



NWB Tools

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160602 2AM-DOH1323 Submission of AEMP Plan, and Proposed SNP Revisions to Dist List for Comment Review TMAC Resources Inc.-OAAE

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To: John Roberts <john.roberts@tmacresources.com>, "Ida.porter@nwb-oen.ca" <Ida.porter@nwb-oen.ca>

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Hi John,

Acknowledging that these comments are outside the NWB's formal comment period, I would like to provide TMAC with feedback on the monitoring programs on behalf of ECCC. It was extremely helpful to meet on June 6th and thanks to Katsky for the workshop notes. Instead of referring to SNP, I am using the terminology "Schedule J monitoring".

1. Comments on Schedule J monitoring:

ECCC participated in the June 6th workshop which discussed the monitoring conditions for TL and ST monitoring sites at the Doris mine. In general, ECCC agreed with the proposed revisions, made to accommodate project changes in water and waste management. These are outlined in the notes to the presentation, and in the meeting notes from the June 6th workshop.

The main item to follow up on is where monitoring results are to be reported, and how monitoring terms and conditions changes are to be managed. Most Nunavut licences include a clause stating that the Board can revise items in the Schedules without that being considered an "amendment" to the licence. This clause was not included in the Doris North licence. If this clause were to be added to the amended licence it would address concerns with the managing changes to monitoring conditions in Schedule J. Alternatively, relying on reporting of results in the management plans would provide flexibility, and changes to plans can be made without amending the licence, and are considered binding under the licence terms and conditions. The concern with this approach is the frequency of reporting; Schedule J monitoring results are reported on a monthly basis whereas the plans are typically included in the annual report. In the June 6th workshop John Roberts (TMAC) committed to characterization of the TIA water and making results publicly available.

Recommendations:

- That the Water Licence amendments include addition of the clause allowing for modification of the terms and conditions contained in the Schedules to the Licence.
- TIA sampling and characterization be done monthly for metals, major ions, pH, TSS, nutrients and Total

Petroleum Hydrocarbons. Data should be provided to the Water Board on an ongoing basis, whether this is regulated through Schedule J or through the water management plan.

- TL-3 – Doris Outflow Creek downstream of the falls: 1. retain oil and grease; 2. sampling frequency post closure is proposed to be annual – this is low so suggest deferring setting the frequency to later versions of the closure plan.
- TL-12 – underground minewater: retain Schedule J requirements for monthly analysis of ammonia, pH, TSS, and add major ions.

2. Aquatic Effects Monitoring Plan (AEMP) Comments:

TMAC provided a revised AEMP for the June 6th workshop, and provided rationale for the reduction in freshwater sampling. With the change in effluent discharge from freshwater to the marine receiving environment, the main sources of contaminant loading to surface waters will be airborne and surface runoff contributions. Monitoring during construction has not detected effects; however, there will be continued development and activity going into operations. Water level monitoring has been added to the AEMP, along with ice thickness.

TMAC proposes reduction of water quality sampling sites from two to one in Doris Lake, and removing the downstream stations (Doris Creek, Little Roberts Lake, outflow of Little Roberts Lake, and Roberts Lake outflow). In support of this, TMAC has promised to provide data for the two Doris Lake sites showing comparability. This may be a reasonable approach if there is close correlation over time; with no seasonal variation or differing trends. If any changes are observed at ST-7 it would be expected that monitoring would be expanded to other stations in Doris Lake.

TMAC does not propose to do any sediment or biological monitoring in Doris Lake. ECCC notes that there can be accumulations of metals or nutrients in sediments even when there are very low levels in the water (e.g. mercury). Similarly, there can be changes to biota in response to low levels of nutrient inputs, which are not necessarily observable as increases in the water column.

The AEMP also includes the framework for the Response Plan. ECCC notes that the benchmarks proposed are CCME guidelines, but should also include baseline water quality where warranted by background levels or for parameters which do not have CCME guidelines.

Recommendations:

- Continue chl *a* monitoring as an indicator of eutrophication, on at least an annual basis.
- Continue monitoring of benthic invertebrates in Doris Lake and in the reference lake; this could move to a three year cycle.
- Sampling of Doris Lake North surficial sediments for metals every 3 years.
- Doris Creek monitoring should be resumed prior to breaching of the Tail Lake dike; it would be reasonable to characterize Doris Creek for 2 years in advance of closure breaching.

3. Marine Monitoring

An outline of the Marine Receiving Environment Monitoring was provided in an ERM memo dated April 29th, 2016. This monitoring program will be done in compliance with the Metal Mining Effluent Regulations (MMER); however, that program will not be initiated until the mine is subject to the MMER following discharge. TMAC has proactively proposed collection of baseline marine data in 2016.

Recommendations:

- Exposure sampling stations shown in Figure 2-1 are 250 m from the diffuser; this distance is too great given the predicted quality and mixing of the effluent (within less than 15 m). Sampling stations should be moved closer to the diffuser site, within approximately 50 m or less.

Please feel free to contact me with any questions on this.

Best regards,

Anne

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From: John Roberts [<mailto:john.roberts@tmacresources.com>]

Sent: June 22, 2016 4:34 PM

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