

Nunavut Impact Review Board

2018-2019 Monitoring Report

Jericho Diamond Mine Project

Shear Diamonds (Nunavut) Corporation

NIRB File No. 00MN059



October
2019

Report Title: The Nunavut Impact Review Board's 2018 – 2019 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: Jaida Ohokannoak, Technical Advisor II

Monitoring Period: October 2018 – September 2019

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Nunavut Impact Review Board

Cover photo: Photos taken during the 2019 Jericho Site Visit

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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 (NWB). Monitoring programs may specify responsibilities for the Proponent, 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 2018-2019 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 2018-2019 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) 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 and the Territorial Land Use Regulations. The Jericho Mine site remains in temporary closure under the management of Crown-Indigenous Relations and Northern Affairs Canada (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 fuel¹, 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, as well as the waste rock piles on Inuit Owned Land.

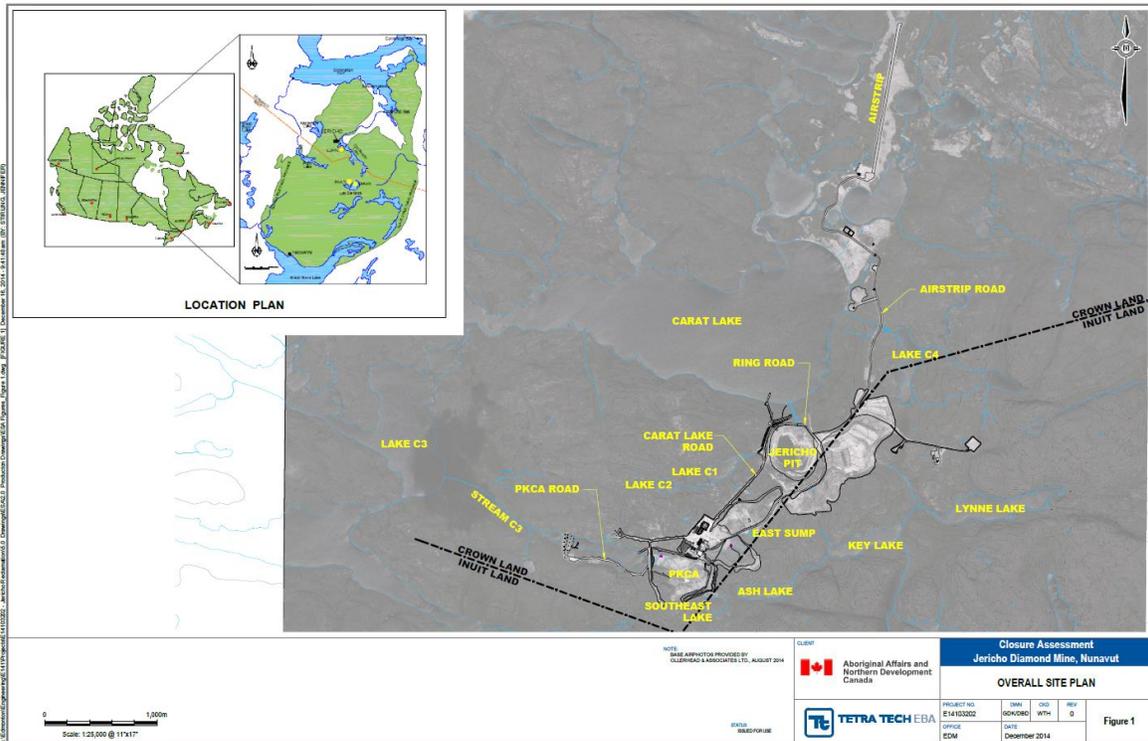


Figure 1: Overall Site Plan²

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 2018 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. To date, Shear has been non-compliant.

¹ Decommissioned and remediated as part of 16UN058 “Jericho Site Stabilization Project”

² Public Registry ID: 305395

As a result of Shear’s non-compliance with the water licence, Aboriginal Affairs and Northern Development Canada (AANDC) intervened as per the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (NWNSRTA) 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.³ The site has since been declared abandoned, and under the stewardship of CIRNAC. On November 1, 2018 the Board issued its most recent set of recommendations to Shear, CIRNAC, Fisheries and Oceans Canada (DFO), 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 2018 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.

³ Public Registry ID: 288133

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];⁴ through the renewal process for the Type “A” Nunavut Water Board water licence;⁵ and in person during the NIRB’s 2012 Site visit.⁶ 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 has not received annual or quarterly reports, or supporting information, from Shear as required by Appendix D.

2.2. Wildlife Monitoring

Term and 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 Term and 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”.⁷ 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.

⁴ Public Registry ID: 288072

⁵ Public Registry ID: 288119

⁶ Public Registry ID: 288459

⁷ Public Registry ID: 288072

Inuit Impact and Benefit Agreement

On October 1, 2007 the NIRB received a report from the Kitikmeot Inuit Association (KIA) outlining its experience with the implementation of the Inuit Impact and Benefit Agreement (IIBA) for the Jericho Project. Although the KIA made recommendations for continued improvement, it noted that since the signing of the IIBA the relationship between the KIA and Tahera had been positive. 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.

Socio-Economic Monitoring Committee

Term and 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.

The Government of Nunavut facilitated the most recent Kitikmeot SEMC meeting from April 10-11, 2019 in Cambridge Bay and Shear was not in attendance.

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 2018-2019 reporting year as the mine site was non-operational and no Shear staff were on-site, select terms and conditions remain applicable.

As previously noted, Shear is required to undertake caribou monitoring as well as collect wildlife data and submit an annual Wildlife Mitigation and Monitoring Report to the NIRB,

pursuant to Term and Conditions 3 and 10 respectively. The NIRB has not received a wildlife report or related data from Shear for the 2010 through 2018 reporting years. Further as detailed in past site visit reports, Shear was not in compliance with requirements of 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 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 30th of each year.

2.4.3. Kitikmeot Inuit Association

The Kitikmeot Inuit Association (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 Inuit Owned Land (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 Inuit Owned Land 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.

As outlined in the 2019 Site Visit Report⁸ a KIA representative was able to attend the June 19, 2019 Jericho Mine site visit. No written updates have been received from the KIA in

⁸ Public Registry ID: 327006

follow up to last year's Board Recommendation; however, the NIRB is anticipating an update from KIA with regard to waste rock piles.

2.4.4. Crown-Indigenous Relations and Northern Affairs Canada

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 *Nunavut Water and Nunavut Surface Rights Tribunal Act* for compliance to water licence(s) that have been issued by the Nunavut Water Board (NWB).

On January 22, 2014 the then Minister of Aboriginal Affairs and Northern Development declared the site abandoned by Shear and assumed control of the site as per *the Nunavut Waters and Nunavut Surface Rights Tribunal Act* and *the Territorial Land Use Regulations*.

The Jericho Mine site remains in temporary closure under the management of CIRNAC. On September 30, 2016 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. On December 22, 2016 NIRB issued its Screening Decision Report for the project, approving the stabilization activities as proposed. On April 21, 2017 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 and on July 24, 2017 the 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.

The Jericho site stabilization activities were 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. On June 11, 2019 the NIRB received the Jericho Diamond Mine Site Stabilization Project 2018 Annual Report⁹ 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). CIRNAC's submitted a summary of the activities undertaken for the year, maps and photos of the site showing areas of remediation work, and the Jericho Mine Site – Operation, Maintenance and Surveillance Program 2018 Report.

The Jericho Diamond Mine Site Stabilization Project has now been completed and the project is now being monitored by CIRNAC in accordance with the Operation, Maintenance and Surveillance (OMS) Plan. The first three (3) year monitoring period commenced in

⁹ Public Registry ID: 325385

2018 to monitor the effectiveness of the site stabilization work. 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. The final outcome of the stabilization works, their effectiveness, and long-term maintenance and monitoring requirements are not known at this time. Further, the future versions of the OMS will be defined by the results of the initial three (3) year program.

Management and Monitoring of Water

2018 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 in 2017 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.

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 and in August 2017 and 2018 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. The primary water quality issue that effects the Jericho site currently is uranium and this level had decreased since sampling was done in 2007 by the then Proponent. However, uranium levels increased again to above CCME guidelines during site stabilization activities in 2017 and 2018 as water was pumped from the PKCA and greywater was pumped from the camp.

The Monitoring Officer has concerns that with the re-establishment of the water flow noted above as the pit fills it will eventually overflow into Carat Lake and while the OMS plan includes long-term monitoring and analysis for total uranium in the pit lake water no other water quality parameters are being tested. Additionally, as uranium levels are expected to decrease as the pit fills and if/when uranium levels fall below CCME guidelines, no further testing will be undertaken of the water in Pit Lake. Throughout the site visits, it has been observed that not only water from re-established water courses is filling the pit, Pit Lake is also the receiving environment of runoff from the waste rock piles which may have seeps with unknown contaminants. As currently the waste rock piles are not being monitored this

breakdown is not currently being monitored and there is potential for other parameters to not be within the guidelines for the protection of aquatic life within the Pit Lake.

The Monitoring Officer also has concerns regarding future water quality in that the kimberlite in the PKCA upstream of Cell B/C. Kimberlite will break down over time, as has been observed in other mine sites in the Northwest Territories, and this may leach unknown contaminants into Cell B/C and eventually the receiving aquatic environment. Currently, the OMS Plan has no further designs to test the water quality in Cell B/C.



Figure 2: Water Diversion Channels and Pit¹⁰

Management of Tailings

“Processed kimberlite tailings weather when exposed to air and break down into finer particle sizes over time. This has implications for revegetation – first moisture retention capacity on tailings is increased, and second reduced resistance of establishing plants to wind and water erosion. Tailings are also highly susceptible to erosion by water, and where the water from side drainages flows across the surface erosion is “rapid and progressive”.”¹¹

2018 Reporting Year

¹⁰ Public Registry ID: 305395

¹¹ Independent Environmental Monitoring Agency Technical Annual Report 2007-2008, p.10

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 kimberlite dust being transported by wind. As part of the OMS plan, visual inspections were conducted and it was observed that some surface melt channels have formed in the cover during thaw; that the depth of the potholes in the surface have increased nominally; and that there was deeper erosion at the ponded area before Divider Dyke A. CIRNAC has indicated that they will be installing a camera with a satellite uplink that will monitor the facility to ensure it is performing as designed and kimberlite dust is retained within the facility.

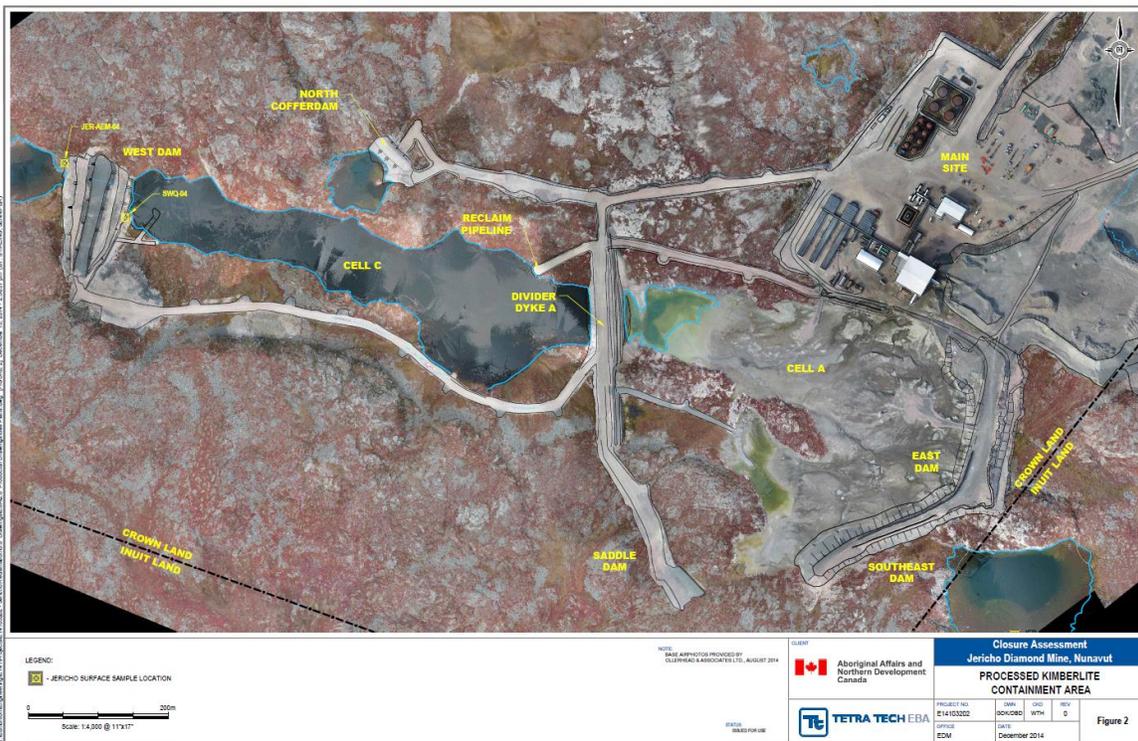


Figure 3: Processed Kimberlite Containment Area¹²

Management of Fuel Storage

2018 Reporting Year

Prior to the 2017 field season 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 all the above ground fuel tanks and drums were cleaned and decommissioned, and the wash water treated. Hazardous materials were consolidated, packaged and transported offsite for disposal at licenced facilities. All hydrocarbon contaminated soil (165

¹² Public Registry ID: 305395

truck loads) were 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 2018 the decommissioning of the above ground storage tanks and the removal of halocarbons and hydrocarbons was completed. The oil/water separator berm was decommissioned including pumping of the water into the pit; removal of the residual gravel/sludge and absorbent materials; and the removal and storage of geomembrane and geotextile. The S-fold in the liner covering of the PHC was flattened and repaired and then covered with course kimberlite. 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

2018 Reporting Year

CIRNAC has reported that no wildlife were observed during their 2018 field season (June-August).

Additional details related to the management of the above items and pertaining to CIRNAC's responses to the NIRB's 2018 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 2018. Through correspondence they have noted that no plausible fish and fish habitat compensation works could be achieved within the constraints of the current letter of credit held by DFO.

Additional details pertaining to DFO's response to the NIRB's 2018 Board Recommendations can be found in [Section 2.6](#).

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

The NIRB conducted a site visit on June 19, 2019. The NIRB's assessment of the site focused on general site conditions, the status of stabilization activities under NIRB File No. 16UN058, observations related to compliance with the NIRB Project Certificate No. 002, and included visual observation of the following features:

- airstrip and roads;
- dams and water diversion structures;
 - West dam breach,
 - Divider dyke A breach,
 - C-1 Channel, and
 - Pit Outflow Channel.
- processed kimberlite containment area (PKCA);
- petroleum hydrocarbon containment cell (PHC);
- decommissioned fuel storage areas and berms;
- mine pit;
 - open pit water level, and
 - berms.
- sumps and waste areas;
- stockpiles and waste rock piles;
- explosives storage and emulsion plant; and
- deficiencies noted in 2018
 - fold in PHC
 - stains in soils from former camp area
 - waste (wires, tarp, and other debris).

The NIRB's site visit report notes that Shear has not been conducting monitoring activities at the Jericho Diamond Mine site. Most of the terms and conditions of the Jericho Project Certificate are designed to manage impacts brought about by an operating mine, and as the site has not been in operations since 2008 many of the terms and conditions are not relevant to current site stabilization and monitoring activities being undertaken by CIRNAC.

2.6. Responses to the NIRB's 2018 Recommendations

As a result of the NIRB's findings through its 2017-2018 monitoring program, on November 1, 2018 the Board made the following recommendations to Shear, Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC), Fisheries and Oceans Canada (DFO), 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 2018 Recommendations and Responses

Board Recommendation	Response
<p>Recommendation 1: 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"> a) 2010, 2011, 2012, 2013, 2014, 2015, 2016 and 2017 annual reports; b) Quarterly reports for 2010 through 2018; and c) Wildlife monitoring data from 2010 through 2018. <p>These outstanding reports are to be provided within 90 days.</p>	<p>No response received from Shear</p>
<p>Recommendation 2: 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>	<p>No response received from Shear</p>
<p>Recommendation 3: The Board requests that Fisheries and Oceans Canada (DFO)¹³ provide the NIRB with an update regarding its revised strategy for undertaking fish habitat compensation works at the Jericho Mine site. DFO should inform the NIRB of its coordination with Crown Indigenous Relations and Northern Affairs Canada (CIRNAC) should their fish habitat compensation plans be proposed as part of other maintenance or stabilization works</p>	<p>DFO responded February 01, 2019 and noted that it had no updates at this time.</p> <p>DFO notes that the 2017 site visit revealed no plausible fish and fish habitat compensation works could be achieved within the constraints of the current letter of credit held by DFO.</p> <p>DFO also notes that any compensation works that could occur onsite would not likely provide any substantial benefits to the commercial, recreational and Aboriginal (CRA) fisheries within the</p>

¹³ Note that the Board plans to invite Fisheries and Oceans Canada to comment via correspondence issued under separate cover, and that Shear is not responsible for a response to this recommendation. It has been included here for information only.

<p>undertaken by CIRNAC's ongoing site management function.</p> <p>The fish habitat compensation plans or an update on its progress is requested to be provided within 90 days.</p>	<p>restoration area. DFO is planning to undertake an analysis of potential options to allocate this amount of money outside of the Jericho Mine to improve fish habitat in other areas.</p>
<p>Recommendation 4: The Board request that Crown-Indigenous Relations and Northern Affairs (CIRNAC) and the Kitikmeot Inuit Association (KIA) each provide a detailed update on their completed reclamation efforts at the Jericho Diamond Mine, including a discussion of the effectiveness of site stabilization efforts to date. The Board also requests CIRNAC and the KIA each provide their long-term plans for dismantling/reclaiming/remediating site infrastructure (e.g. roads, airstrip, 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 March 31, 2019.</p>	<p>CIRNAC responded on March 26, 2019.</p> <p>CIRNAC completed the majority of the planned site stabilization activities during the 2017 field season, followed by completion of the final activities in August 2018. A summary of all the site stabilization work completed is summarized in Appendix C - Jericho Mines Site Stabilization 2017 Completion Report of the <i>Jericho Diamond Mine Site Stabilization Project Supplemental 2017 Annual Report</i>. The completion of these activities leaves the Jericho Mine site in stable condition and has eliminated the majority of the human health and environmental risks at the site.</p> <p>CIRNAC does not have any current plan to dismantle/reclaim/remediate the remaining site infrastructure.</p> <p>CIRNAC's long-term plan for the site includes the development and implementation of a long-term Operation, Maintenance and Surveillance (OMS) Plan. A draft of this plan can be found in Appendix D of the <i>Jericho Diamond Mine Site Stabilization Project Supplemental 2017 Annual Report</i>. The implementation of the OMS plan was initiated in summer of 2018 and will continue in 2019. The OMS Plan has been developed to ensure the site stabilization actions taken at the site are meeting their design intent. In particular, the OMS activities include surveillance of the Processed Kimberlite Containment Area (PKCA) Cap, the West Dam Breach, Divider Dyke Breach, Petroleum</p>

	<p>Hydrocarbon (PHC) Containment Cell and the Open Pit C1 diversion, Outflow and water quality.</p> <p>KIA has noted through verbal communication that they will provide an update to the NIRB regarding waste rock piles.</p>
<p>The Board requests that Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) provide the NIRB with a detailed report of the stabilization works undertaken at the Jericho site under NIRB File No. 16UN058. The report should include details related to all activities conducted, results of the work, expected short and long-term management requirements, community consultation conducted or to be conducted, and an outline of the expected monitoring and management program. The Board requests that the report include, but not be limited to, the following information in addition to what is required by the Screening Decision Report for 16UN058. This report should be provided as part of the annual report to be submitted to the NIRB on or before December 31st of each year:</p> <ol style="list-style-type: none"> a. Details related to water monitoring, sampling, treatment, and discharge activities conducted during the reporting year; b. Details related to earthworks conducted during the reporting year including modifications to water management structures, berms, dykes, and pads; c. Details related to stabilization activities in the open pit area; d. Details related to the covering of the Processed Kimberlite Containment Area; e. Details related to the collection and disposal of hazardous wastes; f. Details related to the collection, treatment/disposal of contaminated soils; 	<p>CIRNAC provided annual report on June 11, 2019.¹⁴</p>

¹⁴ Public Registry ID: 325385

<ul style="list-style-type: none"> g. Plans to manage deteriorating structures on-site; h. Details related to any other remediation activities undertaken and any additional hazards identified; i. Community consultation summaries; and j. Monitoring and management plans to ensure the environmental stability of the site and to ensure the effectiveness of the stabilization activities undertaken. 	
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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 2018-2019 monitoring period, the NIRB did not receive any documentation, or observe any evidence at site, 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”¹⁵, 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.

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.

¹⁵ Public Registry: 288611

<p>Prepared by: Jaida Ohokannoak Title: Technical Advisor II Date: October 25, 2019 Signature: </p>	<p>Reviewed by: Kelli Gillard PAg Title: Manager, Project Monitoring Date: October 25, 2019 Signature: </p>
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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	
July 14, 2004	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).
December 2004	Tahera requested that the Project Certificate be reissued to reflect the updated project ownership.
January 19, 2005	NIRB issued Amendment #1 of the Project Certificate No. 002 in the name of Benachee Resources Inc., a wholly owned subsidiary of Tahera ¹⁶ .
2005	Tahera commenced construction of the mine
July 2006	Jericho Diamond Mine fully operational
October 3, 2006	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.
November 20, 2007	Appendix D revised and re-issued.
January 16, 2008	Tahera filed for creditor protection, citing insufficient funds to operate and the Jericho Mine was placed into care and maintenance.
December 12, 2008	Indian and Northern Affairs Canada (INAC) ¹⁷ 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. ¹⁸
August 2010	Shear Diamonds (Nunavut) Corp. (Shear) purchased the Jericho Diamond Mine and requested that the NIRB reassign the Project Certificate to reflect the new ownership. ¹⁹

¹⁶ Public Registry ID: 288095 and 280750

¹⁷ 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 re-named to Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

¹⁸ 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

¹⁹ Public Registry ID: 288072

2011	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.
August 23, 2011	NIRB issued Amendment #2 to the Project Certificate No. 002 in the name of Shear Diamonds (Nunavut) Corp. ²⁰
December 21, 2011	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. ²¹
September 2012	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.
October 2012	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.
December 2012	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. ²²
March 8, 2013	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.
December 2013	Shear’s Chief Restructuring Officer provided notification of its plans regarding refinancing of the project with the goal of re-opening the Jericho Mine.
December 19, 2013	AANDC provided additional detail on the status of the securities, indicating that:

²⁰ Public Registry ID: 288034 and 288075

²¹ Public Registry ID: 288124

²² Author unknown, 2AM-JER1119 Compliance Plan. September 30, 2012.

	<p><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 Department from June to October 2013 to manage water levels and ensure tailings management is maintained has cost approximately \$232,000.²³</i></p>
January 22, 2014	<p>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>.²⁴</p>
November 2014	<p>NIRB received notification of resignation of the last remaining Shear Director.</p>
September 30, 2016	<p>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</p>
December 22, 2016	<p>NIRB issued its Screening Decision Report for the project, approving the stabilization activities as proposed.</p>
April 21, 2017	<p>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.</p>
July 24, 2017	<p>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.²⁵</p>

²³ Public Registry ID: 288610

²⁴ Public Registry ID: 288611

²⁵ Public Registry: 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

DATE		ACTIVITY UNDERTAKEN
2004	July	The NIRB issued Project Certificate No. 002 and Tahera applied for authorizations to commence construction of the mine.
2005		Tahera commenced construction of the mine.
2006	June	NIRB conducted its site visit.
2006	July	Jericho site and diamond mine fully operational.
2007		Due to logistical issues a NIRB site visit was not conducted.
2008	January	Tahera filed for creditor protection citing insufficient funds to operate the mine; site placed under care and maintenance.
2008	August	NIRB conducted its site visit
2008	December	Indian and Northern Affairs Canada (INAC; now Aboriginal Affairs and Northern Development Canada) intervened ²⁶ 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.
2009	July	NIRB conducted its site visit
2009	September	INAC completed site closure, contractors ceased occupation of the site, and regular monitoring continued.
2010	August	Shear Minerals Ltd. (renamed Shear Diamonds (Nunavut) Corp.) completed purchase of Tahera’s assets including the Jericho Diamond Mine.
2011	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.
2011		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 2 years.
2011	August	The NIRB reissued Project Certificate No. 002 to Shear.
2011	December	The NWB issued the renewal Type “A” water license to Shear.
2012	August	The NIRB conducted its annual site visit.
2012	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.
2012	October	Shear issued 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.
2012	December	The NIRB issued its recommendations to Shear regarding the 2012 monitoring commitments and compliance to the Project Certificate No. 002.
2013	June	NIRB conducted its 2013 site visit.

²⁶ 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

2013	November	The NIRB issued its recommendations to Shear regarding the 2013 monitoring commitments and compliance to the Project Certificate No. 002.
2013	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.
2014	January	The Minister of Aboriginal Affairs and Northern Development declared the site abandoned.
2014	April	The NIRB received notice of Shear's Chief Restructuring Officer's resignation.
2014	June	The NIRB conducted its 2014 site visit.
2014	November	The NIRB issued its recommendations to Shear and AANDC regarding the 2013 monitoring commitments and compliance to the Project Certificate No. 002.
2014	November	The NIRB received notification of resignation by the last remaining Shear Director.
2015	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.
2015	June	The NIRB requested updates from agencies regarding compliance to the Project Certificate No. 002.
2015	June	The NIRB conducted its 2015 site visit.
2015	October	The NIRB issued its 2015 recommendations to Shear, INAC, and Fisheries and Oceans Canada (DFO).
2015	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.
2016	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.
2016	June	The NIRB conducted its 2016 site visit.
2016	November	The NIRB issued its 2016 recommendations to Shear, INAC, and DFO.
2016	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.
2017	April	INAC submitted its response to the NIRB's 2015-2016 recommendations.
2017	April	INAC submitted a revised summary of remediation and stabilization works to be conducted at the Jericho site (NIRB File No. 16UN058).
2017	June	DFO submitted its response to the NIRB's 2015-2016 recommendations.
2017	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).
2017	August	The NIRB conducted its 2017 site visit.
2017	September	The NIRB received INAC's Water Resources Inspection Report

2017	November	The NIRB issued its 2017 recommendations to Shear, CIRNAC, and DFO.
2018	January	DFO submitted its response to the NIRB's 2016-2017 recommendations.
2018	May	The NIRB received CIRNAC's Annual Report for remediation and stabilization works conducted at the Jericho site (NIRB File No. 16UN058).
2018	June	The NIRB conducted its 2018 site visit
2019	February	DFO submitted its response to NIRB's 2017-18 recommendations
2019	March	CIRNAC submitted its response to NIRB's 2017-18 recommendations
2019	April	CIRNAC submitted 2017 Annual Report Supplemental Information
2019	June	The NIRB received CIRNAC's Annual Report for remediation and stabilization works conducted at the Jericho site (NIRB File No. 16UN058).
2019	June	The NIRB conducted its 2019 site visit