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Water Resources Division  
Nunavut Regional Office  
P.O. Box 100  
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Our File: / CIDMS  
9545-1-1JERR  
241479

August 21, 2008

Richard Dwyer  
Licence Administrator  
Nunavut Water Board  
Gjoa Haven, NU X0B 1J0

***RE: Jericho Diamond Mine - NWB1JER0410 - Review of 2007 Annual Report***

Please be advised that Indian and Northern Affairs Canada has completed a review of the Jericho Diamond Mine's 2007 Annual Report (see attached Technical Review Memo).

Should you have any questions or comments, please do not hesitate to contact me by phone at 867-975-4568 or by e-mail at [rumbolti@ainc-inac.gc.ca](mailto:rumbolti@ainc-inac.gc.ca).

Sincerely,  
*Original signed by*

Ian Rumbolt  
Regional Coordinator

Cc. Kevin Buck, Manager of Water Resources Division, INAC NRO  
Joëlle Tessier Gagné, Water Resource Analyst, INAC NRO



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245528

August 22, 2008

### **Technical Review Memo**

To: **Richard Dwyer**, Licence Administrator, Nunavut Water  
From: **Ian Rumbolt**, Regional Coordinator, INAC Water Resources Division

**RE: Jericho Project – 2007 Type A Water Licence Annual Report Review –  
2AM-JER0410**

The following documents were reviewed and compared to the above mentioned report:

- Monthly 2007 Surveillance Network Program (SNP) Reports
- Project Certificate Nunavut Impact Review Board (NIRB) (No.: 002)
- Jericho Diamond Mine – Monitoring Program – 2007 Annual Report
- Nunavut Water Board (NWB) Water Licence 2AM-JER0410
- Jericho Diamond Mine – General Operational Monitoring Plan

Upon completion of the review of the above mentioned documents, INAC has provided the following comments and recommendations that should be considered by the NWB and by the Licensee.

#### **Comments / Recommendations:**

- 1) The proponent must submit a completed Care and Maintenance Plan for the Jericho Diamond Mine to the NWB as soon as possible. This plan should reference any proposed changes to the Spill Contingency Plan, Abandonment & Reclamation Plan and any other monitoring plans for the site. The reason for this is that the Licensee's proposed Care and Maintenance Plan may affect present water monitoring requirements as per the water license.

- 2) In table 18.1, *Summary of Unauthorized Discharges* (page 20 of the Report) the proponent provides a list of unauthorized discharges as per Schedule B, Item Q of the water licence. Inspections must be undertaken to determine the status of remediation activity to date as well as determining any future remediation measures that may be required. This information must be reported in the 2008 Annual Report as part of Item Q.
- 3) It was noted in Appendix A of the Report that Ammonia levels were above the PKCA Discharge Criteria at JER-SW1 (Sewage Treatment Plant Effluent) and JER-SW2 (Open Pit) wastewater quality SNP Stations. Upon further review, INAC noted that these two locations have no discharge criteria associated with them. In the future, INAC recommends that:
  - The proponent include a title page for Appendix A similar to the one in Appendix B, so that the wastewater quality data is not confused with the receiving water quality data; and,
  - The proponent should not include the PKCA discharge criteria in the tables of results for these locations as it does not apply.
- 4) It was noted in Tahera's Monitoring Report to NIRB and NWB that for sample location JER-WQ16 (Lynne Lake) that the Ammonia Nitrogen level was 0.0263 mg/L (December 2007) (CCME Guideline is 0.019 mg/L). Also the nitrate levels were detected at 0.0673 mg/L (July 2007), 0.0708 mg/L (August 2007) and 0.0774 mg/L (December 2007) (CCME Guideline is 0.06 mg/L). Further to this, INAC field staff determined, through oversight sampling conducted on August 11, 2007, that the Nitrate level at station JER-WQ16 was 0.06 mg/L (similar to Tahera's finding). Sampling for background levels of Ammonia Nitrogen and Nitrate conducted by INAC staff at Carat Lake (station JER-WQ1) indicate Ammonia Nitrogen at 0.007 mg/L and nitrate at 0.02 mg/L. Thus it appears that there has been some impact to Lynne Lake from mining activity.

It is our opinion that a likely source would be the Ammonium Nitrate (AN) Storage Pad. The reason for this is that a previous NIRB inspection of the site in August 2006 and subsequent correspondence sent to NIRB by Tahera (dated September 21, 2006) reveal that there were concerns raised by NIRB as well as action taken by Tahera (monitoring of the AN Storage Pad) in regard to possible run-off from this site. Results of Tahera's monitoring of the Storage Pad could not be located in either the NWB or NIRB Annual Reports.

Therefore, INAC is requesting that Tahera investigate and determine the cause of the elevated levels of Ammonia and Nitrate in Lynne Lake as well as submit an abatement strategy to prevent further impact. A plan of actions with a firm timetable of implementation should be submitted by Tahera no later than September 30, 2008.

5) This information has been forwarded to INAC's Field Operations Division for follow-up.

CC.: Kevin Buck, Manager of Water Resources Division, INAC - NRO  
Joëlle Tessier Gagné, Water Resource Analyst, INAC - NRO