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MEMORANDUM

TO:	Brenda McDonald, EMAB	PROJECT#:	400093

FROM: Shelagh Montgomery and Randy Knapp

DATE: April 7, 2014

SUBJECT: Review of DDMI ICRP 2013 Update

Dear Brenda,

SENES Consultants, led by Mr. Randy Knapp, has completed a quick review of the following documents:

- 2013 ICRP Progress Report and Appendices
- 2013 Seepage Predictions
- DDMI Security Reclaim Estimate
- Closure Cost Estimate Summary of 2013 vs 2012

Our general impression is that DDMI has prepared a thorough update. There has been extensive work completed since our previous reviews of the closure plan. The concerns relate primarily to closure costs.

Although DDMI still does not want to cover the Type III waste rock, they have included these costs in their financial assurance. It is our belief that cover will be required and should be a key component of the reclamation plan. All data collected and modelled concludes that the Type III waste will produce seepage with high levels of heavy metals unless they are covered.

DDMI still wants to revise the closure plan for the PKF and use a convex cover and a pond at closure. Although this is a potentially defensible option, the concave cover is a superior option. The concern with this option is the stability of the fine PK. This material is semi-solid and will remain unstable if covered for a long period. The least cost option is to leave the material flooded and only place cover on the coarser material. It is our opinion, based upon the data supplied, that DDMI has not adequately addressed the options for dewatering the fine PK, either in-situ or at the process plant. There are a multitude of potential options that could be considered but were either dismissed or not raised in the options review.

The security estimate assumes that the revised plan is approved. If this plan is approved then our primary concern would be with the performance of the spillway. This spillway could plug as a result of glaciation or ice damming which in the worst case could lead to overtopping and/or erosion of the spillway and loss of PK to the environment. We believe it would be credible to have DDMI address options and provide costs for these options.

We trust this meets you immediate requirements. We have also completed the WLWB Excel spreadsheet for comments. We would be happy to address any other specific issues you have identified.

Sincerely, **SENES Consultants**

Shelagh Montgomery, PhD Senior Environmental Scientist

Appended information:

- Excel comment table for submission

