



INDEPENDENT ENVIRONMENTAL MONITORING AGENCY

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Re: Agency Comments on Sable AEMP Design Plan

The Independent Environmental Monitoring Agency (Agency) has reviewed DDEC's Sable Pit AEMP Design Plan (AEMP DP) and would like to provide the following comments for the Board's consideration. These comments have also been incorporated into the Reviewer Comment Table. The Sable AEMP DP should be easily incorporated into the existing site wide AEMP DP, but with additional water quality variables specifically for the Horseshoe Watershed, namely TSS and Zinc.

The Agency would also like to note that an update to the Aquatic Response Framework will be required, as mandated by the Water License (W2012L2-0001), within 1 year of mine water discharge from the Sable Pit.

Osprey Watershed:

The map on Fig 2.1-3 shows the Mag road running to the west of the South Waste Rock Storage Area, stopping less than 100m south of Southwest Lake. However, Fig 2.1-1 of the 2007 Sable Baseline report shows this Mag road running well into the Osprey watershed stopping in an area encircled by the 5 Osprey Ponds that were sampled in the baseline study. Please clarify the planned location of the Mag road.

The AEMP DP only monitors changes within the Horseshoe watershed, where most of the Sable Pit infrastructure is located. However, a piece of the south-west corner of the Sable Waste Rock Pile extends into Osprey Watershed. This suggest that the 5 Osprey Ponds originally sampled during the 2007 baseline study should be included in the annual AEMP.

Recommendation:

1. Confirm that the southwest road is designed to collect and deal with waste rock seepage from entering the Osprey Watershed.
2. Confirm that there is an SNP station downstream of the Mag road within the Osprey Watershed to monitor potentially contaminated seepage water draining from the Sable Waste Rock Pile.

Fish:

The AEMP will sample small-bodied fish every 3 years, as does the existing site-wide AEMP. There is currently, however, no baseline that the Agency can find for small-bodied fish in the Horseshoe Watershed. The 2007 baseline study never sampled these and the 2002 baseline study reports only 2 slimy sculpin caught along the Sable Lake shoreline.

Recommendation:

Before Sable Pit construction begins in 2017 there should be a concerted effort to collect baseline information on slimy sculpin in lakes downstream of the Sable Project.

Traditional Knowledge (TK):

Section 8 Item 1(o) of the Water Licence states that the AEMP must include “*A summary of how Traditional Knowledge will be collected and incorporated into the Aquatic Effects Monitoring Program.*” This discussion is quite thin, since fish monitoring will be geared to small-bodied species rather than harvestable species such as lake trout and whitefish. The current DELT program that Aboriginal TK holders participate in every 5 or 6 years will no longer be done.

This results in less TK being used for the Sable AEMP rather than endeavoring to use more. This runs contrary to communities’ concerns, which have been voicing a strong desire to see greater use of TK in environmental monitoring at Ekati.

Recommendation:

If large-bodied fish are not being monitored at Sable, then DDEC should increase its efforts to develop or incorporate more TK programs within the Sable AEMP.

Lake Name Discrepancy:

One of the lakes in the Horseshoe Watershed has different names in 2 different documents. The 2015 Sable AEMP DP report has the lake directly upstream of Logan named HWL4 but the 2002 Comprehensive Baseline Report has the same lake named HWL3. Adding to the confusion, the footnote to Table 2.5-1 (2002 Comprehensive Baseline Report) states that HWL3 was named Ross Lake in 2002.

Recommendation:

Clarify the proper name for this lake and ensure clarification is provided when cross-referencing the ‘incorrect’ name in the other report(s).

Water Quality Predictions:

Section 2.2.1 states:

“The water quality model assumed that discharge was in the centre, deepest part, of the southern basin of Horseshoe Lake. The predictions (p.2-7) demonstrated that at the end of mine life the concentrations of modelled water quality variables should rise to approximately 8% of discharge concentrations in the northern regions and 16% of discharge concentrations in the southern regions of Horseshoe Lake (BHP Billiton 2009). The results also indicated that, even under the seven day worst case, only nickel was predicted to be greater than the water quality benchmark in Horseshoe Lake beyond a 20 metre mixing zone.”

Horseshoe Lake is small and shallow. It is possible that by the end of mine life that it will have mixed completely. Therefore, it might be better to also run the model assuming that discharge would mix evenly throughout the lake.

Recommendation:

DDEC to run the model assuming whole-lake mixing and see if results change. If it results in higher concentrations of chemical variables, then the assumptions and predictions stated above should be updated accordingly.

Lake HWL4:

The AEMP DP does not explain why HWL4 is not included as one of the Horseshoe monitored lakes. It appears to be the largest lake in the Horseshoe Watershed (although there is no area or volume data presented for it) and therefore likely to be the most similar to two of the three reference lakes (Vulture and Nanuq). These two reference lakes are larger by volume than Horseshoe watershed lakes listed in Table 3.2-2: Morphometry of Reference Lakes and Proposed Sable AEMP Lakes.

Recommendation

1. DDEC should clarify why HWL4 is not included as one of the Horseshoe watershed lakes that will be monitored as part of the Sable AEMP DP.
2. If HWL4 be included in the monitoring program, is it suitable to allow for large-bodied fish sampling for species such as trout and whitefish?

Minor Clarifications:

Table 3.2-1 Proposed Sable AEMP Sampling Locations: This table lists all the lakes except HWL4 and says that Logan is the 5th downstream lake, but HWL4 is actually the 5th downstream lake.

Table 2.2.1 – Summary of Predicted Residual Effects and the Associated Monitoring Program or Plan: The column 2 heading should read “Predicted” not “Potential”. The use of the word

“potential” infers that the effects will be negligible or minor as stated in the text, however they are only the predicted outcomes since we do not know what the actual effects will be. Also the title of Table 2.2.1 is also refers to “predicted”.

Should you have any questions concerning these comments, the Agency would be pleased to discuss these at your convenience.

Sincerely,

Jaida Ohokannoak
Chairperson