November 19th, 2021

Assol Kubeisinova
Technical Advisor I
Nunavut Water Board

Re: Agnico Eagle's response to Meadowbank (2AM-MEA1530) and Whale Tail (2AM-WTP1830) 2020 Annual Report comments

Dear Ms. Kubeisinova,

The following information are intended to address regulator's comments regarding the Meadowbank (2AM-MEA1530) and Whale Tail (2AM-WTP1830) 2020 Annual Report:

- Nunavut Water Board – September 17, 2021: Licences No: 2AM-MEA1530, Meadowbank Gold Mine Project; 2AM-WTP1830, Whale Tail Pit Project; Agnico Eagle Mines Limited; 2020 Annual Report Review

- Crown-Indigenous Relations and Northern Affairs Canada – July 26, 2021: Crown-Indigenous Relations and Northern Affairs Canada Review of the 2020 Annual Reports and Appendixes for two Type A water licence projects prepared by Agnico Eagle Mines Ltd on the Meadowbank Gold Mine site (2AM-MEA1530) and the Whale Tail Pit Mine located on the Amaruq property (2AM-WTP1830)

- Kivalliq Inuit Association – June 25, 2021: Kivalliq Inuit Association Technical Comments for the Annual Report regarding Whale Tail/Meadowbank

- Environment and Climate Change Canada – June 25, 2021: 03MN107 - 16MN056 / 2AM-MEA1526 - 2AM-WTP1826 – Agnico Eagle Mines Ltd. – Meadowbank Gold Mine and Whale Tail Pit Projects – 2020 Annual Report

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 Complex

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AGNICO EAGLE
MEADOWBANK

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1 Crown-Indigenous relations and Northern Affairs Canada (CIRNAC)

1.1 Reclamation / Capping Thickness and Freeze Back

Comment: CIRNAC notes that AEM continues to assess the existing and predicted long-term thermal performance of mine wastes and cover systems at the Meadowbank and Whale Tail sites. Multiple assessments have been integrated into the closure planning process. The 2020 Annual Report provides limited information regarding the results of these initiatives. Specifically, no information is provided to confirm that the conceptual plans for thermal encapsulation of the tailings and waste rock storage facilities will be or are effective in preventing and controlling deleterious seepage over the long-term. This is particularly important given the fact that AEM has already progressively reclaimed some mine wastes. Detailed and updated assessments are required to confirm that these progressively reclaimed areas will perform as intended.

Recommendation 1: CIRNAC recommends that future Annual Reports must include detailed, updated assessments be provided to confirm that these progressively reclaimed areas will perform as intended.

i) Meaningful discussions and evaluations of the results from the thermal monitoring.

ii) Clearly presented comparison of prior predictions of freeze back with monitoring results.

iii) Updated modeling results to verify if conceptual plans for thermal encapsulation of all mine wastes remain effective to prevent and control deleterious seepage over the long term.

iv) If results show discrepancies from the initially predicted values, AEM should discuss the management actions that will be implemented to address the risk.

Agnico Eagle's Response:

Agnico Eagle acknowledges CIRNAC's comment and found it to be relevant to ensure that the Portage WRSF cover will allow meeting closure objectives of the WRSF. Agnico Eagle as deployed continuous efforts in the past years to understand the thermal regime of the Portage WRSF and to be able to model it accordingly.

To answer this ongoing comment on the long-term performance of the Portage WRSF, Agnico will submit as part of the 2021 annual report a memorandum that will map the path forward in terms of study and timeline to integrate all the available data in a report on the anticipated long-term performance of the Portage WRSF cover. This report will include long-term thermal modelling of the WRSF performance and the impact of the predicted thermal regime on the water quality

forecast at closure. This will also be associated with monitoring trigger and adaptive management action that will be used for closure and post-closure monitoring.

At the Whale Tail site, the impact of the thermal prediction of the Whale Tail Site on the water quality objective at closure was examined and submitted in the supporting document of the project. There is also in place a robust instrumentation plan that was submitted as part of the 60-day notice of the structure and there is in place an adaptive management program to ensure that freeze back objectives are met (and action to take if they are not). To answer CIRNAC's comments for this site, the annual report will include a summary of the adaptive management trigger of the structure based on monitoring results as well as description of any action that will be taken for any trigger that does not correspond to normal operation (as per the adaptive management plan). Additionally, as recommended by O'Kane in the thermal modelling report, the WRSF property will be reviewed for the 2021 annual report based on the results of the monitoring program. The objective of this exercise will be to validate the thermal model and adjust the model if there is any discrepancy of in-situ value. Currently, Agnico does not judge that it is required to do annual update of the thermal model to demonstrate the performance of the WRSF as long as adaptive management triggers are met.

1.2 Progressive Reclamation

Comment: CIRNAC notes that the 2020 Annual Report includes limited information regarding progressive reclamation activities on either site that have been implemented in the reporting period. Details regarding progressive reclamation must be provided to confirm that closure strategies are implemented as per designs and that the reclamation is performing as intended.

Recommendation 2: CIRNAC recommends that future Annual Reports and Interim Closure and Reclamation Plans (ICRPs) include: Details on planned progressive reclamation activities to be undertaken over the next reporting period. Details on progressive reclamation implemented to date and within the reporting period. Such details should include but not be limited to: facilities covered in the prior year, total areas covered to date, volumes associated with these areas, monitoring results, construction reports, as-built drawings, all signed by an engineer licenced to work in Nunavut.

Agnico Eagle's Response:

Agnico Eagle has committed to include more details on progressive closure in the 2020 Annual Report. Relevant information to progressive closure can be found in Section 9.1 of the 2020 Annual Report and will continue to be updated annually. Details related to work completed and schedules of progressive reclamation is also included in the closure schedule presented in Appendix P of the ICRP which was updated in March 2020 and provided in the 2019 Annual Report in Appendix 55.

Agnico is of the opinion that the last update March 2020 version fulfills the current request. Agnico Eagle is nevertheless committed to providing more details on the progressive closure in the next iteration of the Meadowbank ICRP and as part of the 2021 Annual Report.

1.3 Whale Tail Project: Geotechnical Design Process of Water Retention Structures

Comment: The 2019 performance of multiple water management structures at the Whale Tail site deviated significantly from their design intent. AEM stated that a "lessons learned" assessment was performed on water management in winter 2020 to improve operational procedure related to water management. The 2020 Annual Report did not include any documentation regarding the lessons learned assessment, nor did it describe what actions AEM has taken to strengthen the design process for geotechnical structures. The underlying factors that led to multiple dams failing to meet their design intent warrants a rigorous review. Further, the findings of such a review should be placed on the public record.

Recommendation: CIRNAC recommends that AEM provide within 60 days to the NWB:

i) Documentation of its "lessons learned" assessment of geotechnical design issues experienced by the Whale Tail Pit Project water retention structures in 2019.
ii) Descriptions of modifications AEM has made to its design and management processes to mitigate the geotechnical design issues experienced in 2019.

Agnico Eagle's Response:

Agnico Eagle does not agree with CIRNAC assessment of systemic deficiency in the design, operation, and construction process of water management infrastructure at the Meadowbank Complex. The water management infrastructure at the Meadowbank Complex were designed, constructed, and are operated by Experienced Professional following industry best practice and standard of care (Canadian Dam Association, Mining Association of Canada).

Agnico Eagle fully understood the reason for which specific infrastructure under-performed and was able to quickly fix each of these. Each situation was specific, and its underlying cause and mitigation was reported in the annual report and other document transmitted to authority.

1.4 Meadowbank Waste Rock Storage Facility (WRSF) Seepage Quality

Comment: The closure strategy for the Meadowbank WRSF is based on thermal encapsulation of waste rock. The cover system is designed to keep the active layer in the non-acid generating (NAG) material to ensure there is no acid-rock drainage (ARD) generation. Based on modelling and monitoring results

collected to date, AEM has concluded that seepage from the Meadowbank WRSF will not result in impacts to water quality during the post-closure phase.

AEM initially reached similar conclusions regarding seepage from waste rock storage facilities associated with the Whale Tail Pit Project. However, during Nunavut Impact Review Board (NIRB) and the Nunavut Water Board (NWB) reviews of that project, CIRNAC requested that AEM extend its modelling predictions to include periods after the "breakthrough point" when WRSFs reach their field capacities. AEM's revised modelling indicated there would be a significant spike in seepage quantity and a reduction of seepage quality after the breakthrough point which is predicted to occur 80 years after closure. Based on the findings of that revised modelling, there remains a potential that seepage from the Whale Tail WRSFs will require management or treatment in the future.

It is unclear to CIRNAC whether AEM's modelling of long-term seepage from the Meadowbank WRSF is of sufficient duration to identify the long-term implications of seepage (i.e., after breakthrough).

Recommendation 4: CIRNAC recommends that AEM provide the following within 60 days to the NWB:

i) Confirmation that long-term modelling of seepage from the Meadowbank WRSFs is of sufficient duration to characterize seepage after breakthrough.

Agnico Eagle's Response:
Long term seepage from the Meadowbank WRSF was not identified as a concern during the FEIS and was not examined.

ii) If not, that AEM extend the temporal scope of its WRSF seepage modelling to ensure that potential seepage impacts after breakthrough are accurately characterized and provide this information in the next Annual Report.

Agnico Eagle's Response:
For the next iteration of the Interim Closure & Reclamation Plan, Agnico Eagle will review if this mechanism can have an impact on the closure objectives and if so, will do the necessary analysis to characterise this impact and develop mitigation measure as required. However, it must be noted that, as opposed to Whale Tail WRSF, there is no metal leaching material in the Meadowbank WRSF and the pile is expected to remain in permafrost condition which would suggest that water seeping from the Meadowbank WRSF beyond the NAG capping is unlikely and would have little bearing on the water quality objective at closure.

1.5 Meadowbank: Chromium in Third Portage Lake (TPL) Sediments

Comment: AEM detected and reported on elevated chromium concentrations in Third Portage Lake (TPL) sediments. AEM concluded that the concentrations were caused by the use of ultramafic waste rock with elevated metal leaching potential as a construction material. Following several years of monitoring and assessment, AEM determined that further assessment of chromium in TPL sediments is not justified and that no supplemental mitigations are necessary.

Recommendation 5: CIRNAC recommends that AEM provide within 60 days the following to the NWB:

i) An integrated analysis of all relevant data to support the conclusion that additional assessment and mitigation of chromium in TPL sediments is not required.

Agnico Eagle's Response:

Sediment chemistry and benthic invertebrate community results from TPE presented in the 2020 CREMP, along with the targeted bioavailability test results from the 2019 CREMP, demonstrate that additional assessment and mitigation for chromium in the East Basin of Third Portage Lake is not warranted at this time. Conclusions presented in the 2019 and 2020 CREMP reports provide conclusive evidence that chromium leaching from dike construction material presents low risk to the health of the benthic invertebrate community, specifically:

1. *Sediment chromium concentrations have plateaued since 2014/2015. Figure 4-68 in the 2020 CREMP shows that chromium concentrations in 2020 are within the range of concentrations reported since 2015. During that period, the benthic invertebrate community has remained stable, implying that any change in sediment chromium concentrations were below concentrations associated with effects to the community composition (see point 3 below).*
2. *Benthic invertebrate community abundance at TPE has remained stable since the baseline period (see Figure 4-73 in the 2020 CREMP). Similarly, species richness at TPE has remained stable throughout the monitoring period (typically 10-17 taxa), with only minor variability between years (Figure 4-76 in the 2020 CREMP report).*
3. *Concentrations of dissolved chromium in sediment porewater were lower at TPE than at the reference area (Pipedream Lake) as part of toxicity tests completed in 2019 (Table 4-14 in the 2019 CREMP report). Furthermore, concentrations of chromium in porewater and sediment were not correlated with effects to Hyalella azteca survival or growth (Figure 4-81 in the 2019 CREMP report).*

Agnico Eagle would like to recommend to CIRNAC to contact us, at their convenience, to discuss this recurrent recommendation. Agnico Eagle is of the opinion that no additional investigation into sediment chromium at TPE is actually required.

ii) An explanation of why rock with elevated metal leaching potential was used as a construction material.

Agnico Eagle's Response:

As per the Meadowbank Mine Waste Rock and Tailings Management Plan, the metal leaching potential of chromium for ultramafic waste rock was not flagged as a concern. Therefore, following the waste characterization guidelines this material, meeting all other requirements for acid-rock drainage potential, was deemed suitable for construction material

iii) Descriptions of any changes made to AEM's waste rock management practices to ensure leachable materials used to date in the Meadowbank or Whale Tail sites do not result in similar adverse impacts in the future.

Agnico Eagle's Response:

The approved Waste Rock and Tailings Management Plan at Meadowbank and the Waste Rock Management Plan at Whale Tail has been designed to properly categorize acid-generating and/or metal leaching waste rock through geochemical parameters. Agnico Eagle will continue to follow these management plans to ensure compliance with waste classification.

iv) Descriptions of changes made to AEM's waste rock management practices to ensure leachable materials are not used in further construction practices to prevent this from occurring again.

Agnico Eagle's Response:

Agnico Eagle continues to follow their approved Waste Rock and Tailings Management Plan and the ARD-ML Management Plan. At present, mining of waste rock material deemed for dike construction purposes is focused at the Whale Tail project. This material is primarily greywacke and has a low leachability and is non-potentially acid generating.

1.6 Whale Tail Project Nutrient Sources

Comment: The Final Environmental Impact Statement (FEIS) for the Whale Tail Project identified a risk that mining activities could result in a change to the ultra-oligotrophic status of local lakes. During 2019 (i.e., the first year of operational monitoring of the Whale Tail Pit Project) AEM identified statistically significant increases in primary productivity (as biomass) and similar results were observed in 2020.

AEM speculates that the increase is due to the combined influence of natural variability and mining-related activities. Specifically, AEM considers the flooding of terrestrial soils (e.g., Whale Tail Lake South) to be the primary source of increased nutrient loadings from mining activities.

CIRNAC notes however that explosives use represents another potential source of nutrient loadings to the watershed that may be affecting primary productivity. AEM's Annual Report does not appear to discuss this possibility, nor does it present information regarding the use of explosives at the Whale Tail site.

Recommendation 6: CIRNAC recommends that future Annual Reports include:

i) A section that describes and quantifies AEM's use of explosives relative to assumptions used in the FEIS modelling.

Agnico Eagle's Response:

Agnico Eagle will provide the required information on explosive use in the 2021 Annual Report.

ii) A re-assessment or justification for AEM's prior conclusion that a change in trophic status in Mammoth Lake will not impact fish productivity when potential impacts of explosives residue is considered.

Agnico Eagle's Response:

The BACI analysis of changes in phytoplankton community metrics showed reductions in biomass at WTS (27%) and MAM (35%) in 2020 relative to baseline/reference conditions, although neither of the reductions were statistically significant. In 2019, the opposite trend was observed with increased biomass in WTS and MAM relative to baseline/reference conditions. Despite higher concentrations of nitrogen species and phosphorus since construction started in 2018, the predicted increase in primary productivity in lakes downstream from the Whale Tail Pit Expansion Project has not occurred. As Agnico Eagle emphasized in last years response, the Whale Tail Pit Expansion Project is in the early stage of operations, and on-going monitoring as part of the CREMP will provide a clearer understanding of whether the predicted increase of primary productivity for lower trophic levels is accurate.

Dr Heidi Swanson's research group at the University of Waterloo are leading the investigation of mine-related effects on fish productivity. That study is on-going, with additional field studies performed in August 2021.

1.7 Whale Tail Pit Project Mercury Monitoring

Comment: Monthly mercury water quality data are collected as part of the routine Core Receiving Environment Monitoring Program Report (CREMP) for the Whale Tail Project. Monitoring results from 2019 and 2020 are significantly elevated relative to pre-development conditions.

While less pronounced, similar changes were observed for methylmercury, but less consistently across stations. Notably, similar trends were also observed at control stations, suggesting the possibility of an unexplained regional change in mercury concentrations. Due to logistical challenges related to COVID-19, components of the mercury assessment and reporting could not be completed prior to issuance of the 2020 Annual Report (e.g., fish tissue analysis). CIRNAC has concluded that additional efforts are required to address this issue on a priority basis.

Recommendation 7: CIRNAC recommends that AEM provide the following within 60 days to the NWB:

An update on the status of mercury studies, including all work originally scheduled for completion in 2020. The update should include;

i) An assessment of factors that resulted in the elevated mercury concentrations observed to date; and

Agnico Eagle's Response:

The 2021 Annual Report will include a discussion of the fish mercury data collected in 2020 and findings from the 2021 Mercury Monitoring Program.

Preliminary findings from the 2021 water sampling program indicate total mercury concentrations in the Impoundment were lower in 2021 compared to 2020. Methylmercury concentrations in samples collected from Impoundment in 2021 were similar to concentrations reported in 2020. Higher mercury concentrations relative to pre-development conditions is consistent with the predicted change associated with flooding of terrestrial habitat. Long-term monitoring of changes in mercury in permanently flooded reservoirs indicate concentrations of methylmercury can increase between 10 and 20-fold relative to baseline conditions (Agnico Eagle, 2018). Baseline mercury concentrations measured in water samples collected in Whale Tail Lake in 2016 were as high as 0.00052 ug/L (DL = 0.0005 ug/L) for total mercury and below detection for methylmercury (0.0005 ug/L). A 20-fold increase of the ultra-trace detection limits from the 2016 baseline program corresponds to 0.01 ug/L (10 ng/L) for total mercury and 0.001 ug/L (1 ng/L) for methylmercury. The predicted increase in mercury in water may be lower than reported in the literature for permanent reservoirs because of the short-duration of flooding.

A sediment sampling program was conducted in August 2021 to characterize changes in mercury in the recently flooded areas around the South Basin of Whale Tail Lake, Lake A65, and Lake A20. Four samples were collected from the perimeter of Whale Tail Lake and Lake A65 in the vicinity of where baseline soil samples were collected in 2016. Two additional samples were collected from the shoreline area of Lake A20. Samples were sent to ALS Environmental for analysis. Unfortunately, there was a breakdown in communication at the lab and a subset of the samples, including the inundation zone sediment samples, were discarded prior to analysis. Azimuth followed up on the status of the results in late October, and at which point they were informed that the samples had been discarded without being notified. The laboratory is conducting an internal investigation and will provide a written statement outlining corrective actions to prevent this situation from occurring. More details of this investigation will be provided in the 2021 Annual Report. Sediment sampling program conducted in August 2021 will be redo in 2022 in the flooded areas around the South Basin of Whale Tail Lake, Lake A65, and Lake A20.

ii) An assessment of potential human and ecological health impacts associated with the elevated mercury concentrations.

Agnico Eagle's Response:

Further risk-based analyses will be implemented in the event that monitoring results exceed model predictions for fish tissue concentrations. This approach is supported by the low rates of fishing by local residents in the Project area (see FEIS Volume 7, Section 7.3), and a no-fishing policy for workers while onsite. Maximum predicted mercury concentrations in Lake Trout could range from 4.4 to 6.6 µg/g ww, with an average ranging from 1.0 to 1.5 µg/g ww (Azimuth, 2017).

References

- *Agnico Eagle. 2018. Final Environmental Impact Statement Addendum. Whale Tail Pit – Expansion Project. December 2018.*
- *Azimuth. 2017. Whale Tail Pit project: Predicted changes in Fish Mercury Concentrations in the Flooded Area of Whale Tail Lake (South Basin). Prepared for Agnico Eagle Mines Ltd., Meadowbank Division. February 2017.*

1.8 Averaging of Water Quality Results per Water Body for Assessments

Comment: The 2020 CREMP report provides an assessment of water quality monitoring results, with analysis of inter-annual trends and comparisons to site-specific trigger values and FEIS predictions. When performing these comparisons, AEM used the annual mean monitoring results of each parameter from all stations in a given water body. Using annual mean monitoring results for entire lakes has the potential to mask spatial and temporal variability in the monitoring data and, by extension, could result in a failure to

detect elevated results. Specifically, while mean concentrations for a given parameter may be below an applicable limit, there is a potential that results from some sampling stations and/or sampling events will be greater than the limit.

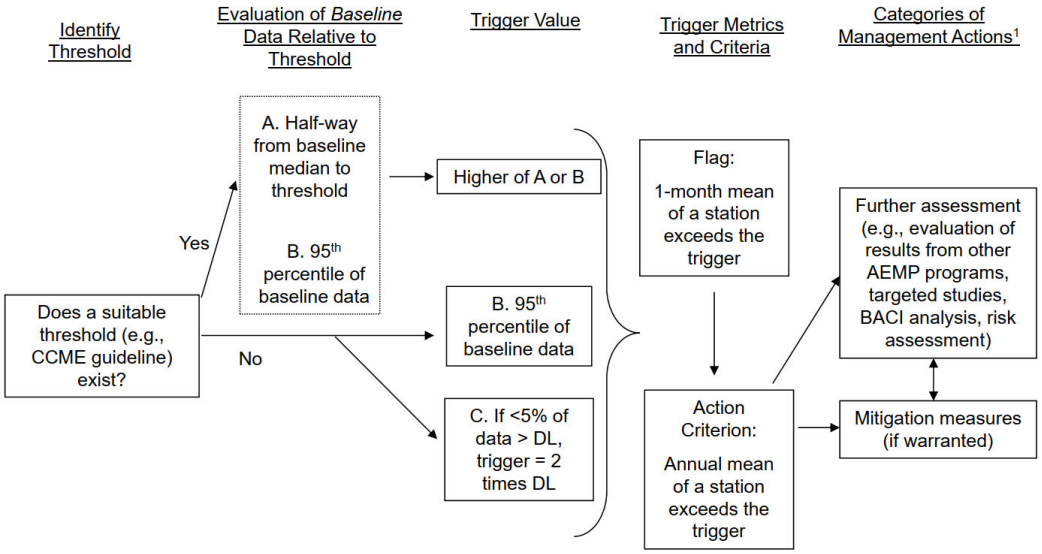
Recommendation 8: CIRNAC recommends that future Annual Reports: Use a modified reporting approach to ensure that comparisons between monitoring data and applicable criteria reflect the temporal and spatial variability inherent in these natural systems. Specifically, reporting should not be based solely on mean data for entire water bodies.

Agnico Eagle's Response:

Agnico Eagle would like to refer to responses submitted on August 7, 2020 to NIRB: 'Agnico Eagle's response to Meadowbank (03MN107) and Whale Tail (16MN056) 2019 Annual Report comments'.

The approach to evaluating short-term changes in water quality was first outlined in the CREMP Design Document 2012 (Azimuth, 2012). As depicted in Figure 3 from that report (see below), individual samples are screened against the trigger values each month to determine if there are short-term changes in water quality linked to activities at the mine. The monthly screening assessment is meant to "flag" parameters for closer examination in subsequent sampling events. If a threshold exceedance is detected (i.e., water quality guidelines), and if the exceedance is plausibly linked to activities at the mine, the Environment Department is notified to provide advanced warning of potential changes in water quality. It is important to reiterate that changes in water quality need to be evaluated relative to predicted changes provided in the Environmental Impact Statements for each Project.

Figure 3. Development and Application of Monitoring Thresholds and Triggers for Water Chemistry Variables



[1] Potential management actions are considered as part of the broader AEMP, where results of the CREMP and other programs are considered together.

Agnico Eagle would also like to recommend to CIRNAC to contact us, at their convenience, to discuss this recurrent recommendation. Agnico Eagle is of the opinion that the actual method, approved by the CREMP, is an effective approach to identified parameters that have increased in concentration due to mine-related activities and has showed to be effective based on the more than 10 years of data from Meadowbank operation.

1.9 Meadowbank Post-Closure In-Pit Water Quality

Comment: Water quality data presented in the 2020 Annual Report indicate elevated concentrations of multiple contaminants are present in the reclaim water of the Meadowbank pits used for in-pit tailings disposal (Goose and Portage). These elements are likely to require treatment prior to closure of the site. Contaminants requiring treatment may include, but are not necessarily limited to: aluminum, arsenic, cadmium, chromium, copper, iron, lead, nickel, selenium, thallium, chloride, fluoride, sulphate, and total ammonia/total nitrogen equivalent (Appendix 11: Section 4).

Appendix 50 of the 2020 Annual Report presents a preliminary “Meadowbank Closure Water Treatment Strategy” for the reclaim water. The strategy identifies reclaim water treatment concepts and maps out a

process for finalizing reclaim water treatment requirements and methods. CIRNAC concludes that the strategy establishes a logical framework for determining treatment needs for reclaim water.

CIRNAC notes that the water treatment strategy focuses only on reclaim water prior to closure and does not extend into the post-closure phase when the pits have been re-flooded (i.e., after the reclaim water has been treated and discharged). Instead, the strategy states that: "Water quality forecast will be performed during the flooding period" (Appendix 50: Section 2.2). Similarly, the predictive modelling presented in Appendix 11 of the 2020 Annual Report does not predict long-term water quality in the re-flooded pits during the post-closure phase.

Lack of an up-to-date post-closure water quality prediction for the re-flooded pits creates uncertainty regarding the long-term environmental quality of the site after closure has occurred. CIRNAC recognizes that a number of unknowns complicate efforts to predict water quality in the re-flooded pits (placement of an in-pit cover, flux of metals from the flooded tailings into the pit lakes, etc.). Nonetheless, estimates should be developed to better inform closure planning processes.

Recommendation 9: CIRNAC recommends that AEM:

i) Conduct a modelling exercise to predict post-closure water quality in the re-flooded Meadowbank mine pits (Goose and Portage).

Agnico Eagle's Response:
Agnico Eagle acknowledges CIRNAC' comments. Agnico Eagle will integrate this recommendation during the next update of the Meadowbank ICRP.

ii) Incorporate the findings of the modelling into the next iteration of the Meadowbank ICRP. Specifically, the findings should be used to inform the design of relevant closure components, including but not limited to: capping of the in-pit tailings and post-closure water management, water treatment facility designs, sludge generation and disposal, requirements as well as expected treatment duration.

Agnico Eagle's Response:
Agnico Eagle acknowledges CIRNAC's comment. Findings of the modelling will be taken into consideration in a future update of the Meadowbank ICRP.

1.10 Meadowbank: In-Pit Tailings Covers

Comment: There is currently uncertainty regarding what conditions might warrant the placement of a granular cover over the in-pit tailings. CIRNAC presumes that the final decision will be based on a range of

site-specific risk assessments and considerations including but not limited to: aquatic habitat, sediment resuspension, contaminant flux into the water column and constructability.

AEM indicates that they will be reviewing potential closure concepts during the development of the Final Closure and Reclamation Plan and they have initiated several studies to inform the decision-making process (e.g., tailings pore water assessments).

In the opinion of CIRNAC, selection of a preferred cover concept will require extensive study and should be integrated with decisions regarding other closure components (e.g., management of re-flooded pit water). On this basis, the planning process for the selection of a preferred cover concept for the in-pit tailings is likely to require multiple years and should begin as soon as possible.

Recommendation 10: CIRNAC recommends that AEM:

i) Describe the strategy that will be used to evaluate cover requirements and methods for the in-pit tailings (e.g., water covers, coarse/fine granular covers, construction/leave a submerged berm at the connection to the pit). The strategy should be initiated in 2021 and an update should be provided in the 2021 Annual Report.

Agnico Eagle's Response:
Agnico Eagle will present a timeline for further study to determine the requirement of a cover and possible construction strategy during the next update of the ICRP.

ii) Identify the preferred closure concept for covering in-pit tailings in the next iteration of the Meadowbank ICRP.

Agnico Eagle's Response:
Agnico Eagle will present this information in the next update of the ICRP.

1.11 Thermal Performance of Meadowbank WRSF Covers

Comment: The WRSF cover design for the Meadowbank Mine consists of a 4 m thick layer of non-acid generating (NAG) rockfill to contain the active freeze/thaw layer within the cover. The depth of cover was selected based on thermal modelling and instrumentation to assess the probable thickness of the active layer at closure, including climate change. As of 2020, 14 approximately 90% of the WRSF has been progressively reclaimed. Additional thermal monitoring and analysis is being performed by AEM to verify the performance of the cover system against the design intent.

CIRNAC notes that the WRSF cover concept for the Whale Tail Project is generally similar to the concept used at the Meadowbank Mine. The only notable difference is that thermal modelling for the Whale Tail site determined that WRSF covers should have a total thickness of 4.7 m (4.2 m active freeze/thaw zone and a 0.5 m buffer). Modelling for the Whale Tail site also predicted that the freeze/thaw zone may penetrate deeper than the 4.7 m design thickness of the WRSF covers under the most conservative climate change scenario.

Given the similarities between the Meadowbank and Whale Tail sites (climate, topography, mine wastes, etc.), it is unclear to CIRNAC why the WRSF cover thicknesses between the two sites are different.

Recommendation 11: CIRNAC recommends that AEM:

Describe the technical rationale for using different WRSF cover thicknesses at the Meadowbank Gold Mine and Whale Tail sites. Any notable differences in the design assumptions for the two sites should be provided in the rationale. This information should be presented in the next iteration of the Meadowbank ICRP.

Agnico Eagle's Response:

Agnico Eagle refers CIRNAC to the Whale Tail Project – Thermal Modelling of Whale Tail and IVR WRSFs (O'Kane 2019) report which was previously issued to address CIRNAC's comments under the Whale Tail Expansion Project. Reference: O'Kane (O'Kane Consultants). 2019. Whale Tail Project - Thermal Modelling of the Whale Tail and IVR WRSFs. Prepared for Agnico Eagle Mines. July 23, 2019. Ref. No. 948-011-R-013.

The development of the cover thickness for both site is based on numerical modelling (thermal and seepage modelling) with the objective of promoting permafrost in the WRSF to achieve a chemical stability in the long term. Waste rock covers are designed based on project specific attributes and will naturally have variables that differentiate between sites. The freezing mechanism is strongly impacted by the material characteristics, such as the grain size distribution.

Refer to answer to 1.1 for the strategy proposed by Agnico to demonstrate that the design of the cover at both site is of adequate thickness to meet closure objective.

1.12 Fuel Management

Comment: Table 7-2 of the 2020 Annual Report indicates that fuel was observed in the secondary containment of fuel tanks 5 & 6 during a routine inspection of the Baker Lake Fuel Farm and a "small leak" was subsequently identified (Spill Number 2020-351). The total volume of fuel released from the tanks into the Secondary Containment area was estimated to be 100,000 L, which was mixed with an additional

403,000 L of water (presumably precipitation/snow melt). AEM identified no evidence suggesting that the fuel/water mixture breached the secondary containment of the fuel tanks. Further, according to AEM's spill report, both the fuel and water were retrieved from containment and managed as appropriate; there were no releases to the environment and no off-site impacts to receiving watercourses.

CIRNAC also notes there have been several instances where tank farm inspections have identified deficiencies that have not been mitigated between inspections. To illustrate, the Meadowbank and Whale Tail 2020 Annual Geotechnical Inspection (Appendix 9, Table 2) noted the ongoing presence of standing water within secondary containment, as well as 15 evidence of animal burrows that may be impacting the integrity of liner systems. These deficiencies were identified during prior inspections but have yet to be addressed by AEM.

Based on the volume of fuel noted above, there was a potential for environmentally significant impacts if there was a breach in secondary containment of the fuel tanks. In this regard, CIRNAC notes that the 2020 Annual Report (Appendix 9, Section 9.1) indicates that several holes have been identified in tank farm liner materials during recent geotechnical inspections. While the 100,000 L fuel leak was not released to the environment in the current case, the presence of liner holes elsewhere in the tank farm suggests there is a credible risk of releases in the future.

Recommendation 12: CIRNAC recommends that AEM: Perform a comprehensive review of its tank farm facilities to identify and mitigate all potential failure modes (including accidents and malfunctions). The findings of the review should be provided in the 2021 Annual Report and should:

i) Consider increasing the frequency of tank farm inspections and implementation of mitigative actions within a reasonable timeframe if/as recommended.

Agnico Eagle's Response:

The frequency of future inspections will be determined by the API 653 recommendations following the initial inspections of the tank farm facilities conducted in 2021 and 2022.

As of June 2021, tanks 3, 4, and 6 have been inspected, repaired, and certified. A comprehensive inspection of tanks 1 and 2 is planned for 2022. Additionally, planned repairs will be conducted on tank 6 as per recommendations by the certified inspector. Agnico Eagle commit to provide an update in the 2021 Annual Report.

Due to increased earthworks in the area, Agnico Eagle will commit to increasing inspections of the Baker Lake Marshalling Facilities during Freshet and summer period. Furthermore, Agnico Eagle is following the annual recommendations from the third party Geotechnical Inspection

of the Marshalling Facility. This report and the Agnico Eagle implementation plan are provided respectively in Appendix 9 and 15 of the 2020 Annual Report.

ii) Address the issue of water management within the secondary containment areas in general, and in particular, how approximately 400,000 L came to be within the containment area at the time of the leak.

Agnico Eagle's Response:

Every year, water from snow melt and rainfall accumulates in secondary containments of Agnico's Baker Lake Tank Farm. Agnico Eagle withdraw water from the secondary containment after snowmelt and prior to freezing condition. Additional pumping may occur during the summer, if deemed necessary.

As per the CCME Environmental Code of Practice for Aboveground Storage Tanks, the secondary containment have a volumetric capacity of 110% of the largest tank. The volume of water present in the secondary containment at the time of the fuel tank leak represent 3.6% of the total capacity.

Notification was made to the CIRNAC Inspector, in accordance with Part F, Item 13 of NWB License 2AM-MEA1530 to empty secondary containment areas, was sent on June 15th. In July 2020, 3,272 m^3 was pumped from Tanks 1-4, 1,959 m^3 from Tanks 5-6, and 2,098 m^3 from Tank 7.

A second notification was made to the CIRNAC Inspector on September 4th, 2020 to empty secondary containment areas. As per the Water License, pre-discharge sample were collected on September 8th, 2020. By the time the sampling results were received, and the pumping installation was completed, the leak on Tank 5 was reported on September 22. As per Nunavut Water Board license NWB-2AM-MEA1530, these water accumulations have been brought to the Meadowbank Stormwater Management Pond.

1.13 Meadowbank: Quarry 22 Hydrocarbon Contaminated Soil Clean-up Criteria

Comment: AEM has used Quarry 22 on the All-Weather Access Road to store petroleum hydrocarbon (PHC) impacted soils prior to the construction of the Land farm at Meadowbank in 2012. Attempts at remediation have occurred including;

- In-situ scarifying was attempted in 2019, cancelled due to falcons nesting in the quarry,

- A second attempt made in 2020 but postponed to September 2020, again due to falcons nesting.

The results of PHC soil testing completed at the site have reported only F3 fraction concentrations above the CCME industrial criteria. AEM plans to continue scarifying where elevated results were reported (sample location Q22-1 and Q22-2). It is not clear to CIRNAC why the less conservative set of criteria (Industrial Criteria) were used to evaluate the results of PHC testing.

Recommendation 13: CIRNAC recommends that AEM:

Clarify why it is using the less restrictive (Industrial) CCME standards for PHC F3 fraction when more restrictive standards could and should be used for the quarry which is located on the tundra.

Agnico Eagle's Response:

The Environmental Guidelines for the Management of Contaminated Sites Remediation states that industrial land is "(l)and on which the primary activity is the production, manufacture, construction or storage of goods. Public access is restricted and children are not permitted continuous access or occupancy." Whereas agricultural/wildland is defined as "(l)and on which the primary activity is related to the productive capability of the land and includes lands that provide habitat for wildlife and birds."

Quarry 22 has been historically used as a temporary storage area for contaminated materials prior to the establishment of the landfarm at the Meadowbank site. Although continued addition of PHC material into Quarry 22 ceased in 2012, the quarry and adjacent road are still operational. Based on the definitions in the GN guidelines, the area is considered as an industrial site. Therefore, Agnico Eagle believes that the current PHC testing criteria that is currently in place is appropriate.

In addition, in accordance with the AANDC Water Licence inspection dated March 2012, Agnico Eagle prepared and submitted an action plan (dated June 2, 2012) to the Inspector. The Plan consisted of a two phased approach. The first phase included an assessment and delineation of any residual contamination due to storage. This included the analysis of samples for F1 to F4 (C10 – C60) petroleum hydrocarbon fractions. With results to be compared with the CCME criteria outlined in the Government of Nunavut's "Environmental Guideline for Contaminated Site Remediation, rev. March, 2009. While the second phase consisted of removing identified contaminated soils and coarse rock to the Landfarm at Meadowbank. Based on this response to AANDC, industrial criteria has been used as the CCME standard for OHC analysis at Quarry 22. Upon review of the Tier 1 levels for PHC for surface soils from the 2009 versus the 2014 GN guidelines shows no change in the thresholds for industrial criteria, therefore this standard has continued to be used by Agncio Eagle.

The final closure plan can be used to determine the appropriate evaluation criteria for Quarry 22.

1.14 Incinerator Stack Testing Licence

Comment: In 2020, a total of 3,229.5 m3 of waste was burned in the Meadowbank incinerator, of which approximately 50% was food waste; the other 50% was dry waste comprised of food containers, cardboard boxes, paper and absorbent rags. Section 6.2 of the 2020 Annual Report also discusses incineration at the Meadowbank site including stack sampling, as well as ash and waste oil monitoring. The section identifies and discusses issues related to two incidents where the incinerator temperature did not reach 1000 degrees C and an issue with ash analysis that AEM believes is related to the laboratory.

Section 6.2 also discusses the fact that AEM did not carry out the annual stack testing as AEM believed that based on results of the previous five years, the annual sampling frequency could be changed to bi-annually. At the end of June, AEM requested approval from ECCC to move to a bi-annual sampling frequency but was directed by ECCC to the NIRB. AEM received a NIRB recommendation to continue carrying out annual sampling on 3 December 2020 at which time AEM stated it was too late to organize for the sampling.

While CIRNAC has no concerns with respect to the technical information provided in the annual report, CIRNAC is concerned that AEM would presume that a change in an existing monitoring and sampling program would be acceptable prior to receiving confirmation in that regard and ultimately not be able to carry out a sampling obligation as required in 2020.

Recommendation 14: CIRNAC recommends that AEM:

i) In future adhere to any existing requirements until AEM receives written approval from the appropriate authority to change, modify, or waive an existing requirement.

ii) Formally acknowledge agreement to recommendation i) above in response to these comments.

Agnico Eagle's Response:

Agnico was confident that all the regulations and criteria were met and have follow the approved Incinerator Waste Management Plan in order to reduce the stack testing frequency to biennial, following five year of compliance.

As mentioned above, Agnico Eagle sent a letter to ECCC on June 30, 2020 requesting a reduction in stack testing frequency to biennial. ECCC informed Agnico that they do not

regulate air quality emissions and the information was provided to the NIRB. Agnico did not receive the NIRB Board Recommendations until December 3, 2020 and therefore did not have enough time to schedule and complete the stack testing in 2020. Agnico did not presume that a change in an existing monitoring and sampling program would be acceptable and was waiting for the final decision from NIRB before moving forward.

Agnico Eagle formally acknowledges the recommendation to adhere to any existing requirements until Agnico receives written approval from the appropriate authority to change, modify, or waive an existing agreement.

1.15 Waste Rock Geochemical Data Analysis Results (Whale Tail and IVR)

Comment: In Section 5.1.2. of the Annual Report, Table 5-3 presents a summary of waste rock classification by pit (Whale Tail and IVR) for the period 2018-2020.

In 2020, AEM sampled approximately 25% of blast holes corresponding to 29,718 samples from the Whale Tail Pit and 8,081 samples from the IVR Pit, and analyzed the percentages of sulphur and carbon to differentiate between potentially acid generating (PAG) and non-potentially acid generating (NPAG) materials.

Other than Table 5-3, in the main report or an appendix there is no further geochemical data collected in 2020 that was used as the basis for classifying the waste rock. In Section 5.1.2 AEM notes that "In 2020, to validate the method used by Agnico, approximately 392 samples from Whale Tail Pit were sent to an accredited commercial lab (external lab) for acid base accounting (ABA) analysis using the Modified Sobek Method for determination of NP/AP, metal leaching using the Shake Flask Method, bulk metals analysis and for whole rock analysis.

No samples from IVR Pit, due to both pits sharing common lithologies, were sent externally". AEM notes that the results from the external laboratory confirmed Agnico's methodology and results to differentiate PAG/NPAG rock, but none of the geochemical data noted above were found in the main document of the report or in an appendix to confirm these conclusions.

AEM stated that the results of the NPAG-PAG classification confirmation are logged in the Meadowbank LIMS database and also stored as models in MineTrust but due to the large volume of data, the results are not included in the annual report but can be provided upon request.

Recommendation 15: CIRNAC recommends that AEM:

i) Provide the necessary supporting evidence and data with respect to the 2020 geochemical sampling data that were used to classify waste rock from the Whale Tail Pit and IVR Pit.

Agnico Eagle's Response:

Agnico Eagle has attached the 2020 geochemical sampling data that was used to classify waste rock from the Whale Tail and IVR pits along with this response.

ii) Provide the supporting evidence and statistical summaries of the geochemical data from the accredited external laboratory that were used to confirm that AEM's methodology and results used to differentiate PAG/NPAG rock are appropriate.

Agnico Eagle's Response:

A comparison has been done on the 2020 laboratory results from samples that were sent externally to SGS for acid-based accounting analysis and corresponding duplicate samples that were analysed for total sulphur and inorganic carbon at the on-site lab at Meadowbank. Figure 1 shows the comparison between total sulphur content results from SGS and the Meadowbank labs. The correlation between total sulphur results between the two labs is strong. Section 3.2.1 of Appendix 21 – Whale Tail Operational ARD-ML Sampling and Testing Plan Version 6, states "Total sulphur will be used as an initial screening criteria to identify NPAG material, whereby a sample will be considered NPAG when it contains less than 0.1 wt% sulphur, regardless of the CaNP (Golder 2018). Where total sulphur is above 0.1%, the calculated carbonate CaNPR value will be used for sample classification." Therefore, on the basis of sulphur content alone, the methodologies are consistent between the two laboratories.

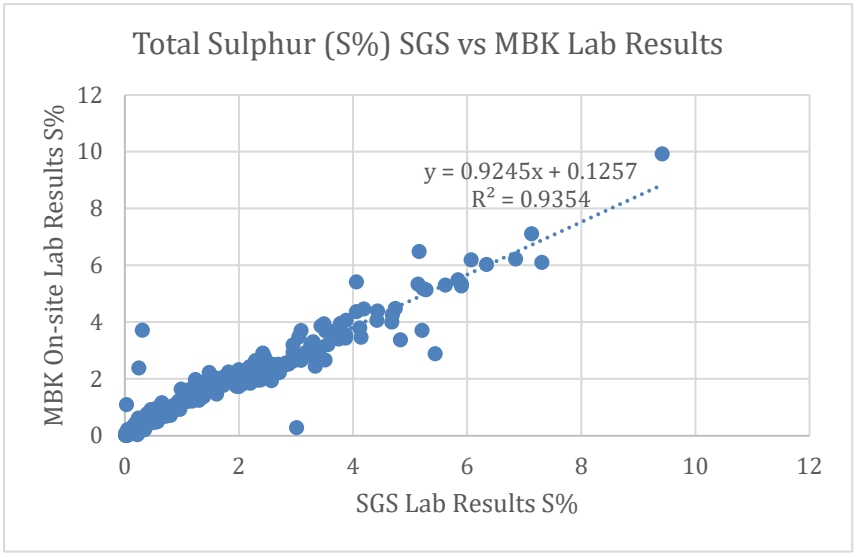


Figure 1: Comparison of total sulphur (wt%) for duplicate samples analyzed at SGS and Meadowbank labs

Comparing NPR values from the SGS and Meadowbank labs results in a less strong correlation. These differences are to be expected as NP values from the on-site lab are derived from a calculation based on the total amount of inorganic carbon that is present within a sample. In addition, these higher values indicate great potential for acid neutralization and thus do not pose an issue in NAG/PAG determination when the criteria states that NAG material must have an NPR greater than 2 if total sulphur is greater than 0.1%. It is important to note that the methodology used by SGS is acid-based accounting, which involves a suite of analytical tests to determine neutralization potential. Figure 2 shows the comparison between the calculated NPR results from SGS and the Meadowbank labs.

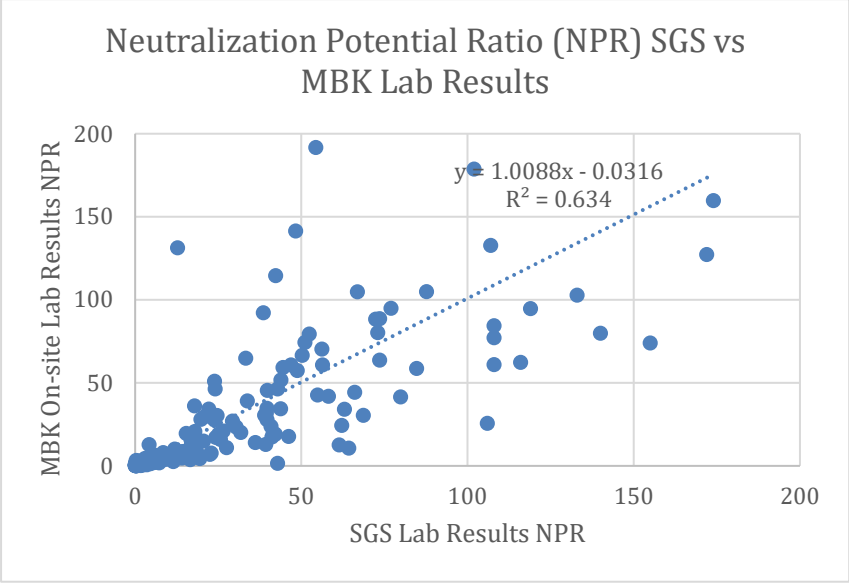


Figure 2: *Comparison of total NPR values for duplicate samples analyzed at SGS and Meadowbank labs*

Overall, on the basis of NAG/PAG determination based on sulphur and NPR content, 88% of samples analyzed at the Meadowbank and SGS laboratories were classified as the same material (NAG or PAG). Of the 12% that did not result in the same classification, the Meadowbank lab provides a more conservative result and classifies the sample as PAG, where SGS classifies the sample as NAG in 94% of the analyses. Based on the comparative results between total sulphur and NPR results from SGS and Meadowbank labs, Agnico Eagle is confident that the current methodology and results used to differentiate PAG/NPAG rock is appropriate.

2 Kivalliq Inuit Association (KivIA)

2.1 Meadowbank Complex 2020 Annual Report – Water Quality

References: 2020 Annual Report, 4.4.3 Predicted Vs Measured Water Quality, 4.4.3.1 Meadowbank Site; Appendix 11: Meadowbank 2020 Water Management Report and Plan Version 9, Appendix C

Comments: "Based on the results of the water quality mass balance presented in Section 4.2 of the Meadowbank Water Quality Forecasting Update for the 2020 Water Management Plan, treatment of the reclaim water at the end of in-pit deposition will be required for metals removal (such as for aluminium, arsenic, copper, iron and nickel) and TSS removal. Ammonia removal may also be needed, as well as Total Dissolved Solids reduction."

The concerns remain that treatment in perpetuity may be required to ensure the mined out pit are suitable aquatic habitats. Contaminant loads continue to exceed forecasted values, possibly exacerbated due to increased leaching of arsenic and other metals from Whale Tail ore.

Recommendation 12: Agnico Eagle should include more detailed plans for bench-scale testing on water treatment to ensure the appropriate water quality is achievable.

Further, should small scale testing indicate that short-term treatment is inadequate for long term habitat suitability, Agnico Eagle should explore alternative habitat offsetting strategies.

> ***Agnico Eagle's Response:***
> *Agnico Eagle intends to start water treatment bench scale testing using reclaim water stored in the pits, to assess the most suitable water treatment processes that can be used at closure prior to pit flooding.*
>
> *The 2020 Annual Report include a plan describing the general timeline to perform bench scale lab testing, on-site testing, and development of design of the water treatment process for closure. Following results of bench scale testing, Agnico could explore alternative habitat offsetting strategies if required.*

2.2 Meadowbank Complex 2020 Annual Report – CREMP

References: 2020 Annual Report, 8.1.2 Whale Tail Site

Comments: "Nutrients – trigger exceedances were statistically significant for total Kjeldahl nitrogen (TKN) at NF areas. Trigger exceedances were statistically significant for total phosphorous (TP), total organic

carbon (TOC) and dissolved organic carbon (DOC) at WTS, likely the result of inputs from flooded terrestrial habitats following impoundment and dewatering inputs from WTN. Trigger exceedances were also statistically significant for TOC and DOC at MAM and Lake A20."

Exceeding the CCME guidelines for total phosphorus and increased nutrient levels may result in long term changes in trophic level of the water system. Such deviations may also be indicated by variations in phytoplankton taxa richness.

Recommendation 13: Agnico Eagle should continue monitoring the nutrient loads and phytoplankton biomass and taxa richness. Should total phosphorus and other nutrient concentrations continue to increase, Agnico Eagle should propose a mitigation strategy, as well as discuss how this might impact closure objectives and timelines.

Agnico Eagle's Response:

Nutrient analysis and phytoplankton community analysis will continue to be evaluated as part of the routine CREMP at the Whale Tail study areas. An important aspect of the assessment will look at measured vs predicted changes in nutrient concentrations and whether the phytoplankton and benthic invertebrate communities are showing signs of increased primary productivity in the form of increased phytoplankton biomass, increased benthic invertebrate abundance, or shifts/alteration of the community structure.

2.3 Meadowbank Complex 2020 Annual Report – Mercury Study

References: 2020 Annual Report, 8.2 Methylmercury Studies Whale Tail Site; Appendix 33: Meadowbank and Whale Tail 2020 Core Receiving Environment Monitoring Program Report, Appendix G

Comments: Nemo Lake continues to be used as a reference lake for mercury loading studies; discharge to the Nemo watershed in 2020 was limited to 180,829 m3, down from 1,080,667 m3 in 2019. Should discharge to the watershed again reach 2019 levels, Nemo Lake would not be a suitable spatial reference for mercury concentration.

Recommendation 14: Agnico Eagle should consider removing Nemo Lake as a mercury study reference lake should large volume discharges to the watershed resume.

Agnico Eagle's Response:

Several lakes have been sampled as reference areas for the Mercury Monitoring Program since 2018, including Inugguguayualik Lake, Pipedream Lake, Lake 8, Lake D1, Lake B03, Lake A44, and Nemo Lake (see Table below). Nemo Lake and Lake 8 each have two years of data for ultra-trace mercury (total and methylmercury), which makes them the preferred reference lakes for assessing

the influence of natural variability on mercury concentrations in the region. Nemo Lake is a valuable reference area because it is accessible by road, unlike Lake 8 that requires helicopter access. Agnico Eagle preference is to keep Nemo Lake as a reference area for the Mercury Monitoring Program provided that discharge to the Nemo Watershed remains well below levels observed in 2019. No discharge to the Nemo watershed is planned for the upcoming years.

Area	Lake	Year				
		Baseline		Impounded†		
		2016	2017	2018	2019	2020
Impoundment	Whale Tail (south basin)	n=1	n=1	n=2	~~n=2~~	n=2
	Lake A20	-	-	n=2	~~n=2~~	n=2
	Lake A65	-	-	n=2	~~n=2~~	n=2
Downstream	Mammoth Lake	-	n=1	n=2	~~n=2~~	n=2
	Lake A76	-	-	n=2	~~n=2~~	n=2
	Lake DS1	-	-	-	~~n=2~~	n=2
Reference	Inugguguayualik Lake	-	-	-	-	n=2
	Pipedream Lake	-	-	-	-	n=2
	Lake 8	-	-	n=2	~~n=2~~	n=2
	Lake D1	-	-	-	-	n=2
	Nemo Lake	-	-	n=2	-	n=2
	Lake B03	-	-	-	-	n=2
	Lake A44	-	-	-	-	n=2

†Minor flooding of impoundment, limited to Whale Tail (south basin), during 2018 sampling. Extensive during 2019 and 2020 sampling (i.e., connectivity between impounded lakes).

"n =" = number of sites sampled

"-" = data not collected

Water chemistry results from 2019 (strikethrough) were contaminated during storage and excluded from analysis.

2.4 Meadowbank Complex 2020 Annual Report – Spill Management

References: 2020 Annual Report, Section 7, Spill Management

Comments: "During a routine inspection at the Baker Lake Farm, fuel was observed in the secondary containment of fuel tanks 5 & 6. After further inspection, a small fuel leak was observed"

Baker Lake is culturally significant and an important source of fish for the people of the Baker Lake community. A fuel spill resulting in 403,000 L of contaminated water so close its shores is a cause for concern.

Recommendation 15: KivIA recommends Agnico Eagle provides details on the steps they have taken to prevent another such spill from occurring.

Agnico Eagle's Response:

Agnico Eagle will refer to response provided in Section 1.12 above. As mentioned, an intensive tank inspection of the Baker Lake Fuel Farm conducted in partnership with an API 653 inspector is underway. In addition, plans are in place to apply an epoxy coating inside all tanks to prevent

leaking. Application will be done in 2022-2024. QA/QC on the tanks will also be performed by an inspector (NACE CIP Level 3).

3 Environment and Climate Change Canada (ECCC)

3.1 Waste Management Activities

References: 6.2.1.1 Stack Testing

Comment: Stack testing at the Meadowbank site was not completed in 2020; the Proponent indicated this was due to not receiving guidance from NIRB regarding testing frequency until December 3rd, 2020. The Proponent had requested to reduce the stack testing frequency to biennial following 5 years of compliance.

Recommendation 1: ECCC recommends that the Proponent ensure stack testing is completed in 2021 to confirm continued compliance.

Agnico Eagle's Response:

Agnico Eagle is going to perform a stack testing at his Meadowbank incinerator in 2021. Results will be provided as part of the 2021 Annual Report.

3.2 Spill Management

References: 7.1 Spill Summary; 7.1.1 Meadowbank Site

Comment: An environmental incident occurred whereby tailings dust became airborne at the tailings storage facility, and spread outside the property. Short-term dust suppression was implemented.

Recommendation 2: ECCC recommends that the Proponent ensure a dust management plan is developed and implemented to reduce the risk of similar incidents occurring.

Agnico Eagle's Response:

Following the dust event of 2020 an action plan was developed to reduce the risk of a similar incidents occurring and various options were assessed. In the summer of 2021, the tailings surface exposed to air was sprayed by chopper with a chemical (MinCrylx 50) to inhibit dust formation. This chemical is supposed to inhibit dust formation for 2 years. Agnico Eagle will monitor the success of this mitigation strategy and will repeat it as required in the coming year until the surface of the tailings are capped with rockfill as per the closure plan thus permanently preventing tailings dust from leaving the facility.

3.3 Seabird Monitoring

References: Appendix 57 – Meadowbank and Whale Tail Marine Mammal and Seabird 2020 Annual Report

Comment: ECCC supports the Proponent's approach to consolidating the Meadowbank and Meliadine marine mammal and seabird monitoring results into a single report given the amount of spatial overlap and the shared shipping vessels.

ECCC provided comments to the Proponent's consultants and had a follow-up discussion in March 2021 related to the seabird data collected in 2020. ECCC noted inconsistencies in how observers recorded the data during the surveys in relation to the standardized protocols and some issues with species identification.

Recommendation 3: ECCC recommends the Proponent continue to provide and improve training for seabird observers to minimize errors implementing the protocols, recording data and identifying species.

Agnico Eagle's Response:

Agnico Eagle appreciate ECCC's support regarding the consolidated Meliadine and Meadowbank Marine Mammal and Seabird Observation Report and will maintain this approach for future annual reports.

Regarding observer training, with the assistance of a third-party Expert, Agnico Eagle continues to provide and to improve training to minimize errors implementing the protocols, data recording and misidentifications.

In 2021, prior to the start of the shipping season, a hybrid in person and virtual training session was conducted with the shipping company. Elements brought forward by ECCC on the 2020 data inconsistencies were discussed during this training and adjustments to the training material and related observation sheets and tools were also made.

Agnico Eagle is confident these measures will result in continued overall improvements of its Marine Mammal and Seabird Observation program.

3.4 Breeding Bird Monitoring

References: Appendix 47 – Meadowbank and Whale Tail 2020 Wildlife Monitoring Summary Report; Agnico Eagle. 2020c. Bird Survey Data Analyses – 2003 to 2015. November 2020. 164p.

Comment: ECCC reviewed the comprehensive 2003-2015 analyses of bird data (Agnico Eagle 2020c) and provided comments to the Proponent directly between December 2020 and April 2021. ECCC

acknowledges the considerable amount of effort and detail that went into the analyses of the 2003-2015 bird monitoring data.

Although ECCC did not recommend further analysis of the data, ECCC noted that some concerns remain with the report (e.g. statistical approach not validating impact predictions, not accounting for the potential that effects were already present from advanced exploration, unclear statistical power to detect effect size of interest, and interpretation of results). ECCC maintains that several of the results in the report are suggestive of an effect of distance to infrastructure on bird abundance and that the interpretation of results should be more nuanced.

Given the location of the project and low detection of species at risk to date, ECCC accepts that an adequate amount of project-related effects monitoring for upland breeding birds has taken place. ECCC supports the Proponent's proposal to change the monitoring objective for the upland breeding bird VEC.

ECCC sees value in continuing bird monitoring on site to assess the effectiveness of mitigation measures and surveying for the presence of species at risk on site by qualified observers. The presence of species at risk could be monitored by contributing to regional and national bird monitoring programs following standardized protocols.

Recommendation 4: N/A – For NIRB's information

Agnico Eagle's Response:
Agnico Eagle acknowledges ECCC's comments.

3.5 Seepage Volumes

References: Appendix 11 – Meadowbank 2020 Water Management Plan, Section 3.1.11 – Seepage Management

Comment: The Water Management Plan provides brief summaries of the volumes of seepage that reported to each location in the year. At sampling location ST-16 115, 868 m^3 was pumped back to the North Cell TSF in 2020. However, no information is provided on how this compares to expected volumes, previous monitoring data, or average seepage volumes. In comparison to the 2019 Water Management Plan, in 2020 this location had 46,975 m^3 more seepage than 2019. While some monitoring stations (for example, central dike seepage) provide information on how the 2020 monitoring data compares to previous years, for other stations it is unclear whether the 2020 seepage volumes are within previously observed values or are increased compared to previous years. Comparisons to historical and expected volumes should be presented for all locations. If increased volumes are observed, potential causes of increased seepage (for example, increased precipitation) should be discussed.

Recommendation 5: ECCC recommends that seepage volumes for all stations be compared to previous years and expected averages to aid in interpretation of data. In addition, for any locations with increased seepage as compared to previous years or expected averages, a preliminary discussion of potential sources/causes should be provided.

Agnico Eagle's Response:

Agnico Eagle understands the importance of including historical seepage volumes for all monitoring stations to aid in the interpretation of data. Although this information briefly outlined within the Water Management Plan, Section 8 of the 2020 Annual Report includes detailed historical data for each monitoring station for 2013-2020.

3.6 Scaling of Graphs

References: Appendix 11 – Meadowbank 2020 Water Management Plan, Appendix C

Comment: Several figures provided in Appendix C depict concentrations at various monitoring locations compared to the previous year forecasted values. However, several of the figure's Y-axis are not scaled appropriately causing data to be located at the bottom of the graph, making it difficult to interpret when CCME guidelines or Water Licence limits are exceeded. The Y-axis in the figures of Appendix C should be scaled appropriately such that data is clearly presented and easily interpreted.

Recommendation 6: ECCC recommends that figures use appropriate Y-axis to aid in interpretation of data.

Agnico Eagle's Response:

Agnico Eagle appreciates ECCC's comment. For the 2021 Annual Report, the Y-axis scale will be adjusted to make interpretation of the date easier.

3.7 Measured Values Compared to Forecasted Values

References: Appendix 11 – Meadowbank 2020 Water Management Plan, Appendix C Figure 2-6 and Table 2-7

Comment: Figure 2-6 and Table 2-7 provide a comparison of measured water quality values to forecasted values for Portage Pit and Goose Pit. However, there is very little analysis and interpretation of these results, specifically when measured concentrations exceeded forecasted values. ECCC acknowledges that these comparisons are intended to aid in the understanding and identification of potential contaminants

of concern and the development of treatment measures. However, additional interpretation of the results will aid in understanding of what may be driving these conditions.

Recommendation 7: ECCC recommends that the comparison of measured versus forecasted values also include some preliminary discussion on potential sources when measured results differ from the forecasted values, specifically if the measured values exceed forecasted.

Agnico Eagle's Response:

Agnico Eagle acknowledges ECCC's comment and will add additional notes and details to provide potential causes that may explain the differences observed between the measured and forecasted values in the 2021 Annual Report.

3.8 Mine Effluent 2020 Average vs Mill Effluent Quality Used in Model

References: Appendix 11 – Meadowbank 2020 Water Management Plan, Table 3-3 – Mill Effluent Concentrations when Processing Whale Tail Pit Ore

Comment: Table 3-3 presents the mill effluent average concentration in 2020 to the mill effluent quality retained in the model. The Proponent states that "in order to obtain the forecasted concentrations that are in the same order of magnitude as the measured values found in the Goose Pit and Portage Pit in 2019 and 2020, an adjustment factor was applied to the average measurement taken of the mill effluent in 2020 when processing Whale Tail ore at the mill." In many cases the mill effluent quality retained in the model is the same, or higher than the measured average mill effluent concentration in 2020, which should result in a reasonable amount of conservatism within the model. However, for several parameters (cadmium, chromium, molybdenum, nickel, strontium, zinc, cyanide, ammonia, and TDS) the concentrations used in the model are lower than the averages measured in the mill effluent. It is not clear how these adjustment factors were applied and why the concentrations used in the model would be lower than observed values.

Recommendation 8: ECCC recommends the Proponent provide additional supporting information as to why for some parameters the concentrations used in the model are lower than the observed average concentrations in mill effluent in 2020.

Agnico Eagle's Response:

For each parameter, the adjustment factors used in the water quality forecast model is evaluated by first running the model with no adjustment and comparing the forecasted and measured concentrations. If required, an adjustment factors are added so that the forecasted values are similar to the measured concentrations.

The water quality forecast model is based on a mass balance approach, where all mass is conserved. It does not consider that a fraction of the total metals could precipitate out in solution, effectively reducing its total concentration. Thus, for parameters where the concentrations used in the model are lower than the observed average concentrations in mill effluent in 2020 indicate that a fraction of it could readily settle out in the pits with the tailings.

3.9 Phytoplankton Community

References: Appendix 33 – Meadowbank and Whale Tail 2020 CREMP, 5.4 Phytoplakton Community, 5.4.1 General Observations

Comment: Diatoms are referred as belonging to the phylum Cryptophyta, which is incorrect.

Recommendation 9: ECCC recommend that the proponent update the text to refer to the correct diatom phylum Bacillariophyta.

Agnico Eagle's Response:

Agnico Eagle appreciates ECCC's comment. Section 5.4.1 incorrectly referred to diatoms as belonging to Cryptophyta. The six major taxa were correctly listed in Section 4.4.1: blue-green algae (Cyanophyta), green algae (Chlorophyta), golden-brown algae (Chrysophyta), Diatoms, Cryptophytes and Dinoflagellates. Future CREMP reports will correctly identify diatoms as belonging to the phylum Bacillariophyta.

3.10 Increased Arsenic and Chloride at Pit-E Seepage Monitoring

References: Appendix 42 – Meadowbank 2020 Groundwater Monitoring Report, Section 6: Conclusions

Comment: The 2020 Meadowbank Groundwater Monitoring Report states that "in general, water quality was similar to results previously obtained, with a few exceptions. Concentrations of arsenic and chloride were higher than historic values at the Pit-E seepage monitoring location." The proponent states that there is uncertainty around what may be causing these increased concentrations at this location but hypothesizes that it may be due to deposition of reclaim water effluent at the top of the west wall of Pit-E. Based on the recommendations provided in Section 7 of the report, it is unclear what potential next steps the proponent may be implementing to reduce uncertainty associated with these increased concentrations.

Recommendation 10: ECCC recommends that the Proponent provide information on any potential next steps in monitoring to reduce uncertainty associated with the source of the elevated arsenic and chloride concentrations at Pit-E Seepage location.

Agnico Eagle's Response:

Agnico Eagle intent to conduct additional water quality monitoring to monitor the elevated chloride and arsenic concentrations observed in 2020 at the Pit E seepage location, if it i's safe to do. Monitoring results will be provided in the 2021 Annual Report

3.11 Third Portage Lake Studies

References: Appendix 50 – Meadowbank Closure Water Treatment Strategy, Section 4.0: Conclusion

Comment: The Closure Water Treatment Strategy refers to the need for environmental studies to assess the assimilative capacity of Third Portage Lake in order to help define the allowable discharge volume and treated effluent requirements. Although it is acknowledged that discharge is not intended to begin until 2027, no details are provided on the timeline for when this study may be completed.

Recommendation 11: ECCC recommends that the Proponent provide a general timeline for when the assimilative capacity studies for Third Portage Lake may be completed.

Agnico Eagle's Response:

The 2020 Annual Report includes a plan describing the general timeline to perform bench scale lab testing, on-site testing, and development of design of the water treatment process for closure. One of the items of that plan is to perform Environmental Study which will include a determination of the assimilative capacity of Third Portage Lake. It is planned to start this study in 2021 and to have it completed in 2022.

3.12 Road and Construction Materials

References: Appendix 4 – Whale Tail Haul Road 2021 Work Plan; Appendix 5 – Whale Tail KVCA15Q01 2021 Work Plan; Appendix 6 – Whale Tail KVCA15Q02 2021 Work Plan; Appendix 7 – Whale Tail KVCA18Q01 2021 Work Plan

Comment: The 2021 esker work plans (i.e., Appendices 5, 6 and 7) state that, in order to minimize the disturbance of eskers, priority will be given to using non-potential acid generating waste material from the Whale Tail pit instead of esker materials. Similarly, the Whale Tail Haul Road 2021 Work Plan (Appendix 4)

states that priority will be given for the use of non-potentially acid generating waste material from the Whale Tail Pit for the operation activities and maintenance of the Whale Tail Haul Road.

ECCC notes that road and construction materials should be non-metal leaching, as well as non-potentially acid generating. However, the work plans do not indicate whether the prioritized waste material will be non-metal leaching.

Recommendation 12: ECCC recommends that road and construction materials be non-metal leaching and non-potentially acid generating, including for road operation and maintenance, and that applicable documents (including the Whale Tail Haul Road 2021 Work Plan and the 2021 esker/quarry work plans) be updated to reflect this guidance.

Agnico Eagle's Response:

As per our protocols, Agnico Eagle use only non-metal leaching and non-potentially acid generating material for road operation/maintenance and construction. Agnico Eagle acknowledges ECCC's comment and will add a precision into the 2022 Work Plan.

3.13 Receiving Environment Predictions for Nitrate and Phosphorous

References: Appendix 12 – Whale Tail 2020 Water Management Report, ver 6; Appendix D (Whale Tail Water Quality Forecast Update)

Comment: Updated water quality modeling results predict increased productivity in the receiving environment until approximately eight years after closure is initiated. Monitoring will be continued through life of mine and model predictions will be updated annually. ECCC notes that management response(s) would be needed if modeling indicates effects associated with the nutrient loading (e.g. productivity increases lead to dissolved oxygen depletion under-ice) or if modeling has under-predicted concentrations of phosphorus and nitrogen. Management options should be identified in advance.

Recommendation 13: With respect to increased nutrients/productivity in the receiving environment, ECCC recommends that the Proponent proactively identify management response options to address potential effects, including under-predicted parameter concentrations.

Agnico Eagle's Response:

Agnico Eagle monitors nutrients according to discharge limits set out in the Type A Water Licence 2AM-WTP1830, and nutrients and Dissolved Oxygen (DO) in the receiving environment according to the CREMP as per Type A Water Licence 2AM-WTP1830. Based on experience acquire at Meadowbank, it is expected that monitoring, limits and CREMP triggers/ thresholds will continue

to ensure the protection of the receiving environment. As described in the FEIS Addendum, receiving environment water quality predictions are conservative and Agnico Eagle will continue to monitor, adaptively manage, and subsequently mitigate to ensure limits are met and receiving water quality as outlined in FEIS Addendum.

The Water Quality and Flow Monitoring Plan specifies how water quality in the receiving environment will be monitored during the operations and closure phase. Results of the monitoring are intended to inform the "adaptive management" process, supporting the early identification of potential problems and development of mitigation options to address them by comparing results to established threshold and trigger levels.

For regulated discharges, the Compliance Monitoring (CM) Program ensures compliance of mine contact water with regulatory requirements; the Core Receiving Environment Monitoring Plan (CREMP) is designed to measure and assess the potential impacts to receiving environment of constituents not regulated under MDMER or NWB. The CREMP describes trigger levels that were developed to facilitate adaptive management of potential water quality issues in the receiving environment. The criteria were developed with the assumption that action will be considered before certain monitored parameters reach levels that cause or have the potential to cause adverse effects to aquatic biota. Triggers are intended to act as early warning criteria that may lead to action; exceedance of a trigger value does not necessarily imply that an adverse effect may be expected. In general, exceedance of early warning triggers will trigger further assessment, which may then lead to mitigation.

3.14 Model Inputs and Assumptions – Changes Regarding STP Effluent Concentrations

References: Appendix 12 – Whale Tail 2020 Water Management Report, ver 6; Appendix D (Whale Tail Water Quality Forecast Update); Sewage Treatment Plant O&M Manual (May 2019)

Comment: Section 2.1.1 of the Whale Tail Water Quality Forecast Update states that water quality inputs for the sewage treatment plant (STP) effluent were updated to reflect 2020 monitoring results from STP effluent at Station ST-WT-11. Table 1 of this section indicates that nitrate and phosphorus concentrations in STP effluent are not meeting the operational effluent targets identified in Table 6 of the Sewage Treatment Plant O&M Manual.

The 2020 annual report does not discuss potential causes of the elevated STP effluent parameters and does not indicate any response actions. It is unclear whether measures will be taken to improve STP effluent quality and meet operational/design targets in future.

Treated STP effluent is discharged to the attenuation ponds. As such, targets are not a regulatory concern but the STP does represent a source of nitrate and phosphorus loadings which should be minimized to the extent practicable.

Recommendation 14: ECCC recommends that the Proponent:

- Clarify whether any actions are planned to improve sewage treatment plant (STP) effluent quality and meet the operational/design targets for nitrate and phosphorus, as set out in Table 6 of the Sewage Treatment Plant O&M Manual; and

  Agnico Eagle's Response:
  Elevated nitrate and phosphorus in STP effluent are being addressed by increasing chemical dosing of both Alum and Micro C.

  During the beginning of 2021, modifications have been made to better manage the increased sludge output from increasing Alum. Additional pumps have also been added to aid in transporting these chemicals into the plant to keep up with the additional dosing. Thus far in 2021, phosphorus levels have been brought down by about half, however, Alum dosing is at a maximum due to smaller lines at the treatment plant. Work has been slated to replace these lines once the parts have been received at site and a chemical switch from Alum to Re3000 is planned for 2022 to be more effective.
  Elevated nitrate levels continue to be an issue even with increased Micro C dosing. Review of operational data and discussions with Newterra will be planned to address this. The likely outcome will be to lower the overall dissolved oxygen.

  Agnico Eagle will continue to evaluate the performance of the STP and make any other adjustment as needed.

- Clarify whether STP effluent exceeded operational/design targets for any other Table 6 parameters.

  Agnico Eagle's Response:
  The STP effluent results for 2020 did also exceed operational/design targets outlined in Table 6 for biological oxygen demand, pH and total oil and grease as presented in Table below. They are probably associated to sampling error as the result were below limit before and after those sampling. Agnico Eagle realized that some of the parameters with design criteria were not provided in the 2020 Annual Report and this will be corrected for the 2021 Annual Report.

Sample date			2020-01-01	2020-01-06	2020-01-13	2020-01-20	2020-01-27	2020-02-03	2020-02-10	2020-02-17	2020-02-24	2020-03-02	2020-03-09	2020-03-17	2020-03-23	2020-03-30	2020-04-06	2020-04-13	2020-04-20	2020-05-04	2020-05-11	2020-05-18	2020-05-25	2020-06-01	2020-07-07	2020-08-03	2020-09-07	2020-10-05	2020-11-02	2020-12-07
Parameter	**Design Criteria**	**Unit**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WQ01- Field Measured																														
pH	**6.5-9.5**	**pH units**	7.40	6.60	6.96	6.90	6.90	6.26	6.78	6.50	6.81	6.40	6.70	6.70	6.88	7.40	7.10	6.90	7.00	6.60	6.89	7.50	7.26	7.29		7.20	7.34	7.18	7.61	7.44
WQ02- Conventional Parameters																														
TSS	25	**mg/L**	1	2	2	2	1	5	1	< 1	3	2	2	3	< 1	1	5	< 1	9	5	3	2	6	< 1	< 1	1	3	< 1	6	11
WQ04- Nutrients and Chlorophyll a																														
Biochemical Oxygen Demand	**25**	**mg/L**	6	< 1	< 1	< 1	1	< 1	< 1	1	**261**	< 1	3	1	< 1	2	13	-	< 1	2	< 1	1	< 1	2	< 1	< 1	-	< 1	< 1	1
Un-Ionized Ammonia, calculated	1.25	**mg-N/L**	-	< 0.01	< 0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	< 0.01	< 0.01
Nitrate	**5**	**mg-N/L**	-	**9.98**	**10.9**	**10.3**	**11.4**	**14.8**	**16.3**	**17.1**	**15.2**	**15.8**	**14.3**	**20**	**16.0**	**15.2**	**10.6**	**12.8**	**9.38**	**47.0**	**45.6**	**15.5**	**9.93**	**15.8**	**54.7**	**5.37**	**9.65**	**14.0**	1.90	**6.28**
Total phosphorus	**0.5**	**mg/L**	**5.34**	**5.26**	**4.4**	**6.01**	**5.36**	**6.18**	**7.65**	**9.40**	**7.01**	**5.23**	**4.46**	**6.57**	**6.62**	**5.33**	**7.20**	**7.81**	**7.59**	**8.69**	**7.82**	**5.01**	**4.52**	**3.55**	**5.30**	**3.80**	**4.68**	**4.73**	**4.6**	**6.86**
WQ05- General Organics																														
Total oil and grease	**5**	**mg/L**	1	< 1	< 1	3	2	4	1	4	2	4	1	2	< 1	< 1	< 1	< 1	< 1	< 1	**6**	2	< 1	1	< 1	< 1	1	< 1	2	1
WQ13- Coliforms																														
Fecal Coliform	200	**CFU/100mL**	-	< 2	< 2	< 2	< 2	< 2	< 2	2	< 2	< 2	< 2	< 2	< 2	< 2	12	72	18	16	13	34	60	22	< 2	24	6	< 2	< 2	4

3.15 TSS-Turbidity Monitoring During Dike Construction

References: Appendix 59 – Water Quality Monitoring and Management Plan for Dike Construction and Dewatering, Version 3 (May 2020)

Comment: Section 4.3.2, which describes the Standard Operating Procedure for open water dike construction, does not indicate whether Total Suspended solids (TSS) samples will be collected for laboratory analyses.

Recommendation 15: ECCC recommends that the Proponent clarify the frequency of TSS sample collection for laboratory analyses during open water dike construction, and updates relevant management plans as appropriate.

Agnico Eagle's Response:

As mentioned in Section 4.2.2 of the Water Quality Monitoring and Management Plan for Dike Construction and Dewatering, a routine water quality will also be conducted on a weekly basis and include TSS.

3.16 TSS Turbidity Relationship

References: Appendix 59 – Water Quality Monitoring and Management Plan for Dike Construction and Dewatering, Version 3 (May 2020)

Comment: Section 4.4 (QA/QC for Turbidity Measurements) indicates that the TSS-turbidity relationship developed for Meadowbank in 2010 has been incorporated into the Whale Tail Pit and Haul Road Project monitoring program. The plan does not discuss whether or how the Meadowbank TSS-turbidity relationship has been validated for the Whale Tail site.

Recommendation 16: ECCC recommends that the Proponent clarify whether and how the Meadowbank TSS-turbidity relationship has been/will be validated for the Whale Tail site, and whether paired TSS-turbidity samples will be collected during construction at applicable locations in the Whale Tail site to validate or update the site-specific TSS-turbidity relationship.

Agnico Eagle's Response:

During the dewatering of the Whale Tail North Basin, Agnico Eagle collected daily turbidity along with a TSS sample for analysed to an external accredited laboratory. Based on these results and those collected during the previous years in-water construction, Agnico Eagle will be able to validate the paired TSS-turbidity relation. This validation will not be performed before other dewatering or in-water dike construction will be needed on site, if any.

3.17 QA/QC Plan

References: Appendix 54 – Meadowbank and Whale Tail Quality Assurance/Quality Control (QA/QC) Plan, Version 6 (July 2020)

Comment: Section 2.2.5 (Field Duplicates, Field Blanks and Trip Blanks) states that one field duplicate, one filter blank, and one field blank are collected for a) every 10 samples, b) each sampling event or c) once per year. The QA/QC Plan does not provide a rationale for the difference in QA/QC sampling frequencies among the various monitoring programs, nor justify collecting control samples only once per year for some programs.

Table 2.2 indicates a very low QA/QC sampling frequency (i.e., 2-3 samples per year) for the compliance monitoring programs regarding Groundwater Chemistry and Mine Facilities. QA/QC samples should comprise 10-15% of the samples analysed overall. It is also noted that most of the compliance monitoring programs listed in Table 2.2 include field duplicate and field blank samples, but no trip blanks.

Recommendation 17: ECCC recommends that the Proponent update the QA/QC Plan as follows:

- Provide a discussion/rationale for the QA/QC sampling frequencies presented in Table 2-2 (Quality Control Sample Frequency);

  Agnico Eagle's Response:

  The QA/QC sampling frequencies in Table 2.2 serve as a summary for outlining the minimum requirements for each compliance monitoring program. These are all in line with the 10% frequency target that is outlined in the QA/QC management plan for Meadowbank/Whale Tail as well as within range of the industry standard of 1 in 20 samples used by EPA and other environmental agencies.

- QA/QC sampling frequency of the compliance monitoring programs for Groundwater Chemistry and for Mine Facilities should be in line with best practices for each monitoring program; and

  Agnico Eagle's Response:

  Agnico Eagle ensures that the current QA/QC sampling frequency for the Groundwater Chemistry and Mine Facilities compliance monitoring programs is in line with the best practices for each program as the frequency of duplicate sampling is above 10% for each site. Monitoring programs at Meadowbank have a QA/QC collection frequency of 24% for duplicates, 24% for field blanks, and 18% for trip blanks. Monitoring programs at Whale Tail have a QA/QC collection frequency of 17% for duplicates, 18% for field blanks, and 14% for trip blanks.

- Include trips blanks in all monitoring programs listed in Table 2-2.

Agnico Eagle's Response:

The current approved management plan states that trip blank will be collected for a total of 10% annually. The goal is to collect trip blank on the overall number of sampling collected during the year and not on each specific sampling location. Agnico Eagle acknowledges that trip blanks are only listed as a QA/QC requirement for groundwater chemistry monitoring in Appendix 54 Table 2.2. The QA/QC guidelines for groundwater monitoring sampling outline that one trip blank must be collected at each sampling campaign, whereas the guidelines for mine facilities monitoring indicate that trip blanks will be collected for a total of 10% annually. This frequency is detailed in section 2.2.5 of Appendix 54. As outlined in the response above, trip blanks were collected for monitoring programs at a rate of 18% at Meadowbank and 14% at Whale Tail as outlined in sections 8.5.7.2 and 8.5.7.1 respectively, of the 2020 Annual Report. This is well in line with the 10% annual frequency outlined in the QA/QC guidelines.

3.18 Thermal Monitoring Report

References: Appendix 25 – Whale Tail 2020 Thermal Monitoring Report

Comment: As described in Section 3.2.1 (Expected Thermal Effects on Permafrost), the Proponent expected minimal effects to permafrost at the Whale Tail Dike abutment areas. Contrary to the expected minimal effects, thermal monitoring results indicate that the trend of permafrost degradation at the Whale Tail Dike abutment continued in 2020. In addition, a rapid warmup in the wall and foundation was also noted. The 2020 Thermal Monitoring Report states that this permafrost degradation at the abutment has not resulted in a seepage increase for the moment, but does not discuss the likelihood or potential effects of increased seepage. Nor does the report identify options to mitigate or manage a potential seepage increase.

Recommendation 18: With respect to the continued trend of permafrost degradation at the Whale Tail Dike abutment and the rapid warmup in the wall and foundation, ECCC recommends that the Proponent describe:

- The likelihood that these changes would result in a seepage increase, and the potential timing and extent of increased seepage;
- Potential effects of such a seepage increase;
- Options to mitigate and manage a potential seepage increase; and
- Any other changes/impacts that may result from the continuing permafrost degradation at the abutment and the rapid warmup in the wall and foundation, and options to mitigate and manage such changes/impacts.

Agnico Eagle's Response:

Thermal monitoring data show that most of the permafrost area of Whale Tail Dike have degraded as of 2020. As the level of Whale Tail South is not expected to raise further additional permafrost degradation is unlikely. In 2020 and Q1-Q3 of 2021 no new seepage channel was observed in the downstream area of the dike and the seepage flow reporting downstream of the dike as not increased. These observations seem to indicate that the system is in steady state and that further increase of the seepage is unlikely.

The increase in the seepage is not expected to have any incidence on the stability of the structure as the seepage path is in the upper fractured bedrock. An increase in seepage would result in more water having to be managed on site. Note that in 2020 a remedial grouting campaign was performed at Whale Tail Dike and was able met the objective of decreasing the seepage by more than 40 %.

If the seepage would increase again, Agnico Eagle would have the option of either managing it on site using the existing pumping system, improve the pumping capacity on site or to perform additional grouting work of the dike. The selected option would depend on several factor such as the seepage flow rate and the impact of this increased seepage on operation.

The permafrost degradation of the abutment is not expected to significantly change the condition of the structure as most of the degradation as already occurred. Permafrost degradation can be associated with settlement, sloughing and tension cracks. If those occur, they will be monitored and repaired if required.

3.19 Whale Tail Interim Closure and Reclamation Plan

References: Appendix 51 – Whale Tail Interim Closure and Reclamation Plan, ver 4 (July 2020)

Comment: Per Table 5.2-2 (Closure Objectives and Criteria – Open Pits Workings) of the Whale Tail Interim Closure and Reclamation Plan (ICRP), routine pit lake water quality monitoring will be undertaken during closure and for three years into post closure.

Post-closure water quality monitoring should be of a sufficient duration to demonstrate stability of water quality onsite and in the receiving environment. As it is currently unknown how long it will take to achieve acceptable and stable water quality, the proposed 3-year post-monitoring period should be a minimum monitoring duration, with monitoring to continue as needed until conditions are stable.

Recommendation 19: ECCC recommends that prior to decommissioning the contact water management system or reconnecting the pit lake to surface waters, monitoring results and water quality predictions demonstrate that runoff, seepage, and pit lake water quality has stabilized and will be consistently

acceptable for release over the short-, medium- and long-term, taking into account seasonal and inter-annual variability and climate change considerations.

Agnico Eagle's Response:

As part of the Regulatory process of the Whale Tail Expansion Project, many discussions were had with all parties, ECCC included, around the duration of monitoring and was agreed upon.

The post-closure phase is the period of time that would commence upon completion of the agreed closure activities set out in the FCRP. The projected duration of the closure period is 18 years. As per the ICRP a three-year post-closure monitoring phase is anticipated to confirm site stability.

For clarity, the post-closure period (i.e., at the time of reconnection) will not begin until closure criteria are met. While based on site data, and extensive water quality modelling efforts, a three-year monitoring period will be sufficient to demonstrate long-term site stability. This was confirmed through the application of a variety of models which includes:

- *operations, closure, and post-closure site and downstream receiving environment water quality models with varying optimization conditions*
- *pit lake and receiver hydrodynamic models*
- *climate change scenarios RCP6.0 and RCP8.5*
- *1-10 and 1-100 year flood event scenarios*
- *cryo-concentration effects*
- *contamination of the WRSF thermal cover with high arsenic leachable material*

During the operations and closure phase, site monitoring data will be used to recalibrate and update the site water quality models on an annual basis, which will validate projected post-closure conditions. At that point, taking into account monitoring during the operations and closure phases, Agnico Eagle will have at least 24 years of data and updated water quality predictions before entering the post-closure phase.

Regular monitoring throughout the closure period will focus on physico-chemical parameters, such as pH, specific conductivity, temperature, and dissolved oxygen, throughout the water column, as well as general water quality parameters, including nutrients and metals, at near-surface and deep-water intervals.

The timing of flooding is beneficial to implementing a comprehensive monitoring plan during closure, particularly as a relatively large proportion of the pits will fill quickly. For each pit, this allows the benefit of reducing uncertainty in the final flooded water quality conditions. The Whale Tail Pit is expected to take approximately 17 years to flood to surface level, however, it will reach 75% in approximately 14 years, with only 25 m of depth remaining for the final three years. The

IVR Pit will be filled to 90% of its volume (approximately 4 m below the target flood level) within the first two years of closure.

The Adaptive Management Plan has proposed mitigation strategies in the event water quality forecast results do not meet predictions during operations, which will further ensure closure and post-closure water quality predictions are met. This Adaptive Management Plan has been developed with intervenors through a series of workshops and will be an effective tool to manage operations to help alleviate risk to post-closure water quality.

Based on the above, Agnico Eagle is confident that a three-year post-closure monitoring program is sufficient.

ECCC also recommends that relevant sections of the Whale Tail ICRP, including Table 5.2-2 (Closure Objectives and Criteria – Open Pits Workings), be revised to:

- Acknowledge that a post-closure water quality monitoring period of 3 years is aspirational and that 3 years would be a minimum duration; and
- Provide post-closure water quality monitoring until it is demonstrated that pit lake water quality is stable and will consistently meet water quality objective values over the short-, medium- and long-term.

Agnico Eagle's Response:

Agnico Eagle is not ready to make this commitment at the moment. The post-closure criteria were agreed upon during the Water Licence Process. As provided in the response above, during the operations and closure phase, site monitoring data will be used to recalibrate and update the site water quality models, which will validate projected post-closure conditions. At that point, taking into account monitoring during the operations and closure phases, Agnico Eagle will have at least 24 years of data and updated water quality predictions before entering the post-closure phase. The closure strategy is to have a long enough closure period to be able to demonstrate these point at closure as to reduce the post-closure period.

3.20 Classification of ARD Potential

References: Appendix 21 – Whale Tail Operational ARD-ML Sampling and Testing Plan. Ver 6, Section 3.2.1

Comment: Proponent states that:

> The [Acid Rock Drainage (ARD)] potential of waste materials will be classified first based on total sulphur content and then using the NPR-based guidelines published by MEND (2009). Total sulphur will be used as an initial screening criteria to identify NPAG material, whereby a sample will be considered NPAG when it contains less than 0.1 wt% sulphur, regardless of the CaNPR (Golder 2018). Where total sulphur is above 0.1%, the calculated carbonate CaNPR value will be used for sample classification, as summarized in Table 3.1."

ECCC is of the view that Neutralization Potential Ratio (NPR) or CaNPR indicates the relative magnitude of the neutralization potential (NP) and acid potential (AP) expressed by the ratio of NP/AP (or NPR). The values of NP and AP are based on the acid base accounting (ABA) process, therefore, the rock unit that contains 0.1 wt. % of sulphur but not enough neutralization potential such that its NPR is equal to 2 or less, that unit or rock type should be classified as Potentially Acid Generating (PAG). With this in mind, the statement by the Proponent that "any samples with 0.1% or less, sulphur would be non-PAG regardless of the CaNPR ratio" does not appear to align with that classification principle.

Recommendation 20: ECCC recommends that the Proponent reconsider its non-PAG classification criterion as expressed above.

Agnico Eagle's Response:

Agnico Eagle does not intent to reconsider its non-PAG classification criterion. Agnico Eagle will refer ECCC to the Whale Tail Expansion Volume 5-E 'Addendum Evaluation of the Geochemical Properties of Waste Rock, Ore, Tailings, Overburden and Sediment'. This document demonstrated that for all the different lithology, 0.1% has proven to be a suitable cut-off for PAG/NAG determination regarding the very low capacity of generating acidic environment from the poor sulfides content of the rock even with poor Carbonate buffering capacity. See extract below form Volume 5-E:

> *[…]based on the results to date a total sulphur content of 0.1 wt% appears to be a suitable cutoff below which waste rock can be categorized as NPAG for all lithologies. During operations, material will be tested for total sulphur and total inorganic carbon at the on-site laboratory at Meadowbank. It will then be segregated based on both the total sulphur content and the CaNPR (following MEND (2009) guidelines), as detailed in the Operational ARD/ML Sampling and Testing Plan (Agnico Eagle 2018c). Material with total sulphur below 0.1% will be considered NPAG, while material above 0.1% total sulphur will be evaluated based on the CaNPR value.*

3.21 ARD/ML Plan Adaptive Management Actions

References: Appendix 21 – Whale Tail Operational ARD-ML Sampling and Testing Plan. Ver 6, Section 5.1

Comment: ECCC notes that in the Potential Issues column of Table 5-1, one item is that "Thermal monitoring confirms that the waste rock cover freeze back is not occurring as anticipated". The steps to be taken did not include investigation of the presence of "hot spots" within the Waste Rock Storage Facility (WRSF), which could potentially cause some spots or layer in the waste rock facility not to freeze back.

Recommendation 21: ECCC recommends that the actions include the investigation of the possible presence of hot spots in the WRSF.

Agnico Eagle's Response:

The Whale Tail Adaptive Management Plan was approved by the Nunavut Water Board on August 30th, 2021. Agnico Eagle is confidant that this plan address ECCC's recommendation.

3.22 TSF Cover Design

References: Appendix 22 – Meadowbank Mine Waste Rock and Tailings Management Plan Ver 11, Section 7.1

Comment: The Proponent indicates that the Design criteria specific to the cover system design include:

- 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.

The Proponent indicates that the objectives of the cover system are to maintain the tailings material below 0°C under most conditions and to maintain saturation above 85%. In addition, 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. However, the Proponent did not explain how it plans to maintain the 85% saturation in the 0.5m section of the TSF that will be penetrated during the warm months, and how this will be maintained given the ongoing impact of climate change in the region.

Recommendation 22: ECCC recommends that the Proponent explain how they plan to maintain the 85% saturation in the 0.5m section of the TSF that will be penetrated by thaw during the warm months, and how this will be maintained given the ongoing impact of climate change in the region.

Agnico Eagle's Response:

The study submitted to support the engineering design of the closure landform of the TSF demonstrate that the design criteria of the cover can be attained to meet closure objective. As the closure landform will need to be updated in the coming year, Agnico Eagle would propose that ECCC wait for the update of the detailed engineering study for the answer to this question.

3.23 WRSF Monitoring and Closure

References: Appendix 23 – Whale Tail Waste Rock Management Plan Ver 7, Section 9.1.1

Comment: The Proponent states, "Once water quality meets the discharge criteria established through the water licensing process, the contact water management system will be decommissioned to allow the surface runoff and seepage water from the Whale Tail WRSF and IVR WRSF to naturally flow to the outside environment".

Given the above statement, ECCC would like to remind the Proponent that as long as the Whale Tail mine is regulated under the Metal and Diamond Effluent Regulations (MDMER), all effluent discharge from the mine site would need to be monitored and discharged through a final discharge point until the mine acquires the recognized closed mine status (RCM). After which time the mine is no longer subject to MDMER but captured under the general prohibition against the deposit of deleterious substances into waters frequented by fish, described in ss. 36(3) of the Fisheries Act.

Recommendation 23: Recommends that the proponent be aware of the requirements of the MDMER.

Agnico Eagle's Response:

Agnico Eagle acknowledges the reminder provided by ECCC regarding monitoring requirements under the MDMER and will ensure to follow these regulations into mine closure.

4 Nunavut Water Board (NWB)

4.1 Total Suspended Solids (TSS) exceedances at Monitoring Program Stations ST-5 and ST-6

Recommendation 1: The Board notes Total Suspended Solids (TSS) exceedances at Monitoring Program Stations ST-5 and ST-6. The Licensee is requested to clarify the causes of these exceedances and preventative measures to be employed.

Agnico Eagle's Response:

Agnico Eagle acknowledges that in June 2020, TSS results for both ST-5 and ST-6 did not exceed the maximum allowable grab sample concentration (30 mg/L) permitted by the Water License, Part F, Item 7. The June NWB Monthly Report and Section 8.5.3.1.2 of the Annual Report explains that although both stations did exceed the maximum average concentration (15 mg/L). Only a monthly sample during open water season is required by the Water License, and thus, the average concentration is made only of this result on June 17th from the certified laboratory. Daily TSS analysis performed at the onsite laboratory showed that TSS remained below 5 mg/L for most of the month of June. In no case, internal analyses have showed results exceeding the maximum allowable grab sample.

The increased TSS results on June 17th, 2020 could be due to an isolated event attributed to snowmelt during Freshet. Daily sampling and internal TSS analysis are used as a preventative measure for TSS increases as detailed in the Freshet Action Plan.

4.2 Increased Nutrients in WTS and MAM

Recommendation 2: The Reports states, "Some accredited laboratory water quality measurements have detection limits that are higher than the predicted values. This is particularly true for dissolved metal analysis, such as cadmium, iron, lead, nickel, molybdenum, selenium, thallium and zinc." and "The [Core Receiving Environment Monitoring Program] CREMP conclusion that increased nutrients in WTS and MAM are primarily due to flooding is generally supported by measurements conducted through other [Aquatic Effects Monitoring Program] AEMP programs (dike construction in 2019 and effluent monitoring in 2019 and 2020), through which very few exceedances of laboratory detection limits for total phosphorus have been observed… However, it is noted that detection limits for total phosphorus in these programs (0.01 mg/L) exceed the CREMP trigger value (0.004 mg/L) and most CREMP water quality measurements for WTS and MAM in 2020 (2020 CREMP Report, Figure 5-30)." The NWB requests that the Licensee use detection limits in line with the trigger values.

Agnico Eagle's Response:

The section of the report that states that "Some accredited laboratory water quality measurements have detection limits that are higher than the predicted values" refers to the water quality in pit

vs. prediction at Meadowbank and is not related to the increased nutrients at Whale Tail South and Mammoth. The accredited laboratory used for analysis was changed in 2021 and the detection limits for these parameters were revised to align with the probable and possible poor end scenario predictions for North Portage Pit Sumps, Third Portage Pit Sumps, and Goose Island Pit. As for Phaser Pit Sumps and Vault Pit Sumps, dissolved metal parameters have really low water quality prediction, currently lower than CCME guideline and actual laboratory detection limits. Agnico Eagle will engage with the accredited laboratory to confirm if those low level of analysis are possible. Possible poor end scenario are reached for Phaser and Vault Pits, aside from dissolved nickel and lead. The 2021 data will reflect this change.

The target detection limit for total phosphorus for the CREMP is 0.002 mg/L, half of the trigger value of 0.004 mg/L. In July 2020, the detection limit for water samples collected from the reference areas INUG, PDL, the Meadowbank study area lakes (TPE, TPN, WAL, SP) and Baker Lake study areas was elevated (0.01 mg/L or 0.02 mg/L). These samples were analyzed in the same batch, and ALS Environmental attributed the increase in the detection limit to sample matrix effects (e.g., chemical interferences, colour, turbidity). The target detection limit of 0.002 mg/L for total phosphorus was achieved for the samples collected from the Whale Tail Pit study area lakes in 2020, including MAM and WTS (2020 CREMP Report, Figure 5-30). Agnico Eagle also confirm that following the change in the accredited laboratory in 2021, the water quality program for phosphorus detailed in the AEMP will be reached. The actual phosphorus detection limit is 0.001 mg/L. The 2021 data will reflect this change.

4.3 Follow-Up Actions for 2020 Annual Pit Slope Performance Review

Recommendation 3: The Board appreciates the inclusion of the Meadowbank and Whale Tail 2020 Geotechnical Inspection Implementation Plan; however, the Licensee is requested to provide the timeline of follow-up actions to the recommendations outlined in the 2020 Annual Pit Slope Performance Review dated January 7, 2021.

Agnico Eagle's Response:

Agnico Eagle acknowledges the NWB's recommendation and will provide a timeline of follow-up actions to recommendations outlined in the 2021 Annual Pit Slope Performance Review.

4.4 Submission of Revisions to Plans or Manuals

Recommendation 4: The Board reminds Agnico Eagle of the Licence requirement in Part B, Item 17, "… (r)evisions to the Plans or Manuals are to be submitted in the form of an Addendum… complete with a revisions list detailing where significant content changes are made."

Agnico Eagle's Response:

Agnico Eagle acknowledges the NWB's comment and will provide updated versions of plans and manuals with appropriate documentation of where content changes have been made. The Document Control section at the beginning of each plan or manual details this information. Appendix 53, Meadowbank and Whale Tail Executive Summary Translation, of the Annual Report also provides revisions and an executive summary of management plans referenced in the Annual Report. Agnico Eagle will seek for improvement in communicating this information in subsequent annual report.