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NUNAVUT WATER BOARD  
NUNAVUT IMALIRIYIN KATIMAYINGI  
OFFICE DES EAUX DU NUNAVUT

**Files: 2AM-MEA1530  
2AM-WTP1830**

February 1, 2023

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**RE: Licences No: 2AM-MEA1530, Meadowbank Gold Mine Project;  
2AM-WTP1830, Whale Tail Pit Project;  
Agnico Eagle Mines Limited;  
2021 Annual Report Review**

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Dear Alexandra Ozaruk:

The Nunavut Water Board (NWB or Board) has completed a technical review of the 2021 Annual Report (the Report) for Type “A” Water Licences 2AM-MEA1530 and 2AM-WTP1830 (Meadowbank Licence, Whale Tail Pit Licence, or Licences). The Report was received on May 10, 2022 from Agnico Eagle Mines Limited (Agnico Eagle or Licensee), submitted as a requirement under Part B of the Licences.

Copies of all documents received during Report review can be accessed through the NWB’s Public Registry and FTP site using the following links:

[ftp://ftp.nwb-oen.ca/registry/2%20MINING%20MILLING/2A/2AM%20-%20Mining/2AM-MEA1530%20Agnico/3%20TECH/1%20GENERAL%20\(B\)/2%20ANNUAL%20RPT/2021/](ftp://ftp.nwb-oen.ca/registry/2%20MINING%20MILLING/2A/2AM%20-%20Mining/2AM-MEA1530%20Agnico/3%20TECH/1%20GENERAL%20(B)/2%20ANNUAL%20RPT/2021/)

and

<ftp://ftp.nwb-oen.ca/registry/2%20MINING%20MILLING/2A/2AM%20-%20Mining/2AM-WTP1830%20Agnico/3%20TECH/B%20GENERAL/2%20ANNUAL%20RPT/>

On May 11, 2022, the NWB distributed the Report for public review. Submissions were received from Kivalliq Inuit Association (KivIA), Crown-Indigenous Relations and Northern Affairs (CIRNA), and Environment and Climate Change Canada (ECCC) on or before August 11, 2022. The table below provides a brief summary of issues that were found outstanding during the Report review, pertaining to the NWB’s mandate. The table provides deadlines for the Licensee to respond

to respective recommendations and concerns. For the intervenors' discussion of these items, please refer to the comment submissions referenced above.

**Table 1. Intervener Recommendations and Concerns**

No.	Licence No:	Intervener Recommendation / Concern	Deadline to Respond by and Notes
<b>Kivalliq Inuit Association (KivIA)</b>			
1	2AM-WTP1830	Should higher levels of aluminium dosing prove insufficient for phosphorus removal at the Whale Tail Sewage Treatment Plant, please reconsider the Re300 chemistry.	Subsequent annual reports
2	2AM-WTP1830	The KivIA supports the Receiving Environment Monitoring Program (CREMP) recommendation that the full CREMP program is conducted at Whale Tail for 2022, including monthly through-ice limnology profiles at MAM, WTS, and NEM.	March 31, 2024 (2023 Annual Report)
<b>Crown-Indigenous Relations and Northern Affairs (CIRNA)</b>			
R-01	2AM-WTP1830	<p>CIRNA notes increased concentrations of arsenic at the IVR pit in comparison with the predicted values and the Site-Specific Water Quality Objective (SSWQO). CIRNA also expresses concern about greater than predicted volume of contact water. The intervenor points out that Agnico Eagle “continues to indicate that water quality predictions are accurate within one order of magnitude”.</p> <p>CIRNA recommends that the Licensee “address the following in the next iteration of the Whale Tail Interim Closure and Reclamation Plan (ICRP):</p> <ul style="list-style-type: none"> <li>a) Clearly indicate which modelling parameters have been adjusted since the last modelling run. In situations where the level of conservatism has been reduced relative to Final Environmental Impact Statement (FEIS) predictions, appropriate justification should be provided.</li> <li>b) Future modelling results should explicitly and quantitatively report the range of predicted modelling outcomes based on AEM's assumptions regarding model prediction accuracy (i.e., +/- one order of magnitude). Any required mitigations should be based on a reasonable worst-case scenario. For example, what actions would be required if post-closure arsenic concentrations in Mammoth Lake are at the upper end of the potential prediction range (i.e., ten times the SSWQO)?</li> <li>c) Water quality predictions should clearly</li> </ul>	Subsequent annual reports

		indicate the spatial extent of post-closure water quality exceedances within surface water receivers.”	
R-02	2AM-MEA1530, 2AM-WTP1830	<ul style="list-style-type: none"> <li>a) Provide the results of its internal investigation into the cause of the 10 September 2021 release at Meadowbank.</li> <li>b) Carry out a review as to why there are year over year repeated observations of secondary containment concerns related to both liner integrity and water ponding within the secondary containment systems.</li> <li>c) Address any findings and recommendations of the review to ensure environmental risks are mitigated through compliance and due diligence.</li> </ul>	May 31, 2023 and subsequent annual reports
R-03	2AM-MEA1530, 2AM-WTP1830	<ul style="list-style-type: none"> <li>a) Assess and summarize non-reportable spills by their nature, location, etc. for the annual report and use that information to improve spill prevention and management.</li> <li>b) Provide more detailed information in the document control table of each management plan describing the changes that were made to each revision of the Plan or come up with an alternate system to improve the traceability of changes, e.g., tracked or highlighted changes.</li> <li>c) Provide an appendix that includes Inspection Reports and Responses for any Inspection Requirements.</li> </ul>	Subsequent annual reports
Environment and Climate Change Canada (ECCC)			
1	2AM-MEA1530	<p>ECCC requests that Agnico Eagle provide the conclusions, when available, of their investigation for the cause of the exceedances in dioxin and furan levels that occurred during the November 2021 stack tests.</p> <p>ECCC recommends the Agnico Eagle provide a targeted time frame for 2022 stack testing. Given that freezing may have been a significant factor for the 2021 tests, ECCC recommends that the Licensee perform 2022 stack testing prior to the onset of freezing conditions.</p>	March 31, 2023 (2022 Annual Report)
4	2AM-MEA1530	<p>ECCC requests clarification on the timing as to what actual years the Water Quality Years and the Scenario Years correspond to, and the rationale for using the various scenario comparison years chosen rather than the most recent year available for predicted concentrations.</p> <p>ECCC recommends that measured total metals be compared to the Canadian Council of Ministers of the Environment (CCME) guidelines and Metal and</p>	March 31, 2023 (2022 Annual Report)

		Diamond Mine Effluent Regulations (MDMER) criteria. ECCC recommends the Licensee update Figure 12 in section 4.4.3.1 with the missing 2014 data and update the description of comparisons for Phaser Pit with the correct metal.	
5	2AM-MEA1530	ECCC recommends that the work planned for understanding conditions in receiving water bodies be described such that the focus is not on quantifying levels of contaminants that can be discharged, noting that the objective is to maintain baseline or guideline/protective water quality in the lakes.	Subsequent annual reports
6	2AM-MEA1530	ECCC requests: <ul style="list-style-type: none"> <li>• clarification of the 2026 water balance volumes associated with the mill and Tear Drop Lake;</li> <li>• clarification of the significance of highlighted cells and rows in the tables; and</li> <li>• provision of post-closure flow schematics.</li> </ul>	March 31, 2023 (2022 Annual Report)
7	2AM-MEA1530	ECCC recommends use of the updated Federal Water Quality Guideline (FWQG) for aluminium.	Subsequent annual reports
8	2AM-MEA1530, 2AM-WTP1830	ECCC recommends that figures in future report iterations include the water licence limit as a reference point on the graphs were missing for cyanide, arsenic and lead.	Subsequent annual reports
9	2AM-MEA1530	ECCC requests clarification regarding how pore water quality in the pits has been accounted for in the modeling update.  ECCC supports the recommendation in Section 6.2 to regularly analyse pit water quality, and recommends that various depths be monitored, including near the tailings/water interface.	March 31, 2023 (2022 Annual Report)  Subsequent annual reports
10	2AM-MEA1530	ECCC recommends that the Licensee identify alternative investigations for the source of the elevated arsenic and chloride concentrations at Pit-E Seepage location and copper at Pit-A east if needed wall seepage samples cannot be collected.	May 31, 2023
11	2AM-MEA1530, 2AM-WTP1830	ECCC recommends that the Proponent update Table 2-2 of the Quality Assurance/Quality Control (QA/QC) Plan to reflect the current practices and confirm that the minimum frequency of 10% is met for groundwater samples and mine facilities samples.	March 31, 2023 (2022 Annual Report)
12	2AM-MEA1530	ECCC requests clarification on: <ul style="list-style-type: none"> <li>• why only 90% of the Tailings Storage Facility surface area are covered with Non-Acid Generating rock whereas 10% are not; and</li> </ul>	March 31, 2023 (2022 Annual Report)

		<ul style="list-style-type: none"> <li>• how Agnico Eagle intends to keep the saturation of the tailings above 85% at all times.</li> </ul>	
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The NWB notes that Agnico Eagle submitted the following updated management plans with the 2021 Annual Report.

**Table 2. Submitted Management Plans**

Licence No.	Management Plan
2AM-MEA1530	<ul style="list-style-type: none"> <li>• <i>Meadowbank Mine Waste Rock and Tailings Management Plan</i>, Version 12 dated March 2022;</li> <li>• <i>2021 Water Management Plan</i>, Version 10 dated March 2022;</li> <li>• <i>Meadowbank Complex Incinerator Waste Management Plan</i> Version 9 dated March 2022;</li> <li>• <i>Dewatering Dikes Operation, Maintenance and Surveillance Manual</i> Version 9 dated November 2021;</li> <li>• <i>Meadowbank Complex Tailings Management Operation, Maintenance and Surveillance Manual</i> Version 10 dated July 2021;</li> </ul>
2AM-WTP1830	<ul style="list-style-type: none"> <li>• <i>Whale Tail Project – Waste Rock Management Plan</i>, Version 9 dated March 2022;</li> <li>• <i>Water Management Plan</i>, Version 9 dated March 2022;</li> <li>• <i>Whale Tail Project Thermal Monitoring Plan</i> Version 4 dated March 2022;</li> <li>• <i>Whale Tail Project Water Management Infrastructure Operation, Maintenance and Surveillance Manual</i> Version 2 dated November 2021;</li> </ul>
2AM-MEA1530 and 2AM-WTP1830	<ul style="list-style-type: none"> <li>• <i>Meadowbank and Whale Tail Bulk Fuel Storage Facility: Environmental Performance Monitoring Plan</i>, Version 6.1 dated March 2022;</li> <li>• <i>Ammonia Management Plan</i>, Version 4 dated December 2021;</li> <li>• <i>Hazardous Materials Management Plan</i>, Version 7 dated March 2022;</li> <li>• <i>Spill Contingency Plan</i>, Version 16 dated April 2022;</li> <li>• <i>Emergency Response Plan</i>, Version 17 dated October 2021;</li> <li>• <i>Oil Handling Facility: Oil Pollution Emergency Plan and Oil Pollution Prevention Plan</i>, Version 15 dated March 2022;</li> <li>• <i>Quality Assurance / Quality Control (QA/QC) Plan</i>, Version 7 dated March 2022.</li> </ul>

The Board advises that the following management plans address the requirements of the Licences:

- For the Meadowbank Licence:
  - *Meadowbank Complex Incinerator Waste Management Plan* Version 9 dated March 2022;
  - *Dewatering Dikes Operation, Maintenance and Surveillance Manual* Version 9 dated November 2021;
  - *Meadowbank Complex Tailings Management Operation, Maintenance and Surveillance Manual* Version 10 dated July 2021;
- For the Whale Tail Pit Licence:
  - *Whale Tail Project – Waste Rock Management Plan*, Version 9 dated March 2022;

- *Whale Tail Project Water Management Infrastructure Operation, Maintenance and Surveillance Manual* Version 2 dated November 2021;
- *Whale Tail Project Thermal Monitoring Plan* Version 4 dated March 2022;
- For both Meadowbank Licence and Whale Tail Pit Licence:
  - *Meadowbank and Whale Tail Bulk Fuel Storage Facility: Environmental Performance Monitoring Plan*, Version 6.1 dated March 2022;
  - *Ammonia Management Plan*, Version 4 dated December 2021;
  - *Hazardous Materials Management Plan*, Version 7 dated March 2022;
  - *Emergency Response Plan*, Version 17 dated October 2021;
  - *Oil Handling Facility: Oil Pollution Emergency Plan and Oil Pollution Prevention Plan*, Version 15 dated March 2022.

If you have any questions, please contact the undersigned at [assol.kubeisinova@nwb-oen.ca](mailto:assol.kubeisinova@nwb-oen.ca) or (867) 360 6338.

Best regards,

Assol Kubeisinova  
Nunavut Water Board  
Technical Advisor

CC: Distribution list - Meadowbank  
Attachments: KivIA, CIRNA, ECCC