19 September 2006

AMEC File: VE51295

Sent Via E-Mail

Tahera Diamond Corporation
130 Adelaide Street West,
Suite 1900,
Toronto, ON
M5H 3P5

Attention: Greg Missal

Dear Mr. Missal,

Reference: **Long Lake Dewater Plan**

With respect to information requests regarding the Long Lake Dewatering Plan, we understand a letter was submitted to NWB 8 December 2005 addressing concerns raised by DFO (our copy attached for your reference).

Please do not hesitate to contact me if you require clarification or additional information.

Senior Associate
/bo
c. Dan Johnson, Tahera Diamond Corporation.

AMEC Earth & Environmental
a division of AMEC Americas Limited
2227 Douglas Road, Burnaby, BC
Canada V5C 5A9
Tel +1 (604) 294-3811
Fax +1 (604) 294-4664
www.amec.com

December 8, 2005

Phyllis Beaulieu
Nunavut Water Board
Box 119
Gjoa Haven, Nunavut
X0E 1J0

RE: Response to DFO questions on the Long Lake Dewatering Plan – Jericho Diamond Mine.

This letter has been prepared in response to DFO's letter dated September 1st, 2005 and received by Tahera on November 14, regarding their review of the Long Lake Dewatering Plan submitted by Tahera Diamond Corporation July 2005.

DFO's comments have been included followed by Tahera Diamond Corporations response.

General Comments:
A Fish Salvage Program has been submitted to DFO for review and a DFO Licence to Fish for Scientific Purposes has been issued to Tahera to allow the salvage to begin. Although progress on the salvage has been slow, it is expected to continue until logistics (ice conditions, etc) prevent further effort. DFO continues to work with Tahera to address this issue. This may include salvaging fish during dewatering activities, in which case the following measures should be undertaken to ensure the water intake structure on the pump is designed to protect fish:

• *Extraction of water via intake is properly screened to prevent the entrainment of fish. Refer to the Freshwater Intake End-of-Pipe Fish Screen Guideline (DFO 1995), which is available upon request.*

• *Ensure that the holes in the screen are small enough that no fish of any size can pass through the screen and into the intake.*

• *The rate of water withdrawal should be such that fish do not become impinged on the screen.*

Response General Comments
Fish Salvage occurred concurrently with dewatering of Long Lake for a 2 day period only. The salvage efforts commenced on August 16th, 2005 and were completed on September 5th, 2005 when the salvage was halted due to safety concerns. The fish salvage was completed prior to ice covering Long Lake. The water intake for the pump was screened with a standard mesh screen used on water supply pumps as discussed in the dewatering plan submitted to NWB. Such screens meet DFO (1995) guidelines for intake screens and are designed to prevent entrainment of fish. The intake screen is robust enough to prevent incidental damage. Periodic inspection serves to ensure damage does not occur.

Section 2.1 *– Table 2.1 identifies the breakdown of the volume of water to be pumped from Long Lake, which totals 148 300 m^3. Of this portion, 135 000 m^3 will be the volume to be extracted from Long Lake, to allow the lake level to be lowered by 2 meters. However, the No Net Loss*

Plan (Mainstream, 2005) indicates that a volume of 100 000 m^3 will be discharged from Long Lake over an approximate 50 day period. Please explain the discrepancy and if the 148 300 m^3 value is the true value, does this increase the risk of erosion in Stream C3?

Response Section 2.1
The Mainstream Aquatic report indicated an approximate volume of water that required removal; the Dewatering Plan provided a better estimate of the upper limit of water that would require removal. The key parameter, however, is to lower the lake down by approximately two (2) meters, not the precise volume of water that must be removed. The Dewatering Plan provides details on a daily basis of the volume of water removal.

The pumping rate is governed by the pump available and the upper limit at which water can be discharged without exceeding freshet flows.

Section 2.2 *– It is indicated that the maximum recorded freshet flows in Stream C3 are 0.045 m^3/s, and so using a similar dewatering rate will not cause erosion. Freshet flows typically last for a limited period (much less then 50 days) of time and therefore the stream would be able to naturally readjust to any minor erosion problems. Should dewatering occur over a much longer period, the potential risk of erosion would increase. Please provide a comparison of the length of time for the maximum recorded freshet flow in Stream C3 and the dewatering period, and the rationale/evidence that supports the conclusion that this difference would not result in erosion in Stream C3.*

Response Section 2.2
The length of time for freshet flows during the time data were collected at Jericho can be determined with reference to Figure C.16 (Technical Memorandum C). The duration of the peak flows usually occur within a one week time frame as evident from the measurements taken during year 2001. Erosion capability of flowing water is dependent upon peak velocity and the soil and vegetation characteristics of the channel. If there is no evidence of erosion at peak velocities it is unlikely to occur at velocities below the peak. The discharge rate proposed in the dewatering plan was 0.034 m^3/s or about three quarters of the year 2001 maximum measured freshet flow rate of 0.045m^3/s. Because of the pump capacity, actual rate of discharge is approximately 0.024 m^3/s or nearly half the peak freshet flow recorded. 2001 was considered to be an average return year, it is very probable Stream C3 has experienced discharge rates resulting from 5 year to 10 year return periods a number of times over the years. Detailed examination of Stream C3 showed no evidence of scour anywhere along the stream length indicating peak freshet flows have not caused erosion in the relatively recent past.

Section 2.3 *– DFO agrees that rock and grass banks/substrate are not symptomatic of an eroding bank, however under sufficient high flows for an extended period of time, these banks could be susceptible to erosion. Typically, these banks are embedded in finer material, which*

could be erodable under extended periods of high flows. Once erosion starts, it may be difficult to control, particularly if dewatering continues at the proposed rate. Please provide a description of the underlying materials and how this concern will be mitigated to prevent erosion of the bank materials, both during and after dewatering.

Response Section 2.3
Stream C3 for much of its length flows over and through rocky tundra with little or no fine materials. There is no accumulation of fines in the flatter muskeg areas where the stream bifurcates and where stream velocities reduce. In fact, over most of the stream course, the bottom is composed of 20 to 30 cm diameter boulders covered by diatoms and other periphyton.

There are no data on stream bank composition. Soil trenches dug by SRK in 2003 in an area north of the stream indicated soils were predominantly coarse gravely sand with some silt content. (see attached location map and logs).

There will be no concerns after dewatering if banks have not destabilized. Any destabilization would be addressed by rock armouring with rock readily available upslope from stream banks.

Section 2.4 *– DFO does not agree that the use of silt curtain stretched across the stream will reduce sediment in the channel. First, silt curtains are designed for low flow scenarios, such as runoff, and not flowing water in a watercourse. Secondly, any sediment in the water will quickly plug the silt curtain thereby creating a barrier to water movement. As a result, the water will simply find alternate pathways around the silt curtain rendering the silt curtain useless. This could lead to erosion around the silt curtains as the water finds a new path. Furthermore, the maintenance necessary for the use of silt curtains (when used in this manner) is extremely high and ill-suited for the circumstance. DFO suggests that other means to control sediment be considered, and that representative drawings and a maintenance schedule of the proposed sediment control measures be provided for review.*

Response Section 2.4
Silt curtains were used successfully at Jericho down slope of road construction during runoff. The screens were framed on two by fours and the bottom of the screens held down by rocks. Silt curtains are routinely used in small streams to catch sediment although they are less effective than when used for very low flows. Any other effective control such as sediment ponds constructed in the stream would cause considerably more impact that a small amount of sediment release prior to stopping pumping. Infiltration basins are used for some large construction projects to collect sediment; again, such facilities would entail mobilizing heavy equipment down Stream C3 and significant disturbance of the stream bed to construct.

Daily inspection of the entire length of Stream C3 is proposed in the Dewatering Plan, thus any erosion that occurred would be noted very quickly and pumping stopped thus resulting in a rapid reduction in flows. The plan would be to affect repairs to the stream bed through rock armouring prior to recommencing drawdown and to monitor any sites where erosion occurred for sufficient time to be assured that additional erosion was not taking place coupled with a reduction in discharge rate as advised by the hydrologist.

Section 3.1 *– The phrase "appreciably cause erosion" is a subjective evaluation. Please provide a more objective means of evaluating erosion.*

Response Section 3.1
Jericho's water licence requires that water discharged from Long Lake not exceed 25 mg/L maximum in any grab, thus appreciable erosion would be (in the professional judgement of the hydrologist) any volume of sediment carried into Stream C3 that, within a maximum of 100 m did not drop below 25 mg/L.

Section 3.2*:*
- *DFO suggests that inspection not wait until erosion is evident, but rather identify where it may develop (or where it is developing) so that mitigative measures can be implemented to prevent it. Furthermore, it may be necessary to consider other means of mitigating erosion, i.e. reducing the pumping rate, using alternate flow paths, etc. Please provide the triggers for action and the approach to implementing a range of mitigation measures depending on the circumstances.*
- *Although not expressly stated, it is assumed that the material for rock armouring will not be taken from the pathway of the discharge, including Stream C3 or any other water bodies/watercourse. Please confirm if this is the case.*
- *The turbidity testing suggested in the Plan implies that pumping could occur at least for one week before high TSS level have been detected. DFO suggests that a correlation between turbidity testing and the lab analysis of TSS be developed early during the dewatering activities, to allow for a quicker means of detecting potentially elevated levels of TSS.*

Response Section 3.2

Bullet 1
The Dewatering Plan indicates that daily inspection of Stream C3 is to occur. Thus any incipient erosion will be noted and pumping cease as indicated in the plan. Once repairs were affected, pumping would restart, initially at a reduced rate until the hydrologist were satisfied that no further erosion at the site or other potentially suspect areas of the stream. If erosion were likely, the pumping rate could be reduced by lengthening the time required for dewatering.

Bullet 2
Rock armouring would be taken from upslope of stream banks; taking rock from the stream bed would only invite erosion.

Bullet 3
DFO's concern is noted. The commitment of Tahera for site measurements of total suspended solids has been to establish a correlation between turbidity and TSS wherever such a correlation can be established; this commitment includes Long Lake dewatering.

Should you have any additional questions please do not hesitate to contact the undersigned or site environmental staff.

Sincerely,