AGNICO EAGLE

September 20th, 2019

Richard Dwyer
Manager of Licensing
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU
X0B 1J0

Re: Agnico Eagle's response to Meadowbank (2AM-MEA1526) Ground Water Monitoring Plan, Meadowbank Interim Closure and Reclamation Plan, Pore Water Quality Monitoring Program and Waste Rock-Tailings Management Plan comments

Dear Richard Dwyer,

The following information are intended to address the regulator's comments regarding the Meadowbank (2AM-MEA1526) Ground Water Monitoring Plan, Meadowbank Interim Closure and Reclamation Plan 2019 update, Pore Water Quality Monitoring Program and Waste Rock-Tailings management plan 2019 submitted following the approval for the In-Pit Disposal:

- Crown-Indigenous Relations and Northern Affairs Canada – August 23, 2019: Crown-Indigenous Relations and Northern Affairs Canada's comments on 2AM-MEA1526 Pore Water Quality Monitoring Program V1 July 2019
- Crown-Indigenous Relations and Northern Affairs Canada – August 23, 2019: Crown-Indigenous Relations and Northern Affairs Canada's comments on 2AM-MEA1526 Waste Rock and Tailings Management Report & Plan July 2019
- Environment and Climate Change Canada – August 26, 2019: 2AM-MEA1526 – Agnico Eagle Mines Ltd. – Meadowbank Gold Project – Ground Water Monitoring Plan, Meadowbank Interim Closure and Reclamation Plan, Pore Water Quality Monitoring Program and Waste Rock-Tailings Management Plan

Should you have any questions or require further information, please do not hesitate to contact us at the below.

Regards,

Agnico Eagle Mines Limited – Meadowbank Division

10 200, Route de Preissac, Rouyn-Noranda, Québec, Canada J0Y 1C0
Tél : 819.759.3700 Sans frais : 1.888.822.6714 agnicoeagle.com

AGNICO EAGLE

Robin Allard
robin.allard@agnicoeagle.com
819-759-3555 x 4606838
Environment General Supervisor

Marie-Pier Marcil
marie-pier.marcil@agnicoeagle.com
819-759-3555 x 4105836
Senior Compliance Technician

10 200, Route de Preissac, Rouyn-Noranda, Québec, Canada J0Y 1C0
Tél : 819.759.3700 Sans frais : 1.888.822.6714 agnicoeagle.com

AGNICO EAGLE

Table of Contents

1 Pore Water Quality Monitoring Program 4
1.1 Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) 4
1.2 Environment and Climate Change Canada (ECCC) 7
1.2.1 Purpose of Monitoring/Obtaining Data 7
2 Waste Rock and Tailings Management Report & Plan 8
2.1 Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) 8
2.2 Environment and Climate Change Canada (ECCC) 10
2.2.1 Control Strategies for Acid Rock Drainage 10
3 Groundwater Monitoring Plan 11
3.1 Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) 11
3.1.1 Groundwater monitoring well installations during operations 11
3.1.2 Groundwater monitoring well installations during ICRP 16
3.2 Environment and Climate Change Canada (ECCC) 17
3.2.1 Monitoring Station 17
3.2.2 Quality Assurance/Quality Control (QA/QC) – Travel Blanks 18
4 Meadowbank Interim Closure and Reclamation Plan – Update 2019 19
4.1 Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) 19
4.1.1 Depth of in-pit tailings water cover and details of aggregate cover required 19
4.2 Environment and Climate Change Canada (ECCC) 20
4.2.1 Post-Closure Monitoring Duration 20

10 200, Route de Preissac, Rouyn-Noranda, Québec, Canada J0Y 1C0
Tél : 819.759.3700 Sans frais : 1.888.822.6714 agnicoeagle.com

AGNICO EAGLE

1 Pore Water Quality Monitoring Program

1.1 Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Comment: The purpose of the Pore Water Quality Monitoring Program is to "*characterize and monitor the chemical composition of the pore water that exists in the tailings during operation and confirm predictions for mine closure*." However, direct monitoring and sampling of tailings pore water were ruled out by Agnico Eagle Mines Limited (AEM) because of operational challenges in piezometer or monitoring well installation and safety concerns. AEM proposed to monitor the quality of the reclaim water and the mill effluent slurry to calculate and obtain indirectly the chemical composition of the tailings pore water. This proposed monitoring approach is based on the following two key assumptions: (1) "*The chemical composition of the tailings pore water is expected to be controlled by the chemical composition of the mill effluent and the reclaim water*" and (2) "*Geochemical reactions within the tailings solids themselves are not expected to influence pore water chemistry*."

CIRNAC has the following concerns with this approach and its assumptions:

1. the chemical composition of tailings pore water would in general be different from that of the overlying water covering the tailings in the pit;

2. the mill effluent slurry and the reclaim water would influence directly the chemical composition of the overlying water in the pit, instead of the tailings pore water;

3. many other factors (e.g., degree of mixing, freeze-thaw cycle, precipitation-evaporation, geochemical reactions in the pit, flux at the tailings-overlying water interface, etc.), in addition to the chemical composition of the mill effluent slurry and that of the reclaim water, would also influence the chemistry of the overlying water;

4. the rate of sulfide mineral oxidation would be inhibited or reduced in tailings under subaqueous conditions. However, oxidation and other geochemical reactions (e.g., dissolution, precipitation, reduction, etc.) between tailings and pore water would in general still occur, which would result in changes in the chemical composition of tailings pore water;

5. the chemical composition of tailings pore water would in general vary with burial depth; and,

6. physicochemical and geochemical parameters such as pH, turbidity, electrical conductivity, oxygo-reduction potential, and dissolved oxygen could normally be obtained accurately by direct measurements only.

10 200, Route de Preissac, Rouyn-Noranda, Québec, Canada J0Y 1C0
Tél : 819.759.3700 Sans frais : 1.888.822.6714 agnicoeagle.com

In addition, CINRAC notes that pore water can be sampled and monitored by other means without the installation of piezometers or monitoring wells.

Recommendation 1: CIRNAC requests AEM to either redesign the monitoring program or provide justifications for the proposed approach and the details on how each of the physicochemical and geochemical parameters of tailings pore water will be calculated from that of the mill effluent slurry and the reclaim water for further review.

Agnico Eagle's Response:

In considering the response to CIRNAC, a geochemical conceptual model (GCM) may help set the stage for evaluating water quality risks. However, it should also likely be pointed out to CIRNAC that they have not identified a specific geochemical risk. Instead a collection of processes have been listed with no particular pathway on how they may or may not negatively impact water quality.

After the GCM, some individual considerations to each of the above points are provided. We should note in general that Agnico Eagle is committing to obtaining samples of the tailings pore water at the end of pit deposition when it is safe to do. This approach will enable Agnico Eagle to verify the prediction for tailings pore water and evaluate compliance with the modeling completed for the assessment of the in pit deposition project during the operation phase.

Geochemical conceptual model:

- *The main water quality risks from tailings at our sites Whale Tail and Meadowbank are typically a result of sulphide oxidation, which requires prolonged exposure to atmospheric oxygen.*
- *The following steps describe the process of tailings generation and the most likely geochemical processes that will occur:*
    - *Ore is blasted and transported to the mill for crushing and leaching. Minor amounts of oxidation may occur during the blast and transport to the mill. Any oxidation products that form in the ore during the short time of exposure to the atmosphere (typically days) will dissolve in the mill process water and be captured in the mill effluent.*
    - *Processing is by whole ore cyanidation, meaning other than leaching gold, sulphides will not be altered during processing.*
    - *Tailings, after cyanide destruction, are then transferred as a wet slurry to the open pit and submerged under water, with an overlying minimum 2m thick water cover.*
    - *As a result, no further production of oxidation products or leaching of metals can occur once the ore enters the mill.*

10 200, Route de Preissac, Rouyn-Noranda, Québec, Canada J0Y 1C0
Tél : 819.759.3700 Sans frais : 1.888.822.6714 agnicoeagle.com

- *The tailings pore water chemistry will be a function of mill effluent and dilution from the overlying fresh water and any groundwater inputs.*
- *Long term changes to the chemistry of the pore water is not expected.*
- *Potential in-situ processes that may occur could include reduction-oxidation (redox). However, this process requires an active microbial community, a source of labile carbon and a mineral form capable of accepting electrons, such as iron oxides. The lake is expected to be carbon/nutrient limited and iron oxides from the ore would need to form over several years to decades of weathering, which will not happen with the ore.*
- *Even if iron oxides were present, there needs to be a source of contaminant like arsenic in the water that has adsorbed to the iron oxides to pose a risk to remobilization during reduction processes. As the tailings will be rendered non-reactive as soon as they enter the mill, there will only ever be minor amounts of arsenic present in the pit lake for sorption in the first place. As a result, even if some of arsenic that was adsorbed from the water was remobilized, it could not be greater than the starting concentration of arsenic present in the mill effluent.*
- *Any other physical processes are not expected to change to pore water chemistry as the tailings will effectively behave as inert sand.*

1- *The sampling approach presented by Agnico Eagle to manage health and safety risks with technical requirements never indicated that the overlying water would be the same as the pore water. In our sampling plan, Agnico indicated a review of mill effluent water and reclaim water. This will effectively capture the range of potential pore water chemistry as mill effluent will be deposited with tailings, then subject to varying dilution from overlying 2m water cover and groundwater inputs.*

2- *The mill effluent water is effectively what the tailings are being transported in to the pit. As noted above in the bullet #1, the pore water will be a combination of both effluent water, overlying water (i.e. reclaim) and any inputs from groundwater. The pore water composition can be estimated during operation based on mill process water, reclaim water quality and volumes, and then later verified at the end of deposition. Mill effluent water will provide a worst-case scenario for metals and metalloids potentially in the pore water.*

3- *The main geochemical reactions that will influence pore water chemistry have been outlined in the GCM. Agnico Eagle does not expect that the processes listed by CIRNAC will occur or have a significant impact on the pore water quality. The proposed methodology addresses concerns expressed by CIRNAC.*

10 200, Route de Preissac, Rouyn-Noranda, Québec, Canada J0Y 1C0
Tél : 819.759.3700 Sans frais : 1.888.822.6714 agnicoeagle.com

4- *The GCM noted the main geochemical reactions expected to occur. Oxidation will be inhibited. The most likely scenario for precipitation will be in the mill effluent water given it will have the highest ionic strength. Agnico Eagle does not expect that additional geochemical reactions will have a significant impact on the pore water quality and that the proposed methodology addresses concerns expressed by CIRNAC.*
5- *Unless the mill effluent concentration changes significantly over time, or the overlying pit water changes, it is unlikely that there will be significant changes in pore water chemistry over time. As both of these parameters will be measured on a monthly basis during operation, there will be a strong basis to capture pore water composition variability over time and trigger additional mitigation if required to address potential long-term issues related to the pore water quality.*
6- *A robust prediction is possible with existing information and operational sampling. However, as noted above, Agnico Eagle is committing to pore water sampling at the end of in-pit deposition to confirm predictions.*

1.2 Environment and Climate Change Canada (ECCC)

1.2.1 Purpose of Monitoring/Obtaining Data

References: Agnico Eagle Mines Limited. July 2019. Pore Water Quality Monitoring Program

Comment: Monitoring of pore water in the tailings can provide information on the behaviour of chemical constituents in the tailings, to confirm predictions made during the amendment proposal and to inform closure planning for any treatment/cover needs. The Goose pit tailings deposition will be completed first and post-deposition pore water monitoring can provide information on pore water quality and movement of contaminants. The Proponent has estimated that consolidation of the tailings would take approximately one year. During and after this time there would be natural freshwater inputs to the pit, as well as any groundwater contributions which could act to “flush” contaminants upwards through the tailings. Of specific interest is the potential for contaminants in the pore water to enter the overlying pit waters. For this to be evaluated, periodic monitoring of pore water and overlying water quality should be done, with year-to-year comparisons drawn.

The Proponent has outlined the difficulties with installing piezometers or monitoring wells. ECCC concurs that these would not necessarily be effective for this application and suggests that single sampling events be done using samplers designed for pore water extraction or with pore-water sampling probes. This would involve accessing the pit either during open water or ice cover to collect core samples or use pore-water sampling devices, if this can be safely done.

10 200, Route de Preissac, Rouyn-Noranda, Québec, Canada J0Y 1C0
Tél : 819.759.3700 Sans frais : 1.888.822.6714 agnicoeagle.com

The Proponent proposes to monitor reclaim water quality and process water quality in the plant effluent slurry. This is supported as a way to characterize the parameters that will be put into the pit, but will not provide information on the potential for poor quality water at the sediment-water interface at closure. It is not ECCC's expectation that pore water quality monitoring will be conducted during active deposition, as these are not stable conditions during which pore water movement could be tracked and interpreted. The pore water behaviour data will be needed in advance of the Final Closure Plan, which will be developed subsequently to the Goose Pit tailings deposition being completed.

Recommendation 2: ECCC recommends that the Proponent revisit the Pore Water Quality Monitoring plan and hold discussions with stakeholders who expressed this as a concern in the licence amendment process.

Agnico Eagle's Response:

Agnico Eagle agrees with ECCC that the Goose pit tailings deposition will be completed first and post-deposition pore water monitoring could be completed safely a year following the end of deposition. This single sampling events will be done using a diamond drill to collect tailings core samples at different depth and locations to evaluate pore water quality. Similar sampling would be completed at the end of the deposition in Portage Pit.

Agnico Eagle was planning continuing sampling overlaying water in the Goose pit following end of deposition as discussed by ECCC. This monitoring station is already part of the Water Quality and Flow Monitoring Plan and water volume and quality would continue to be reported as part of the annual report.

Agnico Eagle agrees with ECCC that the pore water behaviour data will be needed in advance of the Final Closure Plan, which will be developed subsequently to the Goose Pit tailings deposition being completed and will revisit the Pore Water Quality Monitoring plan as part of the 2019 Annual Report and commit to organized a meeting with ECCC and CIRNAC to discuss of the sampling methodology prior to the update of the plan.

2 Waste Rock and Tailings Management Report & Plan

2.1 Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Comment: In this updated management plan, Table 6.5 indicates that no tailings would be deposited into the Tailings Storage Facility (TSF) after July 2019.

Recommendation 3: CIRNAC would request that AEM clarify its plans for the TSF and provide a progressive closure plan if the TSF will no longer to be used for tailings disposal.

10 200, Route de Preissac, Rouyn-Noranda, Québec, Canada J0Y 1C0
Tél : 819.759.3700 Sans frais : 1.888.822.6714 agnicoeagle.com

Agnico Eagle's Response:

The tailings deposition plan indicate that the pit have enough capacity to accommodate tailings storage until the end of operation. Agnico Eagle would continue to evaluate opportunity of completing progressive closure during operation. The future updates of the Interim Closure Plan would capture those opportunities. Area which no longer have capacity for tailings storage will be progressively closed as per the progressive closure plan.

Comment: In addition, Section 9.2 states "The closure strategy for in-pit consists of pit flooding and dike breaching once the water quality is met."

Recommendation 4: CIRNAC notes that water in the pit may potentially fail to meet the quality criteria after pit flooding and requests AEM to provide its closure strategy or contingency plans for such scenarios.

Agnico Eagle's Response:

Lake reconnection will only happen once the water quality criteria is met. Agnico Eagle is planning to install a water treatment plant at closure, if deemed required, to treat the pit water until it meet discharge criteria. During operation, water quality will be monitored and the data will be used to design the water treatment strategy for closure if required. This process is captured in the Part E Item 7 of the existing Water Licence:

> *The Licensee shall submit a Water Management Plan on an annual basis to the Board for review following the commencement of Operations. The Plan must include an updated Water Balance. The Water Management Plans shall include an action plan to be implemented if predicted re-flooded pit water quality indicates that treatment is necessary. The Licensee shall not breach dikes until the water quality in the re-flooded area meets CCME Water Quality Guidelines for the Protection of Aquatic Life, baseline concentrations, or appropriate site specific water quality objectives. Subject to the Board approval, if water quality parameters are above CCME Guidelines, a site specific risk assessment must be conducted to identify water quality objectives that are protective of the aquatic environment.*

Also, Agnico Eagle is in the obligation under Part E, Item 9 of the Licence, to evaluate on a yearly basis any deviation to the predictions and identify implication of these discrepancies:

> *The Licensee shall, on an annual basis during Operations and Closure, compare the predicted water quantity and quality within the pits, to the measured water quantity and quality. Should the difference between the predicted and measured values be 20% or greater, then the cause(s) of the difference(s) shall be identified and the implications of the difference shall be assessed and reported to the Board.*

10 200, Route de Preissac, Rouyn-Noranda, Québec, Canada J0Y 1C0
Tél : 819.759.3700 Sans frais : 1.888.822.6714 agnicoeagle.com

Agnico Eagle considers that the existing obligations are designed is such way that an evaluation of potential mitigations and contingencies to the closure strategies are completed during the operation phase.

Agnico Eagle also committed to update the water quality forecast as part of the annual report.

2.2 Environment and Climate Change Canada (ECCC)

2.2.1 Control Strategies for Acid Rock Drainage

References: Agnico Eagle Mines Limited. 2019. Meadowbank Gold Mine: Updated Mine Waste Rock and Tailings Management Plan - 2019, Section 7: Control Strategies for Acid Rock Drainage – Cover Design and Section 7.1: TSF Cover Design

Comment: The Proponent has set out some design criteria specific to the cover system design that includes:

- In areas where the active layer extends into the tailings material, the thawed layer should be limited to the upper 30 cm of the tailings mass and saturation of the tailings should remain above 85% to limit oxidation of the tailings.
- As an additional method to reduce tailings reactivity, the degree of saturation within the tailings mass should remain above 85%. This will reduce the tailings reactivity should part of the upper region of the tailings mass thaw during a warm year event.

Thermal modelling shows that the tailings material, beneath the minimum 2.0 m thick cover will remain frozen for all year (excluding the warmest years) from the 100-year database, accounting for climate change. The unfrozen tailings are segregated in the upper 0.5 m of the tailings storage facility (TSF) and remain above 85% saturation, thus reducing the risk of oxidation until the material freezes back into the permafrost over time.

ECCC notes that the Proponent indicated that the cover depth in some areas of the TSF would be less than the active layer and that the top 0.5 m of the tailings even when thawed during the warm months, will remain saturated up to 85%. It is understandable that when a tailings zone or layer is saturated, the acid rock drainage (ARD) activity would be reduced or slowed if the saturation remains (i.e., soaked with abundance of water). It is also reasonable to expect that some rock materials may be able to retain moisture or water longer than others may. However, if the warm period continues, it is unclear to ECCC how the Proponent would be able to retain the 85% saturation in the tailings such that ARD/metal leaching (ML) reactivity of the tailings will not occur or will be reduced. Tailings are finely ground rock particles ranging from sand-sized to silt-sized and are not specifically designed or engineered to retain water.

10 200, Route de Preissac, Rouyn-Noranda, Québec, Canada J0Y 1C0
Tél : 819.759.3700 Sans frais : 1.888.822.6714 agnicoeagle.com

Recommendation 5: ECCC recommends that the Proponent clarify plans to ensure that the top 0.5 m of the tailings within the active layer under cover will remain saturated.

Agnico Eagle's Response:

The 0.5 m of thawed material referenced above is not expected to occur every year but only in the warmest year. For most year, all tailings are expected to remain entirely frozen. The thawed zone of 0.5 m would be valid for a 2 m cover, however most of the landform is planned to be significatively thicker than 2 m.

Additional monitoring and analysis are required to verify the performance of the cover against the design intent and inform on the final cover design. The final cover design will be subject to modification depending on the results obtained from the site trials as well as from data from the Thermal Monitoring Program. Results of the modelling and the final cover design will be provided in the Final Closure and Reclamation plan for Meadowbank site.

3 Groundwater Monitoring Plan

3.1 Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

3.1.1 Groundwater monitoring well installations during operations

Comment: On January 31, 2019, CIRNAC indicated:

> The performance of the thermal and hydrogeological modelling has been satisfactorily improved. However, CIRNAC is in agreement with NRCan on the ineffectiveness of the current and proposed groundwater monitoring network noting that the sparse monitoring network will be unable to provide information useful for model validation, particularly for the ICRP and prior to closure which informs the Final Closure and Reclamation Plan.
>
> CIRNAC concurs the current groundwater monitoring plan is for the operation phase, and that the ICRP and Final Closure and Reclamation Plan will address groundwater monitoring commitments during closure and post-closure.
>
> CIRNAC agrees with NRCan that the monitoring well locations should not be selected solely on the basis of the simulated groundwater plume and that they should include consideration of field data such as fracture observation, borehole logging, packer testing and thermal profiling. CIRNAC also agrees that breakthrough curves are a suitable approach to help plan and evaluate groundwater monitoring locations (from the simulation results) as they include the processes of advection, dispersion and diffusion.

10 200, Route de Preissac, Rouyn-Noranda, Québec, Canada J0Y 1C0
Tél : 819.759.3700 Sans frais : 1.888.822.6714 agnicoeagle.com

> The current groundwater monitoring wells were located on the basis of groundwater flow paths during the mining of the pits. One should not expect these same wells to be suitably located for future monitoring following the flooding of the pits. CIRNAC therefore reiterates that the breakthrough curve analysis in conjunction with field data be used to select future monitoring well locations, and that the monitoring well locations are installed and monitored as a term and condition in the water licence of the ICRP and Final Closure and Reclamation Plan.

AEM reported installing four groundwater monitoring wells from May 29 to June 4, 2018.

Section 3 of Ground Water Monitoring Plan July 2019 Version 10 states:

> In 2018, the latest version of the groundwater numerical model was used to forecast the post closure evolution of chloride concentrations at existing wells, including the four new wells installed in 2018. Breakthrough chloride concentration curves (predicted concentrations of chloride over time at a specific point of the 3D model) were extracted from the model at each monitoring well. Concentration increases over time showed that monitoring wells could intercept the contaminant plume from Pit A, Pit E and Goose Pit after closure over different period and at different concentrations.

It is unclear if the breakthrough curves informed choosing the location of the four groundwater monitoring wells installed from May 29 to June 4, 2018, or if a sufficient number of groundwater monitoring wells have been installed and will be monitored during operations to inform the ICRP and Final Closure and Reclamation Plan.

Recommendation 6: CIRNAC requests clarification on where the 3D model breakthrough curves predicted the highest chloride concentrations, and if the existing monitoring wells network intersects each of these predicted highest chloride concentration areas

> ***Agnico Eagle's Response:***
> *Existing monitoring wells, excluding MW-IPD-17'series, were indeed installed for mining operation purpose, before in-pit tailing deposition study starts. However, MW-IPD-17' series (MW-IPD-17-01(s), MW-IPD-17-01(d), MW-IPD-17-09 and MW-IPD-17-07) were installed in 2018 with these main objectives:*
>
> *a) to gather hydrogeological information (thermal and hydraulic properties) to support the model and the study; and*
> *b) to install screen at depth in expected groundwater flow path (at closure).*
>
> *As Agnico have already stated, screen depths were adapted with consideration permeability and thawed zones observed with field data such as fracture observation, borehole logging, packer testing and thermal profiling". Agnico agree with CIRNAC that*

10 200, Route de Preissac, Rouyn-Noranda, Québec, Canada J0Y 1C0
Tél : 819.759.3700 Sans frais : 1.888.822.6714 agnicoeagle.com

future monitoring well locations should be evaluated based on future modelling works and field observations as per existing licence conditions. In the same time, as modelling is an evolutionary process, field observations should also be used to improve the model quality and relevance.

MW-IPD-17' series locations were based on the conceptual hydrogeological model developed early during the Preliminary Feasibility Study (PFS). Thus, at that time, MW-IPD-17'series locations were based on predicted flow paths and plumes occurring after mine flooding (e.g. closure period).

In December 2018, the 3D hydrogeological model was updated (version 4) as per NRCan recommendations, and with their satisfaction. Even if it is challenging to have a clear 2D extraction of this modelling results, figures 1 and 2 below were produced to show predicted chloride plumes 20,000 years after pit flooding. Existing monitoring wells are also shown in the map and cross-section.

At Goose Pit, the MW-IPD-17-07 is aligned in the groundwater and plume pathway and screen depth allows to track the simulated chloride concentrations. At Pit E, the MW-IPD-17-09 is also aligned in plume pathway and its screen depth is close from the pit rim, allowing to intercept the simulated chloride plume.

At Pit A location, MW-IPD-17-01 is not perfectly aligned with predicted chloride plume (figure 1 and figure 2). However, as the location of the predicted plume is in the current permafrost area, it would not make sense to install any monitoring well in this area at this time. Monitoring of ground temperature during operation is required before installing any new well.

Figures 3 and 4 show some preliminary options for MW locations which could be installed at closure close to Pit A. These locations are based on the last version of the hydrogeological model (version 4, sent to NRCan on December 4th, 2018), and updated as per NRCan's recommendations. A03 to A05 cannot be installed at this time because permafrost still exists at their location (light blue line on the map).

10 200, Route de Preissac, Rouyn-Noranda, Québec, Canada J0Y 1C0
Tél : 819.759.3700 Sans frais : 1.888.822.6714 agnicoeagle.com

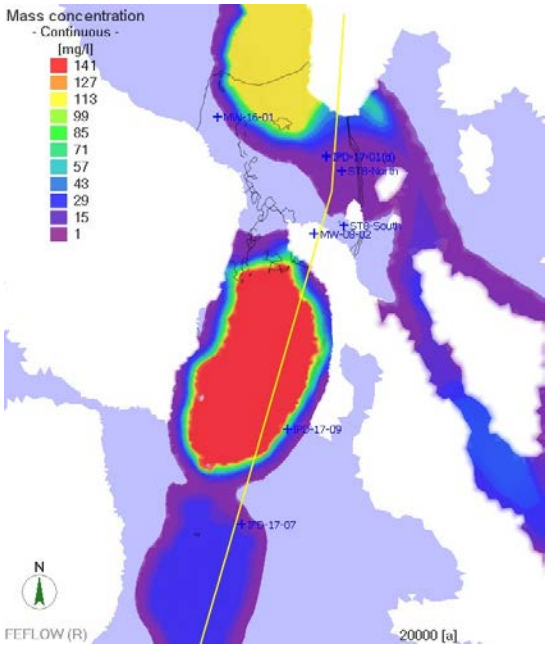

Figure 1: Location of the north-South cross-section with chloride plumes at t=20,000 years

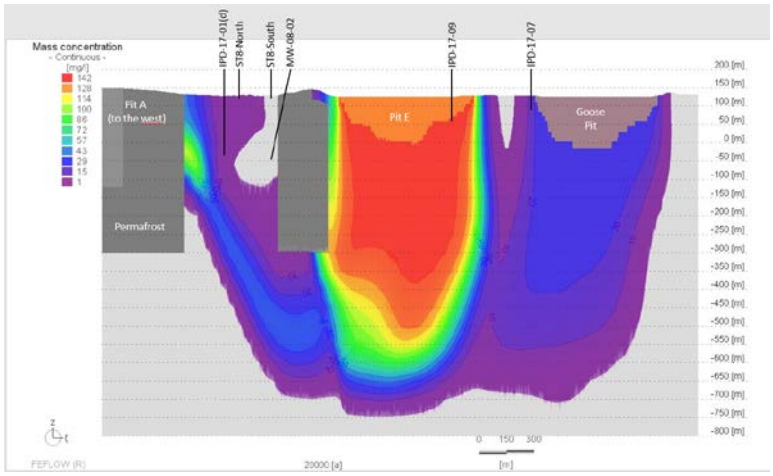

Figure 2: North-South cross-section with existing monitoring wells and predicted plumes at t=20,000 years

10 200, Route de Preissac, Rouyn-Noranda, Québec, Canada J0Y 1C0
Tél : 819.759.3700 Sans frais : 1.888.822.6714 agnicoeagle.com

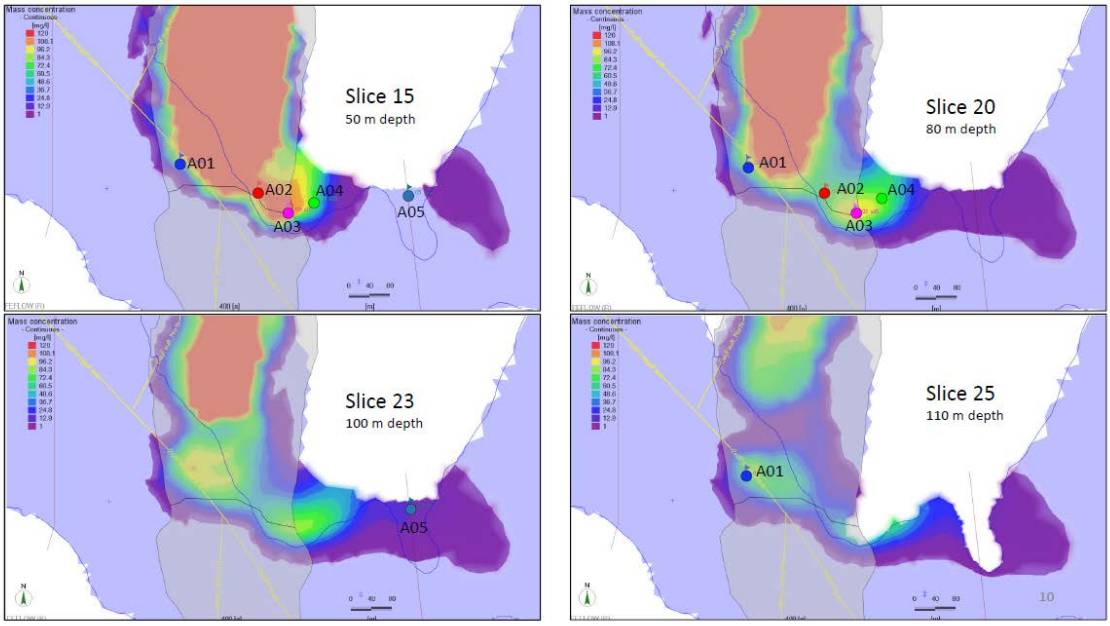

Figure 3: Predicted chloride plumes and Preliminary options for MWs to be installed at closure, Pit A, at t=400 years

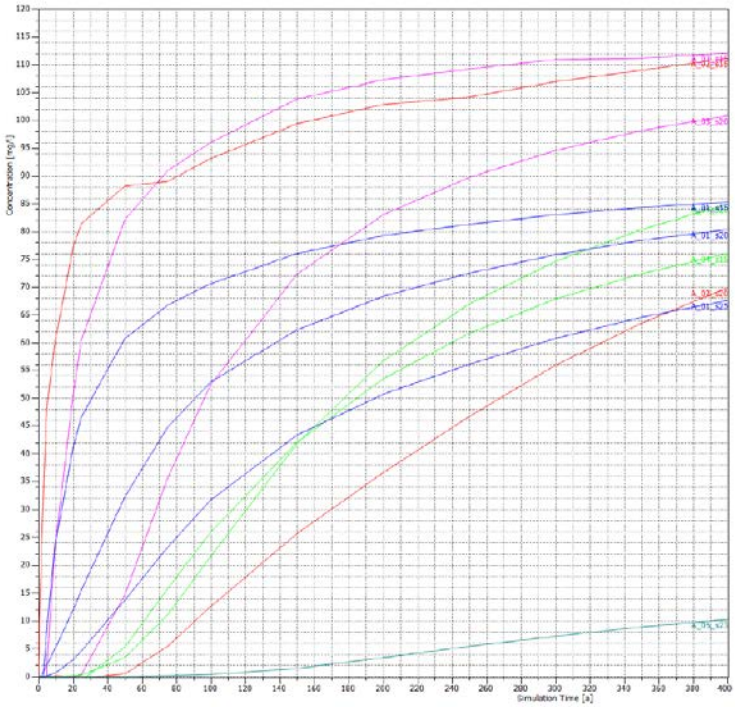

Figure 4: Chloride breakthrough curves at preliminary options for MWs to be installed at closure, Pit A

10 200, Route de Preissac, Rouyn-Noranda, Québec, Canada J0Y 1C0
Tél : 819.759.3700 Sans frais : 1.888.822.6714 agnicoeagle.com

3.1.2 Groundwater monitoring well installations during ICRP

Comment: Section 9.0 of the Interim Closure and Reclamation Plan 2019 states:

> Regarding in-pit tailings deposition at Goose Pit and Portage Pit, groundwater monitoring network was implemented in 2018 with monitoring wells to assess groundwater quality of the in-pit tailings deposition both during the operation phase and after closure. Tailings pore water quality will be monitored in each pit to assess its chemical evolution. The thermal modelling, hydrogeological modelling and contaminant transport simulations will be updated after in-pit tailings deposition and will be used as a predictive tool, along with field observations, to adapt the post-closure groundwater monitoring program (well locations, frequency, parameters). In addition, additional monitoring wells will be installed to monitor the groundwater flow paths. Breakthrough curves to predict concentrations of contaminant over time will be produced with the hydrogeological model to support the selection of monitoring wells screen location and depth. As part of the final closure plan, Agnico Eagle will adapt well characteristics at closure to ensure plume interception and explore the potential of installing a groundwater monitoring station in the vicinity of Portage Pit area A, where an open talik is expected to develop over the years. Agnico Eagle will review, optimize and adapt the location of the monitoring wells as part of the final closure plan in collaboration with the regulators. In addition, available thermistors and piezometer across the site will inform the thermal and hydrogeological model.

The thresholds to determine if additional groundwater monitoring well installations will be required were not identified, along with how often field data will be collected, models will be updated, and the time until a new groundwater monitoring well is installed after a threshold is exceeded.

Recommendation 7: CIRNAC requests the ICRP specify the thresholds for when additional groundwater monitoring well installations are required. The ICRP should also identify how often field data will be collected, models will be updated, and the time until a new groundwater monitoring well is installed after a threshold is exceeded.

> ***Agnico Eagle's Response:***
> *Agnico Eagle would like to clarify that the updated ICRP was submitted to CIRNAC on June 7, 2019. Following the reception of the documentation, CIRNAC did not provided any comment related to the ICRP and agreed with the updated total global security amount. Agnico Eagle suggests to establish the thresholds to determine if additional groundwater monitoring well installations will be required as part of the Final Closure Plan.*

10 200, Route de Preissac, Rouyn-Noranda, Québec, Canada J0Y 1C0
Tél : 819.759.3700 Sans frais : 1.888.822.6714 agnicoeagle.com

During operation, field data such as ground temperature and piezometric level are recorded each day with the extensive monitoring network including thermistors (TH) and vibrating wire piezometer (VWP). Groundwater samples are collected twice a year as already presented in the Groundwater Monitoring Plan (version 10), which are submitted to regulators on a yearly basis. Temperature and piezometric records will be extracted and interpreted each year during operations to assess permafrost and piezometric behaviors in response to in-pit deposition.

Considering the expected slow processes and changes of thermal and hydrogeological regimes, Agnico consider that these models should be updated only at the end of in-pit deposition operations, unless significant change in thermal regime is observed by existing thermistors. Temperature and piezometric data gathered at closure will be more representative of thermal and hydrogeological conditions at the period of interest (e.g. post-closure period). Using these data gathered at closure will be more relevant for additional contaminant transport simulations and to assess the location of new monitoring wells for post-closure period, if required. During in-pit deposition operations, groundwater will be diverted essentially toward the pits or from a pit to the other. As suggested above, thresholds will be established as part of the Final Closure Plan.

3.2 Environment and Climate Change Canada (ECCC)

3.2.1 Monitoring Station

References: Agnico Eagle Mines Limited. July 2019. Groundwater Monitoring Plan, Section 2.3: Monitoring Stations and Sampling Methodologies 2018

Comment: AEM has sought to collect supporting data for the groundwater program, and in addition to the monitoring wells, included the following stations in 2018 sampling:

- ST-S-5 Dike - Seepage
- ST-21 - Reclaim Water
- ST-8-North - Dike Seepage
- ST-8-South - Dike Seepage
- BG_Lagoon - Sump
- SMP (Storm Management Pond) – Sump
- Wall Seepage

The inclusion of dike seepage is described in Section 2.3.2 of the Groundwater Monitoring Plan, and the statement is made that "*these sampling stations can be monitored th[r]ough time, contribute to the understanding of groundwater quality at the mine and can be added to the long-term groundwater monitoring program*" (Page 8). It is ECCC's understanding that the East Dike

10 200, Route de Preissac, Rouyn-Noranda, Québec, Canada J0Y 1C0
Tél : 819.759.3700 Sans frais : 1.888.822.6714 agnicoeagle.com

seepage is comprised predominantly of lake water, and that it would not be relevant to groundwater monitoring. Similarly, seepage at ST-S-5 would be from the tailings impoundment area, and not groundwater.

Section 2.3.5 of the Groundwater Monitoring Plan describes the collection of samples collected near the bottom of Dogleg Lake, and includes the statement that these samples were collected to verify the quality of groundwater at lake's bottom. It is not indicated whether this is known to be a groundwater recharge zone and the depth is not specified. Without knowing the behaviour of lake currents and recharge areas it is not possible to determine to what degree the water chemistry is attributable to groundwater inputs.

The Proponent has not proposed that the sump samples, reclaim water, nor geotechnical investigation holes be included further in the Groundwater Monitoring Plan.

Recommendation 8: ECCC recommends that the Proponent:

- Remove the dike seepage stations from the groundwater plan, unless a connection to groundwater quality can be clearly demonstrated.
- Establish the relevance of water samples taken at the bottom of Dogleg Lake to groundwater quality if further deep lake sampling is proposed to be done within the Groundwater Monitoring Plan.

Agnico Eagle's Response:

Dike seepage: Agnico Eagle's objective was to identify and track the lake water (ST-8-North, ST-8-South) reclaim water signatures (ST-21, ST-S-5) and to monitor their evolution through time and on Meadowbank site. Agnico Eagle will keep sampling these stations but will no longer present dike seepage stations in the Annual Groundwater Quality Report and Monitoring Plan, unless it helps to understand water quality evolution across the site.

Dogleg Lake sample: The sample was collected at the lake bottom, 5 m below lake surface. This station was sampled once to give more information on geochemical signature of the lake and understand water quality across the site. Other than pit lake water sampling, no more lake analytical results will be presented in the Groundwater Quality Report and Sampling Program.

3.2.2 Quality Assurance/Quality Control (QA/QC) – Travel Blanks

References: Agnico Eagle Mines Limited. July 2019. Groundwater Monitoring Plan, Section 2.3: Monitoring Stations and Sampling Methodologies 2018

10 200, Route de Preissac, Rouyn-Noranda, Québec, Canada J0Y 1C0
Tél : 819.759.3700 Sans frais : 1.888.822.6714 agnicoeagle.com

Comment: The Proponent will be collecting replicate samples and doing field and travel blanks. The second bullet in this Section 5 of the Groundwater Monitoring Plan concludes with the statement: "*Moreover, transport blank should be kept in a refrigerator that is not used to store samples*" (Page 21).

ECCC notes that travel blanks are to accompany the sample bottles throughout the collection, handling, storage and shipping of the samples (see Protocols Manual For Water Quality Sampling In Canada, Canadian Council of Ministers of the Environment, 2011).

Recommendation 9: ECCC recommends that the handling of QA/QC travel blanks by the Proponent, mirror samples collected for analysis.

> ***Agnico Eagle's Response:***
> *Agnico Eagle will handle samples according to the Protocols Manual For Water Quality Sampling In Canada, Canadian Council of Ministers of the Environment (CCME, 2011). Field blanks, travel blanks and sample duplicates are already part of the sampling program, as it is done with regular water sampling.*

4 Meadowbank Interim Closure and Reclamation Plan – Update 2019

4.1 Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

4.1.1 Depth of in-pit tailings water cover and details of aggregate cover required

Comment: With respect to the Interim Closure Reclamation Plan (ICRP), CIRNAC's comment is unresolved. On January 31, 2019, CIRNAC requested the updated ICRP specify that an assessment of the material deposited to date and pore water monitoring be completed to inform mitigative measures, such as the depth of water cover and details of aggregate cover required, to comply with flooded pit water quality objectives - and that those mitigative measures are carried out in the event the ICRP is implemented. CIRNAC reviewed Sections 1.3.4, 5.2.4, and 6.2.4 on open pits in the Meadowbank ICRP update 2019 and did not locate the aforementioned commitment.

Recommendation 10: CIRNAC requests the location of the aforementioned commitment within the ICRP is provided for CIRNAC to review. Alternatively, CIRNAC requests the ICRP specify that an assessment of the material deposited to date and pore water monitoring will be completed to inform mitigative measures, such as the depth of water cover and details of aggregate cover required, to comply with flooded pit water quality objectives. In the event the ICRP is implemented, CIRNAC requests the timeline by which the assessment would be completed, and the mitigative measures submitted to the NWB for review.

10 200, Route de Preissac, Rouyn-Noranda, Québec, Canada J0Y 1C0
Tél : 819.759.3700 Sans frais : 1.888.822.6714 agnicoeagle.com

Agnico Eagle's Response:

Agnico Eagle would like to clarify that the updated ICRP was submitted to CIRNAC on June 7, 2019. Following the reception of the documentation, CIRNAC did not provided any comment related to the ICRP and agreed with the updated total global security amount.

Agnico Eagle is of the opinion that this process is already an existing condition of the water licence and the proposed update to the ICRP should not be considered as an additional commitment. Also, Agnico Eagle considers that the ICRP is not a plan to be implemented. In the situation of the closure of the site, Agnico Eagle had to provide a final closure plan to the NWB which will integrate the proposed commitment.

Agnico Eagle will include the following statement in the updated version of the ICRP

''The assessment of the material deposited to date and pore water monitoring completed during operation, as presented in the Pore water quality monitoring plan and the Water Management Plan and reported as part of the Annual Report, will be used to inform potential mitigative measures, such as an adjustment of the depth of water cover, the implementation of an aggregate cover if deemed required, to comply with flooded pit water quality objectives - and that those mitigative measures are carried out once the Final Closure Plan is implemented.''

4.2 Environment and Climate Change Canada (ECCC)

4.2.1 Post-Closure Monitoring Duration

References: Agnico Eagle Mines Limited. 2019. Meadowbank Interim Closure and Reclamation Plan – Update 2019, Section 5.2.4.7: Post-Closure Monitoring, Maintenance, and Reporting

Comment: The duration of monitoring indicated by the Interim Closure and Reclamation Plan is estimated at five years post re-connection of pits, followed by "*several years*" if water quality continues to be acceptable. The need for treatment is still shown as a contingency, and that may extend the timeline for reconnection.

For other mine facilities in the North, monitoring has typically been about 25 years post-closure, with frequency set on a decreasing basis if monitoring shows closure objectives are being met. Timelines are extended and frequency increased for facilities with higher risks or levels of environmental contaminants to manage. In the case of Meadowbank, it would be reasonable to anticipate the more typical 25-year horizon, with frequency based on monitoring results.

The Proponent has not proposed that the sump samples, reclaim water, nor geotechnical investigation holes be included further in the Groundwater Monitoring Plan.

10 200, Route de Preissac, Rouyn-Noranda, Québec, Canada J0Y 1C0
Tél : 819.759.3700 Sans frais : 1.888.822.6714 agnicoeagle.com

Recommendation 11: ECCC recommends that for planning purposes, a monitoring horizon be anticipated that is in line with current practices (i.e., longer than the 5-10 years indicated in the Interim Closure and Reclamation Plan).

Agnico Eagle's Response:

Agnico acknowledges ECCC's comment and it will be taken in consideration during the next review of the ICRP. Agnico will continue to perform water quality monitoring in order to update the water quality forecast model, on an annual basis, with the most recent data available. As per Water License 2AM-MEA1526 Part J Item 3, the Final Closure and Reclamation Plan will be submitted at least twelve (12) months prior to the expected end of planned mining and will reflect the monitoring horizon required for Meadowbank.

10 200, Route de Preissac, Rouyn-Noranda, Québec, Canada J0Y 1C0
Tél : 819.759.3700 Sans frais : 1.888.822.6714 agnicoeagle.com