December 2nd, 2020

Richard Dwyer
Manager of Licensing
Nunavut Water Board
P.O. Box 119, Gjoa Haven
Nunavut, X0B 1J0

RE: 2AM-MEL1631 2019 Annual Report

Dear Mr. Dwyer

In response to your November 25th, 2020 correspondence, please find attached Agnico Eagle Mines Limited's answers to Kivalliq Inuit Association (KivIA) and Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)'s follow-up comments on Agnico Eagle's Meliadine Gold Mine 2019 Annual Report.

Should Parties have any questions or require further information, please do not hesitate to contact us.

With my best regards,

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Kivalliq Inuit Association (KIA)

KIA-2 Water Quality and Water Balance Model

Recommendation

Update Water Quality and Water Balance Model to include sensitivity analysis accounting for higher concentrations of key parameters including TDS in contact water, greater inflows of saline groundwater within the underground, and wet year scenarios that exceed the 95 percentile as calculated from measurements collected at the ECCC Rankin A weather station (should be calculated based on a period of record that includes measurements collected after the last iteration of the water balance model);

Develop specific adaptive management strategies within the scope of the existing Water Licence and Project Certificate that can be used to mitigate potential impacts to the environment and circumvent the need for future project certificate and water licence amendments

Also, see comment #3 from the NWB.

Agnico Eagle Answer

The Water Quality and Water Balance Model was updated as part of the Water Licence Amendment. Agnico Eagle will include an adaptive management strategy as part of the review Water Quality Management and Optimization Plan to be issued as part of the Water Licence Amendment Process.

KivIA Follow-Up Comment

Issue not resolved. These issues were brought forth in the technical review of the Water Licence Amendment currently under review by the NWB.

Agnico Eagle Follow-Up Answer

Agnico Eagle resolved this issue with KIA during the Water Licence Amendment technical meeting.

KIA-3 Nutrient Enrichment in Meliadine Lake

Recommendation

Provide appropriate mine staff with additional guidance to help minimize nitrogenous blasting residues and subsequent loading to Meliadine Lake;

Include additional considerations into blasting practices to limit nitrogen loading to the receiving environment from blasting residue (keep blasting materials dry prior to ignition).

Agnico Eagle Answer

Even though only minor enrichment has occurred in the near field area relative to the rest of Meliadine Lake, Agnico Eagle will continue its efforts in the training of the mine staff regarding blasting practices and emulsion management.

KivIA Follow-Up Comment

Issue not resolved. The KIA continues to request Agnico Eagle work towards new initiatives with staff to minimize nutrient loadings to Meliadine Lake since current training approaches have still resulted in nutrient enrichment of the nearfield area of Meliadine Lake.

Agnico Eagle Follow-Up Answer

Agnico Eagle maintains that only minor enrichment to the near-field area has occurred relative to the rest of Meliadine Lake. However, in an effort to reduce ammonia concentrations in blasted material brought to surface from underground, the following actions have been taken:

- Meetings on site with the explosives loading teams to raise awareness on the importance of careful loading practices, in order to continue applying the best industry practices for the loading methods, and in the management of non-combusted emulsion

- Investigation into the blasting pattern to ensure that the blast patterns are standard.

Agnico Eagle will continue its efforts in the training of the mine staff regarding blasting practices and emulsion management.

KIA-8 Report # 19-171 – Spill into Lake B7

Recommendation

Explain what steps will be taken to prevent lengthy delays in responding to and reporting on spills in the future;

Discuss how effective the delayed clean-up efforts were at removing oil from lake B7. Given that clean-up efforts did not start until eight days after the spill, how does Agnico Eagle know that the absorbent pads removed all the oil from Lake B7?

Agnico Eagle Answer

Agnico Eagle conducted a follow-up investigation after this incident and determined more thorough pre-op inspections must be completed in order to identify equipment failures and avoid delays in noticing such spills.

A new procedure was developed, and operator or drillers now have to fill in a maintenance form for cutting decantation bash and cutting recovery tub. Once maintenance is completed, this form is provided to the supervisor and then collected by health and safety representative.

As per the spill follow-up report : #19-171, absorbent sheets and booms were changed and removed from drill site to finish cleaning of the site and drill 3 was removed once the final inspection was completed and showed no oil or sheen remained within the drill site.

KivIA Follow-Up Comment

Issue not resolved. Were any water samples sent to an accredited lab to ensure clean up measures were successful? If so, please provide the results. If not, please clarify what follow up measures are proposed to confirm the cleanup was successful.

Agnico Eagle Follow-Up Answer

As per the event related to Report #19-171, recovery was efficient and further confirmatory analysis weren't deemed necessary.

AEM has successfully avoided these types of spill since adopting the new procedure that was developed following this incident, as the 2020 Annual Report will show.

Even though the likelihood of a similar event recurring is minimal provided this new procedure, AEM remains available to further discuss cleanup protocols with KiVIA.

KIA-10 Report # 19-346 – Discharge to Sea Exceedance

Recommendation

Provide more details on the in-house analysis conducted to determine that discharge could resume on September 24, including results of the in-house acute lethality tests;

Also, see comment #5 from the NWB.

Agnico Eagle Answer

As stated in the follow-up report No 2019-346, Agnico Eagle implemented various mitigation measures following the Exceedance. These measures included increasing the height on the intake pipe so as not to remobilize any settled sediment and adding Volatile Suspended Solids (VSS) to the effluent characterization to assess if the measured TSS included an organic component, which is approximated by VSS. The effluent characterization showed that the contributing factor to the elevated TSS was likely to be algae (suggested through VSS analysis), in which algaecide was used to mitigate this issue.

The excess chlorine noticed in SP3 during the same period as the elevated TSS was, in fact, the result of filter issues in the treatment plant. Chlorine dosing is used in the Saline Effluent Treatment Plant (SETP) to treat underground water for ammonia, after which the residual chlorine is removed by Granular Activated Carbon (GAC) filters. Once elevated chlorine levels were observed, an investigation into the cause showed that these filters were compromised, reducing effectiveness of chlorine removal.

After reception of the first failed toxicity test, the SETP was shut-down for the inspection of the carbon filters, as chlorine was a suspected contributor. Daily back-flushing of the carbon filters was implemented to improve effectiveness of chlorine removal.

In parallel, increased monitoring and reporting within the SETP and at Saline Pond 3 (SP3) was initiated for chlorine. Following the second failed toxicity test, discharge to sea ceased immediately and the investigation into the cause for toxicity continued. Improved chlorine control measures were implemented and included: emptying of SP3 back into the SETP feed source (i.e. Saline Pond 1 (SP1)), testing new reagents (sodium metabisulphite) for chlorine removal, testing the effect of SP3 residence time on chlorine degradation, and procurement of new filter media.

Furthermore, total effluent chlorine concentration limits were set to trigger discharge stoppages. The recirculation of water from SP3 to SP1 resulted in a decreased ammonia concentration of the water feeding the SETP. Based on the previously mentioned mitigation measures, the implementation of more explicit effluent targets, and improved quality of SETP feed water source, a decision was made to bypass the inoperative chlorination process and resume discharge. Total chlorine concentrations were confirmed to be below the aforementioned trigger limits before discharge was resumed on September 24, 2019. No further acute toxicity issues were observed in the subsequent tests of October 1, 2019 and October 7, 2019

KivIA Follow-Up Comment

Issue not resolved. It is still unclear why tests were not performed by an accredited laboratory.

Agnico Eagle Follow-Up Answer

AEM refers KivIA to the revised follow-up report #19-346 which was submitted to ECCC in 2020 and contains certificate analysis of tests conducted at accredited laboratories.

KIA-11; 12; 17; 18; 19; 20; 21; 22; 23; 24; 25; 26; 27

Agnico Eagle would like to clarify that answers to KivIA questions 11; 12; 17; 18; 19; 20; 21; 22; 23; 24; 25; 26; 27; which KivIA marked as “No response provided” in their November 19th, 2020 letter titled *Assessment of Agnico Eagle Responses to KIA Review of Meliadine 2019 Annual Report* were provided through the NIRB’s Annual Report Review Process August 7th, 2020.

Agnico Eagle remains available to discuss these answers with KivIA throughout the NIRB’s Annual Report Review Process.

Crown-Indigenous Relations and Norther Affairs Canada (CIRNAC)

CIRNAC-1 High Water Levels in CP1, CP3 and CP4 and Potential Risk to Stability of D-CP1

Recommendation

Provide a summary of the measures taken in 2019 to address the issues related to the high water levels of CP-1, CP3 and CP4 and the potential stability risk of D-CP1.

Agnico Eagle Answer

Information related D-CP1 has been reviewed with Parties during the Emergency Amendment Application Process and the Nunavut Water Board (NWB) has granted Agnico Eagle an Emergency Amendment for the 2020 Discharge Season.

The Water Licence Amendment Application currently under review by NWB address the long-term management strategies for CP1 and Agnico Eagle has included information on different alternatives to avoid emergency situation related to D-CP-1 in the application package.

CIRNAC Follow-Up Comment

CIRNAC was a party during the Emergency Amendment Application Process and was not aware that AEM presented a full or an adequate summary of the measures taken by AEM in 2019 to address the issues related to the high water levels of CP-1, CP3 and CP4 and the potential stability risk of D-CP1.

This comment remains to be addressed by AEM. CIRNAC would like to reiterate its recommendation that AEM provide a summary of the measures taken in 2019 to address the issues related to the high water levels of CP-1, CP3 and CP4 and the potential stability risk of D-CP1.

Agnico Eagle Follow-Up Answer

Agnico Eagle will continue to work with CIRNAC on this topic as part of the Water Licence Amendment process and consider this recommendation resolved as part of the 2019 Annual Report.

CIRNAC-2 Higher-Than-Expected TDS in CP1

Recommendation

Provide a summary of the measures taken in 2019 to identify the sources and to reduce the TDS loads to CP1.

Agnico Eagle Answer

Please refer to answer to KIA comment 1.

CIRNAC Follow-Up Comment

In its original submission, CIRNAC recommended that AEM provide a summary of the measures taken in 2019 to identify the sources and to reduce the TDS loads to CP1.

AEM responded that "Agnico Eagle is currently evaluating TDS loading mechanisms to CP1 and is updating the water quality model to develop a sustainable water management strategy for CP1."

CIRNAC notes that the issue of high TDS in CP1 was observed as early as the summer of 2019 and requested a summary of actions taken in the second half of 2019 to identify and mitigate the issue. CIRNAC seeks further clarification from AEM on if any underground saline water, either treated or untreated, ended up eventually in CP1 in 2019.

CIRNAC does not find AEM response adequate in addressing this comment and would like to request AEM to provide a summary of the measures taken in 2019 to identify the sources and to reduce the TDS loads to CP1.

Agnico Eagle Follow-Up Answer

Agnico Eagle will continue to work with CIRNAC on this topic as part of the Water Licence Amendment process and consider this recommendation resolved as part of the 2019 Annual Report.

CIRNAC-4 Higher-Than-Predicted ARD Potential of Filtered Tailings

Recommendation

Re-evaluate and update the Water Quality Model and all Management Plans associated with the monitoring and management of the filtered tailings and submit them for review, as the current geochemical monitoring and the tailings Management Plans were designed based on the assumption that the filtered tailings were Non-PAG, instead of PAG.

Agnico Eagle Answer

Agnico Eagle doesn't agree with CIRNAC recommendation as the geochemical design assumption of the approved Tailings Storage Facility (TSF) Design Report and Drawings (Agnico Eagle, 2018) is still valid:

> *Results of the geochemical characterization indicate that both the tailings from the Tiriganiaq deposit and the waste rock is considered non-potentially acid generating (NPAG) and have low potential for metal leaching (ML).*

Moreover, geochemical stability of the tailings will be achieved as:

- the tailings are being stored in a facility that will freeze back (i.e. re-develop permafrost) and inhibit water movement within a few years post-operations;

- placement of the tailings includes compacting by a vibrator packer and sloping to shed water off the facility, which will lower oxygen diffusion into the tailings and limit water contact, both established mechanisms to reduce Acid Rock Drainage (ARD); and,

- there is enough carbonate in the tailings that ARD may never occur as the actual ratio that ARD onset is expected is much closer to 1.0.

CIRNAC Follow-Up Comment

In its original submission, CIRNAC recommended that AEM re-evaluate and update the Water Quality Model and all Management Plans associated with the monitoring and management of the filtered tailings and submit them for review, as the current geochemical monitoring and the tailings Management Plans were designed based on the assumption that the filtered tailings were Non-PAG, instead of PAG.

AEM disputed the fact that monitoring data in the 2019 annual report did show that some of the filtered tailings were PAG.

A summary statement from AEM in the 2019 Annual Report on this issue reads:
"… all of the samples collected to date are primarily classified as uncertain with regards to ARD potential using an NPR ratio of 2, with all but two of the samples above an NPR of 1. The median was 1.4"

CIRNAC would like to point out that tailings that are primarily classified as uncertain would not be classified as Non-PAG. Furthermore, CIRNAC would also like to point out that AEM predicted an NPR ratio of 2.7 for tailings in its FEIS, which would classify the tailings as Non-PAG. CIRNAC is of the opinion that a change in classification from Non-PAG to uncertain regarding ARD potential would warrant a re-evaluation and update of the Water Quality Model and all related Management Plans.

CIRNAC does not find AEM response adequate in addressing this comment and would like to recommend again that AEM re-evaluate and update the Water Quality Model and all Management Plans associated with the monitoring and management of the filtered tailings and submit them for review, as the current geochemical monitoring and the tailings Management Plans were designed based on the assumption that the filtered tailings were Non-PAG, instead of PAG.

Agnico Eagle Follow-Up Answer

Agnico Eagle doesn't agree with CIRNAC's view on this matter and wishes to clarify the following:

- A classification change on the ARD potential of the tailings will have no impact on the site water quality model during the life of mine. In the very unlikely scenario that these tailings ever produce ARD, it would not occur for several decades or more based on median neutralization potential of the tailings (85 kg CaCO3/t), owing to carbonate content of the ore and lime addition during ore processing. Updated water quality predictions for the site are being developed as part of the next phase of mining at Meliadine, including continued characterization of the tailings and how they will impact water quality. Findings to date suggest there is more carbonate available than has been reported, further lowering the risk of these tailings ever producing ARD.

- INAC (1992) recommends an NPR criterion of 1.2 for tailings. While this has not been used at Meliadine, the criterion is lower for tailings because of the far greater mineral contact and homogenization in the material as compared to waste rock. The majority of tailings would be considered non-PAG using a criterion of 1.2.

- ARD potential needs to be considered in context of the storage facility. Even if some of the tailings have ARD potential, the physical storage of these tailings is significant and should not be overlooked. The compaction of the tailings in thin (30cm) lifts and grading of the facility to shed water effectively inhibits oxygen diffusion into the pile and severely limits infiltration. Effectively there are two mechanisms inhibiting ARD, which are in addition to the climate at site that serves to arrest oxidation for at least 8 months of the year.

Agnico Eagle would be pleased to organize a teleconference between CIRNAC, Agnico Eagle and its third-party technical expert should CIRNAC wish to further discuss this issue.