




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.

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| MINE NAME: Henderson Mine | MINE/PROSPECTING ID#: M-1977-342 | MINERAL: Molybdenum | COUNTY: Clear Creek, Grand |
| INSPECTION TYPE: Monitoring | INSPECTOR(S): Peter S. Hays | INSP. DATE: September 18, 2019 | INSP. TIME: 09:00 |
| OPERATOR: Climax Molybdenum Company | OPERATOR REPRESENTATIVE: Aaron Hilshorst | TYPE OF OPERATION: 112d-3 - Designated Mining Operation | |
| REASON FOR INSPECTION: Memo Of Understanding | BOND CALCULATION TYPE: None | 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: September 25, 2019 | |

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.

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| (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>N</u> | (EX) EXPLOSIVES----- <u>N</u> |
| (PW) PROCESSING WASTE/TAILING---- <u>Y</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>Y</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 and Stephanie Mitchell 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.

Tailings Impoundment

The 1-Dam and 3-Dam Tailings Impoundments were inspected with a Henderson staff engineer, Mr. Ron Hickman. The inspection followed the general guidelines of the Henderson Mill Tailings Storage Facilities Monthly Inspection Report form.

The following aspects of the 1-Dam and 3-Dam Tailings Impoundments were observed and discussed during the inspection; Dam Crests, Downstream Faces, Beaches and Dam Toe/Abutments. The dam crests were observed for crest condition, settlement, cracking, other signs of movement, tailings delivery line and instrumentation readings. The downstream faces were observed for dam condition, settlement, cracking, erosion, other signs of movements and vegetation growth. The beaches were observed for beach condition, estimated beach width, freeboard, signs of movement, deposition, and beach erosion. The dam toes and abutments were observed for toe condition, signs of movement, abutment condition, seepage condition and drain condition.

The Seepage Collection System was observed for amount of seepage flow, diversion of seepage, seepage water properties and seepage pond condition.

The impoundment water pool location is estimated by Henderson based on monuments located in the impoundment. A minimum 500 feet beach offset from the crest of the impoundment is required by AECOM. A minimum 1,000 feet offset is required by Henderson. The beach distance was reported at a 2,800 feet during the inspection.

Tailings deposition via spigot in the 3-Dam cells is scheduled for later this year and will consist of one deposition. Tailings deposition via spigot in the 1-Dam cells is progressing from south to north. Tailings deposition was observed in cells 6 and 7 during the inspection. Cells 8 and 9 were prepared for deposition and were observed during the inspection.

Henderson stated three (3) additional horizontal drains would be installed this year. The foundation drains under the impoundments were discussed and several of the active drains were observed during the inspection.

3-Dam Buttress Project – TR-29

The 3-Dam Buttress – Stage 1 project approved under TR-29 by the Division on April 4, 2018 is complete. All buttress material is placed and instrumentation including two (2) piezometers and two (2) inclinometers were installed. The surface of the buttress was sprayed with Coherex to prevent wind erosion. The Operator will survey the buttress and produce as-built drawings as required by Rule 7.3.1. The design for Phase 2 of the buttress project is expected to occur over the winter with construction of the Phase 2 occurring next summer.

1-Dam Seep Water Project – TR-30

The 1-Dam Seep Water Collection and Return System Improvements project approved under TR-30 by the Division on November 1, 2018 was observed during the inspection. The culvert extensions, gate operation electronics raises and installing new communications cabling for the gate controls were completed last year. Material was being placed on the north portion of the road before the junction with the north feeder channel access road. The material was delivered by haul truck, graded with a tracked dozer and compacted with a sheepsfoot compactor. The backfill material will be covered by eight (8) inches of road base to construct the road surface. The northern portion of the seep road will accommodate 2-way traffic with the remainder of the seep road south of the north feeder channel accommodating 1-way traffic.

3-Dam Seepwater Return Line Clean-Out Port Project – TR-31

The 3-Dam Seepwater Return Line Clean-out Port project approved under TR-31 by the Division on July 10, 2019 was observed during the inspection. The 3-Dam Seepwater pipelines consist of two (2) 10 inch diameter HDPE lines, one (1) primary and one (1) backup. The project was on-going during the inspection. The project was delayed due to the amount of sediment in the line requiring additional flushing and cleaning of the lines than anticipated by the Operator. All six (6) of the new ports were plumbed into the existing lines with molded tees. The fusing of the southernmost riser for the primary line was observed during the inspection. The Operator stated the primary line would be pressure tested soon. The fusing of the risers for the backup line will follow and the excavations will be backfilled once the pressure tests are complete. Bollards will be installed adjacent to the clean-out port for protection.

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: Michael Cunningham, DRMS
Stephanie Mitchell, DRMS

PHOTOGRAPHS



View of the complete 3-Dam buttress – Phase 1 from the southwest corner of the buttress looking northwest



View of the complete 3-Dam buttress – Phase 1 from the southeast corner of the buttress looking northeast



View of tailing deposition in 1-Dam Cell 6 looking south



View of prepared 1-Dam Cell 8 looking south



View of fill material on the southern portion of the 1-Dam seep road



View of 1-Dam horizontal drains looking north



View of the north 3-Dam Seepwater additional clean-out port



View of the middle 3-Dam Seepwater additional clean-out port



View of the south 3-Dam Seepwater additional clean-out port