



MINERALS PROGRAM INSPECTION REPORT
PHONE: (303) 866-3567

The Division of Reclamation, Mining and Safety 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): Peter Hays	INSP. DATE: September 10, 2020	INSP. TIME: 10:00
OPERATOR: Climax Molybdenum Company	OPERATOR REPRESENTATIVE: Aaron Hilshorst	TYPE OF OPERATION: 112d-3 - Designated Mining Operation	
REASON FOR INSPECTION: Normal I&E Program	BOND CALCULATION TYPE: None	BOND AMOUNT: \$49,690,538.00	
DATE OF COMPLAINT: NA	POST INSP. CONTACTS: None	JOINT INSP. AGENCY: None	
WEATHER: Clear	INSPECTOR'S SIGNATURE: 	SIGNATURE DATE: September 30, 2020	

GENERAL INSPECTION TOPICS

This list identifies the environmental and permit parameters inspected and gives a categorical evaluation of each. No problems or possible violations were noted during the inspection. The mine operation was found to be in full compliance with Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for the Extraction of Construction Materials and/or for Hard Rock, Metal and Designated Mining Operations. Any person engaged in any mining operation shall notify the office of any failure or imminent failure, as soon as reasonably practicable after such person has knowledge of such condition or of any impoundment, embankment, or slope that poses a reasonable potential for danger to any persons or property or to the environment; or any environmental protection facility designed to contain or control chemicals or waste which are acid or toxic-forming, as identified in the permit.

(AR) RECORDS----- <u>Y</u>	(FN) FINANCIAL WARRANTY----- <u>N</u>	(RD) ROADS----- <u>N</u>
(HB) HYDROLOGIC BALANCE----- <u>Y</u>	(BG) BACKFILL & GRADING----- <u>N</u>	(EX) EXPLOSIVES----- <u>N</u>
(PW) PROCESSING WASTE/TAILING---- <u>N</u>	(SF) PROCESSING FACILITIES----- <u>Y</u>	(TS) TOPSOIL----- <u>Y</u>
(MP) GENL MINE PLAN COMPLIANCE- <u>Y</u>	(FW) FISH & WILDLIFE----- <u>N</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) EROSION/SEDIMENTATION--- <u>Y</u>	(ST) STIPULATIONS----- <u>N</u>
(AT) ACID OR TOXIC MATERIALS----- <u>Y</u>	(OD) OFF-SITE DAMAGE----- <u>N</u>	

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

OBSERVATIONS

The Henderson Mill was inspected by Peter Hays with the Division of Reclamation, Mining and Safety (Division/DRMS) as part of the Division's monitoring inspection program. Mr. Aaron Hilshorst with Climax Molybdenum - Henderson Operations (Henderson) was present during the inspection.

The following aspects of the mill site were inspected and are discussed below:

3-Dam Buttress Project - Phase 2:

The 3-Dam Buttress Project - Phase 2 was approved by the Division under TR-32 on July 20, 2020. The second phase of the 3-Dam Buttress Project is scheduled to be constructed during the summers of 2020 and 2021. Phase 2 of the Buttress Project includes the placement of an estimated 75,520 cubic yards of buttress material, 1,000 cubic yards of rock fill and 900 cubic yards of filter material. The added buttress material will be compacted and graded to a 3H:1V slope. The buttress material will be taken from the excess tailings material on the benches of 1-Dam.

A geotechnical investigation was completed in June 2020 to verify some localized phreatic conditions at the toe of the original dam used in the original analyses. Minor modifications to the geometry of the buttress may be required based upon the findings and will be documented in the as-built drawings.

Phase 2 will not impact any existing horizontal or foundation drains. The existing piezometers impacted by Phase 2 will be extended to keep them functional through all phases of the buttress construction and will be available for monitoring during construction activities.

The placement of the rock fill at the toe of the south area of 3-Dam is complete and was observed during the inspection. The placement and compaction of the buttress material was observed on the lower face of the south area of 3-Dam during the inspection. The buttress material was delivered by haul trucks and placed with a GPS controlled dozer. The tailings material was being placed and compacted from north to south in 1 foot lifts. Compaction was achieved by the haul trucks and a sheepsfoot compactor. The buttress material is required to be compacted to 95% maximum density with a moisture content within a range of the optimal moisture. The compaction and moisture content are verified by AECOM with nuclear density tests every lift.

Approximately, three (3) feet of buttress material remained to be placed on the lower face of the south area of 3-Dam at the time of the inspection. The placement and compaction of the buttress material will continue up the face of the south area to the stepback bench and the upper face following completion of the lower face. The filter material required to be placed on the stepback bench buttress was complete and protected from erosion by a lift of buttress material. The location of the buttress for the upper face of the south area was indicated by survey lathes.

The buttress on the upper face of the north area of 3-Dam will be constructed following the completion of the south area. The lower buttress on the north area of 3-Dam was removed from the Phase 2 design based on the findings of the geotechnical investigation completed in the spring. The removal of the buttress will be noted on the as-built drawings for TR-32 according to the Operator.

MLEX-1 and MLEX-4:

Extraction wells MLEX-1 and MLEX-4 were being rehabilitated by Henderson. The pitless adaptors, pumps and PVC pipes were removed from the wells. The wells were treated with acid to eliminate iron reducing bacteria, swabbed with a brush and bailed to remove sediment in the wells. The wells will be videoed prior to reinstalling the well components. MLEX-1 will be operated on a pump rate rather than based on the water level to reduce sand being pulled through the screen into the well.

Fire Water Line Incident Repair:

On November 5, 2019, the Division received written follow-up notice of a release of process water from the fire water line from the Mill Process Water Storage Tanks to the fire water distribution and suppression systems. The repair of the fire water line near hydrant #7 was observed during the June inspection. During the repair the Operator discovered another possible leak near fire hydrant #6 located west of the first repair area. The Operator later determined two leaks were located near hydrant #6. The repair of one of the leaks located east of hydrant #6 is complete and the surface of the repair area was prepared for asphalt paving. The second leak area located south of hydrant #6 is scheduled to be repaired soon.

Photographs taken during the inspection are attached. 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 x 8124, or by email at peter.hays@state.co.us.

Inspection Contact Address

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Ec: Jared Ebert, DRMS

PHOTOGRAPHS



View of the rock fill at the toe of the south area of 3-Dam from the south end looking north



View of the rock fill at the toe of the south area of 3-Dam from the north end looking south



View of the placement and compaction of buttress material on the lower face of the south area of 3-Dam



View of the stepback bench on the south area of 3-Dam, filter material placed and covered with buttress material



View of the upper face on the south area of 3-Dam, stakes indicate toe of buttress material placement for Phase 2



View of MLEX-1 during rehabilitation



View of MLEX-4 during rehabilitation



View of fire water repair area located east of hydrant #6