



**COLORADO DIVISION OF RECLAMATION, MINING AND SAFETY**  
**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
<b>INSPECTION TYPE:</b> Monitoring	<b>INSPECTOR(S):</b> Peter S. Hays	<b>INSP. DATE:</b> April 21, 2016	<b>INSP. TIME:</b> 09:30
<b>OPERATOR:</b> Climax Molybdenum Company	<b>OPERATOR REPRESENTATIVE:</b> Miguel Hamarat, Tim Haynes	<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> \$10,354,051.00
<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> June 10, 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>N</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>N</u>	(SW) 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 Mine and Mill was inspected by Peter Hays, Tyler O'Donnell and Michael Cunningham with the Division of Reclamation, Mining and Safety (Division/DRMS) as part of the Division's monitoring inspection program. Mr. Tim Haynes, Mr. Miguel Hamarat and Ms. Whitney Koester with Climax Molybdenum - Henderson Operations (Henderson) were present during the inspection.

The inspection consisted of a meeting to discuss the ongoing and future permitting items for the site. The following topics were discussed: the DRMS Henderson team assignments, the plans and timing of the mine closure, the recent EPA complaint, the Henderson Closure Cost Model and structure of the financial warranty, the planned borrow material exploration, NPL exceedances in pH, stormwater inspection schedule, the requirements for closing underground portions of the mine, the amendment to include the URAD water treatment plant and glory hole subsidence in the permit boundary, the as-built drawings and engineering certification for the sand seep project (TR-26), Phase 3 of the Ute Park Extraction Well project, Aspen Canyon Ranch POC well and the current tailings impoundment inspection and reporting schedule.

### **DRMS Henderson team**

The Henderson inspection team has been assigned inspection specialties and will start conducting separate specialized inspections this year. Mr. Peter Hays will focus on the Tailings Impoundment stability and water balance. Mr. Michael Cunningham will focus on the stormwater diversion and control structures at the mine and mill. Mr. Tyler O'Donnell will focus on the Reclamation Plan and financial warranty estimate. Mrs. Stephanie Mitchell will focus on groundwater at the mine and mill.

### **Mine closure**

Based on current production rates, known reserves and current value of molybdenum, Henderson estimates 5 years of ore body remain in the mine at the current production (7000) level. The Operator is evaluating options to complete the closure of the mine and mill sites. The Division will require the Operator to submit an amendment to the approved Reclamation Plan prior to initiating a new Reclamation Plan for the mine and mill sites.

### **EPA complaint**

The Division was notified by the Colorado Department of Public Health and Environment (CDPHE) of an EPA incident report at the Henderson Mill on April 7, 2016. The notice received from CDPHE stated, a very concerned party noticed a black or blue colored material draining into a tailings pond on the Henderson mine site. The concerned party saw this material on a Google Earth image and reported the situation to the National Response Center (NRC). The incident report number is #1144683. The Division contacted Henderson staff who confirmed the material reported in the complaint was fully contained within the tailing impoundment and was consistent with the operation of the mill. The possible source of the stained material include the pumping of seep water into the impoundment or the flushing of molybdenum in the mill circuit into the impoundment. The Division considers the complaint resolved and no additional information is required from Henderson staff.

### **Henderson Closure Cost status**

The Division is continuing to evaluate the current financial warranty structure. Henderson would prefer to continue to use water rights associated with the Henderson and Climax operations as a part of the financial warranty. Henderson is evaluating engineer firms capable of performing the water right evaluation.

Henderson would like to add the land value for a ranch owned by the company in Gunnison, Colorado as part of the financial warranty. The Division will schedule a meeting to discuss the status of the financial warranty and the continued use of water right and the addition of land as part of the financial warranty in May.

#### Borrow Material Exploration

Henderson estimates 4.5 million cubic yards of topsoil will be needed for reclamation. Henderson plans to evaluate the topsoil resources available north of the tailings impoundment. The planned exploration project will entail potholing or drilling the area this summer. The Operator will be required to submit and receive approval of a Notice of Intent to Conduct Exploration activities from the Division prior to conducting the work. A copy of the exploration NOI form was sent to the Operator following the inspection. A Construction Material Reclamation Permit will be required for the future excavation work if the exploration project locates the needed topsoil resources.

#### NPL exceedances for pH

The Division clarification memo regarding the memo dated April 14, 2015 in response to the 5-Quarter Water Quality Data and Baseline Parameters Report dated May 29, 2014 is still in process. The Division is developing a Groundwater Policy Memo which will address the setting of NPL limits at mining operations. The clarification memo for Henderson will be issued following the acceptance of the Groundwater Policy Memo.

#### Stormwater Inspections

Henderson staff stated comprehensive stormwater inspections are conducted by mine staff in June and October each year. The Division will coordinate with Henderson staff to perform specific stormwater inspections in June of this year.

#### Underground Mine Area Closure

The procedure to close portions of the underground mine workings was discussed. The Division recommended Henderson staff use the closure of 5 Shaft at the Climax Mine as an example of an appropriate closure plan. The closure plan will focus on development drifts, not the main mine facilities. The procedure of using an inventory form, photographic documentation, mapping and engineering certification for the closures was discussed. Additional research and discussion is required on the procedure to close areas of the underground mine.

#### URAD water treatment plant and glory hole subsidence Amendment

The inclusion of the URAD water treatment plant and pipeline and the glory hole subsidence is still planned to be included into the Henderson permit area through the amendment process following the completion of the pending surety increase for the site.

#### Sand Seep Project (TR-26) As-Builts

The TSF sand seep liner system project is complete. The final as-built drawings and engineering certification will be submitted to the Division soon as required by Rule 7.3.2.

#### Ute Park Extraction Well Project – Phase 3

Phase 3 of the Ute Park Extraction Well Project is scheduled to be completed in 2017. The last three planned extraction well will be installed in the phase. A technical revision will be required prior to beginning the next phase of the extraction well project.

Aspen Canyon Ranch POC Well

Henderson staff stated an update on the Aspen Canyon Ranch well investigation would be submitted to the Division soon. Henderson is working with the well owners and the Water Quality Control Commission on the well.

Tailings Impoundment Inspection and Reporting Schedule

The existing internal inspection schedule for the tailings impoundment includes monthly inspections by AECOM, the consulting engineering firm for the impoundment, and a yearly Freeport McMorran corporate evaluation team review conducted in July. The Division is planning to request limited participation in the inspections and to be provided copies of the currently produced reports going forward. The Division will send a technical revision request letter regarding the inspection and reporting frequency for the Tailings Impoundment soon.

Inspection Contact Address

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