September 9th, 2022

Sergey Kuflevskiy
Technical Advisor
Nunavut Water Board
P.O. Box 119, Gjoa Haven
Nunavut, X0B 1J0

RE: NWB Technical Review of the 2021 Annual Report for the Meliadine Project; Water Licences Nos: 2AM-MEL1631 and 2BB-MEL1424

Dear Mr. Kuflevskiy,

Agnico Eagle Mines Limited thanks the Nunavut Water Board (NWB) for the opportunity to address comments received for Agnico Eagle Mines Limited's Meliadine Gold Mine Project 2021 Annual Report.

The following information and comments are intended to address comments outlined in the following letter: ***220819 2AM-MEL1631 2021 Annual Report Review-OSKE***.

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

With my best regards,

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AGNICO EAGLE
MELIADINE

Kivalliq Inuit Association (KivIA)

KivIA-1 Nutrient Enrichment in Meliadine Lake

Recommendation(s)

- Amend the statement in Section 7.1.4 to acknowledge that phosphorus concentrations have increased over time in the East Basin of Meliadine Lake

- Explore strategies to mitigate the impact of nutrient enrichment in the East Basin, including, but not limited to, increasing the volume of contact water diverted to Itivia Harbour.

Agnico Eagle Answer

As per 2021 Annual Report Answers provided to the NIRB on July 27th, 2022 (KivIA-13), total phosphorus concentrations have, in general, increased since the baseline period from the lower end of oligotrophic status (0.004 mg/L) to near the AEMP Action Level of 0.0075 mg/L. There is, however, some uncertainty about the natural range in phosphorus concentrations in Meliadine Lake given sparse and highly variable data collected during the baseline period (Figure C2-23). In 1997, the concentration reported in the East Basin (MEL-01) in July was at the upper limit of oligotrophic status (0.01 mg/L). Furthermore, phosphorus concentrations have periodically exceeded the upper limit of oligotrophic status at the reference areas. For example, phosphorus was measured at 0.03 mg/L in the samples taken in the Northwest Basin (MEL-04) in July 1997. Near the outlet of Meliadine Lake to the Meliadine River (MEL-05), 5 of the 7 samples collected in July from 1997 to 2011 had phosphorus concentrations that were equal to or greater than the AEMP Action Level. On a lake-wide basis, phosphorus concentrations have typically measured within the range of oligotrophic status (0.004 mg/L to 0.01 mg/L), but the use of 75% of the upper limit of oligotrophic status as the AEMP Action Level means we can likely expect periodic exceedances of the AEMP Action Level at MEL-01 in the future. It's important to emphasize that phosphorus loadings decreased significantly after the sewage treatment plant at the main camp came online in November 2017.

Based on the available data from water chemistry and phytoplankton monitoring programs, the concentration of total phosphorus in water samples is a relatively weak line of evidence for deciding if effluent is causing nutrient enrichment and effects to primary productivity. Phytoplankton community endpoints such as total biomass and chlorophyll-a are a better indicator of whether effluent is causing nutrient enrichment and effects to primary productivity. As mentioned in Section 7 of the 2021 AEMP report (Phytoplankton), phosphorus and nitrogen concentrations in surface water do not appear to be strongly influencing phytoplankton biomass or chlorophyll-a based on data collected at the NF, MF, and reference areas in Meliadine Lake since 2013 (Figure 6 9). Most of the phosphorus in freshwater occurs as organic phosphates, cellular constituents of organisms, and within or adsorbed to inorganic and dead particulate organic matter (Wetzel 2001). Among the various chemical forms of phosphorus in freshwater systems, orthophosphate is the only form of soluble inorganic phosphorus directly utilized by

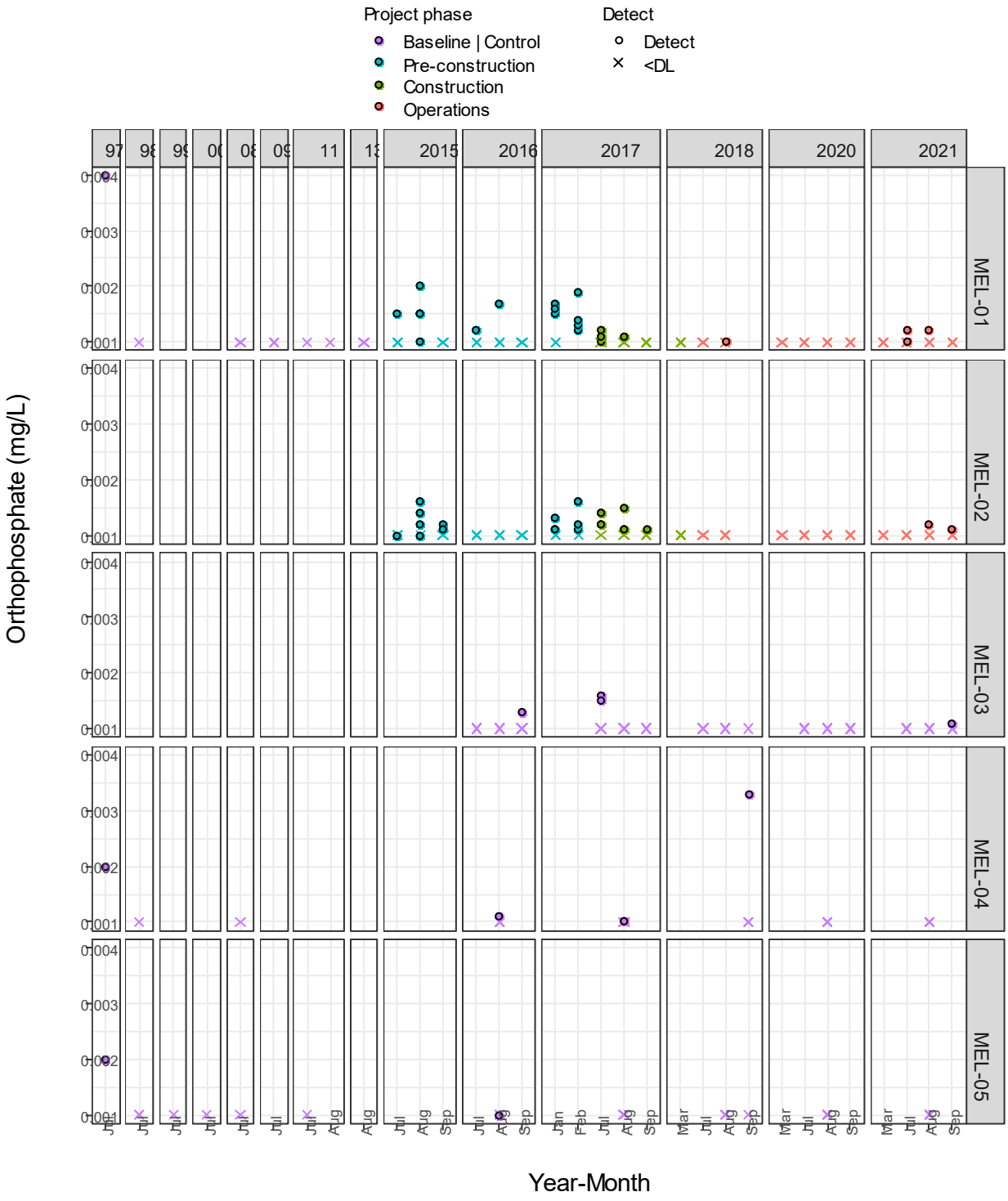
aquatic biota[1]. Challenges with accurately estimating orthophosphate, combined with rapid turnover, means total phosphorus is typically recommended as the default parameter to include in monitoring programs. Nonetheless, orthophosphate concentrations at the near-field and mid-field exposure areas are typically below the limit of detection (see figure below). Orthophosphate was more routinely detected at MEL-01 and MEL-02 from 2015 to 2017 before sewage from the Exploration Camp was diverted to the sewage treatment plant at the main camp.

As ECCC points out, there is some evidence that the East Basin of Meliadine Lake is more productive than the reference areas, particularly when looking at the chlorophyll-a data in 2021. Threespine Stickleback in the exposure area are also heavier for a given size compared to fish from the reference areas. The Threespine Stickleback results are explored in greater detail in the Cycle 2 EEM Interpretive Report (in preparation), but preliminary results show that the differences in condition between the exposure and reference areas for male and female fish, for both parasitized and unparasitized populations, are less than the critical effect size of 10%. According to Environmental Effects Monitoring (EEM) guidance, effects less than critical effects sizes (CES) are unlikely to adversely affect the health of the fish population.

The effect of phosphorus and other nutrients on primary productivity will continue to be evaluated each year as part of the Phytoplankton Study.

[1] Available at: https://ccme.ca/en/res/phosphorus-en-canadian-water-quality-guidelines-for-the-protection-of-aquatic-life.pdf

Figure 1. Orthophosphate concentrations (mg/L) in Meliadine Lake from 1997 to 2021.



KivIA-2 Threespine Stickleback Chemistry

Recommendation(s)

Considering that the higher concentrations of calcium, arsenic, manganese, strontium, and uranium were detected in Threespine Stickleback were detected at Mel-01 in 2021, continue to monitor the Threespine Stickleback tissue chemistry as set out in the AEMP.

Agnico Eagle Answer

As per 2021 Annual Report Answers provided to the NIRB on July 27th, 2022 (ECCC-7), chemistry analysis in sediment fish tissue is part of the AEMP Design Plan. The next monitoring program is scheduled for 2024 (3-year monitoring cycle).

Crown-Indigenous Relations and Northern Affairs (CIRNA)

CIRNA-01: Higher than Expected Total Dissolved Solids (TDS) in Containment Pond 1 (CP1) (Follow-up from 2020 report comment #1)

Recommendation(s)

- Establish a program to measure runoff quantity and quality from Ore Stockpile 2 (OP2);
- Provide additional details and discussion of the OP2 component of the water balance model;
- Provide additional information on actual quantities and the physical and chemical nature of ore stockpiled in OP2 with emphasis on TDS loadings to CP1.

Agnico Eagle Answer

- Agnico Eagle will consider implementing a monitoring program to measure runoff quantity and quality (TDS) from Ore Stockpile 2 (OP2) for the 2022 open water season.
- As per 2021 Annual Report Answers provided to the NIRB on July 27th, 2022 (CIRNAC-1.2), the updated GoldSim Water Balance and Water Quality Model (WBWQM) results were reported in the 2021 Annual Report, Section 3.2. The primary modelling objective is the prediction of water and solute load transfers within the mine site facilities, and to the receiving environment for the period of 2019 to 2027. The GoldSim WBWQM is configured to predict the transfer of water and solute mass (loadings) from mined and non-contact areas into the relevant water management facilities. Concentrations of water quality parameters required by Type A Water Licence 2AM-MEL1631 Part F, Item 3 for all mine water management ponds and sumps are modelled, including CP1. Water quality inputs to the water quality model, or source terms, are based on either a set of assumptions that reflect empirical observations from the operating mine site, data collected at analogue mine sites, or the results of various geochemical and metallurgical tests that have been undertaken to provide a basis for assigning likely future water quality associated with specific mine components. In the GoldSim WBWQM, OP2 is represented by individual source terms, as described previously, which contribute specific water quality concentrations and corresponding solute loading to CP1 in the applied runoff.
- Table 4.3 of the Ore Storage Management Plan (Appendix 32-9 of the 2021 Annual Report) presents the actual ore quantities at year end on OP2. 2019 to 2021 numbers are the recorded state of ore pile on the 31st of December of each of the previous stated years. As stated in 2021 Annual Report Answers provided to the NIRB on July 27th, 2022 (CIRNAC-1.2), fresh ore placement on ore pad varies from year to year. A summary of the ore placement strategy is provided below.
    - High grade (HG) : For the first 4-5 years (2019 to 2024) fresh HG material retention time is in between 5 to 40 days. For the years 2025 and 2026, Open pit mining will occur mainly in high grade ore, hence mining of HG will be higher than milling capacity, and retention could be over one year until most of the ore is milled in end of the year 2026.

- Low grade: This material will only be milled to ensure mill capacity is met. This material has been stockpiled since the beginning of mine life. The low grade material may be stockpiled for a duration of 4 to 5 years, before being steadily depleted in 2023 and onward (at a rate of approximately 100,000 Tonnes/year).
- Marginal: This material will be milled at the end of mine life. The total stockpiled quantities will be around 85,000 Tonnes, stockpiled at an average rate of 12,000 Tonnes per year.

At surface, TDS in contact water originates from underground mine waste rock and ore. Waste rock and ore that originates from the open pit and surface excavations is unlikely to contribute high amounts of TDS to the contact but will still account for some loading. Material pore water that originates from the underground operations is primarily composed of natural saline groundwater. When brought to surface, some of the water contained in this material will slowly drain out or be flushed out by precipitation that infiltrates and runs off the stockpiles. As the TDS contained in the material from the underground operations is a function of the water contained and not a function of the geochemical nature of the material, the TDS loadings from this source would be expected to decrease over time based on the precipitation observed on site. Ore temporarily stockpiled in OP2 would subsequently experience a smaller quantity of moisture drainage or flushing by precipitation before being removed and processed at the mill, depending on the residence time of the material in OP2.

CIRNA-02: Surface Disposition of Waste Rock (Follow-up from 2020 report comment #3)

Recommendation(s)

Provide additional discussion on where/how waste rock was used for construction, where/how it was placed in the Waste Rock Storage Facilities (WRSFs) and Tailings Storage Facilities (TSF) and confirmation that it was placed according to approved plans and procedures.

Agnico Eagle Answer

Table 4.1 of the Mine Waste Management Plan presents the waste rock deposition information, including the quantities used for construction, for TSF closure cover, and placed in the WRSFs. Section 4.3 of the 2021 Annual Report references the Table 4.1 of the Mine Waste Management Plan for as-built and expected waste rock usage per major location.

Waste rock was placed in accordance with the Mine Waste Management Plan and relevant deposition plans. Agnico Eagle would like to refer CIRNAC to Appendices 12 and 13 of the Annual Report, presenting plans and sections of the WRSFs and the TSF at the end of 2020 and 2021.

CIRNA-03: Tailings Storage Facility (TSF) Capacity (Follow-up from 2020 report comment #4)

Recommendation(s)

Provide additional information verifying that tailings placement was in accordance with the Mine Waste Management Plan.

Agnico Eagle Answer

Tailings placement in 2021 was in accordance with the Mine Waste Management Plan. A total of 826,579 m^3 (1,363,855 t) of tailings were placed in the facility in 2021 for a remaining design capacity of 4,641,640 m^3 (7,658,706 t). Plans and cross sections of the TSF at the end of 2021 are presented in Appendix 13 of the 2021 Annual Report.

Agnico Eagle will provide a statement in future annual reports to indicate if placement was in accordance with the Mine Waste Management Plan.

CIRNA-04: Tracking Volume of Freshwater Obtained from Other Permitted Locations for Road Dust Suppression Activities (Follow-up from 2020 report comment #10)

Recommendation(s)

Include more detailed information regarding the locations of small ponds proximal to the All-Weather Access Road (AWAR), from which water is taken for dust suppression, as well as the breakdown of the monthly and annual volumes of freshwater obtained from each of these locations.

Agnico Eagle Answer

In 2021, no water was taken from ponds proximal to the AWAR for use as a dust suppressant.

CIRNA-05: Quantities of Ore Production and Storage

Recommendation(s)

- Discuss and clarify apparent discrepancies in information provided for ore storage in 2021 (1,950,544 tonnes mined vs. 1,714,892 tonnes of tailings deposited);
- Provide maximum tonnes of ore stored on site in any month in 2021;
- Provide maximum tonnes of ore stored in OP2 in any month in 2021;
- Provide descriptions and discussions of “ore stockpiles on site, excluding major locations” presented in Table 12 of Section 4.3, Waste Rock Volume, and show where this ore is stored.

Agnico Eagle Answer

Agnico Eagle thanks CIRNAC for their comment.

- Ore materials removed from the underground are transported to surface and placed in temporary stockpiles within OP1 and/or OP2 before being moved to the milling storage facility. Most of the time material on OP1 will be sent to OP2 before going to the mill to free up space for other ore material from underground. To clarify, the total tonnes mined in 2021 corresponds to 1,950,544 tonnes, which includes 1,714,892 tonnes of tailings deposited as well as 245,652 tonnes of ore added to stockpile in 2021.

- Table 4-3 (in the Ore Storage Management Plan) represents quantities of ore at year end. 2019 to 2021 numbers are the recorded state of ore pile on the 31st of December of each of the stated years.

- Fresh ore placement on ore pad varies from year to year.
    - High grade (HG): For the first 4 years (2019 to 2024) fresh HG material retention time is between 5 to 40 days. For the years 2025 and 2026, Open pit mining will occur mainly in high grade ore, hence mining of HG will be higher than milling capacity, and retention could be over one year until most is milled in end of 2026.
    - Low grade: This material will only be milled to ensure mill capacity is met. This material has been stockpiled since the beginning of mine life. Low grade ore can be stockpiled for 4 to 5 years, before being steadily depleted in 2023 and onward (approx. 100,000 T/year).
    - Marginal: This material will be milled at the end of mine life. The total stockpiled quantities will be around 85,000 T, stockpiled at an average of 12,000 T per year.

- As stated in the ore management plan section 4.1, the only ore storage locations are OP2 (Stage 1 and 2) and OP1, which is a temporary storage location for underground trucks before material is transferred to OP2 with surface equipment.

CIRNA-06: Quantities of Waste Rock Production and Storage

Recommendation(s)

- Clarify discrepancies in waste rock production reported in the body of the Annual Report and Mine Waste Management Plan;
- Provide descriptions and discussions of “waste rock stockpiles on site excluding major locations” presented in Table 12 of Section 4.3, Waste Rock Volume.

Agnico Eagle Answer

- Agnico Eagle thanks CIRNAC for their comment and remains available to discuss discrepancies identified by CIRNAC in the body of the Annual Report and Mine Waste Management Plan.
- Waste rock materials removed from the underground development are transported to surface and placed in temporary stockpiles within OP1 and/or OP2 before being moved to the appropriate storage facility or utilized for construction activities.

CIRNA-07: Management Plans

Recommendation(s)

Mine Waste Management Plan (MWMP):

- Update Tables 3.3, 4.1, 4.2 so that the actual quantities are clearly identified with an asterisk (*);
- Provide information illustrating actual vs. Final Environmental Impact Statement (FEIS) predicted quantities of overburden, waste rock and tailings;
- Include an actual as built plan or actual as built sections of the TSF for each year of the report.

Ore Storage Management Plan (OSMP):

- Update OSMP so that the actual quantities are clearly identified with an asterisk (*);
- Provide information illustrating actual vs. FEIS predicted quantities of ore stored annually;
- Assess the modelled and actual runoff quality, quantity and TDS loads from the ore storage area and investigate if viable alternatives to surface runoff from the ore storage to CP1 could be developed so as to reduce TDS levels in CP1 and discharge to Meliadine Lake.

Water Management Plan (WMP):

- Replace the Site Location and Mine Site Layout dated 1-22-2020 of Appendix A of the Meliadine Groundwater Management Plan (GMP), which is Appendix A of the WMP.

Agnico Eagle Answer

Agnico Eagle thanks CIRNAC for their comment.

Mine Waste Management Plan (MWMP):

- Tables 3.3, 4.1 and 4.2 will be updated in future versions of the MWMP to clearly identify actual quantities with an asterisk.
- Agnico Eagle would like to refer CIRNAC to 2021 Annual Report Answers provided to the NIRB on July 27th, 2022 (CIRNAC-4). The comparison with FEIS predicted quantities will be provided in future annual reports.

Year	Actual Waste Rock tonnage	FEIS Waste Rock predicted tonnage[1]	Actual Ore Tonnage	FEIS Ore predicted tonnage[1]
2019	718,955	13,416,000	1,108,666	661,000
2020	4,003,532	38,017,000	1,402,899	2,370,000
2021	5,081,872	37,800,000	1,960,544	3,501,000

1 From FEIS SD 2-8 Mine Waste Management Plan – Meliadine Gold Project, Nunavut, Table 1 (Agnico Eagle 2014)

- Agnico Eagle would like to refer CIRNAC to Appendix 13 of the Annual Report, presenting TSF plans and sections at the end of 2020 and 2021. The plans and sections will be included in future annual reports as well.

Ore Storage Management Plan (OSMP):

- The future versions of the OSMP will clearly identify the actual quantities with an asterisk (*);
- Agnico Eagle would like to refer CIRNAC to 2021 Annual Report Answers provided to the NIRB on July 27th, 2022 (CIRNAC-4) and to the Table presented above. The comparison with FEIS predicted quantities will be provided in future annual reports.
- Agnico Eagle will consider implementing a monitoring program to measure runoff quantity and quality (TDS) from Ore Stockpile 2 (OP2) for the 2022 open water season. If practical, TDS loads will be assessed and compared to model results. Should monitoring results reveal source term water quality inputs in the model to not be representative of current or future TDS loading conditions, appropriate adjustments to the model will be made. Per Water Licence A, Part E, Item 13, an updated Water Balance and Water Quality Forecast (i.e. model) will be provided in the Annual Report.

Water Management Plan (WMP):

- Agnico Eagle thanks CIRNAC for their comment and will update Appendix A of the Meliadine Groundwater Management Plan (GWMP), which is Appendix A of the WMP in future versions of the management plans.

CIRNA-08: Inspection Reports and/or Compliance Reports

Recommendation(s)

In future Annual Reports, provide an appendix containing reports of all formal inspections/compliance carried out during the reporting year.

Agnico Eagle Answer

Agnico Eagle thanks CIRNA for their recommendation. Agnico Eagle would like to refer CIRNA to section 10.2 of the Annual Report, summarizing formal inspection/compliance reports from regulators. As per the NWB Water Licence 2AM-MEL1631, Schedule B, Item 24, a summary of

actions taken to address concerns or deficiencies listed in the inspection reports and/or compliance reports filed by an Inspector will continue to be presented in future Annual Reports.

CIRNA-09: Geotechnical Inspection Concerns/Issues

Recommendation(s)

- Add a section to the Geotechnical Inspection Report that provides clear and concise information on the status of any permafrost degradation that may be occurring on site;
- Continue monitoring of soft ground conditions in 2022 between CP6 and WRSF to determine if additional waste rock is needed to mitigate associated risks;
- Carry out repairs at AWAR Culvert 25.8 km and Culvert 26.8 km during open water season 2022;
- Carry out repairs at Bridge M- 5 during open water season 2022.

Agnico Eagle Answer

Agnico Eagle thanks CIRNAC for their comment.

- As per 2020 Annual Report Answers provided to the NWB on September 10th, 2021 (CIRNAC-07), Agnico Eagle wishes to clarify both the Annual Geotechnical Inspection and related report are carried out according to Agnico Eagle's Water Licence and Project Certificate requirements. Agnico Eagle monitors and maps permafrost conditions through its thermal monitoring program, results of which are in the Annual Geotechnical Inspection Report.
  For consistency purposes and to facilitate yearly comparisons between the reports, Agnico Eagle does not believe CIRNAC's proposed change to the structure of the Annual Geotechnical Report is necessary at this time.
- As per Appendix 8 of the 2021 Annual Report (2021 Annual Geotechnical Report Agnico Eagle Responses and Action Table), Agnico Eagle will keep monitoring the localized settlement between WRSF3 and CP6 and carry out repairs as needed.
- As per Appendix 8 of the 2021 Annual Report (2021 Annual Geotechnical Report Agnico Eagle Responses and Action Table), Agnico Eagle did clear the culvert inlets at km 25.8 and 26.8 during the 2022 open water season.
- As per Appendix 8 of the 2021 Annual Report (2021 Annual Geotechnical Report Agnico Eagle Responses and Action Table), an inspection of the bridge was carried out by Jivko Engineering on August 25th, 2022 to assess the structure of the bridge and determine if repairs or replacement of the gabion is required. No immediate risks were identified and the complete report will be available at a later date.

CIRNA-10: Impacts of Effluent Discharge on Phytoplankton in Meliadine Lake

Recommendation(s)

Given the recent observation of algal blooms in Meliadine Lake, which is a clear indication that something is affecting the phytoplankton community in Meliadine Lake, CIRNAC recommends that AEM should conduct additional studies to determine the root cause of the algal blooms and determine whether the impact is the direct result of effluent discharge to Meliadine Lake.

Agnico Eagle Answer

Data from the multi-year phytoplankton study conducted annually in August has not shown evidence of “algal blooms” in Meliadine Lake. Cyanobacteria, which are commonly associated with algal blooms related to nutrient enrichment, comprise less than 1% of the phytoplankton biomass in Meliadine Lake (see Figure 6-4 and Table 6-8). Phytoplankton biomass and the overall composition of the community has remained fairly consistent since 2015. Chrysophytes are the dominant taxa in terms of biomass throughout Meliadine Lake, which is consistent with baseline data collected in the late 1990’s for the Environmental Assessment.

Since 2015, phytoplankton biomass in the east basin of Meliadine Lake (near-field area) has measured between 300 and 450 mg/m^3. The phytoplankton community has consistently been more abundant in the east basin compared to the mid-field and reference areas before and after Agnico Eagle started discharging effluent to Meliadine Lake in 2018. Chlorophyll-a concentrations, which are another indicator of primary productivity, have trended higher at the near-field and mid-field areas since 2015.

Prior to 2018, discharge to Meliadine Lake came from the sewage treatment plant at the Exploration Camp and the temporary diffuser installed in 2016 to dewater Lake H17 to create CP1. Sewage from the Exploration camp, specifically phosphorus, was implicated in higher primary productivity during the pre-construction and construction phase (Golder, 2019). Diversion of sewage from Exploration Camp combined with installation of the sewage treatment plant at the permanent camp has resulted in a marked reduction in phosphorus loading to Meliadine Lake since 2017 (Figure 6-1). In-depth analysis of nutrient productivity relationships in Section 6.6.5 showed nitrogen and phosphorus are not influencing phytoplankton biomass.

It's important to remember that the FEIS concluded that the concentration of nitrogen would increase in the east basin of Meliadine Lake, which in turn could result in a shift in phytoplankton community structure. However, only a minor change in phytoplankton community structure was predicted compared to baseline conditions and phytoplankton productivity was predicted to remain similar to baseline. The results from the 2021 phytoplankton study demonstrate that effluent is not causing a shift in the phytoplankton community in the near-field or mid-field areas of Meliadine Lake as predicted. The temporal trend of increasing chlorophyll-a concentrations will be monitored along with phytoplankton biomass, community composition (multivariate analysis) and water quality data in the weight-of-evidence assessment of the health of the phytoplankton community.

Environment and Climate Change Canada (ECCC)

ECCC-1: Radium-226 Units

Recommendation(s)

Confirm the units for Radium-226 as Bequerels/liter (Bq/L) or provide the conversion done for milligrams/liter (mg/L).

Agnico Eagle Answer

As per 2021 Annual Report Answers provided to the NIRB on July 27th, 2022 (ECCC-1), the units for Radium-226 shown in Appendix 5 – Table 4 were mistakenly identified as mg/L. The values presented are indeed in units of Bq/L.

ECCC-2: Ammonia and Total Phosphorus in CP1

Recommendation(s)

- Review the modeling for ammonia (NH3) and total phosphorus (TP) in CP1 to identify the source of the discrepancy in observed vs predicted concentrations,

- Conduct limited winter sampling to identify TP levels under ice to validate the predicted spikes in TP concentrations due to cryoconcentration and/or internal recycling of phosphorus.

Agnico Eagle Answer

As per 2021 Annual Report Answers provided to the NIRB on July 27th, 2022 (ECCC-2), in their comment, ECCC states that higher chlorophyll-a – documented in the 2021 AEMP by Agnico Eagle – may be consistent with nutrient export from CP1, but not consistent with lower [nutrient] levels in CP1. However, Agnico Eagle believes an increase in algal production in CP1 may result in higher chlorphyll-a in the receiving environment and be consistent with lower nutrient levels in CP1 for the following reason. Agnico Eagle hypothesizes that algal growth in CP1 may be responsible for the attenuation (i.e. reduction in concentration) of ammonia (NH_3) and total phosphorus (TP) in CP1, as the nutrients would undergo metabolic alteration for algal energy production and thus a water quality analysis would result in lower detectable concentrations of NH_3 and TP after they have been consumed by algae. Although this would result in increased chlorophyll-a in the receiving environment, it would also result in the reduction of detectable NH_3 and TP in CP1. As algal growth is not a modeled component of the Water Balance and Water Quality Model (WBWQM), the nutrient levels in CP1 would subsequently fall lower than model predictions under this hypothesis.

Agnico Eagle acknowledges the recommendation by ECCC and consideration will be given to the recommendation and Agnico Eagle will assess how best to account for it in future annual reports.

ECCC-3: AEMP Design Plan - Definitions for IC25 and QA/QC Blanks

Recommendation(s)

• Correct definition for IC25 from “inhibition concentration affecting 25% of tested organisms” to “effluent concentration that causes a 25% inhibitory effect in the sublethal endpoint being measured”;
• Revise the descriptions of travel and field blanks in the AEMP Design QA/QC section on page 44.

Agnico Eagle Answer

As per 2021 Annual Report Answers provided to the NIRB on July 27th, 2022 (ECCC-3), the definition of the IC25 has been updated as requested, the modification will be included for the final version of the AEMP Design Plan.

The descriptions of the travel, field, and equipment blanks on page 44 of the AEMP Design Document were adapted from the BC Field Sampling Manual (2013) and the Protocol Manual for Water Sampling in Canada (CCME, 2011 A description of each blank is provided in response to ECCC-4.

ECCC-4: AEMP Design Plan - QA/QC Blanks

Recommendation(s)

Clarify the use of QA/QC blanks, noting the different purposes between field and travel blanks.

Agnico Eagle Answer

As per 2021 Annual Report Answers provided to the NIRB on July 27th, 2022 (ECCC-4), the three types of blanks collected as part of the water quality QC assessment are:

- Travel Blanks – Travel blanks, or trip blanks, consist of de-ionized (DI) water provided in sampling bottles by ALS and receive the same treatment as field samples during shipment, handling, storage, and laboratory analysis. Trip blanks are meant to detect any widespread contamination resulting from the container (including caps) and preservative during transport and storage. Travel blanks should (1) be included in sample container shipments, (2) come directly from the analytical laboratory and (3) be stored in a cool place (e.g., refrigerator).

- Field Blank (*aka deionized water blank [DI blank])* – Laboratory-supplied deionized water is poured directly into the sample bottles. Field blanks are used to detect potential contamination caused by from bottles, collection methods, the atmosphere, and preservatives. The field blank mimics the water sample except the deionized water does not come in contact with the sampling device (pump and tubing in the winter and Kemmerer during the open water season).
- Equipment Blanks – At the beginning or end of a field sampling episode, after routine rinsing of the pump and tubing or Kemmerer, distilled water is run through the equipment and placed in sampling bottles for analysis of a wide suite of parameters (e.g., metals, nutrients, and major ions). This sample tests for possible cross-contamination of samples from the water sampling equipment.

Travel blanks are recommended for the AEMP, but in 2021, none of the sampling events included travel blanks, this will be addressed during the 2022 AEMP sampling season.

ECCC-5: AEMP Design Plan - Low Action Levels – Phytoplankton Assessment Criteria

Recommendation(s)

Revise the Phytoplankton Assessment Criteria statement to specify “below” or “outside” rather than “beyond” the range of baseline/reference conditions and include the footnote (c).

Agnico Eagle Answer

As per 2021 Annual Report Answers provided to the NIRB on July 27th, 2022 (ECCC-5), Agnico Eagle agrees with ECCC’s recommendation. The assessment criteria was revised to state “outside the the range of baseline/reference conditions”.

Footnote (c) has been updated to correctly cross-reference Table 5-11 that lists the endpoints that are included in the fish health assessment. The reference to tissue chemistry was removed from this footnote because the assessment criteria for “Fish Usability” is discussed in the last row of Table 8-2. The changes will be applied for the final AEMP Design Plan.

ECCC-6: AEMP Design Plan - Proposed Action Levels for Nutrient Enrichment Hypothesis

Recommendation(s)

Amend the third condition to trigger Low Action Level for Water Quality presented in Table 8-3 of the AEMP Design Plan from “Lake-wide average phosphorus concentration exceeds 75% of

AEMP Benchmark" to "Near-field average phosphorus concentration exceeds 75% of AEMP Benchmark".

Agnico Eagle Answer

As per 2021 Annual Report Answers provided to the NIRB on July 27th, 2022 (ECCC-6), the AEMP Action Level for phosphorus will be applied to the near-field area. However, Agnico Eagle wants to emphasize that phosphorus concentrations are only one line of evidence used to assess nutrient enrichment caused by effluent. Increases in total phosphorus in the East Basin suggests the potential for nutrient enrichment, but any conclusions about the potential for nutrient enrichment need to be supported by more relevant lines of evidence that directly assess phytoplankton productivity, namely total biomass and chlorophyll-a concentrations.

ECCC-7: Tissue Chemistry – Threespine Stickleback

Recommendation(s)

Considering that fish tissue results from MEL-01 in 2021 documented higher concentrations of calcium, arsenic, manganese, strontium, and uranium in Threespine Stickleback compared to the reference areas and compared to baseline tissue chemistry results from 2015, continued monitoring and evaluation of parameters that are showing consistent increases in biotic and abiotic components of the Meliadine Lake ecosystem.

Agnico Eagle Answer

As per 2021 Annual Report Answers provided to the NIRB on July 27th, 2022 (ECCC-7), chemistry analysis in sediment fish tissue is part of the AEMP Design Plan. The next monitoring program is scheduled for 2024 (3-year monitoring cycle).

ECCC-8: Acid Rock Drainage (Follow-up from 2020 report comments #5 and #6)

Recommendation(s)

Implement a monitoring plan to verify the conclusion that filtered tailings are classified as uncertain.

Agnico Eagle Answer

Agnico Eagle thanks ECCC for their comment related to filtered tailings ARD potential.

As per 2021 Annual Report Answers provided to the NIRB on July 27th, 2022 (ECCC-8), Agnico Eagle would like to reiterate the fact that the *uncertain* classification indicates that there is an uncertain chance that the tailings samples in question have the potential to produce ARD. This classification of uncertain potential is also for sulphidic material that is in a fully oxygenated

atmosphere and above freezing conditions. Despite the uncertain classification of tailings samples, physical drainage remains a key component to ARD. As such, management of the tailings in a dry, compacted, and frozen facility will ensure that the potential of these tailings to produce ARD is inhibited, and subsequently will not pose an ARD risk for the site. The progressive covering of the tailings during operations, limited oxygen availability, and low potential for contact with water further mitigate conditions for ARD generation. Furthermore, it should be noted that during early mining operations, some of the highest grade material was targeted, which would also result in ore with highest sulphur content being processed. In 2021, filtered tailings ARD potential decreased compared to previous years. It is expected that this decreasing trend will continue as the mine develops, and lower grade material from underground, but notably the open pits is processed.

Several monitoring programs are in place at Meliadine related to filtered tailings ARD potential, which are detailed in the 2021 Annual Report and summarized below.

Tailings freeze-back is monitored monthly through the four (4) thermistors installed in 2019. The 2021 data indicates that tailings material monitored by the thermistors were generally frozen by December 2021. Temperatures in the original ground below the TSF were continuously below 0°C throughout 2021. Figures displaying the GTC data from the various TSF thermistors are located in Appendix I of the 2021 Geotechnical Inspection Report (Appendix 6 of the 2021 Annual Report). Thus, ground temperature monitoring data collected in 2021 supports the statement above, that the tailings are being stored in a facility that has frozen back (i.e. re-develop permafrost) and inhibit water movement within a few years of placement. As stated above, this will have the effect to slow the reaction rates and to limit the ARD risk related to the *uncertain* classification of the filtered tailings.

In addition, routine visual geotechnical inspections of the TSF are carried out on a weekly basis as per the Mine Waste Management Plan. Filtered tailings geochemical sampling is carried out bi-monthly and results are reviewed internally as they become available to ensure there is no risk to the receiving environment.

Surface water in contact with the TSF is collected in Containment Ponds 1 and 3 (CP1 and CP3). Water quality in CP1 and CP3 (and in other containment ponds) is monitored on a monthly basis as per the Type A Water Licence during the open water season. This monitoring will allow the identification of trends in water chemistry (acidity, metals and other parameters), if any, that could potentially indicate a change in ARD/ML conditions of the TSF.

The geotechnical, geochemical and surface water quality monitoring programs described above are ongoing at Meliadine and will be reported in future annual reports as per usual practice.

ECCC-9: Dustfall

Recommendation(s)

Assess the impact of the heavier 2021 summer precipitation on the reduced rate of dustfall.

Agnico Eagle Answer

As per 2021 Annual Report Answers provided to the NIRB on July 27th, 2022 (ECCC-9), Agnico Eagle appreciates and agrees with ECCC's comment that precipitation may have also influenced road dust generation in 2021. Agnico Eagle understands that in fact, many environmental factors such as precipitation, temperature, and wind speed can influence rates of fugitive dust, in combination with use scenarios, road material, and dust suppressant application. For clarity, the objective of this report with regards to road dust is to document current conditions and trends in measured dustfall, and indicate the best management practices that are in place to help minimize dust generation. While a basic commentary on potential reasons for observed trends is provided, Agnico Eagle notes that rates of dustfall are assumed due to a complex interaction of the above-mentioned factors. These factors have well-established relationships used in air quality modelling, and any validation of those relationships is beyond the scope and design of this monitoring program.

Nevertheless, Agnico Eagle has conducted a basic review of summer precipitation rates in relation to dustfall results since 2019 when roadside transect sampling began. Precipitation recorded by the Rankin Inlet weather station was reviewed, since automated precipitation monitoring didn't begin at Meliadine until 2020. As ECCC indicates in their comment, total summer precipitation in 2021 was greater than 2020 (Table 1), which in isolation would lead to a reduction in fugitive dust year-over-year. However total precipitation in 2019 was greater than 2020 and 2021, yet measured average dustfall was not lowest in 2019 (Figure 1), indicating that, as would be expected and discussed above, other factors also have an important impact on dust generation.

Agnico Eagle will continue to apply dust suppressant and other best management practices to control fugitive dust along the AWAR in accordance with the Road Management Plan, and will continue to document and report rates of dustfall according to the Air Quality Monitoring Plan.

Table 1. Monthly total precipitation (mm) at the Rankin Inlet A weather station.

Month	2019	2020	2021
June	27.2	4.8	14.1
July	112.8	7.6	73
August	112.9	32.5	60.6
Total	**252.9**	**44.9**	**147.7**

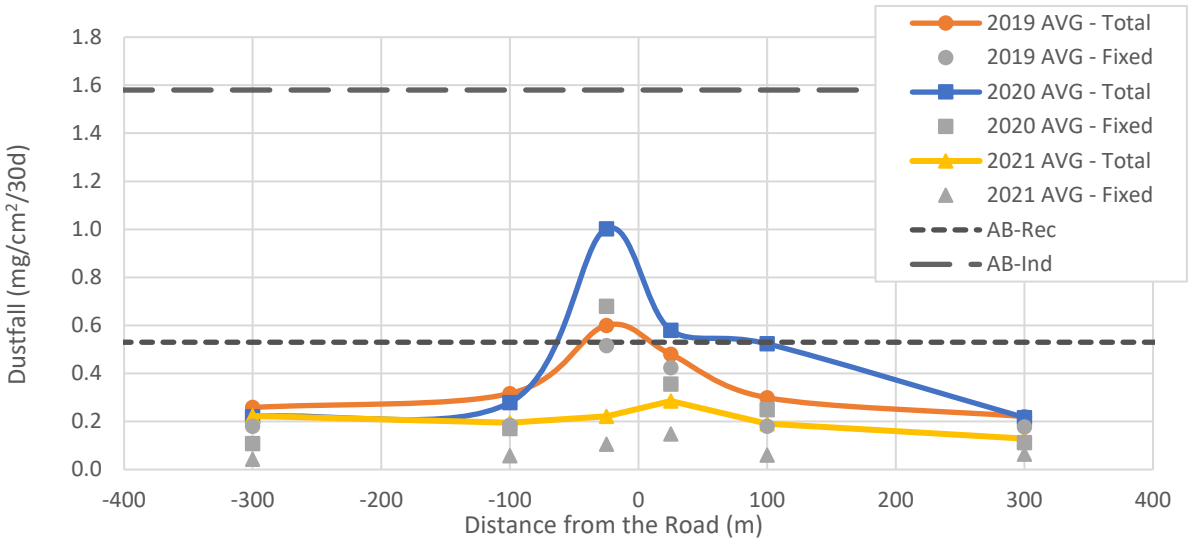


Figure 1 (Figure 22 in the 2021 Air Quality Monitoring Report). Average 30-day-normalized rates of total and fixed dustfall for summertime sampling transects DF-1, DF-2, and DF-3 along the Meliadine AWAR. Symbols represent average measured dustfall across transects and sampling dates (2-3 consecutive 30-d periods) within each year. Negative values represent the west (upwind) side of the road. Dashed lines indicate the Alberta Ambient Air Quality Guideline for recreational and industrial areas.

ECCC-10: Relative Humidity

Recommendation(s)

Perform a quality assurance of the relative humidity data

Agnico Eagle Answer

As per 2021 Annual Report Answers provided to the NIRB on July 27th, 2022 (ECCC-10), upon review, values presented in Appendix B of the 2021 Air Quality Monitoring Report are maximum daily relative humidity, rather than average as indicated in the table caption. Average daily relative humidity is not specifically recorded by the Meliadine weather station. Agnico Eagle appreciates

ECCC’s thorough review and assistance in identifying this error and will ensure this is corrected in future annual reports.