



NIRB File No.: 00MN059

Related to NIRB File No. 16UN058

NWB File No.: 2AM-JER-1119

CIRNAC File No.: IQA-N 5510-5-10

Related to DFO File No.: NU-00-0068

October 25, 2019

Shear Diamonds (Nunavut) Corporation

Sent via email: info@sheardiamonds.com

Re: The Nunavut Impact Review Board's 2018-2019 Annual Monitoring Report for the Jericho Diamond Mine Project and Board's Recommendations

Dear Shear Diamonds (Nunavut) Corporation:

The Nunavut Impact Review Board (NIRB or Board) is hereby releasing its *2018-2019 Annual Monitoring Report for the Jericho Diamond Mine Project* (Monitoring Report) and the NIRB's Assessment of Shear Diamonds (Nunavut) Corporation's Compliance Status with the Jericho Diamond Mine Project Certificate No. 002. The enclosed Monitoring Report is based on the NIRB's monitoring activities as set out within the Jericho Diamond Mine Project Certificate No. 002 and pursuant to Sections 12.7.1 and 12.7.2 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement)*. This report provides findings that resulted from monitoring of this Project that took place from October 2018 to September 2019.

All materials pertaining to the NIRB's ongoing Monitoring program for the Jericho Diamond Mine Project can be accessed online from the NIRB's online public registry at www.nirb.ca/projects/123035.

By way of a motion carried during its regular meeting held in October 2019, the Board has issued the following recommendations to assist Shear Diamonds (Nunavut) Corporation [Shear or Proponent] in achieving compliance with the Jericho Project Certificate. These recommendations ensure that the NIRB has all the 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 Diamond Mine Project.

Outstanding Reports

The Proponent is required to submit several reports as outlined in Appendix D of the Project Certificate No. 002. Since Shear's purchase of the site in 2010 the NIRB has not received any of the required reports and, despite the Board's recommendations to Shear since 2011, no additional information has been received to date.

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:

- a) 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017 and 2018 annual reports;
- b) Quarterly reports for 2010 through 2019; and
- c) Wildlife monitoring data from 2010 through 2019.

These outstanding reports are to be provided within 90 days.

Fuel, Waste, and Site Management

The Board has previously recommended that the Proponent provide a proposed plan of action to remedy the non-compliance to several terms and conditions in Project Certificate No. 002. To date, the NIRB has not received acknowledgement of, or responses to these previous recommendations from the Proponent.

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.

The plan of action is to be provided within 90 days.

Site Risk Management during Temporary Shutdown – Crown Land

In Crown Indigenous Relations and Northern Affairs Canada's (CIRNAC) response to the Board's 2017-2018 Recommendation #4 they indicated that their long-term plan for the Jericho site includes the implementation of an Operation, Maintenance and Surveillance Plan. This plan includes information regarding the surveillance of the Processed Kimberlite Containment Area Cap, the West Dam Breach, Divider Dyke Breach, Petroleum Hydrocarbon Containment Cell and the Open Pit C1 diversion, as well as outflow and water quality to ensure they are meeting CIRNAC's design intent. This Plan was initiated in 2018 and will be re-evaluated after three (3) years. Although the stabilization works have been completed, the final outcome of the stabilization works, their effectiveness, and long-term maintenance and monitoring requirements are not known at this time.

Recommendation 3: The Board requests that Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) provide an Annual Report to the NIRB outlining the observations, results, and any changes made to the surveillance monitoring at Jericho as well as any updates to the Operation, Maintenance and Surveillance Plan completed as long as Jericho remains under control of CIRNAC.

This information should be provided to the Board by **March 31st annually**.

Site Water Management

CIRNAC has a three (3) year Operation, Maintenance and Surveillance Plan in place which is valid for 2018-2020; however, this plan does not include any water quality testing other than for uranium in the pit water after initial sampling was completed in 2014, 2017, and 2018. These samples were deemed to meet the Canadian Council of Ministers of the Environment (CCME) guidelines for the protection of freshwater aquatic life except for uranium. The Board however has concerns that the pit lake is the receiving environment for runoff from the currently unmonitored waste rock piles which may have seeps with unknown contaminants that may not be captured with immediate sampling but may release contaminants over time.

The Board also has concerns that over time the kimberlite in the Processed Kimberlite Containment Area (PKCA) will break down and may leach contaminants, creating changes to the water quality in Cell B/C as have been observed at other diamond mines in the Northwest Territories. This could subsequently affect the receiving aquatic environment through the breach in the West Dam. It was also noted that uranium levels in the pit water increased after pumping of Cell C water to the open pit during stabilization activities.

A full suite of water quality parameters should be sampled every three (3) years from the open pit and Cell B/C, and an adaptive management plan created to ensure water quality remains acceptable prior to the eventual discharge into the receiving environment.

Recommendation 4: 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.

The results of the water quality monitoring should be presented within the Annual Report.

Site Risk Management during Temporary Shutdown on Inuit Owned Land

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 Crown-Indigenous Relations and Northern Affairs Canada (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 is uncertain.

Waste Rock Pile

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 follow up to last year's Board recommendation, the Kitikmeot Inuit Association (KIA) noted verbally that they will provide an update to the NIRB regarding waste rock piles. The Board acknowledges that planning takes time and money, however there is still the uncertainty around monitoring and managing the seeps and contact water from the waste rock piles.

Recommendation 5: 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.

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.

This information should be provided to the Board by **March 31, 2020**.

The Board respectfully requests that for items requiring follow-up action by Shear that a response be provided within the timeline as requested for each of the recommendations.

Should you have any questions or require further clarification regarding this request or related to the NIRB's monitoring program for the Jericho Diamond Mine project, please contact Jaida Ohokannoak via email at johokannoak@nirb.ca.

Sincerely,



Jaida Ohokannoak
Technical Advisor II
Nunavut Impact Review Board

cc. Charlotte Lamontagne, Contaminated Sites Program, Crown-Indigenous Relations and Northern Affairs Canada
Mark Yetman, Contaminated Sites Program, Crown-Indigenous Relation and Northern Affairs Canada
Daniel Coombs, Fisheries and Oceans Canada
Stanley Anablak, Kitikmeot Inuit Association
Geoff Clark, Kitikmeot Inuit Association
Jericho Distribution List

Enclosure: The Nunavut Impact Review Board's *2018-2019 Annual Monitoring Report for the Jericho Diamond Mine Project*