


**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): Peter S. Hays	INSP. DATE: June 20, 2018	INSP. TIME: 09:00
OPERATOR: Climax Molybdenum Company	OPERATOR REPRESENTATIVE: Miguel Hamarat, Alex Ungers	TYPE OF OPERATION: 112d-3 - Designated Mining Operation	
REASON FOR INSPECTION: Normal I&E Program	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: June 26, 2018	

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>N</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>N</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>N</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 Mine 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. Miguel Hamarat and Mr. Alex Ungers with Climax Molybdenum - Henderson Operations (Henderson) were present during the inspection. The purpose of the inspection was to observe the environmental protection facilities (EPFs), surface water monitoring locations and groundwater compliance monitoring wells located at the mine facility.

The Henderson Mine facilities are constructed primarily on waste rock from the development of the mine and include approximately 121 acres of disturbance. The disturbance at the Henderson Mine is fairly static and all potential sources of pollution have been well documented. The surface water features at the mine include Butler Gulch which flows through the affected area, the West Fork of Clear Creek which flows along the northern permit boundary and No Name Gulch which is diverted around the south and east sides of the affected area.

Surface and groundwater compliance points, CC-10, CC-30, BG-20 and MNGW-1 were observed. The surface water locations were not indicated by signage, but were locatable based on the monitoring locations map. The Operator reported no apparent trends or anomalies were observed in 2017 in the Annual Water Monitoring Report dated May 24, 2018. Tabular data for the surface water compliance points was provided in the report.

The Operator reported the most recent NPL exceedance at MNGW-1 with a 6.3 pH value on May 22, 2018 and a 6.3 pH value on June 4, 2018. These values exceed the numeric protection limit (NPL) of 6.5-8.5. The Operator will continue to sample the compliance well in accordance with the approved Groundwater Management Plan.

Mine EPF 1.1 – Mine Water System diverts a portion of the mine water from the underground workings to the URAD Mine for treatment via 12" and 14" HDPE pipelines. The pipelines are estimated to be 2.5 miles long and appeared to be working as designed and in accordance with the approved as-built drawings. The lines are cleaned weekly, alternating lines, with "pigs" which are pushed through the lines with pressure from a surge tank to scour and reduce scaling in the pipes. The surge tank and pig house were observed during the inspection. Henderson is preparing an amendment to incorporate the URAD water treatment plant and pipelines into the permit.

Mine EPF 1.2 is utilized for stormwater control at the site. As reported in last year's inspection of the facility, the fence surrounding the facility needs repair. The Pond 1.2 liner, inlet and outlet appear to be working as designed and in accordance with the approved as-built drawings.

Inspection Contact Address

Miguel Hamarat
Climax Molybdenum Company
19302 County Rd. #3
Parshall, CO 80468

Ec: Michael Cunningham, DRMS
Stephanie Mitchell, DRMS

PHOTOGRAPHS



EPF 1.2 Pond from NW corner looking SE



View of BG-20 location



Surge Tank



EPF 1.1 pipelines in pig pit



View of CC-10 location



View of CC-30 location