



File: W2017D0004

April 1st, 2019

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 Joe Heron & Jamie Steele on March 19th, 2019. 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. Shane Amy (Acting Project Superintendent - Misery Underground) and Mr. Mark Wasiuta (Acting Team Leader - Environment).

It is imperative that as environmental compliance issues are identified in the field, the discrepancies are being adequately addressed in a timely manner. The importance of complying with all operating conditions of LUP W2017D0004 during the Misery Underground Project cannot be over-stated, particularly the need for proper fuel handling and waste management practices. It is the expectation of the Inspector that fuel handling and waste management practices are improved upon & maintained throughout the life of the Misery Underground Project. Discrepancies noted by the Inspector that must be properly addressed include:

- Land Use Permit W2017D0004 must be displayed in an area(s) so that it is plainly visible and accessible by employees so they may understand the requirements of the operating conditions;
- Spills must be cleaned up as they occur and the hydrocarbon impacted soils properly disposed of (Condition #38);
- The use of proper secondary containment under parked equipment (Condition #37);
- Containers with hydrocarbons must be properly staged and placed in secondary containment to prevent spills (Condition #33);
- Secondary containment must be used during fuel transfers (Condition #32);
- Waste is to be staged in properly labeled containers and disposed of at approved facilities (Condition #23); and
- All batteries must be properly containerized and stored out of the weather elements to prevent the introduction of harmful chemicals to the local environment (Condition #16).



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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: *Jamie Steele (GNWT-Lands)*
Megan Schnurr (WLWB)
Roberta Judas (WLWB)
Scott Stewart (GNWT-Lands)
Shannon Moore (IEMA)



ENVIRONMENTAL INSPECTION REPORT

Permittee:	Dominion Diamond Ekati – Misery Underground	Inspection Dates: March 19 th , 2019
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		Permit Expiry Date	Last Previous Inspection
Land Use Permit No.	W2017D0004	July 11 th , 2023	January 22 nd , 2019
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.
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Current Stage of Operation:	Air & electrical infrastructure along the 440 Bench is in place and will be made active once the raise bore is complete. Underground crews were currently working towards the 2120 Level underground.
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Condition of Operation A- Acceptable U - Unacceptable N/A - Not Applicable

	Operating Condition	Aspect Inspected			Condition
		MUG Project	Misery Camp	Fuel & Facilities	
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	U	A	#16 Waste Chemical Disposal
H	Wildlife and Fisheries Habitat	A	A	A	
I	Storage, Handling and Disposal of Refuse or Sewage	U	A	A	#23 Waste Management
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 A*	A A U A	A A A A	#32 Secondary Containment #33 Fuel Containment #37 Drip Trays #38 Clean Up Spills
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	U	U	A	#42 Display Permit
Q	Matters Not Inconsistent With the Regulations	A	A	A	
R	Sections 8 to 16 M.V.L.U.R.	A	A	A	

A* - Concern discussed in the field, adequately addressed and followed-up with Inspector.



ENVIRONMENTAL INSPECTION REPORT Pg. 2

Date: March 19th, 2019

Permit#: W2017D0004

Explanatory Remarks

An inspection of the Misery Underground Project, Misery Camp, site roads & laydowns at the Ekati Diamond Mine was conducted by Inspectors Joe Heron & Jamie Steele on March 19th, 2019. 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. Shane Amy (Acting Project Superintendent - Misery Underground) and Mr. Mark Wasiuta (Acting Team Leader - Environment).

Misery Underground Project

Infrastructure to supply fresh air and electrical power to the underground operations is in place along the 440 Bench (Photo #1) and is awaiting the completion of the raise bore drilling operations. Once a pilot hole is drilled from the surface down to the 2150 Level, a raise bore will drill a hole upwards towards the surface measuring approximately four (4) metres in diameter. Once complete, fresh air and electrical lines will be fed down the borehole from the 440 Bench to the underground. As seen in Photo #2, the brine tank that was staged on the 2235 Portal ramp has been moved to the 440 Bench in anticipation of use as part of the raise bore work.

Underground crews were drilling & blasting towards the 2120 Level and establishing infrastructure along the way (Photo #3). At the 2150 Level, areas were being developed that will be used for a MudWizard Mud Treatment System (used in the recirculation of underground minewater), a compressor pad (Photo #4), an electrical room and a power distribution centre. Also located in the area is the decline towards the manway on the level and the staging area where the raise bore will begin drilling towards the surface. A dewatering drift was being established at the 2155 Level and the drift will be used to access and dewater the bottom of the Misery Pit (Photo #5).

In the underground, the Inspector noted hydrocarbons were being improperly stored at the 2175 Level Escapeway (Photos #6 & #7). As a result, there were spilled hydrocarbons from one of the containers on the ground. To comply with Conditions #33 & #38 of the land use permit, all hydrocarbons must be stored within secondary containment and spills must be cleaned up and properly disposed of at approved facilities to prevent impacts to the surrounding environment.

Waste generated during the underground operations must also be sufficiently managed (Condition #23). As seen in Photo #8, empty aerosol cans were being placed in empty hydrocarbon containers at the 2175 Escapeway. Waste must be placed into properly labeled, staged and sealed containers as per Ekati Mine *Waste Management Plan*. The practice of using improper containers to manage waste streams must not occur under the Land Use Permit W2017D0004 authorization.

The Inspector noted improperly stored hydrocarbon containers (Condition #33 - Photo #9) on the ramp adjacent to the 2235 Portal that were present during the January 22nd, 2019 inspection were still in place. In addition, it appeared there were overtopped hydrocarbons on two portable heaters on the ramp (Condition #32 - Photos #10 & #11). After discussing the issues onsite with Mr. Amy, the concerns were properly addressed and follow-up photos were provided to the Inspector. As a follow-up, the Permittee has posted the Land Use Permit in visible locations so the permit is available for review by underground employees (Condition #42).

Misery Camp

The Misery Camp is fully operational and it appeared waste & sewage management practices were adequate. Waste was being properly staged & segregated onsite and site sewage lines to the sewage holding tank were intact (Photo #12). There were no spills noted from the lines of the camp storage tanks for freshwater, fire suppression water or sewage. All waste produced is disposed of at the Ekati main camp or is removed from site for disposal at approved facilities. Sewage & greywater is removed from Misery Camp and is treated at the Ekati Sewage Treatment Plant prior to its disposal. No concerns were noted regarding waste or sewage management at the Misery Camp.

Fuel & Facilities

At the Misery Camp fuel transfer stations, it appeared snow was being regularly cleared with equipment and hydrocarbon impacted snow was being cleaned up and placed into containers (Photos #13-#18). There were adequate and readily available spill response materials available at the fuel transfer stations and throughout the land use area. Only a minor amount of impacted snow was noted in the area and personnel must use secondary containment when conducting fuel transfers in the land use area (Condition #32). Fuel transfer areas must also be diligently monitored for spill and spills must be cleaned up as they occur (Condition #38).



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Date: March 19 th , 2019	Permit#: W2017D0004
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<p>Explanatory Remarks</p> <p>At the pit and camp laydowns (Photos #19-#22), it appeared there was not any major hydrocarbon staining, but the Inspector noted equipment staged behind the camp welding shop that appeared to be parked for more than two hours did not have any secondary containment structures underneath. As per Condition #37 of the permit, all equipment parked for two hours or more throughout the land use area must have secondary containment structures placed underneath. In addition, there were batteries in a snow-filled secondary containment tray at the Misery Camp equipment laydown that were exposed to the air. As per Condition #16, all waste batteries must be properly stored and managed as per the Ekati <i>Waste Management Plan</i>. No other concerns were noted during the inspection.</p> <p>Conclusion</p> <p>It is imperative that as environmental compliance issues are identified in the field, the discrepancies are being adequately addressed in a timely manner. The importance of complying with all operating conditions of LUP W2017D0004 during the Misery Underground Project cannot be over-stated, particularly the need for proper fuel handling and waste management practices. It is the expectation of the Inspector that fuel handling and waste management practices are improved upon & maintained throughout the life of the Misery Underground Project.</p>

Completed off Site
Representative's Signature

Joseph Heron
Inspector



Inspector's Signature



Photo #1 - W2017D0004 MUG Project
A look at the infrastructure along the 440 Bench that will be used for the underground operations.



Photo #2 - W2017D0004 MUG Project
This brine tank will be used during the raise bore drilling activities.

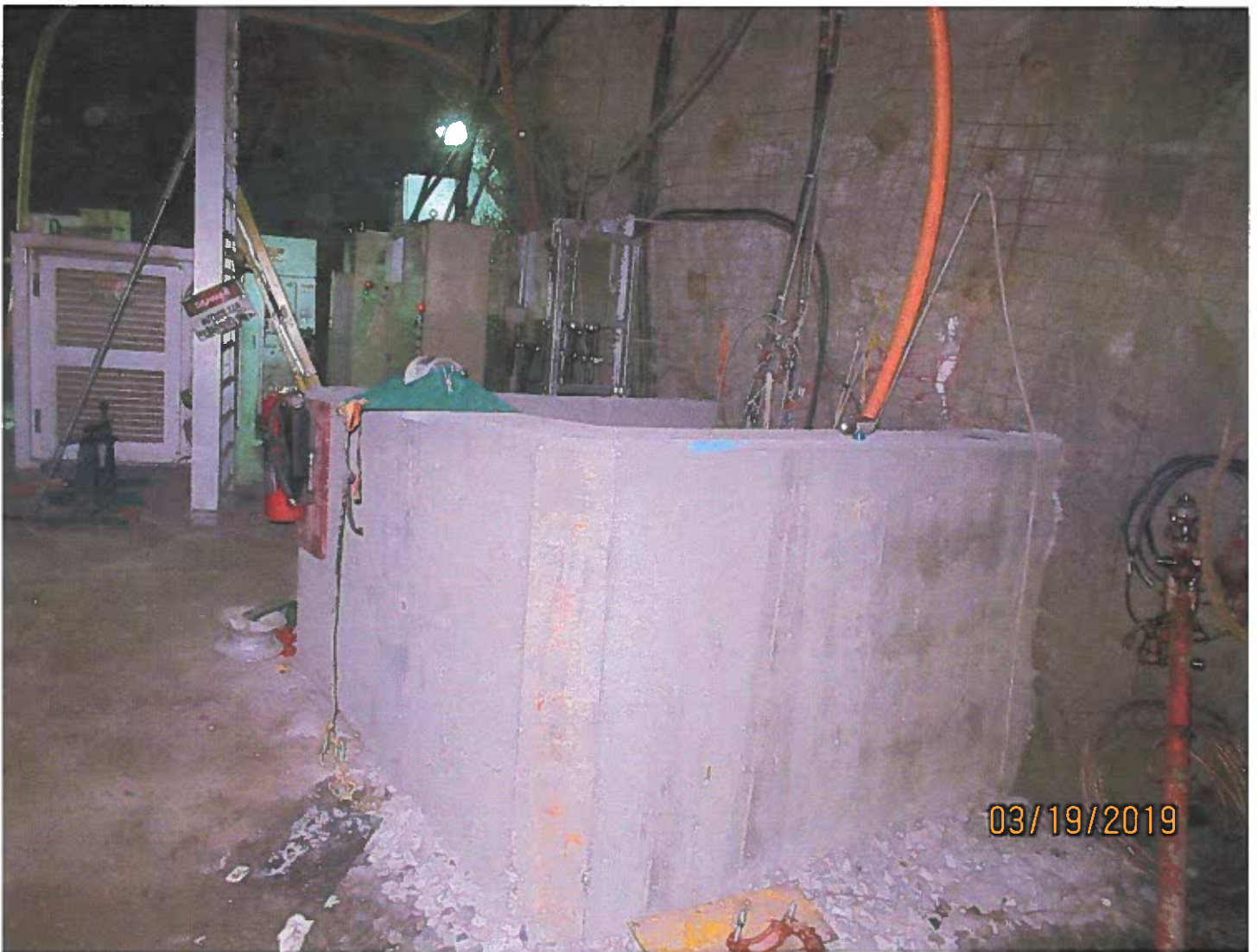


Photo #3 - W2017D0004 MUG Project
Underground infrastructure including the installation of this 4160 electrical line was ongoing.



Photo #4 - W2017D0004 MUG Project
Crews surveying the area for the compressor pad at the underground 2150 Level



Photo #5 - W2017D0004 MUG Project
Crews were establishing this dewatering drift on the 2155 Level.



Photo #6 - W2017D0004 MUG Project
Hydrocarbons were being staged out of containment on the 2175 Level.



Photo #7 - W2017D0004 MUG Project
Hydrocarbons were spilled on the ground as a result of improper storage.



Photo #8 - W2017D0004 MUG Project
Empty aerosol cans were being stored in inappropriate containers.

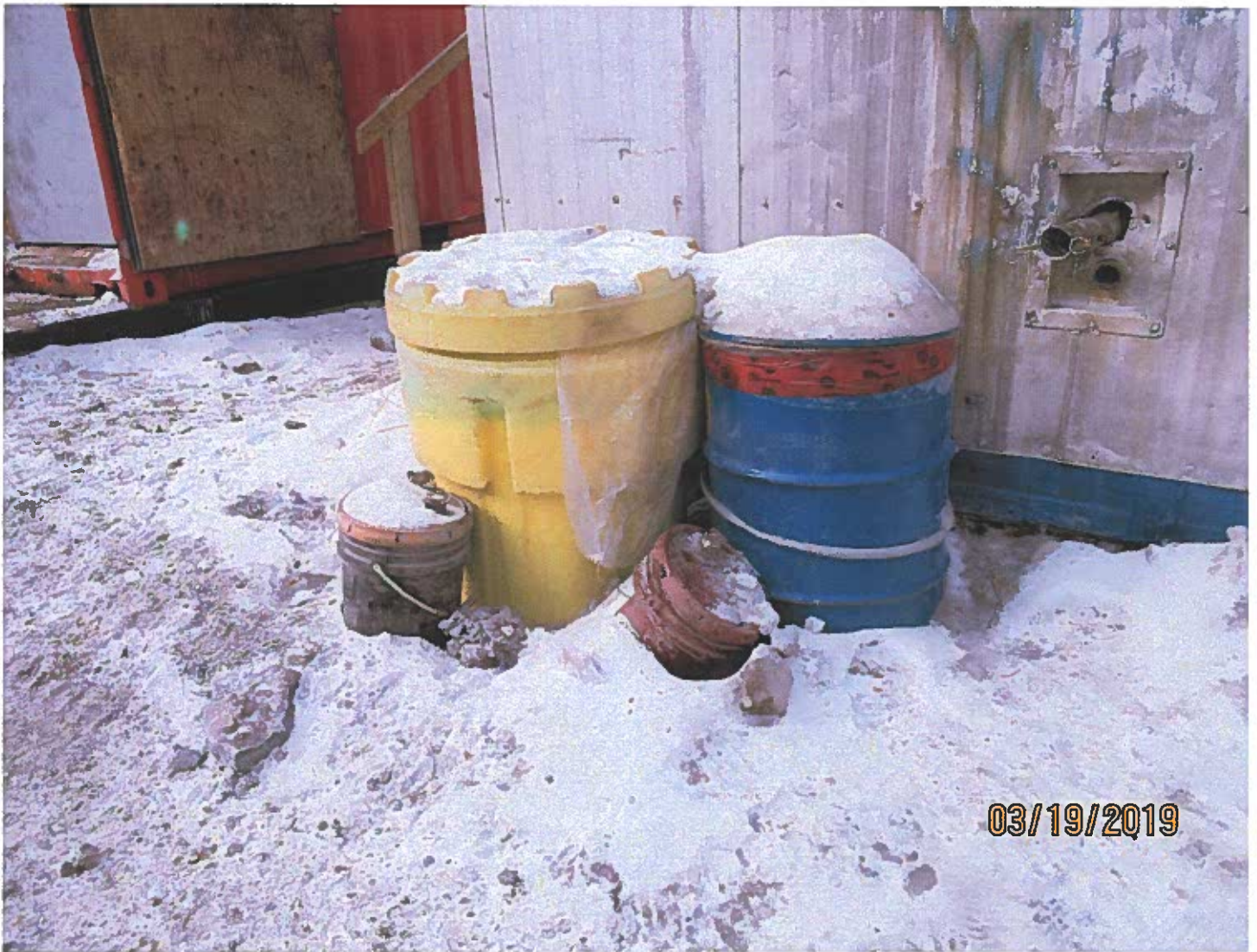


Photo #9 - W2017D0004 MUG Project

Though identified as a concern during the previous inspection, these hydrocarbon containers were still present on the 2235 ramp.



Photo #10 - W2017D0004 MUG Project

As seen in the photo, there were spilled hydrocarbons under this portable heater.

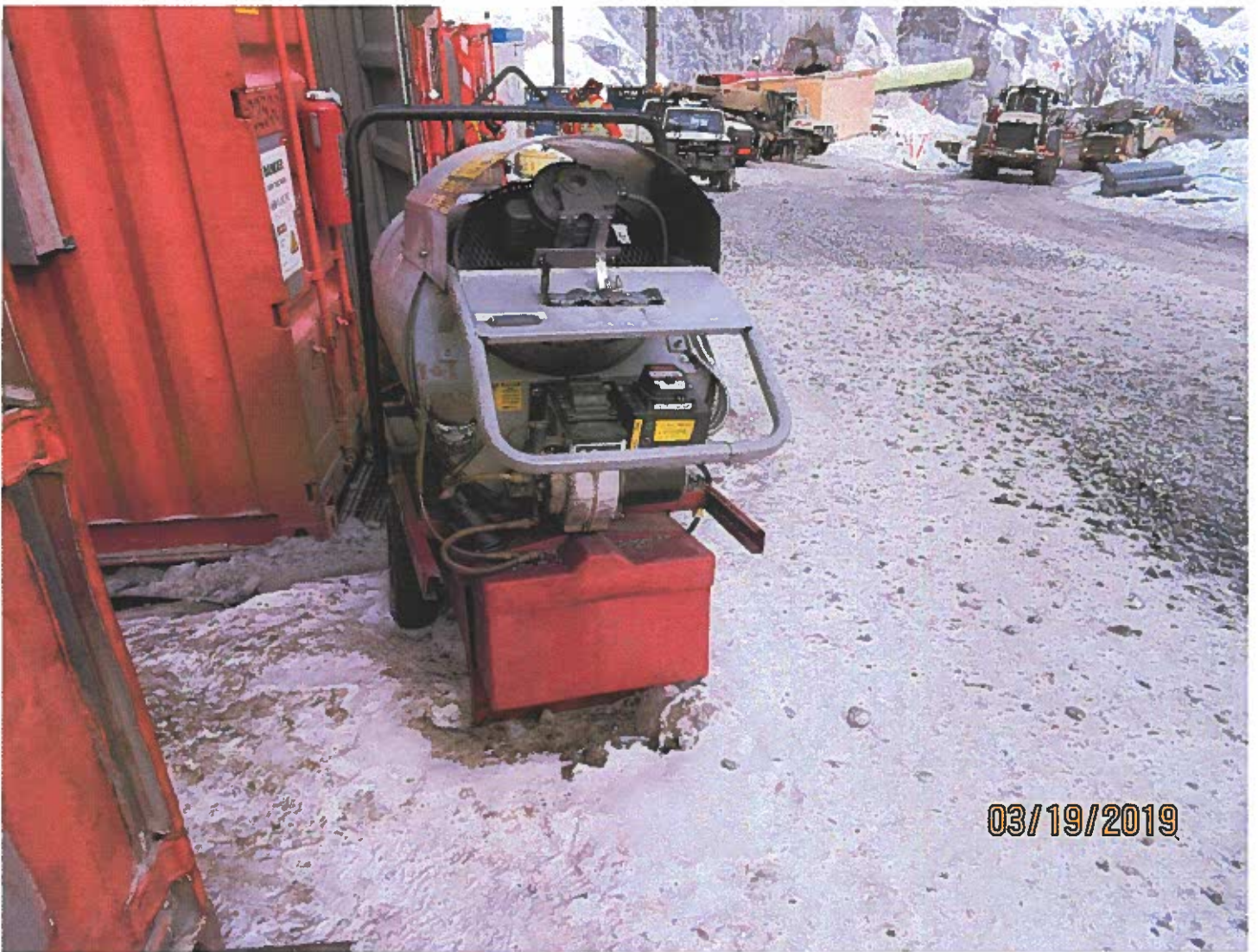


Photo #11 - W2017D0004 MUG Project
More spilled hydrocarbons under a portable heater on the 2235 Portal ramp.

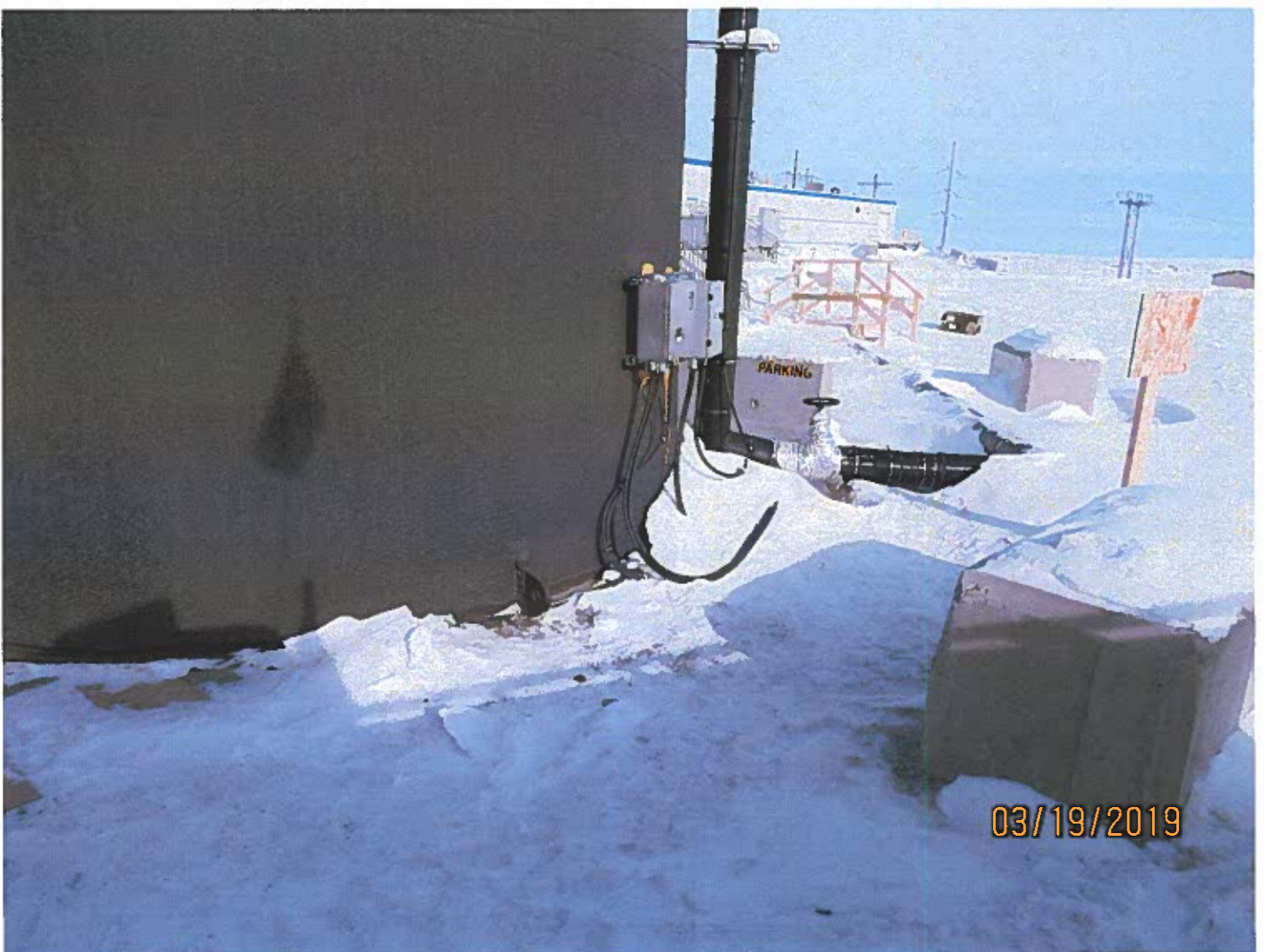


Photo #12 - W2017D0004 MUG Project
Lines at the Misery Camp sewage holding tank appeared intact.



Photo #13 - W2017D0004 MUG Project
The fuel tanks at the Misery Camp fuel transfer facility.

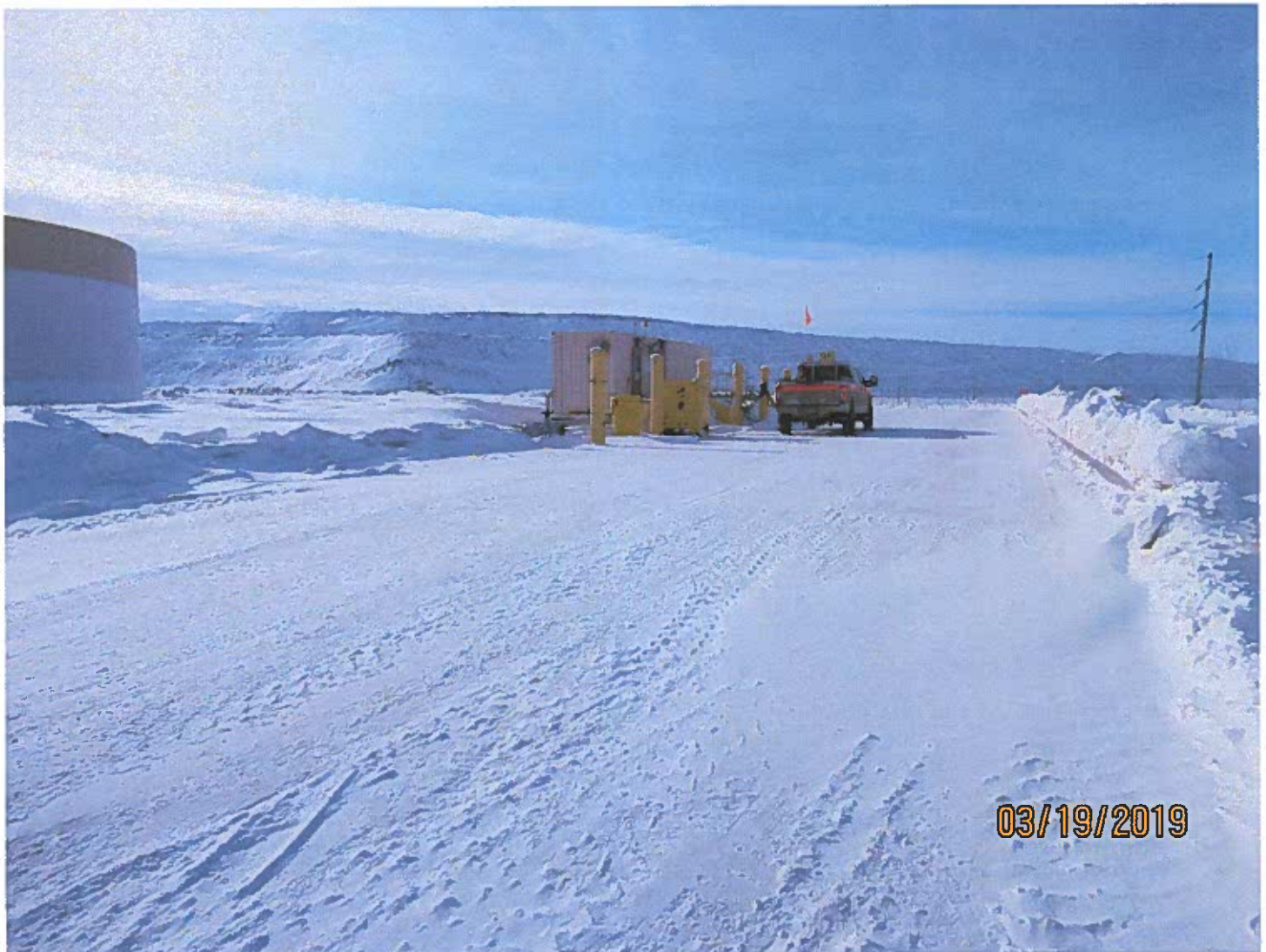


Photo #14 - W2017D0004 MUG Project
The camp bulk fuel offload station appeared to have been scraped clean with equipment.



Photo #15 - W2017D0004 MUG Project
There were readily available spill response materials at the bulk fuel transfer facility.

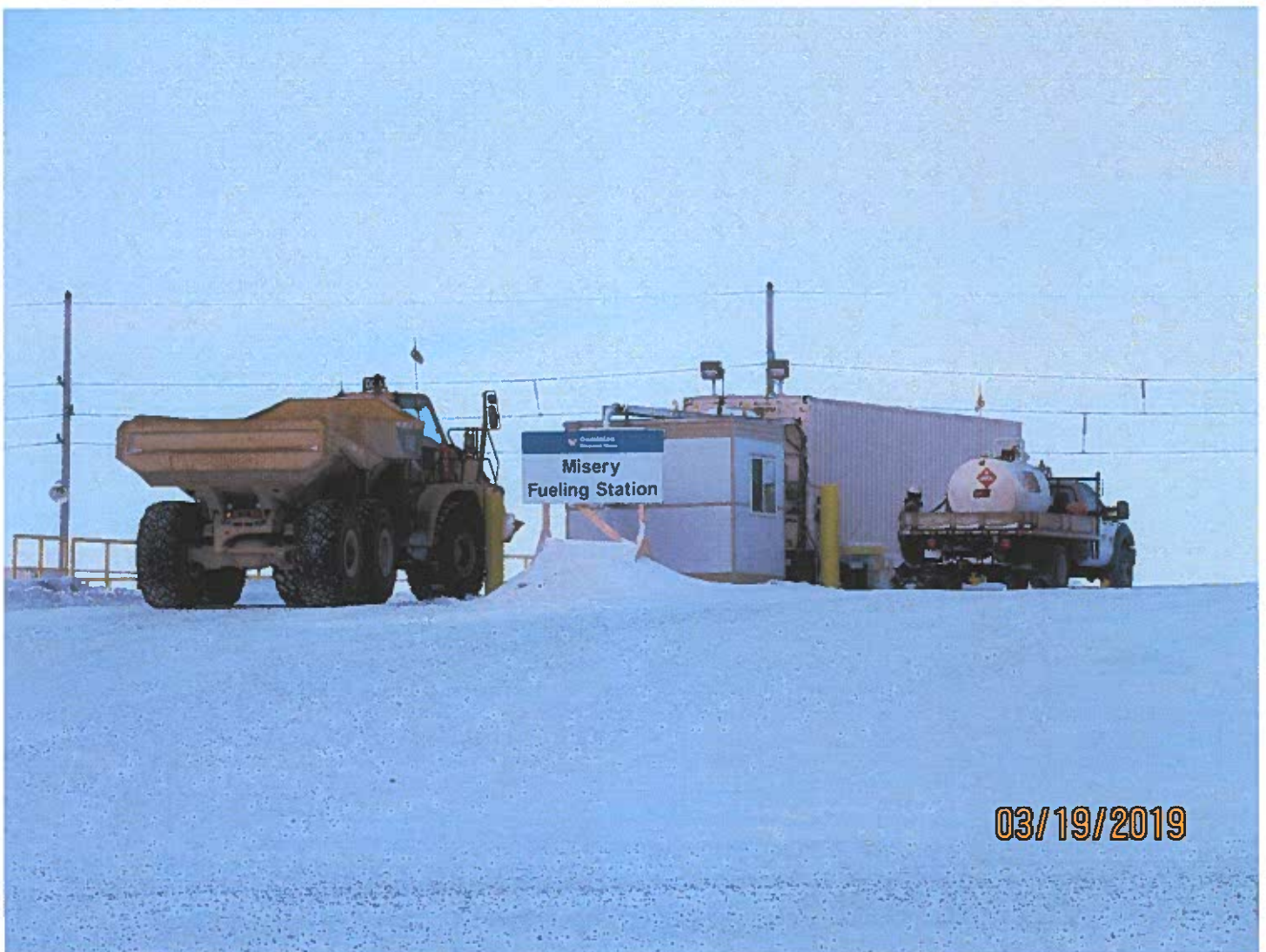


Photo #16 - W2017D0004 MUG Project
The Misery Camp fueling station.



Photo #17 - W2017D0004 MUG Project
Nozzles were in secondary containment and there were adequate clean up & response materials.

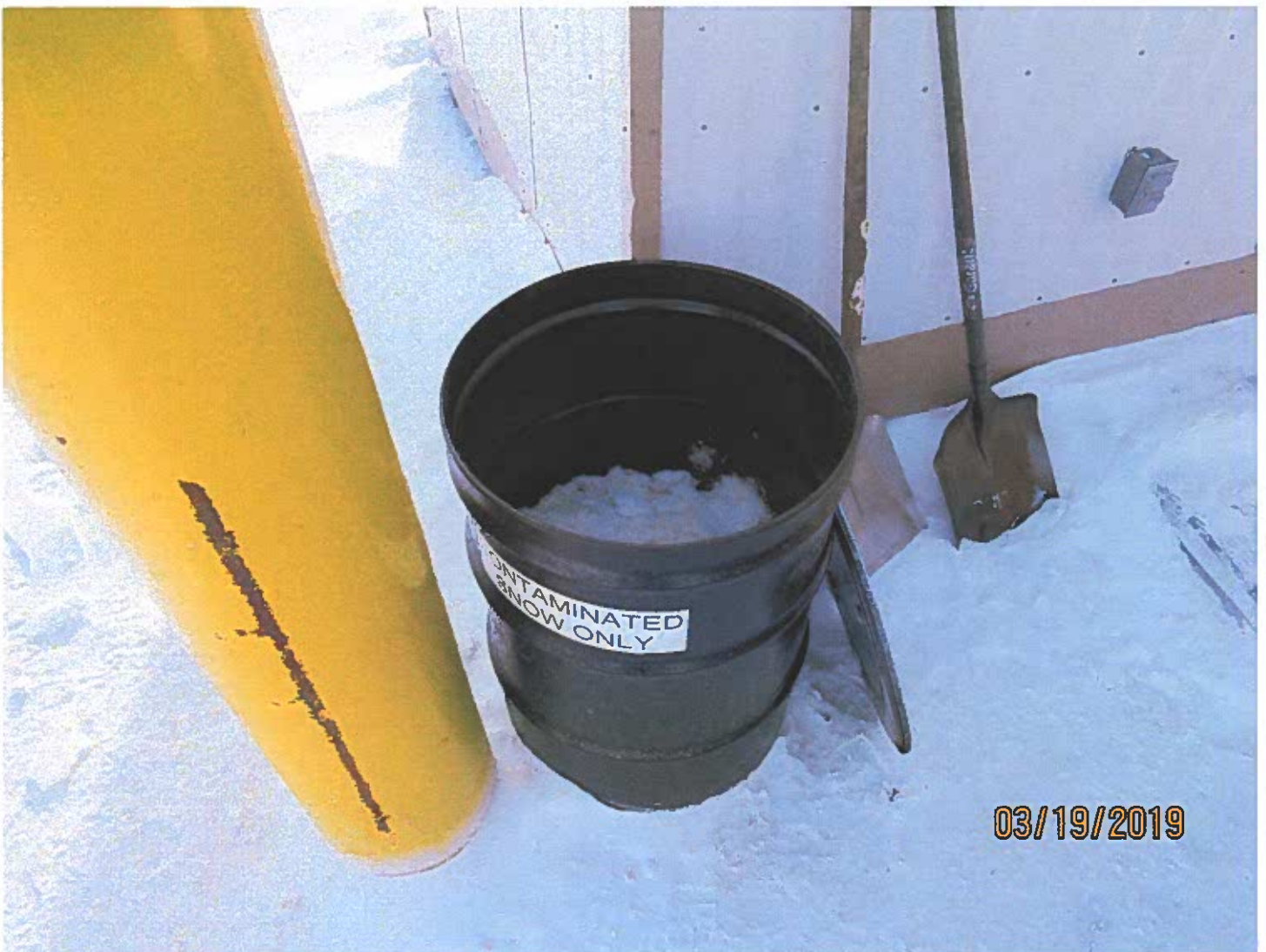


Photo #18 - W2017D0004 MUG Project
Hydrocarbon impacted snow was being cleaned up and placed in properly labeled containers.



Photo #19 - W2017D0004 MUG Project
The underground laydown at the top of the Misery Pit ramp.

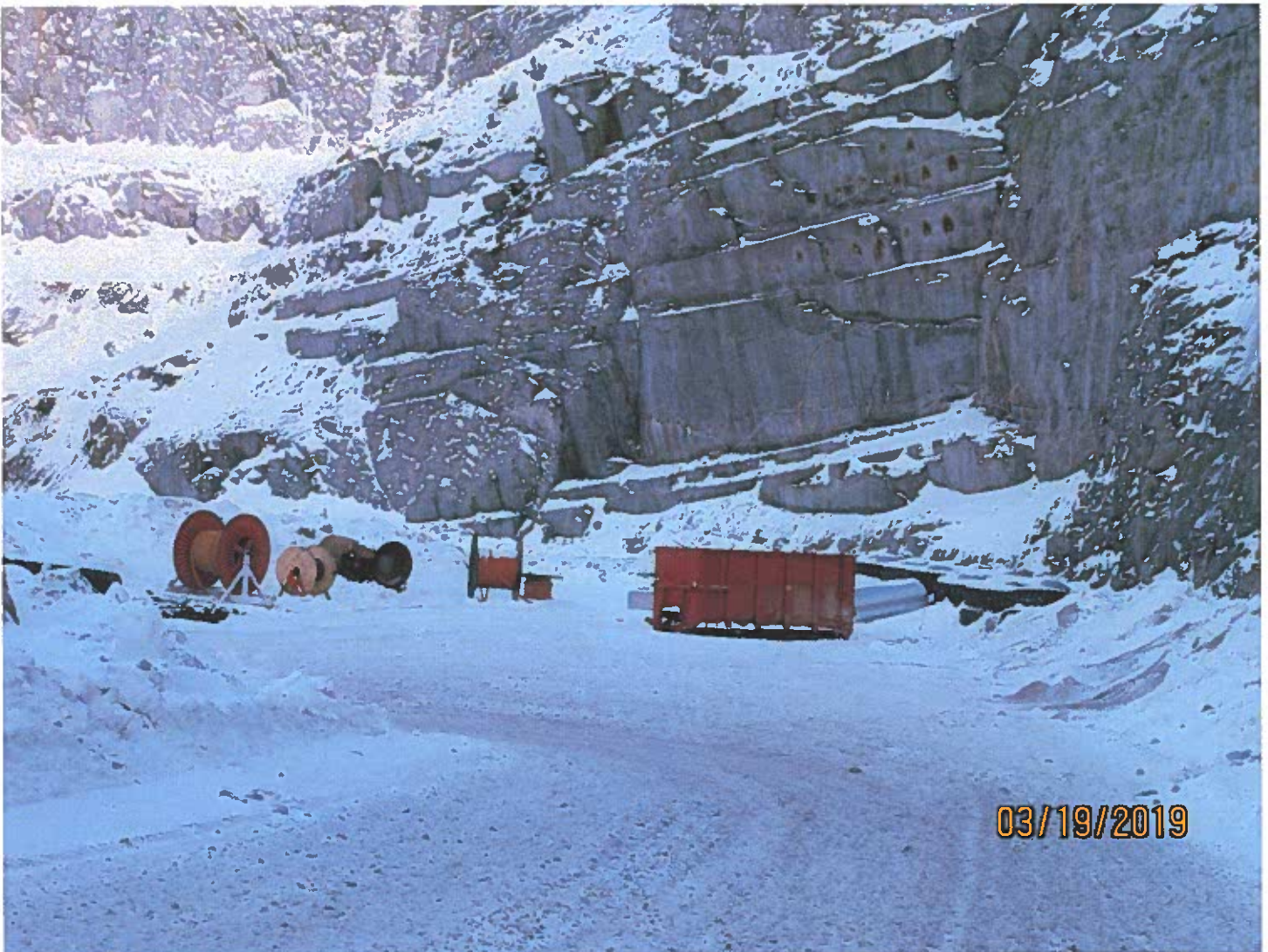


Photo #20 - W2017D0004 MUG Project
The Misery Pit swichback laydown on the ramp towards the 2235 Portal.



Photo #21 - W2017D0004 MUG Project
This laydown behind the camp welding shop appeared organized.



Photo #22 - W2017D0004 MUG Project
Equipment parked for two hours or more requires secondary containment.



Photo #23 - W2017D0004 MUG Project
The heavy equipment laydown at the Misery Camp.



Photo #24 - W2017D0004 MUG Project
These batteries were exposed to the open environment and must be properly handled.