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 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 Hays	**INSP. DATE:** June 17, 2020	**INSP. TIME:** 09:00
OPERATOR: Climax Molybdenum Company	**OPERATOR REPRESENTATIVE:** Aaron Hilshorst	**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:** July 7, 2020

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---------- Y	(FN) FINANCIAL WARRANTY-------- NA	(RD) ROADS---------- Y
(HB) HYDROLOGIC BALANCE---------- Y	(BG) BACKFILL & GRADING---------- N	(EX) EXPLOSIVES--------- N
(PW) PROCESSING WASTE/TAILING---- N	(SF) PROCESSING FACILITIES------- Y	(TS) TOPSOIL---------- Y
(MP) GENL MINE PLAN COMPLIANCE- Y	(FW) FISH & WILDLIFE---------- N	(RV) REVEGETATION---- N
(SM) SIGNS AND MARKERS---------- Y	(SP) STORM WATER MGT PLAN---- N	(RS) RECL PLAN/COMP-- N
(ES) OVERBURDEN/DEV. WASTE--------- N	(SC) EROSION/SEDIMENTATION--- Y	(ST) STIPULATIONS------- N
(AT) ACID OR TOXIC MATERIALS------- N	(OD) OFF-SITE DAMAGE----------N	

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 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. The purpose of the inspection was to observe the process water and potable water environmental protection facilities (EPFs) and non-EPFs located at the mill property to store and transport waters.

The Henderson Mill employs a zero discharge process water circuit according to the approved Environmental Protection Plan (EPP). There is no active discharge of process waters, although the CDPS Permit allows for the discharge of process waters under certain emergency conditions identified in the permit. The water management system includes the following components; the East Branch Reservoir System, the Milling system and the Tailings Storage Facility. Components of the process water and potable water management systems were inspected as discussed below.

East Branch Reservoir System – EPF 1.1
The East Branch Reservoir System includes the reservoir, dam, pump station and process water line. The reservoir is the primary storage area for mill process water. Recycled process water is delivered from the barge pump to the reservoir. An outlet pipe from the reservoir connects to the pump station. The process water is pumped from the East Branch Pumphouse to the process water storage tanks for use in the Mill.

The East Branch Pumphouse also pumps water pumps water from the Ute Creek Reservoir to the 2 potable water storage tanks. The water is treated in the plant located in the Mill building prior to use in the facility.

Mill Process Water Storage Tanks – Mill EPF 1.2
The Mill Process Water Storage Tanks includes two 1 million gallon tanks which are located east and upgradient of the mill building. The capacity of the tanks is incorrectly identified in the current EPP as 1.5 million gallons each. The capacity of the tanks will be corrected in the pending revised EPP by the Operator.

Tailings Delivery System (TDS) – Mill EPF 1.3
The tailings delivery line transports a slurry, a mixture of tailings material and process water, by gravity to the Tailings Storage Facility. The slurry is delivered to the TSF by lead off pipes during the winter and by smaller diameter spigots during the summer.

The HDPE section of the TDS was scheduled to be rotated the day after this inspection. The Operator had uncovered the pipeline in preparation for rotating the pipe. The HDPE section of the TDL is scheduled to be replaced in 2 years.

On Friday May 8, 2020, the Operator notified the Division by voicemail of a tailings leak from the TDL on May 7, 2020. The Operator reported a small amount of tailings leaked out of the TDL onto the TSF access road below County Road 3 and from the last drop tower above CR 3. The Operator estimated 55 gallons leaked from the TDL and 150 to 200 gallons from the drop tower. The repaired TDL was observed during the inspection. The repair consisted of a metal band clam being installed around the leak area.

Tailings Storage Facility (TSF) – Mill EPF 1.4
The Tailing Storage Facility consists of 1 Dam, 3 Dam, the barge pump and the barge return pipeline. The TSF contains tailing material, process water and pumped back seepage water and extraction well water. The tailings slurry is deposited at the dams and the water is recycled for reuse in the mill by the barge pump which extracts water from the TSF surface and delivers it to the East Branch Reservoir.

The process of raising the TDF berm was observed during the inspection at the south end of 3 Dam. The berm raise will continue across the crests of 3 Dam and 1 Dam.

Seep Water Collection and Return Systems – Mill EPF 1.5
The Seep Water Collection and Return Systems collects water seepage from 1 Dam and 3 Dam to allow the water to be returned to the process water and tailing circuit preventing the potential discharge of the water without treatment. The system is comprised of trenched and piped collection and conveyance structures including foundation drains, horizontal drains, pipelines and ditches which direct seep water to the Ute Park Pump Station. The seep water collection system was recently improved to increase storage capacity under TR-30.

Ute Park Pumphouse – Mill EPF 1.7
The Ute Park Pumphouse collects seep water and water from the extraction wellfield and returns the water to the tailing storage facility. The extraction well system was improved under technical revisions TR-23, TR-25 and TR-28. The extraction wells, EPF 1.6, were not observed during this inspection.

Williams Fork Pumphouse – Non EPF
The William Fork Pumphouse pumps water from the Williams Fork River to the 2 potable water storage tanks or to the East Branch Reservoir for make-up water as needed.

Ute Creek Reservoir – Non EPF
The Ute Reservoir contains fresh (potable) water for the mill facility. The reservoir is the primary source of fresh water at the Mill facility. Two pipelines deliver water from the reservoir to the East Branch Pumphouse.

Fire Water Line Incident Repair
On November 5, 2019, the Division received written follow-up notice of a release of process water from the fire water line from the Mill Process Water Storage Tanks to the sites fire water distribution and suppression systems. The repair of the water line near hydrant 7 was observed during the inspection. During the repair the Operator discovered another possible leak near fire hydrant 6 located west of the first repair area. The second area is planned to be excavated to investigate and repair the source of the leak.

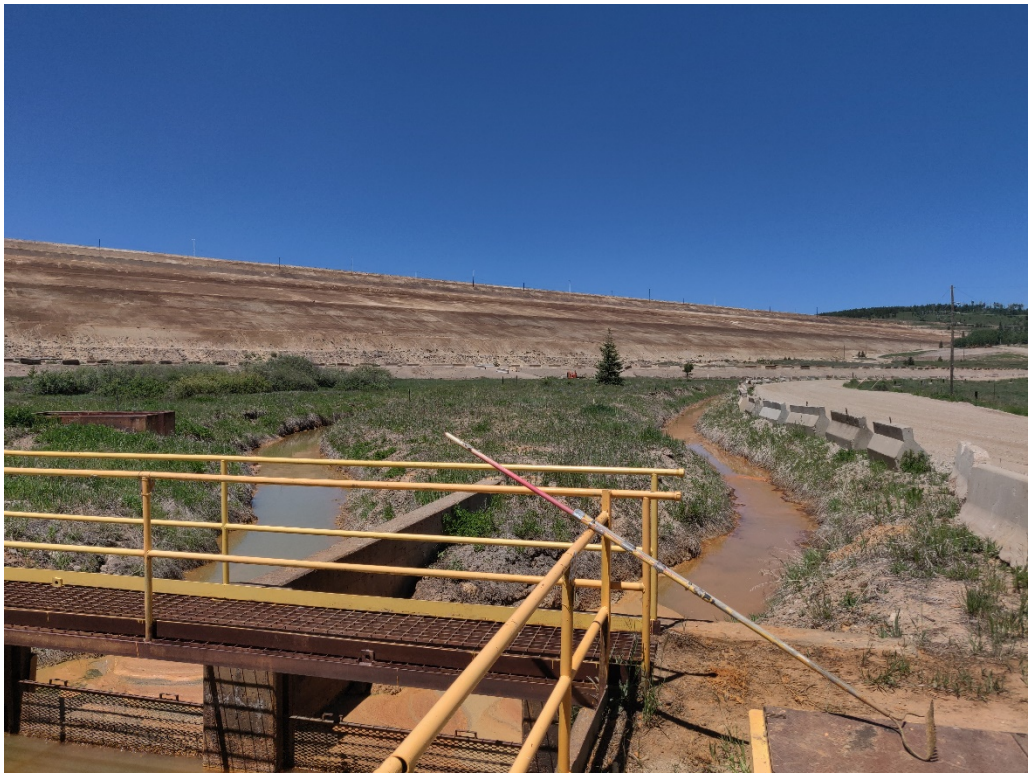
Inspection Contact Address
Aaron Hilshorst
Climax Molybdenum Company
19302 County Rd. #3
Parshall, CO 80468

Ec: Jared Ebert, DRMS

PHOTOGRAPHS

View of the 3 Dam berm raise looking north

View of Ute Park Pumphouse



View of the seep water collection trenches from the Ute Park Pumphouse looking northwest

View of a repair section of TDL with a band clamp

View of the TDL prepared to be rotated

View of the Williams Fork Pumphouse

View of surface water sampling point WFR-20 below the William Fork Pumphouse

View of the East Branch Reservoir from the east end of the dam looking southwest

View of the fire line repair near hydrant 7

View of possible leak near hydrant 6

View of Ute Creek Reservoir

View of the East Branch Pumphouse

View of the East Branch dam from the East Branch Pumphouse looking south