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NUNAVUT WATER BOARD  
NUNAVUT IMALIRIYIN KATIMAYINGI  
OFFICE DES EAUX DU NUNAVUT

**Files: 2AM-MEA1526, 2AM-WTP1826**

August 13, 2019

Marie-Pier Marcil  
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**RE: Licences No. 2AM-MEA1526, 2AM-WTP1826 Type “A”; Meadowbank Gold Mine Project and Whale Tail Pit Project, Agnico Eagle Mines Limited; 2018 Annual Report Review**

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Dear Ms. Marcil:

The Nunavut Water Board (NWB or Board) has completed a technical review of the 2018 Annual Report (the Report) for Type “A” Water Licences 2AM-MEA1526 and 2AM-WTP1826 (Meadowbank Licence and Whale Tail Pit Licence, respectively, or Licences). The Report was received on April 16, 2019 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-MEA1526%20Agnico/3%20TECH/1%20GENERAL%20\(B\)/2%20ANNUAL%20RPT/2018/](ftp://ftp.nwb-oen.ca/registry/2%20MINING%20MILLING/2A/2AM%20-%20Mining/2AM-MEA1526%20Agnico/3%20TECH/1%20GENERAL%20(B)/2%20ANNUAL%20RPT/2018/)

and

<ftp://ftp.nwb-oen.ca/registry/2%20MINING%20MILLING/2A/2AM%20-%20Mining/2AM-WTP1826%20Agnico/3%20TECH/B%20GENERAL/2%20ANNUAL%20RPT/>

On April 29, 2019, the NWB distributed the Report for public review. Submissions were received from Crown-Indigenous Relations and Northern Affairs (CIRNA) and Environment and Climate Change Canada (ECCC) on July 29, 2019. The table below provides a brief summary of issues that NWB and the intervenors found outstanding during the Report review period. 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.

No.	Intervener Recommendation / Concern	Deadline to Respond by and Notes
<b>Crown-Indigenous Relations and Northern Affairs (CIRNA) - Meadowbank Gold Mine Project</b>		
1	Implement the recommendations made in the 2018 Annual Geotechnical Inspection Report and the Meadowbank Dikes Review Board Report #24. Report and discuss the results in the 2019 Annual Report.	March 31, 2020 (2019 Annual Report)
2	Monitor the quantity and quality of the Central Dike seepage. Implement proactive measures to mitigate ARD/ML formation in the TSF and to reduce or stop the Central Dike seepage.	Outline the measures to mitigate ARD/ML formation in the TSF and to reduce or stop the Central Dike seepage by November 1, 2019.  Provide monitoring results by March 31, 2020 (2019 Annual Report).
3	Fulfil the commitment to present the results of monitoring on the water level of Turn Lake in the 2019 Annual Report.	March 31, 2020 (2019 Annual Report)
4	Update pit water quality predictions, identify and implement appropriate proactive mitigation measures, and discuss the results in the 2019 Annual Report.	March 31, 2020 (2019 Annual Report)
5	Validate and update its thermal models with thermal monitoring data and present the results in the 2019 Annual Report.	March 31, 2020 (2019 Annual Report)
6	Make further efforts to prevent spill or reduce the number and volume of spills and report such efforts in the 2019 Annual Report.	March 31, 2020 (2019 Annual Report)
7	Update the Meadowbank Interim Closure and Reclamation Plan in a timely manner so that appropriate progressive reclamation can be planned and implemented.	The NWB notes that the Licensee submitted the <i>Meadowbank Interim Closure and Reclamation Plan</i> dated May 29, 2019 on July 24, 2019. The Plan is currently under review.
<b>Crown-Indigenous Relations and Northern Affairs (CIRNA) - Whale Tail Pit Project</b>		
1	Present the Whale Tail Lake South Basin, Whale Tail Lake North Basin, and Mammoth Lake individual water level measurements for each lake in tabular and graphical form.	November 1, 2019
2	Report the the 2018 Quarry 1 seepage analysis.	November 1, 2019
3	Report the 2018 seepage and groundwater results.	November 1, 2019
4	Use the higher measured hydraulic conductivity in Whale Tail models to account for the unknown amount of jointing at the Whale Tail Site.	March 31, 2020 (2019 Annual Report)
5-1	Ensure a quarterly frequency of observations for thermistors as per Part I, Item 15 of the 2AM-WTP1826 water licence, and that the thermistor data is submitted in the Annual Report.	March 31, 2020 (2019 Annual Report)
5-2	Install thermistors with temperature readings both within and below the active layer.	Future thermistor installation

6	Provide a summary document of before operations photos be compiled for each activity area of the Whale Tail site to inform closure and reclamation plans.	As per Part D, Item 15 of the Whale Tail Pit Licence
7	Fix threshold and trigger values. Include arsenic concentration threshold and trigger into the plan.	The NWB notes that CIRNA raised the concern during the review of the <i>Groundwater Monitoring Plan</i> Version 2.1 dated February 2019. The NWB discussed the concern in its Plan approval letter <sup>1</sup> .
8	Identify which plan(s) will contain the details of the adaptive management actions for Waste Rock Storage Facility (WRSF) water discharge. Submit the plan(s) with the 2018 Annual Report.	November 1, 2019 – identify the plan(s) March 31, 2020 (2019 Annual Report) – submit the plan(s)
9	Provide the results of the geotechnical investigation reports.	November 1, 2019
10	Provide adequate field checks in accordance to Part D, Item 14 of the Water Licence.	November 1, 2019
Environment and Climate Change Canada (ECCC)		
1	Continue to monitor Lake NP-2 on a yearly basis for the same suite of parameters as have been measured since 2014.	March 31, 2020 (2019 Annual Report)
2	Clarify the approach to updating plans and identifying treatment options.	November 1, 2019
3	Correct: <ul style="list-style-type: none"> <li>Figure 15 in the Meadowbank Gold Project – 2018 Annual Report;</li> <li>The long-term mean annual air temperature for Meadowbank value; and</li> <li>The MDMER values in the Water Management Report and Plan.</li> </ul>	March 31, 2020 (2019 Annual Report)
4	Clarify what is meant by “Rock Garden” including where it is located, and if located on the surface, provide mitigation to manage any potential ARD.	November 1, 2019
5	Design the cover thickness such that it is thicker than the depth of active layer.	The NWB is aware that an updated version of the <i>Waste Rock and Tailings Management Report &amp; Plan</i> dated July 2019 is currently under review and will consider this comment as part of the Plan review process.
Nunavut Water Board (NWB)		
1	Clarify how a “normal operating condition” is determined in Table 3.1. Operating Condition of Dike at Meadowbank of the 2018 Annual Report.	November 1, 2019
2	Follow the recommendations outlined in section 8.12.3.1.1 Meadowbank CREMP of the 2018 Annual Report.	March 31, 2020 (2019 Annual Report)

<sup>1</sup> Karén Kharatyan (NWB) to Martin Theriault (Agnico Eagle), Re: Updated Groundwater Monitoring Plan; Type “A” Water Licence No. 2AM-WTP1826, Whale Tail Pit Project; Agnico Eagle Mines Limited, dated April 25, 2019.

3	Ensure all submitted drawings for engineered facilities are signed and sealed by an Engineer.	Subsequent annual reports
4	It is noted that the recommendations of the geotechnical inspections mainly include further monitoring of the structures. However, Table 5: Summary of Recommendations and Priority Levels from the 2018 Geotechnical Inspection assigns priority levels as high as P-2, which means “(i)f not corrected could likely result in structure safety issues leading to injury, environmental impact, or significant regulatory enforcement; or, a repetitive deficiency that demonstrates a systematic breakdown of procedures”. Please clarify the discrepancy between the recommendations to monitor and assigned P-2 priority level to some structures.	November 1, 2019
5	Provide the list and timeline for the follow-up actions addressing the deficiencies identified by the geotechnical inspection. The follow-up actions are to include relevant measures to correct deficiencies in facilities assigned the P-2 priority level.	November 1, 2019

The NWB notes that Agnico Eagle submitted<sup>2</sup> the following updated management plans with the 2018 Annual Report:

Licence No.	Management Plan
2AM-MEA1526	<ul style="list-style-type: none"> <li>• Baker Lake Bulk Fuel Storage Facility: Environmental Performance Monitoring Plan dated August 2018;</li> <li>• Dewatering Dikes Operation, Maintenance and Surveillance Manual dated February 2019;</li> <li>• Incinerator Waste Management Plan dated October 2018;</li> <li>• Landfill Design and Management Plan dated October 2018;</li> <li>• Meadowbank Interim Closure and Reclamation Plan dated June 29, 2018;</li> <li>• Tailings Storage Facility - Operation, Maintenance and Surveillance Manual dated March 2019;</li> <li>• Oil Handling Facility: Oil Pollution Emergency Plan for Meadowbank and Whale Tail Project Fuel Farm in Baker Lake dated June 2018; and</li> <li>• Landfarm Design and Management Plan dated March 2017.</li> </ul>
2AM-WTP1826	<ul style="list-style-type: none"> <li>• Core Receiving Environment Monitoring Program (CREMP): 2015 Plan Update – Whale Tail Pit Addendum dated May 2018;</li> <li>• Whale Tail Project – Erosion Management Plan dated June 2018;</li> <li>• Fish Habitat Offset Monitoring Plan dated March 2018;</li> <li>• Groundwater Monitoring Plan dated February 2019;</li> <li>• Operational ARD-ML Sampling and Testing Plan – Whale Tail Pit Addendum dated March 2019;</li> <li>• Operation &amp; Maintenance Manual Sewage Treatment Plant (STP) dated February 2019;</li> </ul>

<sup>2</sup> The plans entitled *CREMP Addendum - Appendix A: Mercury Monitoring Plan for Whale Tail South Area, Version 2* and *Operation and Maintenance Manual - Arsenic Water Treatment Plant, Version 2* were marked as included but were actually absent from the submission.

	<ul style="list-style-type: none"> <li>• Operation &amp; Maintenance Manual Construction Water Treatment Plant dated June 2018;</li> <li>• Thermal Monitoring Plan dated March 2019;</li> <li>• Water Management Infrastructures - Operation, Maintenance and Surveillance Manual dated March 2019;</li> <li>• Water Quality and Flow Monitoring Plan dated March 2019;</li> <li>• Whale Tail Pit – Waste Rock Management Plan dated October 2018;</li> <li>• Water Management Plan dated March 2019;</li> <li>• Blasting Activities – Whale Tail Dike construction dated June 15, 2018; and</li> <li>• Freshet Action and Incident Response Plan dated March 2019.</li> </ul>
2AM-MEA1526 and 2AM-WTP1826	<ul style="list-style-type: none"> <li>• Blast Monitoring Program dated March 2019;</li> <li>• Meadowbank and Whale Tail Bulk Fuel Storage Facility: Environmental Performance Monitoring Plan dated March 2019;</li> <li>• Hazardous Materials Management Plan dated March 2019;</li> <li>• Quality Assurance / Quality Control (QA/QC) Plan dated March 2019; and</li> <li>• Spill Contingency Plan dated February 2019.</li> </ul>

Understanding that the plans were submitted prior to the approval of in-pit disposal of tailings at the Meadowbank Gold Mine Project, the Licensee is advised that the plans address the requirements of the Meadowbank Licence prior to the issuance of its latest amendment. It should be noted that on or before July 26, 2019, the Licensee submitted the following management plans to reflect in-pit disposal of tailings:

- Groundwater Monitoring Plan dated July 2019;
- Meadowbank Interim Closure and Reclamation Plan (ICRP) - Update 2019 Final Report dated May 29, 2019;
- Pore Water Quality Monitoring Program dated July 2019; and
- Updated Mine Waste Rock and Tailings Management Plan dated July 2019.

The NWB distributed the plans for the review by interveners on July 26, 2019. The review is ongoing until August 26, 2019.

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: CIRNA, ECCC