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To: Richard Dwyer Nunavut Water Board

From: Luis Manzo, Director of Lands, Kivalliq Inuit Association

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Date: August 9, 2022 Arviat

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Baker Lake

The KIA has reviewed the 2021 Meliadine Annual Report and have the following comments on water quality:

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Chesterfield Inlet

4-6-56

Coral Harbour

aDyc Naujaat

620566056 Rankin Inlet

Ubdita: Whale Cove









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Meliadine Gold Mine 2021 Annual Report (April 2022)

Comment No. 1 Nutrient Enrichment in Meliadine Lake

Reference: S 7.1.2, 7.1.4, 7.1.6, 7.1.7; Appendix 18 S 4.5.3, S 6.4.3; AEMP Design Plan S 8.4.2; Proponent Response to 2021 Annual Report Comments

Comment: As set out by the AEMP Design Report, 2016, the Low Action Levels for Nutrient Enrichment in Water quality are as follows: Concentrations of nutrients in the NF area above the normal range, Concentration exceeds a defined percentage of AEMP benchmark, and Divergence of Trends in comparison to reference areas. Total Phosphorus measured at the NF sites in 2021 average 0.00731 mg/L, which is a significant increase from baseline measurement and within error of the 0.0075 mg/L Action Level. Of 23 measurements taken from March to September, 2021, 14 exceeded the 0.0075 mg/L benchmark. Further, Figure 4-8, Appendix 18 suggests that total phosphorus concentrations at the Near and Mid Field sites do not follow the same trend as the Mel-03 Reference sites from 2016 on.

Chlorophyll-a concentrations at the NF sites have also increased relative to baseline in trends not present at the Reference sites. Increases in size of Threespine Stickleback relative to reference may also suggest an increase in primary productivity in the East Basin. These increases, though not yet exceeding the Action Levels, are indicative of increasing nutrient enrichment of the East Basin.

Notwithstanding Agnico Eagle's responses to Annual Report comments under the NIRB process, total phosphorus in the east basin of Meliadine Lake is routinely exceeding the Low Action Level in a manner that diverges significantly from trends observed in the reference areas (Fig. 1). While adverse impacts may be unlikely to be observed at this stage, the exceedance of the Low Action Level necessitates exploring strategies to curtail further nutrient enrichment, with the commensurate change of trophic status.







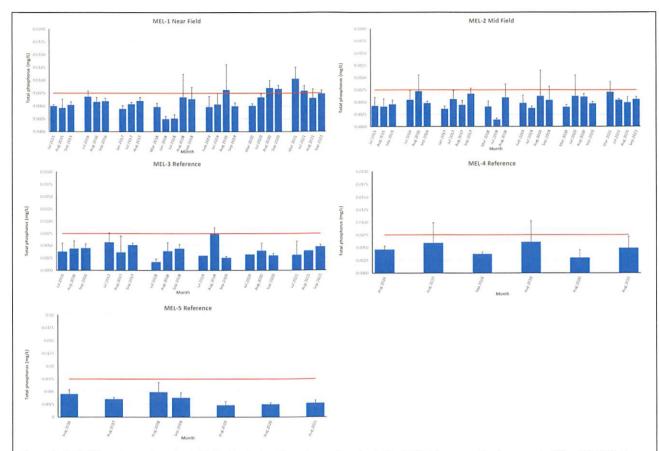


Figure 1. Total Phosphorus Levels at Meliadine Lake. Phosphorus Levels at site MEL-1 have routinely exceeded the AEMP Action Levels of 0.0075 mg/L in 2020 and 2021, while no such increase has been observed at Reference sites MEL-3, MEL-4, and MEL-5. Data from 2017, 2018, 2019, 2020, and 2021 AEMP Reports.

Recommendation: We recommend that Agnico Eagle amend the statement in S 7.1.4 to acknowledge that phosphorus concentrations have increased over time in the East Basin of Meliadine Lake. Agnico Eagle should explore strategies to mitigate the impact of nutrient enrichment in the East Basin, including but not limited to increasing the volume of contact water diverted to Itivia Harbour.

Comment No. 2 Threespine Stickleback Chemistry

Reference: S 7.1.6; Appendix 18 S 10.

Comment: Calcium, arsenic, manganese, strontium, and uranium were detected at higher concentrations in Threespine Stickleback from MEL-01 in 2021 compared to the reference areas in Meliadine Lake and compared to the baseline period. The increased concentrations of these metals









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would not be sufficient to adversely impact fish populations, but they are linked to higher concentrations of these metals at the diffuser.

Recommendation: Continue to monitor the threespine stickleback tissue chemistry as set out in the AEMP.

KivIA appreciates the opportunity to provide comments on the 2021 Annual Report for the Meliadine Gold Project. Please contact Luis Manzo, Director of Lands, should you require more information.

Regards,

Director of Lands

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