AGNICO EAGLE

MEADOWBANK COMPLEX

Final Closure Design for the North Cell and South Cell Tailings Storage Facility

DECEMBER 2025

VERSION 1

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Version	Date	Section	Page	Revision
1	December 2025	All	All	Final closure design for the North Cell and South Cell Tailings Storage Facility. This report is the closure strategy for this facility and is considered final. This appendix will be transitioned over to the FCRP once Agnico Eagle is ready to submit the overall FCRP for the Meadowbank Complex, but will remain unchanged from the version approved by the NWB with approval of the ICRP.

Prepared by:

Agnico Eagle Mines Limited – Meadowbank Division

ACRONYMS

Abbreviation	Definition
Agnico Eagle	Agnico Eagle Mines Limited
CPCMP	Closure and Post-Closure Monitoring Plan
FCRP	Final Closure and Reclamation Plan
FEIS	Final Environmental Impact Statement
ICRP	Interim Closure and Reclamation Plan
Meadowbank Complex	Collectively, the Meadowbank Mine, Vault Pit, and Whale Tail Mine
Meadowbank Mine	Facilities and infrastructure at the Meadowbank mine site
NPAG/NML	Non-Potentially Acid Generating/Non-Metal Leaching
NWB	Nunavut Water Board
POPC	Parameters of Potential Concern
TSF	Tailings Storage Facility
Whale Tail Mine	Open pits and underground mines and infrastructure at the Whale Tail Mine

SECTION 1 FINAL CLOSURE DESIGN FOR THE NORTH CELL AND SOUTH CELL TAIILINGS STORAGE FACILITY

This section provides specifics for the final closure design for the North Cell and South Cell Tailings Storage Facility (TSF). As the Meadowbank Complex is expected to enter closure in the near future, the Interim Closure and Reclamation Plan (ICRP) aims to achieve a '*near-final'* state, so that the development of a Final Closure and Reclamation Plan (FCRP) for the Meadowbank Complex is efficient, and guides the implementation of closure designs and reclamation activities, as well as the progressive reclamation of facilities in accordance with the applicable legislation, policy and licence requirements. The Meadowbank Complex ICRP is also meant to update the reclamation liability estimate, thus providing Agnico Eagle with an accurate estimate of their current financial liabilities associated with closure.

At this time, Agnico Eagle has developed a preferred final closure plan for a major facility, the Meadowbank TSF (also known as the North Cell and South Cell TSF). To execute on this plan as part of progressive reclamation, Agnico Eagle requires certainty that the NWB has approved the closure strategy for the TSF to allow for execution of closure construction of the TSF in 2026. Following completion of closure construction of the TSF (scheduled to be completed by 2028), Agnico Eagle will file an amendment to Part C of the Type A Water Licence to account for the corresponding reduction in reclamation liability (which will be established in advance of completion of the work). Agnico Eagle expects prompt return of the portion of the reclamation security that corresponds to the reduction of liability for the TSF once work is complete. To limit confusion, the closure strategy for the TSF is reflected in this appendix. This appendix states that the closure strategy for this facility should be considered final as approved by the NWB and that the appendix will be transitioned over to the FCRP once Agnico Eagle is ready to submit the overall FCRP for the Meadowbank Complex.

As outlined in Section 4 of the ICRP (Agnico Eagle 2025), Agnico Eagle intends to leave behind a positive environmental and community legacy. In this regard, Agnico Eagle is committed to responsible mining practices for the protection of human, wildlife, and aquatic life, and environment. Three closure objectives underpin Agnico Eagle's closure vision:

- **Physical stability**: The reclaimed Meadowbank Complex should be built or modified at closure so that landforms do not erode more than natural landforms, subside, or move under extreme design events, and therefore do not pose a threat to humans, wildlife, or environmental health and safety.
- **Chemical stability:** The reclaimed Meadowbank Complex should be chemically stable to prevent adverse soil, water and air quality effects that might pose a risk to humans, wildlife, or environmental health and safety.
- **Future use and aesthetics:** The reclaimed Meadowbank Complex should be compatible with the surrounding lands at the completion of the reclamation activities.

By implementing the above closure principles, specific closure objectives can be achieved, thus advancing the Meadowbank Complex towards successful closure by meeting the various success criteria that underpin these objectives.

1.1 Tailings Storage Facility – Final Closure Design

1.1.1 Pre-disturbance, Existing, and Final Site Conditions

Pre-disturbance conditions are based on baseline data collection programs presented in the Meadowbank 2005 FEIS (Cumberland 2005a). The pre-disturbance site conditions are also summarized in Section 3 of the ICRP (Agnico Eagle 2025). The Meadowbank Complex TSF in its current configuration is described in Section 2.5.5 of the ICRP (Agnico Eagle 2025). Section 1.2 of this appendix provides timing of major closure activities associated with the Meadowbank TSF.

As ore is currently trucked from the Whale Tail Mine to the Meadowbank Mine for processing, the resulting tailings are deposited into the Meadowbank TSF, thus reducing impacts to the environment by reducing the project footprint and needs for reclamation of additional facilities. Deposition in the NC/SC TSF is expected to last until 2027 (See Section 1.2 of this appendix), with progressive reclamation (placement of NPAG/NML cover over the tailings) of the Meadowbank TSF expected to occur until -2028 (See Section 1.2 of this appendix). The final schedule may be adapted to field and weather conditions to ensure safe and compliant placement of material. Currently, only part of the North Cell is covered with NPAG/NML rockfill, but ultimately, both TSF cells (i.e., North Cell and South Cell) will be capped with NPAG/NML material.

1.1.2 Closure Objectives and Criteria

Closure criteria for the Meadowbank Complex’s TSF are provided in Table 1. As presented in the table, with the final design presented for the North Cell and South Cell TSF, the actions and objectives have been met. Monitoring, as presented in Section 1.1.6, will validate these actions.

Table 1: Closure Objectives and Criteria for Tailings Storage Facility of the Meadowbank Complex

Closure Principle(s)	ID	Closure Objective	Closure Criteria	Actions	Criteria/Objective Met
Chemical Stability	**Air and Water**				
	TSF1	Dust deposition levels are safe for humans, wildlife, and aquatic life	Dust characteristics meet modelled predictions and relevant criteria, and is protective of human and ecological health	**TSF1-Action 1:** design and construct cover to effectively manage TSF associated dust	TSF1 – Action 1 ☒ Objective met with the final design as presented
	TSF2	Water quality is safe for humans, wildlife, and aquatic life	Water quality meets modelled predictions and relevant criteria, and is protective of human and ecological health	**TSF2-Action 1:** design and construct cover to effectively manage water in the TSF **TSF2-Action 2:** install and maintain geotechnical monitoring instrumentation consistent with the CPCMP **TSF2-Action 3:** monitor water quality in accordance with Section 1.1.6, and the CPCPM	TSF2 – Action 1 ☒ TSF2 – Action 2 ☒ Objectives met with the final design as presented TSF2 – Action 3 ☐ Monitoring will validate actions
Physical Stability	TSF3	TSF is physically and geotechnically stable and does not pose a risk to human or environmental receptors	TSF is designed and recontoured to extent practicable to protect long-term geotechnical stability	**TSF3-Action 1:** design and construct landform features to have minimal risk of erosion, thaw settlement, slope failure, collapse **TSF3-Action 2:** design TSF to account for seismic, climate change, and permafrost considerations **TSF3-Action 3:** monitor geotechnical stability in accordance with the CPCMP	TSF3 – Action 1 ☒ TSF3 – Action 2 ☒ Objectives met with the final design as presented TSF3 – Action 3 ☐ Monitoring will validate actions

TSF = Tailing Storage Facility; CPCMP = Closure and Post-Closure Monitoring Plan.

1.1.3 Closure Activities

1.1.3.1 Tailings Cover System

To advance the TSF cover design, studies were undertaken to analyze the potential cover system and water management alternatives and determine a preferred and financially viable alternative that meets closure design objectives. From these workshops, a tailings cover system and external water management ponds for the TSF landform were recommended for the prefeasibility design.

The resulting design for the Meadowbank TSF consists of the following elements:

- A waste rock cover system consisting of:
  - Preferred option of a minimum 2.0 meter waste rock cover placed on top of tailings.
- Design and optimization of surface water management infrastructure (to manage surface runoff and interflow) through the following aspects;
  - Optimization of tailings deposition;
  - Grading of the tailings and cover system surface to direct surface runoff and interflow to North and South Cell cover system channels;
  - Design of a spillway over Stormwater dike, directing water from the North Cell to the South Cell;
  - Design of a Spillway directing water from the South Cell to the drainage channel directed to Collection Pond 23; and
  - Expansion of Collection Pond 23 to become the collection pond to accommodate the increased water storage capacity required by the TSF.

In addition, the preferred TSF cover option aligns with Terms and Conditions in Project Certificate No.004 for the Meadowbank Mine. Term and Condition No. 19 (TC19) states that:

> *Cumberland (the Owner) shall provide for a minimum of two (2) metres cover of tailings at closure, and shall install thermistor cables, temperature loggers, and core sampling technology as required to monitor tailing freezeback efficiency. Cumberland shall report to NIRB’s Monitoring Officer for the annual reporting of freezeback effectiveness.*

The preceding Term and Condition No. 18 (TC18) also states that:

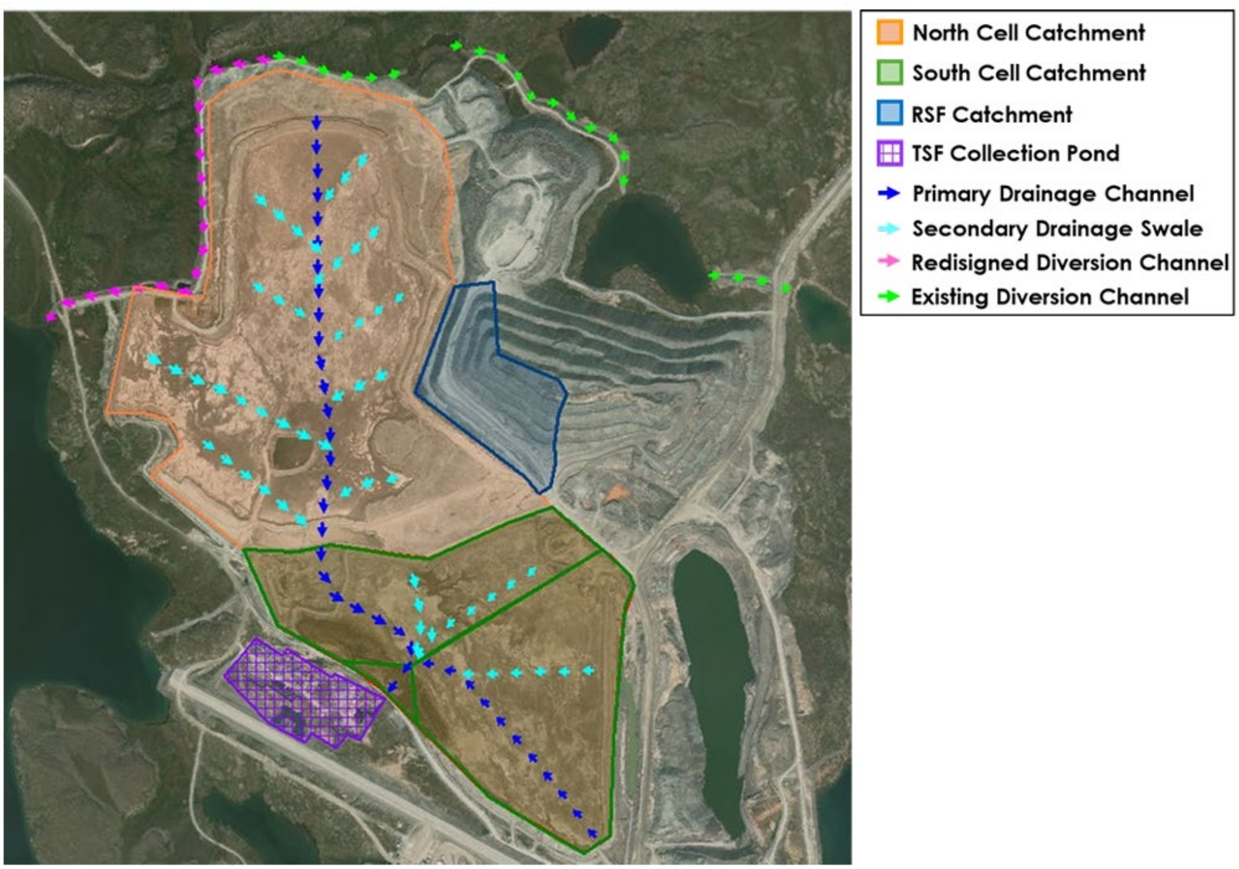
> *Cumberland (the Owner) shall commit to a pro-active tailings management strategy through active monitoring, inspection, and mitigation. The tailings management strategy will include the review and evaluation of any future changes to the rate of global warming, compliance with regulatory changes, and the ongoing review and evaluation of relevant technology developments, and will respond to studies conducted during the mine operation*

The tailings cover system is anticipated to isolate the waste from the receiving environment with the key objective of the management of: tailings dust, suspended sediment in runoff, and generation of Parameters of Potential Concern (POPCs) from tailings in the long term. The tailings cover will achieve physical (by allowing proper drainage of water) and chemical stability (by limiting the ingress of oxygen and maintaining saturated conditions).

The tailings cover system will be placed on the final tailings surface based on the optimized tailings deposition and regrading plan to be developed during feasibility and detailed engineering design (Appendix 6J-A). The cover is designed to ensure that water during flood events is managed such that tailings dams are never exposed to risks of overtopping. The cover consists of coarser-textured run-of-mine NPAG/NML to a preferred thickness of 2.0 m (minimum). Finally, as presented in Figure 1, water from the TSF now will report to Collection Pond 23 which will be diverted to the Portage Pits. Additional details on the TSF tailings cover can be found in Appendix 6J-A.

The geotechnical and geochemical analysis used to derive the preferred cover option of the TSF is summarized in Appendix 6J-B. This memorandum summarizes analysis completed to assess the physical and chemical stability of the preferred option compared with varying thicknesses of cover, from no cover (0 meter) to a 4 meter cover.

Figure 1: TSF Water Management Design and Location of Collection Pond 23



1.1.4 Predicted Residual Effects

The TSF will be a permanent feature on the post-closure landscape. The vegetation communities that formerly occupied the Meadowbank TSF footprint will be permanently lost, but some of the native community may revegetate the TSF cover surface over time. No significant adverse impact on the continued opportunity for traditional use, non-traditional use, or wildlife use in the region is anticipated with the closure of the TSF.

1.1.5 Uncertainties

The main uncertainty related to the TSF closure is when water from the TSF will be of sufficient quality for release to the environment which could require additional mitigation measures. The monitoring will validate the water quality predictions that have been presented.

1.1.6 Closure and Post-Closure Monitoring, Maintenance and Reporting

The post-closure performance of Meadowbank Complex TSF will be assessed through:

- Inspections by a geotechnical engineer or qualified personnel to assess stability and performance of the TSF.
- Monitoring of water quality at Collection Pond 23 from the TSF to confirm that the cover system is performing as predicted and associated runoff is not adversely affecting the environment.

As Agnico Eagle continues to place material, monitoring is ongoing during the operational window and early stages of active closure. The following are high-level details related to the North and South Cell monitoring; however, the reader is referred to the CPCMP (Appendix 6-A of the ICRP) for the comprehensive closure and post-closure monitoring details, include adaptive reduction in monitoring requirements.

Any recommendation or action to be taken following a surveillance activity must be assigned a priority and an owner and be followed up on according to its priority. Table 2 provides frequencies of monitoring during Closure based on the severity (priority) of the item being monitored. A full list of changes that will be monitored is provided in Table 4.2-14 of the CPCMP (Appendix 6-A of the ICRP).

Table 2: TSF Monitoring Frequency Based on Priority Ranking

Priority	Description	Timeline to Address
P-1	A high priority or actual structure safety issue considered immediately dangerous to life, health, or the environment; or a significant risk of regulatory enforcement.	Immediately to 1 week
P-2	If not corrected could likely result in structure safety issues leading to injury, environmental impact, or significant regulatory enforcement: or a repetitive deficiency that demonstrates a systemic breakdown of procedures.	1 week to 3 months
P-3	Single occurrences or deficiencies or non-conformance that alone would not be expected to result in structure safety issues.	3 months to 6 months
P-4	Best Management Practice – Further improvements are necessary to meet industry best practices or reduce potential risk.	> 6 months

- Chemical Stability Monitoring: To validate chemical stability of the TSF, water quality monitoring at Collection Pond 23 will be completed to confirm that the cover system is performing as predicted. Information collected will be used to confirm previous water quality monitoring predictions.
  - The closure activity of the North Cell and South Cell will take place during the operations phase. Closure monitoring specific to the North Cell and South Cell will be as follows:

Station	Description	Phase	Monitoring Parameters	Frequency	Decommission Date
ST-11 (CP23)	Tailings Storage Facility	Closure	Group 1	Monthly during open water (Jun-Oct) to 2031 Follow CPCMP after 2031	2040

Group	Parameter
1	pH, turbidity, hardness, alkalinity, ammonia nitrogen, total metals (aluminum, arsenic, barium, cadmium, chloride, chromium, copper, fluoride, iron, lead, manganese, mercury, molybdenum, nickel, nitrite, nitrate, selenium, silver, thallium, zinc), sulphate, TDS, TSS, total cyanide. If CN total is detected, then further analysis of CN Free and CN WAD will be triggered.

Instrumentation Monitoring: Instrument monitoring provides information on parameters or characteristics that cannot be detected through site observation or inspections, cannot be observed with sufficient precision and accuracy, or need to be monitored at high frequency or continuously. Several different types of instruments will be part of this monitoring program, including thermistors, piezometers, etc.

The CPCMP (Appendix 6-A of the ICRP) will be followed for the final closure of the North and South Cell TSF.

1.1.7 Contingencies

During closure, water from the TSF would continue to be sent from Collection Pond 23 to the Portage Pits, and treated if required. If water quality in the Portage Pits is not appropriate for release to the environment, water will be retained within the pits until it meets Water Licence criteria. Agnico Eagle is not seeking to amend any of the existing Water Licence criteria for discharge.

1.2 Tailings Storage Facility – Schedule

Table 3 illustrates the schedule of closure for the North and South Cell TSF. Closure monitoring will continue until the success criteria of the Tailings Storge Facility have been met, as described in Section 1.1.6 above.

Table 3: North and South Cell Tailings Storage Facility Closure

Year	2026	2027	2028	2028+
Tailings Deposition	■	■		
Place Cover Material on North and South Cells	■	■	■	
Water management infrastructure construction	■	■	■	
Contact Water Pond 23 Construction	■	■		
Physical Stability and Chemistry Stability Monitoring	■	■	■	■

1.3 Tailings Storage Facility – Security

This section details the reclamation security amounts specific for the North and South Cell TSF (Table 4). Closure of the tailings facilities includes placement of an NPAG/NML waste rock cover of varying thicknesses, but to a minimum of 2 m. In addition, a water management system to control runoff and ensure proper drainage for the North and South Cells. Takeoff quantities have been updated based on current designs. These details are also provided within Appendix 8-A of the ICRP.

As outlined in Table 4, the summary of costs for the North Cell and South Cell TSF closure activity is $32,121,068 (directs) and $10,693,899 (indirects) for a total cost of $42,814,967. It should be noted, the remaining contingency will be $6,152,745 which can be used for additional activities if required.

Upon completion of the progressive reclamation steps described in this plan, Agnico Eagle will request that Part C of the Water Licence will reflect the return of all funds for the North and South Cell TSF as described in Table 5.

The reclaim file has sufficient monitoring funds for the entire site at $4,133,524, that is approved and will remain and be used for the monitoring that will validate chemical and physical stability. This is based on the high degree of engineering certainty associated with the strategy (Appendix 6J-A,B) as well as the fact that no aspects of the closure strategy can be described as novel or experimental, Agnico Eagle believes there is a strong evidentiary basis for the prompt return of these funds once the civil construction work (placement of cover) is completed.

Further details on the security reduction procedure are discussed in Section 1.4.2 of this document.

Table 4: Security Costs for North and South Cell Tailings Storage Facility Closure

Item	Component Name	Cost	KivIA Liability	CIRNAC Liability
Direct Cost (Breakout of Tailings Facility)				
Cover Tails – North Cell		$16,460,760	$8,230,380	$8,230,380
Cover Tails – South Cell		$6,762,250	$3,381,125	$3,381,125
Ditching		$2,525,680	$1,262,840	$1,262,840
Collection Pond		$5,799,978	$2,899,989	$2,899,989
Remove Piping		$522,400	$261,200	$261,200
Specialized Items		$50,000	$25,000	$25,000
Sub-total Direct Cost		**$32,121,068**	**$16,060,534**	**$16,060,534**
Indirect Cost (Breakout of Tailings Facility)				
Mobilization/Demobilization		$1,700,000 (a)	$850,000(a)	$850,000(a)
Post-Closure Monitoring and Maintenance		$0 refer note (b)	$0 refer note (b)	$0 refer note (b)
Engineering	5%	$1,606,053	$803,027	$803,027
Project Management	5%	$1,606,053	$803,027	$803,027
Health and Safety Plans/Monitoring, QA/QC & Engagement Costs	2%	$642,421	$321,211	$321,211
Bonding / Insurance	1%	$321,211	$160,605	$160,605
Contingency	15%	$4,818,160	$2,409,080	$2,409,080
Market Price Factor Adjustment	0%	$0	$0	$0
Sub-total Indirect Cost		**$10,693,8998**	**$5,346,950**	**$5,346,950**
Tailings Facility (total)		**$42,814,967**	**$21,407,484**	**$21,407,484**

a) Mobilization/demobilization is based on the overall activity of the placement of the cover, and this equals approximately 31% of the total LOC costs.

b) Post-closure monitoring and maintenance will be completed as part of the overall security

1.4 Tailings Storage Facility – Regulatory Process

1.4.1 Final Tailings Storage Facility Closure Design Approval

Agnico Eagle has submitted the ICRP for review and approval as it continues to work on strategies for facilities of the Meadowbank Complex; therefore, the review and approval of the ICRP, in its entirety, including this section (as outlined in this appendix the closure design for the North and South Cell TSF are considered as Final Closure), should not exceed a 60-day review period. This takes into account the significant engagement that Agnico Eagle has undertaken with key reviewers (since November 2024), such as CIRNAC and the KivIA, in advance of submission of this document to the NWB for approval.

1.4.2 Security Reduction Procedure in Water Licence

Agnico Eagle understands that an amendment to security will require an amendment process under Part C of the Type A Water Licence. In addition, under Part C, as part of the amendment, the process of a release of reclamation security will also be applicable. For clarity, this means that once the cover is completed in 2028, the LOC should be reduced to the revised amount as per Table 5.

In addition, section 10 of the *Nunavut Waters Regulation* confirms that the reclamation security required under the Type A Water Licence cannot exceed the estimated reclamation liability for the site. Additionally, as a policy matter the NWB supports and encourages progressive reclamation, particularly for a specialized facility such as a TSF.

Accordingly, this plan is submitted as an appendix to the ICRP in support of the NWB's approval of the execution of this plan as well as a corresponding reduction in security required under Part C once the work is completed.

Agnico Eagle is able to comply with all of the terms and conditions of the Type A Water Licence in carrying out the closure of the TSF. No amendments to the Type A Water Licence will be required to carry out the closure strategy described in this plan.[1] Therefore, the NWB should not require an amendment process to approve the ICRP.

For further clarity, Table 5 highlights the reduction of the security directly related to the activity of the North and Cell cover and highlighted the revised security number for Reclaim version 7.0 once the cover material is placed. The placement of the cover will start in winter 2025/2026 and continue until the start of freshet 2028.

[1] For example, Agnico Eagle can continue to comply with

- Part D, Item 9 – "All Effluent from the Sewage Treatment Plant shall be directed to the Stormwater Management Pond. Any discharge of the Stormwater Management Pond shall be directed to the Tailings Storage Facility."
- Part E, Item 5 - "The Licensee shall maximize to the greatest practical extent, the use of reclaim water from the Tailings Storage Facility for use in the mill.."
- Part F, Item 2 - "The Licensee shall dispose of Sewage Effluent and direct all sludge removed from the Sewage Treatment Plant to the Tailings Storage Facility or to the Landfarm as a nutrient amendment in accordance with the Operation and Maintenance Manual: Sewage Treatment Plant (March 2017) as approved by the Board."
- Part F, Item 20 – "The Licensee shall dispose of tailings and operate the Tailings Storage Facility in accordance with the Tailings Storage Facility - Operation, Maintenance and Surveillance Manual (March 2019) and the Updated Mine Waste Rock and Tailings Management Plan (July 2019) as approved by the Board and Guide to the Management of Tailings Facilities (Mining Association of Canada September 1998). The tailings solids fraction shall be permanently contained within the Tailings Storage Facility."

Table 5: Summary of Security Costs and Revised Security Costs for Water Licence Reduction

Item	Costs	Comments
A. Existing License overall security required by Part C	$89,427,746	
B. New reclamation security estimate number	$103,341,070	(Section 8.0 of ICRP [Agnico Eagle 2025])
C. Difference of security estimate	$13,913,324	
D. North and South Cell Cover security estimate liability reduction	$42,814,967	(Table 4 in this document) 1. Freshet 2026 – approximately $14,271,655.67 will be spent on the cover placement which exceeds the difference in reclaim 2. Freshet 2027 – approximately an additional $14,271,655.67 will be spent 3. Freshet 2028 – approximately the final $14,271,655.67 will be spent
E. Balance of Cover Costs	$28,901,643	= D - C
F. Revised Security Estimate for License once the activities contemplated by this Plan are completed	$60,526,103	Revised security in the Water Licence after the amendment

REFERENCES

Agnico Eagle (Agnico Eagle Mines Limited). 2025.Interim Closure and Reclamation Plan for the Meadowbank Complex.

Cumberland (Cumberland Resources Ltd.). 2005a. Meadowbank Gold Project Final Environmental Impact Statement (FEIS).

Appendix 6J-A: Meadowbank TSF Closure Design Concept Summary

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Memorandum

To:	Laurier Allard – General Supervisor Critical Infrastructure, Agnico Eagle Mines Ltd
From:	Gillian Allen, Senior Engineer
Cc:	Rebecca Cousineau – Agnico Eagle; Ismail Ouchebri – Okane
Document No:	948-249-008 Rev0
Date:	November 19, 2025
Re:	**Meadowbank TSF Closure Design Concept Summary**

Okane Consultants (Okane) has developed an updated feasibility level closure design for the Meadowbank tailings storage facility (TSF) for Agnico Eagle Mines Limited (Agnico Eagle). The following memorandum describes the conceptual cover system and water management design for the Meadowbank TSF.

Background and Project Description

Previous design concepts for the TSF utilized a thermal non-potentially acid-generating (NPAG) waste rock cover as a mechanism to provide source and pathway control of acid rock drainage (ARD) (Okane, 2015). The design was expected to require a minimum thickness of 2.0 m of NPAG waste rock for the underlying tailings to remain frozen in all but the warmest climate change scenarios. The unfrozen tailings were expected to be segregated in the upper 0.5 m and maintain a high degree of saturation (above 85% saturation), reducing the risk of oxidation until the material freezes back into the permafrost over time.

Thermal monitoring data is available for portions of the TSF that were previously covered as part of progressive reclamation (SNC-Lavalin, 2019; Agnico Eagle, 2023; Boulanger-Martel, 2021) and additional cover system modelling was performed by Okane (2024).

To advance the TSF closure landform design to feasibility-level design, Okane was retained to provide an updated conceptual TSF cover system design to address concerns regarding performance and implementation of the thermal cover system design identified from available thermal monitoring. The updated conceptual design work was undertaken in the context of Term and Condition No. 18 of the Project Certificate No. 004 which states that:

> Cumberland (the Owner) shall commit to a pro-active tailings management strategy through active monitoring, inspection, and mitigation. The tailings management strategy will include the review and evaluation of any future changes to the rate of global warming, compliance with regulatory changes, and the ongoing review and evaluation of relevant technology developments, and will respond to studies conducted during the mine operation

Okane supported sampling and geochemical characterization programs within the TSF in 2023 and 2024 to:

- identify indications both geochemically and visually of the depth of oxidation in the Meadowbank tailings under existing conditions;
- characterize material properties of tailings and waste rock in support of cover system modelling, and;
- develop source terms from the closed TSF for inclusion in the site wide water and load balance.

Okane developed potential cover system and water management alternatives that met closure design objectives with consideration to Term and Condition No. 19 of the Project Certificate No. 004 which states that:

> Cumberland (the Owner) shall provide for a minimum of two (2) metres cover of tailings at closure, and shall install thermistor cables, temperature loggers, and core sampling technology as required to monitor tailing freezeback efficiency. Cumberland shall report to NIRB's Monitoring Officer for the annual reporting of freezeback effectiveness.

The preferred cover system and landform design concept promotes a high degree of saturation in the tailigngs to reduce oxygen ingress to the tailings while managing surface water for optimal short-term and long-term performance. The proposed cover system design for the TSF is a NPAG waste rock cover system with surface water channels and secondary drainage swales directing water to a single collection pond at the collection pond in the former Quarry 23 (TSF Collection Pond).

Closure Design Objectives

The objectives identified for the cover system at the Meadowbank TSF for the North and South Cell include (Okane, 2015; SNC, 2017):

- Stabilize slopes surrounding the tailings impoundment or containment system for flooded and/or dewatered conditions;
- Minimize catastrophic and/or chronic release of the tailings or contaminated water to the environment;
- Minimize wind migration of tailings dust;
- Minimize the threat that the impoundment becomes a source of contamination;
- Minimize suspended sediments loading;
- Manage surface water of the cover system to avoid ponding;
- Optimize the volume of NPAG rock required for the cover system; and
- Provide public and wildlife safety by preventing access to the tailings.

Prefeasibility Design

The proposed design for the for the Meadowbank TSF consists of the following elements:

- optimized tailings surface to promote drainage and minimize tailings earthworks to the extent practicable;
- a waste rock cover system to promote a high degree of saturation in the underlying tailings and promote drainage towards the TSF Collection Pond; and
- effective surface and interflow water management to ensure the long-term integrity and performance of the cover system including:
    - a combination of a primary drainage channel and secondary drainage swales to collect and direct runoff and interflow into outlet channels;
    - a spillway over Stormwater Dike directing water from the North Cell to the South Cell;
    - a spillway directing water from the South Cell to the TSF Collection Pond; and,
    - the TSF Collection Pond which will function as an attenuation basin, temporarily storing runoff during active closure.

As this is a conceptual design, there is limited detailed design criteria with which to form the design basis. The design basis will focus on identifying key aspects of the cover system and water management that will be carried through to feasibility level design.

Conceptual Model

The cover system is designed to isolate the waste from the receiving environment with the key design criteria being the promotion of oxygen ingress limiting conditions due to a high degree of saturation in the tailings, and management of surface runoff and interflow within the TSF cover system. The cover system consists of coarser-textured stockpiled run-of-mine (ROM) NPAG waste rock placed on top of the tailings with nominal traffic compaction at surface (Figure 1). The cover system will promote high infiltration conditions to limit oxygen ingress within the tailings themselves regardless of tailings temperature.

The tailings will maintain a high degree of saturation, given their inherent particle size distribution and resulting soil-water characteristic curve, thereby limiting oxygen ingress to diffusion. This is supported by both initial field sampling / test pitting completed in the fall of 2023 and 2024, field measurement of oxygen ingress, and saturation (Boulanger-Martel, 2021), as well as long-term cover system modelling completed in the pre-feasibility design of the cover system (Okane, 2024). Test pitting identified a high degree of saturation within the tailings throughout the uncovered areas of the TSF and found no consistent indication of oxidation from visual observations or chemistry of pore water extractions.

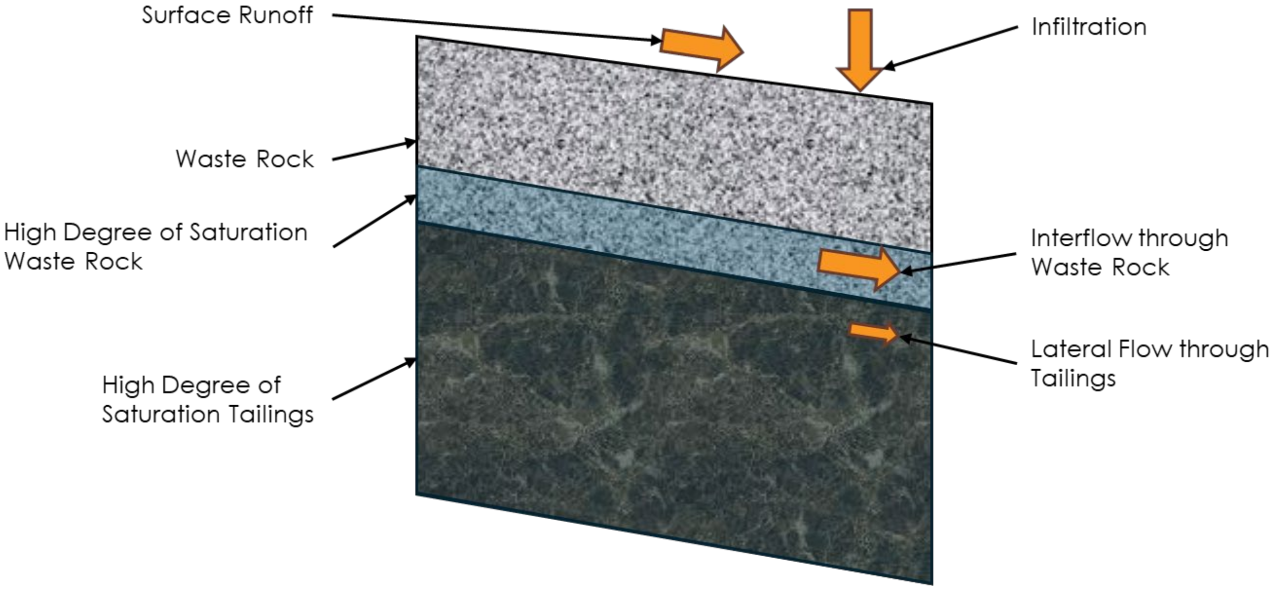

Figure 1: Conceptual cover system design for the Meadowbank TSF

Contaminants located either in entrained process water or developed over time through tailings oxidation can be transported to the environment via:

- Upwards movement of water into the cover system during high evaporative conditions in the summer and towards the freezing front in the fall;
- Lateral flow within the tailings;
- Seepage from the tailings into groundwater or through the containment structures; and
- Upwards movement of contaminants through the water column via diffusion;

During the summer months, under very high evaporative conditions it is possible the tailings may allow oxidation products to develop and / or soluble salts to concentrate near the tailings / cover system interface. High evaporative conditions have the potential for solute migration into the cover system. While salt crusting has anecdotally been observed on bare tailings at the TSF, evidence of evaporative concentration of soluble salts or oxidation products in the porewater has not been observed in test pitting programs. Additionally, evaporative forcing (i.e. the observation of increasing matric suction under warm conditions) has not been observed in the 2 m or 4 m cover system cover system field trial monitoring data. Contaminant transport into the cover system however will also be limited to diffusion due to the textural difference between the tailings and the run-of-mine waste rock. Uptake into the cover system would not be expected to be greater than 0.15 m (Kessler, et, al. 2010 and Kessler, 2007) under ideal conditions (i.e. high evaporative forcings and fine-grained cover system soil conditions). Given the monitoring data available, and the textural break between the tailings and the waste rock cover system material, the uptake from evaporative forcings is expected to be negligible.

The high degree of saturation in the tailings and textural discontinuity between tailings and waste rock will promote lateral flow within the cover system rather than infiltration to the tailings. This concept was confirmed with numerical modelling which indicated that lateral flow within the tailings primarily occurs near water management channels which are cut into the tailings, where a gradient exists across the tailings. This geometry is limited to areas immediately adjacent to the stormwater dike spillway and the TSF Collection Pond Spillway and represents a very small portion of the TSF surface area. An objective of the detailed design will be to limit this geometry to the extent possible while maintaining positive drainage across the landform.

Downwards seepage from the tailings into groundwater or through the containment structures is limited as the majority of the TSF is frozen at depth. Under thawed conditions, the tailings are expected to maintain a high degree of saturation, limiting the potential for long term contaminant transport to the initial flush or pore water.

The leading transport mechanism from the tailings is therefore expected to occur through upwards diffusion of contaminants in the water column and subsequent transport via lateral flow in the cover system. Loading from diffusion of contaminants though the water column is expected to be much less than would occur through direct advective transport of contaminants (i.e. seepage). Additionally, this diffusive flux will slow over time as the existing entrained process water reaches equilibrium with cleaner pore water in the NPAG cover material given the high degree of saturation in the tailings will limit the creation of additional oxidation products over time.

The cover system will isolate the waste from the receiving environment to manage tailings dust, suspended sediment in runoff, and generation of contamination from tailings oxidation long term. The high infiltration conditions that will develop in the cover system are expected to lead to oxygen ingress limitation within the tailings themselves regardless of tailings temperature.

Cover System Design

A NPAG waste rock cover system will be placed on the final tailings surface based on the optimized tailings deposition. The minimum required thickness of NPAG waste rock is 1m to achieve design objectives. Although 1m would be sufficient, 2m is recommended to comply with Terms and Conditions of Meadowbank Mine Project Certificate No.004.

The cover was evaluated for water flow under the base case climate change scenario (SSP2-4.5). The water balance of the model indicated that little runoff (0% to 5% of average annual precipitation) would be anticipated due to the coarse-textured nature of the NPAG waste rock. Net infiltration to the cover would range between 10% to 20% of the average annual precipitation, averaging approximately 15% of annual precipitation over the climate change database (2025 through 2100). At the cover system-tailings interface water will primarily flow as interflow along the base of the NPAG while some infiltrating water continues to percolate into the tailings.

Net percolation beyond the cover-tailings interface is dependent on saturation of the tailings profile, thawed depth of the tailings, and proximity to the primary drainage channel. While tailings are predicted to thaw at the end of the century, tailings are predicted to maintain a high degree of saturation (> 85% saturation) under thawed conditions. Therefore, flow of water within the upper thawed tailings is limited to areas near the primary drainage channels. The majority of the infiltrating water will report to the drainage channels as interflow within the NPAG cover system.

The TSF landform is designed to act as a floodplain for the Probable Maximum Precipitation (PMP). The proposed cover material gradation specification is based on erosion protection required for a PMP at the Meadowbank TSF.

Surface Water Management

The surface water management strategy for the closure phase of the TSF is designed to safely manage runoff and interflow through a network of engineered drainage systems, with the TSF Collection Pond serving as the primary attenuation and control point.

The TSF cover system will include two engineered landforms, one for the North Cell and one for the South Cell, each equipped with a primary drainage channel and secondary drainage swales (Figure 2). These conveyance features are designed to collect and direct runoff and interflow into outlet channels, which ultimately discharge into the TSF Collection Pond via a dedicated spillway.

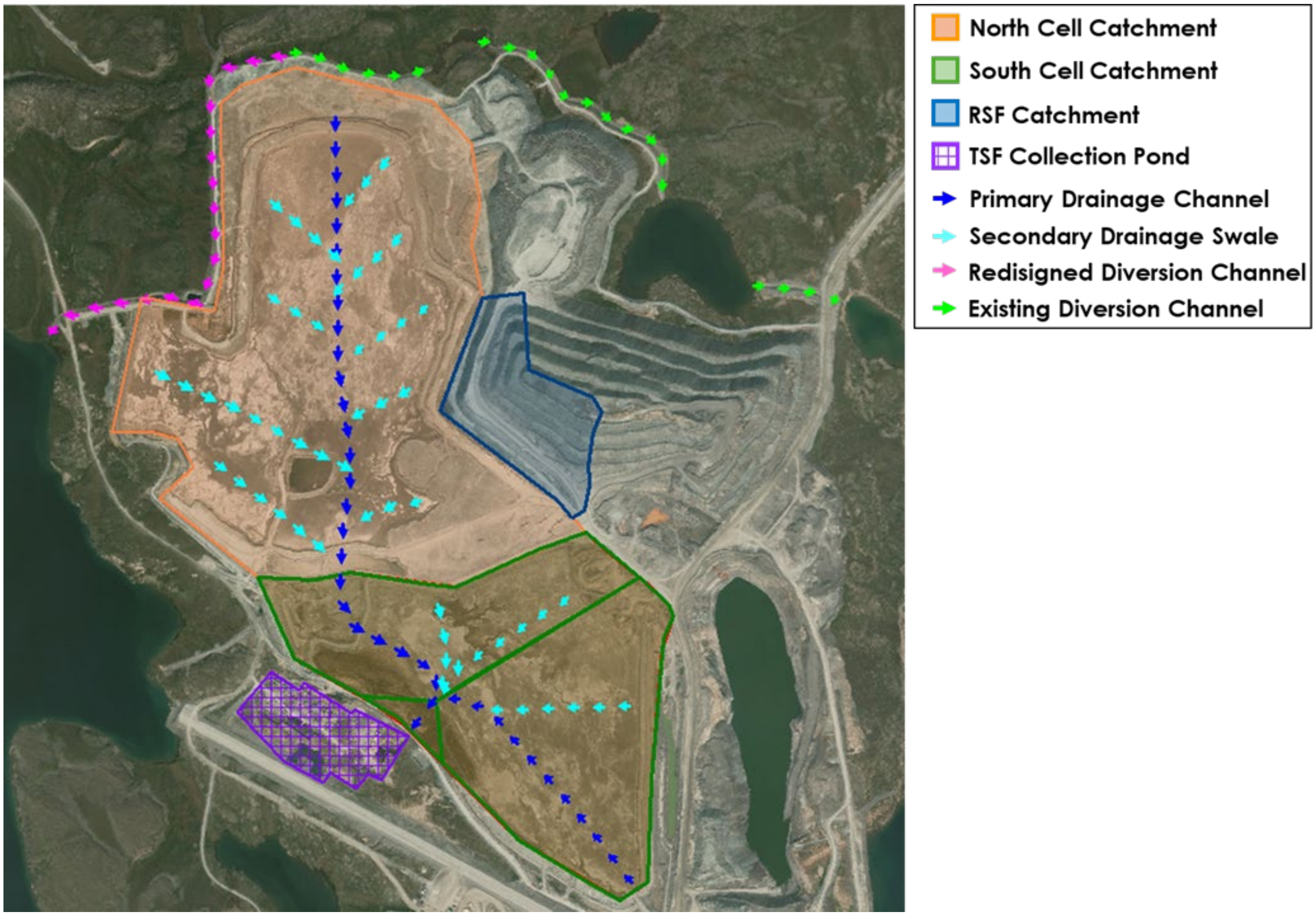

Figure 2: Surface water management infrastructure.

In the North Cell, a primary channel will collect runoff and convey it southward, through a spillway integrated into the Stormwater Dike (SWD). Multiple secondary swales will discharge into this primary channel, capturing localized runoff across the landform.

Similarly, the South Cell will feature a primary south channel, which collects runoff and routes it to the Collection Pond spillway located outside the TSF footprint. The primary north and south channels will be hydraulically connected within the TSF, with a transition area ensuring seamless conveyance of surface flows to the Collection Pond.

The TSF Collection Pond will function as an attenuation basin, temporarily storing runoff for water quality testing and management. During the Closure Phase, if necessary, water from the pond will be pumped to Portage Pit for treatment prior to discharge. In the Post-Closure Phase , if monitoring confirms water quality meets discharge standards, active pumping will cease, and water will be passively discharged to Third Portage Lake via a dedicated spillway.

The Portage Rock Storage Facility (RSF) dump, including the rockfill (RF) structures RF1 and RF2, located in the northeast of the TSF, has been incorporated into the overall drainage plan. As part of closure activities, drainage from RF1, RF2, and the southwest of Portage RSF will be redirected to the North Cell. Hydrologic assessments suggest that limited runoff is expected from the RSF dump and the associated RF1 & RF2 structures once they are covered; however, integrating their drainage into the TSF system ensures comprehensive water management and ensures proper routing to the collection pond.

To manage non-contact water, a detailed engineering assessment will be performed to confirm whether the existing channels located along the northern and northeastern boundaries of the TSF and rock storage facilities are required to adequately convey runoff away from these areas. One channel flows eastward, connecting to a pre-existing channel, while the other flows westward toward the Western Interception Sump, which will serve as a sediment control structure before ultimately discharging to Third Portage Lake. Currently aligned with the roadside, these channels will be redesigned as part of the closure strategy to reflect post-closure conditions. This includes integration with the TSF cover system and realignment with the adjacent road network, ensuring long-term functionality and effective diversion of natural runoff.

We trust information provided is satisfactory for your requirements. Please do not hesitate to contact the undersigned at 306-713-1568 for further information or questions.

Prepared by:

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Appendix 6J-B: Evidence-Based Selection for Tailings Storage Facility Cover Configuration

AGNICO EAGLE

MEADOWBANK COMPLEX

Evidence-Based Selection for Tailings Storage Facility Cover Configuration

OCTOBER 2025

VERSION A

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Agnico Eagle	October 2025; Version A	Jamie Quesnel

SECTION 1 • Introduction

The Meadowbank Complex is a gold mine located approximately 110 kilometres (km) north of Baker Lake in the Kivalliq District of Nunavut, Canada, entirely owned by Agnico Eagle Mines Limited (Agnico Eagle).

The Meadowbank Complex is regulated by the Nunavut Water Board (NWB) Water Licence 2AM-MEA1530 for Meadowbank Mine, Water Licence 2AM-WTP1830 for Whale Tail Mine, as well as the Nunavut Impact Review Board (NIRB) Project Certificate No.004 for Meadowbank Mine and Project Certificate No.008 for Whale Tail Mine.

The Meadowbank Complex consists of a process plant, Tailings Storage Facility (TSF), open pit and underground mines and waste rock piles. Upon the end of the mine life (mid 2028), closure and reclamation activities are planned with the objective of achieving chemical and physical stability, post-closure. The preferred closure and reclamation plan for the TSF is to construct a tailings cover that minimizes dissolved oxygen ingress by maintaining saturated conditions (+ 85%) in the tailings (preferred option). A drainage system on the cover will collect and transfer runoff from the TSF to Collection Pond 23 (CP23), and eventually into the open pits (Pit A). During the active closure phase, runoff collected in CP23 will be sampled continuously to confirm cover performance. Once chemical objectives are achieved, the open pits will be flooded, connected back to Third Portage Lake by breaching dikes, and the TSF runoff will be allowed to passively drain into the flooded system (receiving environment).

1.1 Submission Intent: Evidence-Based TSF Cover Configuration

Project Certificate No.004 for the Meadowbank Mine contains two terms and conditions for cover of the TSF. Term and Condition No. 19 (TC19) states that:

> *Cumberland (the Owner) shall provide for a minimum of two (2) metres cover of tailings at closure, and shall install thermistor cables, temperature loggers, and core sampling technology as required to monitor tailing freezeback efficiency. Cumberland shall report to NIRB's Monitoring Officer for the annual reporting of freezeback effectiveness.*

The preceding Term and Condition No. 18 (TC18) also states that:

> *Cumberland (the Owner) shall commit to a pro-active tailings management strategy through active monitoring, inspection, and mitigation. The tailings management strategy will include the review and evaluation of any future changes to the rate of global warming, compliance with regulatory changes, and the ongoing review and evaluation of relevant technology developments, and will respond to studies conducted during the mine operation*

As prescribed by TC18, Agnico Eagle has evaluated technological developments and reviewed changes in understanding of climate change. Where Cumberland only considered thermal effects on metal leaching, Agnico Eagle has further considered the effect of saturation. Where TC19 was determined solely based on thermal assessment, Agnico Eagle is now considering thermal and water saturation when determining metal leaching potential.

This document has been prepared to present the preferred TSF cover option for the TSF as part of the Closure and Reclamation Plan.

The intent is to provide a clear, evidence-based rationale, supported by technical studies and design considerations of the TSF cover. The TSF cover option has been selected based on its ability to meet long-term environmental protection goals, regulatory compliance requirements, and operational feasibility. This submission is intended to facilitate regulatory review and approval of the TSF closure strategy.

SECTION 2 ENGINEERING THE RIGHT COVER: TSF OPTION SELECTION AND JUSTIFICATION

2.1 Design Criteria Evaluation

The design criteria for the TSF cover are to achieve physical and chemical stability post-closure. The objectives of the TSF cover are to maintain saturation in tailings, and under most conditions maintain the tailings mass in a frozen state. The preferred option is designed to isolate the waste from the environment by managing dust, suspended sediment in runoff, and to reduce the potential for acid generation and metal leaching of parameters of potential concern (POPC) from the tailings.

To evaluate the performance of the TSF cover, long-term forecast models were developed incorporating climate change. Climate change is a key factor in determining the robustness of the design post-closure as atmospheric conditions change in the future from present day. Climate change models used in assessing the TSF cover include the SSP2-4.5 and SSP5-8.5 climate scenarios. These models were calibrated to site-specific historical climate data. Of the two scenarios used in the forecast models, SSP2-4.5 is considered to be a moderate climate scenario, while SSP5-8.5 is considered to be a conservative scenario. These climate scenarios incorporate year-on-year changing weather conditions, including varying precipitation and temperature, amongst many other parameters. For example, Figure 2.1-1 demonstrates how precipitation changes in both climate scenarios in comparison to historical data and historical extremes. Thus, the climate scenarios have built-in extreme weather events throughout the dataset that the TSF cover must manage.

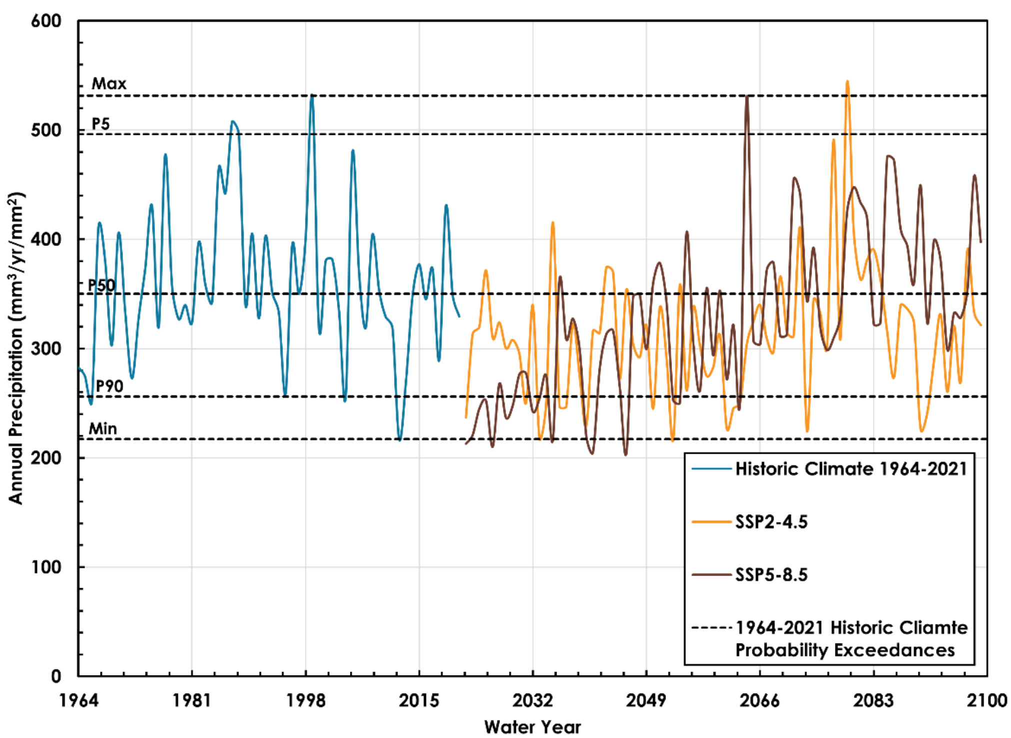

Figure 2.1-1: Comparison of climate series precipitation to historic climate and climate extremes

2.2 Chemical Criteria

Chemical stability is an objective of Agnico Eagle's closure plan to prevent adverse soil, water and air quality effects that might pose a risk to humans, wildlife, or environmental health and safety. Chemical stability of the TSF is achieved by reducing the tailings reactivity, primarily by maintaining a high degree of water saturation above 85%, and secondarily by maintaining frozen conditions. These can be achieved through a cover.

Oxygen is a key component of acid generation and metal leaching reaction, whereby limiting oxygen can significantly reduce leaching potential. Oxygen can be transported to the tailings through convection (thermal), advection (wind), barometric pumping (atmospheric pressure) and diffusion (chemical). When tailings are covered with appropriate material, the most significant driver for oxygen transport becomes chemical diffusion. Further, chemical diffusion is significantly reduced when tailings are saturated above 85% because oxygen has a low rate of diffusion in water Therefore, chemical stability can be achieved when maintaining a saturation, and water quality runoff from the TSF meets applicable criteria.

Tailings material temperature is also a consideration for chemical stability, whereby lower temperatures reduce leaching rate kinetics. Frozen conditions reduce leaching potential and stabilize tailings from a chemical standpoint.

To demonstrate chemical stability of the preferred option, Agnico Eagle investigated long-term thermal and saturation stability under climate change and predicted chemical loading. These results are summarized below.

2.2.1 Chemical Loading Analysis

To quantify the chemical stability of the preferred option, a comparative sensitivity analysis was completed considering chemical loadings from the TSF for various cover thicknesses (0 to 4 m) under the SSP2-4.5 and SSP5-8.5 percentile climate series. Chemical loading does not consider any water treatment, mixing with regional hydrology, or the receiver assimilative capacity. The analysis was intended to investigate the chemical contribution due to the TSF runoff alone.

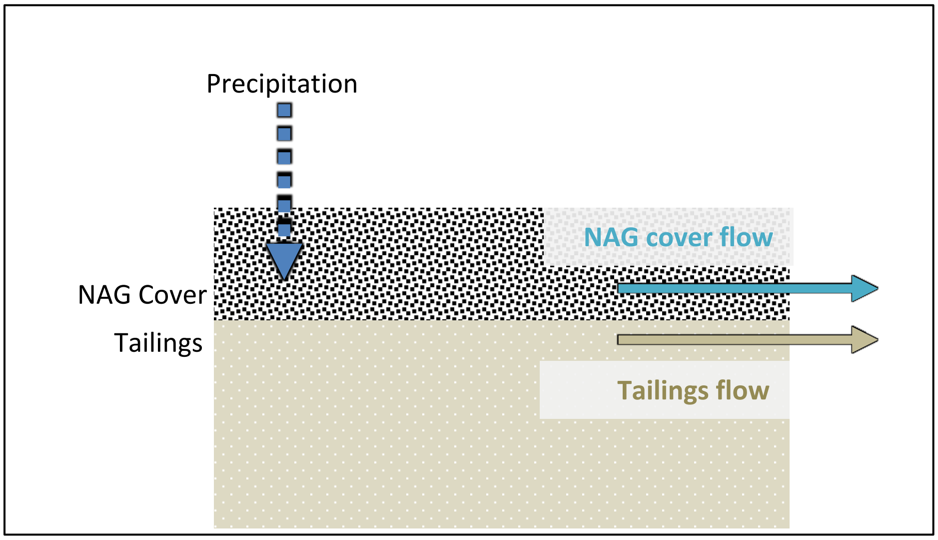

Figure 2.2-1: Conceptual flow schematic of the Water Quality Model (WQM)

To predict the water quality, a two-dimensional flow model was developed to approximate flow distribution of net infiltration (NI) through the cover and tailings. Conceptually, NI is modeled as downward flow of precipitation from the surface of the TSF, then divided into horizontal flow toward the drainage ditches through the NAG cover and through the tailings (Figure 2.2-1). Table 2.2-1 summarizes how the NI is divided based on the cover thickness. Note that flow distribution for covers thicker than two metres are not materially different and were not considered. However, as the cover is thickened, flow distribution through the NAG cover is expected to increase and conversely flow through the tailings is expected to decrease, while maintaining saturation in tailings immediately below the cover.

Table 2.2-1: Flow distribution of Net-Infiltration (NI) into the TSF cover

Climate	Cover	Flow in NAG Cover (% of NI)	Flow in Tailings (% of NI)
SSP2-4.5	0 m	0%	100%
SSP2-4.5	1 m	82%	18%
SSP2-4.5	2 m +	88%	12%
SSP5-8.5	0 m	0%	100%
SSP5-8.5	1 m	85%	15%
SSP5-8.5	2 m +	89%	11%

Water quality equivalent (WQE) source terms have been developed for flow of water through the NAG cover and through the tailings. These source terms are incorporated in the CRP water quality and water balance model (Appendix I, Lorax 2024). More specifically, the WQE for flow in the NAG cover is characterized by the NAG runoff source term, and the WQE for flow in the tailings is characterized by current TSF runoff water quality data.

Long-term water quality predictions for a full suite of parameters were evaluated. In this memorandum, arsenic (Figure 2.2-2) and Total Dissolved Solids (TDS) (Figure2.2-3) are provided below, compared to Water Licence Criteria (WLC). Results from the water quality model (WQM) show that the runoff goes through a flushing period of 10 years for cases with cover, and water quality remains at steady state after this period regardless of the climate series that is applied to the model. As the average ambient temperature increases over time, the concentration of parameters remains consistent as a function of the NAG waste rock WQE.

As expected, the water quality for the 0-meter scenario is worse than those with a cover, because the flow through the tailings is reduced with a cover. However, the water quality with no cover is expected to be below the WLC for most parameters. For example, analytical samples collected from 2020 to 2023 of runoff off the South Cell show concentrations of 0.0304 mg/L for arsenic, and 870 mg/L for TDS. These concentrations are below their respective WLCs. Further, occasional peaks in concentration for the 0-meter cover scenario are artifacts of the climate series precipitation. This effect is not as pronounced and evident for scenarios with a cover.

Finally, note that the results for the 1-meter cover and 2-meter cover are nearly identical. As described above, a thicker cover will reduce flow through the tailings, however these results indicate that the net effect on the water quality is not significantly different.

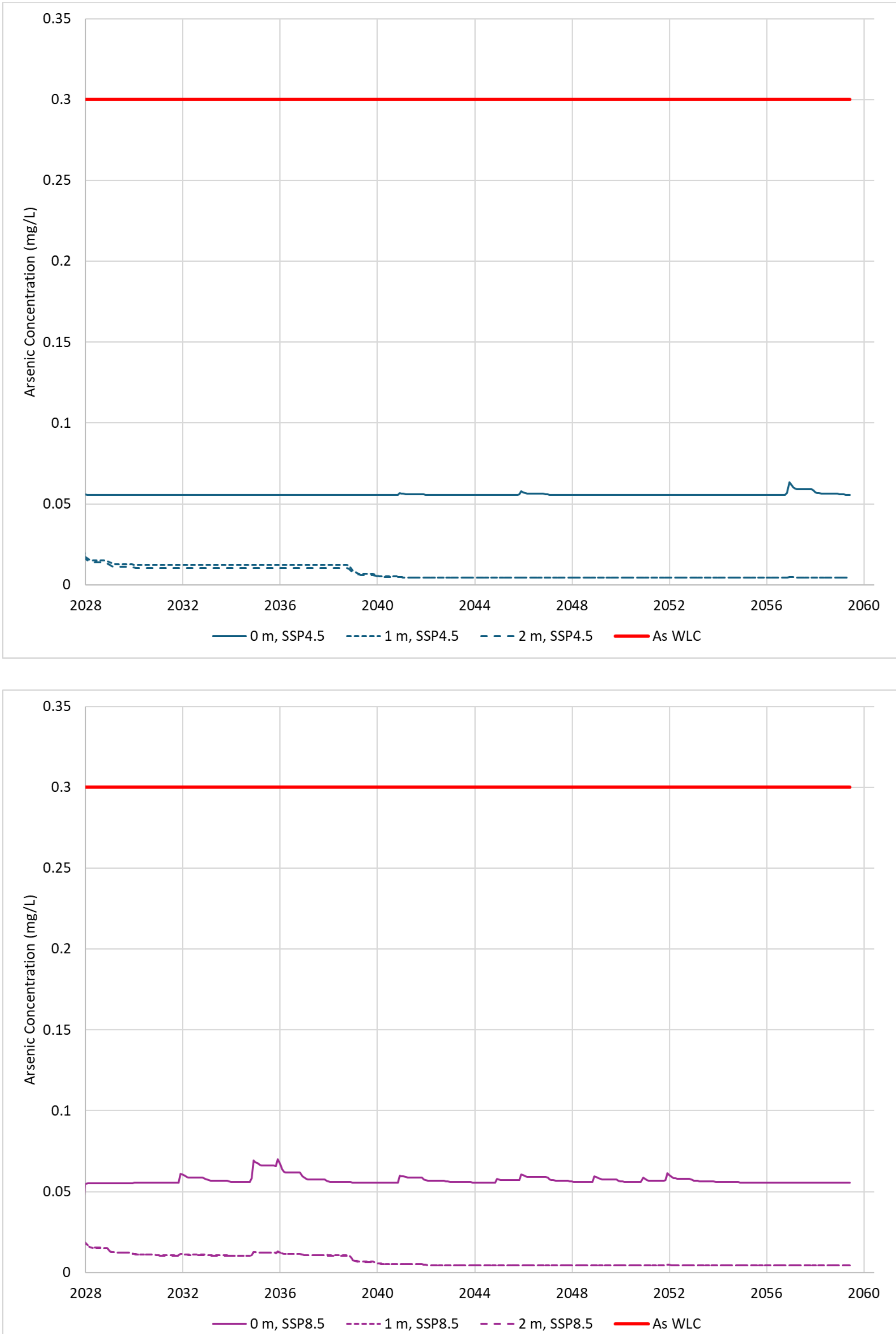

Figure 2.2-2: Long-term arsenic water quality for TSF runoff under SSP2-4.5 (top) and SSP5-8.5 (bottom) climate series, compared with Water Licence criteria (WLC)

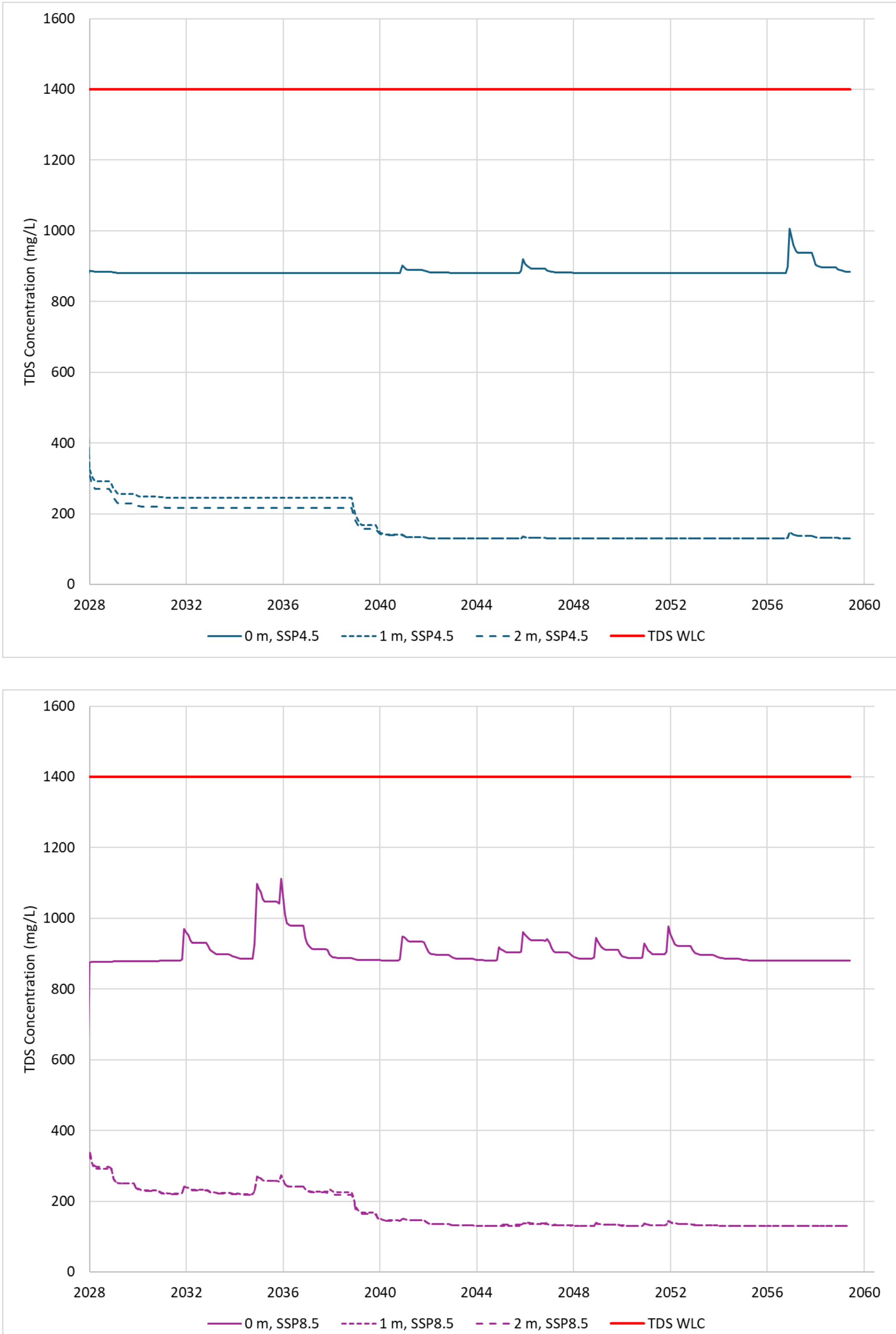

Figure 2.2-3: Long-term TDS water quality for TSF runoff under SSP2-4.5 (top) and SSP5-8.5 (bottom) climate series, compared with Water Licence criteria (WLC)

Table 2.2-2 further summarizes results for other parameters modelled in the WQM for the post flushing period after 2039. Note, that concentrations in the table are concentrations of runoff from the TSF and do not consider runoff confluence with the regional hydrology (mixing in Third Portage Lake), nor do they consider treatment. However, all parameters are still predicted to be below Water Licence criteria.

When the TSF runoff is mixed into the receiving environment, Third Portage Lake, all parameters are predicted to be below CCME/SSWQO post-closure, which is consistent with results reported in the Water Balance and Watter Quality Report (Appendix I of the CRP).

Table 2.2-2: Water quality results for post flushing period TSF runoff

		SSP2-4.5					
Parameter	WLC	0 m Cover		1 m Cover		2 m Cover	
		Avg	Max	Avg	Max	Avg	Max
TDS	1400	805.6	955.7	141.3	179.7	141.3	171.0
NH3-N	16	1.350	1.601	0.069	0.135	0.070	0.118
NO3-N	20	3.354	3.978	0.383	0.545	0.381	0.506
T-CN	0.5	0.016	0.019	0.013	0.437	0.003	0.004
Cl	1000	15.1	17.1	2.2	2.8	2.2	2.6
Al	1	0.0099	0.0113	0.0108	0.0123	0.0108	0.0123
As	0.3	0.044	0.050	0.004	0.006	0.004	0.005
Cd	0.002	0.00008	0.00009	0.00001	0.00001	0.00001	0.00001
Cu	0.1	0.010	0.011	0.004	0.004	0.004	0.004
Hg	0.0004	0.000005	0.000006	0.000010	0.000011	0.000010	0.000011
		SSP5-8.5					
Parameter	WLC	0 m Cover		1 m Cover		2 m Cover	
		Avg	Max	Avg	Max	Avg	Max
TDS	1400	816.3	929.0	144.9	181.3	143.5	176.6
NH3-N	16	1.368	1.556	0.070	0.136	1.370	35.068
NO3-N	20	3.398	3.867	0.399	0.550	0.390	0.530
T-CN	0.5	0.016	0.018	0.003	0.004	0.011	0.225
Cl	1000	15.3	16.7	2.2	2.8	2.2	2.7
Al	1	0.0101	0.0110	0.0109	0.0121	0.0110	0.0119
As	0.3	0.044	0.048	0.004	0.006	0.004	0.005
Cd	0.002	0.00008	0.00009	0.00001	0.00001	0.00001	0.00001
Cu	0.1	0.010	0.011	0.004	0.004	0.004	0.004
Hg	0.0004	0.000005	0.000006	0.000010	0.000011	0.000010	0.000011

Notes:
1. **Units are in mg/L**
2. **Statistics consider post flushing period concentrations, after December 2039.**
3. **Note these concentrations are untreated and do not incorporate mixing in the receiver at post-closure**

2.2.2 Thermal Analysis

Thermal analysis was completed through one-dimensional thermal modelling, to assess the degree of thaw under various NAG Rockfill cover thicknesses, from no cover (0 m) to a 4-meter cover. The thermal model was performed using a 95th percentile conservative climate model, calibrated to site climate. The climate series is similar to the SSP5-8.5 climate series, an unlikely scenario of the Shared Socioeconomic Pathway (SSP) series of climate change models. Results from the model, summarized in Table 2.2-3 below, indicate that under the 95th percentile scenario, nearly all tailings are expected to remain frozen. In cases where tailings are thawed, they are expected to remain saturated above 85%, thus limiting oxygen ingress via diffusion. These results are similar to those presented in the Okane 2015 design report where the thermal model predicted 0.5 m of thaw for a 2 m cover (Okane, 2015).

Under a more likely climate change scenario (model SSP2-4.5), and a 2 m cover, the depth of thawed tailings would be 0.3 m, the percentage of tailings thaw would be 1.7 %, and tailings would be more than 85% saturated.

Table 2.2-3: Tailings thaw depth under 95th percentile climate series in 2100

Cover Depth	0 m	1 m	2 m	3 m	4 m
Tailings Thaw Depth	2.5	1.4	0.62	0.17	Frozen
% Thaw of Tailings	14.8 %	8.3 %	3.7 %	1.0 %	0 %
Saturation tailings > 85%	No	Yes	Yes	Yes	Yes

2.3 Physical Criteria

Physical stability is an objective of Agnico Eagle's closure plan to prevent structural failure of the various closure landforms that might pose a risk to humans, wildlife, or environmental health and safety. Physical stability of the TSF is achieved by designing a cover that allows proper drainage of water and water management at the TSF throughout closure and also designing a cover that reduces settlement and erosion of the cover over time, as well as the potential for other physical slope instabilities at the perimeter of the landform.

To demonstrate physical stability, Agnico Eagle conducted drainage, hydrological, settlement and tailings stability analysis. These results are summarized below.

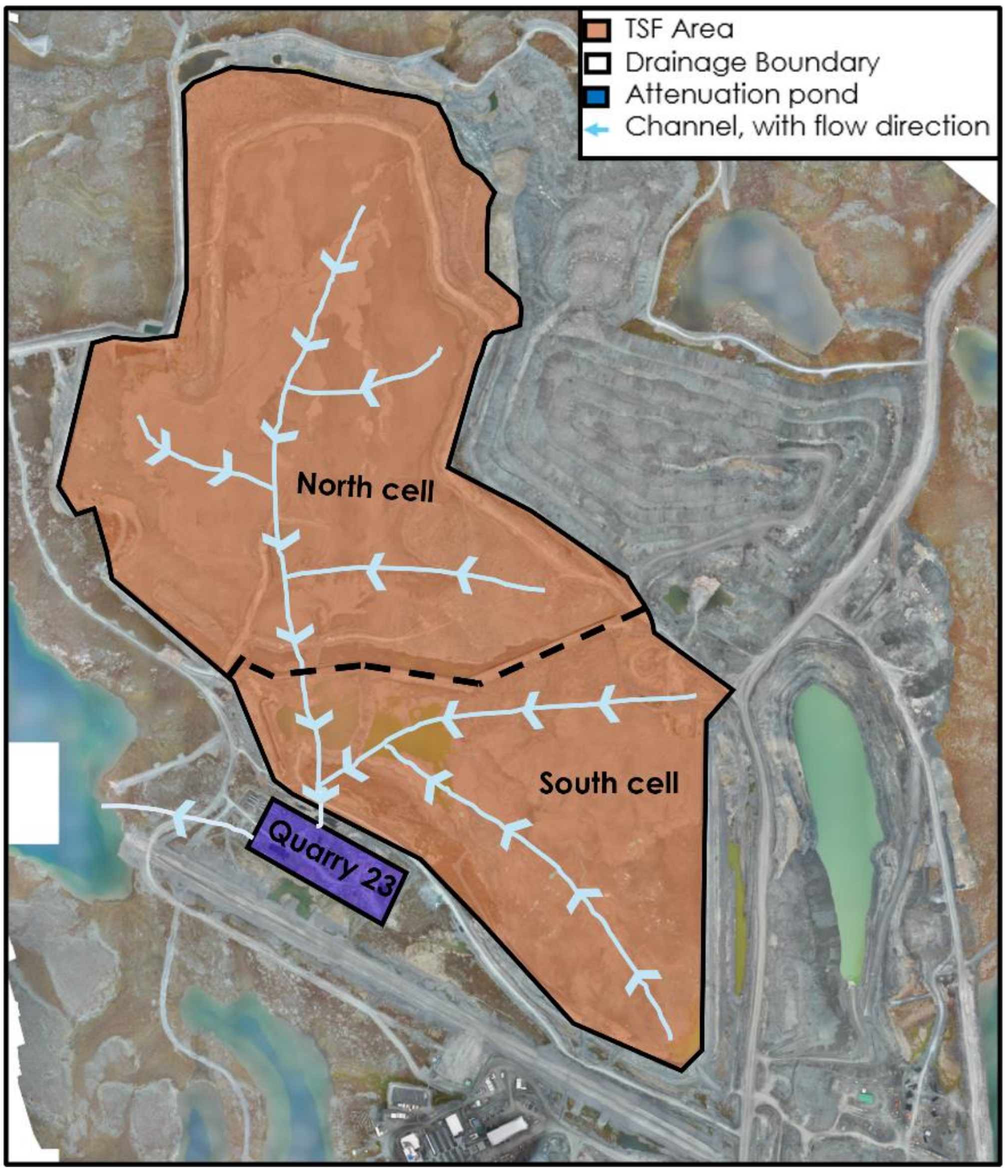

Figure 2.3-1 TSF drainage concept in plan view

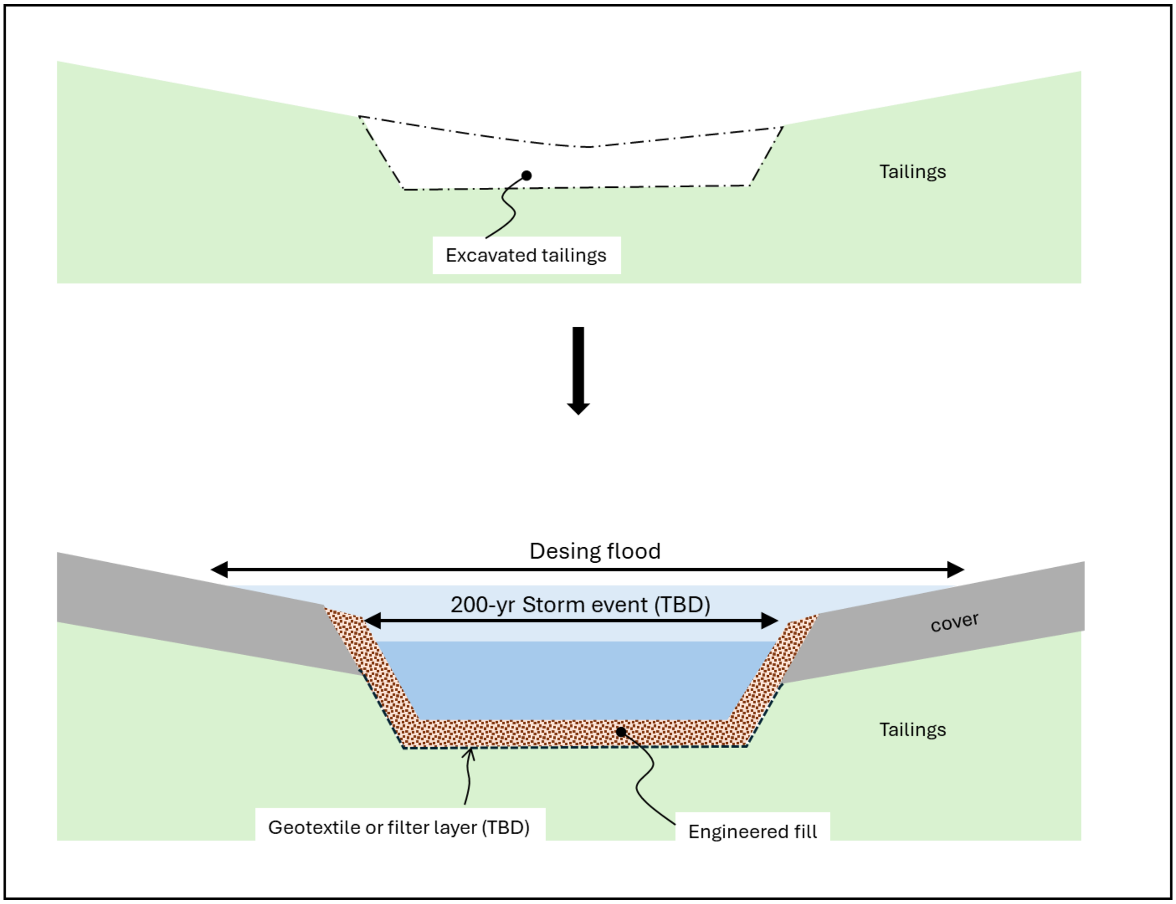

Figure 2.3-2 Conceptual channel cross-section showing water levels during different flood events and showing excavated tailings.

2.3.1 Drainage and Water Management

The cover is designed as a component of the TSF and is compatible with the peripheral tailings containment infrastructure. The physical stability of the peripheral tailings dams is essential to meeting TSF closure criteria. The cover is designed to ensure that water during flood events is managed such that tailings dams are never exposed to risks of overtopping. Tailings dams overtopping is a significant risk of instability potentially leading to failure. The water elevation conveyed and managed on the cover landform shall always remain below the maximum water level allowed by the dam designs and defined in the tailings management infrastructure OMS Manual (Operation, Maintenance & Surveillance) and an OMS manual will be developed for closure.

Hydrological studies are performed to confirm the cover can manage water during design flood events. The channels are designed to minimize excavation in existing tailings while ensuring proper drainage. For that reason, the design flood event will be managed within the channels but also partially on the landform floodplain (the 2 metre cover). It is expected that water under such circumstances may temporarily overtop the channels but will remain below the critical level defined by the peripheral tailings dams infrastructure at all times.

2.3.2 Settlement and Erosion

Following the placement of rockfill material onto bare tailings, some consolidation may occur. Conditions of the tailings, such as moisture content and grain size distribution, are not exactly uniform throughout the TSF and may result in variation in the consolidation. This leads to differential settlement of the tailings surface and of the rockfill cover surface. Settlement of the rockfill cover surface is not a concern because the cover performance does not depend on runoff. However, an important design objective of the preferred cover option is to minimize the differential settlement of the tailings surface underneath the cover. This will promote interflow through the coarse cover material, thus ensuring optimal cover performance. A minimal thickness cover reduces the magnitude of differential settlement of the tailings surface. With a 4 m thick cover, the likelihood of significant differential settlement is greater than with a 2 m-thick cover, due to a load increase of 200% on the tailings. A 2 m thick cover will reduce differential settlement, ensuring greater stability.

Near the North Cell and South Cell spillway infrastructure, tailings excavation will be required to provide capacity to collect and convey the interflow from the cover system to the spillway through channels. Although channels are necessary to ensure drainage is safely managed, the cover and channel geometry design aims at minimizing tailings excavation to control risks of potential slope movement, erosion and migration of disturbed tailings surrounding the excavation. In the channel, engineered fill will be placed on the tailings and include filter material to control mobilization of sediments as well as coarser material to control erosion. The thickness of the engineered channel fill is designed to minimize the requirements for tailings excavation. Increasing the thickness of the material layer within the channel footprint would necessarily require more tailings excavation to maintain the required ability to manage drainage but would deviate from the design objective of ensuring stability of disturbed tailings areas.

In summary, based on differential settlement and tailings stability considerations, a thinner cover layer, such as 2 metres, is preferred for optimal physical stability of the tailings.

2.4 Risks and Opportunities of the Preferred Option

The WQM for the TSF shows the chemical stability objective being achieved at the Meadowbank TSF early in active closure. As mentioned above, current water quality results from the South Cell runoff are generally below the WLC for all parameters, without any cover on top of tailings. When incorporating mixing with the regional watershed (Third Portage Lake), all parameters meet CCME/SSWQO guidelines. By incorporating a NAG rockfill cover, Agnico Eagle has demonstrated that saturation of the tailings can be maintained, minimizing metal leaching potential by maintaining anoxic conditions at the cover-tailings interface.

Agnico Eagle understands that a potential risk to the cover design is if saturation of the tailings is not maintained as modelled. However, as Agnico Eagle continues to monitor the water quality of runoff from the TSF, Agnico Eagle also has the opportunity to amend the TSF design by thickening the TSF cover where and if necessary. While current monitoring data and the WQM indicate this will not be necessary, if chemical stability is not achieved as predicted, amendments to the TSF cover can be made during active closure.

Ultimately, by focusing on a design that maintains saturated tailings, Agnico Eagle believes the preferred option will be more robust to handle changes to the climate far into the future. As climate change raises the atmospheric temperature and tailings begin to thaw at an increasing rate, the preferred option will maintain chemical stability by maintaining saturated conditions and limiting ingress of oxygen. When saturation is maintained and oxygen is kept low, the chemical stability does not change, regardless of atmospheric changes to climate or thawing of tailings

Physically, there is an increased risk of instability or differential settlement in areas where material will be placed over tailings. To mitigate this, the design should aim to minimize tailings excavation. Otherwise, settlement typically occurs within the first few years following construction. Therefore, Agnico Eagle will have the opportunity repair the areas of the cover where minor settlement may occur.

Maintaining water levels below the dam crest elevation is essential to ensure long-term integrity of the closed TSF. This is achieved by keeping the cover as thin as possible near the drainage channels. While enlarging the channels could help manage larger storm events, this approach is not recommended, as it conflicts with the objective of minimizing tailings disturbance and rehandling.

Finally, by minimizing the load on the tailings with a thinner cover, physical stability is achieved by reducing settlement potential.

SECTION 3 CONCLUSION: PREFERRED OPTION RATIONALE

Agnico Eagle's preferred option for TSF cover is a cover of a 2-meter depth. Through sampling, laboratory and field test trials, and modelling efforts, Agnico Eagle has determined that the preferred option meets the objectives of the CRP for physical and chemical stability.

Agnico Eagle has demonstrated that the preferred option will achieve physical stability. Physical stability is achieved by designing a cover that allows proper drainage of water and water management at the TSF throughout closure and also designing a cover that reduces settlement and erosion of the cover over time. The cover is designed to ensure that water during flood events is managed such that tailings dams are never exposed to risks of overtopping. Design considerations of the preferred cover option includes minimizing the differential settlement of the tailings surface underneath the cover to promote interflow through the coarse cover material. Based on differential settlement and tailings stability considerations, a cover thickness of 2 metres, is preferred for optimal physical stability of the tailings.

Agnico Eagle has also demonstrated that the preferred option will achieve chemical stability. Chemical stability will be achieved by limiting the ingress of oxygen, partly by the cover itself, but primarily by maintaining saturated conditions in the tailings. Agnico Eagle has shown, through modelling, that the preferred option is expected to go through a flushing period of up to 10 years, whereby pore-water in the tailings is flushed by runoff infiltration. During this flushing period, TSF runoff will report to the Portage Pits via CP23, where it will be sampled and analysed. In this way, the chemical stability performance of the cover will be continuously monitored and compared to model predictions. After the flushing period is over, TSF runoff will have the chemical signature of the NAG waste rock and mix with Third Portage Lake water. Concentrations of all parameters post-closure are predicted to be below CCME/SSWQO guidelines. These predictions are validated by water quality samples currently being collected off of the TSF runoff. Analytical data from these samples show most parameters are already below their respective WLCs, all while the tailings remain exposed and uncovered.

REFERENCES

Okane Consultants. 2015. TSF North Cell Closure Design Report Construction Plan. Prepared for Agnico Eagle Mines Limited – Meadowbank. November 16, 2015.

APPENDIX A: INDEPENDENT REVIEW BOARD LETTER OF RECOMMENDATION

07 October 2025

Jamie Quesnel, Director of Permitting & Regulatory Affairs
Agnico Eagle Mines Limited
Meadowbank Division,
Suite 540 - Baker Lake, Nunavut,
Canada, X0C 0A0

Via email:jamie.quesnel@agnicoeagle.com

Dear Jamie Quesnel,

Subject: Request for Comments on the Memo: Evidence-Based Selection for Tailings Storage Facility Cover Configuration, October 2025

Agnico Eagle Mines Limited (Agnico) requested an opinion from the Meadowbank Independent Review Board (MBK IRB) on the memo described above.

The Board believes that dependence on a thermal cover, only, as described in the initial TSF closure concept at Meadowbank, could introduce future risk related to climate change, as well as risks associated with physical stability of the closed TSF.

The Board fully supports Agnico's proposed isolation cover design concept for the TSF at the Meadowbank Mine as described in the October 2025 memo, and believes that it is the most viable and effective solution for closure of the facility. Maintaining saturation and limiting oxygen infusion into the underlying tailings represents the best solution for long-term performance of the TSF cover in maintaining chemical stability of the tailings, and will allow for early and ongoing monitoring of its effectiveness. The concept of mitigation of sulphide oxidation and acid generation by storage under water and/or with water saturated conditions has been demonstrated to be effective. The proposed 2 m thick cover is also optimal for long-term water management and physical stability of the closed TSF.

We trust that this letter meets the requirements of AEM at this time. Please do not hesitate to contact any of the members of the Board if you have any questions or concerns.

Yours truly,

On Behalf of the Meadowbank Independent Review Board (MBK IRB)

Kevin Hawton, P. Eng   R.V. (Ron) Nicholson, P.Geo. (ON)   D. Anthony Rattue, P. Eng.

APPENDIX B: MEADOWBANK TSF COVER SENSITIVITY METHODS

MEMORANDUM

To:	**Bobby Doroudiani and Jamie Quesnel (Agnico Eagle Mines Ltd.)**	**Date: October 6, 2025**
From:	**Scott Jackson and John Dockrey (Lorax Environmental Services Ltd.)**	**Project #: A768-1**
Subject:	**Meadowbank Tailings Storage Facility – Cover Sensitivity Model Runs**	

1. Introduction

Agnico Eagle Mines Limited (Agnico Eagle) operates the Meadowbank Complex located in the Kivalliq region of Nunavut approximately 110 km North of the Hamlet of Baker Lake (Figure 1-1). The complex consists of the Meadowbank mine and mill (the focus of this report) and the Whale Tail Mine, located 50 km northwest of the Meadowbank mine (the Mine). The Mine is subject to the terms and conditions of both the Project Certificate No. 004, Amendment 3, and the Nunavut Water Board Water Licence 2AM-MEA1530, which was last amended in May 2020.

Agnico requested Lorax Environmental Services Ltd. (Lorax) to generate a suite of water balance and water quality model (WBWQM) sensitivity runs to support decision making and consultation with respect to the tailings storage facility (TSF) cover thickness. This memorandum summarizes the methodology and assumptions used to incorporate updated model outputs provided by O’Kane Consultants and Agnico into the existing model framework.

2. Water Balance Inputs

The TSF is represented in the GoldSim WBWQM by applying a calibrated 0.52 runoff coefficient to annual precipitation across the North and South Cell areas. This calibrated value was derived by accounting for precipitation and pumped outputs for both cells over the post-depositional period of 2019-2023.

The TSF surface currently consists of settled tailings that is partially covered by a non-potentially acid generating (NPAG) waste rock covers on the North and South Cell. These areas (Table 2-1) are encoded into the WBWQM for the current condition. Currently, all contact water generated by the TSF is assumed to be runoff, with source terms set equal to the median water quality measured in the surface sumps over the post-depositional period.

Table 2-1:
Tailings Storage Facility Sub-Catchment Areas

Catchment_Name	Area (m^2)	Runoff Type	Drains/Pumps To:
TSF_NORTHCELL	1,099,463	TSF	TSF_SOUTHCELL
TSF_NORTHCELL_NPAG_COVER_N	262,360	RSF	TSF_NORTHCELL
TSF_NORTHCELL_NPAG_COVER_S	155,663	RSF	TSF_NORTHCELL
TSF_SOUTHCELL	906,235	TSF	PORTAGE_PIT_A

The closure plan for the TSF stipulates that placement of a NPAG waste rock cover will be completed by January 2028. Once the cover is in place, the proportion of contact water generated from the NPAG cover versus tailings surface will change, although the total contact water generated as a proportion of annual precipitation (*i.e.*, 52%) remains the same. This contact water is split between runoff and infiltration into the NPAG waste rock cover, with infiltration further split between flow through the cover, and shallow interflow through the tailings interface (Figure 2-1).

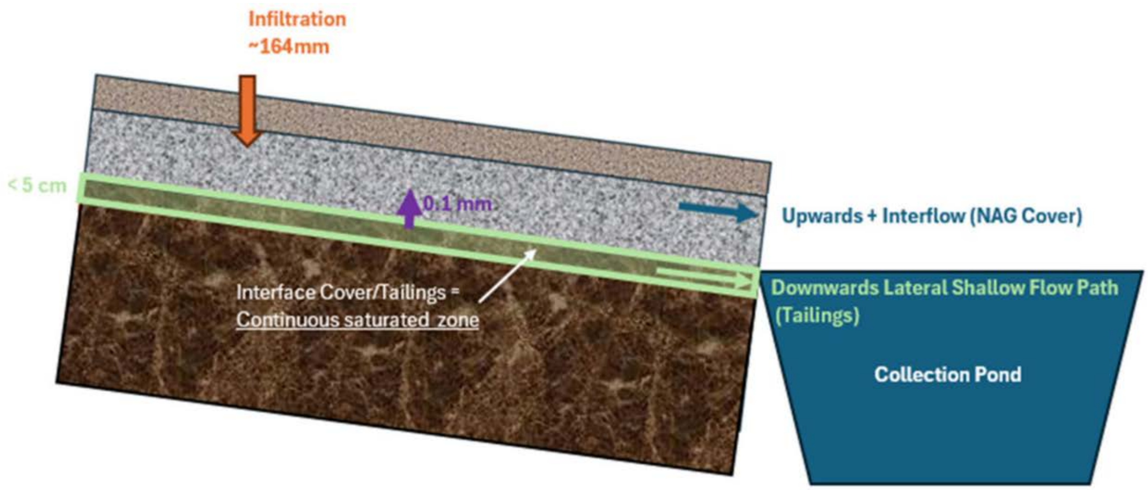

Figure 2-1: Conceptual diagram showing infiltration through NPAG cover and the cover/tailings interface (Okane 2024).

The proportion of the annual contact water volume allocated to each of these three flow paths changes depending on the cover thickness assumed. Okane Consultants (Okane) ran a 2-D model of the TSF for six scenarios (Table 2-2). Three cover thicknesses were assumed:

- 0 m (*i.e.*, no cover);
- 1 m cover; and,
- 2+ m cover.

Each of the above cover thicknesses were assessed for two climate change scenarios based upon scenarios that envision various Shared Socioeconomic Pathways (SSPs):

- SSP2-4.5: Intermediate greenhouse gas emissions, with CO_2 emissions remaining around current levels until mid-century, then decreasing; and,
- SSP5-8.5: Very high greenhouse gas emissions, with CO_2 emissions doubling from current levels by 2050.

In general, surface runoff from the TSF cover is only predicted for a 1 m cover, and once a cover is in place, the majority of the infiltration is predicted to travel through the NPAG waste rock cover.

Table 2-2:
Tailings Storage Facility cover water balance metrics for an average climate year and source term assumptions.

Scenario	Climate Series	Source Term (2028-2038)	NPAG Waste Rock	NPAG Waste Rock	Current TSF
		Source Term (2039+)	NPAG Waste Rock	NPAG Waste Rock	NPAG Waste Rock
		Cover Thickness	% MAP as Runoff	% MAP Flow in NPAG Cover	% MAP Flow in Tailings
1a	SSP2-4.5	0 m	0%	0%	52%
1b	SSP2-4.5	1 m	9%	35%	8%
1c	SSP2-4.5	2 m +	0%	46%	6%
2a	SSP5-8.5	0 m	0%	0%	43%
2b	SSP5-8.5	1 m	7%	30%	5%
2c	SSP5-8.5	2 m +	0%	38%	5%

The current WBM matches the water management at site, with TSF runoff from the North Cell accumulating in the North Cell pond, which is pumped to the South Cell pond, and ultimately dewatered to Pit A.

Once the cover is on, all TSF contact water is expected to flow passively to the Quarry 23 pond.

3. Tailings Storage Facility Source Terms

Two sets of source terms were applied in the WBWQM to generate estimates of water quality in Quarry 23:

- Tailings runoff – median of TSF South Cell water quality data from the ST-21-S monitoring station for the 2020-2023 periods; and,
- NPAG Waste Rock – median of the ST-30 and ST-31 sump water quality data for the 202-2023 period.

The tailings source term is applied for the period prior to cover placement to the entire TSF area. Once the cover is in place in January 2028, the NPAG waste rock source term is applied to the proportion of contact water reporting as either runoff, or flow through the cover per Table 2-2. The tailings source term is applied to the proportion of contact water reporting as shallow interflow through the tailings interface at the base of the cover.

Following the 11-year flushing period (2028-2038; see Okane 2025), the POPCs contained within the tailings pore water at the interface are assumed to have been flushed out, and the entire facility is assigned the NPAG waste rock source term after 2039.

Table 3-1:
Tailings Storage Facility and Non-Potentially Acid Generating Waste Rock Source Terms.

Parameter	Current TSF	NPAG Waste Rock Cover
TDS	836	145
NH_3-N	1.4	0.0677
NO_3-N	3.48	0.39
NO_2-N	0.132	0.012
T-CN	0.0165	0.0035
SCN	2.2	0.05
Cl	15	2.13
F	0.18	0.145
SO_4	470	39.85
Ag	0.0000208	0.0000078
Al	0.00986	0.01075
As	0.0433	0.00371
Be	0.000005	0.00001
Cd	0.0000805	0.0000089
Co	0.0103	0.0005
Cr	0.00015	0.00023
Cu	0.00960	0.00385
Fe	0.0072	0.314
Hg	0.000005	0.00001
Mn	0.363	0.0453
Mo	0.023	0.00540
Ni	0.125	0.00263
P	0.00645	0.00205
Pb	0.000111	0.000104
Se	0.00215	0.000175
Zn	0.00263	0.00147

The water balance and water quality results from this exercise are reported under separate cover.

4. Closure

We trust that this memorandum meets your present requirements. Please contact us should you have any questions.

Yours sincerely,

LORAX ENVIRONMENTAL SERVICES LTD.

Prepared by:

REGISTERED PROFESSIONAL GEOSCIENTIST
S.I. JACKSON
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PERMIT TO PRACTICE
LORAX ENVIRONMENTAL SERVICES LTD.
Signature
Date Oct 6, 2025
PERMIT NUMBER: P 1487
NT/NU Association of Professional Engineers and Geoscientists

APPENDIX C: SIMPLE THERMAL MODELLING METHODS

Meadowbank Complex Tailings Storage Facility Thermal Cover Modeling – Existing Inputs

Agnico Eagle Mines Ltd.

Nunavut Office 11600 Rue Louis- Bisson

Prepared by:

SLR Consulting (Canada) Ltd.

200 - 887 Great Northern Way, Vancouver, BC V5T 4T5

SLR Project No.: 201.089631.00001

Client Reference No: NA

October 8, 2025

Revision: 0

Making Sustainability Happen

Revision Record

Revision	Date	Prepared By	Checked By	Authorized By
0	October 8, 2025	K. Debnath	C. Stevens	D. Ritchie

Statement of Limitation

This report has been prepared by SLR Consulting (Canada) Ltd. (SLR) for Agnico Eagle Mines Ltd. (Client) in accordance with the scope of work and all other terms and conditions of the agreement between such parties. SLR acknowledges and agrees that the Client may provide this report to government agencies, interest holders, and/or Indigenous communities as part of project planning or regulatory approval processes. Copying or distribution of this report, in whole or in part, for any other purpose other than as aforementioned is not permitted without the prior written consent of SLR.

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Tables in Text

Figures in Text

Appended Figures

Acronyms and Abbreviations

~	approximately
Agnico Eagle	Agnico Eagle Mines Limited
CMIP5	Coupled Model Intercomparison Project Phase 5
CMIP6	Coupled Model Intercomparison Project Phase 6
kJ/m³ /°C	kilojoules per cubic metre per degree Celsius
kJ/d/m/°C	kilojoules per day per metre per degree Celsius
m	metre
mbgs	metres below ground surface
masl	metres above sea level
NAG	non-acid generating
NCIS	North Cell Internal Structure
RCP	Representative Concentration Pathway
SEB	Surface Energy Balance
SLR	SLR Consulting (Canada) Ltd.
SSP	Shared Socio-economic Pathway
TSF	Tailings Storage Facility
W/m °K	watts per metre kelvin

1.0 Introduction

SLR Consulting (Canada) Ltd. (SLR) was retained by Agnico Eagle Mines Limited (Agnico Eagle) to conduct thermal modeling for the Tailings Storage Facility (TSF) at the Meadowbank Complex (the Project). The primary objective of the Project is to develop thermal modeling results using existing data held by Agnico Eagle to evaluate modeling assumptions and material properties derived from distinct cover thickness scenarios. This effort will support Agnico Eagle in confirming the reliability of existing analyses and in ensuring that the thermal performance of the TSF is well understood.

The Project is meant to serve as a sensitivity analysis of potential climate conditions. The results of the analysis are not meant to serve as direct inputs for the Meadowbank Complex cover design and are developed for Agnico Eagles consideration and planning purposes.

1.1 Scope of Work

The initial scope of work included the development of four thermal models with TSF non-acid generating rock (NAG) rock cover thicknesses of 1 meter (m), 2 m, 4 m, and 6 m. Each of the cover thicknesses is considered an individual scenario for the Project. A 3 m cover scenario was added to the scope of work for the project. Additionally, after preliminary analyses were reviewed, detailed analysis of the 1 m and 6 m covers were excluded from the finalized results as the outputs were no longer of use to Agnico Eagle for planning purposes.

The results of the SLR-developed thermal model will be used by Agnico Eagle for comparison with existing models as part of an investigative exercise to validate model performance.

SLR has completed the work in accordance with the terms and conditions outlined in the request for proposal (RFP), Meadowbank Complex Tailings Storage Facility – Thermal Cover Model (June 30, 2025). The work program involved the following tasks:

Development of a one-dimensional thermal conduction model using existing inputs held by Agnico Eagle for a NAG rock cover thickness of 1 m, 2 m, 3 m, and 4 m

- Calculate thaw depth below the cover and maximum tailings temperature for the year 2100.
- Produce time-series graphs through to the year 2100 illustrating the potential progression of the thawed region.

.

1.2 Site Location

The Meadowbank TSF is located within the dewatered portion of the northwestern arm of Second Portage Lake. It consists of two main cells: the North Cell and the South Cell.

- **North Cell**: Includes Saddle Dams 1 and 2, the Stormwater Dike, the North Cell Internal Structure (NCIS), and two rock-filled access roads (RF1 and RF2). All structures are built to 150 metres above sea level (masl), except the NCIS (constructed to an elevation of 154 masl).
- **South Cell**: Includes the Central Dike and Saddle Dams 3, 4, and 5, constructed to an elevation of 145 masl.

Since 2019, Agnico Eagle has incorporated in-pit tailings deposition into its management strategy. Portage Pit E serves as the primary active tailing’s repository, with the TSF North and South Cells used intermittently. Portage Pit A, although designed for tailings, is currently used mainly for water management. Goose Pit was used for tailings deposition from 2019 to 2020 and now holds submerged tailings, which is actively aerated to manage water quality.

2.0 Background Data

A review of available data and documentation was undertaken to support development of thermal models for the Meadowbank complex TSF. Two key sources were considered:

1 **Meadowbank TSF Closure Conceptual Design Parameters (Data provided by Agnico Eagle)**

SLR considered data related to a closure design concept for the Meadowbank TSF. These data emphasize the use of a thermal cover system composed of non-acid generating (NAG) rock cover to maintain the tailings in a frozen state or in a condition of high saturation to minimize oxidation. The conceptual design objectives are consistent with the Agnico Eagle Interim Closure and Reclamation Plan (i.e., ICRP) and include long-term environmental protection, physical stability of the landform, minimization of dust and turbidity, and maintenance of permafrost conditions.

Climate change projections extended to the year 2122 were previously developed for the Meadowbank Complex. Calibration of climate projection data was previously completed using site thermistor data and trial cell results.

2 **Meadowbank Thermal Monitoring Report**

This report summarizes thermistor monitoring results for the TSF and Rock cover Storage Facilities. Installed thermistors show that freeze-back is progressing in the North Cell, with frozen conditions near surface and unfrozen zones remaining at depth in proximity to the former reclaim pond. Thermistors installed below progressive placement of a rock cap demonstrate that the active layer is contained within the rock cover under present-day conditions.

The monitoring program is designed to validate thermal modeling predictions and to inform ongoing closure design. The data indicates that placement of a rock cap enhances containment of the active layer and promotes permafrost aggradation into the underlying tailings.

Field monitoring by Agnico Eagle confirms that freeze-back is advancing and that cover placement effectively restricts thaw to within the rock cover layer. Together, these findings provide information to develop site-specific thermal models to further validate material properties, to compare actual and estimated conditions, and to support refinement of closure strategies.

3.0 Thermal Modeling with Existing Input Parameters

The modeling was carried out using TEMP/W software, with climate boundary conditions established using existing climate model data and software-generated parameters held by Agnico Eagle. Wind speed data were cycled from the 2019 Meadowbank dataset, while solar radiation inputs were generated internally by TEMP/W based on the site latitude of 65.02°N. Air temperature inputs were applied using the 95th percentile climate projection dataset held by Agnico Eagle, representing a conservative scenario for long-term climate change impacts. This approach supports comparison with modeling outputs while ensuring consistency in boundary conditions and material properties.

3.1 Model Setup

- One dimensional thermal conduction model was developed in TEMP/W, following the material layering (i.e., variable NAG rock cover, 25 m of tailings, and 33 m of bedrock).
- The model domain included tailings overlain by NAG rock cover with thicknesses consistent with the closure design scenarios.
- Initial temperature conditions were established using TSF thermistor data provided by Agnico Eagle.

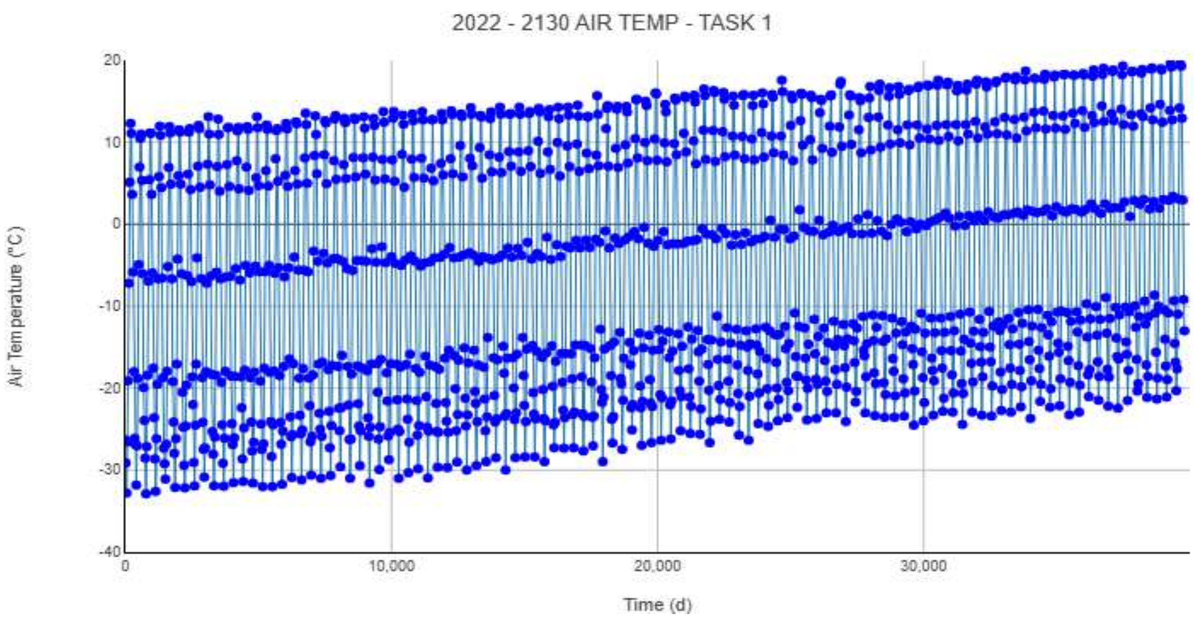
3.2 Modeling Approach

- Models were run for multiple cover thicknesses including 0 m, 1 m, 2 m, 3 m, and 4 m scenarios.
- Long-term simulations extended from 2022 to 2100 to evaluate thaw progression and maximum tailings temperatures under climate change conditions.
- Outputs included estimated thaw depth, maximum tailings temperatures, and time-series graphs showing the evolution of the active layer over time.

3.3 Boundary Conditions

- **Top Boundary:** A Surface Energy Balance (SEB) was applied through the TEMP/W climate boundary condition module to simulate heat flux interactions at the surface. The SEB boundary parameter included air temperature, wind speed, relative humidity, solar radiation, snow depth, and Albedo.
  - **Air Temperature:** a 95th percentile climate projection dataset held by Agnico Eagle for climate scenarios derived from the Coupled Model Intercomparison Project (CMIP) Phase 5 (i.e., CMIP5), Representative Concentration Pathway (RCP) scenarios RCP4.5 and RCP 8.5, and CMIP Phase 6 (i.e., CMIP6), Shared Socioeconomic Pathway (SSP) SSP2.4-5 and SSP5-8.5 were assessed. For this study, data derived from RCP4.5/SSP2-4.5 were used -to represent a conservative warming scenario (i.e., a middle of the road greenhouse gas emissions scenario). Air temperature data is illustrated in Figure A.

Figure A: 2022–2130 Air Temperature Based on the Existing Climate Projections (95th Percentile)



  - **Wind Speed:** Cycled from the 2019 Meadowbank site dataset.
  - **Relative Humidity:** 2022 site meteorological data cycled through to 2100.
  - **Solar Radiation:** Estimated in TEMP/W using the site latitude of 65.02°N.
  - **Snow Depth:** 95th percentile, climate projection dataset.
  - **Albedo:** 95th percentile, climate projection dataset.
- **Bottom Boundary:** A constant heat flux of 3.024 kilojoules per day per square metre was applied at the bottom of bedrock layer.

3.4 Material Properties

- Thermal properties for tailings, rock cover, and foundation materials were adopted directly from the previous design basis and calibration work.
- Where available, properties were informed by field trial results and laboratory testing results provided by Agnico Eagle.
- Saturation thresholds and freezing temperature depression of saline tailings were not included in the input dataset.
- The tailings material included an unfrozen water content curve based on silt.

Material properties that are used in the model are summarized in Table A.

Table A: Summary of Material Properties

Material	Condition	Porosity (%)	Degree of Saturation (%)	Thermal Conductivity (W/m K)	Volumetric Heat Capacity (kJ/m³ °C)
NAG Waste Rock	Frozen	32.8	25	2.22	1300
	Unfrozen	32.8	25	2.12	1500
Tailings	Frozen	40	100	3.46	2100
	Unfrozen	40	100	2.12	2759
Bedrock	Frozen	5	100	2.99	2500
	Unfrozen	5	100	2.99	2500

Notes:

W/m K = watts per metre kelvin

kJ/m³ °C = kilojoules per cubic metre per degree Celsius

4.0 Model Results - Existing Input Parameters

The estimated thaw depth is for the year 2100 summarized in Table B. Based on the results, it can be concluded that approximately 4 m NAG rock cover may be sufficient to maintain the tailing(s) in a frozen state year-round based on the model input and assuming conduction only. The thaw depth at the end of the year 2100 within the tailings without rock cover and with 1 m, 2 m, 3 m, and 4 m rock cover are illustrated in Figure B. In addition to the final thaw depth, the progression of thaw in every five-year period without and with 2 m, 3 m, and 4 m rock cover are illustrated in Figure C, Figure D, Figure E, and Figure F, respectively.

Table B: Summary of Thermal Modeling with Different NAG Rock Cover

NAG Rock Cover (m)	Projected Thaw Depth in NAG Rock Cover by the Year 2100 Based on 95th Percentile Climate Model Data (meters below ground surface [mbgs])	Projected Thaw Depth in Tailings by the Year 2100 Based on 95th Percentile Climate Model Data (mbgs)
0	0	2.5
1	1.0	1.4
2	2.0	0.62
3	3.0	0.17 (below tailings surface)
4	3.7	0 (no tailings thawing)

Figure B: Thaw Depth into Tailings for Different Thickness of NAG Rock Cover

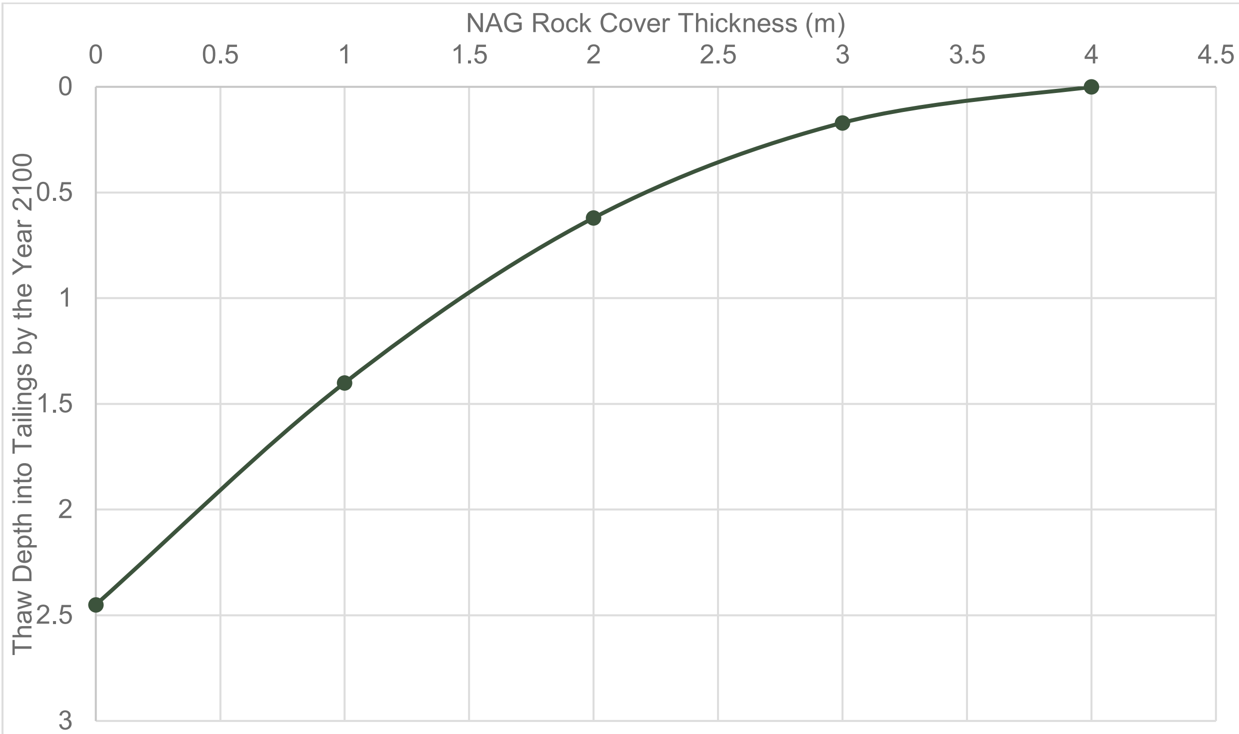


Figure C: Thaw Depth Below Tailings Surface without NAG Rock Cover (2022–2100)

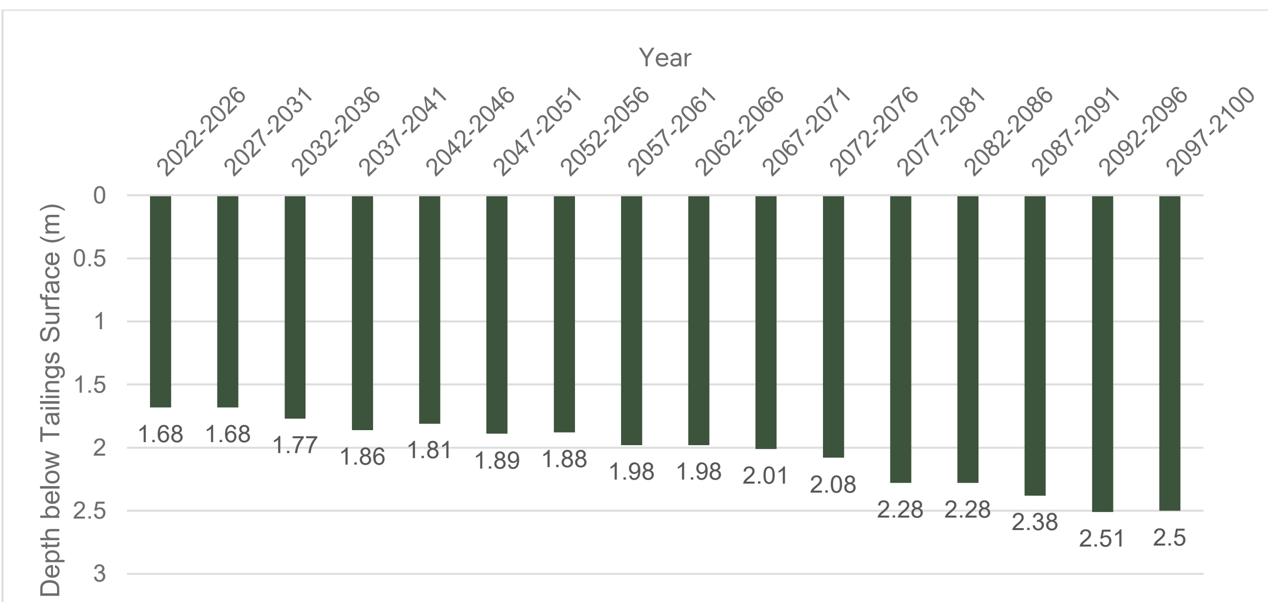


Figure D: Thaw Depth Below Surface of 2 m of NAG Rock Cover (2022–2100)

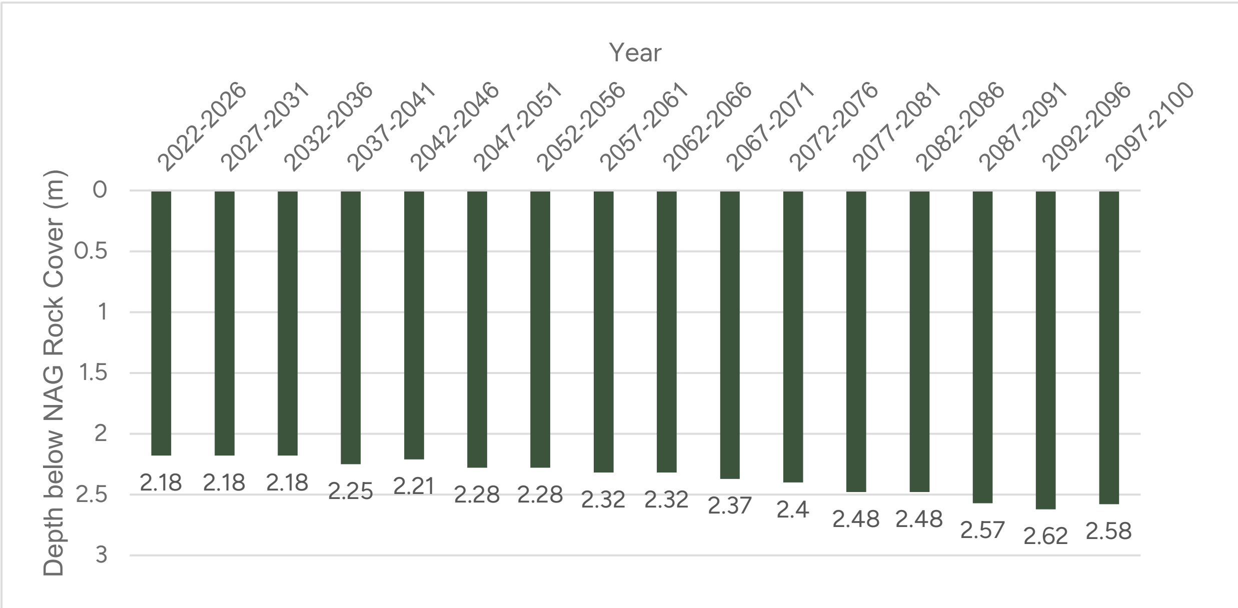


Figure E: Thaw Depth Below Surface of 3 m NAG Rock Cover (2022–2100)

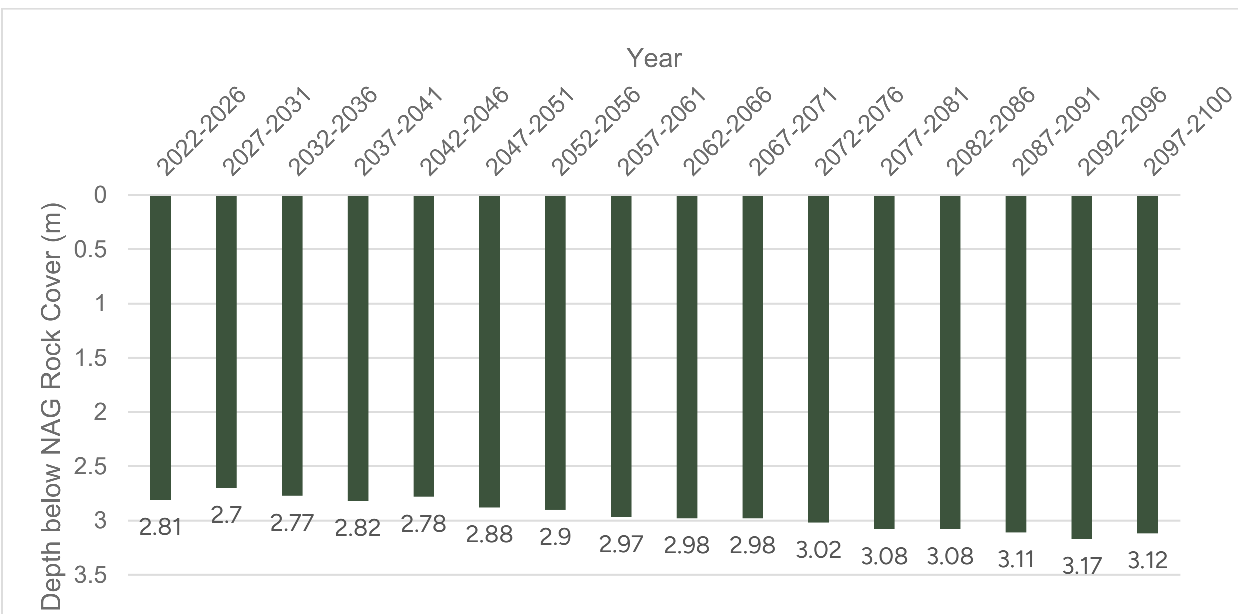
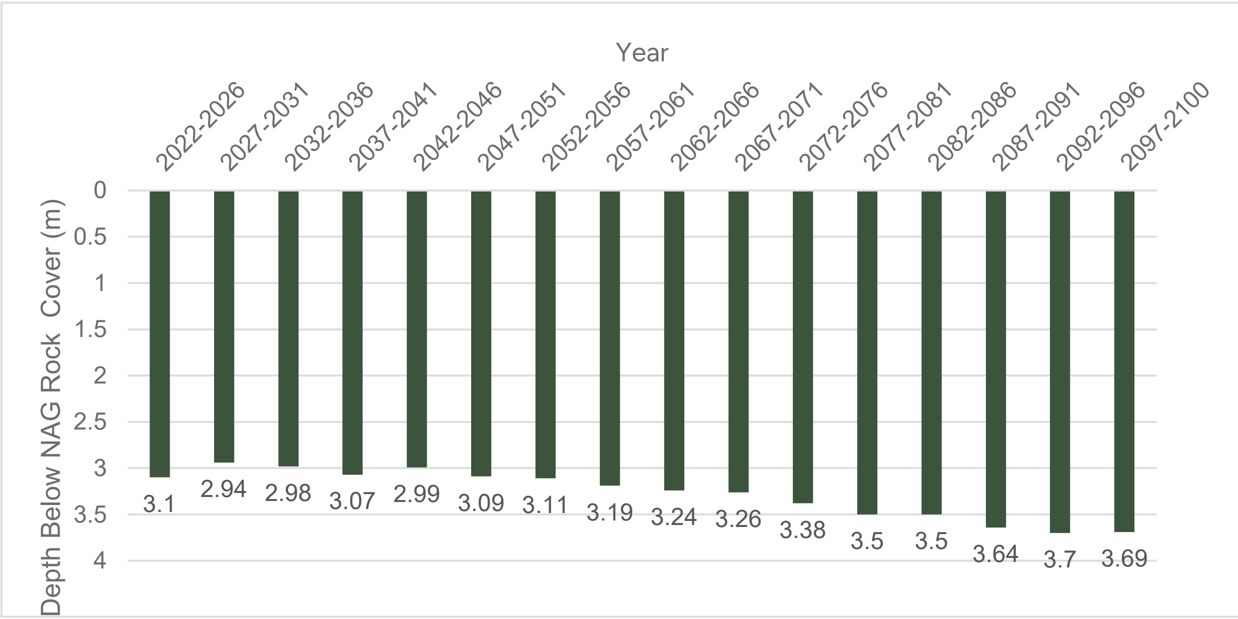


Figure F: Thaw Depth Below Surface of 4 m NAG Rock Cover (2022–2100)



5.0 Closure

This report has been reviewed by Christopher Stevens, PhD., from Northern Permafrost Consulting, an independent thermal modeling expert. We trust the above information meets your current requirements. Please contact the individuals noted below if you have any questions or comments.

Regards,

SLR Consulting (Canada) Ltd.

Prepared by:

Khokan Debnath, M.Sc., P.Eng.
Senior Geotechnical Engineer

Reviewed by:

David Ritchie, M.Eng., P.Eng.
Service Line Director,
Engineering and Design, Canada

6.0 References

Agnico. 2023. Agnico Eagle Mine Limited Meadowbank Division. January 2023. Meadowbank Project, Thermal Monitoring Project- Version 4. Technical, Nunavut: Agnico Eagle Mine Limited.

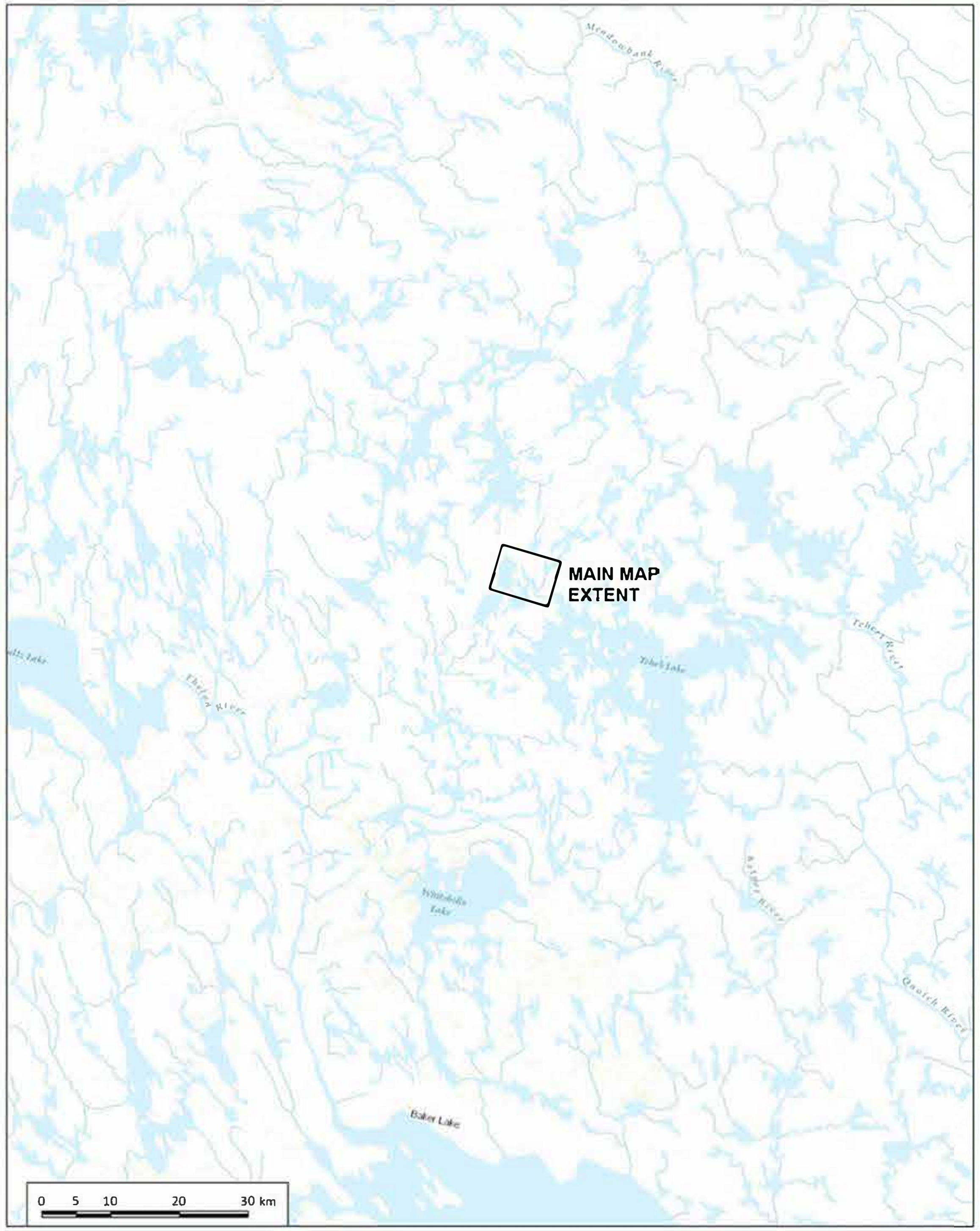
Figures

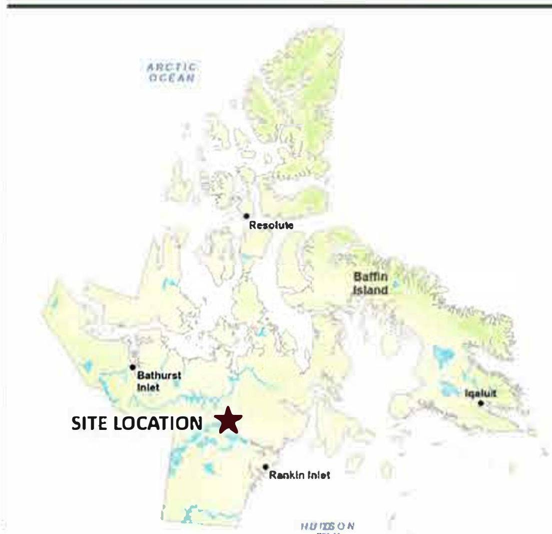
Meadowbank Complex Tailings Storage Facility Thermal Cover Modeling – Existing Inputs

Agnico Eagle Mines Ltd.

SLR Project No.: 201.089631.00001

October 8, 2025





NOTES:

NOTE1 - WATER DATA PROVIDED BY NATURAL RESOURCES CANADA (CANVEC)

SERVICE LAYER CREDITS: ESRI, © OPENSTREETMAP CONTRIBUTORS, HERE, GARMIN, FAO, USGS, NGA, EPA, NPS, AAFC, NRCAN, MAXAR

0 250 500 1,000 1,500 m

SCALE 1:35,000
PAGE SIZE 11 x 17
NAD 1983 UTM Zone 14N

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AGNICO EAGLE MINES LTD.
MEADOWBANK COMPLEX
KIVALLIQ REGION, NUNAVUT, CANADA

MEADOWBANK COMPLEX TAILINGS STORAGE FACILITY THERMAL COVER MODEL

SITE LOCATION

SLR

FIGURE NO:
1

DATE: September 17, 2025
PROJECT NO: 201.089631.00001

Last Saved: Wednesday, September 17, 2025 8:08 AM by radhika.saini

GIS PATH: G:_Projects\201\201_089631_Meadowbank1_Workspace\1_Maps\202509_ThermistorLocPlan\202509_ThermistorLocPlan.aprx || 201_089631_Figure1-SiteLocation

LEGEND:

THERMISTOR LOCATION

NOTES:

NOTE1 - WATER DATA PROVIDED BY NATURAL RESOURCES CANADA (CANVEC)

SERVICE LAYER CREDITS: MAXAR

0 125 250 500 750m

SCALE: 1:14,162

PAGE SIZE: 11 x 17

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MEADOWBANK COMPLEX TAILINGS STORAGE FACILITY THERMAL COVER MODEL

THERMISTOR LOCATION PLAN

SLR

FIGURE NO:
2

DATE: September 17, 2025

PROJECT NO: 201.089631.00001

Making Sustainability Happen