



NIRB File No.: 00MN059

Related to NIRB File No. 16UN058

NWB File No.: 2AM-JER-1119

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

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

November 27, 2017

Shear Diamonds (Nunavut) Corporation

Sent via email: info@sheardiamonds.com

Re: The Nunavut Impact Review Board's 2016-2017 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 *2016-2017 Annual Monitoring Report for the Jericho Diamond Mine Project* (NIRB File No. 00MN059; Monitoring Report) along with the 2017 Site Visit Report for the NIRB's monitoring of the Jericho Diamond Mine Project (Appendix I within the Monitoring Report). The enclosed Monitoring Report is based on the NIRB's monitoring activities as set out within the Jericho Project Certificate [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 2016 to September 2017.

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 by using any of the following search criteria:

- Project Name: Jericho Project
- NIRB File No.: 00MN059
- Application No.: 123035

By way of a motion carried during its regular meeting held in November 2017, 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 request that Shear Diamonds (Nunavut) Corporation provide the following outstanding submissions:

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

The Board requests that the Proponent provide these outstanding reports within 90 days' receipt of the Board's recommendations.

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 Condition 34, which requires secondary containment for fuel storage areas, and Condition 35, which requires fencing around all landfill and waste storage areas. To date, the NIRB has not received acknowledgement of, or responses to, these previous recommendations from the Proponent.

During the 2017 site visit, the Monitoring Officer observed that through INAC's site stabilization activities, as approved under NIRB File No. 16UN058, fuel storage areas (except for the airport camp tank) were undergoing active stabilization through the purging, cleaning, and storage of fuel tanks. INAC indicated that following the cleaning of all tanks and consolidation of petroleum hydrocarbon contaminated (PHC) soils within the former Phase 1 Fuel Tank Farm, berms on-site would be breached to avoid the seasonal accumulation of water within the berms and required maintenance. Additionally, the Monitoring Officer observed that waste materials, equipment, and debris were being, and had been, consolidated within several waste storage areas on-site without fencing or suitable deterrents.

Further, during the 2017 site visit, the Monitoring Officer observed several site features that were undergoing substantial alterations to reduce environmental risk and annual maintenance requirements including the covering of the Processed Kimberlite Containment Area (PKCA), breaching of Divider Dyke A and the West Dam, rerouting of the C1 diversion, and other stabilization activities.

Since the proposal, approval, and undertaking of INAC's more substantial stabilization works under NIRB File No. 16UN058, the NIRB has not received a plan of action from Shear to remedy its non-compliance to the Project Certificate [No. 002] terms and conditions, including Condition 34 or 35.

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], including non-compliance with Condition 34 which requires secondary containment around all fuel storage areas, Condition 35 which

requires fencing or suitable deterrents around all waste storage areas. This information should be provided within 90 days' receipt of the Board's recommendations.

Recommendation 3: Recognizing the Proponent's past unresponsiveness, the Board request that Indigenous and Northern Affairs Canada (INAC)¹ commit to ensuring that secondary containment, fencing and suitable wildlife deterrents are incorporated into ongoing management and site stabilization activities at the Jericho site, to achieve the objectives of Conditions 34 and 35 of Project Certificate No. 002. A response from INAC to this and other NIRB recommendations is requested within 90 days of receipt of the NIRB Monitoring Report.

Fish Habitat Compensation

In correspondence received by the NIRB on June 2, 2017 Fisheries and Oceans Canada (DFO) provided its response to the Board's 2015-16 recommendation related to fish habitat compensation activities at the Jericho Mine site. Within the correspondence, DFO indicated its intention to undertake fish habitat compensation activities on-site using a portion of the Letter of Credit (LOC) for the removal of the water intake jetty (as approved under INAC's amendments to NIRB File No. 16UN058), and associated features, on Carat Lake. DFO added that should no additional fish habitat compensation or restoration be feasibly achieved, its intention would be to use the remainder of the LOC to support the long-term monitoring of the site.

During the 2017 site visit, the Monitoring Officer observed that alterations had not yet been made to the water intake jetty. Through discussions with DFO representatives, it was noted that remediation of the jetty and associated features may not be undertaken due to unforeseen circumstances and that alternative options for creating additional fish habitat compensation in the area may need to be explored.

Recommendation 4: The Board requests that Fisheries and Oceans Canada (DFO)² provide the NIRB with an update regarding its revised strategy for undertaking fish habitat compensation works at the Jericho Mine site. Within the update, DFO should inform the NIRB of its coordination with Indigenous and Northern Affairs Canada (INAC) should their fish habitat compensation plans be proposed as part of other maintenance or stabilization works undertaken by INAC's ongoing site management function.

Site Risk Management during Temporary Shutdown

In correspondence received by the NIRB on July 2, 2013 Aboriginal Affairs and Northern Development Canada (AANDC, now Indigenous and Northern Affairs Canada [INAC]) indicated that the management of site risks would focus on: site water during freshet, tailings and tailings facility management, and fuel and hazardous waste storage and containment.

¹ Note that the Board plans to invite Indigenous and Northern Affairs 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.

² 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.

Site Water Management

In response to the Board's 2016 recommendations, INAC provided an update on the water management activities conducted during the reporting year, including the discharge of Processed Kimberlite Containment Area (PKCA) Cell B/C water, and the testing and discharge of accumulated water from tank berms.

As part of INAC's stabilization works as approved under NIRB File No. 16UN058, and as observed during the 2017 site visit, following the cleaning and purging of all fuel tanks on-site (except for the airport camp tank), and the consolidation of contaminated soils within the former Phase 1 Tank Farm berm, all fuel storage berms will be breached to prevent the accumulation of water within the berms and associated environmental risks. Additionally, during the 2017 site visit the NIRB's Monitoring Officer observed the active re-routing of the C1 diversion towards the open pit to restore natural water flow, and to accelerate the infill of the open pit. The Monitoring Officer also observed the development of an outflow from the open pit towards Carat Lake which would be expected to function once the open pit reaches elevation.

Although the NIRB's Monitoring Officer observed advanced stages of the stabilization works related to site water management during the 2017 site visit, the final outcome of the stabilization works, their effectiveness, and long-term maintenance and monitoring requirements are not known at this time.

Tailings and Tailings Facility Management

In response to the Board's 2016 recommendations, INAC indicated that it would be managing recurring issues related to the deposition of fine processed kimberlite in areas adjacent to the Processed Kimberlite Containment Area (PKCA) by applying a cover comprised of coarse processed kimberlite (as approved under NIRB File No. 16UN058) over Cell A of the PKCA. INAC further indicated that performance of the cover would be monitored as part of its long-term monitoring plan. During the 2017 site visit, the NIRB's Monitoring Officer observed the active application of the coarse material cover which appeared to be effectively encapsulating the finer processed kimberlite tailings. However, the NIRB's Monitoring Officer observed that trace fine materials contained within the coarse cover could require monitoring to ensure that further deposition to surrounding areas does not occur.

Additionally, as part of INAC's approved stabilization works, and as observed during the 2017 site visit, Divider Dyke A and the West Dam were breached to allow water flow between the respective cells of the tailings management facility. The NIRB's Monitoring Officer was informed during the 2017 site visit that the breach observed in the West Dam would be excavated by an additional 1.5 metres and that the banks of the dam would be fortified with rip rap to ensure stability.

Although advanced progress was observed related to stabilization works on tailing storage facilities, the final outcome of the stabilization works, their expected effectiveness, and long-term maintenance and monitoring requirements are not known at this time.

Fuel and Hazardous Waste Storage

In response to the Board's 2016 recommendations, and as approved under NIRB File No. 16UN058, INAC indicated that it would address petroleum hydrocarbon contaminated (PHC)

soils on-site by collecting and consolidating all soils within the Phase 1 Fuel Tank Farm berm where they would be covered with a geosynthetic liner and capped. INAC indicated that the condition of the PHC soil storage/isolation area would be monitored as part of its long-term monitoring plan. INAC also indicated that metal impacted soils and hazardous materials would be packaged and transported off-site for disposal at a licenced facility, consistent with the Transportation of Dangerous Goods regulations.

As previously noted, as part of INAC's approved stabilization works and as observed during the 2017 site visit, INAC intends to clean and purge all fuel tanks on-site (except for the airport camp tank), as well as consolidate and store all PHC contaminated soils, prior to breaching all fuel storage berms to prevent the accumulation of water within the berms and associated environmental risks.

During the 2017 site visit the NIRB's Monitoring Officer observed that PHC contaminated soils were being actively consolidated in the former Phase 1 Fuel Tank Farm, and that tank cleaning operations were underway. Although advanced progress was observed related to fuel and hazardous waste storage stabilization, the final outcome of the stabilization works, their effectiveness, and long-term maintenance and monitoring requirements are not known at this time.

Waste Management

During the 2017 site visit the NIRB's Monitoring Officer observed that INAC was actively and consolidating remaining barrels on-site, and had consolidated select site debris in storage areas. However, as identified during past site visits, several structures on-site were beginning to show signs of weathering, and debris from buildings was observed throughout the mine site. Within INAC's response to the NIRB's 2016 recommendations, INAC indicated that building and structures will remain on-site and will be monitored as part of its long-term monitoring plan.

Although hazardous materials were being packaged and transported off-site as part of INAC's approved stabilization activities, continued deterioration of structures and stored debris on-site could contribute to the displacement of wastes on-site and outside the project area.

Recommendation 5: The Board requests that Indigenous and Northern Affairs Canada³ 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:

- a) Details related to water monitoring, sampling, treatment, and discharge activities conducted during the reporting year;

³ Note that the Board plans to invite Indigenous and Northern Affairs 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.

- 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;
- 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.

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. Where no timeline has been stipulated for a response, the Board requests that Shear submit a plan of action to address these items prior to **January 19, 2018**.

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 Kelli Gillard at (867) 983-4619 or via email at kgillard@nirb.ca or Davin St. Pierre at (867) 983-4615 or via email at dstpierre@nirb.ca.

Sincerely,



Sophia Granchinho, M.Sc., EP
Manager, Impact Assessment
Nunavut Impact Review Board

cc: Charlotte Lamontagne, Contaminated Sites Program, Indigenous and Northern Affairs Canada
Mark D'Aguiar, Fisheries and Oceans Canada
Sally Wong, Fisheries and Oceans Canada
Jericho Distribution List

Enclosure: The Nunavut Impact Review Board's *2016-2017 Annual Monitoring Report for the Jericho Diamond Mine Project*