

# Project Monitoring Report



**Jericho Diamond Mine Project** 

October 20, 2009

Title: The Nunavut Impact Review Board 2008 – 2009 Monitoring Report for the

Jericho Diamond Mine Project

Owner: Tahera Diamond Corporation

Suite 803, 121 Richmond Street West

Toronto, Ontario

M5H 2K1

Monitoring Officer: Sophia Granchinho, NIRB Technical Advisor

Monitoring Period: January 2008 to September 2009

NIRB File No.: 00MN059

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## 1.0 INTRODUCTION

Tahera Diamond Corporation (Tahera) was issued a Project Certificate for the Jericho Diamond Mine Project (the Project) by the Nunavut Impact Review Board (NIRB or Board) on July 20, 2004 (Project Certificate No. 002). The Jericho project is situated in the West Kitikmeot region about 430 kilometre (km) southwest of Cambridge Bay and 240 km southeast of Kugluktuk. Tahera commenced construction of the mine in 2005 and full operation was underway by July 2006. In 2007, 553,457 tonnes of ore, 6,750,159 tonnes of waste rock and 17,524 tonnes of till/overburden were produced. A total of 22,900 tonnes of esker was used for construction purposes.

On January 16, 2008 Tahera filed for creditor protection citing insufficient funds to operate the Jericho Diamond Mine. On April 25, 2008 Tahera issued a press release indicating that the processing plant and mine infrastructure were being prepared for a period of Care and Maintenance. On September 29, 2008 another press release was issued, indicating that Tahera was being bought by a privately owned group. To date, the NIRB Monitoring Officer is not aware of any company that has bought the rights to the Jericho Diamond Mine. On December 8, 2009 Tahera indicated to Indian and Northern Affairs Canada (INAC) that the company's financial resources had been depleted to the point that it could not continue to support the Jericho Site Care and Maintenance, and would most likely close the site<sup>1</sup>. On December 13, 2008 INAC intervened pursuant to Section 89 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, and to date the Jericho Mine is still undergoing Care and Maintenance.

Pursuant to Project Certificate No. 002, the NIRB is required to monitor the project in accordance with Section 12.7.1 and 12.7.2 of the Nunavut Land Claims Agreement (NLCA). As a result, the following report has been prepared. This report is based on the following:

<sup>&</sup>lt;sup>1</sup> Mike Johnson (Tahera Diamond Corporation), *Tahera Response to INAC Concerns; INAC Review of Type A Water Licence Annual Report and August 2008 INAC Site Inspection* (Tahera Diamond Corporation, December 8, 2008).

- An assessment of the effectiveness of the terms and conditions of the Project Certificate;
- The adequacy of the monitoring program and on the ecosystemic and socioeconomic impacts of the project; and,
- Appendix D issued to Tahera Diamond Corporation (Tahera) on October 3, 2006 (revised issued November 20, 2007), which gives direction to both the Proponent and the Monitoring Officer for the monitoring of the Jericho Diamond Mine (Jericho) Project (see Appendix I).

## 2.0 MONITORING RESULTS AND ACTIVITIES

The objectives of the NIRB's monitoring program as stated in Section 12.7.2 include:

- (a) To measure the relevant effects of projects on the ecosystemic and socioeconomic environments of the Nunavut Settlement Area;
- (b) To determine whether and to what extent the land or resource use in question is carried out within the predetermined terms and conditions;
- (c) To provide the information base necessary for agencies to enforce terms and conditions of land or resource use approvals; and
- (d) To assess the accuracy of predictions contained in the project impact statement

## 2.1. Documentation and Reporting Requirements

In accordance with the Terms and Conditions and Tahera's Commitments contained within the NIRB Project Certificate, the following items were required but were not submitted to the Board's Monitoring Officer for review:

- 1) Reports/Items required by Tahera:
  - a) Plan of action to address the NIRB's recommendations from the NIRB's 2008 Annual Monitoring Report<sup>2</sup>;
  - b) Quarterly reports for the periods covering
    - i) July 2008 September 2008,
    - ii) October –December 2008,
    - iii) January 2009 March 2009 and,
    - iv) April 2009 June 2009
  - c) 2008 Annual Monitoring Report;
  - d) 2008 Wildlife Mitigation and Monitoring Report; and,
  - e) Comprehensive analysis and discussion on Wildlife Mitigation and Monitoring Plan

The following documents were submitted by Authorizing Agencies for review by the Monitoring Officer:

Nunavut Impact Review Board 2008- 2009 Monitoring Report - Jericho Diamond Mine

<sup>&</sup>lt;sup>2</sup> Letter dated November 25, 2008, from Sophia Granchinho, NIRB to Greg Missal, Tahera, Re: Recommendations based on the NIRB's 2007 Annual Monitoring Report for the Jericho Diamond Mine Project.

- 1) Reports/Items submitted by Fisheries and Oceans Canada (DFO):
  - a) Plan of action to address the NIRB's recommendations from the NIRB's 2007 Annual Monitoring Report (December 18, 2008).
- 2) Reports/Items submitted by Regional Socio-Economic Monitoring Committee (Regional-SEMC):
  - a) Kitikmeot Socio-Economic Monitoring Committee Jericho Diamond Mine, 2007 Socio-Economic Monitoring Report (August 18, 2009).

## 2.2. Annual Monitoring Report

The annual monitoring report for the project activities occurring throughout the 2008 year was due on April 30, 2009 and was not received by the Monitoring Officer. This report is a requirement of Appendix D as annexed to the Jericho Project Certificate.

Furthermore, on December 1, 2008 the Board provided its findings on the review of Tahera's *Monitoring Program* – 2007 *Report* (2007 Annual Monitoring Program Report). The Board provided recommendations as well information requests to be addressed in future reports as part of its findings<sup>3</sup>. NIRB requested that Tahera provide a written response to the information requests by January 13, 2009 in order to complete an accurate assessment of the status of the project with respect to both the predictions made in the Final Environmental Impact Statement and the terms and conditions stated within the Project Certificate. To date no response has been received from Tahera regarding the Board's requests. The NIRB understands that Jericho Diamond Mine is currently in Care and Maintenance; however, many of the items requested for the 2007 Annual Report previously occurred while the mine was in full operation and the data/information should be available for reporting purposes.

Nunavut Impact Review Board 2008- 2009 Monitoring Report - Jericho Diamond Mine

<sup>&</sup>lt;sup>3</sup> Letter dated December 1, 2008, from Sophia Granchinho, NIRB to Greg Missal, Tahera, Re: *Opportunity for Tahera to Respond to Parties Comments on the Tahera's 2007 Annual Monitoring Report.* 

## 2.3. Wildlife Mitigation and Monitoring

## 2.3.1. Wildlife Mitigation and Monitoring Plan (WMMP)

On May 15, 2007, Tahera submitted its 4<sup>th</sup> and final draft of the *Wildlife Mitigation and Monitoring Plan* (WMMP) for the Jericho Diamond Project. This plan is a requirement of Condition #10 of the Project Certificate. The purpose of the plan is to provide the Government of Nunavut, Department of Environment (GN-DoE) and Environment Canada (EC) with a summary of the wildlife mitigation and monitoring which Tahera intends to carry out, as well as to provide Jericho environmental staff with a blueprint for carrying out assigned wildlife monitoring activities.

### 2.3.2. Annual Wildlife Summary Report

During the 2009 site visit, it was indicated by the staff that no wildlife monitoring activities have occurred in 2008 or 2009 as required by the WMMP and Condition #10 of the Project Certificate. The wildlife summary report for the 2008 year was not submitted to the NIRB's Monitoring Officer by Tahera.

## 2.4. Socio-Economic Monitoring

Generally, as part of Tahera's Annual Monitoring Report, a section is devoted to socio-economic monitoring. Socio-economic monitoring is a requirement of the Jericho Project Certificate, Condition #'s 42 through 49. Again, this has not been provided to the Monitoring Officer.

On August 18, 2009 the NIRB received the final report from the Regional Socio-Economic Monitoring Committee (Regional-SEMC) on the *Kitikmeot Socio-Economic Monitoring Committee Jericho Diamond Mine, 2007 Socio-Economic Monitoring Report.*This report was prepared in accordance with the requirement established by Project Certificate Condition # 44. The purpose of the document was to report on the status of key indicators for the 2007 year and to provide a broad overview of the Jericho project. The report focused on five components of the socio-economic environment; employment

& income, education & training, contract & business opportunities, demographics, and community health. The key indicators looked at included:

- o Total hours worked at the Jericho project
- o Numbers of Kitikmeot residents employed at Jericho
- o Wages paid to Kitikmeot residents
- o Individual work intensity categories of hours worked at Jericho by individual Jericho workers
- Worker retention and turnover patterns
- Education and Training
- o Procurement of local goods and services
- o Contribution of Jericho to total income entering community
- o Demographics
- o Impacts of Jericho on accidents
- Alcohol consumption
- o Crime incidents

The report concluded that the Jericho project provided employment for 80 to 90 Kitikmeot residents at some point during 2007. These individuals earned an estimated \$2.8 million in wages, with a significant amount entering the community of Kugluktuk versus other communities within the Kitikmeot region.

The project provided on-the-job training in areas of safety and equipment operation that was perceived by recipients to have been useful. However, other opportunities such as apprentice sponsorship or other education partnerships were not reported to have been implemented as of 2007.

No significant impacts on local business development was identified, however, in the area of local economic impacts, the Jericho project was identified to have had a quantitative impact – estimated 5% increase on retail expenditures in Kugluktuk.

Several aspects of the effects of the fly-in/fly-out lifestyle on families were identified. One finding was an apparently "typical" cycle of emotions that was often associated with this kind of work style. Another finding suggested that the fly-in/fly-out work style may

be particularly conducive to binge drinking and alcohol abuse. However, the report states that there was no conclusive evidence and not enough qualitative data to determine the relative effects of fly-in/fly-out employment on substance abuse.

Finally, several limitations were identified of the 2007 Jericho monitoring report, most significant of which were the missing employment data for an estimated one-half of the project from Tahera. Due to the bankruptcy, the researcher found it difficult to obtain the detailed data for direct Tahera employment, thus estimates of total project employment were determined based on detailed data provided by Nuna Logistics and WSCC (Nunavut/NWT Workers' Safety and Compensation Commission). A second limitation was the selection of target communities for interviews. For this report, only Kugluktuk and Cambridge Bay were selected, on the basis that they were the communities known to be supplying the most labour to the project. The third limitation is in relation to the amount of data collected to provide statistical information as they relate to different demographic groups. An effort was made to disaggregate data by age and gender; however, the data was not extensive enough to support generalized conclusions and requires further studies/information to support further analyses. Finally, as this is the first monitoring report of the effects of the employment in this region, the report was not able to assess the findings relative to previously detected conditions or trends. As such, several questions that cannot be addressed at this point in the report were left unanswered.

The researcher concluded the report with next steps that are needed for the socioeconomic monitoring program, including requirements for indicator refinement and issues that should be addressed in a future monitoring report.

#### 2.5. Site Visit

The Jericho mine site was visited between July 28 and 29, 2009. Appendix II contains the complete 2009 site visit report and the following is a summary of findings.

The Jericho site was manned by a small number of crew of approximately 5 to 10 people. In general, the site was well-maintained, orderly and free of litter and garbage. At the

time of the site visit, only the East Containment Cell was being used. It appeared that the Proponent was in compliance with most of the terms and conditions contained within the Jericho Project Certificate; however, certain instances of non-compliance are discussed in the site visit report (see Appendix II). These included: Condition #18, wildlife problems were not reported to GN and the NIRB Monitoring Officer; Condition #34, the waste transfer containment area near the airstrip was not completely contained (berm was not enclosed); and Condition #35, wildlife have been attracted to the landfills and/or waste storage areas and mitigation measures did not appear to have been put in place. In addition, the Proponent indicated during the site visit that no wildlife monitoring had been conducted as was required by Condition #10 of the Project Certificate and the Wildlife Mitigation and Monitoring Plan (WMMP).

#### 2.6. Other Terms and Conditions

#### 2.6.1. Air Quality Monitoring Station (Term and Condition #5)

To date, no air quality monitoring have been conducted by Tahera as required under Term and Condition #5:

The installation of an atmospheric monitoring station to be funded and installed by Tahera, to obtain site-specific meteorological data. This station shall meet the requirements of Environment Canada air quality experts and focus if possible on dust from roads and blasting, and windblown dust from stockpiles.

An air quality monitoring plan was submitted in August 2004 as part of the water licence application. Air quality modelling was conducted after discussions with EC in February 2007, in order to locate air quality monitors. A report was produced and submitted by Tahera in September 2007 to EC for review. On September 30, 2008 EC indicated that the air quality modelling report was satisfactory and agreed with the report's conclusions regarding the need for continuous air quality monitoring at the site. To date no further action has taken place.

## 2.7. Compliance Monitoring by Authorizing Agencies

#### 2.7.1. Indian and Northern Affairs Canada

Indian and Northern Affairs Canada (INAC) is responsible for issuing Tahera's Crown land leases for the Jericho Diamond Mine. Certain terms and conditions within the Project Certificate are related to many terms and conditions within the INAC land leases. INAC is also responsible for the compliance inspections required by water licences that are issued by the Nunavut Water Board (NWB). An inspection was conducted by INAC in August 2008 as required by the project's water licence, and on December 11, 2008 INAC provided an Inspector's Direction to Tahera issued under Section 87 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*. The Inspector's Direction described the actions that Tahera must take to address existing issues at the Jericho Diamond Mine site and to prevent further adverse effects on persons, property or the environment.

The Inspector's Direction also provided measures to Tahera that must be undertaken during the ongoing period of Care and Maintenance at the mine site. These included the identification/characterization of soil contaminated with hydrocarbons, waste chemical and other contaminants around the site and the proper removal of hydrocarbon contaminated soil into a land farm facility (approved by the NWB). In the event that Tahera was to abandon the Jericho Mine site, the Inspector's Direction provided measures that must be undertaken immediately and in advance of abandonment.

## 2.7.2. Government of Nunavut, Department of Environment

Although GN-DoE has not issued any permits or authorizations for the Jericho project, it has legislated responsibilities and obligations of relevance to the project's operation and management, including the *Environmental Protection Act* and the *Nunavut Wildlife Act*. GN-DoE and EC are the lead agencies for the Jericho Project Certificate terms and conditions related to wildlife (conditions 9 through 18). Tahera worked with GN-DoE to finalize the WMMP and on October 19, 2007, the GN-DoE accepted the WMMP submitted in May 2007 as the final document.

No site visits to the Jericho project were conducted by the GN-DoE in 2008 or 2009.

#### 2.7.3. Fisheries and Oceans Canada

Fisheries and Oceans Canada (DFO) is responsible for issuing Tahera's *Fisheries Act* authorization, and has incorporated relevant terms and conditions from the Project Certificate into it accordingly (conditions 20, 21 and 24).

DFO conducted a compliance monitoring site visit to the Jericho project on September 5, 2007. During the site visit it was noted that several fish habitat compensation features had not been completed. These included the lower reach of stream C1 diversion, the connecting channel (Stream 021) between Lakes 02 and 03, and the fourteen rock shoals in various lakes (as required). As a result of the outstanding fish habitat compensation measures, DFO issued an amendment to the *Fisheries Act* authorization on November 28, 2007 and had expected the remaining items to be completed by August 15, 2008. On December 18, 2008 DFO indicated in correspondence to the NIRB that Tahera has made no further progress in relation to the construction of the fish habitat compensation features.

## 2.8. Follow Up from NIRB's 2007 Monitoring Program

The NIRB made a number of recommendations as a result of the 2007 monitoring of the Jericho site (see 2007 Monitoring Report). Table 1 summarizes the Board's recommendations which were presented to relevant Parties and to Tahera as part of the NIRB's 2007 Monitoring Report for the Jericho Diamond Mine Project.

Table 1: Follow-up from the NIRB's 2007 Monitoring Program

| Recommendation                    | Follow-Up/Status                 | Condition No. |
|-----------------------------------|----------------------------------|---------------|
| DFO provide an update on          | DFO indicated in correspondence  |               |
| whether or not Tahera met the     | dated December 18, 2008 that     |               |
| requirements of the Fisheries Act | Tahera has not made further      |               |
| Authorization Amendment that      | progress in relation to the      |               |
| was issued on November 28,        | construction of the fish habitat |               |
| 2007. Specifically, did Tahera    | compensation features, thus the  |               |
| complete the remaining            | items listed in their August 13, |               |
| outstanding fish habitat          | 2008 letter remains outstanding. |               |
| compensation measures that        |                                  |               |
| were noted during DFO's           |                                  |               |

| Recommendation   | Follow-Up/Status   | Condition No.  |
|--|--|--|
| compliance monitoring site visit on September 5, 2007 and were due by August 15, 2008.   |  |  |
| Tahera to prepare future annual reports such that they meet the requirements as outlined in the revised Appendix D of the Project Certificate.   | The 2008 annual report was not submitted by Tahera.                                | 2 - The responsibility of the NIRB Monitoring Agent is to give direction to the Proponent on its obligation to compile an annual report for the duration of the mine on major environmental impacts, especially wildlife, fish, and aquatic ecosystems   |
| Tahera to include additional items requested by the NIRB in future annual reports <sup>4,5</sup> .   | Items were not provided as the annual report for 2008 was not submitted by Tahera. | 2 - The responsibility of the NIRB Monitoring Agent is to give direction to the Proponent on its obligation to compile an annual report for the duration of the mine on major environmental impacts, especially wildlife, fish, and aquatic ecosystems   |
| Tahera to include incineration management procedures in future reports and provide a discussion on how Tahera will meet the Canada-wide standards for incinerator emissions.   | No information was provided by Tahera.   | 2 - The responsibility of the NIRB Monitoring Agent is to give direction to the Proponent on its obligation to compile an annual report for the duration of the mine on major environmental impacts, especially wildlife, fish, and aquatic ecosystems   |
| Tahera to provide a response to<br>the recommendations and<br>comments provided by the Board<br>regarding the 2007 Wildlife<br>Summary Report <sup>6</sup> .   | No response was received to the recommendations by the Board.                      |  |
| Tahera to provide an update on<br>the status of the Jericho Mine site<br>during the Care and Maintenance<br>period and how Tahera will meet<br>the requirements of the NIRB's<br>Project Certificate <sup>7</sup> .                                | No update was received.  |  |
| Tahera to commence monitoring of air quality at the Jericho Mine site based on Tahera's Air Quality Model report (2007) and Air Quality Management Plan (2004). It is also recommended that the Proponent work with EC to commence the air quality | No information was provided by Tahera.   | 5 - The installation of an atmospheric monitoring station to be funded and installed by Tahera, to obtain site-specific meteorological data. This station shall meet the requirements of Environment Canada air quality experts and focus if possible on |

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<sup>&</sup>lt;sup>4</sup> Letter dated March 15, 2007, from Sophia Granchinho, NIRB to Greg Missal, Tahera, Re: *Guidelines for Tahera's 2006 Interim Monitoring Report to NIRB*.

<sup>&</sup>lt;sup>5</sup> Letter dated August 7, 2007, from Sophia Granchinho, NIRB to Greg Missal, Tahera, Re: *Opportunity for Tahera to Respond to Parties Comments on the Annual Monitoring Report for 2006*.

<sup>&</sup>lt;sup>6</sup> Letter dated August 18, 2008, from Sophia Granchinho, NIRB to Greg Missal, Tahera, Re: *Opportunity for Tahera to Respond to Parties' Comments on the 2007 Wildlife Monitoring Program-Data Summary Report.* 

<sup>&</sup>lt;sup>7</sup> Letter dated August 12, 2008, from Sophia Granchinho, NIRB to Greg Missal, Tahera, Re: *Status of Jericho Diamond Mine and Requirements to meet the Jericho Project Certificate [No. 002]*.

| Recommendation                    | Follow-Up/Status                 | Condition No.                        |
|-----------------------------------|----------------------------------|--------------------------------------|
| monitoring program.               |                                  | dust from roads and blasting, and    |
|                                   |                                  | windblown dust from stockpiles.      |
| Tahera to continue monitoring     | In a report to INAC, Tahera      | 4 - Tahera shall initiate a long     |
| Carat Lake and Lynne Lake for     | indicated that the ammonia-N     | term monitoring program              |
| ammonia (as N), and provide       | levels have been reducing in     | regarding the health of fisheries in |
| mitigative measures if the values | Lynn, Key and Ash lakes since    | the Carat Lake systems as far        |
| exceed the Canadian Council of    | the initial increase observed in | down as the Jericho River, not       |
| Ministers of the Environment      | 2006. <sup>1</sup>               | only to protect this fishery, but    |
| (CCME) guidelines.                |                                  | also to enhance it.                  |

## 3.0 FINDINGS

After a review of all findings, it is evident that Tahera has not met the requirements of Project Certificate [No. 002] and Appendix D of the Project Certificate for the period of January 2008 to September 2009. Tahera did not submit its Annual Report for the 2008 monitoring year, nor its Wildlife Monitoring Report for the 2008 year. In addition, Tahera's quarterly reports (requirement of Appendix D) for the periods covering July 2008 – September 2008, October – December 2008, January 2009 – March 2009 and April 2009 – June 2009 have not been received by the NIRB.

On several occasions, the NIRB requested that Tahera provide an update on the status of the Jericho mine during the current Care and Maintenance period (August 12, 2008, August 18, 2008, and November 25, 2008)<sup>6,7,8</sup>. To date, this information has not been provided. Other agencies have also requested the same information with no response from Tahera. This information would be useful in determining Tahera's responsibilities as they apply to the Project Certificate during this period.

Tahera has not met the requirements of Condition # 5 of the Project Certificate, the installation of atmospheric monitoring stations. To date, Tahera has not conducted any air quality monitoring at the site.

Based on findings of the site visit, the following conditions were not met by the Proponent:

- Condition #10, no wildlife data were collected in 2008 as per the Wildlife Mitigation and Monitoring Plan;
- Condition #18, problem wildlife were not reported immediately to the GN and the NIRB Monitoring Officer;
- Condition #34, the waste transfer containment area near the airstrip was not completely contained (berm was not enclosed); and

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<sup>&</sup>lt;sup>8</sup> Letter dated November 25, 2008, from Sophia Granchinho, NIRB to Greg Missal, Tahera, Re: Recommendations based on the NIRB's 2007 Annual Monitoring Report for the Jericho Diamond Mine Project

Condition # 35, wildlife have been attracted to the landfills and/or waste storage areas. The Proponent has indicated that mitigation measures have been put into place to avoid future wildlife encounters (i.e. lighting installed to illuminate haul road, screening on incinerator stack replaced). However, from what was observed during the site visit these mitigation measures do not appear to have been put in place.

**SUMMARY AND CONCLUSION** 4.0

As of December 13, 2008 INAC intervened pursuant to Section 89 of the *Nunavut Waters* 

and Nunavut Surface Rights Tribunal Act and the Jericho Mine site is currently still

undergoing Care and Maintenance.

Over the course of 2008 – 2009, no information or updates have been provided by Tahera

with regard to the status of the Jericho mine during the current Care and Maintenance

period, or any results of site monitoring programs. However, based on the site visit

conducted in July 2009 and on other agency reports, it does not appear that there have

been any significant adverse ecosystemic and socio-economic effects resulting from the

project during the Care and Maintenance period. Additional information is required from

Tahera before a complete assessment of the impacts of this site can be made.

Prepared by: Sophia Granchinho

Title:

**Technical Advisor** 

Date:

October 16, 2009

Signature:

Reviewed by: Ryan Barry

Title:

Director, Technical Services

Date:

October 19, 2009

Signature:

NIRB File number: 00MN059

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## Appendix I: Jericho Project Certificate – revised Appendix D

## **Jericho Monitoring Program**

In accordance with the July 2004 Project Certificate (No. 002), this Appendix is to provide direction to Tahera, NIRB's Monitoring Officer, and Government regarding the Monitoring Program established pursuant to Section 12.7 of the Nunavut Land Claims Agreement.

The purpose of the Monitoring Program shall be:

- (e) To measure the relevant effects of projects on the ecosystemic and socioeconomic environments of the Nunavut Settlement Area;
- (f) To determine whether and to what extent the land or resource use in question is carried out within the predetermined terms and conditions;
- (g) To provide the information base necessary for agencies to enforce terms and conditions of land or resource use approvals; and
- (h) To assess the accuracy of predictions contained in the project impact statement.

#### Tahera responsibilities related to this Monitoring Program:

- 1. Ensure that a comprehensive post-environmental assessment monitoring program (PEAMP) is developed for the project, in accordance with commitments made in the Final Environmental Impact Statement (FEIS) and/or the Final Hearing. The objective of the PEAMP shall be to:
  - a. Measure the relevant effects of the project on the ecosystemic and socioeconomic environment
  - b. Assess the accuracy of the predictions made within the FEIS.

The PEAMP must utilize, to the extent possible, the various monitoring plans developed by Tahera, as described in the FEIS, Final Hearing, and this Project Certificate as well as all monitoring plans required by applicable Authorizing Agencies.

As part of the PEAMP, Tahera is required to forward to NIRB all monitoring and mitigation plans upon completion or as amended or updated.

These include, but are not limited to:

- 1. Wildlife Mitigation and Monitoring Plan
- 2. Air Quality Management Plan
- 3. Ammonium Nitrate Management Plan
- 4. Blast Management Plan (Explosives Management Plan)
- 5. Environmental Management Plan
- 6. Noise Abatement Plan
- 7. Occupational Health and Safety Plan
- 8. Winter Road Emergency Response Plan
- 9. All Compliance Monitoring Plans or Programs, such as those associated with:
  - a. Fisheries Act and associated Authorizations
  - b. Indian and Northern Affairs Canada Infrastructure Lease (76E/13-2-2) and any associated plans and/or reports
  - c. Indian and Northern Affairs Canada Development Quarry Lease (76L/3-1-2) and any associated plans and/or reports
  - d. Nunavut Water Board Class A Water License

- e. Department of Natural Resources Explosives Factory License and any associated plans and/or reports
- 2. Submit an annual report to NIRB by April 30<sup>th</sup> of each year the project is in operation until the post-closure phase. The report must contain, but is not limited to, the following information:
  - a. A summary of evidence indicating how Tahera has carried out the project in relation to the terms and conditions contained within the Project Certificate.
  - b. A summary of the results from the PEAMP including:
    - i. An analysis regarding whether or not the project is operating in accordance with the predicted impacts identified in the FEIS or at the Final Hearing. This analysis should include:
      - a) All relevant data (baseline and monitoring) to support impact predictions and effects conclusions
      - b) An analysis of the effectiveness of mitigation measures and discussion regarding any necessary adaptive mitigation strategies employed
      - c) Explicit conclusions related to whether or not the project is operating in accordance the predicted impacts identified in the FEIS or at the Final Hearing.
    - ii. An analysis of the impact of the project upon the biophysical and socioeconomic environment
    - iii. Any modifications made to the PEAMP
  - c. Compliance status with all authorizations and applicable regulations and guidelines associated with the project;
  - d. Identification of all authorizations obtained to date for the project, including any requested renewals, updates, amendments or extensions to existing authorizations;
  - e. A summary of activities undertaken for the year, including any progressive reclamation work undertaken, and a work plan for the activities occurring in the following year site photos should be provided where relevant;
  - f. A summary of community consultations undertaken and the results; and
  - g. A summary of site-visits by inspectors with results and follow-up actions.
- 3. Commencing October 31<sup>st</sup>, 2007, report to NIRB on a quarterly basis (October 31<sup>st</sup>, January 31<sup>st</sup>, April 31<sup>st</sup>, July 31<sup>st</sup>) on the current and planned infrastructure development at the Jericho Mine site.
- 4. Forward to NIRB copies of all authorizations obtained and required for the project on an asreceived basis.

#### NIRB Monitoring Officer's responsibilities related to this Monitoring Program:

- 1. Advise Tahera of the obligation to prepare and submit an annual report, due April 30<sup>th</sup> of each calendar year.
- 2. Obtain, compile and review information collected and submitted by Tahera and applicable Authorizing Agencies.
- 3. Report annually to the Board with respect to the Monitoring Program as per Section 12.7.3(c) of the NLCA.
- 4. Provide recommendations to the Board on follow-up action related to the Monitoring Program.
- 5. Ensure that any recommendations made by the Board regarding the Monitoring Program are provided to Tahera in a timely manner.

#### Authorizing Agencies' (Government) responsibilities related to this Monitoring Program:

- 1. Provide any compliance monitoring reports to NIRB's Monitoring Officer by April 30<sup>th</sup> of each year. Any compliance monitoring report must contain, but is not limited to, the following information:
  - a. How each Authorizing Agency has incorporated the terms and conditions from the Project Certificate into their authorizations;
  - b. Whether any inspections have been conducted, and the results of those inspections; and
  - c. Whether Tahera is in compliance with any authorizations that have been issued.

| Appendix II: 2009 Site Visit Report |  |  |  |
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## 2009 SITE VISIT REPORT



Jericho Diamond Mine Project

Title: 2009 NIRB's Monitoring Officer Site Visit Report for the Jericho Diamond

Mine Project

Site: Jericho Diamond Mine
Site Location: Kitikmeot Region, Nunavut

Owner: Tahera Diamond Corporation

Suite 803, 121 Richmond Street West

Toronto, Ontario

M5H 2K1

Contact: Andrew Coster

Title: Environmental Technician

Contact phone: (780) 644-9129

Site Visit Conducted by:

Sophia Granchinho, Monitoring Officer, Nunavut Impact Review Board

Contact phone: (867) 983-4607

Site visit dates: July 28 – 29, 2009 Last site visit: August 27 – 28, 2008

Photos: Sophia Granchinho, Nunavut Impact Review Board (July 28 -29, 2009)

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#### 1. Introduction

The Nunavut Impact Review Board (NIRB) issued a Project Certificate (No. 002), pursuant to Section 12.5.2, Article 12, Nunavut Land Claim Agreement (NLCA), for the Jericho Diamond Mine Project (Jericho) in July 2004. Jericho is a diamond mining operation situated in the West Kitikmeot region about 430 kilometres (km) southwest of Cambridge Bay and 240 km southeast of Kugluktuk. Tahera Diamond Corporation (Tahera) commenced construction of the mine in 2005 and full operation was underway by July 2006.

On January 16, 2008, Tahera filed for creditor protection citing insufficient funds to operate the Jericho Diamond Mine. Further, on April 25, 2008, Tahera released a press statement indicating that the processing plant and mine infrastructure were being prepared for a period of Care and Maintenance.

At the time of the site visit, no mining activities were occurring as the mine is undergoing Care and Maintenance activities with intervention by Indian and Northern Affairs Canada (INAC) pursuant to Section 89 of the Nunavut Waters and Nunavut Surface Rights Tribunal Act.

#### 2. Objectives & Purpose of Site Visit

As per the Project Certificate No. 002 issued for Jericho, the NIRB is responsible for the monitoring of this Project in accordance with sections 12.7.1 and 12.7.2 of the Nunavut Land Claims Agreement (NLCA).

The objectives of the NIRB's site visit were therefore to determine whether, and to what extent, the land or resource use in question is being carried out within the predetermined terms and conditions [NLCA Article 12.7.2(b)].

Prior to the site visit, the following items were reviewed: Project Certificate (No. 002), Tahera's Response to INAC Concerns<sup>1</sup>, Jericho's 2007 Closure and Reclamation Plan Update<sup>2</sup>, Inspector's Direction issued by INAC<sup>3</sup> and all information related to the Jericho project. Based on this review, the site visit focused upon the following parameters:

- 1. General Observations
- 2. Atmospheric Monitoring Stations (Condition 5)
- 3. Noise (Condition 8)
- 4. Wildlife and Terrestrial (Conditions 10, 12, 14, 15 and 16)
- 5. Blasting Activities and Management (Conditions 26, 27 and 28)

Nunavut Impact Review Board 2009 Site Visit Report

<sup>&</sup>lt;sup>1</sup> Mike Johnson (Tahera Diamond Corporation), *Tahera Response to INAC Concerns; INAC Review of Type A Water Licence Annual Report and August 2008 INAC Site Inspection* (Tahera Diamond Corporation, December 8, 2008).

<sup>&</sup>lt;sup>2</sup> Tahera Diamond Corporation, 2007 Closure and Reclamation Plan Update, Jericho Diamond Mine, Care and Maintenance Status (submitted to Nunavut Water Board, April 2008).

<sup>&</sup>lt;sup>3</sup> Michael Nadler (Indian and Northern Affairs Canada), *Inspector's Direction* (submitted to R. Peter Gillin, Tahera Diamond Corporation, December 11, 2008)

- 6. Roads (Condition 13 and 32)
- 7. Fuel Storage (Condition 34)
- 8. Processed Kimberlite Containment Area (Condition 31)
- 9. Water Quality and Waste Management (Conditions 29, 30 and 35)
- 10. Other

The observations resulting from this site visit shall, where possible, be incorporated into the measurement of the relevant effects of the project, as per Article 12.7.2(a) of the NLCA.

#### 3. 2009 Site Visit

On Tuesday July 28, 2009, the Monitoring Officer travelled to the Jericho site with representatives from INAC, Public Works and Government Services Canada and *EBA* Engineering Consultants Ltd. At the Jericho site, we were met by Lee Staples, Mine Manager for Tahera, who provided a preliminary tour. On July 29, 2009 the Monitoring Officer and Andy Kameemalik from Tahera toured the remainder of the Jericho site.

The site visit included a tour of the Jericho site, Freshwater intake, Processed Kimberlite Containment Area (PKCA), Old Carat Camp, stockpiles and waste piles, explosives storage area and the airport. A follow-up discussion of Tahera's continuing responsibilities during Care and Maintenance was also included with Lee Staples.

#### 3.1 General Observations

The Jericho site is currently manned by a very small number of crew (5 people at a time of the visit) necessary to maintain the facilities. In general, the site was well-maintained, orderly and free of litter and garbage. Fuel contamination has been previously documented within secondary containment facilities. Currently only the East Containment Cell of the PKCA is being used. The Habitat Compensation Program is also on hold as Tahera is in Care and Maintenance.

During both days of the site visit, caribou were observed at or near the camp site, the PKCA, the fuel tank farm and the waste transfer containment area (WTCA).

#### 3.2 Atmospheric Monitoring Stations

#### Condition 5

"The installation of an atmospheric monitoring station to be funded and installed by Tahera, to obtain site-specific meteorological data. This station shall meet the requirements of Environment Canada air quality experts and focus if possible on dust from roads and blasting, and windblown dust from stockpiles."

To date no official air quality monitoring station has been installed and no air quality monitoring has been conducted by Tahera as required by Condition #5. An air quality monitoring plan was submitted in August 2004 as part of the water licence application. Air quality modelling was conducted after discussions with Environment

Canada (EC) in February 2007 in order to locate air quality monitoring locations around the Jericho site. A report was then produced and submitted by Tahera in September 2007 to EC for review. On September 30, 2008 EC indicated that the air quality modelling report was satisfactory and EC agreed with the report's conclusions regarding the need for continuous air quality monitoring at the site.

During the 2008 site visit, it was noted that a weather station was installed at the airstrip, with a computer display inside the terminal building (see Photo # 1). This weather station was still in place and functioning during the 2009 site visit.



Photo # 1: Location of weather station computer display at airport

#### 3.3 Noise

#### Condition 8

"For noise abatement, Tahera shall employ industry best practices to protect people and wildlife from mine activity noise, including vehicles and aircraft. The final noise abatement plan shall be filed with NIRB's Monitoring Agent. Industry requirements for low-level flying should be maintained."

Currently this condition is not applicable – the Jericho site is in the Care and Maintenance phase with no blasting occurring and with approximately 5-10 people on site at one time. The only noticeable source of noise was from the vehicles driving around site and the camp generator (see Photo # 2).

#### 3.4 Wildlife and Terrestrial

#### Condition 12

"Tahera shall plan, construct, and operate their mine in such a way that caribou migration paths through the project area are protected. Maps of corridors shall be placed in site offices and upgraded as new information on corridors becomes available. This information shall be sent to NIRB's Monitoring Agent, GN and KIA."

Maps of caribou paths and corridors were observed around the offices and high traffic areas of the camp buildings. A historical caribou migration corridor map was seen and was dated 2006. A caribou migration patterns map from 1998 – 2008 was posted on the information board in the main corridor at the camp site. In addition, wildlife log sighting sign-in sheets were observed in two separate locations, on in the main hall and one near the environment office. The sign-in sheets were still being filled out by the care and maintenance crew. In addition, a wildlife log book is also kept up to date and is located in the environment office.

Mr. Kameemalik mentioned during the site visit that caribou migrated through the site in May 2009 and had swept through the camp site without appearing to follow any particular path or corridor. In addition, it appeared that the caribou did not appear to be affected by any of the buildings on site.

During the site visit, caribou were observed on different occasions and at various different locations (see Photo # 3 through Photo # 5).



Photo # 2: Camp generator



Photo #3: Caribou sighting near PKCA



Photo # 4: Caribou sighting near waste transfer containment area



Photo # 5: Caribou sighting near fuel tank farm

#### Condition 14

"Tahera shall take special care to avoid disturbing nesting sites of any species in the Project area. Sites within 500 meters of the Project area should be also located, marked, and reported by Tahera to NIRB's Monitoring Agent."

Initial surveys for raptor nests were completed some time ago and subsequently mapped. Currently, no new nesting sites have been identified within the project area or within the 500 metre buffer zone. However, many raptors have been observed by the care and maintenance crew around the camp this year.

#### Condition 15

"For the greater protection of wildlife, wildlife must have the right of way, and this principle must be strictly enforced. This means all activity including construction, drilling, blasting, and traffic movements, be stopped in the presence of susceptible raptors, ungulates, and carnivores."

As no construction, drilling or blasting are currently being conducted on site, the only activity applicable to this term and condition during the Care and Maintenance period would be traffic movement around the site. For communication purposes, all staff carry radios in their trucks and on their persons at all times. Everyone is alerted as soon as possible when wildlife are in the area, and wildlife are given the right of way at all times when present.

#### Condition 16

"The highest protection shall be given to nesting and flightless birds or vulnerable wildlife including protection of all dens. Further, Tahera must submit a more detailed plan to NIRB's Monitoring Agent to list specific steps that Tahera will take to study and prevent losses of nests and eggs within the site and a buffer zone 500 metres surrounding the lease area."

As mentioned above, no new nests have been identified around the camp area or within the 500 metres buffer zone this year.

Two fox dens were located this year, one to the north of the airport and a second under the camp living quarters, located at the beginning of the denning season. The fox den under the camp living quarters was in an area where maintenance was required (rewiring of heat tracers and fixing of the sewage pipes), so camp personnel waited until the fox kits were old enough to leave their den. At that time, they conducted the repairs and then sealed access to the area to prevent the female from returning to den next year.

#### Wildlife Monitoring as per Condition 10 and WMMP

#### Condition 10

"Tahera shall develop a plan with the GN to enhance wildlife data and to provide more details on caribou found in the Project area. This work shall begin in 2004 with Tahera taking a lead role."

It was indicated during the site visit that no wildlife monitoring activities have occurred in 2008 and 2009 as required by the Wildlife Mitigation and Monitoring Plan (WMMP, finalized May 2007) and Condition #10.

Wildlife surveys are not being carried out while Tahera is in the Care and Maintenance phase, although a wildlife log is being maintained by project staff. No wildlife report for the 2008 year will be forthcoming from Jericho.

During the site visit, several caribou were observed lingering within the general vicinity of the camp site, primarily in the area of the main tank farm. A plastic barrier is usually placed around the main tank farm to prevent animals from entering, but due to high winds this barrier had been ripped apart and had not yet been replaced.

Mr. Kameemalik also mentioned that a greater abundance of wildlife have been observed around the camp site this year, especially young wildlife. Groupings of muskox were also observed around the camp site this year during the winter months.

Previous discussions have also occurred with Tahera regarding the importance of reporting wildlife incidents to both the Government of Nunavut (GN) and to the NIRB as outlined in Condition #18 (*Problem wildlife shall be reported immediately to the GN and to the NIRB Monitoring Agent.*"). In the past, wildlife incidents (or "problem wildlife") were only reported to the NIRB in the annual report.

#### 3.5 Blasting Activities and Management

#### Condition 26

"Site-specific plans for blasting activities must meet federal government standards and blasting crews must be fully trained including being provided a copy of Tahera's final Project Certificate containing whatever terms and conditions are ultimately approved by the Minister."

No construction, drilling or blasting is being conducted on site while in Care and Maintenance. The pit is closed and no workers are allowed within it under any circumstances.

#### Condition 27

"All blasting constituents (dynamite, ammonium nitrate, or other components), and any accelerants besides fuel, shall be stored in covered and isolated buildings, well marked as being dangerous. Blasting materials buildings shall be protected according to industry standards. Ammonium nitrate that is spilled must be cleaned up immediately."

During the site visit it was noted that there were no blasting constituents on site, as all blasting constituents had been sold to Diavik previously and removed from the site. Signage was clear and well-posted. Buildings formerly containing blasting materials are kept empty and locked within a large contained area, separate from the camp site (see Photo # 6 and Photo # 7).

#### Condition 28

"A blast management plan for Tahera's operations shall be submitted to the NIRB Monitoring Agent, regarding timing, location, and approximate amounts of blasting agents used on an annual basis or if plans change."

No blasting is being conducted on site while in Care and Maintenance and no blasting agents/blasting constituents are being stored on site. During the site visit, the only items stored at the Ammonia Nitrate Storage Pad were bags containing cement mix (see Photo # 8).



Photo # 6: Example of signage posted at the entrance to the ammonium nitrate storage and magazine compound (picture taken in 2008)



Photo #7: Emulsion Plant from Ammonia Nitrate Storage Pad



Photo #8: Bags of cement mix at the Ammonia Nitrate Storage Pad

#### 3.6 Roads

#### Condition 13

"Tahera shall submit plans to regulatory authorities to include measures that will ensure caribou are not harmed, entrapped, or frightened by any project activity. Tahera shall do everything it can to ensure that caribou do not fall into pits, or slip on roads; this includes the requirement that Tahera use whatever means it finds necessary including ramps and crossings to assist in the free movement of caribou and construction of berms or fences where appropriate to prevent accidents involving wildlife."

Tahera has not incorporated ramps or caribou crossings in the design of its camp roads. This was based on previous studies that have shown that caribou generally do not have a problem crossing roads unless their line of site is compromised, which should not be the case at the Jericho site<sup>4,5</sup>. During the site visit in July, the caribou around the camp site appeared to have no difficulty climbing very steep piles of rock or tailings (see Photo # 3 and Photo # 9), although they tend to prefer the roads.

During the site visit, no fencing was visible around the pit area. The open pit does have a large berm constructed around the perimeter of the pit, approximately 4 to 5 feet in height in most places. Currently, the pit is deemed unsafe and no access is permitted down into the pit (a berm was placed across the access road to prevent any vehicles from entering the pit and to act as a deterrent). Water has begun to fill the bottom of the pit as can be seen in Photo # 10 and Photo # 11.

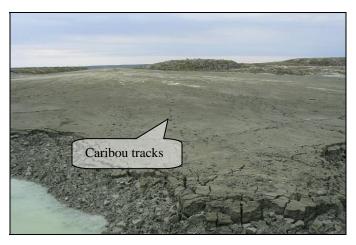


Photo #9: Caribou tracks on tailings pile

Nunavut Impact Review Board 2009 Site Visit Report

<sup>&</sup>lt;sup>4</sup> Rescan 2005. *EKATI Diamond Mine 2004 Wildlife Effects Monitoring Program*. Prepared for BHP Billiton Diamonds Inc. by Rescan Environmental Services Ltd.

<sup>&</sup>lt;sup>5</sup> Curatolo, JA and SM Murphy. 1986. The effects of pipelines, roads, and traffic on the movements of caribou, Rangifer tarandus. *Canadian field-naturalist*. Vol. 100, no. 2, pp. 218-224



Photo # 10: Open pit at Jericho



Photo #11: Aerial view of open pit at Jericho

The Mine Manager (Lee Staples) mentioned that when the Mine Inspector came to Jericho for his annual inspection, it was suggested to put big boulders around the pit area as a deterrent for people who might be travelling in the area, especially during the winter periods.

#### Condition 32

"Any ice or snow road construction, stream or river crossing in Nunavut be conducted to minimize sedimentation and environmental disruptions, and that DFO, KIA, and the NWB be consulted well in advance of such construction. At a minimum, silt fences must be used where appropriate and all fuel truck drivers must carry spill kits."

No new construction has been undertaken since Jericho went into Care and Maintenance. All fuel trucks have spill kits, including the vehicle used by the environment department which carries an additional kit for emergency response. No

large fuel trucks are used for refuelling at this time; all trucks are refuelled at the main station (see Photo # 12).

Roads around the mine site are maintained as required and some culverts have been upgraded and/or installed to prevent sedimentation into the stream or river crossings (see Photo # 13).

During the freshet period, silt fences were placed along the C1 diversion to prevent sedimentation from entering Stream C1 and Carat Lake (see Photo # 14 for an example of a silt fence).



Photo # 12: Fuelling station at the camp's fuel tank farm



Photo # 13: Culvert at C1 Diversion



Photo # 14: West Containment Cell from non-permeable barrier that separates West Cell from Stream C3

#### 3.7 Fuel Storage

### Condition 34

"All fuel storage areas shall be bermed and meet regulatory requirements."

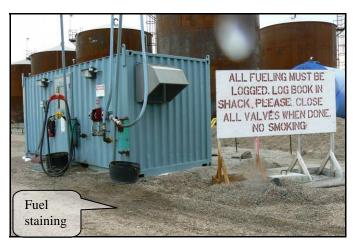
While all the fuel tank areas were well bermed, fuel contamination and soil staining are evident at several locations, including the main fuel tank area at the camp, generator day tank, emulsion plant fuel tank, airstrip jet fuel tanks, fuel transfer station and the waste transfer area. Some fuel tank areas also contain pooling of water (standing water) within the bermed areas (see Photo # 15 to Photo # 20). Hydrocarbon odours were notable at the waste transfer area, generator day tank and the emulsion plant fuel tank. During the 2008 site visit, similar observations were made for the fuel storage areas and the NIRB recommended that Tahera comply with Condition #34 and ensure that the fuel storage areas meet regulatory requirements.



Photo # 15: Contaminated soil within bermed area at Main Fuel Tank



Photo # 16: Standing water within bermed area at Main Fuel Tank Farm



**Photo #17: Fuel Transfer Station** 



**Photo # 18: Emulsion Plant Fuel Tank** 

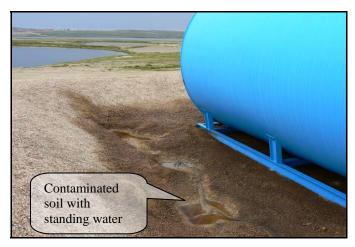


Photo # 19: Airstrip Fuel Tanks





Photo # 20: Generator Day Tank

A visible hydrocarbon sheen was noticed on the water at both the main fuel tank area and at the airstrip. The berm at the airport showed evidence of contamination from a previous spill and it appeared that the contaminated soil was not removed from the bermed area. At this location, a spill of approximately 30,000 litres was previously reported from one of the tanks due to a faulty valve line.

In 2008, the laydown area at the airstrip contained fuel barrels that were being used by personnel from OZ Minerals, for flights related to baseline research for Izok Lake and monitoring at Lupin (see Photo # 21). The amount of fuel being stored appeared to exceed the capacity of the containment area, and the front of the structure was ripped and the frame was dismantled, making it ineffective as secondary containment. Apparently, the cause of the damage was related to propeller wash and frequent refuelling at the airport. The NIRB recommended that Tahera prepare a plan of action as to how they would meet Condition #34, especially in regards to the containment unit being damaged and the potential that the contaminated water might enter the environment. No plan of action was provided to the NIRB, but during the site visit, the laydown area at the airport was not being used and it appears that the containment unit was removed (see Photo # 22).

Fuel barrels were stored at the airport and were not within a contained facility (see Photo # 22). Mr. Kameemalik mentioned that they were waiting to remove these barrels from site.

There are two waste transfer containment areas (two cells) located near the airport. These containment areas are bermed and lined, but are not completely enclosed as each cell has an access ramp located on its southeast corner. The eastern cell contains bulk waste containers, waste oil, waste fuel in drums and cubes, and drummed diesel fuel (see Photo # 23).



Photo # 21: Fuel storage containment unit at airport in 2008

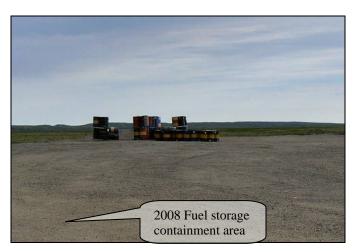


Photo # 22: Fuel barrels stored at the airport



Photo # 23: Waste Transfer Containment Area - East Cell

The western cell is being used for storage and/or isolation of petroleum contaminated soil (see Photo # 24), which is stored in heaped piles of numerous drums and bags. As there is no landfarm plan in place at Jericho, the contaminated soil has not been remediated on site, nor has it been taken off site for remediation. The majority of the contaminated soil located in the western cell is associated with the DC-4 Spill that occurred in December 2006 at the airport, along with the remainders of some minor spills that occurred around site since Tahera began construction. The piles of contaminated material have been covered by tarps, but holes have developed in the tarps and the piles are exposed to the environment. The bulk of the contaminated soil is currently being infiltrated by water and there is potential that hydrocarbons could be leaching out of the pile into the secondary containment (see Photo # 24). No pooling of water was noted at the time of the site visit; however, a visible stain was noted on the south side of the western cell at the base of the contaminated soil pile (see Photo # 24).

The drummed and bagged contaminated soil materials had been brought to Jericho from Hood River and Muskox exploration camps where smaller spills had occurred. The soil is contaminated with diesel fuel or Jet fuel (see Photo # 25).



Photo # 24: Waste Transfer Containment Area – West Cell – Bulked and drummed hydrocarbon contaminated soil



Photo # 25: Waste Transfer Containment Area – West Cell – Drummed and bagged hydrocarbon contaminated soil

#### 3.8 Processed Kimberlite Containment Area

## Condition 31

"Further detailed study by Tahera to ensure that water quality exiting the PKCA meets receiving water standards, including further study on the option of a divider/barrier or dyke in the PKCA to improve water quality. This information is to be provided to NIRB's Monitoring Agent, DFO, NWB and EC."

Currently, there is a permeable barrier in the Processed Kimberlite Containment Area (PKCA), dividing it into two containment cells; an East Cell and a West Cell, with only the East Containment Cell having been used for depositing tailings (see Photo # 27Photo # 26 through Photo # 28). During the site visit last year in August 2008, the NIRB technical advisor was informed that seepage beneath the permeable barrier occurred resulting in increased sedimentation within the West Containment Cell. The permeable barrier was reinforced with tailings to reduce the seepage into the West Cell and it appeared to have worked. During the current site visit, no sedimentation was observed within the West Containment Cell (see Photo # 29 and Photo # 30).

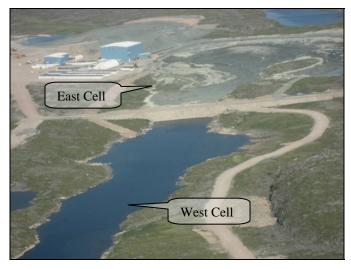


Photo # 26: Aerial view of PKCA



**Photo #27: East Containment Cell** 



Photo # 28: View of East Containment Cell from top of permeable barrier that separates East and West Cells (processing plant in background)



Photo # 29: View of West Containment Cell from top of permeable barrier that separates East and West Cells



Photo # 30: West Containment Cell

### 3.9 Water Quality and Waste Management

#### Condition 29

"Tahera must provide greater detail to regulatory authorities on effluent options, including better information on ammonia and phosphorous levels."

Camp sewage is limited owing to a small amount of staff operating the site while Jericho is in the Care and Maintenance phase. Ammonia and phosphorus levels are well recorded and are available upon request from Tahera (see Photo # 31 and Photo # 32).



Photo # 31: Inside the sewage treatment plant (picture taken in 2008)



Photo # 32: Effluent discharge point into the East Containment Cell

#### Condition 30

"Tahera must provide greater detail to regulatory authorities on total dissolved solids ("TDS") constituents and nutrient concentrations expected to be released to downstream waters."

Water quality monitoring is ongoing as part of the surveillance network program (SNP) and as a requirement of Tahera's Water Licence. All results are available upon request from Tahera.

#### Condition 35

"Waste management must be controlled in such a way that reduces or eliminates the attraction to carnivores or raptors. Fencing and other suitable deterrents shall be employed in all landfills and waste storage areas. A final waste management plan shall be filed with regulatory authorities including the NWB and NIRB's Monitoring Agent."

The landfill area was not fenced off and no other deterrents were apparent during the site visit (see Photo # 33). Wolverines have previously been attracted to this area during the winter months, which has resulted in an accidental killing by an employee in a truck. Another incident was previously reported in which a worker inside the seacan housing the incinerator was confronted by a wolverine barring the exit. The wolverine entered the incinerator stack despite attempts to scare it away. The wolverine left later on its own without incident. Improper incineration techniques were blamed for the attraction and both incidents prompted a review and revision of the techniques.



Photo # 33: Metal waste dump at Jericho Mine Site

During the site visit, no garbage was seen in or around the camp site. All camp garbage is being incinerated every three to four days (Photo # 34).

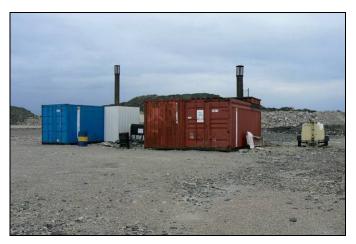


Photo #34: Incinerator at Jericho Mine Site

#### 3.10 <u>Other</u>

### Old Carat Camp (reclamation of site)

All infrastructure and garbage has been removed, and vegetation is beginning to establish itself. Structures (floating dock and tie-down structure for helicopters) that were on site last year were also removed (see Photo # 35).



Photo #35: Old camp site on the edge of Carat Lake

# 4. Findings

On several occasions, the NIRB requested that Tahera provide an update on the status of the Jericho mine during the current Care and Maintenance period (August 12, 2008, August 18, 2008, and November 25, 2008)<sup>6,7,8</sup>. To date this information has not been provided. In addition, other agencies have requested the same information with no response from Tahera. This information would be useful in determining Tahera's responsibilities as they apply to the Project Certificate during this period.

The Proponent has not met the requirements of Condition #18, as problem wildlife incidents were not reported immediately to the Government of Nunavut and the NIRB Monitoring Officer.

The Proponent has also not met Condition #10, as no wildlife data was collected in 2009.

The Proponent has not met the requirements of Condition #34, as the waste transfer containment area near the airstrip was not completely contained (berm was not enclosed).

<sup>&</sup>lt;sup>6</sup> Letter dated August 12, 2008, from Sophia Granchinho, NIRB to Greg Missal, Tahera, Re: Status of Jericho Diamond Mine and Requirements to meet the Jericho Project Certificate [No. 002]

<sup>&</sup>lt;sup>7</sup> Letter dated August 18, 2008, from Sophia Granchinho, NIRB to Greg Missal, Tahera, Re: *Opportunity for Tahera to Respond to Parties' Comments on the 2007 Wildlife Monitoring Program-Data Summary Report* 

<sup>&</sup>lt;sup>8</sup> Letter dated November 25, 2008, from Sophia Granchinho, NIRB to Greg Missal, Tahera, Re: Recommendations based on the NIRB's 2007 Annual Monitoring Report for the Jericho Diamond Mine Project

With respect to Condition # 35, the Proponent has not proven to be compliant. Wildlife have been attracted to the landfills and/or waste storage areas. Wolverine incidents have occurred at various times in which wolverines have been found at the landfill area and at the incinerator. The Proponent has indicated that mitigation measures have been put into place to avoid future wildlife encounters (i.e. lighting installed to illuminate haul road, screening on incinerator stack replaced). However, from what was observed during the site visit these mitigation measures do not appear to have been put in place.

# 5. Summary

The Jericho mine site is currently in Care and Maintenance and no mining activities have occurred for most of the 2008 and 2009 seasons. Most buildings have been closed down and most equipment has been sold or removed from site.

Overall, the Proponent appears to comply with most of the terms and conditions contained within the Jericho Project Certificate. However, there are certain conditions where non-compliance is evident and which requires the Board's consideration.

Prepared by: Sophia Granchinho

Title: Technical Advisor/Monitoring Officer

Date: October 2, 2009

Reviewed by: Kelli Gillard

Signature:

Signature:

Title: Technical Advisor

Date: October 2, 2009

Reviewed by: Ryan Barry

Title: Director, Technical Services

Date: October 7, 2009

Signature: