Kivallliq Inuit Association Pペーー^{Sb} Δ_ΦΔ^C b つっとらりつっしゅ



Review approach 9PF9P4905

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

- CLDJa ᡩP「ᡩpơbdc Þdd NNS๘/L๙ᡩP「ᡩpơbc ᡩpơbc Þぢpơbc Þぢpơbc Þぢpơbc Þぢpơbc Þðbanda Nns๘/banda nnscholar nnschola

 - 4>% ∩ ° ċ ° b) Γ ј ј) Γ b
 b > 5 ° σ 4 ° b) ° Δ L ° Γ b
 4 > c ° ∩ σ ° J ° < ° α > ∩ ° し σ ° , È ° γ
 2013. SNC-Lavalin
 - ᠘ᡃᠬ᠘ᠮᡑ᠐ᡪᡑ᠘᠘ᠮᡑ᠊᠌᠌᠌ᠵᡑᡖᡕ ᡏ᠐ᡪᡑᢗ᠌᠌᠌ᠫᡲᡷᡥᡳᡳ᠋᠘᠊᠋ᠣᡏᠪᠻ᠍᠍᠊᠍ᢐᡲ᠘ᠳ

General Comments P96070CD960

- 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
 - 2. An adjustment in the initial water balance model which resulted in a deficit of reclaimed water

- 4) σ'd > D < D < D < D < D
 4' σ J < D > D < D < D < D
 5' D < D
 6' D
 6' D
 6' D
 6' D
 7' D </l
- \bullet \triangleright $^{\flat}$ $^{\bullet}$ $^{\flat}$ $^{}$ $^{\flat}$ $^{\flat}$ $^{\flat}$ $^{\flat}$ $^{\flat}$ $^{\flat}$ $^{\flat}$ $^{\flat}$ $^{\flat}$

Review Summary

$^{5}P\Gamma^{5}P\sigma^{5}\Phi\Delta^{5}C\Gamma\Delta^{5}PLZ^{6}D^{5}$

- ☐ Increase in Permitted Rate of Fresh Water Use per Annum
- ☐ Increase in Footprint of the Waste Rock Pile
- ☐ Water Chemistry of the Tailings Storage Facility
- Additional Information Required

- \square \triangle C $^{\varsigma}$ C $^{\varsigma}$ D $^{\varsigma}$ C $^{\varsigma}$ U $^{\varsigma}$ D $^{\varsigma}$ O $^{\varsigma}$ U $^{\varsigma}$ D $^{\varsigma}$ O $^{\varsigma}$ U $^{\varsigma}$ D $^{\varsigma}$ O $^{\varsigma}$ O $^{\varsigma}$ U $^{\varsigma}$ O $^{\varsigma}$ O
- ᠋᠘᠘ᡩᠣᢪ᠘ᢗ᠂ᡃᠥ᠘᠘ᡤᢆᠫᠦᡥ᠋ ᠔᠕ᡩᢗᠻ᠋᠕ᡥ

- amendment to the currently permitted rate of 700,000 m³ per annum to an amended rate 1, 870,000 m³ in 2013 and 1,150,000 m³ thereafter.
- amendment request is based on the projection of increased fresh water uses for domestic camp use, mining, milling and associated uses.
- The water will be drawn from Third Portage Lake.
- The total volume to be withdrawn for based on the projected maximum use for 2009 2018 would not exceed 2.5% of the estimated volume of Third Portage Lake
- 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.

- □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □
 □ <p
- △L⁵⁶ ヘケト⁵ C⁵ の るらう Third Portage Lake-F.
- □ b∩⁵~J Ž⁵⁶CÞ½~dc⁶ σんÞቦ½Þ½⁶⁶
 'd¹n³σ⁵⁶
 'd¹n³σ⁵⁶
 'b²CÞ½°
 'C³6CÞ½°
 'C³6CÞ½°</
- □ Lcplophlopyles

 | Cplophlopyles
 | Cplophlo

Increase in footprint of the Waste Rock Pile トトトトレイントトトルト・フィムへやってトナート

- ☐ 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.

 $CL^{e}a^{1}bbbb^{4}a^{e}Cb^{e}a^{e}a^{-b}$

Water Chemistry of the Tailings Storage Facility $\Delta L^{\varsigma}b^{\varsigma}\sigma^{\varsigma}b$

- 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.
- □ ハ^LLへDσ[®]し「bD25AσD< D[†]2[®]D[®]
 Δ⊃cへせ[®]C[®]C[®]C[®]C[®]N[†]4NC<D[©](d[®]2)
 copper, iron, nickle, manganese

 □ ST-16-Γ Δ[©]0[®]D[®]D[®]D[©]D[©]ST-16-Γ Δ[©]0[®]D[©]D[©]D

 □ ST-16-Γ Δ[©]0[®]D[©]D

 □ ST-16-Γ Δ[©]0[®]D

 □ ST-16-Γ Δ[©]0[©]D

 □ ST-16-Γ Δ

Additional Information Required >PYPAPN⁶5°5°5° \PAC

- One of the main factors contributing to exceeding the permitted rate for fresh water was the higher than anticipated rate of ore processing. It is important to know if this higher production rate is due to either;
 - more material being mined, which would cause an increase in the amount of tailings and waste rock, or
 - the same amount of material being mined in a shorter timeframe, which will fill the currently permitted tailings and waste rock piles

- - Phant of the control o
 - Phanalist
 Aller Color
 Aller Col

Additional Information Required Cont... つPィトベアハトトトトトーの「ケート ヘトベー・レー・レー・レー・ロット」

- 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

- - ᠈ ᠘ᢖᡥ᠘ᠳ᠄ᡏᡎ᠋ᠬᢛᢣᡩᡃ᠊ᠸ᠊ᡥᢣ᠘ᠳᡥ᠘᠌᠌ᠵᢛbᠺ ᠘ᠫᡃᢛᢗᠪ᠈ᡃᡷᢝᡗᢉ᠑ᡃ
 - ᡏ᠘ᠰᡃᢣ᠘ᡰᢦᢗ᠘᠘᠐ᠺ᠂ᠪ᠘ᠳ᠘ᠳᢗ ᠐ᡴᢃᠳ᠘ᡶ᠄ᡃᠦᠲ᠘᠘᠂ᠵᡆ᠘᠒ᡐ᠘᠁᠘᠖ᡣ᠘᠘ ᠘᠘᠅ᡩ᠂᠆ᡥ᠘᠘ᠣᠲᡳ᠙᠑ᠳ᠐ᢣ᠘᠘ᡶᠳ᠐᠄)᠆ᠮ᠘᠘᠘ ᠮ

 - → △

 → △

 → △

 → △

 → △

 → △

 → △

 → △

 → △

 → △

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 → ○

 →

Recommendations 4つ C 4db D C 5db D C 5db

- 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.

- LCPDALATION AND CONTRACT OF A SECTION AS A SECTION AS