P.O. Box 360
Kugluktuk, NU X0B 0B0
Telephone: (867) 982-3310
Fax: (867) 982-3311
www.kitia.ca

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Sonia Aredes, P.Eng.
Technical Advisor
Nunavut Water Board

Sent by e-mail

2016-06-22

**Re: TMAC Recourses Inc.'s EEM and AEMP for Doris North**

Dear Sonia Aredes

The KIA has reviewed TMAC Resources Inc.'s Environmental Effects Monitoring (EEM) program for the Doris North Project.

The KIA finds the Technical Memorandum, dated April 29th, 2016, by ERM to be thorough and a well-developed program. The monitoring plan provides the sampling locations, monitoring components, measured parameters and indicators, and the rationale for the monitoring program.

The design of the program was informed by the near-field and far-field mixing models (EM 2016a and ERM 2016b), that predicted rapid mixing of the effluent in the bottom layer of the water column in Robert's Bay, and dilutions between 1,000:1 and 10,000:1 at 250m from the discharge diffuser.

The KIA has no outstanding concerns or issues on the proposed EEM program and believes the plan to be adequate.

The KIA has also reviewed TMAC Resources Inc.'s Aquatic Effects Monitoring Plan (AEMP) and proposed Surveillance Network Program (SNP) revisions.

Concerning the AEMP, the plan contains all the main components of an AEMP. It provides the sampling locations, monitoring components, monitoring schedule, reporting and response framework. KIA's comments on the AEMP are provided below:

- 3.1 Study Design, Monitoring Sites (Page 10): TMAC is not proposing reference sites the Plan, but rather using background water quality data collected from 2015 and prior to assess changes to water quality, with the rationale that it provides a more robust dataset. Monitoring of a reference site outside of the project site is necessary to tease out project-related and climate related changes to water quality. The Plan proposes to potentially monitor the reference site if project effects to water quality have been

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detected. The conclusion of project-related effects necessitates the collection of on-going reference data for comparison.

- 3.2 Monitoring Components, Analysis of Effects (Page 11): Water quality parameters will be evaluated for potential Project-related by comparing CCME parameters against historical data. Non-CCME parameters (i.e. TDS) should be included in the analysis to look for change in water quality in its own merit.

- 3.2 Monitoring Components, Analysis of Effects (Page 12): The plan proposed that if monthly water quality concentrations are greater than their 75th percentile concentration in three samples collected over a six-month period the parameter will be analyzed for differences in means. Using the 75th percentile is a good conservative metric to use for additional analysis.

- 3.2 Monitoring Components, Analysis of Effects (Page 12): The plan says that water quality data collected from 2015 and prior will be used as the "before" data since there have been no indications of changes to Doris Lake water quality due to Project activities over the course of the original AEMP. TMAC should include or provide a reference to the statistical analysis that shows that there have been no changes to Doris Lake water quality from 2015 and prior.

- 3.2 Monitoring Components, QA/QC (Page 13): The QA/QC program provides for the collection of travel blanks, field blanks, and replicate samples. TMAC should explain how the QA/QC results will be interpreted (e.g. acceptable levels for blanks, duplicates, etc.

The KIA has also reviewed the proposed Surveillance Network Program (SNP) revisions and finds them to be adequate and we have no further comments on them.

Yours truly

John Roesch, P.Eng.
Senior Hope Bay Project Officer
Department of Lands and Environment
Kitikmeot Inuit Association

Cc Geoff Clark,
Director of Lands and Environment,
Kitikmeot Inuit Association