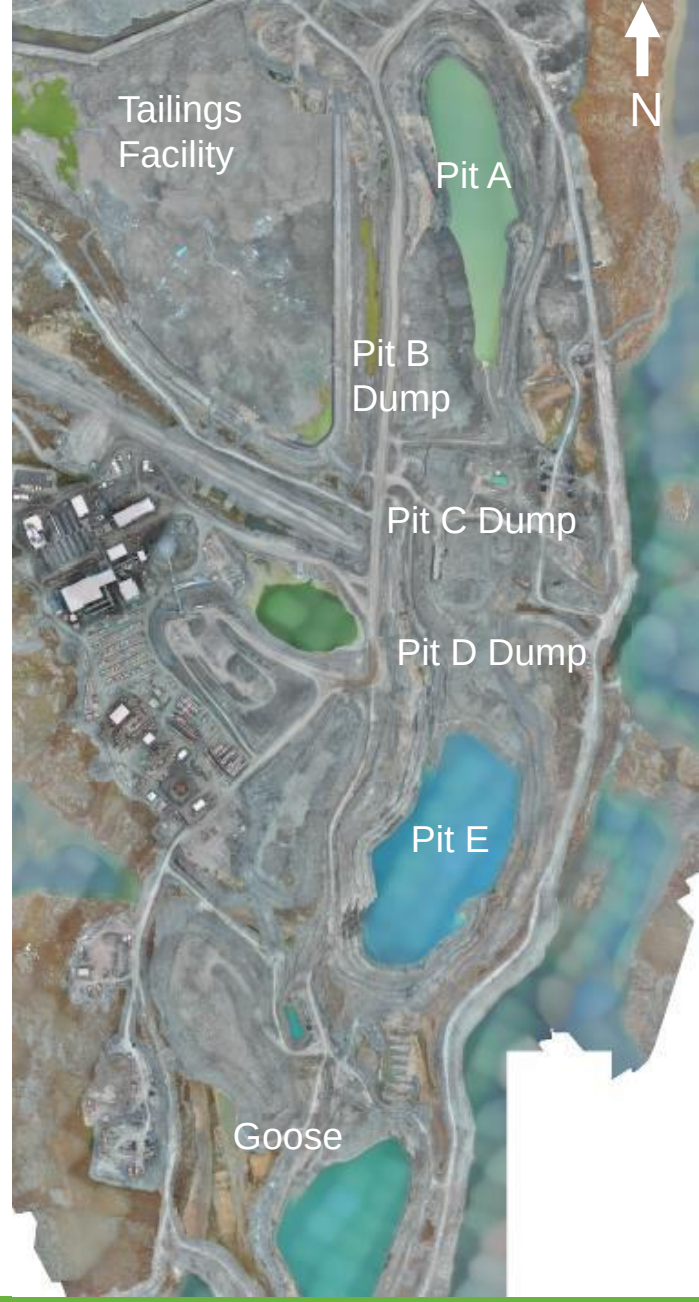
- The four survey pins are monitored on a monthly basis.
- The cumulative displacement was less than 50 mm until late July 2024 when it suddenly increased to up to 275 mm. Until this point, the deformation rate was less than 1 mm/day.
- The cause of the sudden increase in displacement has not been determined but is believed to be due to the increasing water elevation in the pit lake as well as the warmer summer temperatures. Together these factors would promote thawing of the dump, and the increasing water level would increase the pore water pressure in the submerged portion of the dump. During the annual inspection, additional readings were taken to confirm the readings.
- The observed deformation is within TARP Blue (Stable) status. However, such a sudden change in behaviour should trigger a review. The frequency of the visual inspections and survey pin readings should be increased (e.g., to weekly monitoring) while access is still required to the open pit.
- There is a need to better quantify the extents and total deformation. Recommend using drone photogrammetry to assess this on a semi-annual basis.



Observed Slope Performance

Portage Open Pits - General

- Pit A, Pit E, B Dump, C Dump and D Dump are shown at right. Mining of the open pits is complete, and Pits B, C and D have been backfilled with waste rock. The waste rock dumps extend along the southwest wall of Pit A and the north wall of Pit E. The dumps are no longer active.
- Pit A is being used for water management. The water elevation was 5103.6 mRL at the time of the inspection. Pit A has a final floor elevation of 4997 mRL and a crest elevation of 5151 mRL.
- Tailings are being deposited in Pit E from a spigot point at the crest of the West Wall. The water was at an elevation of 5102 mRL at the time of the inspection. Pit E has a final floor elevation of 4976 mRL and a crest elevation of 5130 mRL.
- Access to the open pits is infrequent, typically limited to monthly water quality sampling when the pit lakes are not frozen.
- The South Wall of Pit E was instrumented with TDR cables, an inclinometer, VWPs and thermistors. These instruments are no longer monitored from a geomechanical perspective. The instrumentation is discussed later in this presentation.
- Observations made during the inspection are summarized on the following slides.



Observed Slope Performance

Pit A - General

- Approximately one bench is exposed above the pit lake.
- No significant change was observed in the pre-existing bench-scale failures remaining above the pit lake since the 2022 inspection.
- Access to the East Ramp is restricted by berms at the top and bottom of the ramp (not shown in photo below).
- No particular geomechanical concerns were noted.

Pit A West Wall, looking northwest

Observed Slope Performance

Pit A - South Wall Ramp

- The South Ramp is used to access the pit lake. Water management infrastructure is normally present along the ramp but had been partially removed at the time of the inspection so that it could be moved further up the ramp.
- Access to the ramp was unrestricted and unsigned at the time of the inspection. Warning signs and/or a removable barrier (e.g., pylons) should be installed at the top of the ramp.
- It is understood that the pump controls will be located up the ramp and around the corner from the pit lake. This will help mitigate the risk associated with a wave caused by a failure of the open pit slope or the dump.

South Ramp, looking north from Crest of C Dump

Observed Slope Performance

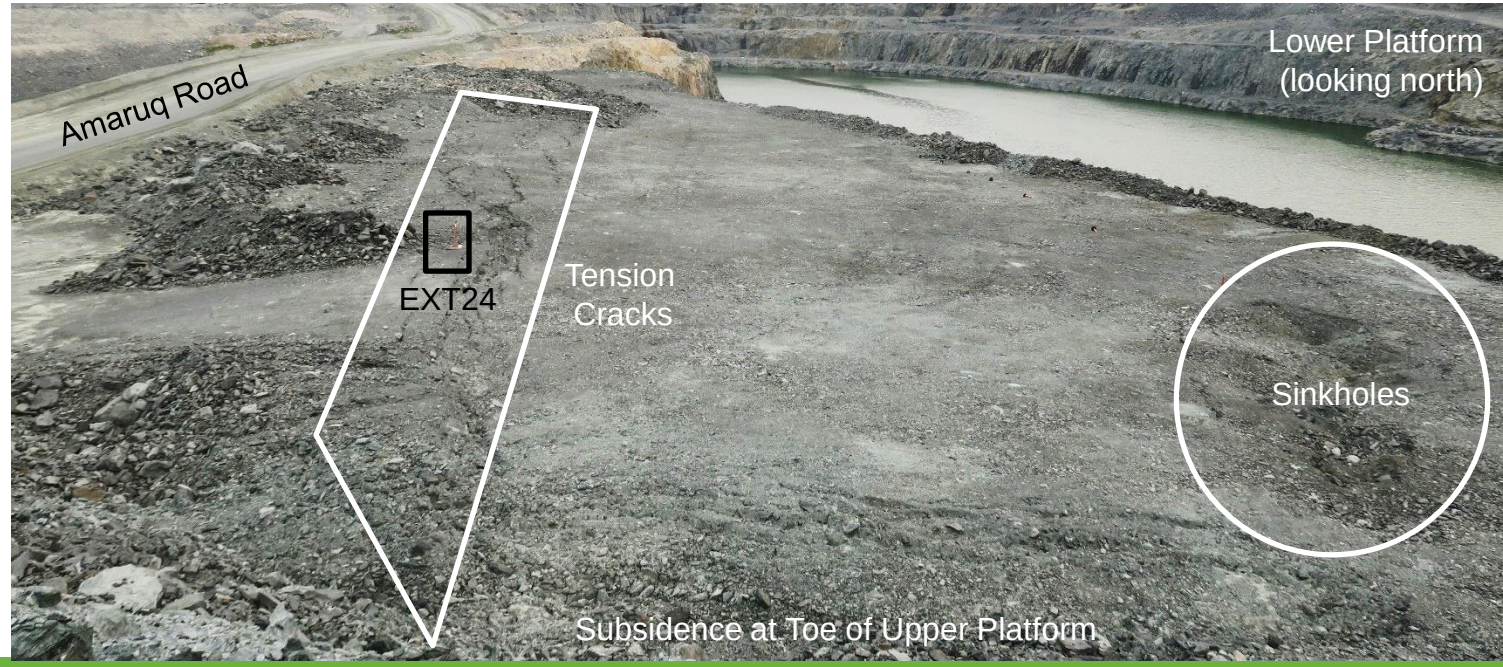
B Dump - General

- The B Dump consists of an Upper and Lower Platform, both of which are inactive. Access to both platforms is prevented by berms.
- Failures of the dump slope are possible as the pit lake elevation rises but have not been observed to date. Such a failure could cause a large wave in the pit lake that poses a hazard to personnel conducting water sampling or managing the reclaim water lines.
- Tensions cracks and subsidence continue to be observed on both platforms. The northern end of the Lower Platform has experienced the most subsidence. Sinkholes have also formed at the southern end of the Lower Platform. These are discussed on the following slides.
- An extensometer has been installed on the Lower Platform and this is described further on a following slide.
- The possibility of the settlement progressing back to the Amaruq Road was discussed in 2022 and concluded to be unlikely as the settlement and tension cracks appear to be limited to within the footprint of the pit. WSP was retained to complete a detailed assessment. The results are expected later this year and should be reviewed when they become available.

Observed Slope Performance

B Dump - Lower Dump Platform

- Tension cracks are present along the western limit of the dump (outlined in white below). The cracks are believed to be located above the crest of the East Ramp of the open pit. The tension cracks and associated settlement have progressed since the 2023 inspection and several fresh cracks were noted.
- The interpretation of the tension cracks (i.e., whether they indicate deep-seated movement of the dump or simply differential settlement across the position of the bench/ramp below the dump) relies on their position relative to the underlying pit ramp. Recommend surveying the cracks and confirming their position relative to the geometry of the pit slope below the dump.
- An extensometer (EXT 24) was installed in 2022 and readings have been taken approximately monthly. The cumulative displacement has increased from approx. 260 to 350 mm over the last year and the displacement rate has been less than 1 mm/day. This is within TARP Blue (Stable) status.
- There has been limited change in the sinkholes and subsidence at the toe of the Upper Platform since the 2022 and 2023 inspections.
- Recommend continuing to monitor the settlement and tension cracks on the dump.

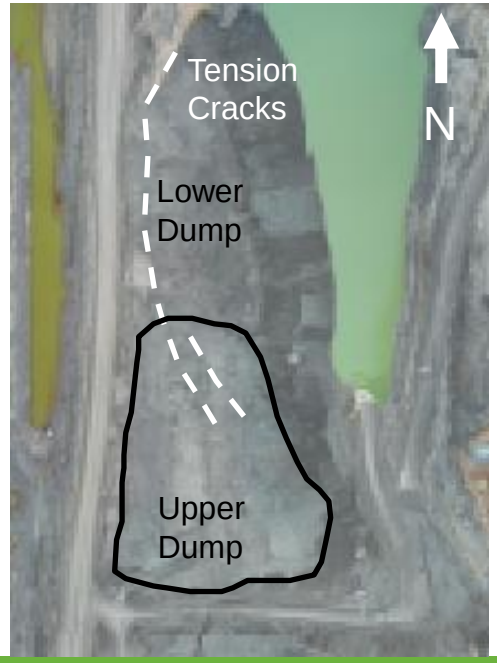


Observed Slope Performance

B Dump - Upper Dump Platform

- The NW-SE tension cracks at the northern end of the Upper Platform have continued to develop since the 2023 inspection.
- The orientation of the cracks suggest that they are also linked to the geometry of the underlying pit slope. The position of the cracks should be surveyed and confirmed relative to the pit geometry.

On Upper Platform, Looking Northwest



Observed Slope Performance

C Dump

- The C Dump, which backfilled Pit C, is located between Pits A and E and is inactive. Access to the dump platform is permitted but a berm has been constructed approximately 25 m back from the crest of the dump above Pit A.
- The ABF Garage was constructed on the C Dump platform in 2020 but was dismantled and moved off of the dump in 2023.
- Several electrical panels for the Pit A pumps were located inside the berm constructed along the crest. Since the 2023 inspection, the panels have been relocated outside of the berm and only a single junction box remains.
- Settlement of the dump is possible as the water elevation in Pit A and the water/tailings elevation in Pit E reach and surpass the base of the dump (approximately 5085 mRL). The current water elevations in Pit A (5103.6 mRL) and Pit E (5102 mRL) have risen above the base of the dump and it is believed that water is now flowing from Pit A to Pit E below the dump. However, no evidence of settlement of instability has been observed to date.
- As no evidence of instability has been observed, and settlement is likely to be gradual, the ongoing use of the dump as a laydown is considered acceptable.

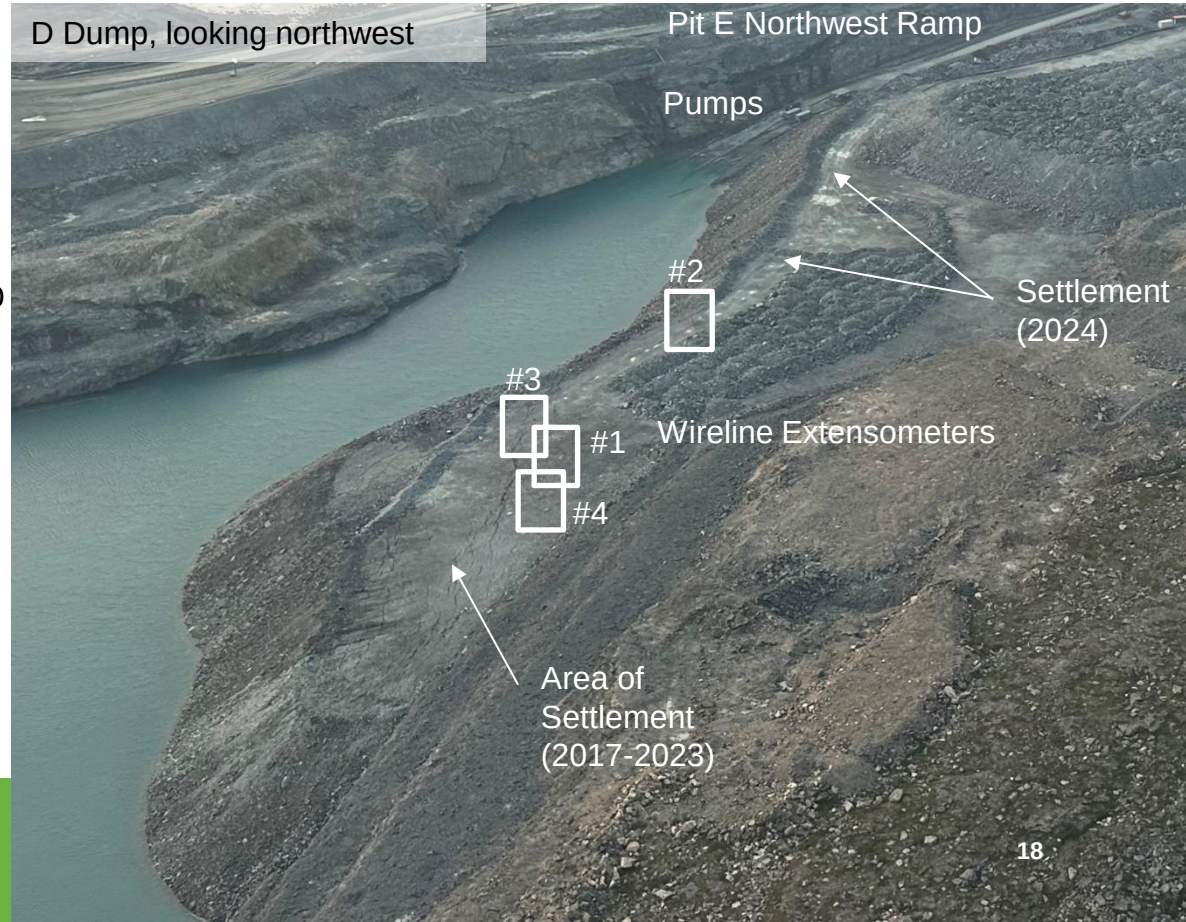
Electrical Junction Box at Crest, Inside Berm (2024)

Electrical Panel in 2023

Observed Slope Performance

D Dump

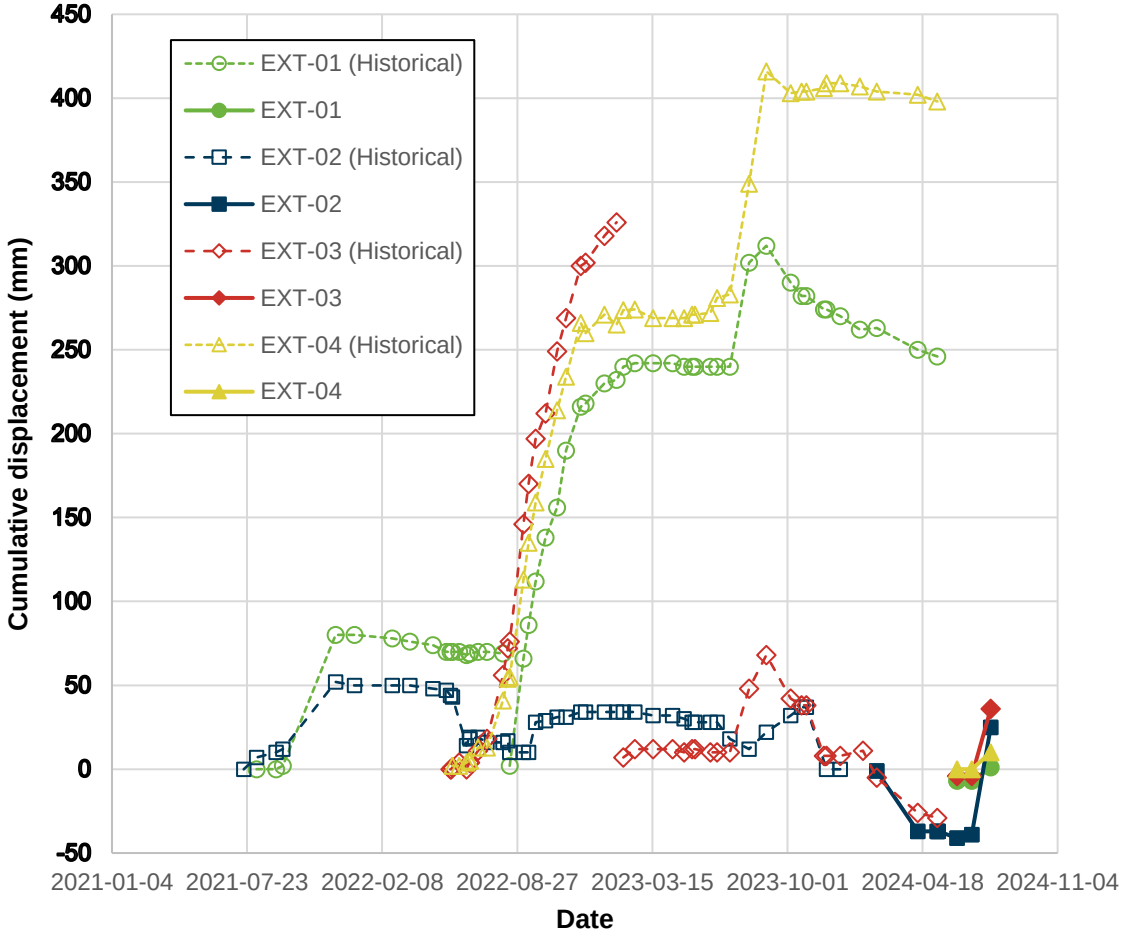
- The D Dump backfilled Pit D and forms the north wall of Pit E. The Pit E Northwest Ramp runs along the western toe of the dump.
- Access to the top of the dump is restricted by a series of berms.
- The southwestern end of the dump started to settle in 2017 and is attributed to the deposition of water in the open pit. Tension cracks are visible in this area.
- The settlement and tension cracks have migrated progressively to the north as the elevation of the pit lake rises, and water migrates beneath the dump.
- The greatest change in the stability of the dump has been observed since the last annual inspection, with evidence of settlement progressing more than a hundred metres to the north.
- The four wirelines, extensometers installed at the crest of the dump continue to be monitored and are discussed on a following slide.
- The dewatering pumps for Pit E are located at the toe of the dump. The pumps have moved a significant distance up the ramp since the 2023 annual inspection. This has reduced the exposure of personnel to rockfall hazards along the ramp as well as any rockfall or instability of the D Dump.
- There is a regular presence of personnel at the pumps and infrequent access to the pit lake during the summer months for monthly water quality sampling.



Observed Slope Performance

D Dump - Extensometers

- The Geotechnical Group commit to monitoring the extensometers on a monthly basis.
- As the tensions cracks have progressed behind the extensometers, they have been repeatedly moved, resetting the data. The data are shown at right.
- A potential seasonal trend is observed in the data, with an increase in displacement over the summer months. The displacement rate varies between approximately 3 mm/day to less than 1 mm/day. This is within TARP Blue (Stable) status.
- The spatial extents of the settlement exceed what can be practically monitored with four extensometers and the need to repeatedly move the instruments limits the ability of the mine to assess long term trends. Recommend using drone photogrammetry to better understand the spatial distribution of the deformation. The use of the extensometers could be limited to areas with increased exposure (e.g., above the pumps on the Pit E Northwest Ramp).

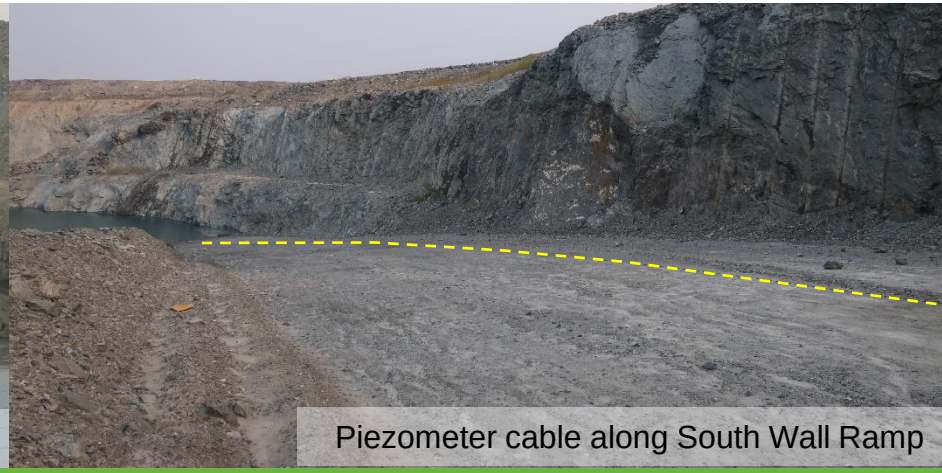


Observed Slope Performance

Pit E - General

- Approximately one and a half benches are exposed above the pit lake.
- The wall is performing well and no particular geomechanical concerns were noted.
- No significant change in the historical bench-scale instabilities along the south wall were observed.
- The ramp along the south wall was previously closed with a berm. At the time of the annual inspection, the berm had been partially removed and the ramp used to install a vibrating wire piezometer in the pit lake. The berm should be replaced.
- The vibrating wire piezometer cable run along the ramp (in yellow, below right) is located close to the pit wall. Rockfall is present on the ramp in this area. The cable should be relocated away from the pit wall (e.g., to the berm on the outside of the ramp).
- The ramp at the north end of the open pit is described on a following slide.

South Wall



Piezometer cable along South Wall Ramp

Observed Slope Performance

Pit E - Southwest Wall

- Approximately one and a half benches in the Ultramafics are exposed above the pit lake. The wall is within talik.
- Tailings are discharged from a line at the crest of this wall. There have been concerns about the potential for erosion of the benches or slope instability due to water infiltration. Limited erosion (crest loss) of the bench directly below the discharge point has been observed, but no evidence of slope instability has been observed. The wall is performing well.
- Seepage continues to be observed from the prominent structure to the left of the tailings discharge point (outlined below). No evidence of deterioration or movement was observed.
- Recommend continuing the monthly visual inspections to monitor the area for bench degradation, erosion, tension cracks, seeps, etc.

Southwest Wall, looking west

Observed Slope Performance

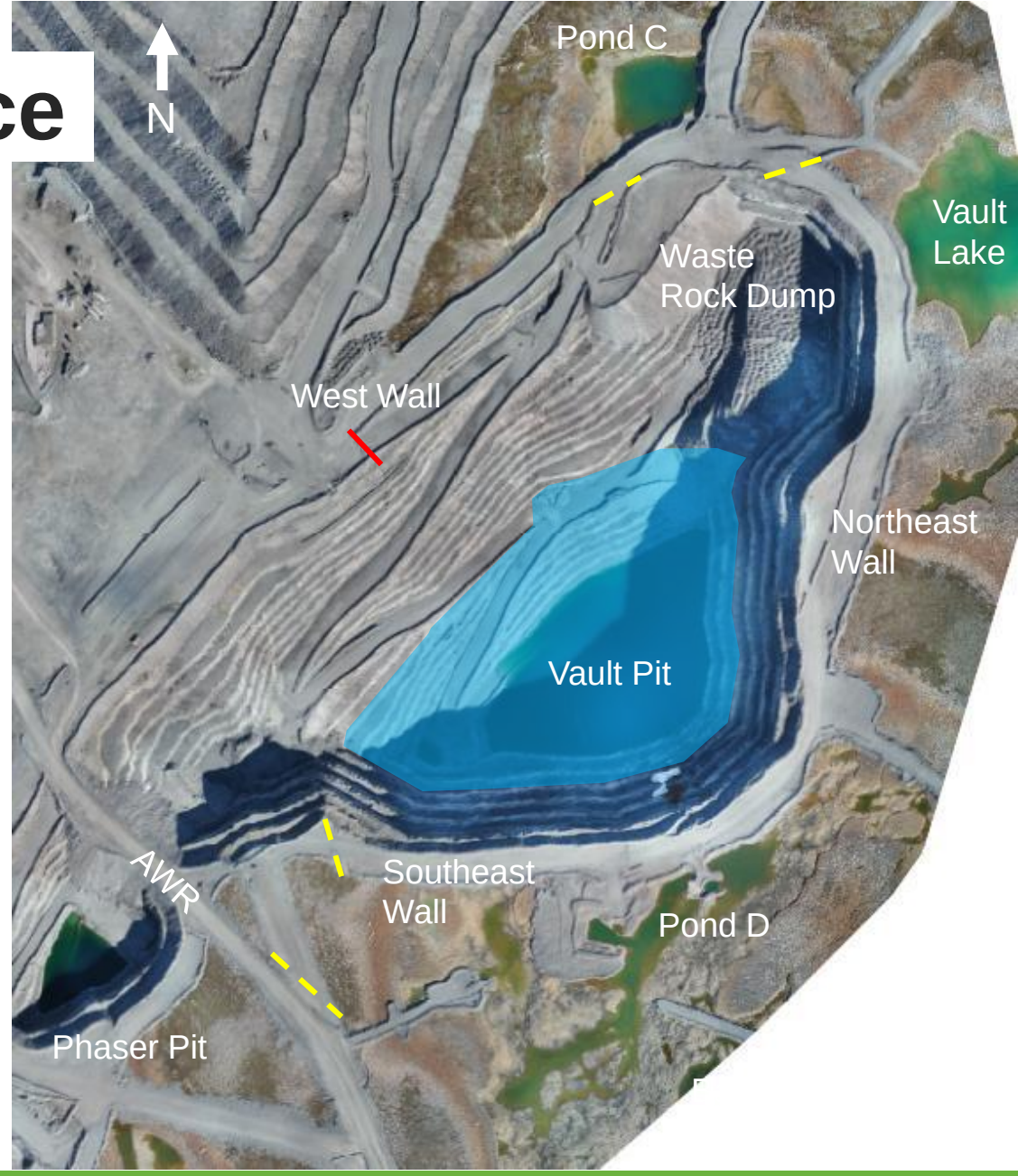
Pit E - Northwest Wall and Ramp

- The Northwest Ramp is used to access the pit lake and water management infrastructure is present along the ramp.
- Multiple rockfall hazards have been previously identified along this wall. With the rise of the pit lake, most of these hazards have been flooded and no longer pose a risk to personnel. However, a rockfall hazard remains on the Northwest Wall adjacent to the pumps, where a fault intersects the wall.
- The rockfall berm at the toe of the pit slope has been effective at managing rockfall. Over the last year, the berm was locally repositioned closer to the slope to create room for the pumps. The reconstructed berm is relatively short and may not be an effective rockfall barrier. Recommend increasing the height of the berm in this area to match the remainder of the berm.

Observed Slope Performance

Vault Open Pit - General

- Observations made during the inspection of the Vault open pit are summarized on the following slides.
- The approximate current pit geometry is shown at right (as of 2021).
- Mining of the open pit was completed in March 2019. An inactive in-pit dump is present along the North Wall of the open pit.
- The open pit reached a final floor elevation of 4955 mRL, with a crest elevation of 5137 mRL.
- Access to the open pit is limited to monthly water quality sampling when the pit lake is not frozen.
- At the time of the inspection, access to the open pit was restricted by a barricade. Access to the ring road is restricted by berms at the north and south ends of the road. The barricade (red) and berms (yellow)are shown at right.
- The open pit is partially flooded. The elevation of the pit lake was last measured in June 2022. It has since risen to flood the area approximately shaded in blue in the image at right.
- The Amaruq All Weather Road (AWR) crosses between the Vault and Phaser Pits on a rockfill embankment.



Observed Slope Performance

Vault Open Pit - Northeast and Southeast Walls

- The walls are performing well. No particular geomechanical concerns were noted.
- The ice wall continues to form each winter on and below the talik zone in this wall. Limited seepage through the rock was observed at the time of the inspection.
- Access to / below the North Waste Rock Dump is not possible.

Northeast and Southeast Walls, looking east

Observed Slope Performance

Vault Open Pit - Southwest Wall

- The Amaruq AWR crosses a saddle between the Vault and Phaser pits on a rockfill embankment.
- During the winter of 2023, tension cracks were observed on the surface of the road, perpendicular to the axis of the road. The cracks have not been observed since and may have been due to frost heave within the upper road surface.
- No evidence of instability in the AWR embankment was observed during the inspection (e.g., no tension cracks on the road surface or bulging of the embankment toe).
- The stability of the Amaruq AWR embankment could be impacted if the water level in the Phaser Pit on the other side of the embankment increases and water ponds behind the embankment. This has not occurred. No seepage was observed at the time of the inspection. The presence of seepage should continue to be evaluated as part of the monthly inspections. Recommend noting the importance of this in the GCMP.

Southwest Wall, looking southwest

Observed Slope Performance

Vault Open Pit - West Wall

- The West Wall is located along the footwall of the deposit. The wall was established with 7 m high single benches without pre-shear and commonly failed or were scaled back to the foliation. The ramp is located along this wall.
- At the time of the inspection, access to the ramp was restricted by a barricade.
- Rockfall hazards are present along the ramp. However, the ramp is sufficiently wide that personnel accessing the pit for water quality sampling are able to stay well away from the benches. A small rockfall (< 50 tonnes) was reported on the inside of the ramp in June 2024 and evidence of periodic rockfall was observed at the toe of the benches during the inspection.

West Wall, looking west

Observed Slope Performance

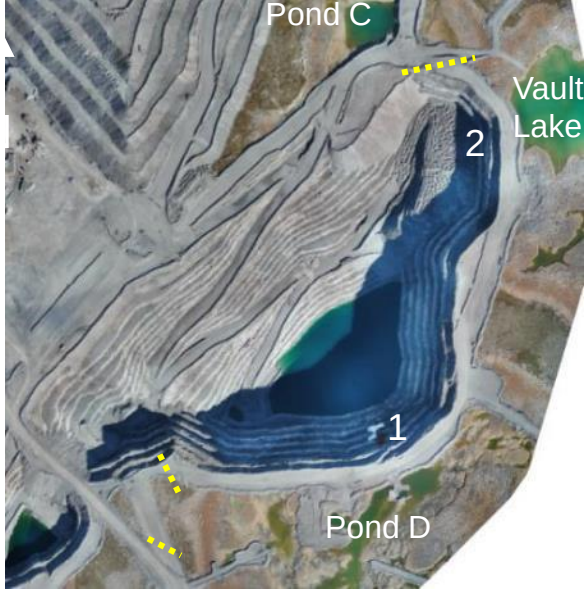
Vault Open Pit - North Waste Rock Dump

- A waste rock dump was constructed at the north end of the Vault Pit. The dump is inactive and consists of two platforms with elevations at approximately 5133 mRL and 5082 mRL.
- Settlement and tension cracks were observed at the crest of the upper platform at the north end of dump during the 2019 inspection. There appears to have been little change since that time. The affected area is relatively small and is not above the ramp.
- No other evidence of instability was observed during the inspection.
- Access to the dump is prevented with a berm.

Looking west at Area of Settlement

Observed Slope Performance

Vault Open Pit - Ring Road



- A berm has been constructed at both ends of the Ring Road to prevent access (yellow dashed lines at right). Several geomechanical hazards have previously been identified along the road (numbered at right):
  1. Seepage from Pond D has flowed under the road and down the pit wall in 2019, 2021, and 2023. Seepage was not observed during this year's inspection.
  2. Subsidence of the road has occurred adjacent Vault Lake. The subsidence appears to have increased since the 2023 inspection. No seepage was observed below the road. The potential for a sudden inrush of water from Vault Lake into the open pit was previously identified as a hazard in the event of a breach or erosion of the Ring Road in this area. As a result, the area should continue be inspected prior to accessing the open pit. Alternatively, the road could be purposely breached in this area to eliminate the hazard.

Area 2 looking west with subsidence

Observed Slope Performance

Phaser and BB Phaser Pits - General

- Observations made during the inspection of the Phaser and BB Phaser open pits are summarized on the following slides.
- Mining of the open pits is complete. The approximate current pit geometry is shown at right.
- The BB Phaser open pit is flooded, and the Phaser open pit is partially flooded. The elevation of the pit lake in the Phaser open pit is not recorded, but an estimate is shown at right.
- Access to the BB Phaser open pit is limited to monthly water quality sampling when the pit lake is not frozen. There is no access to the Phaser Open Pit.
- At the time of the inspection, the accesses to the open pits were barricaded by berms (shown as dashed lines at right).
- Note that the Amaruq All Weather Road (AWR) crosses between the Vault and Phaser Pits on a rockfill embankment.
- AEM continues to complete monthly geomechanical inspections of the open pits. The AWR is also included in the inspections. These inspections should continue, though the open pit inspections could be discontinued during periods when water quality sampling is not occurring.

Observed Slope Performance

Phaser Open Pit - General

- The open pit is partially flooded, limiting the current rock exposures to a single bench. No particular concerns were noted.
- Access to the open pit is prevented by a berm.
- No evidence of instability was observed in the Amaruq AWR embankment.
- The stability of the Amaruq AWR embankment could be adversely impacted if the water level in the Phaser pit increases and water ponds behind the embankment. A visual assessment of the water level in the open pit has been incorporated into the monthly inspections since the last inspection. The pit lake elevation does not appear to have significantly changed since the 2021 inspection.

Observed Slope Performance

BB Phaser Open Pit - General

- The open pit is flooded, with no rock slopes visible.
- Access to the open pit is prevented by a berm. The berm is traversed when water quality sampling is required to be completed.
- No particular geomechanical concerns were noted.

Monitoring and Inspections

Monitoring and Inspections

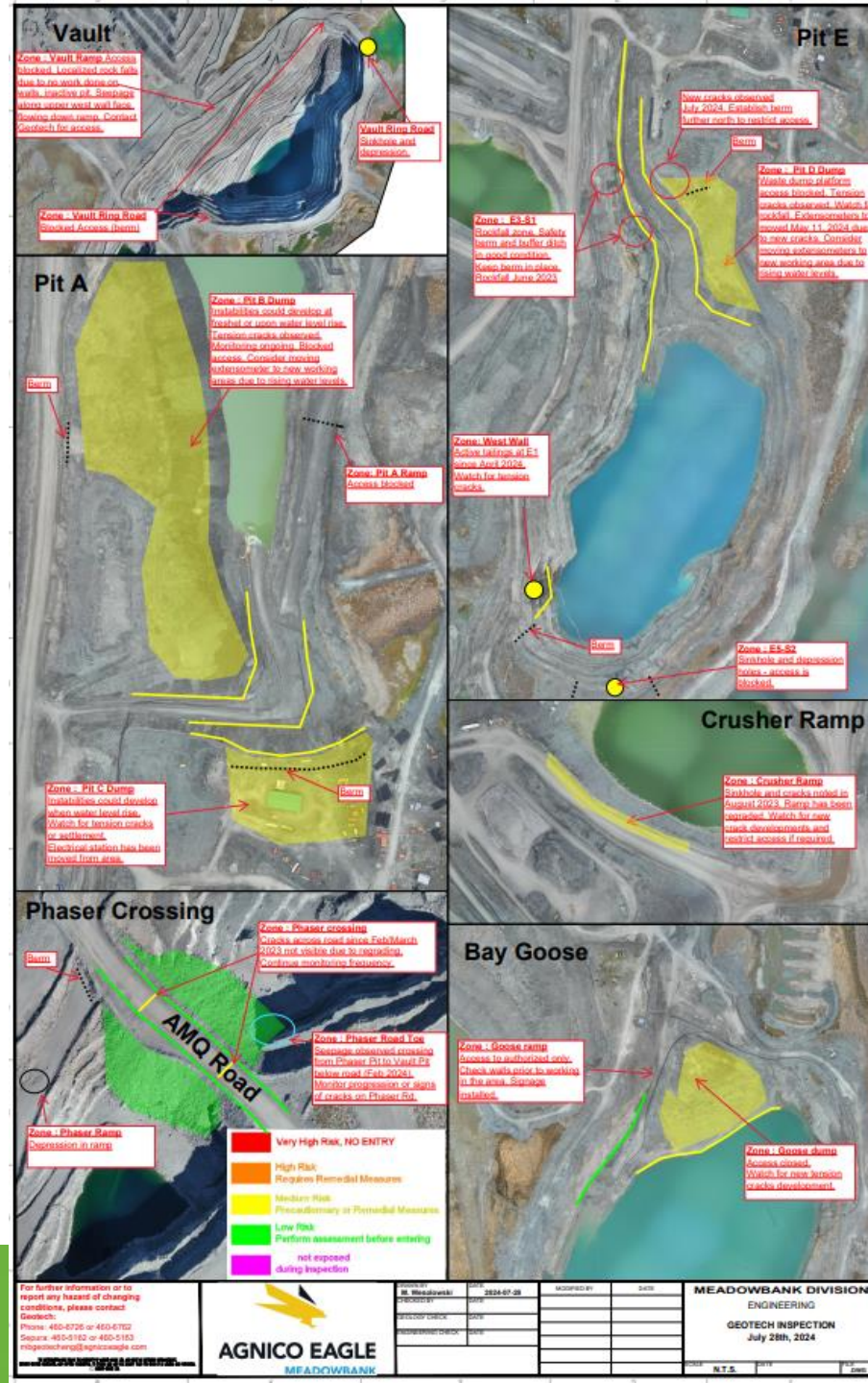
Inspections

- Visual inspections are completed by the Geotechnical Group on a monthly basis (with some exclusions during the winter between October and February) and a summary report and map issued. The inspection procedure has been updated to define criteria when additional inspections are required.
- The personnel completing the inspections have changed over the last year. The inspections are now primarily completed by Michelle Wesolowski (Geotechnical Engineer).
- The Rock Mechanics Group commits to an over-inspection of the open pits and in-pit dumps at the Meadowbanks site once a year. This is now completed as part of this annual inspection.
- A selection of the inspection reports were reviewed. They are well-written and the key hazards identified during the 2024 annual inspection are included in the monthly reports.

Monitoring and Inspections

Hazard Assessment

- The most recent hazard assessment map (July 28, 2024) was reviewed. A summary is shown at right and comments are provided below.
- All of the hazards identified during the annual inspection have been captured by the hazard assessment.
- The risk ratings assigned to the identified hazards are thought to be generally reasonable.
- The drone photos used for the hazard map are out of date and do not reflect the reduction in slope hazards / accessible areas as the pit lake elevations rise. The drone photos should be updated to reflect the current conditions.



Monitoring and Inspections

Instrumentation

Wireline Extensometers:

- Four wireline extensometers are used to monitor Dump D and one wireline extensometer is used to monitor Dump B. The Geotechnical Group commit to monitoring the extensometers on a monthly basis, with more frequent readings depending on the observed displacement. Monitoring requirements are set out in the procedure "Wireline Extensometer Monitoring in Rock Storage Facility". The procedure also defines displacement rate thresholds and the associated responses.
- The extensometer data have started being plotted since the 2022 inspection, and the plots are included in the monthly inspection reports.

Survey Pins:

- Four survey points are used to monitor the settlement of the Goose Waste Rock Dump. The Geotechnical Group commit to monitoring the survey pins on a monthly basis outside of winter, with more frequent readings depending on the observed displacement.
- Monitoring requirements are set out in the Meadowbank Open Pit Surveillance Program procedure.
- The survey pin data are graphed and are included in the monthly inspection reports.

Comments:

- The graphs and the calculation of deformation rate for both the extensometers and the survey pins have been corrected since the 2023 inspection.
- Given the large spatial extents of the settlement at the dumps, drone photogrammetry likely provides greater value than the ongoing monitoring of the extensometers. The extensometers could be limited to the areas of greatest exposure / consequence (i.e., the D Dump above the pumps on the Pit E West Wall Ramp and the B Dump adjacent the All Weather Road). Recommend implementing drone photogrammetry on at least an annual basis. If completed more frequently, the monitoring of some the extensometers (i.e., on the D Dump) could be reduced in frequency or stopped.

Monitoring and Inspections

Instrumentation (Cont'd)

Piezometers and Thermistors:

- A series of piezometers and thermistors were installed at many of the open pits. These instruments are no longer monitored from a geomechanical perspective.
- The VWPs and thermistors at Pit E are monitored by the Geotechnical Group from an environmental perspective given the deposition of tailings in the pit.
- The VWPs and thermistors at the Goose Pit are no longer monitored from an environmental perspective as tailings deposition has stopped. There may be value in monitoring these instruments periodically from an environmental perspective given the potential for future tailings deposition.

TDRs and Inclinometers:

- TDR cables were installed at Pit E and the Goose Pit and an inclinometer was installed at Pit E. These instruments are no longer monitored.

Other:

- The tension cracks in the waste rock dumps are periodically marked with spray paint to make it easier to identify changes over time.

Monitoring and Inspections

Ground Control Management Plan (GCMP)

- The GCMP for the Meadowbank Site was last updated in 2018 and has been discontinued.
- The inspection and monitoring commitments are documented in the “Meadowbank Open Pit Surveillance Program” procedure appended to the GCMP for the Amaruq site.
- There remains a need to reference key sources of information on the open pits (e.g., a list of reports) so that the information is not lost. This could be included as a section in the GCMP or as a stand-alone document referenced by the GCMP.


THANK
YOU