



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: July 19, 2016	INSP. TIME: 09:30
OPERATOR: Climax Molybdenum Company	OPERATOR REPRESENTATIVE: Tim Haynes, Geoff Nigler	TYPE OF OPERATION: 112d-3 - Designated Mining Operation	
REASON FOR INSPECTION: Normal I&E Program	BOND CALCULATION TYPE: None	BOND AMOUNT: \$35,084,835.00	
DATE OF COMPLAINT: NA	POST INSP. CONTACTS: None	JOINT INSP. AGENCY: None	
WEATHER: Clear	INSPECTOR'S SIGNATURE: 	SIGNATURE DATE: August 16, 2016	

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>N</u>	(SF) PROCESSING FACILITIES----- <u>N</u>	(TS) TOPSOIL----- <u>N</u>
(MP) GENL MINE PLAN COMPLIANCE- <u>N</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>	(CI) COMPLETE INSP---- <u>N</u>
(ES) OVERBURDEN/DEV. WASTE----- <u>N</u>	(SC) EROSION/SEDIMENTATION--- <u>N</u>	(RS) RECL PLAN/COMP-- <u>N</u>
(AT) ACID OR TOXIC MATERIALS----- <u>N</u>	(OD) OFF-SITE DAMAGE----- <u>N</u>	(ST) STIPULATIONS----- <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 Tyler O'Donnell with the Division of Reclamation, Mining and Safety (Division/DRMS) as part of the Division's monitoring inspection program. Mr. Tim Haynes and Mr. Geoff Nigler with Climax Molybdenum - Henderson Operations (Henderson) were present during the inspection.

The purpose of the inspection was to accompany Mr. Nigler on the monthly Tailings Impoundment inspection. The Division was provided with a copy of the Freeport-McMoRan Monthly Inspection Report sheet. The following aspects of the 3-Dam and 1-Dam Tailings Impoundments were observed and discussed during the inspection; the condition of the crest, the downstream condition and the beach condition. The crest was inspected for overall condition, settlement, cracking, other signs of movement, tailings delivery line and instrumentation readings. The downstream condition was inspected for overall condition, settlement, cracking, diversion, erosion, other signs of movements and vegetation growth. The beach condition was inspected for overall condition, estimated beach width, estimated freeboard, signs of movement, tailings beach condition and beach erosion. The TDL tower were recently repaired to add reinforcing bands at the seams and the inlet junctions were patched. The impoundment water pool location is estimated based on monuments located in the impoundment. A minimum 500' beach offset from the crest of the impoundment is required by AECOM. A minimum 1,000' offset is required by the Operator. A 2,500' offset was estimated during the inspection.

The tailings delivery system was observed for spigot deposition and the general condition of the delivery pipeline. The number of spigot is based on the CFS of material delivered by the TDL.

The seepage collection system was observed for the amount of seepage flow, seepage diversion, seep water properties and the condition of the seepage collection area. Portions of the toes of the 1-Dam and 3-Dam impoundments were observed to evaluate the seepage collection system. The toe drains which vary in length from 250' to 650' were observed for estimated flow rate. The location of the phreatic water level at the toe of the impoundments was also observed. The foundation drains under the impoundments were discussed and several of the active drains were observed.

The return water system was observed to verify the pond elevation and the pumping flow rate. The Ultimate Canal was inspected from north to south at the conclusion of the inspection. A study of the Ultimate Canal was performed by the Operator last year. The results of the study determined several areas of the canal, while working as design, should be improved for future use of the canal.

Photographs taken during the inspection are attached.

Inspection Contact Address

Mr. Miguel Hamarat
Climax Molybdenum Company
P.O. Box 68
Empire, CO 80438

Ec: Wally Erickson, DRMS
Michael Cunningham, DRMS
Stephanie Mitchell, DRMS

PHOTOGRAPHS



Cell 1 of 1-Dam looking north



Cell 2 of 1-Dam looking north



Typical deposition in Cell 2 of 1-Dam



Cell 3 of 1-Dam looking north



Cell 4 of 1-Dam looking northwest



Leadoff between Cells 3 and 4 of 1-Dam looking west



Current upper tailing impoundment road looking south



Face of 1-Dam from north end



Typ. Horizontal drain in toe of 1-Dam



Toe ditch and horizontal drains at toe of 1-Dam



Toe ditch and horizontal drains at toe of 1-Dam



Toe of 3-Dam step looking south at piezometers