




**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.

<b>MINE NAME:</b> Henderson Mine	<b>MINE/PROSPECTING ID#:</b> M-1977-342	<b>MINERAL:</b> Molybdenum	<b>COUNTY:</b> Clear Creek, Grand
<b>INSPECTION TYPE:</b> Monitoring	<b>INSPECTOR(S):</b> Stephanie J. Mitchell	<b>INSP. DATE:</b> June 12, 2019	<b>INSP. TIME:</b> 09:00
<b>OPERATOR:</b> Climax Molybdenum Company	<b>OPERATOR REPRESENTATIVE:</b> Aaron Hilshorst	<b>TYPE OF OPERATION:</b> 112d-3 - Designated Mining Operation	
<b>REASON FOR INSPECTION:</b> Normal I&E Program	<b>BOND CALCULATION TYPE:</b> Partial Bond	<b>BOND AMOUNT:</b> \$37,993,785.00	
<b>DATE OF COMPLAINT:</b> NA	<b>POST INSP. CONTACTS:</b> None	<b>JOINT INSP. AGENCY:</b> None	
<b>WEATHER:</b> Clear	<b>INSPECTOR'S SIGNATURE:</b> 	<b>SIGNATURE DATE:</b> July 22, 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.

(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>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>Y</u>	(RV) REVEGETATION---- <u>Y</u>
(SM) SIGNS AND MARKERS----- <u>Y</u>	(SP) STORM WATER MGT PLAN---- <u>N</u>	(RS) RECL PLAN/COMP-- <u>Y</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 and found in compliance / 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 and Ms. Amber Parmet with Climax Molybdenum - Henderson Operations (Henderson) were present during the inspection.

Henderson is in the process of revising the EPP to update the storage capacities listed in the plan and include the lime slaker into the plan. The following items require updated tank capacities; the pine oil tank is listed in the EPP at 14,000 gallons should be 32,000 gallons, the syntax storage tanks are listed at 5,700 and 13,200 gallons for the mixing and storage tanks, respectively should be listed at 17,000 and 32,000, respectively and the 21,800 gallon mixed Nokes reagent tank was not labeled. Henderson is in the process of evaluating the removal of the existing Nokes and Hydrochloric Acid storage facilities due to the possible removal of the leach circuit and due to improved flotation processes.

### **3-Dam Seep Collection System:**

Henderson submitted a technical revision (TR-31) on July 2, 2019 to revise the existing 3-Dam Seepwater Collection System to add three (3) additional cleanouts. This was approved on July 10, 2019 by the Division.

### **Fire Hydrant Leak:**

The fire hydrant leak reported by Henderson on November 2, 2018 and was repaired this spring. Staff inspected the fire hydrant and it appears to be functioning properly.

### **East Branch Dam:**

On April 9, 2019, Henderson staff informed the Division of a sink hole along the left abutment of the East Branch Dam. Henderson excavated the area to locate the pipe. Appropriate notice and permits were received from Grand County to operate in County Road 3 and the pipe was replaced. The area was regraded and was not seeded. The Division recommends seeding and mulching the area that was excavated and regraded to reduce erosion.

### **1-Dam Seep Water Project:**

The 1-Dam Seep Water Collection and Return System Improvements project approved under TR-30 by the Division on November 1, 2018 is scheduled to be completed this year with the completion of the road raise.

### **MLEX-5:**

Repairs are being made, although groundwater is surfacing and the crews working on repair are having problems keeping the area dry. There is a leak in an unknown location and will be repaired when water levels go down or the water will be pumped out.

### **Road Raise Project:**

Preparations for road raise include topsoil stockpiled or pushed out of the way.

### **3-Dam Buttress Project:**

The 3-Dam Buttress – Stage 1 project approved under TR-29 by the Division on April 4, 2018 is ongoing. 11,000 cubic yards of buttress material have been placed so far. Crews are using a sheep's foot roller for

compaction instead of a smooth flat roller. At the toe of the slope there is a pipe with erosional issues forming. The pipe will be extended at the toe of slope when the next lift is placed. Coherix is being used to keep the dust levels down.

**Stormwater Control Structures:**

The following stormwater control structures were inspected:

OF M-24: working properly, will need some maintaining in the future

OF M-31: working properly

OF M-23: working properly

OF M-19: working properly

OF M-21: working properly

OF M-25: this outfall does not appear to be working properly

OF M-4: this outfall needs to be maintained/cleaned out

OF M-20: working properly

OF M-5: working properly

OF M-22, OF M-10, OF M-16, OF M-9, OF M-15, OF M-7, OF M-12, OF M30 and OF M-3: all working properly

OF M-11: The Division recommends placing more rock in this outfall

Photographs taken during the inspection are attached.



## PHOTOGRAPHS



East Branch Dam Repair



3 Dam Buttress Project area



East Branch Dam Repair



3 Dam Buttress Project



MLEX -5 Repair water hindering repair





Road Raise topsoil berms



OF M-23



Outfall M-24



OF M-19



OF M-31



OF M-21





OF M-4



OF M-22



OF M-20



OF M-10



OF M-5



OF M-16





OF M-15



OF M-12



OF M-11



OF M-30



OF M-7

**Inspection Contact Address**

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