



# Nunavut Impact Review Board 2020 Annual Monitoring Report

## Jericho Diamond Mine

Shear Diamonds (Nunavut) Corp.

NIRB File No. 00MN059



December  
2020

**Report Title:** The Nunavut Impact Review Board's 2019 – 2020 Annual Monitoring Report for the Jericho Diamond Mine Project (NIRB File No. 00MN059)

**Project:** Jericho Diamond Mine Project

**Project Location:** Kitikmeot Region, Nunavut

**Land Tenure:** Inuit Owned and Crown Land

**Project Owner:** Shear Diamonds (Nunavut) Corp.

**Monitoring Officer:** Keith Morrison, Manager, Impact Assessment

**Report Prepared by:** Jaida Ohokannoak, Technical Advisor II  
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**Monitoring Period:** October 2019 – September 2020

**Date Issued:** December 4, 2020

**Photos by:** Crown-Indigenous Relations and Northern Affairs Canada  
Nunavut Impact Review Board

**Cover photo:** Photo taken M. Yetman, Crown-Indigenous Relations and Northern Affairs Canada

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## 1.0 INTRODUCTION

The Nunavut Impact Review Board (NIRB or Board) was established through Articles 10 and 12 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement)*, Article 12 and is responsible for post environmental assessment monitoring of projects in accordance with Article 12, Part 7 of the *Nunavut Agreement*.

Pursuant to Section 12.7.1 of the *Nunavut Agreement*, the establishment of a project-specific monitoring program may be outlined by the terms and conditions contained in a NIRB Project Certificate, recommendations stemming from a Part 4 *Nunavut Agreement* determination, or approvals issued by the Nunavut Water Board. Monitoring programs may specify responsibilities for the Proponent, the NIRB, or Government. The purpose of such a monitoring program is outlined in Section 12.7.2 of the *Nunavut Agreement* as follows:

- a) to measure the relevant effects of projects on the ecosystemic and socio-economic environments of the Nunavut Settlement Area;*
- b) to determine whether and to what extent the land or resource use in question is being 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 the predictions contained in the project impact statements.*

This document has been prepared by the NIRB to address requirements of Section 12.7.2 of the *Nunavut Agreement* and details monitoring activities that occurred during the 2019-2020 reporting period. This report also provides an assessment of the following items:

- Success or failure of the terms and conditions within Project Certificate No. 002;
- Adequacy of the monitoring program including ecosystemic and socio-economic impacts of the Project pursuant to Section 12.7.3(c) of the *Nunavut Agreement*;
- Adequacy of Appendix D of the Jericho Project Certificate in its direction to the Proponent regarding Project-specific monitoring; and
- Results of 2017 and 2018 remediation and stabilization works undertaken by Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) under NIRB File No. 16UN058.

Details related to the remediation and stabilization works undertaken by CIRNAC and approved by the Board under NIRB File No. 16UN058, are provided throughout the 2019-2020 Monitoring Report.

## 1.1. Project History and Current Status

On July 14, 2004 pursuant to Section 12.5.12, Article 12 of the Nunavut Agreement, the NIRB issued the Jericho Diamond Mine Project Certificate No. 002 (Project Certificate No. 002) to Tahera Corporation Limited (Tahera) following the environmental assessment of the Jericho Diamond Mine Project (Jericho Project or the Project). In 2008 after commencing construction, Tahera filed for creditor protection and the mine was managed by Indian and Northern Affairs Canada and placed in temporary closure until the site was purchased. Shear Diamonds (Nunavut) Corp. (Shear or the Proponent) purchased of the Jericho Diamond Mine in August 2010 and on August 23, 2011 the NIRB issued Amendment #2 to the Project Certificate No. 002 in the name of Shear Diamonds (Nunavut) Corp.

On January 22, 2014 the then Minister of Aboriginal Affairs and Northern Development declared the Jericho Diamond Mine Site abandoned by Shear and assumed control of the site as per the *Nunavut Waters and Nunavut Surface Rights Tribunal Act (NWNSRTA)* and the *Territorial Land Use Regulations*. The Jericho mine site remains in temporary closure under the management of CIRNAC who conducted remediation and stabilization activities at the site in 2017 and 2018 under NIRB File No. 16UN058.

The Project is currently under surveillance and monitoring by CIRNAC in accordance with their Operation, Maintenance and Surveillance Plan (OMS). The plan involves three (3) years of monitoring the effectiveness of the site stabilization work. Further OMS will be defined by the results of the initial three (3) year program. It should be noted that even though the site has been abandoned the Jericho Project still remains subject to the conditions of Project Certificate No. 002 assigned to Shear.

For further information on the site history, please see [Appendix I](#).

## 1.2. Project Components

The Jericho Project is a diamond mine situated in the West Kitikmeot region of Nunavut, approximately 430 kilometres (km) southwest of Cambridge Bay and 240 km southeast of Kugluktuk. The site consists of a single open pit mine, processing facility, Processed Kimberlite Containment Areas (PKCA) and waste rock piles, as well as a camp and support buildings to house approximately 200 persons, fuel tank farm with capacity for 13 million litres of fuel<sup>1</sup>, an airstrip, and roads connecting site infrastructure. The mine is primarily located on Crown land with access and other infrastructure, including an explosives storage area and emulsion plant, and the waste rock piles on Inuit Owned Land (IOL).

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<sup>1</sup> Decommissioned and remediated as part of 16UN058 “Jericho Site Stabilization Project”



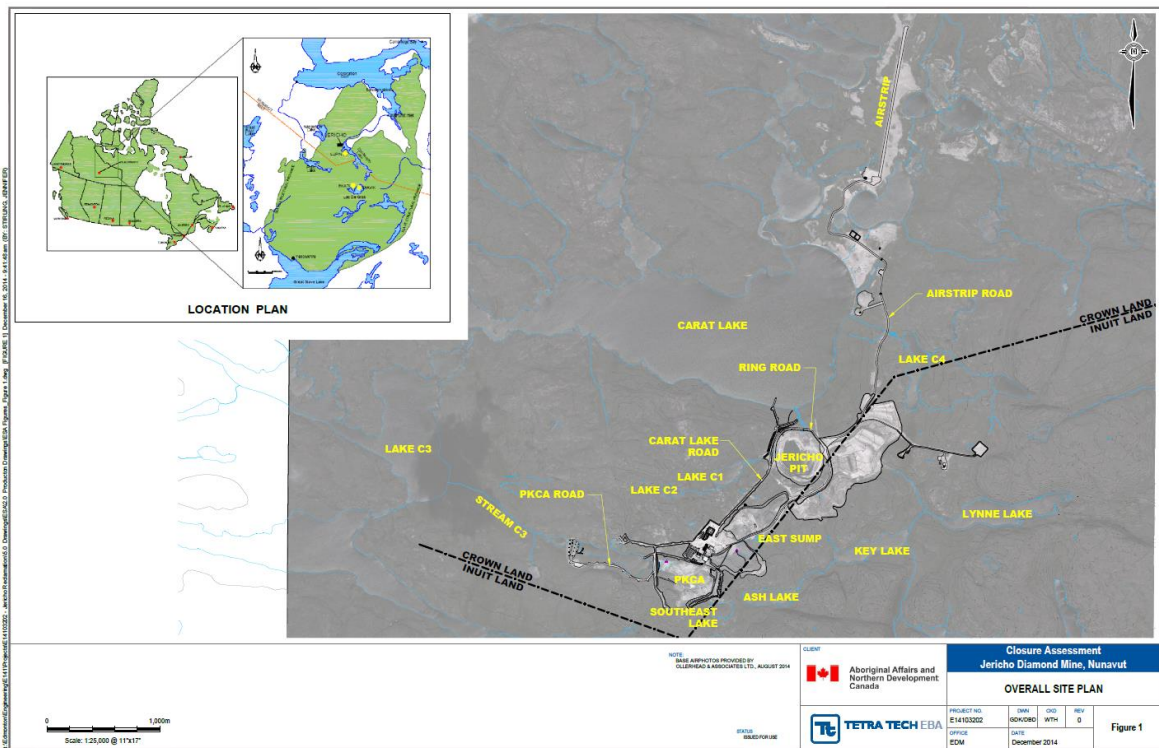


Figure 1: Overall Site Plan<sup>2</sup>

## 2.0 MONITORING ACTIVITIES

### 2.1. Reporting Requirements

After acquiring the site, Shear requested on June 3, 2011 that the NIRB re-issue Project Certificate No. 002 to reflect the new owner of the Project and provided specific commitments to bring the site into monitoring and reporting compliance. Appendix D of the Jericho Project Certificate prescribes the reports which the Proponent is required to submit to the NIRB, specifically quarterly reports, an annual report, and updated management plans as required. Board recommendations issued for the reporting years between 2012 and 2019 requested that Shear provide a discussion on its intentions for reporting while the site continued in care and maintenance, as well as to submit any outstanding reports. Shear has been non-compliant.

As a result of Shear's non-compliance with the water licence, Aboriginal Affairs and Northern Development Canada (AANDC) intervened as per the NWNSTRA and noted in correspondence received by the NIRB on July 2, 2013 that the scope of its management of the Jericho Mine site at that time would encompass the management of several specific risks, including: site water during freshet; tailings; and fuel and hazardous waste.<sup>3</sup> The site has

<sup>2</sup> Public Registry ID: 305395

<sup>3</sup> Public Registry ID: 288133

since been declared abandoned and under the stewardship of CIRNAC. On October 25, 2019 the Board issued its most recent set of recommendations to Shear, CIRNAC, and the Kitikmeot Inuit Association (KIA) requesting that they provide an update to the NIRB on the activities that are being undertaken to manage the risks identified at the Jericho site. See [Section 2.6](#). Responses to the NIRB's 2019 Recommendations for additional information.

### **2.1.1. Proponent Annual Report as per Project Certificate Appendix D**

On October 3, 2006 (subsequently revised and re-issued November 20, 2007) the NIRB issued Appendix D of the Project Certificate No. 002 which provides direction to the Proponent, the NIRB's Monitoring Officer, and government departments regarding the monitoring program as established pursuant to Section 12.7 of the *Nunavut Agreement*. Appendix D of the Jericho Project Certificate requires the Proponent to develop a comprehensive post-environmental assessment monitoring program (PEAMP) and submit an annual report to the NIRB by April 30 of each year the Project is in operation until the post-closure phase. As outlined in Appendix D, the annual report must provide details of the Proponent's efforts to comply with the Project Certificate No. 002. The annual report must include, at a minimum, a discussion of the results of the PEAMP based on all relevant data collection, analysis of various topics related to the ecosystemic and socio-economic environment, and a discussion of the effectiveness of mitigation measures and recommendations for adaptive management. Furthermore, the Proponent is required to provide a status update of compliance with all authorizations and applicable regulations and guidelines associated with the project.

Appendix D of the Project Certificate No. 002 further requires the Proponent to submit quarterly reports to the NIRB, due at the end of October, January, April, and July of each year, commencing October 31, 2007, to document current and planned infrastructure development at the site.

After its acquisition of the Jericho Mine site in 2010, Shear committed to submitting the required reports to the NIRB on numerous occasions: during the initial acquisition of the Project and request by Shear that the NIRB reassign the Project Certificate [No. 002];<sup>4</sup> through the renewal process for the Type "A" Nunavut Water Board water licence;<sup>5</sup> and in person during the NIRB's 2012 Site visit.<sup>6</sup> The last annual report for the Jericho Project was submitted to the NIRB by Tahera on May 16, 2008 for the 2007 reporting year and the last quarterly report submitted to the NIRB was provided by Tahera on January 24, 2008 outlining construction activities taken during the fourth quarter in 2007. To date the NIRB

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<sup>4</sup> Public Registry ID: 288072

<sup>5</sup> Public Registry ID: 288119

<sup>6</sup> Public Registry ID: 288459

has not received annual or quarterly reports, or supporting information from Shear as required by Appendix D.

## **2.2. Wildlife Monitoring**

Conditions 3 and 9 through 18, of the Project Certificate [No. 002] outline operational and monitoring requirements with regards to wildlife and birds. The Wildlife Mitigation and Monitoring Plan (WMMP) for the Jericho Project prepared by Tahera, details the Proponent's proposed methods for conducting wildlife monitoring activities, describes options to mitigate potential impacts to wildlife, and provides direction to site staff. On May 15, 2007 Tahera submitted a fourth draft of its WMMP in accordance with Condition 10 of the Project Certificate No. 002. After consultation with the Government of Nunavut – Department of Environment and Environment Canada (now Environment and Climate Change Canada), it was determined that the WMMP as submitted adequately satisfied the requirements of the Project Certificate No. 002.

In the June 3, 2011 correspondence to the NIRB, Shear committed to implementing the measures proposed in the WMMP, which required that Shear compile and submit a Wildlife Mitigation and Monitoring Report annually as well as prepare a comprehensive analysis of the Plan every three (3) years beginning in 2009. The submission further stated that “during care and maintenance Shear will record wildlife sightings in the field and around the mine site. These sightings will be included in the quarterly report to be submitted to the NIRB”.<sup>7</sup> To date the NIRB has not received any of the reports from Shear, nor has it received any annual wildlife data, analyses, or discussion to meet this requirement.

## **2.3. Socio-Economic Monitoring**

Terms and Conditions 42 through 49 of the Project Certificate No. 002 outline the Board's requirements for socio-economic monitoring of the Jericho Project.

### Inuit Impact and Benefit Agreement

On October 1, 2007 the NIRB received a report from the KIA outlining its experience with the implementation of the Inuit Impact and Benefit Agreement (IIBA) for the Jericho Project. In its June 3, 2011 letter to the NIRB, Shear clarified that while the site remained in care and maintenance, obligations in the IIBA had been suspended except for those related to employment and contracting, and that opportunities for these would be limited while the site remained in this phase. No further information regarding the IIBA has been received by the NIRB.

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<sup>7</sup> Public Registry ID: 288072



### Socio-Economic Monitoring Committee

Condition 44 of the Project Certificate No. 002 requires that as a supplement to the IIBA, a Socio-Economic Monitoring Committee (SEMC) be established to monitor and report on socioeconomic impacts in relation to the Jericho Project. While the NIRB received the Jericho Diamond Mine 2007 Socio-Economic Monitoring Report from the Kitikmeot Socio-Economic Monitoring Committee (identified in the report as previously being established as the Jericho SEMC) on August 18, 2009, no further correspondence regarding socio-economic monitoring for the Project have been received by the NIRB.

## **2.4. Compliance Monitoring**

Through compliance monitoring, regulators and other parties assess whether a project being carried out meets the terms established through legislation, regulations, instruments, commitments, and agreements applicable to project activities. Compliance monitoring is a requirement of the NIRB's Appendix D of the Project Certificate No. 002.

### **2.4.1. Compliance with the NIRB Project Certificate**

As previously discussed, Shear has not submitted the reports as required to the NIRB or undertaken the mitigation and monitoring activities committed to, and is therefore non-compliant with the requirements of Project Certificate No. 002, including Appendix D. Although many terms and conditions of the Project Certificate No. 002 were not applicable during the 2019-2020 reporting year as the mine site was non-operational and no Shear staff were on-site, select terms and conditions remain applicable including Conditions 3 and 10 related to Wildlife Mitigation and Monitoring, and Condition 35 which requires that fencing or suitable deterrents be employed at the landfills or waste storage areas on site.

### **2.4.2. Compliance Monitoring by Regulatory Authorities**

Appendix D of the Project Certificate No. 002 sets out expectations for Regulatory Authorities (or Authorizing Agencies) collaborative monitoring for the Jericho site. Agencies with responsibilities related to the monitoring program are requested to provide compliance reports to the NIRB by April 30<sup>th</sup> of each year.

### **2.4.3. Kitikmeot Inuit Association**

The KIA is responsible for holding land tenure permits for Shear as well as maintaining several agreements with regards to the function of the site and use of resources for the Jericho Project. On September 10, 2014 the KIA provided an update to the NIRB which indicated that the organization views AANDC as the primary regulator for the Project, and confirmed that it would be collaborating with AANDC to ensure that the portion of the Project site on IOL is properly abandoned. The emulsion plant, explosive storage units, and ammonium nitrate storage pad as well as the waste rock piles are located on IOL.

Although the majority of the stabilization works related to site water management, tailing storage facilities, fuel and hazardous waste storage and waste management have been completed by CIRNAC on Crown land. The long-term plans and stabilization activities regarding of the site infrastructure and the waste rock piles on IOL are unknown.

#### Waste Rock Piles

The chemistry of the waste rock pile, the chemical reaction rates, the presence of minerals within the pile that can either cause or neutralize acidic water are currently unknown. If reactive the timing of poor-quality drainage can occur over years to many decades. Without seepage quality and quantity monitoring it is uncertain what the impacts are or could potentially be to the receiving environment.

In 2018 and 2019 the NIRB requested that the KIA provide their long-term plans for dismantling/reclaiming/remediating site infrastructure (e.g., roads, buildings, waste rock piles) and restoring the area to natural conditions, with a discussion on any monitoring expected to occur following the completion of site reclamation. Additionally, in 2019 the NIRB requested that KIA provide a detailed update on their site stabilization activities including monitoring of the waste rock pile, waste rock seeps, and contact water to date as well as any completed reclamation efforts at the Jericho Diamond Mine. No written updates have been received from the KIA with regards to the project site conditions on IOL or any plans for monitoring.

#### **2.4.4. Crown-Indigenous Relations and Northern Affairs Canada**

CIRNAC is responsible for issuing Crown land leases for the Jericho Project and conducting land use inspections required under the *Territorial Lands Act* and the *Territorial Lands Regulations*, as well as conducting inspections under the NWNSRTA for compliance to water licence(s) that have been issued by the NWB.

The Jericho Mine site remains in temporary closure under the management of CIRNAC and has been since it was declared abandoned in 2014.

In 2017 and 2018 CIRNAC undertook mine site stabilization activities which focused on restoring the abandoned site to an environmentally safe condition, stabilizing the site to prevent water accumulation, and preventing the environmental migration of contaminants into surrounding ecosystems. The Jericho Diamond Mine Site Stabilization Project has now been completed and is now being monitored by CIRNAC in accordance with an Operation, Maintenance and Surveillance (OMS) Plan. Further OMS will be defined by the results of the initial three (3) year program which includes three (3) years of monitoring to observe the effectiveness of the site stabilization work, from 2018-2020. OMS activities include surveillance of the Processed Kimberlite Containment Area (PKCA) cap, the West Dam breach, Divider Dyke breach, Petroleum Hydrocarbon (PHC) Containment Cell and the

Open Pit C1 diversion, outflow and water quality. Beginning in 2020 CIRNAC proposes to add the additional Pit Lake water parameters and Cell B/C water sampling to the final year of each phase of the OMS plan to check the long-term water quality prior to making adjustments to the OMS plan.

On May 4, 2020 the NIRB received the Jericho Diamond Mine Site Stabilization Project 2019 Annual Report<sup>8</sup> from CIRNAC as required pursuant to the Monitoring and Reporting Requirement 2 of the Screening Decision Report, dated December 22, 2012 (NIRB File No: 16UN058) and requested by the Board under 2019 Recommendation #3. The report summarizes the activities undertaken for the year; provides maps and photos of the site showing areas of remediation work; and includes the *Jericho Mine Site – Operation, Maintenance and Surveillance Program 2019 Report*.

### Management and Monitoring of Water

#### *2019 Reporting Year*

CIRNAC's remediation goals included returning the water flow to its original state as much as practical at the Jericho site. Water flow works included re-routing the C1 Diversion to redirect water into the Open Pit to allow the eventual formation of a Pit Lake and breaching the pit wall to allow the original natural flow of surface water into Carat Lake to be restored. Additional water works included grading the existing tailings in Cell A to allow water to flow in its original direction, lowering the top and creating a breach in Dyke A, and breaching the West Dam to restore the original surface water flow.

CIRNAC reported that in 2019 that Cell C upstream of the West Dam Breach was at the designated water elevation and water was observed and heard flowing through the base of the channel rip rap. Some minor erosion gullies and cracks have occurred along the banks of the breach but none that would affect the integrity of the structure. Surface water is observed actively draining into the pit through the C1 Channel. The C1 Channel is showing significant erosion yearly, but this is not expected to pose a risk. Surface water in the Pit Lake continues to rise and rose 5.5 metres (approximately 18 feet) from August 2018 to September 2019.

Two (2) remote satellite linked cameras have been installed overlooking the Open Pit. One with a view of the C-1 Channel inflow into the pit and other overlooking Carat Lake. Photos were collected from site with the exception of November to January as the camera went into safe mode as there was not enough solar power from the battery bank<sup>9</sup>. The Monitoring Officer supports the use of remote cameras as a monitoring technique, particularly to view the Open Pit water level and the C-1 channel to note any further erosional changes. Further camera installations around the site would also provide valuable monitoring information while there is no physical presence on site particularly during spring freshet when there is

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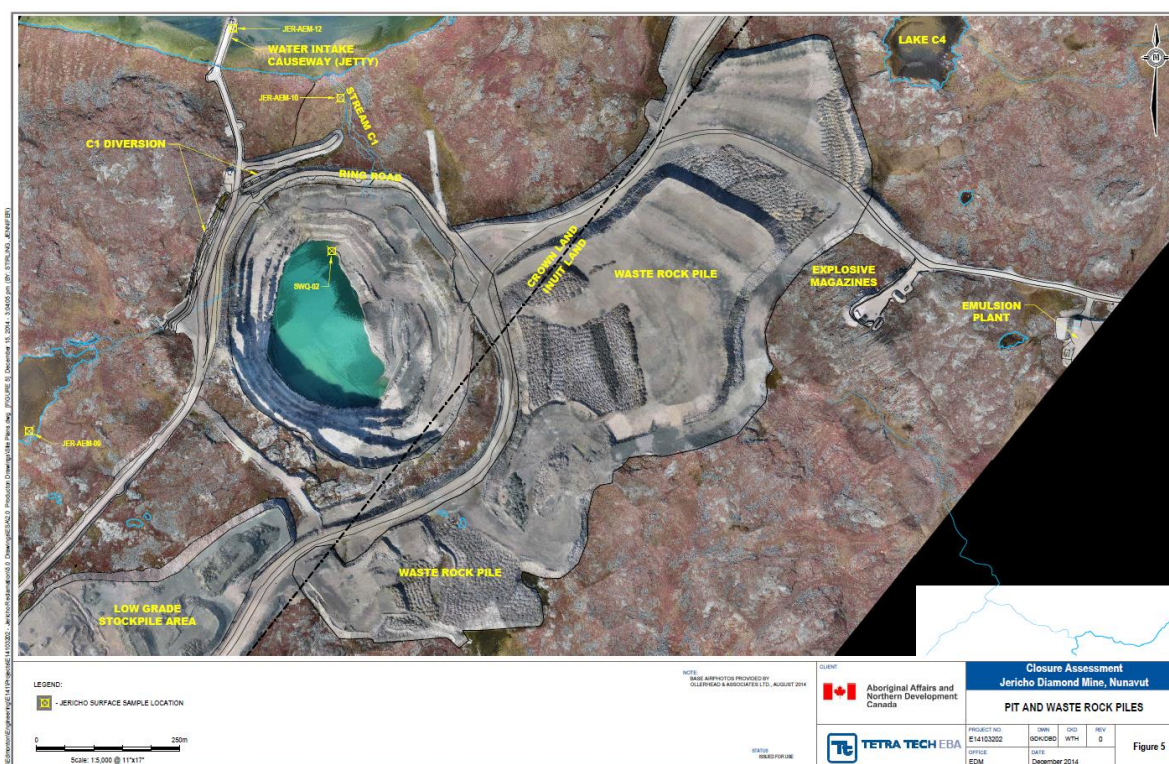
<sup>8</sup> Public Registry ID: 329815

<sup>9</sup> Personal communication from M. Yetman, CIRNAC

the most water movement and erosion occurring and to monitor dust dispersion particularly from the PKCA.

In 2014 an initial characterization of the water quality at the Jericho site was conducted and the water quality met the criteria set by the Canadian Council of Ministers of the Environment (CCME) water quality guidelines for the protection of freshwater aquatic life. In June 2017 prior to the water works being conducted CIRNAC collected water samples for analysis and compared the results against the effluent discharge limits set by the Nunavut Water Board and the CCME water quality guidelines for the protection of freshwater aquatic life. The results of the water testing showed all samples met the criteria except for uranium in the Pit Lake water, although the uranium levels had decreased since sampling was done in 2007. Pit lake water samples are taken twice per season. During site stabilization activities in 2017 and 2018 and the results showed that uranium levels had increased to above CCME guidelines; likely due to water that was pumped from the PKCA and greywater that was pumped from the camp. In 2019 pit lake water samples were taken in June and September and analysis indicated that uranium concentrations were at its lowest values reported since July 2007.

In NIRB's 2019 monitoring report the Monitoring Officer identified potential future water quality concerns in Cell B/C of the PKCA and in the Pit Lake water and noted that the OMS plan included only long-term monitoring and analysis for total uranium in the Pit Lake water and identified no other water quality parameters to be tested. The Monitoring Officer is pleased with CIRNAC's response to the Board's Recommendation #4 and that beginning in 2020 CIRNAC proposes to add the additional Pit Lake water parameters and Cell B/C water sampling to the final year of each phase of the OMS plan to check the long-term water quality prior to making adjustments to the OMS plan.



**Figure 2: Water Diversion Channels and Pit<sup>10</sup>**

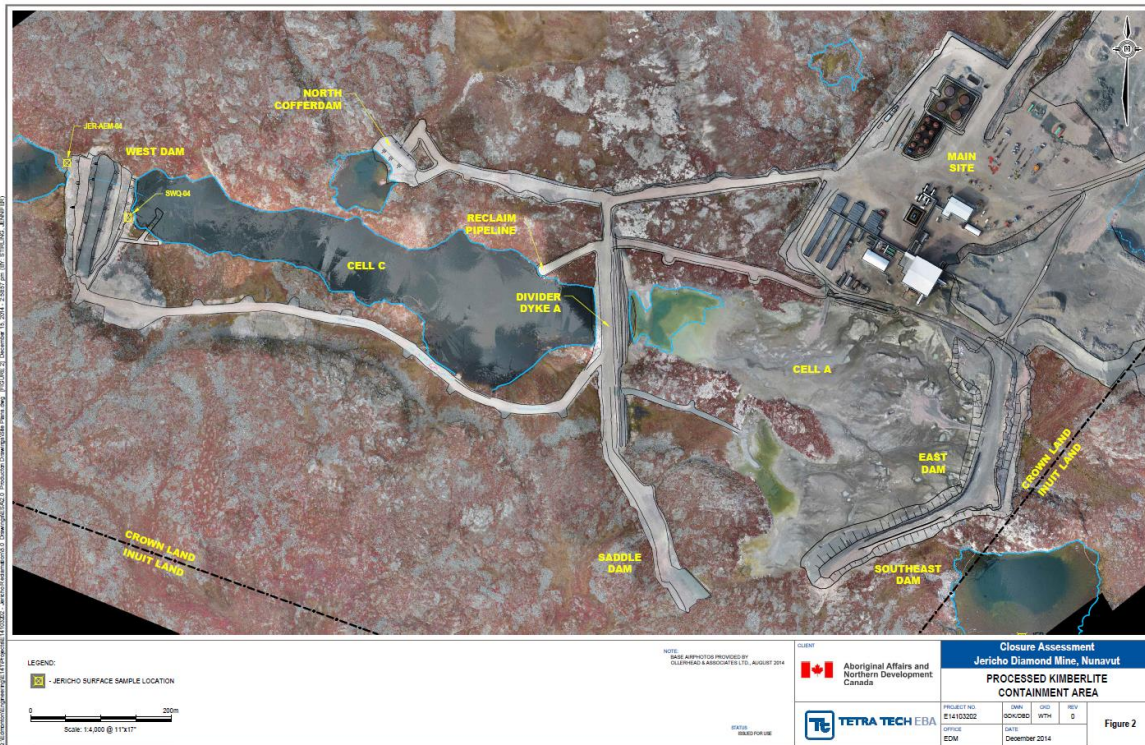
## Management of Tailings

### *2019 Reporting Year*

Remediation work in the Process Kimberlite Containment Area (PKCA) has included grading the existing tailings in Cell A to allow water to flow in its original direction (west) and capping the fine tailings with course grained kimberlite tailings to prevent erosion and to prevent dust being transported by wind. In 2019 as part of the OMS plan, visual inspections were conducted by CIRNAC in June and September. Ponded water was observed against Divider Dike A in June, but levels had significantly dropped by September as would be expected. Overall, the cap or cover is working as designed and on a small percentage of the PKCA there are some eroded gullies and some new potholes depressions due to spring surface run off which is exposing some of the underlying tailings.

<sup>10</sup> Public Registry ID: 305395





**Figure 3: Processed Kimberlite Containment Area<sup>11</sup>**

### Management of Fuel Storage

#### *2019 Reporting Year*

Prior to 2017 there was fuel stored on-site in above ground storage tanks (mostly residual amounts) located mainly in the Tank Farm but also in other areas around site. In 2017 and 2018 all the above ground fuel tanks and drums were cleaned and decommissioned, and the subsequent wash water treated. Hazardous materials were consolidated, packaged, and transported offsite for disposal at licenced facilities. All hydrocarbon contaminated soil was placed into a lined storage cell (Petroleum Hydrocarbon Contaminated Soils Cell (PHC)) in the existing lined tank farm and covered with fine grained tailings. In 2019 the cover of the PHC containment cell appears to be in good condition with a “small area of settlement and drainage erosion on the East Bank”<sup>12</sup>. Current fuel storage is limited to small amount of drummed diesel fuel being stored within the Truck Shop Building which has an in-ground sump to contain any fuel spills.

### Wildlife

#### *2019 Reporting Year*

CIRNAC has reported that no wildlife was observed during their 2019 site visits in June and September.

<sup>11</sup> Public Registry ID: 305395

<sup>12</sup> 16UN058 Annual Report 2019 p. 29



Additional details related to the management of the above items and pertaining to CIRNAC's responses to the NIRB's 2019 Board Recommendations can be found in [Section 2.6](#).

#### **2.4.5. Fisheries and Oceans Canada**

Fisheries and Oceans Canada's (DFO) authority is legislated pursuant to the *Fisheries Act* to issue an Authorization (NU-00-0068) which bears relevance to items addressed in Terms and Conditions 4 and 19 through 24 of the Jericho Project Certificate. DFO did not visit the site in 2019.

#### **2.4.6. Natural Resources Canada**

In July 2005 Natural Resources Canada (NRCan) issued a licence to Dyno Nobel Nunavut Limited under Section 7 of the *Explosives Act* for the storage and manufacture of explosives at the Jericho Mine site. In correspondence received by the NIRB on May 7, 2014, NRCan provided indication that it would be discontinuing annual reporting regarding the Jericho Diamond Mine Project as there was no longer a licence associated with the site and all explosive materials had been removed from the site.

### **2.5. NIRB Site Visit**

Owing to travel restrictions imposed by Nunavut's Chief Public Health Officer as a result of the ongoing COVID-19 (novel coronavirus) pandemic, NIRB staff were unable to organize a site visit in the summer of 2020; however, CIRNAC staff carried out operations and maintenance activities on site between August 31 and September 2, 2020 and provided photos based on a list of locations requested by the NIRB.

Since March 2020, the NIRB staff have modified the Board's existing practices to meet, to the extent practicable, their obligations under Part 7 of Article 12 of the *Nunavut Agreement* and s. 135(4) of the *Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14 (*NuPPAA*) for post-environmental assessment monitoring of the Project. However, the Board acknowledges that some aspects of the Board's normal monitoring activities have been delayed, limited, or suspended due to public health measures put in place to prevent the spread of COVID-19 during the pandemic. Where possible, the Board has modified existing practices to meet the Board's objectives, while complying with the guidance of applicable public health authorities.

Based on the photos, the following evaluation was made:

#### **Carat Lake Pumphouse and Jetty**

Photos from the CIRNAC staff showed damage to the pumphouse located at Carat Lake, presumably caused by ice pressure, and undercutting of the jetty due to erosion and displacement of the armour rock.



**Figure 4: Ice Damage, Carat Lake Pumphouse**

The damage to the pumphouse and the jetty indicates that monitoring of the jetty and structure, and potential dismantling or moving of the pumphouse, is necessary in order to ensure there is no danger of collapse caused by further ice pressure and erosion in the future.

## 2.6. Responses to the NIRB's 2019 Recommendations

As a result of the NIRB's findings through its 2018-2019 monitoring program, on October 25, 2019 the Board made the following recommendations to Shear, Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC), and the Kitikmeot Inuit Association (KIA) to assist in compliance with Project Certificate No. 002 and to ensure the NIRB has all information necessary to adequately discharge its mandate with respect to provisions within section 12.7 of the Nunavut Agreement as they pertain to the Jericho Project.

**TABLE 1 – NIRB 2019 Recommendations and Responses**

Board Recommendation	Response
<p><b>Recommendation 1:</b> The Board continues to remind Shear Diamonds (Nunavut) Corp. that submission of the following outstanding submissions is required to address areas of non-compliance:</p> <ul style="list-style-type: none"> <li>a) 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017 and 2018 annual reports;</li> <li>b) Quarterly reports for 2010 through 2019; and</li> <li>c) Wildlife monitoring data from 2010 through 2019.</li> </ul> <p>These outstanding reports are to be provided within 90 days.</p>	No response received from Shear
<p><b>Recommendation 2:</b> The Board requires the Proponent (Shear Diamonds (Nunavut) Corp.) to provide a proposed plan of action to remedy the overall non-compliance with the Project Certificate No. 002.</p> <p>The plan of action is to be provided within 90 days.</p>	No response received from Shear
<p><b>Recommendation 3:</b> The Board requests that Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) provide an Annual Report to the Nunavut Impact Review Board outlining the observations, results, and any changes made to the surveillance monitoring at Jericho as well as</p>	<p>CIRNAC provided the annual report for 2019 on May 5, 2020. This report contained:</p> <ul style="list-style-type: none"> <li>• Information requested by the NIRB in the 2016 Screening Decision Report; and</li> </ul>

<p>any updates to the Operation, Maintenance and Surveillance Plan completed as long as Jericho remains under control of CIRNAC.</p> <p>This information should be provided to the Board by <b>March 31st annually</b>.</p>	<ul style="list-style-type: none"> <li>• Observations, results and analysis of the OMS Plan Activities.</li> </ul>
<p><b>Recommendation 4:</b> The Board requests that Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) include a larger suite of water quality parameters in testing of Pit Lake water until the pit is full and add water quality testing every three (3) years in Cell B/C before the West Dam to its Operation, Maintenance and Surveillance (OMS) Plan to ensure that no water quality issues have developed with time. An adaptive management strategy should be created if changes in water quality are noted to ensure that water quality has been maintained to meet Canadian Council of Ministers of the Environment (CCME) guidelines for the protection of freshwater aquatic life.</p> <p>The results of the water quality monitoring should be presented within the Annual Report.</p>	<p>CIRNAC has developed the OMS plan so that actions are directed related to residual risks.</p> <p>The OMS plan was developed using water sample results from throughout the care and maintenance and remedial activities at the site post-abandonment. Analysis of the results and residual risks at the site identified on parameter of potential concern, uranium in the Pit Lake water. As a result, this was the only water sample requirement included in the OMS plan to date.</p> <p>The addition of water sampling parameters (or other activities) to the OMS plan without a corresponding residual risk or other driver adds potentially unnecessary costs to the program.</p> <p>CIRNAC does recognize the potential for site water quality to change over the long term. To address this CIRNAC proposes to add the additional Pit Lake water parameters and Cell B/C water sampling to the final year of each phase of the OMS plan. This will allow CIRNAC to check the long-term water quality prior to developing a subsequent phase of the OMS plan and make adjustments as necessary. The first additional sampling event will be completed in 2020.</p>

<p><b>Recommendation 5:</b> Board requests that the Kitikmeot Inuit Association provide a detailed update on their site stabilization activities including monitoring of the waste rock pile, waste rock seeps, and contact water to date as well as any completed reclamation efforts at the Jericho Diamond Mine.</p> <p>The Board also requests that the Kitikmeot Inuit Association provide their long-term plans for dismantling/reclaiming/remediating site infrastructure (e.g., roads, buildings, waste rock piles) and restoring the area to natural conditions, with a discussion on any monitoring expected to occur following the completion of site reclamation.</p> <p>This information should be provided to the Board by <b>March 31, 2020</b>.</p>	<p>No response received from KIA.</p>
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### 3.0 FINDINGS AND CONCLUSIONS

After purchasing the Jericho Diamond Mine, Shear committed to operating under the plans and procedures put in place by Tahera to address the requirements of the Project Certificate No. 002. The site continues to remain unmanned by Shear personnel, and the company remains non-responsive to inquiries. During the 2019-2020 monitoring period, the NIRB did not receive any documentation that would indicate that Shear had been conducting monitoring activities at the Jericho Mine site. Shear remains non-compliant with many requirements under the Project Certificate No. 002, including the monitoring requirements under Appendix D.

As a result of Shear's failure to implement requirements of the Project Certificate No. 002 at site, the Board is unable to provide a detailed assessment, as required by Section 12.7.2 of the *Nunavut Agreement*, to determine the success or failure of these terms and conditions to mitigate predicted impacts associated with the Jericho Project. However, due to the site remaining non-operational, most of the impacts for which the terms and conditions of the Jericho Project Certificate No. 002 were written, are not likely being realized. Based on the undertaking of more substantial stabilization activities by CIRNAC, under the Ministerial authority to "take any reasonable measures to prevent, counteract, mitigate or remedy any resulting adverse effects on persons, property or the environment"<sup>13</sup>, the relevance of many terms and conditions within the Jericho Project Certificate No. 002, particularly those related to areas where more substantial stabilization works were undertaken, are reduced.

<sup>13</sup> Public Registry: 288611

The coordination of regulatory authorities as intended through the recommendations of the Appendix D of the Project Certificate No. 002 remains a key component of the NIRB's ongoing monitoring efforts for the site, and the NIRB will continue to work with these agencies in the absence of Shear and in the development of long-term monitoring and maintenance objectives.

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Title: Technical Advisor II  
Date: December 4, 2020

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Title: Manager, Project Monitoring  
Date: December 4, 2020

Signature: 

Prepared by: Keith Morrison  
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Date: December 4, 2020

Signature: 



## APPENDIX I: FILE HISTORY

The following table provides an overview of the regulatory regime associated with the Jericho Project.

**Table 1: Regulatory File History**

DATE	
<b>July 14, 2004</b>	NIRB issued the Jericho Diamond Mine Project Certificate No. 002, pursuant to Article 12, Section 12.5.12 of the <i>Nunavut Agreement</i> , to Tahera Corporation Limited (Tahera).
<b>December 2004</b>	Tahera requested that the Project Certificate be reissued to reflect the updated project ownership.
<b>January 19, 2005</b>	NIRB issued Amendment #1 of the Project Certificate No. 002 in the name of Benachee Resources Inc., a wholly owned subsidiary of Tahera <sup>14</sup> .
<b>2005</b>	Tahera commenced construction of the mine.
<b>July 2006</b>	Jericho Diamond Mine fully operational.
<b>October 3, 2006</b>	NIRB issued Appendix D to the Jericho Project, which sets out the responsibilities of the Proponent in carrying out project-specific monitoring, as well as the responsibilities of relevant territorial and federal agencies.
<b>November 20, 2007</b>	Appendix D revised and re-issued.
<b>January 16, 2008</b>	Tahera filed for creditor protection, citing insufficient funds to operate and the Jericho Mine was placed into care and maintenance.
<b>December 12, 2008</b>	Indian and Northern Affairs Canada (INAC) <sup>15</sup> intervened and assumed control of the Jericho Mine site pursuant to Section 89 of the <i>Nunavut Waters and Nunavut Surface Rights Tribunal Act</i> in order to maintain existing environmental protection measures. The site was temporarily closed until it was purchased. <sup>16</sup>
<b>August 2010</b>	Shear Diamonds (Nunavut) Corp. (Shear) purchased the Jericho Diamond Mine and requested that the NIRB reassign the Project Certificate to reflect the new ownership. <sup>17</sup>

<sup>14</sup> Public Registry ID: 288095 and 280750

<sup>15</sup> Indian and Northern Affairs Canada (INAC) Aboriginal Affairs and Northern Development Canada (AANDC) was renamed Indigenous and Northern Affairs Canada (INAC) and then subsequently again renamed to Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

<sup>16</sup> Court File No. 08-CL7355, Court Order of Justice Morawetz, dated December 12, 2008 available at: [http://www.farberfinancialgroup.com/services/a\\_farber\\_partners\\_inc/corporate\\_insolvency\\_restructuring/engagements\\_current.php?id=36](http://www.farberfinancialgroup.com/services/a_farber_partners_inc/corporate_insolvency_restructuring/engagements_current.php?id=36)

<sup>17</sup> Public Registry ID: 288072

<b>2011</b>	The site remained under care and maintenance as Shear evaluated the site mineral resources. Shear worked to update its permits and bring the site back into compliance with the intent of resuming mining operations within the following two (2) years.
<b>August 23, 2011</b>	NIRB issued Amendment #2 to the Project Certificate No. 002 in the name of Shear Diamonds (Nunavut) Corp. <sup>18</sup>
<b>December 21, 2011</b>	The Nunavut Water Board (NWB) issued a renewed Type “A” Water Licence to Shear for the Jericho Mine site on December 21, 2011. Within the NWB’s Reasons for Decision issued to the Minister of Aboriginal Affairs and Northern Development, Shear was required to provide securities totaling \$3,389,074 to Aboriginal Affairs and Northern Development Canada (AANDC) to be held in trust. <sup>19</sup>
<b>September 2012</b>	Shear issued notice that due to the low diamond prices the site would be minimally staffed, stockpile re-evaluation suspended, and discontinued exploration at the site.
<b>October 2012</b>	Site was placed into temporary closure by Shear. Shear issued a Temporary Shutdown Plan to the NWB and AANDC outlining procedures completed for site shutdown; potential risks at site; a site visit schedule to address the risks; and notice that ongoing monitoring would be discontinued.
<b>December 2012</b>	A Compliance Plan for the Jericho site was posted on the NWB’s public registry site at the end of 2012 which noted that it was not in a financial position to provide the outstanding securities amount of \$321,074. <sup>20</sup>
<b>March 8, 2013</b>	AANDC issued notice to Shear that due to continued failure to manage specific environmental issues on-site, AANDC’s Contaminated Sites Program would be conducting periodic work at the Jericho Mine site to manage the specific issues noted.
<b>December 2013</b>	Shear’s Chief Restructuring Officer provided notification of its plans regarding refinancing of the project with the goal of re-opening the Jericho Mine.
<b>December 19, 2013</b>	AANDC provided additional detail on the status of the securities, indicating that:  <i>...the Department currently has \$6,618,556 in cash-equivalent and \$1,701,858 in debentured security under the Crown land lease and type A water license for the Jericho mine site. The work done on-site by the</i>

<sup>18</sup> Public Registry ID: 288034 and 288075

<sup>19</sup> Public Registry ID: 288124

<sup>20</sup> Author unknown, 2AM-JER1119 Compliance Plan. September 30, 2012.

	<i>Department from June to October 2013 to manage water levels and ensure tailings management is maintained has cost approximately \$232,000.<sup>21</sup></i>
<b>January 22, 2014</b>	Minister of Aboriginal Affairs and Northern Development declared the site abandoned by Shear and assumed control of the site as per the <i>Nunavut Waters and Nunavut Surface Rights Tribunal Act and the Territorial Land Use Regulations</i> . <sup>22</sup>
<b>November 2014</b>	NIRB received notification of resignation of the last remaining Shear Director.
<b>September 30, 2016</b>	NIRB received a referral to screen Indigenous and Northern Affairs Canada's (INAC) "Jericho Mine Site Stabilization Project" from the Nunavut Planning Commission. NIRB File No. 16UN058
<b>December 22, 2016</b>	NIRB issued its Screening Decision Report for the project, approving the stabilization activities as proposed.
<b>April 21, 2017</b>	NIRB received a revised summary of stabilization works to be conducted at the Jericho site which were considered to be within the original scope as assessed.
<b>July 24, 2017</b>	NIRB issued a Screening Decision Report for INAC's "Jericho Site Stabilization - Amendment", approving additional works and activities proposed as part of the overall stabilization undertaking. <sup>23</sup>

<sup>21</sup> Public Registry ID: 288610

<sup>22</sup> Public Registry ID: 288611

<sup>23</sup> Public Registry: [www.nirb.ca/project/125012](http://www.nirb.ca/project/125012)

The following table provides an overview of NIRB's monitoring associated with the Jericho project since 2004:

**Table 2: NIRB's Monitoring History**

<b>DATE</b>		<b>ACTIVITY UNDERTAKEN</b>
<b>2004</b>	July	The NIRB issued Project Certificate No. 002 and Tahera applied for authorizations to commence construction of the mine.
<b>2005</b>		Tahera commenced construction of the mine.
<b>2006</b>	June	NIRB conducted its site visit.
<b>2006</b>	July	Jericho site and diamond mine fully operational.
<b>2007</b>		Due to logistical issues a NIRB site visit was not conducted.
<b>2008</b>	January	Tahera filed for creditor protection citing insufficient funds to operate the mine; site placed under care and maintenance.
<b>2008</b>	August	NIRB conducted its site visit
<b>2008</b>	December	Indian and Northern Affairs Canada (INAC; now Aboriginal Affairs and Northern Development Canada) intervened <sup>24</sup> and assumed control of the site in order to maintain existing environmental protection measures as Tahera could not continue to support the care and maintenance of the Jericho site.
<b>2009</b>	July	NIRB conducted its site visit
<b>2009</b>	September	INAC completed site closure, contractors ceased occupation of the site, and regular monitoring continued.
<b>2010</b>	August	Shear Minerals Ltd. (renamed Shear Diamonds (Nunavut) Corp.) completed purchase of Tahera's assets including the Jericho Diamond Mine.
<b>2011</b>	July	NIRB conducted its site visit and no site visit was conducted between 2009 and 2011 as INAC had completed its site closure and was only conducting periodic inspections.
<b>2011</b>		The site remained under care and maintenance as Shear evaluated the site mineral resources. Shear worked to update its permits and bringing the site back into compliance with the intent of resuming mining operations within the following two (2) years.
<b>2011</b>	August	The NIRB reissued Project Certificate No. 002 to Shear.
<b>2011</b>	December	The NWB issued the renewal Type "A" water license to Shear.
<b>2012</b>	August	The NIRB conducted its annual site visit.
<b>2012</b>	September	Shear issued notice that due to low diamond prices the site would be minimally staffed, stockpile re-evaluation suspended, and discontinue exploration at the site.
<b>2012</b>	October	Shear issued Temporary Shutdown Plan to the Nunavut Water Board and AANDC outlining procedures completed for site shutdown; potential risks at site; a site visit schedule to address

<sup>24</sup> Court File No. 08-CL7355, Court Order of Justice Morawetz, dated December 12, 2008 available at: [http://www.farberfinancialgroup.com/services/a\\_farber\\_partners\\_inc/corporate\\_insolvency\\_restructuring/engagements\\_current.php?id=36](http://www.farberfinancialgroup.com/services/a_farber_partners_inc/corporate_insolvency_restructuring/engagements_current.php?id=36)

DATE		ACTIVITY UNDERTAKEN
		the risks; and notice that ongoing monitoring would be discontinued.
<b>2012</b>	December	The NIRB issued its recommendations to Shear regarding the 2012 monitoring commitments and compliance to the Project Certificate No. 002.
<b>2013</b>	June	NIRB conducted its 2013 site visit.
<b>2013</b>	November	The NIRB issued its recommendations to Shear regarding the 2013 monitoring commitments and compliance to the Project Certificate No. 002.
<b>2013</b>	December	Shear's Chief Restructuring Officer provided notification of its plans regarding refinancing of the project with the goal of re-opening the Jericho Mine.
<b>2014</b>	January	The Minister of Aboriginal Affairs and Northern Development declared the site abandoned.
<b>2014</b>	April	The NIRB received notice of Shear's Chief Restructuring Officer's resignation.
<b>2014</b>	June	The NIRB conducted its 2014 site visit.
<b>2014</b>	November	The NIRB issued its recommendations to Shear and AANDC regarding the 2013 monitoring commitments and compliance to the Project Certificate No. 002.
<b>2014</b>	November	The NIRB received notification of resignation by the last remaining Shear Director.
<b>2015</b>	January	AANDC submitted information and site inspection reports regarding water monitoring and sampling, water releases on-site, and mitigation measures to manage previously identified risks.
<b>2015</b>	June	The NIRB requested updates from agencies regarding compliance to the Project Certificate No. 002.
<b>2015</b>	June	The NIRB conducted its 2015 site visit.
<b>2015</b>	October	The NIRB issued its 2015 recommendations to Shear, INAC, and Fisheries and Oceans Canada (DFO).
<b>2015</b>	December	INAC submitted its response to the NIRB's request for information regarding ongoing activities at the Jericho Diamond Mine and submitted its responses to the NIRB's 2014-2015 Board Recommendations.
<b>2016</b>	January	DFO submitted its response to the NIRB's request for information regarding ongoing activities at the Jericho Diamond Mine and submitted its responses to the NIRB's 2014-2015 Board Recommendations.
<b>2016</b>	June	The NIRB conducted its 2016 site visit.
<b>2016</b>	November	The NIRB issued its 2016 recommendations to Shear, INAC, and DFO.
<b>2016</b>	December	The NIRB issued its Screening Decision Report for INAC's "Jericho Mine Site Stabilization" proposal (NIRB File No. 16UN058), approving the proposed remediation and stabilization works at the Jericho site.

<b>DATE</b>		<b>ACTIVITY UNDERTAKEN</b>
<b>2017</b>	April	INAC submitted its response to the NIRB's 2015-2016 recommendations.
<b>2017</b>	April	INAC submitted a revised summary of remediation and stabilization works to be conducted at the Jericho site (NIRB File No. 16UN058).
<b>2017</b>	June	DFO submitted its response to the NIRB's 2015-2016 recommendations.
<b>2017</b>	July	The NIRB issued its Screening Decision Report for INAC's proposed "Jericho Site Stabilization – Amendment", approving proposed amendments to the Jericho Site Stabilization Project (NIRB File No. 16UN058).
<b>2017</b>	August	The NIRB conducted its 2017 site visit.
<b>2017</b>	September	The NIRB received INAC's Water Resources Inspection Report
<b>2017</b>	November	The NIRB issued its 2017 recommendations to Shear, CIRNAC, and DFO.
<b>2018</b>	January	DFO submitted its response to the NIRB's 2016-2017 recommendations.
<b>2018</b>	May	The NIRB received CIRNAC's Annual Report for remediation and stabilization works conducted at the Jericho site (NIRB File No. 16UN058).
<b>2018</b>	June	The NIRB conducted its 2018 site visit
<b>2019</b>	February	DFO submitted its response to NIRB's 2017-18 recommendations
<b>2019</b>	March	CIRNAC submitted its response to NIRB's 2017-18 recommendations
<b>2019</b>	April	CIRNAC submitted 2017 Annual Report Supplemental Information
<b>2019</b>	June	The NIRB received CIRNAC's Annual Report for remediation and stabilization works conducted at the Jericho site (NIRB File No. 16UN058).
<b>2019</b>	June	The NIRB conducted its 2019 site visit
<b>2020</b>	May	The NIRB received CIRNAC's Annual Report for remediation and stabilization works conducted at the Jericho site (NIRB File No. 16UN058).
<b>2020</b>	May	CIRNAC submitted its response to NIRB's 2018-19 recommendations