MEADOWBANK GOLD PROJECT

Agnico Eagle's response to 2016-2017 Board's Recommendations

January 25th 2018

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SECTION 1 • NUNAVUT IMPACT REVIEW BOARD

1.1 SPILL MANAGEMENT – CONDITION 26

In review of the annual report and similar to the concern expressed by the Kivalliq Inuit Association, it is noted that more spills were reported in 2016 than in any previous year from 2011-2015. It was also acknowledged by Agnico Eagle that there was a significant increase in reported spills and that it has begun a Spill Reduction Action Plan to address the problem. However, in review of The 2016 Annual Report, it is not clear how Agnico Eagle has addressed the frequency of spills in 2016 and for future years, as well as what training has been implemented for spill prevention.

Recommendation 1: The Board requests that Agnico Eagle provide a written submission explaining the conditions which contributed to increased spills being reported on site for 2016, and describe the measures and training implemented since to address spill prevention and the associated results.

Agnico Eagle's response:

Agnico acknowledges there is an increase in reported spills in 2016 and began a Spill Reduction Action Plan. Key Performance Indicators (KPI) were developed to monitor the reported spills. Spill Frequency is calculated and reported to the daily management meeting. The Spill Frequency is the ratio of the total number of spill to date in the year over the number of days in the current year. The total number of spill to date includes the spills internally reported as well as the spills reported to the regulators. This KPI is used to follow trends related to spill increase or reduction, and to guide corrective actions when required.

General awareness on spill management and reporting with management and operations were expanded by meeting equipment users and stakeholders. Increased focus on reporting, identifying and notifications assisted in finding opportunities of reduction and also contributed to the increase noted above. This process enabled proactive maintenance to be done on equipment identified and reduce the overall quantities of material spilled. At this time, the GN reportable spills have plateaued and have a downward trend. Mandatory spill training is included in the Meadowbank site induction and the Environmental Department is working in a collaborative approach to ensure field personnel are reminded consistently on best practices in spill management. Refresher training is also being developed.

All internal reported spills and to regulators are managed according to our spill contingency plan. Spills are contained and cleaned, contaminated material is disposed to the appropriate area, such as the onsite landfarm and the clean-up actions are monitored by the Environment team.

1.2 PARTICIPATION IN SURVEYS – CONDITIONS 51 AND 54

In 2016, Agnico Eagle suspended the harvest data collection for both the Creel Surveys and the Hunter Harvest Study due to "participant fatigue". Agnico Eagle has consulted with the Baker Lake Hunters and Trappers Organization (HTO) and the Government of Nunavut representatives in 2016 to discuss the findings of the study to date, explore other options for collecting hunting and fishing data in the Baker Lake area, and facilitate greater involvement of the local community, including the Baker Lake HTO, in future years of the study.

Based on the meetings that were held by Agnico Eagle, the general consensus of meeting participants was

that there is a need to collect useful and meaningful data, as well as to ensure consistency with previously-collected data. Community involvement was also mentioned as being essential to making the program a success.

It is noted that Condition 51 requires the Proponent to develop, implement, and report on the creel surveys within waterbodies affected by the Project while Condition 54 requires the Proponent to conduct a hunter harvest survey to determine the effect on ungulate populations from increased access via the all-weather access road (AWAR). It is encouraging that Agnico Eagle conducted consultation with the community of Baker Lake and other organizations to explore innovative ways to improve HTO and hunter participation, and to develop the study into a more community-based initiative. However, no information was provided on the next steps for both programs save for an indication that the hunter harvest study would be implemented during the fall migration of 2017. Further, the Board is concerned that at the moment with both the creel and hunter harvest study surveys not being completed, the NIRB and other agencies are not seeing results and a gap in available knowledge is developing which needs to be addressed. This is important as Agnico Eagle is proposing additional development in the region and plans to be in the region for the long term.

Recommendation 2: The Board requests that Agnico Eagle provide a plan on how Agnico Eagle will meet the objectives of both Conditions 51 and 54 moving forward. The plan shall include a clear indication of timelines, next steps in development of the Creel Surveys and the Hunter Harvest Study, measures for success and contingency planning. Limitations on the effectiveness of the current studies employed at the Meadowbank Project as well as the feasibility of alternative studies to ensure that a gap in available knowledge is not developing should be clearly highlighted within the submission.

Agnico Eagle's response:

The Hunter Harvest Study (HHS), through regular visits, has contributed to developing a strong relationship with local harvesters, the HTO and GN Department of Environment (DOE). The purpose of the HHS is to monitor and document the spatial distribution, seasonal patterns, and harvest rates of hunter kills and angler catches within the Meadowbank Local Study Area (LSA). The HHS monitoring program was suspended for two years (2016 and 2017) to allow participants to rest and to develop new approaches and direction. In 2018, Agnico Eagle will be exploring other ways to gather harvest data in consultation with the BLHTO, KIA, GN, and potentially other agencies.

The objectives for the 2018 HHS are:

- *Facilitating greater involvement/partnership of the local community, including the HTO;*
- *Involving the GN Wildlife Officer or a suitable GN representative in the study;*
- *Increasing Agnico Eagle's community affairs involvement in the study development and unveiling; and*
- *Ensure consistency and compatibility with the previous HHS.*

The proposed HHS committee, comprising of KIA, GN, Agnico Eagle, BLHTO, Elders and a third party would be implemented in 2018 in time for the fall migration. The use of a third party is intended to facilitate the collection, preservation, exchange, and use of local observations and knowledge of the community. The emphasis would be targeted on supporting community-based efforts to direct research and monitoring based on priorities and information needs. It would also link between stakeholders and provide expertise towards community led initiatives in the HHS. Consistency within historical data would be ensured with Agnico's involvement. Alternatives and existing practices would be combined within the newer HHS to increase use of technological tools to facilitate participation and reach hunters by maintaining tools that were successful in reaching hunters in previous studies.

In 2017, all stakeholders were met and agreed to participating in the HHS committee. Kickoff meetings and informative sessions were completed to ensure a 2018 implementation. The proposed timeline would consist of having a fully integrated HHS by the end of the second quarter of 2018.

1.3 SUPPRESSION OF SURFACE DUST – CONDITION 74

Condition 74 directs the Proponent to employ environmentally protective techniques to suppress any surface road dust. During the 2017 site visit, it was observed that Agnico Eagle dust suppression techniques have been limited to haul roads at the mine site, between the Meadowbank gatehouse (at the airstrip) and Exploration Camp site, between the Baker Lake marshalling facility and the Baker Lake gatehouse, and the airstrip. Dust suppression measures employed by Agnico Eagle in these areas were noted to include the use of calcium chloride between the Meadowbank gatehouse (at the airstrip) and Exploration Camp site, and between the Baker Lake marshalling facility and the Baker Lake gatehouse, while water is applied to the mine site haul roads (including the Vault road) and the airstrip. However, during the site visit, NIRB staff noted that the use of water as a dust suppressant within the pits and along the haul roads did not appear to be effective.

It is noted that the Agnico Eagle initiated a dust sampling program along the road in 2012 to monitor dust deposition on vegetation along the road. However, the Board has concern with respect to the quality of the dust sampling equipment used by Agnico Eagle for the dust sampling program as the equipment used is not similar to what is currently being used by other mining companies in Nunavut (e.g., NIRB File No. 08MN053 and NIRB File No.: 11MN034) and there is concern with respect to quality assurance and quality control protocols.

Agnico Eagle also has implemented a dust assessment pilot program in 2016 along the AWAR to determine the most effective dust suppressant techniques [use of TETRA flakes (calcium chloride), use of Dust Stop (organic polymer), or reduction of speed from 50 km to 20 km]. The program was conducted on two (2) km sections at three (3) locations on the AWAR identified by the community as areas of concern during the driest season with the highest traffic. During the 2017 site visit, Agnico Eagle noted that it has decided to treat the three (3) selected areas of the AWAR that was used in the dust assessment pilot program with TETRA Flakes indefinitely, starting the first dust suppression in August of 2017.

In its response to the Board's 2016 recommendations Agnico Eagle maintained that it is meeting Condition 74 and based its assertion on several factors, including the necessity of undertaking the addition of chemical dust suppressants as a mitigation measure, and on whether there has been an impact to the surrounding areas because of dust caused by road traffic. Agnico Eagle noted in response to the recommendations that it would continue to apply dust suppression in key areas around Whitehills, near Baker Lake, and in highest traffic areas along the road and therefore believes it is using "environmental protective techniques" to suppress dust along the AWAR which should address the NIRB's concern.

The NIRB acknowledges the efforts made by Agnico Eagle to suppress dust around the Meadowbank and Exploration Camp sites, and further recognizes the dustfall monitoring program conducted along the AWAR since 2012 and the additional studies that are ongoing

since 2016. However, the Monitoring Officers believes that it may be necessary to remind Agnico Eagle of commitments made during the environmental assessment process and highlight the requirements of Condition 74, which requires the application of dust suppression measures along all project roads including the AWAR [emphasis added]. The NIRB notes that Agnico Eagle has been in non-compliance with this condition since the Project entered operations, as no dust suppression measures have been employed along the AWAR from Baker Lake to the mine site with the exception of the three (3) areas as identified by the community to be of importance. Further, it appears from the amount of traffic around site and on the mine haul roads (including the mine pit roads) that the application of water as a dust suppressant has not been effective.

Recommendation 3: The Board reminds Agnico Eagle that Condition 74 applies to the suppression of dust on all surface roads including the all-weather access road (AWAR). As such, Agnico Eagle shall provide a plan of action on how it will meet the objectives of Condition 74 along the AWAR. This plan shall include a clear indication of timelines, next steps and adaptive management measures/contingency planning should Agnico Eagle not meet this condition.

Agnico Eagle's response:

Through consultation in 2016, Agnico Eagle and the Hamlet of Baker Lake identified six locations along the Meadowbank AWAR that are high priorities for dust suppression. Following a pilot study in 2016, Agnico Eagle determined from both visual observations and dustfall monitoring that TetraFlake® was the optimal product for dust suppression along this roadway. As a result, a single application of this dust suppressant was planned for each of the six locations in 2017. However, in order to provide optimal coverage throughout the driest months, and after consulting with the community, Agnico has increased the planned frequency of application, and two applications were made (June 11 and July 22, 2017). Agnico Eagle plans to continue this approach to dust suppression along the AWAR (two summertime applications of an approved chemical dust suppressant in the identified priority locations), pending results of 2017 monitoring. In the event that monitoring indicates Condition 74 is not being met (road dust is not being suppressed as designed), Agnico Eagle will investigate alternate products and/or different application rates or frequencies. This approach is similar to other project sites in Nunavut where chemical suppressants are used in a discontinuous fashion along a long-distance roadway in priority areas only. Furthermore, dustfall and terrestrial monitoring along the Meadowbank AWAR do not exceed FEIS predictions.

Recommendation 4: The Board requests that Agnico Eagle provide a submission to the NIRB, which describes its assessment of the effectiveness of dust suppression efforts using water to date and demonstrates its consideration for the use of alternative dust suppressants (e.g., TETRA flakes, Dust Stop®, EnviroKleen®) and more frequent application. Limitations on the effectiveness of current dust suppression employed for the Meadowbank Project as well as the feasibility of alternative dust suppression compounds should be clearly highlighted.

Agnico Eagle's response:

As indicated by NIRB, Agnico Eagle employs two water trucks to continuously water onsite haul roads, pit areas, and the airstrip (15-30 min prior to and immediately after landing). Results of the onsite dustfall monitoring program (designed in consultation with Environment Canada; see 2013

Air Quality and Dustfall Monitoring Plan) indicate that these methods are successfully maintaining dust within acceptable regulatory limits. For example, in 2016 no total suspended particulate (TSP) samples exceeded the relevant 24-h GN standard of 120 µg/m^3, nor did annual average TSP values exceed the GN guideline of 60 µg/m^3. In 2016, only one of 47 dustfall samples exceeded Alberta Environment's guideline for recreational areas, and none exceeded the guideline for industrial areas (see 2016 Air Quality and Dustfall Monitoring Report). The monitoring data indicates that dust is effectively being controlled onsite and from this data, Agnico Eagle has not considered regular application of alternative dust suppressants.

Recommendation 5: The Board requests that Agnico Eagle report on the quality assurance and quality control protocols used to ensure data reliability and proper functioning of the dust monitoring equipment used for the dust sampling program along the all-weather access road.

Agnico Eagle's response:

The AWAR dustfall sampling methodology differs slightly from methods employed at other sites (e.g. Meadowbank onsite, Meliadine, Mary River Project), the sampling canisters are likely identical across these projects and provided by an accredited laboratory in all cases, sampling along the AWAR is done by placing the canisters at ground level rather than at 2-3 m height. Due to the difficulty of constructing and deploying tall, secure stands to hold the large number of sample containers (84 locations in 2016) in the remote AWAR locations (which were not designed as permanent sampling stations), the 2012 study compared dustfall collected at ground level and at 2 m height to ensure proper functioning of the dust monitoring equipment (dustfall canister) using this technique. This included eight samples at ground level and four corresponding samples on stands. No statistical correlations were found between rates of dustfall on stands and those on the ground. Dustfall collection at ground level generally appeared to provide comparable estimates of dustfall to those obtained at 2 m height (and was more conservative in 3 of 4 cases). Based on these results and the reasons described in guidance documents for mounting dust canisters at 2 – 3 m height, collection at ground level appears to be generally conservative, and was employed in all future AWAR studies.

Beyond this comparison, the following QA/QC protocols are employed to ensure data reliability:

- *Sample canisters and analytical services are provided by an accredited laboratory (Maxxam Analytics Inc.);*
- *Canisters are received and deployed by appropriately trained personnel;*
- *Sample collection containers remain sealed until they are installed at the specified sampling points;*
- *All sample collection containers are labeled with time, date and sampling location;*
- *To avoid contamination or sample loss, no material is removed from the containers and lids are stored in a clean, sealed bag;*
- *All efforts are made to ensure canisters remain upright throughout sampling and transport. During sampling, canisters are deployed as much as possible inside a ground-level stand consisting of a piece of heavy plastic pipe, maintained lower than the canister*

opening. Only canisters that are upright at the time of collection are used in data analyses;

- *Travel blanks (unopened canisters taken into the field and then sent to the laboratory) are used to determine the potential for contamination due to transit;*

- *By following these sample handling techniques, Agnico Eagle is confident that any controllable external contamination of dustfall jars is minimized.*

1.4 APPENDIX D, THE ANNUAL REPORT AND THE PEAMP

The NIRB notes that Agnico Eagle's 2016 Annual Report provided a detailed analysis of results from its 2016 monitoring program and that it compared observed impacts noted in 2016 to predictions made within the Final Environmental Impact Statement (FEIS). Agnico Eagle's evaluation focused on the valued ecosystemic components (VECs) that had been identified in the FEIS, including the aquatic environment, the terrestrial and wildlife environment, noise quality, air quality, permafrost and socio-economics. The NIRB acknowledges that Agnico Eagle has worked to improve upon its reporting of findings within its post-environmental assessment monitoring program (PEAMP) and notes the general clarity of the presentation of information in its tables of potential impacts, potential cause(s), proposed monitoring, monitoring conducted for the year, predicted values and measured values/observed impacts. However, the NIRB found that the discussion and analysis within the PEAMP could be expanded upon especially to include trends that may be observed. The NIRB recognizes Agnico Eagle previously conveyed interpretation of Appendix D as not explicitly dictating that the PEAMP involve producing a trend analysis of previous years' monitoring data; however, the Board would like to note that the objective of the PEAMP as detailed in Appendix D is to provide this trend analysis as part of the summary report.

In reviewing the Annual Report and as noted by regulatory parties, there was an increase in a number of water quality parameters that are exceeding predictions from the year to year since 2012. In response, Agnico Eagle noted that the Core Receiving Environment Monitoring Program (CREMP) continues to detect changes in some general water quality parameters that appear to be related to mining activity. This information should be provided within the PEAMP as a comparison to the originally predicted values and year over year comparison which would provide a robust analysis and would also assist in identifying trends in the water quantity and quality data.

The overall lack of reference to baseline data or to data from previous years makes it difficult to quantify or measure the relevant effects of the project. While comparison between monitoring as proposed in the FEIS and monitoring undertaken in 2016 was helpful, rationale for why these were different was not always clearly presented.

Recommendation 6: The Board requires that Agnico Eagle provide a full discussion and summary on the post-environmental assessment monitoring program for the Project. This must include a discussion that references the baseline and previous years' monitoring data and further indicates whether any trends have been observed at the mine site for each Valued Ecosystem Component where an impact has been observed. The discussion should include

whether any identified trends of effects over time are indicating the potential for impacts from or associated with the Meadowbank Project.

Agnico Eagle's response:

A full discussion and summary is already included within the Meadowbank annual report. Agnico is confident that these discussions references any potential impacts observed. Agnico recommends that Agnico and NIRB discuss this point further. In addition the annual report is based on an extensive review of our FEIS and associated Terms and Conditions from the EA.

Agnico Eagle stated within the 2016 Annual Report that the CREMP determined that there were some apparent mine-related changes in conventional parameters relative to baseline/reference conditions at one or more near-field and mid-field areas. Agnico Eagle further noted that while these results represented mine-related changes, the observed concentrations were still relatively low and unlikely to adversely affect aquatic life. The NIRB observed that for the 2014 and 2015 Annual Reports, Agnico Eagle reported similar apparent mine-related changes and highlighted that follow-up studies were recommended and would be conducted in 2015 as well as for 2016. The 2016 Annual Report and the PEAMP section did not indicate whether these follow-up studies occurred or whether the potential source of the apparent mine-related changes was identified. Further analysis and information regarding these mine-related changes is required.

In review of the 2016 Annual Report and as noted by regulatory parties, there was an increase in a number of parameters that are exceeding predictions from the year to year since 2012. In response, Agnico Eagle noted that the CREMP continues to detect changes in some general water quality parameters that appear to be related to mining activity. However, Agnico Eagle indicated that the FEIS predicted the magnitude of potential effect on water quality in each of the lakes as "low" and that even though certain parameters were elevated and above the Canadian Council of Ministers of the Environment (CCME) limits, the values were not above the water licence criteria or the Metal Mining Effluent Regulations criteria. The Proponent stated that monitoring would be ongoing through 2018 and longer term trends in the different parameter concentrations would be assessed in relation to CCME guidelines, as appropriate.

The PEAMP section of the 2016 Annual Report did not provide any discussions on the CREMP or Agnico Eagle programs, nor any discussion on the changes observed/detected at the aquatic stations. Agnico Eagle did not provide a discussion on the apparent mine-related changes observed at the near-field stations, the changes observed over time at these stations since operations commenced, what the cause may be for the changes observed at these stations, and whether Agnico Eagle is considering finding other near-field stations that could be used for baseline/reference conditions. As noted previously, a year over year comparison would have provided a robust analysis and would have been useful to help identify trends in the data collected for the aquatic environment, specifically for the water quality and sediment quality data.

Recommendation 7: The Board requires Agnico Eagle to provide a full trend analyses and discussion on the observed project effects on the aquatic environment based on the data collected to date under the Core Receiving Environment Monitoring Program. Further, a clear indication regarding whether any impacts are being observed from the proposal and whether

the analyses meet or exceed the predictions made within the Final Environmental Impact Statement must be included. This is required under Appendix D for the post-environmental assessment monitoring program.

Agnico Eagle's response:

Historical trend assessment results related to each of the mining activities are discussed at length in the 2012 CREMP report (Azimuth, 2013). Since then, detailed trend assessments are conducted each annual CREMP report. Water chemistry parameters for which the 2016 means for Meadowbank study lakes exceeded their respective trigger values are presented in Table 3.2-3. For each parameter/area that exceeded the trigger, formal statistical testing of the observed result was conducted using the before-after-control-impact (BACI) statistical model (one-tailed; looking for uni-directional changes only). In this analysis, the model interaction term (or BACI effect term) represents the change at the test area relative to baseline after accounting for natural temporal changes (i.e., temporal changes at the reference area); for simplicity, changes are noted "relative to baseline/reference" conditions. Results are provided in Table 3.2-4; key results (i.e., those parameter/area combinations where the 2016 results were statistically different [p<0.05]) were as follows:

- *Laboratory Conductivity/Hardness – TPN, TPE, SP, and WAL showed an increase relative to baseline/reference conditions. Conductivity is a composite variable that responds positively to increasing concentrations of ionic compounds (e.g., chlorides, sulphates, carbonates, sodium, magnesium, calcium, potassium and metallic ions). The observed change, therefore, is indicative of changes in its underlying compounds (e.g., see ionic compounds below for additional context).*
- *Ionic Compounds (Calcium, Magnesium, Potassium, Sodium) – TPN, TPE, and SP showed an increase (relative to baseline/reference) in all of these major ions; WAL showed increases in calcium and magnesium. Concentrations at these NF areas have typically been <6 mg/L (calcium), <2 mg/L (magnesium), <1.5 mg/L (sodium), and <1 mg/L (potassium). Slight increases of these ionic compounds in the Meadowbank study lakes are unlikely to adversely affect biota. In fact, there is a considerable amount of literature demonstrating that the presence of these ions lowers the bioavailability of many dissolved metals.*
- *Total dissolved solids (TDS) – TPN, TPE, and SP showed an increase relative to baseline/reference conditions. Similar to conductivity, TDS is a composite variable based on the combined amount of all inorganic and organic substances contained in a sample. The current TDS discharge limit in the water use license (2AM-MEA1525) is 1,400 mg/L for both the maximum average concentration and maximum allowable grab sample concentration. Weber-Scannell and Duffy (2007) reviewed TDS toxicity to aquatic life. While they recommend deriving ion-specific limits for aquatic life (i.e., rather than for TDS), none of the literature studies they compiled showed effects at TDS concentrations less than 250 mg/L and they report mean TDS in the world's rivers of approximately 120 mg/L. There are no federal water quality guidelines for TDS in Canada or the US. In Alaska, TDS may not exceed 500 mg/L without a special permit and 1000 mg/L at any time (ADEC, 2012). A TDS receiving environment benchmark 500 mg/L was adopted at Diavik (WLWB, 2013). Thus, these changes leading to TDS concentrations on the order of 15 to 45 mg/L are very low and not of concern.*
- *Alkalinity – SP showed an increase in bicarbonate and total alkalinity in 2016 relative to baseline/reference conditions. Bicarbonate (HCO_3^-) comprised 100% of the total alkalinity faction, typical of surface water with pH in the range of 6.5 to 9. Bicarbonate alkalinity at SP has consistently exceeded the trigger dating back to 2011, and in 2016 was 11.1 mg/L,*

similar to the concentration reported in 2015 of 11.5 mg/L. The temporal trend of slightly increasing alkalinity relative to baseline/reference conditions is unlikely to adversely affect biota at SP.

It is important to note that total and dissolved metals concentrations were consistently low or below their respective MDLs at the NF, MF, and FF locations (Table 3.2-1) and that none of these parameters have ever exceeded trigger (typically set below CCME guidelines) or threshold (typically set at CCME guidelines) values. In 2016, the same metals were measured above laboratory detection limits (MDLs) as in 2015. This is important to note in relation to ongoing discharges to the receiving environment (e.g., discharge from Vault attenuation pond to Wally Lake [June – September] and discharge of East Dike seepage to Second Portage Lake [during all of 2016]). Refer to Section 1.4 and Table 1.4 for more details on major mine-related activities in 2016.

The CREMP continues to detect changes in some general water quality parameters that appear to be related to mining activity. These changes are also reflected in higher concentrations of some parameters when compared to the model predictions in FEIS. The FEIS water quality predictions are estimates of change water quality in Third Portage Lake, Second Portage Lake, and Wally Lake assuming different mixing scenarios and loading estimates from water releases and dike leaching. The model for Third Portage Lake includes treated water release from the project in year's 1 to 4 and long-term loading of metals from the Bay-Goose dike material. The Second Portage Lake water quality model includes loading of parameters from the Third Portage and East dikes and inflow from Third Portage and Wally lakes. The water quality model for Wally incorporates long-term loadings from the Vault dike and effluent releases from the Vault Attenuation pond. At the time the FEIS was issued, the CWQG for cadmium was lower than the MDL for the baseline data. A thorough review of the ecological significance of the predicted cadmium concentrations was presented in the FEIS, and the probability of cadmium causing toxicity was considered "extremely low" (Cumberland, 2005). Arsenic was also predicted to exceed the CWQGs in Wally Lake. Similar to cadmium, the MDL was equal to the guideline (i.e., 0.005 mg/L). The models were considered conservative because the MDLs were used as the baseline concentrations. The current MDLs for arsenic and cadmium are 0.0001 mg/L and 0.000005 mg/L, respectively. All of the samples collected in 2016 from Third Portage, Second Portage, and Wally Lakes were below the MDL for cadmium. In the case of arsenic at Wally, the concentrations are below the trigger value, and well below the CCME water quality guideline of 0.005 mg/L. Overall, the FEIS predicted the magnitude of potential effect on water quality in each of the lakes as "low" (see Section 2.4.1 for more details on the decision criteria for effect magnitude).

The same list of parameters that exceed the Meadowbank trigger values typically exceed the concentrations predicted in the FEIS, namely ionic compounds (calcium and magnesium), hardness, and total alkalinity. Chloride, fluoride, nitrate (as N), and sulphate also exceed the FEIS predictions for Third Portage Lake, Second Portage Lake, and Wally Lake in some samples. Most metals are below the predicted concentrations for Third Portage Lake (Table 3.2-5), Second Portage Lake (Table 3.2-6), and Wally Lake (Table 3.2-7) with the exception of isolated instances of aluminum, iron, and manganese. Strontium consistently exceeded the model predictions in all three lakes, but importantly did not exceed the trigger (95th percentile of baseline) indicating current strontium concentrations are representative of pre-development conditions. It is important to point out that none of the above parameters that exceed the trigger values or FEIS model predictions have trigger values that were set in the context of effects-based threshold values (e.g., CCME water quality guidelines). Thus, CREMP water quality results are consistent with the "low" significance (i.e., <1x CCME WQG) rating applied to model predictions in the FEIS (Cumberland, 2005).

In the absence of available thresholds, trigger values for these substances were set at the 95th percentile of baseline data (i.e., in the absence of any mine-related inputs, 5% of the samples would be expected to exceed the trigger). Consequently, the BACI model results reported above only indicate that statistically significant changes have been detected relative to baseline/reference conditions. Available information suggests that the observed concentrations of these parameters are well below levels of concern. As in the past, it is recommended that these trends continue to be monitored in 2017.

In closing, as this is a common request by NIRB on an annual basis, Agnico Eagle would like confirmation from NIRB that the CREMP meets the intention of this annual recommendation.

Recommendation 8: The Board requests that Agnico Eagle provide a discussion on the apparent mine-related changes observed at the near-field stations, the changes observed over time at these stations since operations commenced, what the cause may be for the changes observed at these stations, and whether Agnico Eagle intends to establish other near-field stations that could be used for baseline/reference conditions.

Agnico Eagle's response:

As discussed in the previous response, the CREMP program has identified mine-related changes in a number of parameters. The study design for the CREMP is based on the BACI model, but integrates the concepts of a gradient approach by including near-field (NF), mid-field (MF) and far-field (FF) stations. The power of this design is evident in that the changes in water quality highlighted in the response to Recommendation 7 are consistently detected in the trend assessment conducted each year. Given that the design is working as intended (i.e., identifying subtle mine-related changes), and that adding NF stations would not improve the design (i.e., because you need to have true baseline data for those stations in order for them to be considered in the model), there are no plans to add stations at this time. It should be noted, however, that changes to the design were made after the widespread construction-related changes that occurred during dike construction; an additional reference area (Pipedream Lake) and a far-field area (Tehek Lake) were added to provide better spatial coverage. None of changes detected to date in water quality or sediment quality have translated into adverse changes to aquatic life in the receiving environment.

Recommendation 9: The Board requests that Agnico Eagle provide a discussion and additional evidence to support its contention that the parameters measured at Meadowbank which have been observed to be above the CCME guideline levels are not a serious concern for aquatic life.

Agnico Eagle's response:

As discussed in the response to Recommendation 7, none of the changes in water quality detected in the 2016 CREMP program exceeded CCME guidelines and, as discussed in Recommendation 8, those changes in water quality have not resulted in adverse effects to aquatic life. That said, changes in sediment chromium concentrations exceeding CCME guidelines have been observed at TPE following dike construction. It should be noted that sediment metals concentrations in mineralized regions are often elevated naturally, so exceedances relative to CCME need to be interpreted cautiously. In this case, there was a clear increasing trend in chromium that occurred over a number of years before stabilizing, with the most plausible source

being the rock used for the dikes. Management actions undertaken were progressive, starting with verifying that the trend was indeed a temporal trend and not a spatial artefact. Subsequently, a comprehensive bioavailability assessment was conducted targeting the geochemistry and toxicity of the sediments in question. These tools showed a lack of bioavailability, which was consistent with the lack of effects seen in the benthic invertebrate community monitoring. In addition, while a mine-related change in chromium concentrations was identified, the observed concentrations were still below those seen in one of the reference lakes (Pipedream). Notwithstanding, any observed trends identified in the CREMP are flagged for continued scrutiny on an annual basis.