

Kivalliq Inuit Association

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AMENDMENT of the TYPE A WATER LICENSE
for the MEADOWBANK GOLD PROJECT

Review approach

- As part of this review the following documents were reviewed:
 - Application for amendment, NWB License 2AM-MEA0815
 - Meadowbank Gold Project Water Management Plan, March 2013. SNC-Lavalin
 - Seepage Water from Waste Rock Storage Facility

General Comments

- It was recommended by AANDC that AEM apply for an amendment to the Type “A” water license based on the fact that *The project has exceeded the permitted rate of annual fresh water use since start-up in 2010*
- The main factors contributing to exceeding the permitted rate are
 - Higher than anticipated rates of ore processing
 - An adjustment in the initial water balance model which resulted in a deficit of reclaimed water

[illegible]

- $\Delta_C \leq C^{\epsilon_b} L^{\epsilon_b}$
 $\Delta L^{\epsilon_b} \geq C^{\epsilon_b} \sigma^{\epsilon_b} \geq C^{\epsilon_b} L^{\epsilon_b}$
- $\Delta L^{\epsilon_b} \leq C^{\epsilon_b} L^{\epsilon_b}$
 $\Delta_C \leq C^{\epsilon_b} L^{\epsilon_b}$
- $\Delta L^{\epsilon_b} \leq C^{\epsilon_b} \sigma^{\epsilon_b}$
 $\Delta L^{\epsilon_b} \leq C^{\epsilon_b} L^{\epsilon_b}$
- $\Delta L^{\epsilon_b} \leq C^{\epsilon_b} \sigma^{\epsilon_b}$
 $\Delta L^{\epsilon_b} \leq C^{\epsilon_b} L^{\epsilon_b}$

ΔC↯C^{9b}⌋^{9b} ΔL^{9b}⌋P^aQ⁹σ^a⌋▷P▷Cİ^bd^c

- ፬፻፸፱ ልደጅ ልጅ ስለሆነ በጥራት
 ልጁ ስለሆነ በጥራት ልጁ ስለሆነ በጥራት

Increase in footprint of the Waste Rock Pile

ᐃᓴᑭᑦᑲᑦ ᐱᐅᑭᑦᑲᑦ ᐃᓴᑭᑦᑲᑦ ᐃᓴᑭᑦᑲᑦ ᐃᓴᑭᑦᑲᑦ

□ The increase in the footprint of the waste rock storage could create more contact water points with associated seepage.

□ This was evident based on the elevated parameters (copper, iron, nickel, manganese and sulphate) at sample location ST-16 due to seepage water from waste rock storage.

Monitoring of this should be continued.

□ ᐃᓴᑭᑦᑲᑦ ᐱᐅᑭᑦᑲᑦ ᐃᓴᑭᑦᑲᑦ ᐃᓴᑭᑦᑲᑦ ᐃᓴᑭᑦᑲᑦ ᐃᓴᑭᑦᑲᑦ ᐃᓴᑭᑦᑲᑦ ᐃᓴᑭᑦᑲᑦ ᐃᓴᑭᑦᑲᑦ

□ ᑕᑭᑦᑲᑦ ᐃᓴᑭᑦᑲᑦ ᐃᓴᑭᑦᑲᑦ ᐃᓴᑭᑦᑲᑦ ᐃᓴᑭᑦᑲᑦ (copper, iron, nickel, manganese ᐃᓴᑭᑦᑲᑦ sulphate) ᐃᓴᑭᑦᑲᑦ ᐃᓴᑭᑦᑲᑦ ᐃᓴᑭᑦᑲᑦ ᐃᓴᑭᑦᑲᑦ

ᑕᑭᑦᑲᑦ ᐃᓴᑭᑦᑲᑦ ᐃᓴᑭᑦᑲᑦ ᐃᓴᑭᑦᑲᑦ ᐃᓴᑭᑦᑲᑦ

Water Chemistry of the Tailings Storage Facility

- The water chemistry of the north cell of the Tailings Storage Facility (TSF) **should continue to be monitored** in order to identify potential parameters (ie. total cyanide, copper, iron, nitrate, chloride and ammonia) that may become a problem if discharged to the environment without treatment.
- The importance of this monitoring is evident based on the parameters (i.e. copper, iron, nickel, manganese and sulphate) which were elevated at sample location ST-16 due to seepage water from waste rock storage.

[illegible]

- If the higher production rate is due to more material being mined than was permitted, the Proponent will be required to provide more information on how this increased production will affect the following areas of the project:
 - The areal and elevation footprint of the Tailings Storage Facility.
 - The areal and elevation footprint of the Waste Rock Storage.
 - Changes to the reclamation plan based on the increases noted in 1) and 2).
 - Changes to the security deposit based on the increases noted in 1) and 2).
 - Changes to the monitoring plans based on the increases noted in 1) and 2

Recommendations

- Based on the information provided in the amendment application and supporting documents on water withdrawal, and AEM's commitment to increase monitoring from monthly to weekly frequency if changes in water levels or erosion are observed in Third Portage Lake, the KIA has no issue with the amendment request.
- The KIA agrees with the continued monitoring of water chemistry from Waste Rock Pile seepage points and the Tailings Storage Facility.
- If the higher production rate is due to more material being mined than was permitted, the KIA would ask the Proponent to provide more information on how this increased production will affect the areal and elevation footprint of the Tailings Storage Facility and Waste Rock Storage. In addition, information on any changes in the reclamation plan, security deposit and monitoring plans should be provided by the Proponent.