



To:	Felexce Ngwa, Ph.D., EP Indigenous and Northern Affairs Canada Nunavut Regional Office	Date:	April 11, 2018
c:		Memo No.:	
From:	Tetra Tech	File:	704-V15103107-05
Subject:	Preparation for Final Hearings for TMAC's Phase 2 Hope Bay Belt Gold Mine Project INAC Responses to Proponent		

1.0 INTRODUCTION

Tetra Tech Canada Inc. (Tetra Tech) has prepared this technical memo to address outstanding concerns with TMAC's responses to INAC's final written submission. Formal responses to INAC-FC-1, 2, 3, 4 and 5 are presented below.

ID #INAC-FC-1 – INAC's Response

INAC is satisfied with the trigger and response method that will be implemented by TMAC as part of the Aquatic Effects Monitoring Plan established for the Project. As a result, INAC-FC-1 is resolved.

ID #INAC-FC-2 – INAC's Response

TMAC's response to INAC-FC-2 begins with useful information (as requested) of actual lake ice conditions. To the key question of when lake ice melt begins and when the lake(s) are ice-free, TMAC stated: ***"Ice-off usually commenced in mid-June with the presence of liquid water along the perimeter of lakes, with fully open waters in early July."***

INAC's interpretation of this statement is that lakes typically have a full ice cover through the end of May, that open areas begin to appear around the perimeter in mid-June, and that the lakes are ice-free by early July. June is a transition month, and this is where INAC does not agree with TMAC's position that ice effects on lake evaporation cease to occur at the end of May. Based on TMAC's description of timing of ice-off initiation and ice-free conditions, INAC would expect actual lake evaporation in June to be in the range of 25% to 35% of the potential June evaporation based on climate parameters and ignoring ice effects.

INAC's notes that TMAC's Table 29-3 identifies four studies yielding the highest lake evaporation amounts outside of the open water July to September period, (1) Doris/Madrid, (2) Boston, (3) Back River, and (4) Jericho. What the table neglects to show is that all four studies were done by SRK consultants. This suggests that the SRK studies likely used a consistent approach with respect to ignoring ice effects on lake evaporation. It does not validate the approach and does not justify TMAC's present position that ice cover conditions in June do not interfere with lake evaporation amounts.

INAC recommends that TMAC revisit its response to INAC-FC-2 to include an adjustment for June amounts or provide a convincing argument for not doing so. An argument for not adjusting for ice cover should acknowledge the credible sources cited in INAC FC-2 that state otherwise. INAC expects that TMAC will update Supporting Document P5-2 in accordance with the revised response agreeable to INAC, and re-issue the document.

ID #INAC-FC-3 – INAC's Response

TMAC's response to INAC-FC-3 is unacceptable to INAC. TMAC appears to be moving away from their commitment, as stated clearly in most of the applicable FEIS documentation, which states ***“that a silt curtain will be installed around the cargo dock area and remain in place throughout the marine construction period.”*** This and related commitments to mitigate potential impacts on marine water quality are best summarized in FEIS Volume 5, Section 10.5.3.2 as follows:

- Prior to construction, a silt/turbidity curtain will be installed around the cargo dock and remain in place throughout construction (Annex V1-7, Package 5-10). It will limit the area impacted by turbidity to an area slightly larger than the construction footprint.
- The curtain will be inspected regularly during the course of construction and all necessary repairs will be made if any damage occurs.
- The curtain and all other associated materials will be removed from the site after the end of construction.
- Turbidity will be monitored inside and outside the barriers on a daily basis with an electronic meter. These measurements will be recorded and reported to regulatory agencies.
- If turbidity increases above CCME guideline limits outside the turbidity barrier, then additional prevention and control measures will be applied. These may include changes in size of infill material, altered methods of infill, or suspension of infilling until turbidity decreases.

As indicated in TMAC's response to INAC-FC-3, TMAC is now deferring entirely to Fisheries and Oceans Canada (DFO) to specify the construction methods, monitoring, and reporting requirements in the expected DFO Authorization for the construction of the cargo dock. As stated by INAC throughout this NIRB Review process, the application of this Best Management Practice is a nationally recognized marine construction practice that was accepted by TMAC during the DEIS review process and is now reflected in the Hope Bay Phase 2 FEIS (with one inconsistency as noted in INAC-FC-3).

INAC, therefore recommends that TMAC honour their commitment as conveyed in the FEIS and reiterate this commitment in TMAC's Final Commitments List.

ID #INAC-FC-4 – INAC's Response

INAC is satisfied with the response provided by TMAC that they will collect all seepage and runoff from all waste rock and ore stockpile pads into downstream, lined collection ponds that will then be managed and monitored according to the Water Management Plans and Surveillance Network Program (SNP) established for the Project. This is an acceptable alternative to a bi-annual seepage survey. As a result, INAC-FC-4 is resolved.

ID #INAC-FC-5 – INAC's Response

TMACs response to INAC-FC-5 is unacceptable to INAC. Proponents are responsible for the development of reclamation plans that include deliberate revegetation as an option. Reclamation plans should also include some form of reclamation study that might include deliberate revegetation of substrates that will remain post-mining. Simply stating deliberate revegetation will be considered should opportunities emerge is insufficient, particularly given the advancement in reclamation research from studies conducted at other Northern mining projects (e.g., EKATI, Diavik).

Incorporating deliberate revegetation and designing some form of reclamation trial into reclamation plans is not an onerous proposition. It is good, responsible practice. INAC therefore re-iterates their recommendation that TMAC commit to the use of deliberate revegetation as a reclamation option, and includes the design and implementation of reclamation trials that may include deliberate revegetation of substrates into their reclamation plans.

2.0 CLOSURE

We trust this technical memo meets your present requirements. If you have any questions or comments, please contact the undersigned.

Respectfully submitted,
Tetra Tech Canada Inc.



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