



File: W2017D0004

November 21st, 2018

Dominion Diamond Ekati ULC (Dominion)
Misery Underground Project
900 – 606 4th Street SW
CALGARY, AB T2P 1T1

Attention: Ms. Claudine Lee – Head of Environment

**Re: Land Use Permit W2017D0004
Mining & Associated Activities
Ekati Diamond Mine, Northwest Territories**

Dear Ms. Lee,

An inspection of the Misery Underground Project, Misery Camp, site roads & laydowns at the Ekati Diamond Mine was conducted by Inspectors Marty Sanderson & Joe Heron on October 18th, 2018. The inspection was carried out to ensure operating conditions annexed to the above-noted land use permit are being adhered to during this land use operation. All findings of the inspection were discussed onsite with Mr. Dustin Chaffee (Environment Advisor – Permitting) and Mr. David Childs (Project Superintendent – Misery Underground).

The Permittee must ensure secondary containment is used during all fuel transfers in the land use area to prevent hydrocarbon impacts to the environment (Condition #32). Secondary containment structures, including the sumps at the Misery Camp fuel transfer area, must be diligently monitored to ensure they are free of snow during the winter season and there is adequate capacity available in the event of spills (Condition #33).

Your copy of the Environmental Inspection Report is enclosed and should be self-explanatory. If you have any questions or concerns, please contact the undersigned at (867) 767-9187 ext. 24192.

Sincerely,

Joseph Heron
Resource Management Officer III (Inspector)
North Slave Regional Office
GNWT - Department of Lands

cc: *Marty Sanderson*
Megan Schnurr (WLWB)
Roberta Judas (WLWB)
Scott Stewart (GNWT-Lands)
Marc Casas (IEMA)



ENVIRONMENTAL INSPECTION REPORT

Permittee:	Dominion Diamond Ekati – Misery Underground	Inspection Dates: October 18 th , 2018
------------	---	---

		Permit Expiry Date	Last Previous Inspection
Land Use Permit No.	W2017D0004	July 11 th , 2023	August 16 th , 2018
Quarrying Permit No.	N/A		
Contractor:	ProCon, Ryfan, Civeo, BAT Construction, Nuna Logistics	Subcontractor:	N/A

Location(s) Inspected:	The Ekati Mine Misery Underground Project and Misery Camp expansion including site roads and laydown areas.
------------------------	---

Current Stage of Operation:	Construction of the camp buildings is ongoing. Drilling and blasting in the Misery Pit lower portal (2235 level) continues and approximately 400 metres of portal has been established.
-----------------------------	---

Condition of Operation A- Acceptable U - Unacceptable N/A - Not Applicable

	Operating Condition	Aspect Inspected			Condition
		MUG Project & Pit	Fuel & Facilities	Laydowns & Roads	
A	Location and Area	A	A	A	
B	Time	A	A	A	
C	Type and Size of Equipment	A	A	A	
D	Methods and Techniques	A	A	A	
E	Type, Location, Capacity and Operation of All Facilities	A	A	A	
F	Control or Prevention of Ponding of Water, Flooding, Erosion, Slides & Subsidence of Land	A	A	A	
G	Use, Storage, Handling and Ultimate Disposal of Any Chemical or Toxic Material	A	A	A	
H	Wildlife and Fisheries Habitat	A	A	A	
I	Storage, Handling and Disposal of Refuse or Sewage	A	A	A	
J	Protection of Historical, Archeological and Burial Sites	A	A	A	
K	Objects and Places of Recreational, Scenic or Ecological Value	N/A	N/A	N/A	
L	Security Deposit	A	A	A	
M	Fuel Storage	A	A	A	
N	Methods and Techniques for Debris and Brush Disposal	A	A	A	
O	Restoration of the Lands	A	A	A	
P	Display of Permits and Permit Numbers	A	A	A	
Q	Matters Not Inconsistent With the Regulations	A	A	A	
R	Sections 8 to 16 M.V.L.U.R.	A	A	A	



ENVIRONMENTAL INSPECTION REPORT Pg. 2

Date: October 18 th , 2018	Permit#: W2017D0004
---------------------------------------	---------------------

<p>Explanatory Remarks</p> <p>An inspection of the Misery Underground Project, Misery Camp, site roads & laydowns at the Ekati Diamond Mine was conducted by Inspectors Marty Sanderson & Joe Heron on October 18th, 2018. The inspection was carried out to ensure operating conditions annexed to the above-noted land use permit are being adhered to during this land use operation. All findings of the inspection were discussed onsite with Mr. Dustin Chaffee (Environment Advisor – Permitting) and Mr. David Childs (Project Superintendent – Misery Underground).</p> <p>Misery Camp</p> <p>New buildings were added to the Misery Camp to house the extra personnel required to support the Misery Underground Project (MUG – Photo #1). The new camp buildings are in place and crews were working to finish up interior & exterior work prior to the buildings being occupied. Three tanks have been placed adjacent to the camp expansion and once fully operational will be used to manage potable water, fire suppression water and camp sewage (Photos #2 & #3). Sewage & greywater at the Misery Camp is pumped out and trucked to the Ekati main camp where it is treated at the camp sewage treatment plant (STP).</p> <p>As seen in Photos #4 & #5, there are two recently constructed buildings located in the west of the Misery Camp compound: the cold storage building & the camp welding shop. It appeared the cold storage building was in use and an expansion to the welding shop was underway. Seacans to be used as outer walls of the expansion and a roof appeared to be part of the welding shop extension. No concerns were noted regarding the camp buildings.</p> <p>There are three main laydowns within the Misery Camp compound: a materials laydown adjacent to and north of the camp welding shop & cold storage building, a materials laydown east of the fuel transfer stations, and a heavy equipment laydown (Photos #6-#8). It appears the majority of the materials staged in the storage laydowns have been consumed or used as part of the ongoing operations and only a minimal amount of equipment including a drill, a packer and a water truck were staged at the equipment laydown. It appeared materials within the laydowns were properly staged and labeled. The camp area appeared free of major hydrocarbon impacts and no concerns were noted by the Inspector.</p> <p>Misery Underground Project</p> <p>Work to construct the underground fresh air raise (FAR) and electrical systems was underway during the inspection. When complete, the underground and FAR station will be powered with electricity that is produced at the Ekati main camp electrical generation station. The electricity is transferred to the Misery Camp via high voltage electrical lines and a series of electrical transformers (Photo #9) that steps down the electrical voltage from 15 kilovolts to 600 volts for use in the MUG Project. Currently, electrical needs for the underground are being produced with gensets that are staged on the ramp adjacent to the 2235 Portal.</p> <p>The FAR building and infrastructure, including an electrical transformer, is essentially constructed and is awaiting completion of the raise bore work (Photo #10). Once completed, the raise bore will be removed and a borehole measuring approximately four (4) metres in diameter will be in place. The plenum within the FAR building will be rotated over the borehole and will feed warmed fresh air into the underground. Electrical lines from the transformer station will also be fed down the borehole to power the underground operations. Components used to construct the Misery FAR, such as the air heaters, were partially sourced from the FAR facility located at the Ekati Mine Panda Pit.</p> <p>The drilling & blasting of the 2235 Portal continues and at the time of inspection, a total of approximately 400 metres of portal had been opened up. Temporary infrastructure to support the underground operations was staged on the ramp adjacent to the 2235 Portal and includes: gensets, fuel tanks, a lunch room & tag-in/tag-out board, washrooms, mud & brine tanks, air heaters, and a ventilation fan (Photos #11-#14). Fresh air vent tubing has been placed into the underground along with dewatering lines that are used to remove, recycle & reuse minewater during drilling operations in the underground (Photos #15 & #16). Additional operational requirements such as the electrical sub-station in Photo #17 have also been put in place. Fuel trucks are being used during all underground fueling operations.</p> <p>Crews are drilling and blasting their way up to the 2350 Bench, where a main portal to access the underground has been marked out and will be established. As seen in Photo #18, haul trucks are actively removing rock from the MUG and rock is being deposited into Misery Pit. Some of the MUG equipment is being staged on the ramp adjacent to the 2235 Portal when not in use (Photo #19). No concerns were noted by the Inspector regarding the underground construction & mining activities occurring at the MUG Project.</p>
--



ENVIRONMENTAL INSPECTION REPORT Pg. 3

Date: October 18 th , 2018	Permit#: W2017D0004
---------------------------------------	---------------------

Explanatory Remarks

Fuel & Facilities

There is a fueling station adjacent to and south of the Misery bulk fuel storage tank (Photos #20 & #21). During the winter haul season, tanker trucks containing diesel fuel arrive onsite at Misery Camp and report to the fuel unloading station in Photo #22. Once here, the fuel trucks hook up at the station and fuel is transferred to the main fuel holding tank at the Misery Camp. It was noted the sumps at the fuel transfer stations are filling with snow and the Permittee must conduct regular weekly inspections of the sumps during the winter season to ensure there is adequate capacity available in the event of fuel spills. As with the underground, fuel transfers for above ground heavy haul trucks, equipment and machinery is completed with the use of mobile fuel trucks. As per Condition #32 of the permit, secondary containment must be used during all fuel transfers in the land use area.

As seen in Photo #23, there are multiple fuel tanks of varying sizes in containment that are present throughout the Misery Camp and MUG Project. The Permittee must ensure secondary containment structures that are employed in the land use area are properly maintained to ensure adequate capacity is available (Condition #33). The Inspector noted there were readily available spill response materials present throughout the land use area and no further concerns were noted regarding fuel storage or handling.

Miscellaneous

Other Observations noted by the Inspector during the MUG Project and expansion:

- The staged kimberlite in Photo #24 was being transported to the Ekati main process plant with the use of road trains on an ongoing basis
- There appeared to be no major hydrocarbon staining in the land use area including laydowns and along roadways
- Waste was being properly labeled and segregated prior to its disposal at the Ekati main camp
- A rock crushing operation was set-up north of camp

Overall, it appeared the Permittee is conducting land use operations in the Misery area to comply with the operating conditions annexed to LUP W2017D0004.

Completed off Site
Representative's Signature

Joseph Heron
Inspector



Inspector's Signature



Photo #1 - W2017D0004 MUG Project

Accommodations buildings to house extra personnel to support the Misery Underground Project are still under construction.

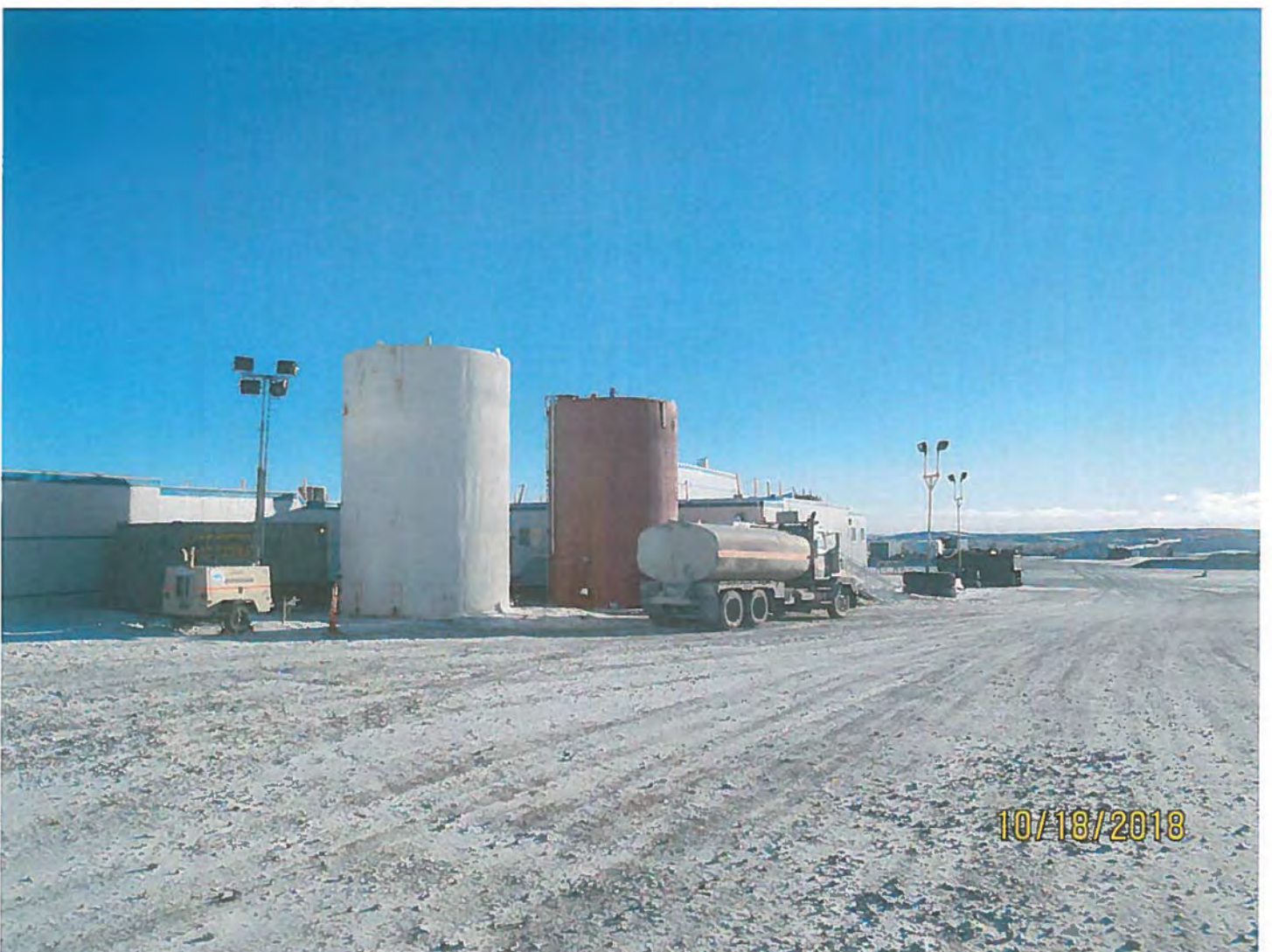


Photo #2 - W2017D0004 MUG Project

These tanks will be used to hold potable water (white) and fire suppression water (red).



Photo #3 - W2017D0004 MUG Project
This sewage holding tank is located west of the new accommodations buildings.



Photo #4 - W2017D0004 MUG Project
The welding shop (left) and cold storage building (right) are located on the west of the Misery Camp compound.



Photo #5 - W2017D0004 MUG Project

The camp welding shop was being expanded. Seacans and a roof can be seen in the photo.



Photo #6 - W2017D0004 MUG Project

Items in the laydown north of the cold storage appeared to be properly staged and labeled.



Photo #7 - W2017D0004 MUG Project
There were a minimal amount of materials staged in laydown in the northeast of the Misery Camp compound.



Photo #8 - W2017D0004 MUG Project
Looking north at the heavy equipment laydown.



Photo #9 - W2017D0004 MUG Project
Electricity from the main camp reports to this transformer and is stepped down to five (5) kilovolts prior to use in the MUG Project.



Photo #10 - W2017D0004 MUG Project
Construction of the FAR building and electrical transformer (far right) along the Misery Pit 440 Bench.



Photo #11 - W2017D0004 MUG Project
Looking down at the 2235 Portal. A rock disposal area into Misery Pit can be seen in the bottom-right of the photo.



Photo #12 - W2017D0004 MUG Project
The 4,530 L tank staged on the ramp adjacent to the 2235 Portal (right) will be decommissioned & removed.



Photo #13 - W2017D0004 MUG Project
The mud (left) & brine (right) tanks used for underground water management activities.



Photo #14 - W2017D0004 MUG Project
These heaters are used to heat the air that is being pumped into the underground.



Photo #15 - W2017D0004 MUG Project
The fresh air vent tubing going into the 2235 Portal and staged sodium chloride used in underground operations.



Photo #16 - W2017D0004 MUG Project
The vent tubing carrying warm air into the mine and water lines on left used in the underground water management.



Photo #17 - W2017D0004 MUG Project
An underground electrical conduit station and epoxy used to cement bolts into place.



Photo #18 - W2017D0004 MUG Project
This AD 30 underground haul truck is refueled with the use of a mobile fuel truck.



Photo #19 - W2017D0004 MUG Project
Underground heavy equipment staged on the ramp adjacent to the 2235 Portal.



Photo #20 - W2017D0004 MUG Project
Looking north at the Misery Camp fuel transfer station and bulk diesel tank.



Photo #21 - W2017D0004 MUG Project
There were readily available spill reponse materials present at the station.



Photo #22 - W2017D0004 MUG Project
Waste diesel collected at the fuel offload station is placed in this holding container.



Photo #23 - W2017D0004 MUG Project
An example of a fuel tank in containment with readily available spill response materials.



Photo #24 - W2017D0004 MUG Project
This stage kimberlite is being hauled to the Ekati main process plant on an ongoing basis.