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#2015-KIT007-EP

AANDC Contaminated Sites Program
PO Box 2200
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RE: INSPECTION OF JERICHO MINE JUNE 10, 2015 [2AM-JER1119]

Shear Diamonds (Nunavut) Corp. left the Jericho Mine site in September 2012. In March 2013 an Inspector's Direction was issued to Shear to undertake work to prevent impacts to persons, property and the environment. Shear failed to carry out the requirements in the Direction. AANDC's Contaminated Sites division has been conducting environmental protection activities at Jericho Mine site since June 2013 at the request of the Inspector, pursuant to s.87(4) of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (NWNSRTA). In January 2014, Jericho Mine was declared abandoned. AANDC Field Operations continues to inspect and assess the site.

An inspection of the Jericho Mine was conducted on June 10 2015. The Inspector was accompanied by Wynter Kuliktana and Tannis Bolt of the Kitikmeot Inuit Association, Heather Rasmussen of NIRB, Peter Larkin of the CNSC, Mark Yetman of AANDC's CSP, Michael Bernardin of PWGSC, and Bob Johnson and Andy Uyarrai of Delta Engineering. The latter four had been on site since June 8 to assess the work that will be required in 2015 for environmental protection (EP) at the site.

A thorough inspection of the site was conducted in order to assess risks to persons, property or the environment, and particularly, the likelihood of any discharges to water.

It was determined that an unauthorized party used the site this winter: the trespassers burned a significant amount of the limited fuel supply and stole a number of valuable items including the satellite dish, firearms, ammunition, and other survival equipment. The theft was reported to the RCMP in Kugluktuk.

Inspection findings are as follows:

Discharges to water:

The fine processed kimberlite (FPK) remains the primary concern with respect to deposits to water. The act of freezing-in the FPK over winter appears to have reduced the amount of FPK blown from the Processed Kimberlite Containment Area (PKCA); however, no measures are in place to determine its actual effectiveness. FPK was still visible on the remaining snow above the SE Dam Pond, and it is likely that some FPK was deposited again in the pond. DFO conducted a site visit in June 2014 and determined that the issue of windblown FPK was not of significant concern; nevertheless, efforts should be made to minimize the deposition. The silt curtain and silt fence have not been maintained and as such are likely not working effectively to reduce further dispersion of the FPK to the SE Dam Pond.



No other imminent risks to water were identified.

Risks to persons, property or the environment:

Unauthorized access of the site is the primary risk to persons. The airstrip is not maintained. While it is not possible to eliminate unauthorized access to the site, warning signage will be posted. As discovered during this visit, the unauthorized use of the already-low fuel stock means that in case of environmental emergency there may not be sufficient resources available to address the situation in a timely manner.

Integrity of earthworks: There were no visible signs of degradation of the PKCA dams. Mr. Johnson was satisfied with the integrity of the PKCA at this time. Mr. Yetman observed that the filter dam between cells A and B/C had not yet thawed, allowing the spring freshet water to pass through the dam and into cell B/C. He estimated that 10-14 days pumping will be required this summer to draw the water in cell B/C down to an acceptable level. This will require that fuel be brought in as, due to the theft, there is now insufficient fuel at site to conduct the necessary work.

Roads and other built structures, including the airstrip, are demonstrating a lack of regular maintenance. Minor sunken areas are now evident in the road, although no erosion of concern was noted at this time. The Oztek berm liner has slumped into the containment structure and will require some repairs prior to use in the water treatment process. There remains a low point in the wall of the Phase 1 fuel farm berm, which precipitates the need to treat and pump the water from the berm prior to accidental discharge. While this does not currently pose a threat to water, it is impossible to maintain an acceptable freeboard within the berm without pumping it out frequently. At the time of the inspection there was approximately 6 inches of freeboard within the berm. There is risk of fuel-contaminated water discharging from the berm and increasing the amount of contaminated soil requiring management. Approximately 60 barrels of hydraulic-oil-contaminated water remain in the Phase 2 fuel farm berm. Attempts have been made to cover these to prevent precipitation from overtopping the barrels and causing further contamination within the berm; however, the tarps have blown off and torn, and barrels have fallen over.

The Hazardous Waste Transfer Area (HWTa) presents an unknown risk at this time. There is no visual evidence of contamination outside the HWTa, however, there is heavy contamination within the HWTa and the integrity of the liner is unknown. It was noted that the piles of contaminated soil in the HWTa merge into the north berm wall, which could allow runoff from the piles into the environment. AANDC CSP is expecting results in the fall from test pits that were sampled to determine whether there is contamination outside the HWTa (and also around the fuel farm).

At the time of the June 10 inspection there were approximately 50 barrels of fuel (mostly expired) stored at the airstrip by Bruno Croft of the GNWT. His fueling practices left small spills next to the berm. He has committed to removing these barrels by the end of June. No further third-party use of the site will be permitted in order to reduce the risk of incident.

RECOMMENDATIONS OF THE INSPECTOR:

It is understood that subject to the NWNSRTA AANDC can only utilize the security furnished under the Water Licence to carry out activities to mitigate risks to persons, property and the environment. As such, the following activities are recommended for 2015:



1. Maintain the silt fence/silt curtain to prevent further deposition to the SE Dam Pond.
2. Ensure that fuel required for EP activities is located more than 30m from any water body (it is currently placed too close to the PKCA).
3. Seek solutions to prevent the hydraulic-oil-contaminated-water in the Phase 2 berm from causing further contamination of the berm. This may include treatment, backhaul, placement in the HWTa, tight-fitting lids to prevent over-topping, or other solutions.
4. All water from the fuel farm berms requires treatment and testing prior to discharge.

UPDATE: I returned to site July 16 2015 for a brief site inspection. The contractor had not yet been to site to begin work. The ENR fuel was removed, and replaced by a delivery of diesel for 2015 site work. No new concerns were noted, however, the weatherhaven that serves as vehicle storage at the airstrip has sustained weather damage and the canvas was partially ripped off.

Sent electronically

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