



Lands- North Slave Region

August 23th 2018

**Dominion Diamond Mine
900 606 4th St. SW
Calgary AB, X2P 1T1**

**Land Use Permit
W2017D0004
Misery Underground**

Attn: Claudine Lee – Head Environment and Community

Re: August 16th 2018 Land Use Permit Inspection W2017D0004

Dear Ms. Lee,

On August 16th 2018, a Land Use Inspection was conducted on the Misery Underground by the Manager, Diamond Resource Management, Marty Sanderson. On this inspection the Manager/GNWT Lands Inspector was accompanied and assisted by Mr. Dustin Chaffee, Environment Specialist - Permitting and Mr. Lorne Newbury - Project Superintendent Misery Underground.

The inspection was conducted to ensure that all operating conditions annexed to the above noted land use permit are being adhered to during this operation. This report provides comments based on general observations and highlights any concerns or items that should be addressed by the Licensee / Permittee. No concerns were identified during this inspection. Attached / enclosed is the full Inspection Report along with related site photographs.

The following area was inspected and the details of the findings are included in the attached report:

- Misery Pit and Misery Camp
- Site Roads and Laydown Areas

If you have any questions or concerns please contact the undersigned at (867) 767-9187 extension 24186. Thank you for your continued cooperation.

Sincerely,

Marty Sanderson
Manager, Diamond Resource Management,
Department of Lands
North Slave Region
Marty_Sanderson@gov.nt.ca

**cc: Ms. Megan Schnurr – Regulatory Specialist, Wek’èezhìi Land and Water Board
Ms. Roberta Judas – Regulatory Technician, Wek’èezhìi Land and Water Board
Mr. Scott Stewart - Regional Superintendent Department of Lands
Marc Casas -Executive Director, Independent Environmental Monitoring Agency**



ENVIRONMENTAL INSPECTION REPORT

Permittee: Dominion Diamond Mines	Inspection Date: August 16 th 2018
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		Permit Expiry Date	Last Previous Inspection
Land Use Permit No.	W2017D0004	July 11 2023	initial
Quarrying Permit No.	N/A		
Contractor:	Pro Con – underground mining Ryfan-electrical installation Civeo –camp build BAT construction- in pit scaling and bolting Nuna –earthworks, misc.		Subcontractor: N/A

Location(s) Inspected:	Misery Camp and Pit Site Roads and Laydown Areas
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Current Stage of Operation:	Accommodation expansion is being added to the existing Misery camp Cold storage and Maintenance Building being constructed at Misery Camp Electrical Transformers and Cables currently being installed from the Ekati main power supply (misery camp) to the Fresh air raise. Fresh air raise support being constructed(concrete forms in place) All drilling support has been established (gen sets, mud tanks etc.) at the entrance to the 2235 portal. Drilling and blasting at portal 2235. Approximately 56 meters has been completed in the portal.
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Program Modifications Approved:	N/A
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Condition of Operation "A" - Acceptable "U" - Unacceptable "N/A" - Not Applicable "*" - Cautionary Remark

	Operating Condition	Aspect Inspected		Refers to Permit or License Requirement
		Portal 2235 and Pit	Laydowns and Roads	
				Condition (*An Asterisk denotes a cautionary remark)
A	Location and Area	A	A	

B	Time	A	A	Condition 26 1 a 5 and 7: Inspector was given 48 hour notice on commencement of this land-use operation on July 12 th 2018. Board and Inspector was provided persons in charge and alternates on July 12 th 2018
C	Type and Size of Equipment	A	A	
D	Methods and Techniques	A	A	
E	Type, Location, Capacity and Operation of All Facilities	A	A	All areas inspected are being kept clean and organized.
F	Control or Prevention of Ponding of Water, Flooding, Erosion, Slides and Subsidence of Land	A	A	
G	Use, Storage, Handling and Ultimate Disposal of Any Chemical or Toxic Material	A	A	
H	Wildlife and Fisheries Habitat	A	A	
I	Storage, Handling and Disposal of Refuse or Sewage	A	A	Sewage is pumped out daily and disposed of at main camp facilities. Garbage is trucked to main camp daily or as required.
J	Protection of Historical, Archeological and Burial Sites	A	A	
K	Objects and Places of Recreational, Scenic or Ecological Value	N/A	NA	
L	Security Deposit	A	A	
M	Fuel Storage	A	A	Spill kits where noted at all locations with fuel. All equipment refueled in the pit with a mobile fuel truck. 2-double walled fuel tanks have been established in two separate berms and are currently being used for the generator fuel storage. 4 Generators are housed in sea cans Drip trays under parked vehicles
N	Methods and Techniques for Debris and Brush Disposal	N/A	N/A	
O	Restoration of the Lands	A	A	
P	Display of Permits and Permit Numbers	A	A	Permit is posted at the Misery office complex.
Q	Matters Not Inconsistent with the Regulations	A	A	
R	Sections 8 to 16 M.V.L.U.R.	A	A	

ENVIRONMENTAL INSPECTION REPORT

Date: August 16th 2018

Permit #: W2017D0004

Notes / Explanatory Cautionary Remark

An Inspection of the Misery Underground Project was conducted by Marty Sanderson, Inspector/Manager-Diamond Resource Management. The Inspector was accompanied and assisted by Mr. Dustin Chaffee, Environment Specialist – Permitting and Lorne Newbury - Project Superintendent Misery Underground. The inspection was conducted to ensure that all operating conditions annexed to the above noted land use permit are being adhered to during this operation.

Misery Camp

Accommodation expansion is currently underway at the Misery Camp. The additional prefabbed buildings have been attached to the existing camp (Photo 1). The buildings have been craned into place and are set on top of cribbing. A construction crew is currently working on the interior finish work. The entire addition will be heated with electricity. A cold storage building is being constructed to house consumables for the underground project (Photo2). Pro Con will be storing parts and equipment within the building. A new maintenance building is being constructed to maintain and repair underground equipment. Three tanks will be placed near the misery accommodation expansion (Photo 3). The tanks will be used for sewage (63,600 L), potable water (119,250 L) and fire suppression water (119,250 L). All tanks are insulated and will be heat traced to prevent freezing.

Power to the Underground

Currently power is being provided to the underground project via diesel generators. There are three generators at the entrance of the 2235 portal. An additional Temporary generator is also located at this location. All generators have been placed in sea cans that act as secondary containment (Photo 4). A single generator is currently supplying the power needs for the portal drill and fresh air fan motor. As the portal progresses additional power from the generators will be required. The generator set up is temporary and all equipment associated with this initial stage of development will be removed in the summer of 2019. Electrical transformers and cables will be installed from the main power supply (misery camp) to the Fresh Air Raise (FAR). The Inspector was informed that the transformer on the east side of Misery Camp (Photo 5) is 15 kv(15,000 volts) that will be stepped down by another transformer to 5kv(5000 volts). The 5 kv will then provide the power required to run heaters and fans for the Misery Fresh Air Raise (FAR). The electrical cable is housed in protective steel/rubber housing (tech cable) and the majority of the cable will run on the surface (Photo 6). Cable will be buried when the cable crosses traffic and road surfaces. Additional electrical cable will be installed down the FAR in the summer of 2019 to provide power to many of the underground electrical components and equipment such as drills, lighting, fans and pumps.

Fresh Air Raise(440 Bench)

The fresh air raise foundation and supporting infrastructure foundation were being prepared for concrete pouring (Photo 7). The transformer that will supply power to the FAR was also under construction. Steel pilings and electrical cables were in position for the transformer platform (Photo 8). The Inspector was informed that the transformer and all the mechanical work for the FAR will be completed in the fall of 2018. The fresh air raise (the hole providing fresh air to the underground) will be completed in 2019. A "Raise Bore" will cut a 4 meter diameter hole from 290 meters underground. The raise bore will be pulled from underground using a hydraulic lift anchored on the surface.

2235 Portal

The 2235 portal is currently under construction (Photo 9). Prior to the portal construction the Inspector observed safety concerns being addressed on the steep Misery pit walls. Contractors were bolting/securing long sheets of mesh screen at various locations within the pit and around the portal entrance. The mesh will help guide falling rock to the next bench or access road. The Inspector also noted that a catch berm was being constructed along the access road to catch falling rocks (Photo 10). The 2235 portal has currently been drilled and blasted to a depth of 56 meters.

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The portal will be approximately 5.5 meters wide and 5.5 meters tall. An electric powered drill that is moved by a diesel powered underground vehicle is being used to drill holes for the explosives (Photo 11). A scoop tram is used to remove the waste blast rock (Photo 12). The PAG free waste rock is currently being used for the catch berms on the road. Rock is also being disposed of off the existing ramp road. All drilling support has been established (gen sets, mud tanks etc.) at the entrance to the 2235 portal (Photo 13). An electrical system consisting of 4 generators and an electrical distribution system are set up on the ramp road. A lunch room/tag board and a washroom have also been moved here. A mud tank and a brine tank used as part of the portal drilling program have been placed next to the portal. Water that is used for drilling is collected at the portal face and then pumped into a mud tank. This water settles in the mud tank and then is recirculated back to the brine tank for reuse. A ventilation fan and two compressors have also been placed near the portal entrance (Photo 14). Two double walled fuel tanks (13,200L and 4530L) have been placed in a lined berm and are used to fuel the electrical system (Photo 15). Spill kits were noted in close proximity to the fuel tanks. A waste segregation station was also noted at the 2235 portal. All vehicles that will be used in the underground project will be fuelled by a mobile fuel truck (Photo 16). The area was clean and well organized. An additional portal has been marked out on the Misery ramp road. This portal will be established in the future at around the 2350 bench mark (Photo 17). Additional supplies are being stored on the first switch back in the Misery Pit. Air, water and discharge lines are currently stored at this location (Photo 18). The insulated lines will supply air from the compressors and water for drilling. The discharge lines will be used to pull water away from the face of the portal and back to the mud tank.

Site roads and Laydown areas

Several Laydown areas around the Misery Pit and Misery Facilities are being utilized for storage of underground equipment and supplies. Four air heaters that were used in the koala underground will be repurposed and installed at the 440 Bench on the Fresh Air Raise (FAR) (Photo 19). Additional new mine air heaters were purchased and will be installed in the lower portals. Supplies such as bolt resin, calcium chloride, rock support mesh and underground screen have been neatly organized (Photo 20). Underground vehicles of various purposes were placed in the Misery Pit Laydown. All parked vehicles had drip trays installed under them to catch drips (Photo 21). All laydowns were free of any hydrocarbon staining and no concerns were noted.

An existing road on the south side of the Misery Waste rock pile is being used to store 2 explosive magazines (Photo 22). The pads and site roads for the Misery underground project are being maintained to the satisfaction of the Inspector.

The Inspector noted that all conditions of Land Use Permit W2017D0004 are being adhered to. No concerns were noted on the August 16th 2018 W2017D0004 Land Use Permit inspection.

Completed off site

Marty Sanderson



Representative's Signature

GNWT Lands Inspector

Inspector's Signature

Note: Please see the attached inspection photos on the attached pages or electronic file.



Photo 1: Misery Camp expansion - Accommodation expansion is currently underway at the Misery Camp. The additional prefabbed buildings have been attached to the older camp



Photo 2: Misery Camp- Cold storage - A cold storage building is being constructed to house consumables for the underground project. ProCon will be storing parts and equipment within the building.

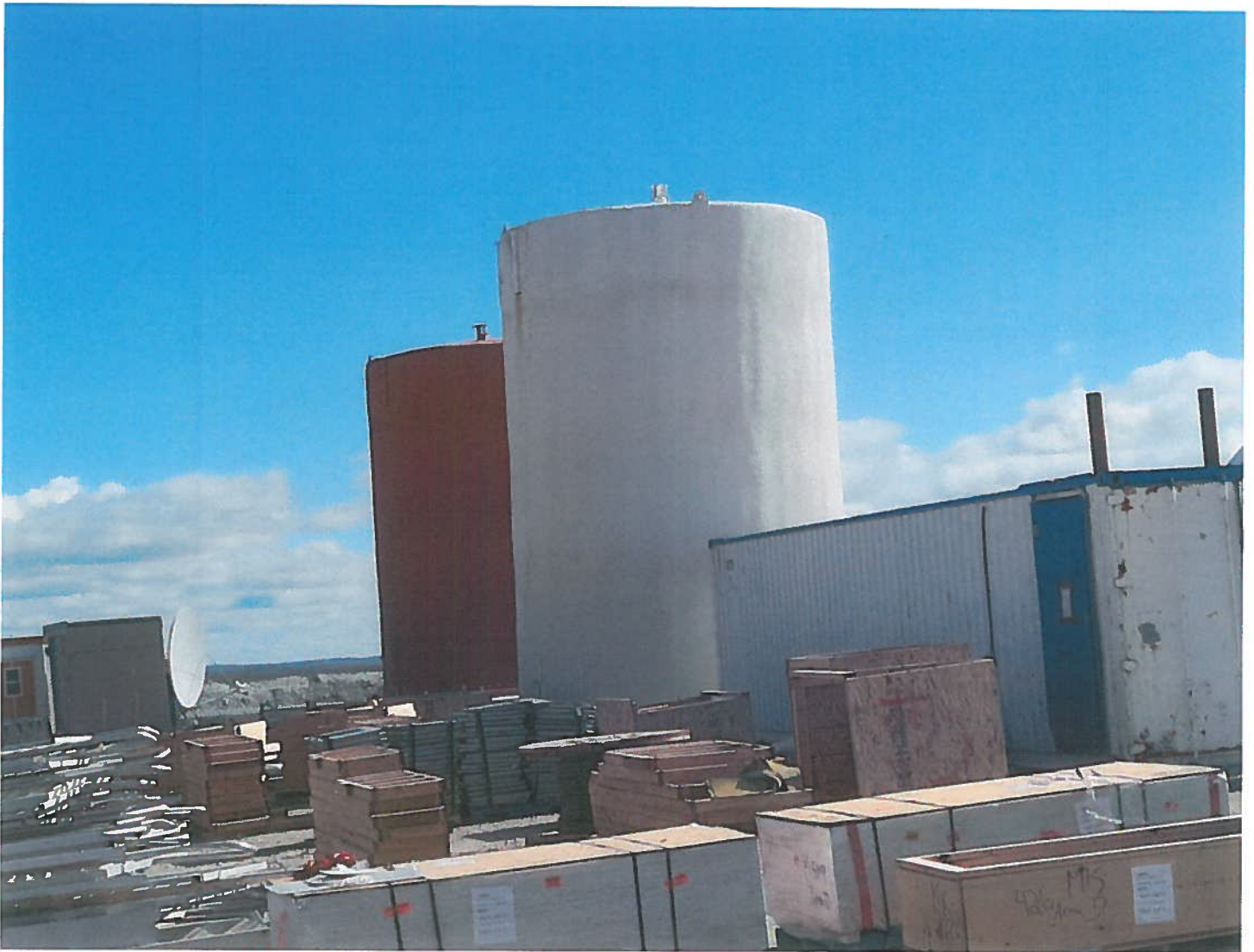


Photo 3: Misery Camp - Three insulated tanks will be installed at Misery to provide additional capacity for sewage, potable water and fire suppression water.



Photo 4: Misery Pit 2235 Level - Four generators have been placed in sea cans on the 2235 bench to provide power for the portal work.



Photo 5: East of Misery camp - A 15 kv transformer located on the east side of Misery camp will be used to provide power to the Misery underground mining project.



Photo 6: Misery FAR raise 440 bench - Insulated tech cable will transfer power from a transformer located east side of Misery camp to another transformer near the Fresh Air Raise (FAR) .



Photo 7: Fresh Air Raise - The fresh air raise foundation and supporting infrastructure foundation were being prepared for concrete pouring at the 440 Bench.



Photo 8: Fresh Air Raise 440 bench - The transformer that will supply power to the FAR was also under construction. Steel pilings and electrical cables were in position for the transformer platform.



Photo 9: 2235 Portal - View of the 2235 portal from the first switch back on the east side of the Misery Pit.



Photo 10: 2235 Portal - Equipment staged to the south of the 2235 portal. A catch berm is being constructed next to the pit walls to catch falling rocks.



Photo 11: 2235 Portal - An Electric Drill that is being used for Portal advancement.



Photo 12: 2235 Portal - A scoop tram is used to remove the waste blast rock. The PAG free waste rock is currently being used for the catch berms on the road. Rock is also being disposed of off the existing ramp road.

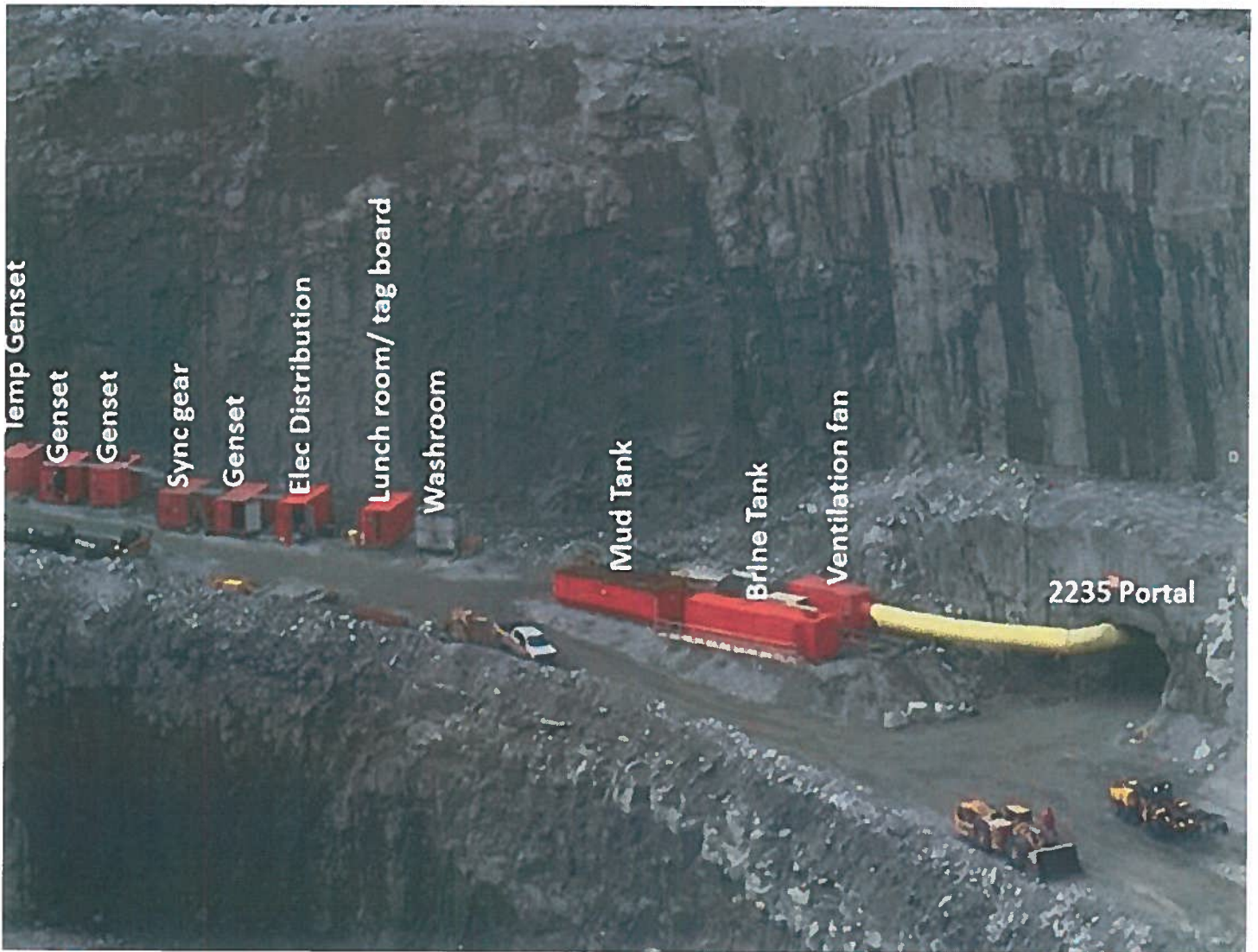


Photo 13: 2235 Portal - Drilling support including 4 generators, lunch room, washroom, mud tank, brine tank and ventilation fan are in position on the 2235 bench.

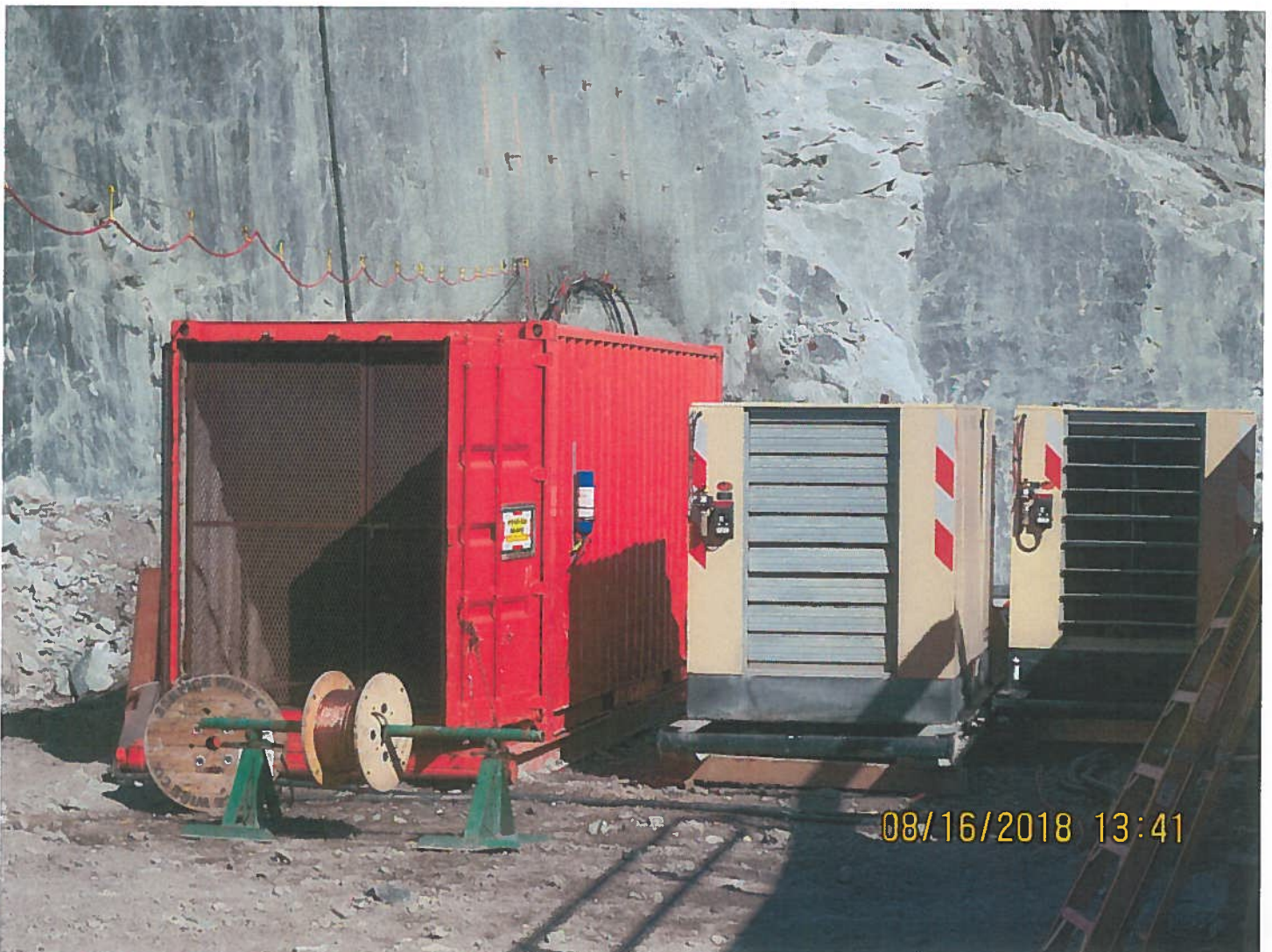


Photo 14: 2235 portal - A ventilation fan and 2 compressors have also been placed near the portal entrance.



Photo 15: 2235 Portal - Two double walled fuel tanks (13,200L and 4530L) have been placed in a lined berm and are used to fuel the generators.



Photo 16: 2235 portal - All vehicles that will be used in the underground project will be fuelled by a mobile fuel truck.



Photo 17: Level 2350 - An additional portal has been marked out on the Misery ramp road. This portal will be established in the future at around the 2350 bench mark.



Photo 18: First Switch Back - Additional supplies are being stored on the first switch back in the Misery Pit. Air, water and discharge lines are currently stored at this location.



Photo 19: Misery Pit Laydown - Four air heaters that were used in the koala underground will be repurposed and installed at the 440 Bench on the Fresh Air Raise (FAR) .



Photo 20: Misery Pit Laydown - Supplies such as bolt resin, calcium chloride, rock support mesh and underground screen have been neatly arranged in the laydown.



Photo 21: Misery Pit Laydown Area - several pieces of Equipment were placed in the Misery Pit Laydown. All stationary equipment had drip trays installed under them to catch drips.



Photo 22: An existing road on the south side of the Misery Waste rock pile is being used to store 2 explosive magazines.