

Environmental Health Program (EHP)
Regulatory Operations and Enforcement Branch (ROEB), Health Canada
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June 23, 2025

Keith Morrison
Manager, Project Monitoring
Nunavut Impact Review Board
P.O. Box 1360 (29 Mitik St.)
Cambridge Bay, NU X0B 0C0

Sent by email to: info@nirb.ca; and, kmorrison@nirb.ca

Subject: Health Canada's response to the Comment Request for Agnico Eagle Mines Limited's Meliadine Project 2024 Annual Monitoring Report

Dear Keith Morrison:

Thank you for your letter dated May 21, 2025, requesting comments on the Meliadine Project 2024 Annual Monitoring Report provided by Agnico Eagle Mines Limited.

Health Canada (HC) participates in environmental assessments as a federal authority under the *Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14 (*NuPPAA*). Upon request, HC makes available specialist or expert information or knowledge in its possession to review panels and responsible authorities.

The objective and scope of HC's review was to verify that potential health risks of the project are properly identified and to support Responsible Authorities prevent, reduce, and mitigate the potential health impacts of project activities.

HC has reviewed the 2024 Annual Report and comments are provided in the attachment.

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Should you have any questions concerning HC's response, please contact Paul Partridge at paul.partridge@hc-sc.gc.ca.

Sincerely,

David Kitchen
Regional Manager, MB/SK/NU Region, EHP
ROEB, Health Canada

cc: Heather Jones-Otazo, Manager, Environmental Assessment and Contaminated Sites (EACS) Division, Healthy Environments and Consumer Safety Branch (HECSB), Health Canada
Paul Partridge, Impact Assessment Specialist, EHP, ROEB, Health Canada
Ayesha Sohail, Impact Assessment Specialist, EHP, ROEB, Health Canada
Wendy Wilson, Senior Environmental Health Specialist, EACS, HECSB, Health Canada
Julie Anderson, Environmental Assessment Coordinator, EACS, HECSB, Health Canada

Meliadine Project 2024 Annual Monitoring Report

Health Canada Comments

Comment Number:	HC-01
Subject/Topic:	2024 Supplementary Arsenic (As) Soil Sampling Results and Associated Analysis
References:	<p>2024 Annual Report</p> <ul style="list-style-type: none"> • Section 7.10: Soil and Vegetation (Page 97; PDF p., 110) • Appendix 26: TEMMP Report <ul style="list-style-type: none"> ○ Section 6 Soil and Vegetation Monitoring (Page 24-25; PDF p., 41-42) • Appendix 32: 2023 Annual Report Comment Tracking Table (PDF p., 4) <p>Health Canada's comments on the 2022 Annual Report (NIRB Registry ID – 345483)</p> <p>Health Canada's comments on the 2023 Annual Report (NIRB Registry ID – 350157)</p>
Comment:	<p>Providing a copy of referenced supplementary soil sampling and Principal Component Analysis studies with the 2025 Annual Report would allow for review.</p> <p>Section 7.10 of the 2024 Annual Report notes that additional soil sampling was carried out in 2024 to confirm sampling methodology for future Terrestrial Environmental Monitoring and Mitigation Plan (TEMMP) monitoring and reporting. In addition, a Principal Component Analysis (PCA) was initiated to further analyze existing data from different media (tailings, soil, lichen, dust and snow chemistry) in the attempt to identify spatial trends and potential sources of metal concentrations (i.e., extent of naturally elevated metals and any project-related effects; Appendix 32).</p> <p>Results of the additional sampling and analysis work were not included or discussed as part of the 2024 Annual Report. HC would be available to review these additional studies, along with the findings from the TEMMP's 2025 Soil and Vegetation Study, as part of its review of the 2025 Annual Report to ensure HC's previous comments regarding elevated arsenic concentrations have been adequately addressed.</p>

Conclusion/Request:	1. HC requests that results and data analyses from the 2024 supplementary soil sampling campaign and arsenic environmental media PCA be included as part of the 2025 Annual Report.
Comment Number:	HC-02
Subject/Topic:	Analysis of [As] in total suspended particulate, as a metal relevant to the project, to verify modelled predictions.
References:	<p>2024 Annual Report</p> <ul style="list-style-type: none"> • Appendix 24: Air Quality Monitoring Report (AQMR) <ul style="list-style-type: none"> ○ Section 2.2.1.2. Regulatory Guidelines and FEIS Predictions (PDF p., 20) • Appendix 29-1: Air Quality Monitoring Plan (AQMP) <ul style="list-style-type: none"> ○ Section 2.2: Suspended Particulates (PDF p., 16-21) ○ Section 2.2.5.2: Trace Metals in TSP (PDF p., 20-21) • Appendix 32: 2023 Annual Report Comment Tracking Table (PDF p., 4) <p>Health Canada's comments on the 2023 Annual Report (NIRB Registry ID – 350157)</p> <p>Final Environmental Impact Statement (FEIS) 2014</p> <ul style="list-style-type: none"> • Volume 10.0: Environmental and Human Health Risk Assessment, Figure 10.2-4 – Human Health Receptor Locations (PDF p., 101) • Appendix 10.2-A: Air Quality – Acute (PDF p., 262 – 312) • Appendix 10.2-B: Air Quality - Chronic (PDF p., 313 – 401) <p>NIRB Project Certificate No. 006, Amendment 002 - Term & Condition 1.b.</p>
Comment:	<p>Monitoring of As in total suspended particulate (TSP) to verify predicted concentrations would improve understanding of As sources and confirm whether health risks are negligible.</p> <p>As part of the Project's Air Quality Monitoring Plan (AQMP), samples for analysis of particulate-bound metals are collected from two monitoring locations (DF-5 and DF-7) that correspond to the nearest human receptor sites to the Meliadine Mine (the workers' camp and Receptor 1 cabin site, respectively; as described in Appendix 24 and the 2014 Final Environmental Impact Statement [FEIS]). Currently, only iron and cadmium are analyzed as metals relevant to the project (as per Condition 1.b. of Project Certification 006). Given observations of elevated arsenic levels from soil and</p>

	<p>surface water monitoring (discussed in HC's comments on the 2023 Annual Report) associated with off-site dust migration from the mine site, HC continues to recommend that arsenic concentrations also be measured in TSP to validate model predictions from the 2014 FEIS (Appendices 10.2-A and 10.2-B).</p> <p>Section 2.2.1.2. of the AQMP (Appendix 24) indicates that AEM evaluated the feasibility of analysing As in TSP, and identified that laboratory detection limits for As in particulate filters were twice the FEIS's screening value (i.e., the method is infeasible). HC understands from Appendix 32 that AEM will continue to review the FEIS Air Quality Model inputs as part of the ongoing assessment of elevated arsenic measurements in soil and water, along with the feasibility of conducting a limited duration analysis of As in TSP to verify that suspended particulate bound concentrations were not under-predicted.</p>
Conclusion/Request:	<ol style="list-style-type: none"> 1. HC recommends monitoring of As in TSP to verify modelled predictions and confirm health risks remain negligible. This should consider the nearest human receptor site (i.e., the workers' camp [DF-5]), and could include monitoring at other human receptor sites (Receptor 22) where As concentrations were modelled. <ol style="list-style-type: none"> a. Recognizing the technical limitations of existing laboratory methods, HC supports consideration of alternative monitoring approaches to collect this trace metal data (e.g., limited duration analysis of As in TSP).

Comment Number:	HC-03
Subject/Topic:	Removal of TSP metals monitoring from the AQMP
References:	<p>2024 Annual Report</p> <ul style="list-style-type: none"> • Section 9.2: Summary of Revisions <ul style="list-style-type: none"> ○ Table 24. Management Plan Revisions (PDF p., 114) • Appendix 24: Air Quality Monitoring Report (AQMR) <ul style="list-style-type: none"> ○ Section 2.2.1.2. Regulatory Guidelines and FEIS Predictions (PDF p., 20-22) ○ Section 7.2. Monitoring (PDF p., 51-52) • Appendix 29-1: Air Quality Monitoring Plan (AQMP) <ul style="list-style-type: none"> ○ Section 2.2: Suspended Particulates (PDF p., 18) ○ Section 2.2.5.2: Trace Metals in TSP (PDF p.20) <p>NIRB Project Certificate No. 006, Amendment 002 - Term & Condition 1.b.</p>

Comment:	<p>Additional information in the rationale for discontinuing measurement of metals in TSP would improve confidence that monitoring remains protective of human health.</p> <p>The 2025 Air Quality Monitoring Program (AQMP; Appendix 29-1) indicates that analysis of trace metals in TSP will be discontinued. While HC appreciates the benefits of continuous air quality monitoring, phasing out trace metal monitoring in TSP represents a significant departure from NIRB's Project Certificate No. 006, Condition 1.b., which directs that the AQMP include collection of total suspended dust samples, "<i>including sampling for metals content relevant to the Project.</i>"</p> <p>The rationale should include additional information on how the proposed change could affect the understanding of potential Project-related health risks over time, to ensure these impacts have been fully considered and that the change to the AQMP is justified. This could involve exploring alternatives that do not completely eliminate trace metal monitoring, such as:</p> <ul style="list-style-type: none"> • Changes to the frequency and duration of monitoring; • Use of focused / supplementary / limited studies to satisfy information and data requirements; and, • Monitoring efficiency (e.g., reduce the number of monitoring sites with a focus on sensitive receptors/maximum points of impingement).
Conclusion/Request:	<p>HC recommends:</p> <ol style="list-style-type: none"> 1. Including additional information in the rationale to support the decision to discontinue TSP analysis in the updated 2025 AQMP; and, <ol style="list-style-type: none"> a) Exploring alternatives which do not completely eliminate trace metal monitoring.