



**Recommendation 1:** The Board requests that AEM provide a summary of discussions held with the Baker Lake community members regarding its airstrip expansion as was required by the NIRB's Screening Decision Report for Screening File No. 10XN039. It is requested that this summary be provided within 30 days' receipt of the Board's recommendations.

*Project Certificate [No. 004] Appendix D and the Annual Report*

AEM's 2012 Annual Report provided an evaluation and comparison of the results from 2012 monitoring programs to the impacts predicted in the Final Environmental Impact Statement (FEIS), focusing on the valued ecosystemic components (VEC) that had been identified in the FEIS including the aquatic environment, the terrestrial and wildlife environment, noise quality, air quality, permafrost and socio-economics. However, the discussion and analyses presented did not provide a full discussion and summary on the post-environmental assessment monitoring program (PEAMP) for the Project as required by Appendix D to the Meadowbank Project Certificate [No. 004]. Specifically, as it was not provided in previous reports, the NIRB also requested in 2012 that discussions include information and analyses as required by Appendix D. Without these discussions and summaries, it is difficult for the NIRB to ascertain whether or not impacts and/or trends are being observed as a result of the Meadowbank Project.

**Recommendation 2:** The Board requires that AEM provide a full discussion and summary on the PEAMP for the Project in accordance with commitments made within the FEIS, during the Final Hearing, and as required throughout Project Certificate [No. 004] Appendix D. This must include a discussion that references the baseline and previous years' monitoring data and indicates whether any trends have been observed at the mine site. It is requested that this be provided within 60 days' receipt of the Board's recommendations.

*Compliance with licences and authorizations*

The NIRB notes that AEM's 2012 Annual Report indicated that samples taken at the Baker Lake marshalling facility in the secondary containment areas of the bulk fuel storage tanks contained elevated levels of total oil and grease which exceeded the water quality limit of 5 milligrams per Litre (mg/L). No discussion was provided by AEM within its 2012 Annual Report to explain the elevated level or any steps that may have been taken to address this in the future and to ensure that total oil and grease levels will remain within limits.

**Recommendation 3:** The Board request that AEM provide a discussion an explanation for the total oil and grease values having exceeded the water quality allowable limits and a discussion of any steps taken to ensure levels remain within limits in future years. It is requested that this be provided within 30 days' receipt of the Board's recommendations.

*Water quality*

In its 2012 Annual Report, AEM indicated that predictions in the FEIS did not adequately predict water quality in the pits. No discussion was provided regarding whether original predictions within the FEIS need to be updated to ensure the predictions would meet the current conditions at site as required by the PEAMP.

**Recommendation 4:** The Board requests that AEM provide further discussion on predictions made in the FEIS for the water quality in the pits and whether or not these

predictions will be updated as required by the PEAMP. It is requested that a discussion be provided within 60 days' receipt of the Board's recommendations.

#### Groundwater monitoring wells – Condition 8

The NIRB noted during its 2013 site visit that AEM had only one operational groundwater well. It has been previously recommended by the Board that defective wells be replaced in order to provide a more robust groundwater quality data and overall monitoring program. AEM indicated during the NIRB's 2013 site visit that it plans to re-evaluate the groundwater monitoring program to determine how best to improve effectiveness and the potential use of production wells to collect this data. Further, in response to the Board's 2012 recommendations AEM indicated that it would be submitting a Groundwater Plan by August/September 2013 that would discuss the different methodologies being considered. The Board has not received this plan to date.

**Recommendation 5:** It is recommended that AEM consider developing alternative approaches to sampling and analysis to obtain groundwater chemistry and flow data which would inform operational water management and provide information for closure. AEM's Groundwater Plan should include consideration of alternative approaches as outlined; it is requested that this Plan be submitted to the Board for review within 60 days' receipt of the Board's recommendations.

#### Noise quality monitoring

Noise quality monitoring occurred at only three of the five previously identified monitoring locations at Meadowbank in 2012 owing to malfunctions and/or difficulties with noise monitoring software. AEM's 2012 Noise Monitoring Report indicated that noise levels were higher in 2012 at two stations (R1 and R5) for calculated daytime and night-time values as compared to previous monitoring years. Further, it is noted that three of the five daytime results and three of the five night-time results exceeded the calculated permissible sound level (PSL) of 55 A-weighted decibels (dBA) for the site (AEM, 2009). It was noted by AEM that if these sound levels are sustained over time, additional mitigation measures may be recommended in the future.

AEM indicated in its 2012 Annual Report that since noise levels and terrestrial wildlife monitoring are being conducted in a manner that addresses the impacts predicted in the FEIS, these monitoring programs are judged to be effective and the effects of noise identified in the FEIS do not appear to be occurring as predicted. However, the NIRB notes that monitoring results from 2012 showed that several values exceeded the calculated PSL of 55 dBA for the site. No clear link was provided between the potential effects of noise on wildlife or on how habitat effectiveness may have been affected by these noise levels. No discussion on the potential effects of noise to human health was included.

**Recommendation 6:** The Board requires AEM to discuss the linkages between the potential effects of noise on wildlife and habitat effectiveness and to provide further discussion of its conclusion that noise values currently detected above the calculated PSL value at the site are not affecting wildlife (both terrestrial and birds). Further, it is requested that AEM provide a discussion regarding the potential impacts of noise to human health at site. It is requested that this information be submitted to the Board within 60 days' receipt of the Board's recommendations.

All weather private access road – Condition 32(e)

Condition 32(e) of the Meadowbank Project Certificate [No. 004] requires that AEM hold at least one community meeting in the hamlet of Baker Lake annually to explain that the road is private, and that non-mine use of the road is limited to approved, safe and controlled use by all-terrain-vehicles for the purpose of carrying out traditional Inuit activities. In its 2012 Annual Report, AEM indicated that no meetings were held with the community of Baker Lake for the 2012 year.

**Recommendation 7:** As annual consultation with the community of Baker Lake to discuss the private nature of the access road is a requirement of Meadowbank Project Certificate [No. 004] term and condition 32(e), by not conducting these consultations AEM is not in compliance with the condition. The Board requests that AEM hold public meetings as set out in Condition 32, and that it report on this information within its 2013 Annual Report.

Condition 40: Gathering of Traditional Knowledge information.

Condition 40 requires that AEM report annually to the Kivalliq Inuit Association (KivIA) and the NIRB on Traditional Knowledge gathered at Chesterfield Inlet. No information regarding Traditional Knowledge gathered from the residents of Chesterfield Inlet on marine mammals, cabins, hunting and other local activities in and around the Inlet in the 2012 year was provided in AEM's 2012 Annual Report. This was also noted to be outstanding in the Board's 2011-2012 Annual Monitoring Report, following a review of materials submitted by AEM during the 2011-2012 monitoring period.

**Recommendation 8:** As Condition 40 of the Meadowbank Project Certificate [No. 004] requires that AEM collect and report annually to both the KivIA and the NIRB on the Traditional Knowledge gathered from the residents of Chesterfield Inlet, AEM is not in compliance with the condition. The Board requests that AEM report on further Traditional Knowledge gathered in its future annual reporting as submitted to the NIRB.

Monitoring of country foods – Condition 67

Meadowbank Project Certificate [No. 004] Condition 67 requires the Proponent to develop a program which monitors contaminant levels in country foods and to submit this plan to the NIRB. In 2012, the Board invited Health Canada to provide comments on the wildlife screening level risk assessment (WSLRA) and a preliminary quantitative risk assessment (PQRA) report prepared by AEM in order to meet the requirements of Condition 67, and to indicate whether or not further information may be required with respect to the monitoring program. With respect to the PQRA report, Health Canada indicated that it would require additional information to provide comments on the human health assessment that was completed by AEM. The request for additional information was forwarded to AEM and in turn AEM responded and provided the information requested by Health Canada. To date, the Board has not received any further response or comment from Health Canada in regards to this additional information that was requested from, and provided by, AEM.

**Recommendation 9:** The Board invites Health Canada<sup>1</sup> to provide comments on the additional information provided by AEM with respect to the PQRA report and to indicate whether or not further information may be required with respect to the monitoring program as outlined in Condition 67. The Board respectfully requests that Health Canada provide any comments within 60 days' receipt of these recommendations.

*On-site incinerators – Condition 72*

Meadowbank Project Certificate [No. 004] Condition 72 requires that the Proponent conduct annual stack testing of the on-site incinerators to demonstrate that they are operating in compliance with the required standards. Upon review of AEM's available 2012 Incinerator Daily Report Logbook, the NIRB notes that the incinerator temperature in the secondary chamber was below the recommended 1000 °C minimum temperature on several occasions. It has been previously noted by Environment Canada that the incinerator temperatures in the secondary chamber should be above 1000 °C to ensure complete combustion and to minimize the formation and release of contaminants.

**Recommendation 10:** The Board requests that AEM provide an explanation for the incinerator having not achieved recommended temperatures in the secondary chamber on various occasions in 2012. Further, it is recommended that AEM describe any corrective measures employed at the incinerator. It is requested that this information be provided within 30 days' receipt of the Board's recommendations.

*Suppression of surface dust – Condition 74*

Meadowbank Project Certificate [No. 004] Condition 74 directs the Proponent to employ environmentally protective techniques to suppress any surface road dust. During the site visit in 2013 it was noted that no dust suppressants were applied to the access road from Baker Lake to the Meadowbank site, however the Proponent was using calcium chloride and water as a dust suppressant at the Meadowbank site itself. AEM indicated that it intends to determine the best options to deal with the dust created along the access road and that studies had been completed in the summer of 2013 to determine the potential impacts of dust on vegetation along the access road.

**Recommendation 11:** The Board requests that AEM provide a discussion of its plans to address dust control for the access road and to provide the Board with a summary of the outcome of any related studies that have been completed to date. Potential adaptive management strategies that may result from the results of these studies should also be included. It is requested that this information be provided within 30 days' receipt of the Board's recommendations.

*Spill at Baker Lake Marshalling Area – Condition 37 & 82 and Commitments 34, 35 & 38*

Meadowbank Project Certificate [No. 004] Condition 37 requires that the Proponent ensure shippers contracted are Transport Canada (TC) certified and further, that those shippers carry the most up-to-date emergency response equipment. Meadowbank Project Certificate [No. 004] Condition 82 requires the Proponent to monitor ship cargo and report any accidents or spills immediately.

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<sup>1</sup> Note that the Board plans to invite Health Canada to comment via correspondence issued under separate cover, and that AEM is not responsible for a response to this recommendation. It has been included here for information only.

In August 2012 an accidental spill of approximately 200 litres of diesel fuel occurred in Baker Lake at AEM's marshalling facility. According to information provided by TC and AEM, the crew of the vessel immediately started the clean-up of the area with assistance from AEM employees. AEM used additional material from the Canadian Coast Guard sea-can located in Baker Lake in order to properly clean up the spill as the ship did not contain sufficient material to complete the clean-up. The spill was reported to authorities including AANDC, EC, TC and the GN Spill Line. The NIRB was informed of this spill by the GN-Department of Environment on August 9, 2012. AEM also informed community members of the spill via a community meeting.

The NIRB staff have been in contact with TC on several occasions requesting information on the spill and the conclusions of TC's investigation and/or any outcomes from the incident. Though contact has been made with TC on a number of occasions, no information regarding the conclusions from its investigation nor outcomes from the incident have been provided by TC to date.

**Recommendation 12:** The Board requests that Transport Canada<sup>2</sup> provide information on the conclusions of the investigation related to the fuel spill into Baker Lake in August 2012 and any outcomes that might have resulted from the investigation of the incident. The Board respectfully requests that this information be provided within 60 days' receipt of the Board's recommendations.

#### *Harmful Alteration, Disruption or Destruction Crossings along the Access Road*

AEM indicated in its 2012 Annual Report that based on the water quality monitoring results from 2012 and previous years that had been collected along the harmful alteration, disruption or destruction (HADD) crossings per the *Fisheries Act*, it was not planning to conduct any surface water chemistry sampling in 2013 unless turbidity was observed at these crossings. The NIRB notes that any changes to monitoring programs related to specific authorizations would require approval from relevant authorizing agencies and potentially the NIRB.

**Recommendation 13:** The Board requests that AEM work with the appropriate authorizing agencies to ensure that any changes to its monitoring programs, specifically the HADD monitoring programs, meet the approval of the authorizing bodies, and that any changes be communicated to the NIRB. It is requested that a report summarizing any discussions to this end be provided to the NIRB within 90 days' receipt of the Board's recommendations.

#### *Permafrost*

AEM indicated that in 2012, no monitoring of permafrost aggradation in taliks for Second Portage Lake, Portage Pit or Bay Goose Pit were conducted to verify the predictions made within the FEIS. AEM also indicated that no instruments were in place to collect this data and that permafrost monitoring was only conducted for the dike and tailings storage facility.

**Recommendation 14:** The Board requests that AEM provide a plan of action and a discussion on its permafrost monitoring program that would include Second Portage Lake,

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<sup>2</sup> Note that the Board plans to invite Transport Canada to comment via correspondence issued under separate cover, and that AEM is not responsible for a response to this recommendation. It has been included here for information only.

Portage Pit and Bay Goose Pit as outlined in the FEIS. It is requested that this information be provided within 60 days' receipt of the Board's recommendations.

NWB Water Licence Amendment

AEM's recent amendment application and Water Management Plan 2012 submitted to the NWB included a reference to potentially extending Vault Pit into Phaser Lake in 2016. Specifically, it was noted that this would require dewatering of Phaser Lake and that a fish-out program would be undertaken following the ice melt in 2016. Further information regarding the dewatering of Phaser Lake as described within the plan should be provided with detailed consideration given to the potential effects of this expansion and dewatering on wildlife, water quality, and closure methods.

**Recommendation 15:** The Board requests that AEM provide information regarding the potential dewatering of Phaser Lake including detailed consideration of potential effects of the proposed expansion and dewatering to wildlife, water quality, and closure methods.

It is further requested that AEM provide any additional plans as needed related to the potential future dewatering Phaser Lake, including an indication of authorizations required, plans to engage the NIRB's assessment process, and a timeline for these submissions. It is requested that this information be provided within 60 days' receipt of the Board's recommendations.

The Board respectfully requests that for items requiring follow-up action by AEM that a response be provided within the timeline as requested for each of the recommendations. Where no timeline has been stipulated for a response, the Board requests that AEM submit a plan of action for addressing these items prior to February 21, 2014.

If you have any questions or require further clarification regarding these recommendations in particular or relating to the NIRB's monitoring program for the Meadowbank project, please contact me directly at (867) 793-4633 or [sgranchinho@nirb.ca](mailto:sgranchinho@nirb.ca).

Sincerely,



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Senior Technical Advisor & Meadowbank Project Monitoring Officer  
Nunavut Impact Review Board

cc: Stéphane Robert, Agnico Eagle Mines Ltd.  
Meadowbank Distribution List

Enclosure: The Nunavut Impact Review Board's 2012–2013 Annual Monitoring Report for Agnico Eagle Mines Ltd.'s Meadowbank Gold Project