



COLORADO

Division of Reclamation,
Mining and Safety


Department of Natural Resources

MINERALS PROGRAM INSPECTION REPORT

PHONE: (303) 866-3567

The Division of Reclamation, Mining and Safety has conducted an inspection of the mining operation noted below. This report documents observations concerning compliance with the terms of the permit and applicable rules and regulations of the Mined Land Reclamation Board.

MINE NAME: Detroit City Mine	MINE/PROSPECTING ID#: M-2017-003	MINERAL: Gemstones	COUNTY: Park
INSPECTION TYPE: Monitoring	INSPECTOR(S): Elliott R. Russell	INSP. DATE: August 29, 2019	INSP. TIME: 09:15
OPERATOR: Colorado Calumet Co., Inc.	OPERATOR REPRESENTATIVE: Graham Sutton	TYPE OF OPERATION: 110(1) - Hard Rock Limited Impact	

REASON FOR INSPECTION: Normal I&E Program	BOND CALCULATION TYPE: None	BOND AMOUNT: \$27,153.00
DATE OF COMPLAINT: NA	POST INSP. CONTACTS: None	JOINT INSP. AGENCY: None
WEATHER: Clear	INSPECTOR'S SIGNATURE: 	SIGNATURE DATE: September 20, 2019

The following inspection topics were identified as having Problems or Possible Violations. OPERATORS SHOULD READ THE FOLLOWING PAGES CAREFULLY IN ORDER TO ASSURE COMPLIANCE WITH THE TERMS OF THE PERMIT AND APPLICABLE RULES AND REGULATIONS. If a Possible Violation is indicated, you will be notified under separate cover as to when the Mined Land Reclamation Board will consider possible enforcement action.

GENERAL INSPECTION TOPICS

The following list identifies the environmental and permit parameters inspected

(AR) RECORDS----- <u>Y</u>	(FN) FINANCIAL WARRANTY----- <u>N</u>	(RD) ROADS----- <u>Y</u>
(HB) HYDROLOGIC BALANCE----- <u>Y</u>	(BG) BACKFILL & GRADING----- <u>Y</u>	(EX) EXPLOSIVES----- <u>N</u>
(PW) PROCESSING WASTE/TAILING---- <u>N</u>	(SF) PROCESSING FACILITIES----- <u>N</u>	(TS) TOPSOIL----- <u>Y</u>
(MP) GENL MINE PLAN COMPLIANCE- PB	(FW) FISH & WILDLIFE----- <u>Y</u>	(RV) REVEGETATION---- <u>N</u>
(SM) SIGNS AND MARKERS----- <u>Y</u>	(SP) STORM WATER MGT PLAN---- <u>N</u>	(RS) RECL PLAN/COMP-- <u>N</u>
(ES) OVERBURDEN/DEV. WASTE----- <u>N</u>	(SC) SEDIMENT CONTROL----- PB	(ST) STIPULATIONS----- <u>N</u>
(AT) ACID OR TOXIC MATERIALS----- <u>N</u>	(OD) OFF-SITE DAMAGE----- PV	

Y = Inspected and found in compliance / N = Not inspected / NA = Not applicable to this operation / PB = Problem cited / PV = Possible violation cited

PROBLEMS/POSSIBLE VIOLATIONS

INSPECTION TOPIC: Off-site Damage

POSSIBLE VIOLATION: Land has been affected by the mining operation outside of the approved permit boundary. This is a possible violation of C.R.S. 34-32-116(7)(h) for failure to protect areas outside of the affected land from slides or damages occurring during the mining operation.

CORRECTIVE ACTIONS: This possible violation will require a hearing before the Mined Land Reclamation Board scheduled for the October 23-24, 2019 Board meeting. The schedule and other details for the MLRB hearing will be provided under a separate document to be sent via certified mail to the Operator.

CORRECTIVE ACTION DUE DATE: October 23, 2019

INSPECTION TOPIC: Gen. Compliance With Mine Plan

COMPLIANCE PROBLEM #1: The Operator is disposing all waste rock at an off-site facility. This is a deviation of the approved mining plan. This is a problem pursuant to C.R.S. 34-32-110(2)(VII).

CORRECTIVE ACTIONS: The Operator shall submit a revision to the approved mine plan to address current operations before the corrective action due date. This revision will need to include an updated waste rock sampling plan to demonstrate the waste rock is not acid generating.

CORRECTIVE ACTION DUE DATE: October 21, 2019

INSPECTION TOPIC: Gen. Compliance With Mine Plan

COMPLIANCE PROBLEM #2: The Operation has encountered water inflows near the surface of the cross-cut which has not been immediately pressure grouted in accordance with the approved mining plan.

CORRECTIVE ACTIONS: The Operator shall pressure grout the water inflows and submit photo documentation to the Division by the corrective action due date.

CORRECTIVE ACTION DUE DATE: October 21, 2019

INSPECTION TOPIC: Gen. Compliance With Mine Plan

COMPLIANCE PROBLEM #3: The Division has not received the chain of custody documentation for the off-site disposal of waste rock associated with Technical Revision TR-01.

CORRECTIVE ACTIONS: The Operator shall submit the required documentation to the Division before the corrective action due date.

CORRECTIVE ACTION DUE DATE: October 21, 2019

INSPECTION TOPIC: Sediment Control

COMPLIANCE PROBLEM #4: The out-slope of the of the waste rock dump is awaiting for vegetation establishment, however there are no temporary measures in place to protect the slope from erosion which could result in off-site sedimentation. This is a problem pursuant to C.R.S. 34-32-116(7)(i).

CORRECTIVE ACTIONS: The operator shall implement erosion control measures on the waste rock dump and provide photo documentation to the Division by the corrective action due date.

CORRECTIVE ACTION DUE DATE: October 21, 2019

OBSERVATIONS

The inspection was conducted by Elliott Russell of the Division of Reclamation, Mining and Safety (Division) as a part of the Division's normal monitoring inspection program. Michael Cunningham, also with the Division, accompanied the inspection. Colorado Calumet Co., Inc. (Operator) was represented by Graham Sutton during the inspection.

The Detroit City Mine is an underground 110(1) Operation and is permitted at 4.99 acres of land for the extraction of mineral specimens. The site is located in Park County, approximately 3.5 miles northwest of Alma, Colorado. Affected lands will be reclaimed to support a post-mining land use of rangeland.

General Mine Plan Compliance: The site was active at the time of the inspection. The Operator stated they have completed the 450' cross-cut tunnel, developed the drift on either side of the cross-cut, and is currently stope mining. Besides a small working pad, the permitted Waste Rock Landform (WRL) has not been constructed. When the Division inquired to where the waste rock has been placed, the Operator stated that they chose not to create the WRL and have been hauling everything to the Penrose landfill. The Operator stated that since the mine has been developed, they are now only producing 2,000 – 3,000 tons of rock to account for the swell of the blasted material in the stope. This material is brought to the surface and is crushed at the portal pad, loaded onto the haul truck, and then stockpiled at the entrance for off-site haulage. As off-site disposal of all waste rock is a deviation of the approved plan, the Operator will need to revise the permit accordingly. This has been cited as Compliance Problem #1, please see page 2 of this report for more information. Please note, Technical Revision TR-01, approved on September 26, 2017, authorized the Operator to dispose 20 CY of waste rock off-site. TR-01 was submitted to address an August 7, 2017 Waste Rock Sampling Report which showed a small pyrite veinlet was encountered and had an acid-base potential at less than -20 t CaCO₃/Kton. TR-01 did not authorize all waste rock to be hauled off-site, just the amount that contained the pyrite veinlet.

Within the cross-cut tunnel, the Division observed water seeping and flowing from several fractures. This wet area is approximately 20-30 feet from the surface. A small sump has been excavated and the Operator stated the water is collected, pumped, and used for drilling. Due to the slight decline of the cross-cut, this water was not flowing out of the portal and was contained all in the sump or the adjacent areas. The approved mining plan states that if water inflows are encountered, the source of the flow would be immediately pressure grouted to completely seal the source and prevent future inflows. As grouting has yet to occur to stop the water inflow, the Division has cited this as Compliance Problem #2.

Availability Of Records: The Anniversary Date for the permit is July 17th of each year. The 2018-2019 Annual Report, Map, and Fee was accepted on July 8, 2019. The previous inspection was conducted on September 29, 2017. There are no open infractions.

Upon a file review after the inspection, the Division could not locate any chain of custody documentation for the off-site disposal of either the 20 CY of acid generating waste rock authorized under TR-01 or any of the other waste rock that has left the site since. This has been cited as Compliance Problem #3, requiring the Operator to submit all chain of custody forms for off-site disposal of waste rock.

Sediment Control: The Division inspected the working pad constructed near the entrance to the site. The out-sloping face of this pad has been recently seeded. While this area is awaiting vegetation to establish, there is a potential for erosion and sedimentation of off-site lands. This has been cited as Compliance Problem #4, requiring the Operator to establish temporary erosion control measures. This area is shown in **Photographs 3-5** with a suggested silt-fence alignment depicted by the yellow-dashed line.

Off-site Damage: The Operator depicted two disturbed areas on the 2018-2019 Annual Report Map (attached) outside of the permit boundary and labeled it as "2018 Activity: Turnaround Pad." During the inspection the Division observed these areas, which matched the area depicted on the annual report map. The larger of the two areas is near the portal where the crusher is located and the haul truck is parked. The smaller area is near the switch-back along the haul road. Both areas appear to have been created to allow more room for the mining operation. The larger off-site disturbance also contains a stormwater sump at the toe of the disturbance. The

Operator said this sump also serves as an area to pile snow to clear the working areas. The Division attempted to record GPS data on the off-site damage, but the GPS unit wasn't able to acquire enough satellites. The Division used observations made during the inspection, Google Earth, and the Operator's 2019 Annual Report Map to determine that approximately 0.3 acres have been disturbed outside of the approved permit boundary. This off-site area is depicted on **Photographs 6-8**. This has been cited as a possible violation requiring a hearing before the Mined Land Reclamation Board.

Signs and Markers: The mine identification sign was posted at the entrance of the mine site. The sign will need to include the name of the Operator in accordance with Rule 3.1.12(1). The boundary of the permit was delineated by tall rebar stakes with red plastic caps. It appeared several of the markers were not in place, however this is not cited as a compliance problem at this time as the corrective action regarding the off-site disturbance will be to expand the permit boundary whereas new markers in new locations will be required in accordance with Rule 3.1.12(2).

This concludes the Division's Inspection Report; a subset of photographs taken during the time of the inspection are included below. If you need additional information or have any questions, please contact me at Division of Reclamation, Mining and Safety, 1313 Sherman Street, Room 215, Denver, CO 80203, by telephone at **303-866-3567 x8132**, or by email at elliott.russell@state.co.us.

PHOTOGRAPHS



Photo 1. Mine identification sign; looking west.



Photo 2. Working pad area located near the site entrance; looking west.



Photo 3. Out-slope of the working pad area where BMPs are needed; looking west.



Photo 4. Out-slope of the working pad area where BMPs are needed; looking southeast.



Photo 5. Overview of the working pad area near the entrance to the site; looking northeast.



Photo 6. Overview of the mine site with permit boundary (yellow dotted line) and off-site disturbance area (red dashed line) approximated; looking east.



Photo 7. Off-site area near portal; looking southeast.



Photo 8. Off-site area near the switchback; looking south.

Inspection Contact Address

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Attachment: 2018-2019 Annual Report Map M2017003

CC: Michael Cunningham, DRMS
Ben Langenfeld, Greg Lewicki and Associates

