2012 Site Visit Report

Jericho Diamond Mine Project

NIRB 00MN059

Jericho Project Certificate [No. 002]

November, 2012

Report Title:	NIRB 2012 Site Visit Report for the Jericho Diamond Mine Project
Project:	Jericho Diamond Mine
Project Location:	Kitikmeot Region, Nunavut
Project Owner:	Shear Diamonds (Nunavut) Corp. Suite 220, 6 Adelaide Street East, Toronto, ON M5C 1T6
Contact:	1-866-298-9695
Visit conducted by:	Tara Arko, Monitoring Officer, Nunavut Impact Review Board
Telephone:	(867) 983-4611
Site visit dates:	August 28 – 30, 2012
Last site visit:	August 17 – 19, 2011
Photos by:	Tara Arko, Nunavut Impact Review Board (August 28-30, 2012) Sophia Granchinho, Nunavut Impact Review Board (August 17-19, 2011)
Cover photo:	Site Office, Jericho Mine Site

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1. Introduction

The Nunavut Impact Review Board (NIRB or Board) issued the Jericho Diamond Mine Project Certificate [002] to Tahera Corporation Limited (Tahera) in July 2004 for the development of the Jericho Diamond Mine project (Jericho or the Project) pursuant to Section 12.5.12, Article 12 of the Nunavut Land Claims Agreement (NLCA). Subsequently, the Proponent requested that the Project Certificate be reissued to reflect the new project ownership, and on January 19, 2005 the NIRB issued[1] Amendment #1 of the Jericho Project Certificate in the name of Benachee Resources Inc., a wholly owned subsidiary of Tahera.

The Jericho Project is a diamond mining operation situated in the West Kitikmeot region of Nunavut, about 430 kilometres (km) southwest of Cambridge Bay and 240 km southeast of Kugluktuk. The Proponent commenced construction of the Project in March 2005 and full mine operations were underway by July 2006.

Tahera filed for creditor protection in January 2008, citing insufficient funds to operate and Jericho was placed under care and maintenance. Later that year, in December 2008, Indian and Northern Affairs Canada (INAC, now Aboriginal Affairs and Northern Development Canada or AANDC) intervened[2] to assumed control of the Jericho Mine site, and to complete the temporary closure of site to the requirements of applicable regulation. In August 2010, Shear Diamonds (Nunavut) Corporation (Shear or the Proponent; formally Shear Minerals Ltd.) completed the purchase of the Jericho Mine, and subsequently requested[3] that the NIRB reassign the Jericho Project Certificate to reflect the new ownership. On August 23, 2011 the NIRB issued Amendment #2 of the Jericho Diamond Mine Project Certificate [002][4] to the new owner, Shear.

At the time of the 2012 site visit, the Jericho site remained in care and maintenance with no mining activities occurring while Shear conducted ongoing evaluation of the mineral resource, reprocessing the stockpiles from the previous mining operations, and completed the process of bringing the site back into compliance with all authorizations.

2. Objectives & Purpose of Site Visit

In accordance with the Project Certificate [No. 002] issued for the Jericho Diamond Mine, the NIRB is responsible for the monitoring of this Project in accordance with sections 12.7.1 and 12.7.2 of the NLCA. The objective of the NIRB's site visit is 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 of the NIRB Project Certificate issued for the Project [NLCA, Subsection 12.7.2].

[1] Project Certificate [No.: 002] Amendment #1, Stephanie Briscoe, Executive Director, Re: *Proponent Name Change to Project Certificate for the Jericho Diamond Mine Project [002]*. Letter dated January 19, 2005.
[2] Pursuant to Section 89 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (S.C. 2002, c. 10), Last amended January 2, 2010.
[3] Pamela Strand [Shear Diamonds (Nunavut) Corporation], President, Re: *Request to assign the Jericho Diamond Mine Project Certificate (No. 002) to Shear Diamonds (Nunavut) Corp.* Letter dated June 3, 2011.
[4] Project Certificate [No.: 002] Amendment #2, Ryan Barry, Executive Director, Re: *Proponent Name Change to Project Certificate for the Jericho Diamond Mine Project [002]*. Letter dated August 23, 2011.

Prior to the Monitoring Officer's 2012 site visit, the following items were reviewed: NIRB Project Certificate [No. 002], correspondence from Shear regarding its plans for compliance with the Project Certificate terms and conditions (June 3, 2011), Aquatic Effects Monitoring Plan or AEMP (2011), *draft* Air Quality Monitoring Program (2011), General Monitoring Plan, INAC Site Assessment Report for 2009[5], INAC Site Visit & Contract Meeting Report for 2009[6], 2010 INAC Water Use Inspection Report[7], 2011 INAC Water Use Inspection Report[8] and Shear's response to INAC's Concerns[9], previous NIRB site visits, and all information related to the Jericho project. Based on this review, the site visit focused upon the following parameters:

1. 2011 Site Visit Follow-up and Compliance Update
2. General Observations
3. Atmospheric Monitoring Stations (Condition 5)
4. Noise (Condition 8)
5. Wildlife and Terrestrial (Conditions 12, 14, 15 and 16)
6. Blasting Activities and Management (Conditions 9, 26, 27 and 28)
7. Roads (Conditions 13, 32 and 33)
8. Fuel Storage (Condition 34)
9. Processed Kimberlite Containment Area (Condition 31)
10. Water Quality (Conditions 29 and 30)
11. Waste Management (Condition 35)
12. Other Topics Listed in the Project Certificate to be Addressed by Shear Management

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

3. 2012 Site Visit

On Tuesday, August 28, 2012, Tara Arko, NIRB Monitoring Officer, travelled to the Jericho Mine site from Yellowknife, NWT. At the Jericho site, the Monitoring Officer was met by the site safety and environmental staff, led by Allison Rippin Armstrong, Director of Environment for Shear.

Upon arrival to site, the Monitoring Officer was ushered through the standard security check followed by a site orientation including review of the company's safety and emergency procedures, as well as environment and wildlife policies. The two-day site visit involved meetings with various staff as well as site tours.

[5] *Jericho Mine – Site Assessment Report, February 10, 2009* by Kevin Buck and Mellissa Joy, Water Resources Division (submitted to NIRB July 18, 2011).
[6] *Jericho Mine – Site Visit and Contract Meeting, June 17, 2009* by Kevin Buck, Manager of Water Resources, Water Resources Division (submitted to NIRB July 18, 2011).
[7] Melissa Joy (Indian and Northern Affairs Canada), Water Resources Officer, *June 8, 2010 Water Use Inspection Report* (submitted to NIRB July 18, 2011).
[8] Ian Rumbolt (Indian and Northern Affairs Canada), Water Resources Officer, *June 11 & 12, 2011 Water Use Inspection Report* (submitted to NIRB July 18, 2011).
[9] Pamela Strand [Shear Diamonds (Nunavut) Corporation], President, *Response to June 2011 Inspection Report of the Jericho Diamond Mine Property* (dated July 12, 2011).

On August 28th, the NIRB Monitoring Officer met with site environmental personnel, including Allison Rippin Armstrong and Bobby Bedingfield, to discuss the site visit checklist, outstanding issues related to the Project Certificate, the NIRB's recently issued correspondence[10] listing all outstanding reports, as well as Shear's ongoing efforts to regain compliance with permitting agencies. As part of the August 28th meetings, the NIRB Monitoring Officer participated in a site tour accompanied by Shear environmental staff, including Allison Rippin Armstrong, Bobby Bedingfield, and Wes Atchison. The site tour included:

- the airport including both old and new hazardous waste treatment areas;
- landfill areas;
- remediated site of the previous Carat camp;
- old and upgraded waste disposal areas;
- stockpiles and waste rock piles;
- water intake pumps, process plant outflow, and outflow diffuser;
- C1 diversion;
- mine pit berm;
- Processed Kimberlite Containment Area (PKCA), previously noted fine processed kimberlite spill areas, and areas undergoing progressive remediation;
- dust monitoring stations near the PKCA and around site; and
- lakes undergoing testing under the Draft Aquatic Effects Management Plan (2011) and additional lakes being considered for further fish and water quality studies.

On Wednesday August 29, 2012, the Monitoring Officer completed the site tour with Wes Atchison, including:

- Tank farm Phases I, II and III;
- Fuel pump sheds;
- Fuel storage sites for winter fuel storage; and
- Incinerators and surrounding area.

At the conclusion of the site tour, the NIRB Monitoring Officer again met with Allison Rippin Armstrong and Bobby Bedingfield to discuss the visit, outstanding items from the Project Certificate, and Shear's continuing activities while in the care and maintenance phase. To address the issue of outstanding reports, Allison Rippin Armstrong was able to gather preliminary copies of most outstanding annual and quarterly reports, provided a print copy to the NIRB Monitoring Officer for reference, and discussed formal submission of these reports to the NIRB as soon as they were completed and assembled.

3.1 2011 Site Visit Follow-up and Compliance Update

During the NIRB's 2011 site visit, issues of non-compliance with terms and conditions of the Jericho Project Certificate were noted by the NIRB Monitoring Officer and detailed in the

[10] Tara Arko, Technical Advisor, Nunavut Impact Review Board Letter Re: *Requested Update Regarding Outstanding Reports for the Jericho Diamond Project* dated August 7, 2012 and sent to Julie Lassonde, Executive Chairperson and CEO of Shear Diamonds Ltd.

findings of the NIRB 2011 Site Visit Report[11]. At the initial meeting with site environmental staff during the 2012 site visit, the findings of the 2011 site visit were discussed as outlined below:

Condition 5
The Proponent had not installed an atmospheric station to obtain site-specific meteorological data. Shear staff indicated that the station had been installed since the 2011 site visit.

Condition 10
No wildlife data was collected in 2010 or 2011, and only wildlife observations had been recorded at site. Shear staff indicated that wildlife observations were continuing to be logged at the site wildlife reporting board and that Shear had been providing ongoing notice to the Government of Nunavut regarding siting statistics, notification of caribou movement through the site during spring migration, and had provided notice and photos detailing one (1) bear sighting.

Condition 31
The NIRB Monitoring Officer had not been provided with the required information regarding options for additional divider/barriers or dykes in the PKCA or a revised Waste Management Plan. Shear staff indicated that any additional considerations regarding dykes and any waste management plans had been included in the materials submitted to the Nunavut Water Board for their water licence renewal in 2011.

Condition 34
The waste transfer containment area near the airstrip was not completely contained (berm was not enclosed) and the liner was ripped in several locations. Shear staff indicated that the hazardous waste treatment area near the airstrip was being divided into two cells; one for oil and the other for contaminated soil and that both areas would continue to undergo repair and upgrading, with Shear expecting these to be completed in September 2012.

Condition 35
The NIRB 2011 site visit report included notes about the lack of wildlife fencing around waste storage areas, as well as a change in location of the incinerator. Since the 2011 site visit, no additional fences had been installed around the waste storage areas, but Shear had consulted with BearWise to review the current site waste management practices and previously noted issues of wildlife being attracted to the incinerator. Waste storage areas had been cleaned up, organized, and Shear has been a new waste stream system to more accurately sort garbage for proper disposal.

3.2 General Observations

The Monitoring Officer noted that at the time of the 2012 site visit, the Jericho site was manned by a crew of approximately 35 people comprised of environmental staff, operations crew, and support staff working on maintaining the facilities, addressing regulatory requirements, and re-processing mill stock piles. The site was orderly and free of litter and garbage. Areas of

[11] Nunavut Impact Review Board. *NIRB 2011Site Visit Report for the Jericho Diamond Mine Project*. September 28, 2011.

previously identified fuel contamination which were documented during the 2009 and 2011 NIRB site visits remained within secondary containment; the water within these areas was being filtered or put into drums for shipment off-site. It also appeared that Shear had made progress in upgrading the on-site waste storage facilities. Shear indicated that its focus since the 2011 NIRB site visit had been to address the previous spill from the PKCA containment area, implement measures to eliminate further contamination of fine processed kimberlite, and implement the Draft Aquatic Effects Management Plan.

During the two day site visit, a single bull caribou was observed on site; as was a concentration of caribou droppings at the bulk fuel storage area.

3.3 Atmospheric Monitoring Stations

Condition 5 of the Jericho Project Certificate states:

> *"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."*

Tahera had previously submitted an Air Quality Management Plan[12] in 2004 to the NIRB which was never formally approved, followed by an Air Quality Update[13] in 2008. As part of Shear's 2011 application to the Nunavut Water Board (NWB) for the renewal of the Jericho water licence (No. 2AM-JER0410), Shear provided a copy of an Air Quality Management Plan[14] which included a note that the submission was submitted as a required by the NIRB Project Certificate [002] Appendix D, Section 1.2.

As part of Tahera's originally submitted Air Quality Management Plan and required by Condition #5 of the Jericho Project Certificate, the meteorological station was installed in 2006, however the station failed to operate properly and no data was collected. During the 2011 site visit, Shear indicated that it had sent the station out for repairs, with the intention of having it become operational, though installation was postponed due to bad weather. The installation had since been completed by Shear site staff and the station was in place at the time of the 2012 site visit.

Dustfall monitoring stations (see Photo 1 through Photo 4) were installed around the site to determine areas of dust deposition to extrapolate dust sources, and define areas that may require mitigation. Specific areas under investigation by Shear aim to collect incinerator dispersion and fine processed kimberlite (see Photo 2) and collect data on current camp and project activity. Shear staff worked with Environment Canada to review and provide comments on their air dispersion model as well as the Air Quality Management Plan.

[12] Tahera Diamond Corporation. *Air Quality Management Plan*, Jericho Diamond Mine, Nunavut. Submitted by AMEC Earth & Environmental dated April 2004.
[13] Tahera Diamond Corporation. *Dispersion Modelling of Air Emissions from the Jericho Diamond Mine Project Air Quality Update*. Submitted by AMEC Earth & Environmental dated September 2007.
[14] Shear Diamonds. Care and Maintenance Plan, Jericho Project, Nunavut. *Air Quality Management Plan*. January 2011.

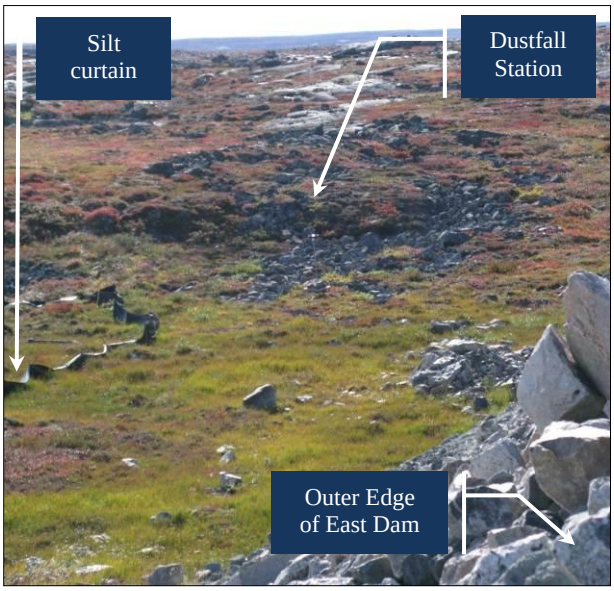


Photo 1: Dustfall monitoring station closest to East Dam opposite PKCA

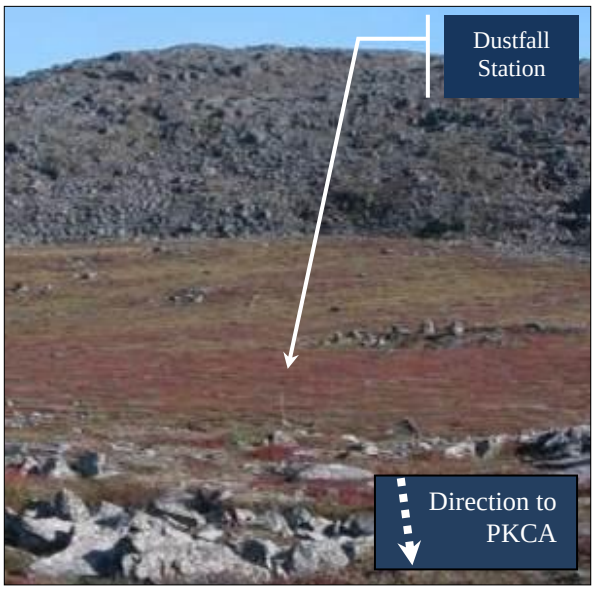


Photo 2: Dustfall monitoring station downwind of East Dam and the PKCA

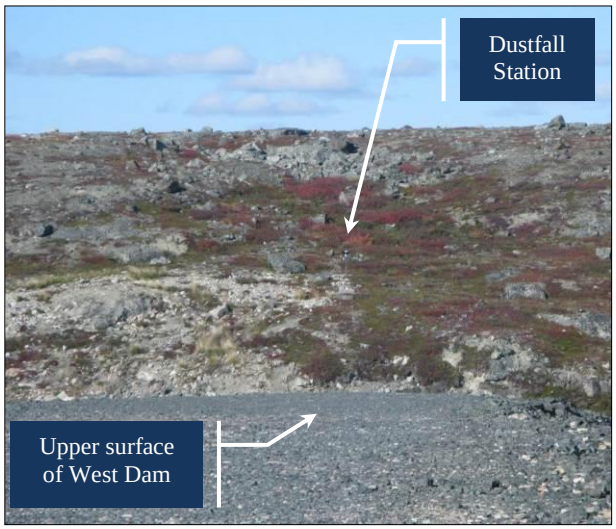


Photo 3: Dustfall monitoring station at West Dam side opposite to access road


Photo 4: Dustfall monitoring station by the processing plant

3.4 Noise

Condition 8 of the Jericho Project Certificate states:

> *"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."*

While the site remains in care and maintenance and no active mining is occurring, the sources of site noise result from the processing plant, on-site vehicles, aircraft flying to and from site,

helicopters participating in site sample collection, the camp generator, and sprinklers and water pumps associated with the camp and PKCA maintenance (see Photo 5 and Photo 6). Strategies being employed at site to address impacts to wildlife from noise included checking the airstrip for animal proximity before aircraft landing, implementing speed limits for vehicle traffic, as well as directing workers and traffic to avoid the areas where wildlife are identified on site. Within the processing plant, standard personal protective equipment is required for all personnel.

Photo 5: Sprinkler irrigation activity in PKCA

Photo 6: Water pump moving water from Cell B/C to PKCA for irrigation activity

3.5 Wildlife and Terrestrial

Condition 3 of the Jericho Project Certificate states:

> *"Tahera should work with regulatory authorities to monitor caribou in and around the project area. This caribou monitoring should not duplicate the work underway by other groups and authorities, for example for the Slave Geological Province, but instead will focus on the caribou migrating to the northern portion of the Slave Geological Province."*

Condition 10 of the Jericho Project Certificate states:

> *"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."*

During the site visit meetings, Shear indicated that earlier in the season, it had assisted in wildlife surveys with the Government of Nunavut, and continues to provide notices of wildlife sightings, observations about the animals and/or associated photos. Shear also indicated that preliminary discussions with the Government of Nunavut – Department of Environment had been initiated regarding updated monitoring requirements for the Wildlife Mitigation and Monitoring Plan.

Condition 11 of the Jericho Project Certificate states:

> *"In approving this Project, NIRB encourages all regulatory authorities (i.e. federal, territorial and KIA) to study the cumulative effects of any associated projects (e.g. Bathurst Inlet Port and Road) on regional caribou movements."*

Shear had begun coordinating its flights to site with the air traffic to the Lupin site and expressed interest in coordinating with other companies as additional developments may begin in the area.

Condition 12 of the Jericho Project Certificate states:

> *"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."*

Shear indicated that its staff continue to collect wildlife observation data (see Photo 7) and that staff who discover animals on site must reported sightings to other staff via radio, the right-of-way must be given to the animal(s), traffic speed limits are lowered, and employees take every precaution to avoid areas where wildlife are present.

During the site visit, a single male, bull caribou was observed on site as shown below. Site staff on the tour with the Monitoring Officer gave the animal right-of-way and maintained minimal activity until the caribou left the area. The Monitoring Officer further noted caribou droppings around the site and especially around the fuel tank farm within the berm.

Photo 7: Wildlife logging station

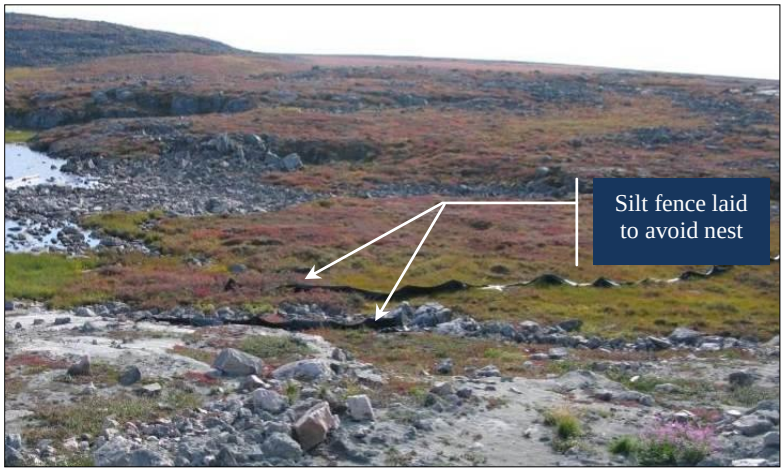

Photo 8: Bull caribou grazing by Carat Lake

Condition 14 of the Jericho Project Certificate states:

> *"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."*

As activities occurred during the nesting season, Shear employees focused their efforts on identifying and flagging nests near areas of current activity on site, and informed pilots of sightings such as hawks, peregrine falcons, and even an eagle. Silt fences had been erected around the PKCA spill area in a manner to avoid current nesting sites.

Photo 9: Silt fences installed as a result of PKCA spill



Condition 15 of the Jericho Project Certificate states:

> *"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."*

At the time of the site visit, no construction, drilling or blasting had been recently conducted on site; therefore this term and condition remains applicable only to traffic movement. Site staff addressed the intent of this condition through site practices for wildlife management which includes: site personnel are required to carry a radio in their vehicles; upon sighting wildlife on site, other personnel are alerted; animals are given the right of way, traffic speeds are reduced, and workers must avoid the area until the wildlife have moved out of the area.

Condition 16 of the Jericho Project Certificate states:

> *"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."*

Shear site staff continue to operate on the principle of employee awareness regarding nesting activities around existing infrastructure. To date, the plan required by Condition #16 has not been submitted to the NIRB's Monitoring Officer.

Condition 17 of the Jericho Project Certificate states:

> *"For safety and other reasons, there shall be no hunting of wildlife in the Project area and 500 metres outside the project lease boundaries."*

A no hunting policy is in place at the Jericho mine site and is being enforced. According to Shear's policies, hunting, harassing or feeding wildlife can be grounds for termination of employment.

Condition 18 of the Jericho Project Certificate states:

> *"Problem wildlife shall be reported immediately to the GN and to the NIRB Monitoring Agent."*

Site environmental staff indicated that there have been no problem wildlife at the site during 2012 and that a single siting of a bear moving through site had been reported to the Government of Nunavut's Department of Environment.

3.6 Blasting Activities and Management

Condition 9 of the Jericho Project Certificate states:

> *"Environmental effects of blasting on wildlife shall be kept to a minimum. Blasting cannot occur if it affects in any way migrating caribou and birds or local carnivores."*

As the site remains in care and maintenance, no blasting had been occurring at the time of the site visit, and the company indicated that it has no plans in place to address this condition. Shear staff have begun to track and report migration activity through the site, and indicated that this information would be used in plans to be developed prior to resuming full mining operations.

Condition 26 of the Jericho Project Certificate states:

> *"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."*

Shear indicated that no blasting is currently planned at the site, and that this term and condition would be addressed prior to resuming mining operations. A blast notification sign from previous mine operations was noted to be in place and in good condition at the time of the site visit.

Photo 10: Blast notification sign

Condition 27 of the Jericho Project Certificate states:

> *"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."*

Shear environmental staff indicated during the Monitoring Officer's visit that the site is secured by a locked fence, and that any equipment within the shed is the property of Dyno-Nobel, the agency to whom Tahera sold the materials. During the 2011 NIRB Site Visit, Shear stated that any materials at the location, or material spills (previous or future) are the responsibility of that company. During the 2012 site visit, Shear staff noted that the shed was located in an area that could have a direct flow pathway to Lynne Lake and as such, indicated that it would re-assess the site before it was used to store supplies.

Photo 11: Sign posted at entrance to ammonium nitrate storage facility (2008)

Condition 28 of the Jericho Project Certificate states:

> *"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."*

Shear indicated that no blasting would be planned while the site is under care and maintenance and that there are no blasting agents currently on site. Shear staff indicated that the requested plan would be tied to resuming mining operations, and would be considered further at that time.

3.7 Roads

Condition 13 of the Jericho Project Certificate states:

> *"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."*

Shear indicated that site activity will remain at a minimum during the care and maintenance phase, and as such, this condition would be addressed by ensuring that wildlife has the right of

way on site, and to continue the practice of worker avoidance in areas where wildlife are present. The mine pit remains enclosed by a berm approximately 5 feet tall (see Photo 12). Shear informed the NIRB Monitoring Officer that there had been a large herd of caribou (approximately 2000 animals) moving through the site as part of the spring herd migration and that all vehicle traffic and movement to and from the airstrip ceased as a result.

Photo 12: Mine pit berm close-up

Condition 32 of the Jericho Project Certificate states:

> *"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."*

Shear indicated that no new ice or snow road construction had been undertaken since the Jericho site went into care and maintenance in 2008. Shear also indicated that it has no plans to construct any winter or ice roads at this point. All fuel trucks carry spill equipment, and site staff follow the Contingency Management Plan previously submitted as part of the Jericho water licence application.

Condition 33 of the Jericho Project Certificate states:

> *"That all movement of goods including hazardous materials across the winter or other roads be subject to a comprehensive materials handling, management, and environmental protection plan. This comprehensive plan shall be in place prior to the initial haul supply of the mine, and shall contain environmental terms at least as stringent as those currently incorporated into the Tibbett-Contwoyto Winter Road agreement, and shall be filed with NIRB's Monitoring Agent and other regulatory authorities as required."*

Tahera had submitted a comprehensive plan in February 2007, prior to the initial haul supply for the mine site. Shear has not submitted any updates or addressed this condition since taking stewardship of the site. Shear was in the process of upgrading the site hazardous materials storage facilities including the movement of materials from their previous locations around the site to the upgraded facilities.

Photo 13: Spill kits

3.8 Fuel Storage

Condition 34 of the Jericho Project Certificate states:

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

The main fuel tank farm was previously bermed, the Monitoring Officer noted during the 2012 site visit that some liners were still exposed, and that there was evidence of fuel contamination, pooling of water, soil staining and notable hydrocarbon odours within the bermed areas of Phase I and II. It was also observed that berms were not constructed consistently across subsequent phases of development (see Photo 14).

Photo 14: Main fuel tank farm (2011)

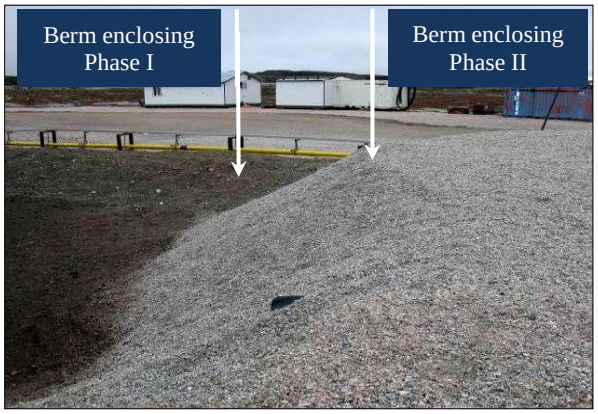


Photo 15: Main fuel tank farm berm between the original Phase I and newer Phase II areas

Shear noted that it currently receives all of its fuel to the site in barrels (see Photo 16) and that these are stored year-round on pads near the fuel tank farm in insta-berms.

Ongoing work to upgrade secondary containment areas was apparent during the Monitoring Officer's visit (see Photo 18). The secondary containment berms were in the process of being rebuilt and relined. Shear indicated that they would seek an engineer to inspect the upgrades and sign-off that they had been completed to specification.

Photo 16: All-season fuel storage area

Photo 17: Waste transfer containment area – bulk and drummed contaminated soil (2011)

Photo 18: Waste transfer containment area upgraded section yet to be approved by an engineer

Photo 19: Materials in old waste transfer containment area

Photo 20: Fuel tanks in waste transfer containment area, note hydrocarbon staining

Photo 21: Materials around old waste transfer containment area

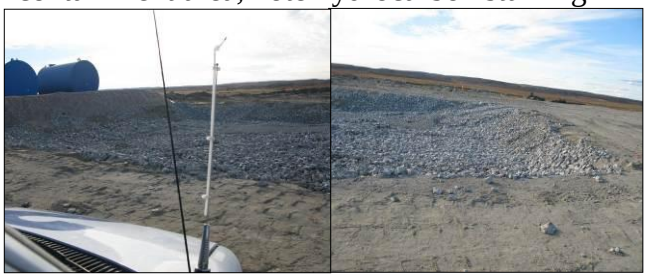


Photo 22: New hazardous waste storage area by airstrip

During the 2011 site visit, it was noted that the liner for the main fuel tank farm was exposed in several areas, that substrate in the berms was heavily contaminated with fuel, and that standing water within the berm contained visible hydrocarbon sheen. The main fuel tank farm continues to exhibit the same symptoms of contamination during the 2012 site visit (see Photo 23). Site staff were working to remove contaminated water by containing it within sealed barrels for transport to a facility off site, or by using the on-site water filter system on site to treat, test, and release the water.

Shear submitted a Landfarm Management Plan and Preliminary Landfarm Design Plan in support of its water licence renewal application. The Monitoring Officer noted during the site visit that no landfarming activities were being conducted, and that hydrocarbon contaminated materials were still being either contained in barrels. Stockpiles of hydrocarbon contaminated soil noted in the 2011 site visit appears to be untouched and in the same condition.

Photo 23: Hydrocarbon contaminated area within berm of Phase II of main tank farm

Photo 24: Hydrocarbon contaminated water and debris from within berm being barreled

Photo 25: On site filtration unit

Photo 26: Holding pond for materials being filtered and tested before release

Photo 27: Caribou droppings at Main Tank Farm

Photo 28: Waste transfer containment area hydrocarbon contaminated soil stockpile (2011)

3.9 Processed Kimberlite Containment Area (PKCA)

Condition 31 of the Jericho Project Certificate states:

> *"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."*

Condition 36 of the Jericho Project Certificate states:

> *"Tahera shall immediately contact the NWB to provide greater detail on the PKCA, West Dam, spillway, settling pond, dumps, waste disposal, stockpiles, and quantities of fresh water needed at the mine site, reclamation plans and any other information needed to assist the NWB in its water license application."*

Site staff indicated that they continue to conduct daily and weekly water quality sampling for on-site testing and off-site lab testing to verify readings collected on site. Shear indicated that it has also added additional sample sites and that testing is done both pre- and post- discharge to establish baseline date for future mine pit dewatering.

As part of the water licence renewal process, Shear had noted two concerns that were related to this condition. First, the PKCA had been allowed to dry out while mining and processing operations were suspended on site and therefore some of the fine processed kimberlite (FPK) had begun to move beyond the barrier of East Dam as a result of wind and the lack of snow cover. Second, in order to maintain the required 1 metre freeboard allowance in Cell B/C, Tahera had been releasing significantly higher amounts of water to the discharge environment than was recommended to simulate seasonal flow rates.

PKCA and water quality of area

In order to address the concern about the PKCA drying out and subsequent wind dispersion of the fine processed kimerlite, Shear employed three techniques to address this concern. First, they installed a silt curtain in the location of the proposed Divider Dyke B which would separate Cell B and C.

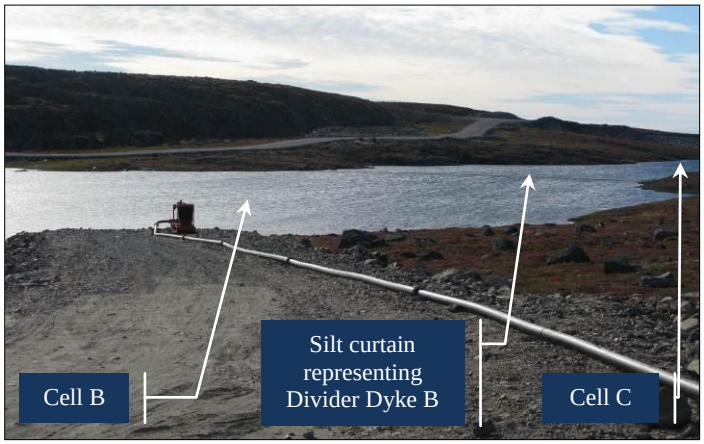


Photo 29: Silt curtain location in Cell B/C


Photo 30: Sprinklers wetting PKCA

Second, Shear began to re-hydrate the Processed Kimberlite Containment Area (see Photo 30) with water from Cell B/C spread by sprinklers to reduce further wind blow of fine processed kimberlite particles. Shear planned to have the area wet enough by fall so it would freeze as a single block thus holding the fine particles in place and cap the area with snow from the site.

Third, Shear has installed additional physical barriers such as snow fencing in the Processed Kimberlite Containment Area, silt curtains along slopes with the area of the spill, and placed tires on the East Dam. Shear staff noted that the snow fences installed earlier in the season (see Photo 31) in the Processed Kimberlite Containment Area had collapsed. Therefore they constructed more robust fencing panels (see Photo 32), using materials salvaged from the site landfill, which would be installed in the Processed Kimberlite Containment Area after freeze-up. During the summer, site staff relocated the haul truck tires previously marking the perimeter of the mine pit (see Photo 33), to East Dam as an additional barrier (see Photo 34). A silt curtain was installed on the outer slope of the East Dam (see Photo 35) to reduce further movement of the fine processed kimberlite particles that had been blown out of the Processed Kimberlite Containment Area.

Photo 31: Collapsed snow fence in PKCA

Photo 32: Reinforced snow fence panels

Photo 33: Haul truck tires around open pit area (2011)

Photo 34: Haul truck tires relocated from berm of mine pit to East Dam

The fine processed kimberlite dispersion outside of the PKCA has been a topic of ongoing discussion since it was first detected by Shear staff in early 2011. Shear installed silt fences (see Photo 36 and Photo 37), as well as begun removal the fine processed kimberlite particles from the dispersion area using vacuums. The slope continues to support vegetation though it was not apparent whether a change in growth patterns has occurred due to the cover of fine particles.

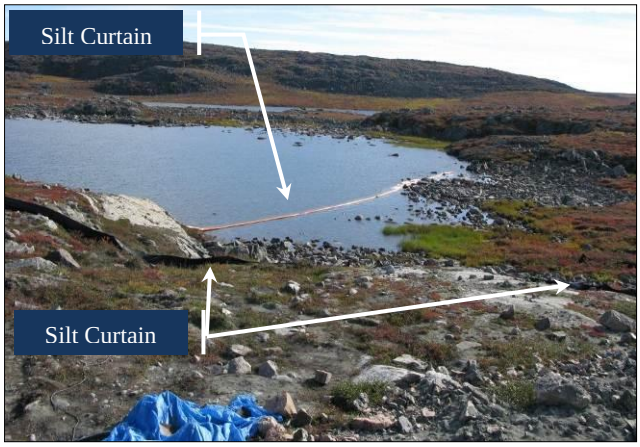


Photo 35: Silt fence along East Dam opposite PKCA showing Southeast Lake


Photo 36: Silt fence along East Dam opposite PKCA showing Dam


Photo 37: Silt curtain close-up

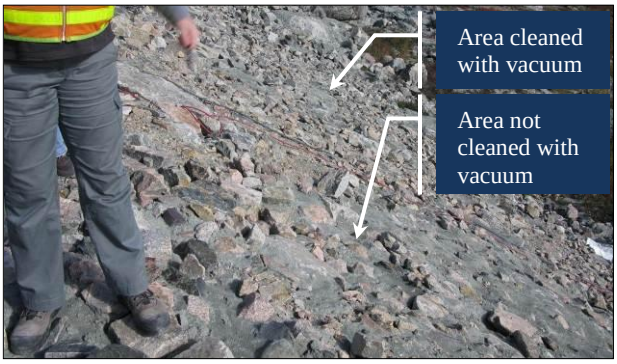


Photo 38: Slope of East Dam facing away from PKCA

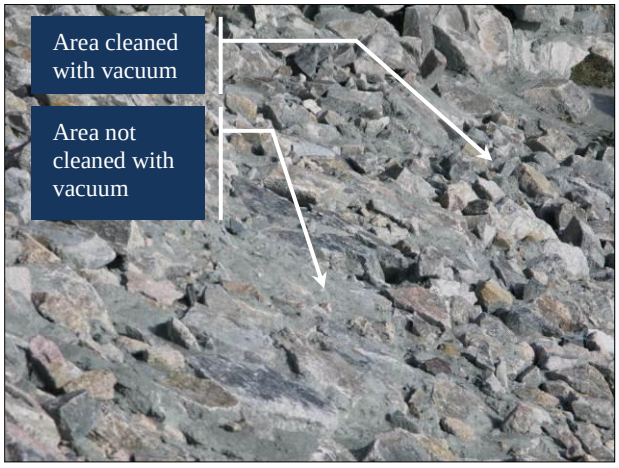


Photo 39: Close-up of material on slope of East Dam


Photo 40: Vegetation growing on slope of East Dam

PKCA release water quality and quantity

The second issue noted during the water licence renewal process was that in order to maintain the required 1 metre freeboard allowance in Cell B/C, Tahera had been releasing significantly higher amounts of water to the discharge environment than was recommended to simulate seasonal flow rates. While the site remains in care and maintenance, no active mining is occurring, mine pit dewatering plans have been delayed, and Shear continues to monitor the discharge water sample site at the discharge plume where water enters stream C3 (see Photo 41).

Photo 41: Discharge of PKCA Catchment Area

3.10 Water Quality

Condition 6 of the Jericho Project Certificate states:

> *"Tahera shall implement a site-specific ecosystem based water monitoring program, which it will fund. Tahera will also meet the requirements of regulators including the Nunavut Water Board and take advice from KIA as to site selection of this ecosystem based water quality monitoring program."*

Condition 20 of the Jericho Project Certificate states:

> *"Tahera shall ensure mitigation and compensatory measures meet the needs of regulatory authorities for fisheries or habitat losses, included but not limited to, the area of water intakes and outlet areas, Long Lake, and Streams C1 and C3. These programs should be adjusted based on long-term monitoring of fish in the Carat Lake systems, and further site specific studies be undertaken and submitted to the regulatory authorities prior to the final alignment for water crossings or diversions, with the proper development of mitigation measures more specifically detailed."*

The NIRB Monitoring Officer discussed with Shear staff the significantly expanded number of water quality monitoring stations that the company had implemented on site during 2011-2012. While the previous monitoring stations continued to be tested, Shear has also begun testing other lake systems around the site as well. Shear indicated that it had also begun to test small lake systems around the site due to potential drainage from the emulsion plant and explosives storage area. Reference Lake 2 has yet to be finalized as Reference Lake 1 was found to be influenced.

Lake C3 water monitoring (first panel of Photo 41) has been changed in that water quality monitoring station 7 (JER-AEM-07) located in the center of the lake was removed as it was found to be influenced, and station 8 (JER-AEM-08) located closer to where Lake C3 joins Carat Lake is now being used as a reference test site.

Condition 29 of the Jericho Project Certificate states:

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

Shear staff explained during the site visit that water quality monitoring station 7 (JER-AEM-07) had been dropped from the monitoring program by Tahera during operations as it was found to be influenced; therefore Shear has no baseline data from this monitoring station. Shear began a plume delineation study of Lake C3 to better determine detailed effluent requirements based on achievable limits as the company prepares in the future to resume operations.

Condition 30 of the Jericho Project Certificate states:

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

Shear staff noted during the site visit that it had engaged in conducting an extensive study of Tahera's water quality data as part of the water licence renewal, and that the presentations given at the NWB Hearing in November 2011, as well as the exhibits entered as evidence during that event, would be the most detailed documents available.

3.11 Aquatic Monitoring

Condition 4 of the Jericho Project Certificate states:

> *"Tahera shall initiate a long term monitoring program regarding the health of fisheries in the Carat Lake systems as far down as the Jericho River, not only to protect this fishery, but also to enhance it."*

Shear explained how it had undertaken an extensive fisheries survey as part of its work implementing the Aquatic Effects Monitoring Plan during the past year. The focus had been to conduct water sampling and baseline collection at new water sites, begin plume delineation studies, and prepare for additional lakes to undergo inventorying for fish stocks. In the 2011 Site Visit Report, it was noted that Fisheries and Oceans Canada (DFO) requested Shear conduct fish sampling in four of the lakes downstream of the Southeast Dam. At the time of the 2012 site visit, Shear indicated that it is still in negotiations with DFO regarding the content of the final compensation agreement as part of its licence renewal with DFO.

3.12 Waste Management

Condition 35 of the Jericho Project Certificate states:

> *"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 NIRB Monitoring Officer did not observe fencing around the waste storage or landfill areas, but materials within these areas had been sorted and organized into rows containing similar materials. Shear indicated that camp waste was sorted and incinerated regularly. The incinerator had been enclosed within a seacan (see Photo 42) along with barrels being filled with the ashes left by the incineration process. Shear submitted a new Landfill Management Plan with its application materials for the water licence renewal which included the creation of waste cells. At the time of the site visit site, the waste cells have not yet been established, and therefore wastes appear to be handled the same as noted in the 2011 site visit; larger site wastes being piled in the previously used waste areas, those wastes eligible for burning being incinerated (see Photo 43) and their ash sealed in barrels for transport off site to a disposal facility.

Photo 42: Incinerator seacan


Photo 43: Incinerator unit and chamber

Condition 40 of the Jericho Project Certificate states:

> *"Tahera shall enter into written arrangements with its contractors to ensure all site debris is cleaned up off the lands including wind-blown debris."*

At the time of the site visit, the site was manned by Shear staff who are responsible for meeting this condition.

3.13 Other Topics Listed in the Project Certificate to be addressed by Shear Management

Condition 7 of the Jericho Project Certificate states:

> *"Tahera shall re-evaluate data and options for the currently planned diversion, dams, and other hydrologic changes and reconsider mitigation options. This analysis could be made a condition of any federal approvals required by regulatory authorities."*

Condition 19 of the Jericho Project Certificate states:

> *"Tahera shall collect pre-construction data for water and sediments, aquatic biota (zooplankton, phytoplankton, and benthic invertebrates) to be submitted to regulatory authorities. The period for ongoing data collection shall be the subject of consultation with regulatory authorities."*

Shear noted in its submissions for the water licence renewal that several structures which Tahera had proposed as part of the Mine Plan had not yet been constructed. These structures included the Divider Dyke B (separating Cell B and C), the North Dam, the Settling Dam (in stream C3), as well as C4 Diversion. During the 2012 site visit, Shear indicated that these structures would not be considered until the time that the company would begin preparations to resume mining, and that the discussions and information required of Conditions 7 and 19 would be addressed at that time.

Condition 21 of the Jericho Project Certificate states:

> *"That Tahera meet the requirements of DFO as it relates to no net loss, further evaluation, and management of the Carat Lake and surrounding fishery. These requirements should be in place before the water license is issued. The Carat Lake causeway must be constructed to minimize disturbance and maximize development of fish habitat including benthic substrate."*

Construction of the shoals had begun at the time of the site visit, and as stated regarding Condition 4, Shear was still in the process of negotiating the compensation agreement with Fisheries and Oceans Canada.

Condition 22 of the Jericho Project Certificate states:

> *"That Tahera conduct a literature review, in consultation with DFO and NIRB's Monitoring Agent, of the effects of ice road travel, noise and vibration and to fish populations. The results of this review are to be reported to NIRB's Monitoring Agent. If there are potential problems identified in the review, NIRB's Monitoring Agent will notify Tahera and the Board of options including a biological study."*

At the time of the site visit, Shear staff indicated that no ice roads were being considered, and that no research would therefore be conducted.

Condition 23 of the Jericho Project Certificate states:

> *"Tahera's blasting program must meet the needs of regulatory authorities regarding the protection of fisheries."*

Shear noted that its blasting program would be discussed as a part of its ongoing negotiation of the compensation agreement with DFO.

Condition 24 of the Jericho Project Certificate states:

> *"Tahera shall take the greatest caution to prevent any impact on fish and mammal populations, fish eggs, spawning beds, silt loading, offspring, and any wintering areas including carnivore dens and bird nest sites."*

At the time of the site visit, Shear indicated that it intended to continue its fish population studies, and planned to continue its wildlife management practices based on animal right-of-way and avoidance.

Condition 25 of the Jericho Project Certificate states:

> *"Tahera shall do a cost benefit analysis associated with the various options of water management at the Jericho site, including recycling. This information shall be provided to regulatory authorities."*

Shear had been recycling water back onto the PKCA to hydrate the cell's contents at the time of the site visit, and noted that it was working with a new water filtration unit (see Photo 44) on site to recycle waste water and meet release rates. The filtration unit was developed to use bag filters for removal of larger particles, and to circulate through filters to remove smaller particles and chemicals. The filters were developed to allow the majority of filter, except the plastic rings, to be disposable by incineration.

Photo 44: Oztek filtration unit

Condition 38 of the Jericho Project Certificate states:

> *"That Spray Irrigation, it if is incorporated as a project component in the future, is referred back to NIRB with further design detail to be dealt with under NLCA Article 12.4.3"*

Shear was using spray irrigation to re-wet the PKCA area (see Photo 5) at the time of the site visit.

Condition 41 of the Jericho Project Certificate states:

> *"For abandonment and restoration, Tahera must comply with INAC's policy of full cost restoration and any related NWB requirements such that the Inuit and taxpayers are not liable for any cost associated with cleanup, modification, decommissioning, or abandonment. An updated report on progressive reclamation and the amount of security posted, as required by KIA, INAC or the NWB, shall be filed with NIRB's Monitoring Agent annually."*

In Shear's Compliance Plan dated September 30, 2012 which it submitted to AANDC to address issues noted in its September 13, 2012 inspection, the company acknowledges the outstanding $321,074 in security required by AANDC, however also notes that current financial situation would not permit them to provide the outstanding security amount or keep the site compliant.

Condition 42 of the Jericho Project Certificate states:

> *"Detailed safety requirements shall be met according to all workplace and safety regulatory requirements, including CO monitoring patches worn by all underground workers."*

Condition 47 of the Jericho Project Certificate states:

> *"Tahera's training shall include safety and emergency programs for all personnel."*

While the site remains in care and maintenance and no active mining is conducted, Shear has indicated its intention to meet workplace safety requirements by conducting site staff orientation, and ensuring that appropriate personal protective equipment is worn by site staff as appropriate for their job.

Condition 43 of the Jericho Project Certificate states:

> *"Labour recruitment should take place as much as possible in the Kitikmeot communities and also elsewhere in Nunavut. Women should be included as much as possible in the work force. On-the-job training should also be a large part of Tahera's training program."*

At the time of the site visit, Shear was employing individuals from communities of the Kitikmeot region, both men and women working in various roles. Site staff was working on training programs to achieve higher levels of certification, and Shear indicated that it was making efforts to have the individuals complete the examinations verbally if needed.

Condition 44 of the Jericho Project Certificate states:

> *"Prior to the commencement of operations, a Kitikmeot Socio-Economic Monitoring Committee be formed to supplement, not replace the IIBA. This committee includes GN, INAC, KIA and NIRB's Monitoring Agent and will involve the preparation of an annual report of the impact of the mine on the closest communities, including Inuit who live near the project area."*

Shear advised the Monitoring Officer that while it provides community updates approximately once per year, it was unable to participate in the Kitikmeot Socio-Economic Monitoring Committee meeting held in March 2012.

Condition 45 of the Jericho Project Certificate states:

> *"Tahera shall prepare an orientation program for any non-Inuit workers, to train them to be sensitive to the Inuit culture. KIA shall be consulted on the development of this program."*

Shear indicated that its employees are required to work according to an anti-harassment policy, and that it has an occupational health and safety committee, as well as a 24 hour off-site contact available to address complaints.

Condition 51 of the Jericho Project Certificate states:

> *"That any archaeological find that is discovered be immediately and concurrently reported to government agencies, KIA, and NIRB's Monitoring Agent. This includes grave sites, which if discovered shall be fully protected."*

Shear's site orientation for employees provides workers information on how to handle archaeological sites, but staff indicated that no study had been done as no active construction was occurring on site.

Old Carat Camp Remediation

The original site of the Carat Camp had not been completely remediated by Tahera. Shear site staff had been addressing the final clean-up requirements of this site throughout the year, and informed the NIRB Monitoring Officer that the site had just received final sign-off that the clean-up was complete and done to standard (see Photo 45 and Photo 46).

Photo 45: View of Carat Lake and old Carat Camp

Photo 46: View of old Carat camp looking toward airstrip

4. Findings and Summary

The Jericho Project Certificate contains terms and conditions which require that the Proponent meet certain reporting and operational requirements. Since acquiring the property in 2010, numerous information requests regarding various reporting requirements have been made to Shear via correspondence and in in person during both the 2011 and 2012 site visits. During the 2012 site visit, the Monitoring Officer and Shear environmental staff discussed the outstanding reports that have not been submitted to the NIRB since Shear assumed ownership of the Jericho project. Shear appears to be addressing or in compliance with most of the terms and conditions contained within the Jericho Project Certificate.

The Proponent has not met Condition 12, as there are no maps showing corridors of caribou travel in site offices, nor has any information regarding wildlife sightings been provided to the NIRB's Monitoring Officer.

The Proponent was not in compliance with Condition 34 at the time of the site visit, as tanks and barrels were stored around the waste transfer containment area without the secondary containment of a berm, and the berm within the waste transfer containment area was incomplete. The incomplete berm is noted to be a result of site staff working to upgrading the existing berm in this area; however in so doing, there are gaps in the berm which would inhibit its purpose and function.

The Proponent has not met the submission requirements of Condition 38 as neither design nor plans for the spray irrigation system, which was functioning in the PKCA at the time of the site visit, were provided to the NIRB. The condition notes that the NIRB may be required to assess with this project activity under the Nunavut Land Claims Agreement, Article 12, Section 12.4.3, and the NIRB has not been able to conduct this assessment due to a lack of information from the Proponent.

Condition 35 has not yet been brought into full compliance as the Proponent has not yet implemented fencing around all landfill and waste storage areas.

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Date: November 13, 2012

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Date: November 13, 2012

Signature: