



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: August 31, 2017	INSP. TIME: 09:00
OPERATOR: Climax Molybdenum Company	OPERATOR REPRESENTATIVE: Brandon Guite	TYPE OF OPERATION: 112d-3 - Designated Mining Operation	
REASON FOR INSPECTION: Normal I&E Program	BOND CALCULATION TYPE: Partial Bond	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 11, 2017	

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>N</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>	(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 Stephanie Mitchell with the Division of Reclamation, Mining and Safety (Division/DRMS) as part of the Division's monitoring inspection program. Mr. Brandon Guite with Climax Molybdenum - Henderson Operations (Henderson) was present during the inspection.

The purpose of the inspection was to inspect the tailings impoundments at the Mill site. The inspection was conducted in accordance with the Henderson monthly tailings impoundment inspection procedure. The Division was provided with copies 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 impoundment water pool location is estimated based on monuments located in the impoundment. A minimum 500' beach offset from the crest of the impoundment with one-half foot ($\frac{1}{2}$) of freeboard is required by AECOM. A minimum 1,000' offset is required by the Operator. A 2,400' offset was estimated during the inspection.

The tailings delivery system was not operational during the inspection due to a schedule mill shutdown. The tailings impoundment beach was profiled by Henderson by excavating ten (10) holes through the annual tailings deposition perpendicular and horizontal to the crest of the impoundment. Samples were collected from the holes and lab testing including; gradation, moisture content and density were conducted.

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. Henderson has identified several areas requiring additional horizontal drains. The areas were prepared for drilling with the construction of temporary drill pads. Installation of the new horizontal drains in 3-Dam were observed during the inspection. 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 annual seepage collection ditch cleanout is scheduled for this fall. The sand boil repair and the expanded rock channel along the south groin of 1-Dam were observed during the inspection.

The 3-Dam embankment regrading project is complete and the piezometer elevations are reset to the new embankment elevation. Henderson stated as-built drawings and engineer certification for the project, as required by Rule 7.3.2, are being prepared for submittal to the Division.

Photographs taken during the inspection are attached.

PHOTOGRAPHS



View of deposition cell between leadoffs 5 and 6 on 1-Dam looking southwest



View of deposition cell between leadoffs 6 and 7 on 1-Dam looking north



View of tailings impoundment from the north end looking south



View of horizontal drain drilling pad in 1-Dam



View of seepage collection ditch below 1-Dam looking south



View of rock lined channel in the south groin of 1-Dam looking southwest



View of rock lined channel in the south groin of 1-Dam looking north



View of south setback bench on the 3 Dam embankment



View of the completed 3-Dam embankment regrading work looking north
with horizontal drain installation at toe



View of the completed 3-Dam embankment regrading work looking south



View of north setback bench on the 3 Dam embankment

Inspection Contact Address

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