



P.O. Box 1500
4923 52nd Street
Yellowknife, NT
X1A 2R3

Sept 25th, 2017

Indigenous and Northern Affairs Canada – CARD
P.O. Box 1500
4923 52nd Street
Yellowknife, NT
X1A 2R3

Attention: Mr. Carey Ogilvie, INAC CARD

RE: Land Use Permit MV2016X0011 & Water Licence MV2016L8-0003– Tundra Mine Remediation Project – Inspection

Dear Mr. Ogilvie,

An inspection of the Tundra Mine Remediation project was completed by Resource Management Officers Tim Morton and Devin Penney September 20th, 2017. The inspection was conducted to ensure compliance with the terms and conditions of the land use permit MV2016X0011, water licence MV2016L8-0003, quarrying operations, and approved management plans.

The remediation project was fully operational at the time of the inspection. The site was well maintained and Inspectors did not note any major concerns. However, as outlined in the below inspection report the current construction of the new tank farm berm is unacceptable and not in accordance with the approved management plans.

The attached inspection report contains details and pictures that were taken during the inspection.

If you have any questions or concerns, please contact Devin Penney at (867) 669-2468.

Thank you,

Devin Penney
Resource Management Officer (Inspector)
Resource and Land Division
Aboriginal Affairs and Northern Development Canada

cc. MVLWB – via email
INAC/CARD – via email
INAC Resource and Lands – via email



INSPECTION DATE – September 20th, 2017

ENVIRONMENTAL INSPECTION REPORT (MV2016X0011)

Permittee:	INAC – CARD	October 19 th 2021	June 16 th , 2017
		Permit Expiry Date	Last Previous Inspection

Land Use Permit No.	MV2016X0011		
Quarrying Permit No.	2016QP0005		
Contractor:	Nahanni Construction /Delta Engineering	Subcontractor:	

Location(s) Inspected:	Camp/Fuel Storage/Equipment Lay Down/Haz Waste Storage /Active and Inactive Quarries
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Current Stage of Operation:	Active Remediation
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Program Modifications Approved:	None
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Condition of Operation "A" - Acceptable "U" - Unacceptable "N/A" - Not Applicable "N/I" - Not Inspected

	Operating Condition	Aspect Inspected			
		Camp	Support Facilities	Quarries	
A	Location and Area	A			
B	Timing as Permitted	A			
C	Equipment as Approved (Type & Size)	A			
D	Methods & Techniques	A			
E	Facilities	A			
F	Erosion (Control or Prevention)	A			
G	Chemicals	A			
H	Wildlife and Fisheries Habitat (Protection)	A			
I	Wastes	A			
J	Historical / Archaeological Sites	A			
K	Ecological Resources	N/A			
M	Fuel Storage	A			
N	Brush Disposal	A			
O	Restoration of Lands	A			
P	Permits	A			
Q	Biological and Physical Protection of Land	A			
R	Sections 8 to 12 / 14 to 16 M.V.L.U.R.	A			
S	Quarrying Methods	A			



ENVIRONMENTAL INSPECTION REPORT Pg. 2

(Continued)

Date:	September 20 th 2017	Permit #:	MV2016X0011
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Explanatory Remarks -

An inspection of the Tundra remediation project was conducted by Resource Management Officer Tim Morton and Devin Penney on September 20th 2017. The Inspectors were accompanied by Bane Brostschi (AECOM – Site Representative), Murray Somers (CARD – Project Officer) The inspection was carried out to ensure compliance under the applicable land use permits, water licenses, quarry permits, and management plans.

The remediation project was fully operational at the time of the inspection. Multiple activities were taking place such as active quarrying, construction of diversion ditches, tailings cap and cover, road maintenance, surveying, and water sampling. The Inspectors noted that the three cell sewage system had plenty free board with no concerns observed.

All equipment around the site that was sitting for at least two hours had drip trays placed under them as required by condition #54 of the land use permit. (Photo #7) Both of the hydrocarbon spills that had been detected during the previous inspection had been cleaned up and the impacted soil was removed and contained in accordance with the waste management plan.

During the last inspection, site personnel notified the Inspectors that an old landfill containing machinery and refuse had been unearthed during quarrying near the airstrip. Partially filled drums had been buried and leaked into the surrounding soil. Samples of this soil were taken and tested positive for hydrocarbon contamination. The impacted soil was placed under the tailings cap and the metal debris was placed in mega bags and stored on the southeast side of the runway. (Photo # 4 and 8) This material will be backhauled out on the winter road and disposed of at a designated facility.

There was no standing water within the hazardous waste storage area at the time of inspection however there was hydrocarbon stains on the mega bags that are stored inside the hazardous waste area (Photo # 6).

The water treatment plant was no longer in use. It had been taken apart and stored on site for removal. Some untreated water remained within the water treatment berm (Photo # 13). This water will have to be treated to meet the discharge criteria outlined in the water licence prior to discharge. Inspectors request that a plan be submitted outlining how this water will be treated and a copy of the sample results verifying proper treatment prior to discharge.

During the inspection, inspectors noted that the silt fencing installed around the airstrip road bridge was not properly installed. In order for a silt fence to be an effective filter for sediment-laden runoff they need to be installed properly. The silt fence must be properly affixed to the support posts to prevent it from folding down onto itself (Photo 16). For ditch installations, the filter fabric dam should be appropriately embedded in the ditch bottom and sides (eg, 10cm minimum) to prevent the movement of fines under or around the dam (Photo 17).

The new tank farm was inspected and multiple problems were noted. The berm liner has multiple holes from the installation of the tanks (Photo 10.) The liner is supposed to be completely sealed over the entire perimeter of the berm. The liner should extend to the top of the dyke wall and currently the liner does not. There are places in the berm where the liner has folded back over itself and does not extend up the berm at all (Photo 19). This berm will have to be reconstructed in order to meet the requirements in the submitted management plans.

Workers were placing the liner in the drainage channel connecting Mill Pond to Lower Pond (Photo 3 & 11). The liner was being welded at the seams to insure no leakage underneath (Photo 12). Personnel were also working on the tailings contaminated area. The entire tailings have been covered with a liner. (Photo 14) and workers were placing Type A material on the top of the liner with an excavator (Photo 15).

Overall there were no major concerns during the inspection. Please contact the Inspector listed below or Devin Penney (867) 669-2468 if you have any questions or concerns.

Original Signed

Inspectors Signature



Photo #1: Overview of the Tundra camp and surrounding area.



Photo #2: Mill Pond outflow construction.



Photo #3: Tailings contaminated area diversion ditch construction.



Photo #4: South east end of the runway where they have stored the debris found during quarrying.



Photo #5: Hazardous waste area.



Photo #6: Stains on the bags in the Hazardous lay down area from a previous spill.



Photo #7: Drip trays placed under vehicles that were parked for over 2 hours.



Photo #8: Airport waste neatly packed into bags that will be transported out over the winter road.



Photo #9: New tank farm berm with new empty tanks placed inside.



Photo #10: One of several holes found in the impermeable membrane during the inspection of the berm.



Photo #11: Liner being placed in the drainage channel connecting Mill Pond to Lower Pond.



Photo #12: Seams of the liner being welded together.



Photo #13: Wash berm which was used to rinse vehicles coming out of the tailings area has been ripped and no longer usable.

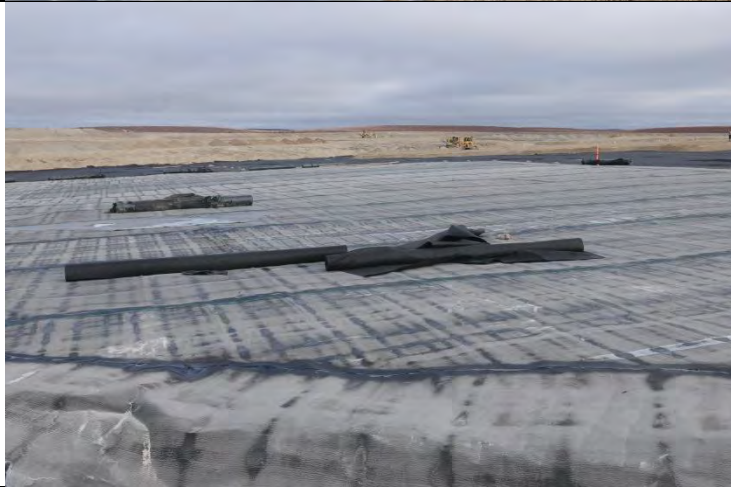


Photo #14: Tailings contaminated area, before its covered with material.



Photo #15: Dirt being placed on top of the tailings cap membrane.



Photo #16: Silt fence around the bridge near the airstrip not installed properly. The top of the silt screen should be affixed to the posts to ensure it can't fold down.



Photo #17: Improper installation of silt screen. The filter fabric dam should be appropriately embedded in the ditch bottom and sides (e.g. 100 mm minimum) to prevent the movement of fines under or around the dam.

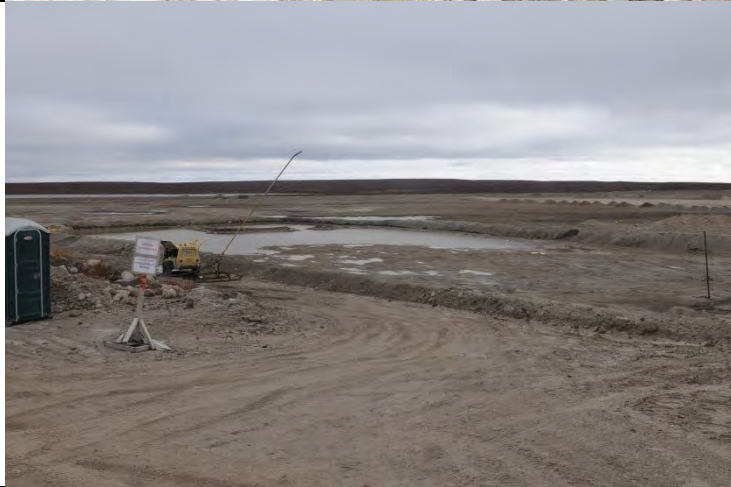


Photo #18: Standing water located in the water treatment area that has not been treated.



Photo #19: Liner on the berm edge.