2008 Monitoring Officer's Site Visit Report
for the
Jericho Diamond Mine Project

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Site visit conducted by:	Ryan Barry (Technical Advisor)
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Site:	Jericho Diamond Mine
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Site visit dates:	August 27-28, 2008
Last site visit:	June 21, 2006
Photos:	Ryan Barry, Nunavut Impact Review Board (August 27, 2008)

Completed: October 3, 2008

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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.

At the time of the site visit, no mining activities were occurring as the site was in Care and Maintenance.

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), 2007 Wildlife Monitoring Summary Report, 2007 Annual Monitoring Report and all information related to the project. Based on this review, the site visit focused upon the following parameters:

1. Site Offices (Condition 12)
2. Camp Area/Plant (Conditions 8, 12, 15, 16, 32, 34, 35)
3. Roads (Conditions 13, 14, 32)
4. Pits (Conditions 13, 15, 26)
5. Explosives Storage Area (Conditions 27, 28)
6. Effluent Area (Conditions 29, 30)
7. Processed Kimberlite Containment Area (PKCA – Condition 31)
8. Old Carat Camp (reclamation of site)
9. All fuel tank facilities
10. Atmospheric monitoring stations (Condition 5)
11. Wildlife Monitoring (Condition 10 and WMMP)

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. 2008 Site Visit

On Wednesday August 27, 2008 the Technical Advisor met with Andrew Coster, the Environmental Technician for Tahera in Yellowknife, and travelled to the Jericho site. The site visit included a tour of the Jericho site and a follow up discussion of Tahera's continuing responsibilities during Care and Maintenance.

The following observations were made during the site visit.

3.1 General Observations

The Jericho site is currently manned by a small number of crew (approximately 10-20 people) necessary to maintain the facilities. A number of personnel from OZ Minerals were also based out of Jericho conducting aerial surveys for the potential routing between Izok and High Lake, as well as for monitoring at Lupin. In general, the site was well-maintained, orderly and free of litter and garbage. Fuel contamination had been previously documented within secondary containment facilities, and several wildlife incidents have been reported (more details below). Currently only the East Containment Cell is being used. The Habitat Compensation Program is also on hold as Tahera is in Care and Maintenance.

Additionally, Andrew Coster and the NIRB Technical Advisor discussed the status of all Project Certificate Terms and Conditions and Proponent Commitments. From this discussion, the following items were identified as needing clarification and/or attention:

1) Many of the terms and conditions are not written so that they might apply during Care and Maintenance. Clarification on Tahera's responsibilities during this phase and during the possible event of company's bankruptcy is needed.

3.2 Site Offices

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."

Updated maps of caribou paths and corridors were well-posted in offices and high traffic areas of camp buildings.

3.3 Camp Area/Plant (Conditions 8, 12, 15, 16, 32, 34, 35)

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."

Generally not applicable - the site is currently in Care and Maintenance with no blasting occurring and with approximately 10 – 20 staff on site. The only noticeable source of noise was a large diesel pump used to discharge water from the West Containment Cell over an impermeable dam.

Photo # 1: Diesel Pump used to discharge water

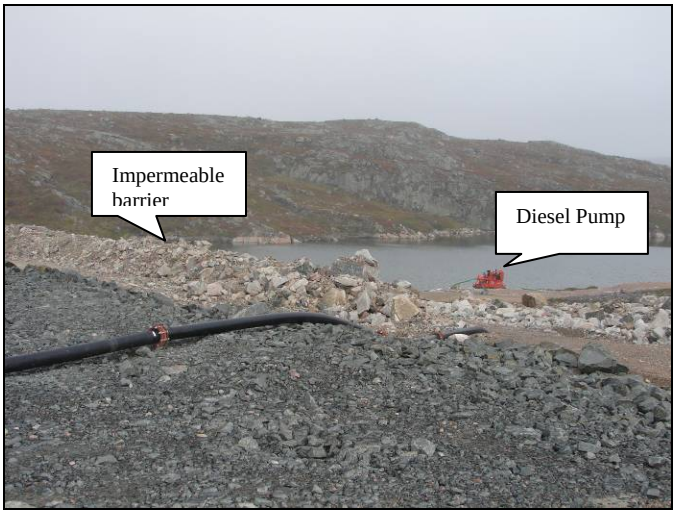

Photo # 2: Diesel pump at West Containment Cell

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."

Andrew Coster (Environmental Technician) mentioned during the site visit that caribou migrated through the camp during the first week of August and had swept through the camp without appearing to follow any particular path or corridor. Caribou did not appear to be affected by any of the buildings on site.

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."*

The currently applicable activity to this term and condition during the Care and Maintenance period would be traffic movement around the site. Wildlife are given right of way. Traffic speeds are reduced due to current conditions of the roads, i.e. roads are not being maintained during the Care and Maintenance phase. For communication purposes, all staff carry radios in their trucks and on their person at all times.

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."*

Initial surveys for nests were completed some time ago, and no new nests have been identified around the camp area. During the site visit, a pair of rough-legged hawks with a juvenile were present on the site near the airstrip, but were not believed to be nesting in the immediate vicinity. Andrew Coster mentioned that weekly surveys for wildlife presence around the project footprint are being conducted.

Photo # 3: Rough-legged hawk perching on fuel tank

Photo # 4: Rough-legged hawk on an airstrip light

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. Andrew Coster was not sure if all fuel trucks have spill kits but indicated he would follow up on this condition.

Condition 34

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

Fuel storage areas were well-bermed, with the exception of a laydown area at the airstrip (see Photo # 5). These fuel barrels were being used by personnel from OZ Minerals, for flights related to baseline research for Izok Lake, and monitoring at Lupin. 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.

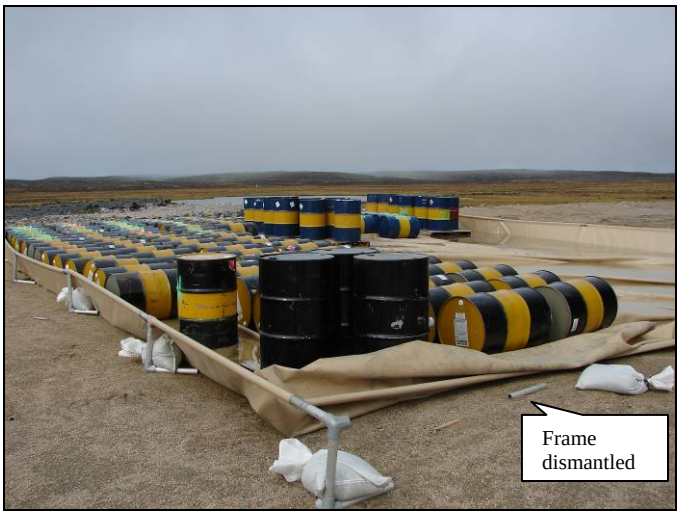

Photo # 5: Fuel storage containment unit at airport

Photo # 6: Close-up of fuel storage containment unit at airport

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 Agen*t."

The landfill area was not fenced off and no other deterrents were apparent during the site visit. Wolverine have previously been attracted to this area during the winter months, which has resulted in an accidental kill 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 on its own

without incident. Improper incineration techniques were blamed for the attraction and both incidents prompted a review and revision of the techniques.

Another incident in 2008 involving a wolverine occurred when kitchen staff left a bucket of grease on the kitchen doorstep instead of properly storing the bucket inside the caged area. The wolverine hauled off the grease onto the tundra and gorged itself. Staff member was reprimanded for not following the approved protocols.

Photo # 7: Landfill area with incinerator in the background (red seacan)

3.4 Roads (Conditions 13, 14, 32)

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."

Neither ramps nor crossings for caribou have been incorporated into the design of the camp's roads. In general, the roads are only elevated several feet above the tundra, and considerably less in some areas. Studies have shown that caribou generally do not have a problem crossing roads unless their line of sight is compromised, which should not be the case at the Jericho Mine site[1,2]. In the first week of August of this

[1] Rescan 2005. *EKATI Diamond Mine 2004 Wildlife Effects Monitoring Program.* Prepared for BHP Billiton Diamonds Inc. by Rescan Environmental Services Ltd.
[2] 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

year, caribou migrated through the camp without incident, even climbing very steep tailing piles (see Photo # 8).

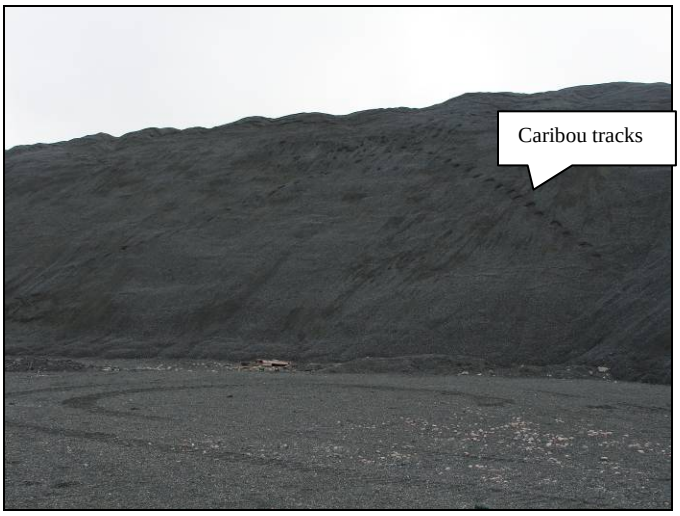

Photo # 8: Caribou tracks on tailings pile from recent migration through the Jericho camp site

Photo # 9: Close-up of caribou tracks on tailings pile

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."

Raptor nests have been located outside of the immediate project area and subsequently mapped, but currently there are no identified nesting sites within the project area.

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. No large fuel trucks are used for refuelling; trucks are refuelled at the main station.

Photo # 10: Fuelling station at the camp's fuel tank farm

3.5 Pits (Conditions 13, 15, 26)

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."

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. 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). Water has begun to fill the bottom of the pit as seen in the photos.

Photo # 11: The open pit at Jericho, from left to right in three overlapping pictures.

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."

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 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 blasting is being conducted on site while in Care and Maintenance.

3.6 Explosives Storage Area (Conditions 27, 28)

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 noticed that there were no blasting constituents on site. All blasting constituents have been sold off to Diavik and removed from the site. Signage was clear and well-posted. Buildings formerly containing blasting materials are in a large contained area separate from the camp site, were empty and kept under lock and key.

Photo # 12(a): Example of signage posted at the entrance to the ammonium nitrate storage and magazine compound

Photo # 12 (b): Example of signage posted at the entrance to the ammonium nitrate storage and magazine compound

Photo # 12 (c): Example of signage posted at the entrance to the ammonium nitrate storage and magazine compound

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.

3.7 Effluent Area (Conditions 29, 30)

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 in the care and maintenance phase. Ammonia and phosphorus levels are well recorded and are available upon request from Tahera.

Photo # 13: Inside the sewage treatment plant


Photo # 14: Effluent discharge point within 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 results are available upon request from Tahera.

3.8 Processed Kimberlite Containment Area (PKCA – Condition 31)

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 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 # 14). Recently, the staff in the Environmental Department at Tahera noticed excessive seepage beneath the permeable barrier, resulting in increased sedimentation within the West Containment Cell. The permeable barrier was reinforced with tailings to reduce the seepage into the West Cell (see Photo # 15), and appeared to work. However, additional material was needed to further reinforce a corner of the structure (see Photo # 16) and fine granular material was used instead of tailings. In addition, two silt fences were also installed in the West Containment Cell to further reduce the sedimentation (see Photo # 17).

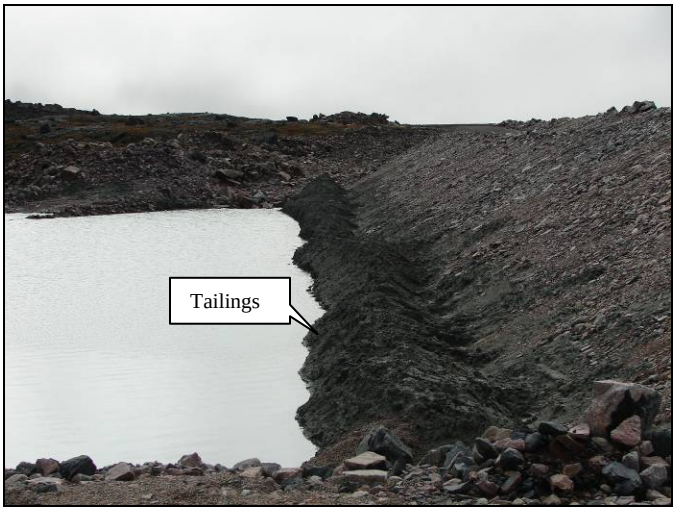

Photo # 15: Reinforcement of permeable barrier – addition of tailings in the East Containment Cell

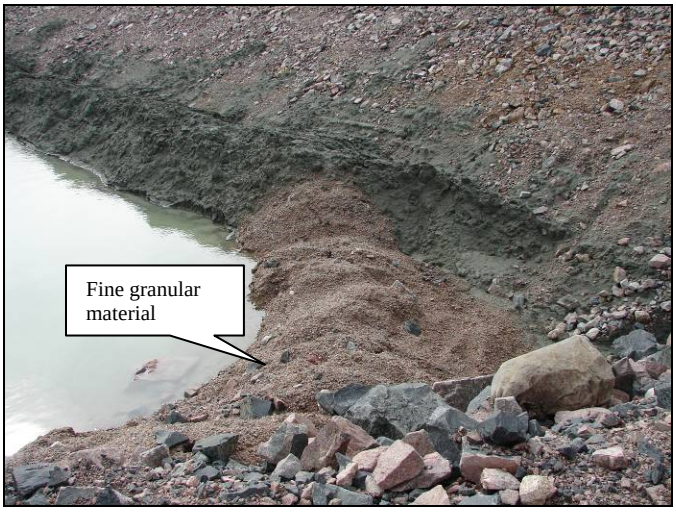

Photo # 16: Reinforcement of permeable barrier – addition of fine granular material to prevent seepage in the structure's corner

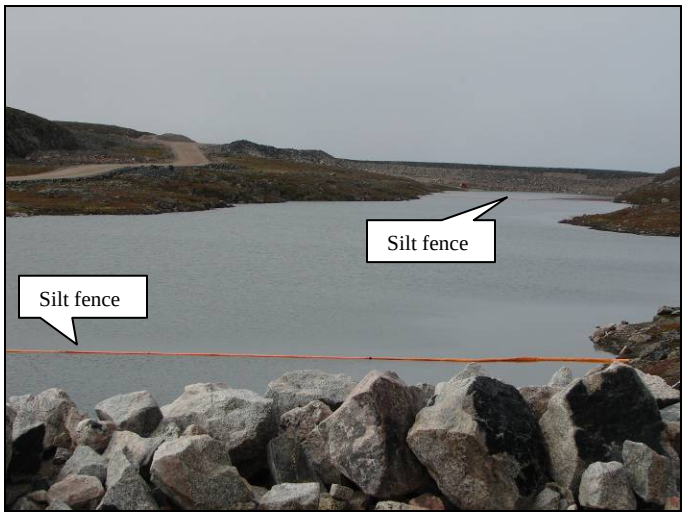

Photo # 17: West Containment Cell from top of the permeable barrier that separates East and West Cells (two orange silt fences are visible)

3.9 Old Carat Camp (reclamation of site)

All infrastructure and garbage has been removed, and vegetation is beginning to establish itself. The only structure left near the old camp site is the floating dock on Carat Lake that is used in the summer for Tahera's summer field programs and a small tie-up structure left to be used by helicopters.

Photo # 18: Old camp site on the edge of Carat Lake

Photo # 19: Floating dock on Carat Lake, anchored at the edge of the former old camp site

3.10 All fuel tank facilities

While fuel tank areas were all well-bermed, contamination was evident within both the main fuel tank area at the camp, and at the airstrip. Excessive rain fall in the days leading up to the site visit was responsible for the pooling of water (standing water) within the bermed areas.

Photo # 20: Fuel tank farm at main camp site

A visible 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.

Photo # 21: Small amount of sheen visible on water pooled within the bermed area at main fuel containment area

Photo # 22: Close-up of sheen visible on water pooled within fuel containment area

Photo # 23: Two fuel tanks within a fuel berm at the airstrip

Photo # 24: Close up of contaminated soil and standing water within bermed area at airport

The waste transfer area and fuel tanks containing contaminated fuel appeared to be lined and bermed properly with no visible contamination apparent. As can be seen from Photo # 25 the standing water within the bermed area from previous rain fall did not show any visible contamination (no sheen was observed).

Photo # 25: Fuel tanks holding contaminated fuels within another bermed area (no visible contamination)

3.11 Atmospheric monitoring stations (Condition 5)

A weather station was installed at the airstrip, with a computer display inside the terminal building.

Photo # 26: Camp weather station located at the airstrip

3.12 Wildlife Monitoring (Condition 10 and WMMP)

It was indicated during the site visit that no wildlife monitoring activities have occurred in 2008 as required by the Wildlife Mitigation and Monitoring Plan (finalized May 2007) and Condition #10, with the exception of the weekly wildlife surveys around the Project footprint. However, there have been several incidents in the past year involving wolverine resulting from improper or insufficient waste management procedures.

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."

Wildlife surveys are not being carried out while Tahera is in Care and Maintenance; though a wildlife log is being used by project staff. The Technical Advisor discussed the importance of ensuring results from the wildlife log were summarized within the Wildlife report that is a requirement of the Wildlife Mitigation and Monitoring Plan (WMMP). In addition, it was discussed the importance of reporting wildlife incidents to the Government of Nunavut (GN) and to the NIRB as per Condition #18. The caribou migration that occurred in August and the wolverine incidents were not reported.

4. Findings

On several occasions, the NIRB requested that Tahera provide an update on the status of the mine during the current Care and Maintenance period (August 12, 2008 and August 18, 2008)[3,4]. 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 #34, namely, the fuel storage area at the airstrip was not well bermed and did not meet regulatory requirements. The containment unit is damaged and inoperable, and is possibly too small for the amount of fuel stored at the airport.

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 in which wolverine 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).

The Proponent has not met the requirements of Condition #18 in that problem wildlife were not reported immediately to the GN and the NIRB Monitoring Officer.

In addition, the Proponent has not met Condition #10 as no wildlife data were collected in 2008.

[3] 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]*

[4] 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*

5. Summary

The Jericho mine site is currently in Care and Maintenance and no mining activities have occurred for most of the 2008 season. Most buildings have been closed down and most equipment have 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: Ryan Barry
Title: Technical Advisor
Date: September 12, 2008

Signature: 

Prepared by: Sophia Granchinho
Title: Technical Advisor/Monitoring Officer
Date: September 24, 2008

Signature: 

Reviewed by: Jeff Rusk
Title: Director, Technical Services
Date: October 2, 2008

Signature: