



## APPENDIX

GN AR # 01	
Department	Environment
Organization	Government of Nunavut
Subject/Topic	Air Quality – Suspended Particulate Monitoring
Terms and Conditions	NIRB Project Certificate 006 T&C 1
References	<ul style="list-style-type: none"> <li>• Volume 1 – Final Environmental Impact Statement (FEIS) – Meliadine Gold Project, Nunavut (Golder, April 2014)</li> <li>• Agnico Eagle Meliadine Gold Mine – Air Quality Monitoring Plan, June 2020, V3</li> <li>• 2020 Annual Report, Section 7.8.2 – Air Quality Monitoring</li> <li>• 2020 Annual Report, Appendix 24: 2020 Air Quality Monitoring Report</li> <li>• NIRB 2019-2020 Monitoring Report – Meliadine Gold Mine Project Agnico Eagle Mines Limited NIRB File No. 11MN034</li> </ul>
IDENTIFICATION OF ISSUE	
<p>NIRB Project Certificate No. 006, Term and Condition #1, requires an updated Air Quality Monitoring Plan, prior to the Project entering the construction phase, that considers the installation of two real-time air monitoring stations for monitoring suspended particulates: Total Suspended Particulate (TSP), Particulate Matter <math>\leq 10</math> microns (<math>PM_{10}</math>) and Particulate Matter <math>\leq 2.5</math> microns (<math>PM_{2.5}</math>). The Proponent updated the Air Quality Monitoring Plan (AQMP) in June 2020. The AQMP sets out the methods for monitoring suspended particulates according to U.S. Environmental Protection Agency (EPA) standard methods using Partisol Sequential Air Samplers. Two Partisol Sequential Air Samplers are required at each station (i.e. four units in total are required to collect a complete data set) since <math>PM_{2.5}</math> and <math>PM_{10}</math> are monitored using Partisol Model 2025D and TSP is monitored using Partisol Model 2025i.</p> <p>The Proponent commenced sampling at DF-5 on December 3, 2018 for TSP only using Partisol Model 2025i. The Proponent commenced sampling at DF-7 on December 21, 2018 <math>PM_{2.5}</math> and <math>PM_{10}</math> only using Partisol Model 2025D. Since only two Partisol units were operational at the two sites, an incomplete data set was collected from January</p>	

to April 2019. PM<sub>2.5</sub> and PM<sub>10</sub> was not collected at DF-5 and TSP was not collected at DF-7 during this period.

According to the 2020 Annual Report (Appendix 24), the partial installation of Partisol units were taken offline in April 2019 and were not returned to full operation until November 2020. This creates a significant data gap in emissions data through this period.

Table 2 in the 2020 Annual Report (Appendix 24) indicates that TSP, PM<sub>10</sub> and PM<sub>2.5</sub> were sampled year-round at DF-5 and DF-7. This is both inaccurate and misleading since the Proponent did not achieve full operation of the units until November 2020 after being offline for almost two years. Section 3.1.1 of the Annual Report (Appendix 24) further indicates that additional instrument error and logistical difficulties were encountered during this limited monitoring period in November and December 2020.

### **IMPORTANCE TO REVIEW AND SUPPORTING RATIONALE**

Emissions of particulate matter have negative potential health consequences for both humans and wildlife. The FEIS (Golder, April 2014) predicted that the effects from TSP, PM<sub>2.5</sub> and PM<sub>10</sub> would be of high magnitude for the mine during the operational period. The lack of data collected to date provides an insufficient data set to understand the FEIS predictions and the potential consequences to human health and wildlife health. The limited data set presented in Section 3 of the Annual Report (Appendix 24) does not provide adequate information to determine if annual emissions of TSP, PM<sub>2.5</sub> and PM<sub>10</sub> are within FEIS predictions or if adaptive management is necessary to address unforeseen effects. The ability to determine the need for adaptive management is critical for ensuring the project operates within the parameters outlined in the FEIS. These are the parameters upon which the Terms and Conditions are based.

After two years of troubleshooting these units, a contingency that can be implemented when issues are encountered is necessary. Additional data gaps due to equipment malfunction are unacceptable considering the significance of impacts predicted in the FEIS for TSP, PM<sub>2.5</sub> and PM<sub>10</sub>.

### **RECOMMENDATION**

The GN offers the following recommendations with respect to this issue:

1. The Proponent should submit quarterly or semi-annual reports on the operation of the Partisol units starting in 2021, including results for TSP, PM<sub>2.5</sub> and PM<sub>10</sub> to inform the need for adaptive management based on the lack of data presented to date. The first of these reports should be prepared upon receipt of these comments to update the status of Partisol monitoring for the first half of 2021.
2. The Proponent should produce a contingency plan for the loss of monitoring capability and include this plan in the AQMP. This plan should include details for

backup systems or alternative methods for data collection to prevent lengthy data gaps, like those seen in the 2020 Annual Report.

GN AR # 02	
Department	Environment
Organization	Government of Nunavut
Subject/Topic	Wildlife Mortality - Ungulates
Terms and Conditions	NIRB Project Certificate 006 T&C 56(c) and 57(b)
References	<ul style="list-style-type: none"> <li>• Agnico Eagle Mines (AEM) Ltd. (2021). 2020 Terrestrial Environment Management and Monitoring Plan Report (Appendix 26 of the Meliadine Gold Project 2020 Annual Report) - Meliadine Gold Project, Nunavut.</li> <li>• Agnico Eagle Mines (AEM) Limited. (2021). Meliadine Division 2020 Terrestrial Effects Monitoring and Mitigation Program Annual Report (Appendix 26 of the Meliadine Gold Project 2020 Annual Report).</li> </ul>
IDENTIFICATION OF ISSUE	
<p>Section 9.4 of the 2020 Terrestrial Effects Monitoring and Mitigation Program (TEMMP) Annual Report (AEM 2021) presents the results of mortality monitoring and reporting in the vicinity of the minesite and All-Weather-Access-Road (AWAR). The stated objective of this monitoring study is:</p> <p>“Through systematically recording the presence of all wildlife within and around the Project footprint, Environmental staff will remain appraised of current and emerging issues and will be able to manage issues as they arise.”</p> <p>Mortalities of all wildlife are recorded to comply with Project Certificate terms and conditions 57 and 58, which provide that:</p> <p>“Within its annual report to the NIRB, the Proponent shall incorporate a review section which includes:</p> <p>...b. A detailed analysis of wildlife responses to operations with emphasis on wildlife behaviour, mortalities and displacements (if any), and responses to operations of the all- weather access road and associated access roads/trails.”</p>	

(Term and condition 57(b))

“The Proponent shall report annually to the NIRB regarding its terrestrial environment monitoring efforts, with inclusion of the following information:

...c. A detailed presentation and analysis of the distribution relative to Project infrastructure and activities for caribou and other terrestrial mammals observed during surveys and incidental sightings;” (Term and condition 56(c))

The information provided in the 2020 TEMMP Annual Report (AEM 2020, Section 9.4), regarding wildlife mortalities and causes does not address whether the mortality of 2 caribou is considered Project-related.

### **IMPORTANCE TO REVIEW AND SUPPORTING RATIONALE**

In the 2020 TEMMP Annual Report, Table 2-1 provides a Summary of Predicted Effects, Accuracy of Impact Predictions for the Ungulates Monitoring Indicator, and Other Project-related Mortality. For this indicator, a Proposed Threshold of ‘No More Than 1 ungulate/year’ is presented, and Column 4 indicates this threshold was exceeded in 2020.

In Section 9.4 Incidents and Mortalities of the 2020 TEMMP Annual Report, Table 9-3 identifies 2 caribou mortalities were observed on 11 July 2020.

Further, Table 9-4, Accuracy of Impact Predictions – Wildlife Incidents 2020 indicates that the threshold for ungulate mortality was not exceeded.

### **RECOMMENDATION**

The GN offers the following recommendations with respect to this issue:

1. That the Proponent should revise Section 9.4 to include a description of how thresholds were assessed for compliance related to mortality of ungulates at the Project.
2. If the threshold for Project-related mortality of ungulates has not been exceeded based on the review completed as part of 1. above, update Table 2-1.

<b>GN AR # 03</b>	
Department	Environment
Organization	Government of Nunavut
Subject/Topic	Birds and Bird Habitat – Monitoring
Terms and Conditions	NIRB Project Certificate No. 006 T&C 7
References	<ul style="list-style-type: none"> <li>• Terrestrial Environment Management and Monitoring Plan, Section 4.9 – Raptors; 4.10 – Waterfowl and Waterbirds; 4.11 – Upland Birds and Shorebirds</li> <li>• Terrestrial Environment Management and Monitoring Plan, Table I-1 Concordance Table with Applicable NIRB Project Certificate No. 006 (Amendment 001) Terms and Conditions</li> </ul>
<b>IDENTIFICATION OF ISSUE</b>	
<p>Condition 71 stipulates:</p> <p>“The Proponent shall develop detailed and robust mitigation and monitoring plans for migratory birds, reflecting input from relevant agencies, the Kivalliq Inuit Association and communities”.</p> <p>The Concordance Table refers to Sections 4.9, 4.10 and 4.11 of the Terrestrial Environment Mitigation and Monitoring Plan for details on how the Condition is met. Those sections do not discuss obtaining input from the Kivalliq Inuit Association and communities, rather, the sections refer to consultation with Environment and Climate Change Canada (ECCC) and the Government of Nunavut Department of Environment (DOE) personnel regarding thresholds and mitigation.</p>	
<b>IMPORTANCE TO REVIEW AND SUPPORTING RATIONALE</b>	
<p>Excluding these groups from discussions could result in missing key pieces of local knowledge relevant to the protection of migratory birds. To comply with this condition, the Kivalliq Inuit Association and communities should be consulted with regarding mitigation measures related to migratory birds.</p>	

## RECOMMENDATION

The GN offers the following recommendations with respect to this issue:

1. Consult with the Kivalliq Inuit Association and communities regarding mitigation measures pertaining to migratory birds. If this consultation has occurred, ensure that it is included in the records of consultation in the annual report.



<b>GN AR # 04</b>	
Department	Environment
Organization	Government of Nunavut
Subject/Topic	Birds and Bird Habitat - Monitoring
Terms and Conditions	NIRB Project Certificate No. 006 T&C 73
References	<ul style="list-style-type: none"> <li>• Terrestrial Environment Management and Monitoring Plan, 5.0 – Reporting</li> </ul>
<b>IDENTIFICATION OF ISSUE</b>	
<p>Term and Condition 73 stipulates:</p> <p style="padding-left: 40px;">“The Proponent’s monitoring program shall assess and report, on an annual basis, the extent of terrestrial habitat loss due to the Project to verify impact predictions and provide updated estimates of the total Project footprint”.</p> <p>Section 5 of the Terrestrial Environment Management and Monitoring Plan describes the frequency of habitat loss assessment as every three years. By assessing habitat loss only every three years rather than annually the Proponent is not complying with Term and Condition 73.</p>	
<b>IMPORTANCE TO REVIEW AND SUPPORTING RATIONALE</b>	
<p>Habitat loss can affect species movement, behaviour, nesting success, etc. The intention of the Term and Condition is to ensure the Project footprint does not exceed thresholds identified in the Terrestrial Environment Management and Monitoring Plan and the frequency of the prescribed monitoring and reporting would allow for early intervention should an exceedance occur.</p>	
<b>RECOMMENDATION</b>	
<p>The GN offers the following recommendations with respect to this issue:</p>	

1. Conduct an assessment of habitat loss annually as required by Term and Condition 73.

<b>GN AR # 05</b>	
Department	Environment
Organization	Government of Nunavut
Subject/Topic	Spills – Spills Contingency Plan
Terms and Conditions	NIRB Project Certificate No. 006 T&C 124
References	<ul style="list-style-type: none"> <li>• Terrestrial Environment Management and Monitoring Plan, Section 3.1.5 – Management of Toxic Substances</li> <li>• 2020 Annual Report, Section 6 – Spill Management</li> <li>• 2020 Annual Report, Appendix 15: 2020 Reportable Spills</li> </ul>
<b>IDENTIFICATION OF ISSUE</b>	
<p>Section 6 of the 2020 Annual Report describes risk assessments conducted in 2018, 2019 and 2020 to identify and rectify deficiencies related to spills. Appendix 15 of the 2020 Annual Report (pg. 15) identifies additional mitigation measures, for example, related to handling of totes and barrels with forklift equipment. Specifically, the Report notes in the future, the warehouse will be implementing a new working policy where they will not conduct any oil-tote deliveries at night while it is dark and will not perform this task without a spotter.</p> <p>Section 3.1.5 of the Terrestrial Environment Management and Monitoring Plan stipulates to “adhere to and regularly update the Spill Contingency Plan”. According to the Nunavut Impact Review Board Website, the most recent version of the Spill Contingency Plan is dated March 2017. The Spill Contingency Plan should be updated with any new mitigation measures identified.</p>	
<b>IMPORTANCE TO REVIEW AND SUPPORTING RATIONALE</b>	
<p>The Plans developed for the site are the reference documents for employees. They should contain the most up-to-date information. Any employee seeking direction on an operating procedure should be able to pull the appropriate Plan and find current information. If the Plans are not updated, new mitigation measures identified may not be implemented as intended.</p>	

RECOMMENDATION
<p>The GN offers the following recommendation with respect to this issue:</p> <ol style="list-style-type: none"><li>1. The Spill Contingency Plan should be updated when new mitigation measures are identified through risk analyses and reported on in the annual report.</li></ol>

GN AR # 06	
Department	Environment
Organization	Government of Nunavut
Subject/Topic	Caribou Harvest Along the AWAR: Monitoring and Compliance
Terms and Conditions	NIRB Project Certificate No. 006 T&C 46 and 48
References	<ul style="list-style-type: none"> <li>• Agnico Eagle Mines (AEM) Limited. (2019). Meliadine Gold Project, Roads Management Plan, version 8.</li> <li>• Agnico Eagle Mines (AEM) Ltd. (2021). 2020 Terrestrial Environment Management and Monitoring Plan Report (Appendix 26 of the Meliadine Gold Project 2020 Annual Report) - Meliadine Gold Project, Nunavut.</li> <li>• Agnico Eagle Mines (AEM) Limited. (2021). Meliadine Division 2020 Terrestrial Effects Monitoring and Mitigation Program Annual Report (Appendix 26 of the Meliadine Gold Project 2020 Annual Report).</li> <li>• Comment GN-05 provided to Agnico Eagle (AEM) from Government of Nunavut on the 2019 Agnico Eagle Mines (AEM) Limited (2020a). Meliadine Division 2019 Terrestrial Effects Monitoring and Mitigation Program Annual Report</li> <li>• Nunavut Impact Review Board, 2020, 2019-2020 Monitoring Report Meliadine Gold Mine Project Agnico Eagle Mines Limited NIRB File No. 11MN034</li> </ul>
IDENTIFICATION OF ISSUE	
<p>This comment will provide GN feedback relating to Terms and Conditions Nos. 46 and 48 as these Terms and Conditions were designed for and are both related to increased harvesting pressure as a result of the Project's all-weather-access-road (AWAR).</p> <p>The potential for the Project's AWAR to facilitate increased harvest pressure on caribou or unsafe harvesting practices was an issue raised by the GN and other intervenors during review of the Project (e.g. GN 2014, Comment #9). Monitoring the distribution, levels and trends of caribou harvesting along the AWAR is an important component of the Project's effects monitoring scheme. Term and Condition 48 of the Project Certificate requires the development of a road management agreement and</p>	

states that:

“The Road Management Agreement shall include the following specific measures:

- ....A no-shooting zone (1 km wide) on either side of the road should be established as a condition of public access to the AWAR and compliance with this Agnico Eagle policy should be monitored and reported by the Proponent.
- All incidents of hunting involving shooting along or across the AWAR should be reported by the Proponent to the GN.
- During periods when large aggregations of caribou are detected near the Project, harvest monitoring intensity should be increased to ensure that levels of caribou harvesting are properly documented.”

The reporting requirements under this term and condition state that:

“[m]onitoring results as well as any subsequent updates to the Plan, reported and discussed in the Proponent’s annual report to the NIRB.”

The GN notes that results from the monitoring of caribou harvesting along the AWAR are not reported in the Proponent’s 2020 Terrestrial Effects Monitoring and Mitigation Program Annual Report (AEM 2021) or elsewhere in the Project’s 2020 Annual Report (AEM 2021). The Proponent is required to (a) monitor and report compliance with the no-shooting zone policy for the AWAR, (b) have “dedicated road monitors” and (c) increase harvest monitoring along the AWAR during periods when large aggregations of caribou are present. None of this information or data is presented in the annual report. Therefore, compliance with term and condition 48 cannot be assessed by the GN.

Term and Condition 46 sets out that:

“The Proponent shall update its Terrestrial Environment Management and Monitoring Plan (TEMMP) for the Project to include a detailed harvest study prepared in consultation with the Government of Nunavut (GN) and other affected parties.”

As noted above, the Proponent has not yet reported its results from monitoring caribou harvesting along the AWAR. The Proponent’s Terrestrial Environment Mitigation and Monitoring Plan (TEMMP) included the establishment of a hunter harvest survey with the inclusion of the GN after 3 years of data was collected. Waiting until 2023 for the

inclusion of the GN creates a significant gap in participation regarding Term and Condition 46.

The NIRB directed the Proponent to conduct consultations with the GN prior to collecting 3 years of data (NIRB, 2019-20 Meliadine Monitoring Report). The Proponent has arranged initial discussions with the GN regarding the implementation of Terms 46 and 48, but more multi-party collaboration is required to ensure the hunter harvest survey is successful.

### **IMPORTANCE TO REVIEW AND SUPPORTING RATIONALE**

Although the required Road Management Agreement has been developed by the Proponent (AEM 2019, Section 10.2), implementation of this agreement and its effectiveness cannot be evaluated since the 2020 annual report and its appendices do not present or analyse any of the necessary monitoring data. The agreement itself, and Term and Condition 48 of the Project Certificate, require the reporting of these data. The annual report should contain the following:

1. Reporting of compliance with the 1 km no-shooting zone either side of the AWAR including presentation and analysis of the monitoring data used to assess compliance with this policy.
2. A summary of incidents involving shooting across or along the AWAR, and any trends in these incidents since the AWAR entered operation.
3. Information on the number of dedicated roads monitors tasked with monitoring harvesting along the AWAR and the level of monitoring effort applied (i.e. number of days, timing of monitoring).
4. An analysis of harvest distribution and intensity along the AWAR, including any trends in these metrics.

Evaluating whether the AWAR's Road Management Plan is being properly implemented and assessing whether the AWAR does or does not facilitate increased harvesting pressure or promote unsafe harvesting practices is an essential part of the Project's monitoring scheme. This deficiency in the annual report, and non-compliance with the reporting requirements of term and condition 48, should be addressed.

In its 2019-20 monitoring report, the NIRB provided direction to the Proponent stating:

"The NIRB requests that the Proponent begin consultations with the GN before three (3) years of data collection to discuss possible adaptive management

strategies and initial data analysis and findings on the Hunter Harvest Survey. The NIRB requests an update be included on the schedule and/or process of discussions within the 2020 Annual Report.” (NIRB, 2020)

This direction was provided in response to community concerns raised to the NIRB during community information sessions:

“the NIRB heard concerns from the community that increased hunting accessibility has occurred from use of the All Weather Access Road (AWAR) which is increasing pressure on the community organizations to consider options for restricting hunting.” (NIRB, 2020)

Term and Conditions 46 and 48 are designed to address concerns around increased hunting pressures as a result of the AWAR. The Proponent has worked with the Rankin Inlet Hunters and Trappers Organization in the creation and renewal of a Memorandum of Understanding (MOU) for the creation and implementation of a hunters harvest survey.

### **RECOMMENDATION**

The GN offers the following recommendations with respect to this issue:

1. The Proponent should enter into collaborative discussions with the GN with the goal of achieving fulfillment of Term and Conditions 46 and 48 as directed by NIRB. These discussions should include co-management partners and may be best addressed in the new Meliadine Project Terrestrial Advisory Group.
2. The Proponent should include records and results of these discussions in subsequent annual reports.