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: Henderson Mine	**MINE/PROSPECTING ID#:** M-1977-342	**MINERAL:** Molybdenum	**COUNTY:** Clear Creek, Grand
INSPECTION TYPE: Monitoring	**INSPECTOR(S):** Michael A. Cunningham	**INSP. DATE:** May 25, 2017	**INSP. TIME:** 09:00
OPERATOR: Climax Molybdenum Company	**OPERATOR REPRESENTATIVE:** Miguel Hamarat	**TYPE OF OPERATION:** 112d-3 - Designated Mining Operation	

REASON FOR INSPECTION: Normal I&E Program	**BOND CALCULATION TYPE:** Complete Bond	**BOND AMOUNT:** $37,993,785.00
DATE OF COMPLAINT: NA	**POST INSP. CONTACTS:** None	**JOINT INSP. AGENCY:** None
WEATHER: Clear	**INSPECTOR'S SIGNATURE:** 	**SIGNATURE DATE:** July 17, 2017

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.

INSPECTION TOPIC: Topsoil
PROBLEM/POSSIBLE VIOLATION: Problem: The topsoil stockpile located north of the tailings impoundment in Ranger Gulch does not have established vegetation or adequate protection for erosion control. This is a problem pursuant to Rule 3.1.9(1) which requires topsoil stockpiles to be vegetated or otherwise stabilized to protect from wind and water erosion.
CORRECTIVE ACTIONS: The Operator shall install appropriate BMP's around the perimeter of the topsoil stockpile by the corrective action date. Proof of compliance may be in the form of photographs.
CORRECTIVE ACTION DUE DATE: 9/18/17

OBSERVATIONS

The Henderson Mine was inspected by Michael Cunningham and Peter Hays of the Division of Reclamation, Mining and Safety (Division) as part of the Division's monitoring program. Mr. Miguel Hamarat and Ms. Amber Parmet with Climax Molybdenum - Henderson Operations (Henderson) were present during the inspection. The purpose of the inspection was to evaluate the storm water controls at the Henderson Mill.

Hydrologic Balance:
The Division and Henderson staff inspected the Ultimate Canal which intercepts storm water along the west and north sides of the tailings impoundment. Storm water collected in the Ultimate Canal reports to the Williams Fork River. The canal was receiving runoff from snow melt and was flowing at the time of the inspection. The entire above ground portion of the Ultimate Canal was inspected and was found to be well maintained and functioning as designed.

During the previous stormwater inspection conducted on November 8, 2016, the Division had observed cattails within the channel of the Ultimate Canal and had expressed concerns about the presence of cattails as it relates to the carrying capacity of the canal. The amount cattails within the Ultimate Canal appeared to be unchanged from the previous inspection. Mr. Hamarat indicated the staff hydrologist would be consulted on this matter to determine if there are any areas of concern along the Ultimate Canal with respect to cattails. The Division will follow up on this matter during the next inspection.

Following the inspection of the Ultimate Canal, the Division proceeded to inspect the outfalls located along the ore haulage system. The Division was unable to inspect the outfalls located at the Portal Lay-down Yard or the outfall (OF-M2) located along the Williams Fork River due to inclement weather which require Division staff and Henderson personnel to return to the office building.

The following is a list of outfalls which were identified as requiring maintenance or repair:

OF-M4: BMP's at this outfall location consist of rock dam. The rock dam at this outfall location had been overtopped during a runoff event. The Division observed sediment on top of and below the rock dam. The Operator will need to remove sediment from below the dam. In addition, the Operator will need to reconstruct the dam to a higher elevation to ensure it stormwater does not overtop the structure.

OF-M22: BMP's at this outfall location consist of straw wattles and a rock dam. Water was being discharged through this outfall at the time of the inspection. The Division observed water flowing over the top of the straw wattle. The Operator should replace the existing straw wattle and ensure the replaced straw wattle is at an adequate elevation to capture all discharging stormwater.

OF-M7: BMP's at this outfall location consist of straw wattles and a rock dam. Water was being discharged through this outfall at the time of the inspection. The Division observed water flowing over the top of the straw wattle. The Operator should replace the existing straw wattle and ensure the replaced straw wattle is at an adequate elevation to capture all discharging stormwater.

OF-M11: BMP's at this outfall location consist of straw wattles and a rock dam. Water was being discharged through this outfall at the time of the inspection. The Division observed sediment below the rock dam. In

addition, the straw wattle was no longer anchored in place and was located on top of the rock dam. The Operator should replace the existing straw wattle and ensure the replaced straw wattle is at an adequate elevation to capture all discharging stormwater.

PC2/PC3 Transfer Station: BMP's at the outfall location consist of a straw wattle placed immediately in front of the outfall. The ditch which receives drainage adjacent to the conveyor line should have additional BMP's in place. The Operator should consider installing silt fencing along the portion of the ditch, which is immediately adjacent to the outfall.

Topsoil:

The Division inspected two topsoil stockpiles during the course of the inspection. The first topsoil stockpile was located along the west side of the tailings impoundment. This topsoil stockpile was graded and hyrdroseed in 2016. The Division saw minimal establishment of vegetation on the portions of the stockpile which were hydroseeded. The Operator should continue to monitor this stockpile and reseed the stockpile if no further germination occurs during this growing season.

The second topsoil stockpile which was inspected was located on the north side of the tailings impoundment and was the subject of Technical Revision No. 17. The topsoil stockpile is situated within Ranger Gulch and all drainage in this area reports to OF-M29. Water was flowing through Ranger Gulch at the time of the inspection and the Division observed slightly turbid water discharging through the outfall. The topsoil stockpile did not have any BMP's around the perimeter. Under Amendment No. 6, the Operator committed to installing erosion control devices around all future topsoil stockpiles to protect the adjacent water courses. In addition, Hard Rock Rule 3.1.9 requires topsoil stockpiles to be vegetated or otherwise stabilized to protect from wind and water erosion. This matter has been cited as a problem and will require corrective action, please see the first page of this report for additional information.

PHOTOGRAPHS

1. OF-M4 (Note: sediment on slope below rock dam)

2. OF-M22 (Note: water flowing over top of straw wattle)

3. OF-M7 (Note: water flowing through straw wattle)

4. OF-M11 (Note: straw wattle located on backside of the rock dam)

5. PC2/PC3 Transfer Station (Note: additional BMP's required along ditch)

6. OF-M29 (Note: turbid water discharging through outfall)

7. Ranger Gulch Topsoil Stockpile (Note: no BMP's along perimeter)

8. Ranger Gulch Topsoil Stockpile (Note: no BMP's along perimeter)

GENERAL INSPECTION TOPICS

The following list identifies the environmental and permit parameters inspected and gives a categorical evaluation of each

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

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

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