




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.

MINE NAME: Phoenix Mine	MINE/PROSPECTING ID#: M-1982-075	MINERAL: Gold and silver	COUNTY: Clear Creek
INSPECTION TYPE: Monitoring	INSPECTOR(S): Michael A. Cunningham	INSP. DATE: January 21, 2016	INSP. TIME: 12:00
OPERATOR: Alvin Mosch - Patricia Mosch	OPERATOR REPRESENTATIVE: Al Mosch, Dave Mosch	TYPE OF OPERATION: 110(2) - Hard Rock Limited Impact	

REASON FOR INSPECTION: Normal I&E Program	BOND CALCULATION TYPE: Complete Bond	BOND AMOUNT: \$200.00
DATE OF COMPLAINT: NA	POST INSP. CONTACTS: None	JOINT INSP. AGENCY: None
WEATHER: Clear	INSPECTOR'S SIGNATURE: 	SIGNATURE DATE: February 3, 2016

The following inspection topics were identified as having Problems or Possible Violations. OPERATORS SHOULD READ THE FOLLOWING PAGES CAREFULLY IN ORDER TO ASSURE COMPLIANCE WITH THE TERMS OF THE PERMIT AND APPLICABLE RULES AND REGULATIONS. If a Possible Violation is indicated, you will be notified under separate cover as to when the Mined Land Reclamation Board will consider possible enforcement action.

INSPECTION TOPIC: Availability Of Records

PROBLEM/POSSIBLE VIOLATION: Problem: Rule 1.13.5 states, if an Operator temporarily ceases production of the mining operation for one hundred eighty (180) days or more, the Operator must file a Notice of Temporary Cessation in writing to the Office.

CORRECTIVE ACTIONS: The Operator shall file for Temporary Cessation. The start date of the initial 5 year Temporary Cessation period is retroactive to the last date the pit was active. If that date is more than 5 years ago, the operator is required to ask the Board for a 5 year extension to the Temporary Cessation period (per rule 1.13.5 (3) and 1.13.8 (b)) or begin reclamation. The application for Temporary Cessation shall be filed on or before the corrective action date.

CORRECTIVE ACTION DUE DATE: 4/01/16

INSPECTION TOPIC: Gen. Compliance With Mine Plan/Acid or Toxic Materials

PROBLEM/POSSIBLE VIOLATION: Problem: The current mine plan needs to be updated and clarified pursuant to C.R.S. 34-32-112 (2)(f). The operator must provide sufficient information to describe or identify how the operator intends to conduct the operation.

CORRECTIVE ACTIONS: The operator shall submit a Technical Revision, with the required \$216 revision fee, to update and clarify the current approved mine plan to reflect existing and proposed activities by the corrective action date. The Technical Revision shall provide a sampling plan which clearly outlines how the operator will collect samples for the acid-base accounting analysis.

CORRECTIVE ACTION DUE DATE: 4/01/16

OBSERVATIONS

The inspection was conducted by Michael Cunningham of the Division of Reclamation, Mining and Safety (Division). Al Mosch and Dave Mosch were present for the inspection. The Phoenix Mine is located 2 miles west of Idaho Springs in Clear Creek County. The site is permitted for 0.44 acres and the post mining land use is recreation. The Phoenix Mine is an underground mine and the primary commodities mined are gold and silver. In addition, the Operator runs a tourist business which takes people through portions of the underground mine. The tourist business accounts for the main activity at site; no tours were being conducted at the time of the inspection.

Availability Of Records:

The surface facilities are situated along Trail Ridge Rd. and include a small mill building and several equipment storage areas. The 2015 Annual Report states the site was last active in September 2014 and that the site operates more than 180 days per year. Based on discussions with the Operator, the mine has not been in production for many years. The most recent activity consisted of processing samples in the mill. Pursuant to Rule 1.13.5(1), if the Operator plans to, or does, temporarily cease production of the mining operation for 180 days or more, the Operator must file a Notice of Temporary Cessation in writing to the Division. The Operator's failure to notify the Division of the cessation of production has been cited as a problem and will require corrective action by the Operator. Please see the first page of this report for additional information regarding the corrective action.

Acid And Toxic Materials:

The Phoenix Mine operates under a 110(2) Hard Rock Reclamation Permit. During the inspection, the Operator informed the Division that the ore within the Phoenix Mine contains sulfide minerals and has the potential to generate acid. Pursuant to Rule 1.1(14), a Designated Mining Operation (DMO) is a mining operation at which:

- a) designated chemicals used in metallurgical processing are present on-site; or
- b) toxic or acid-forming materials will be exposed or disturbed as a result of the mining operations; or
- c) acid mine drainage occurs or has the potential to occur due to mining or reclamation activities.

The implementation of the Hard Rock Rules pertaining to DMO's did not take effect until after the Reclamation Permit for the Phoenix Mine was issued. Therefore, the Division did not take into account the potential use of designated chemicals at the mill or the potential of the ore to be acid-generating. As required by Rule 7.1.3, all DMO Operators shall submit to the Office an Environmental Protection Plan (EPP) which addresses the protection of human health, property or the environment in conformance with the duties of Operators as prescribed by the Act and Rules. Based on the conversation with the Operator and knowledge of the composition of ore deposits in this mining district, the Division has a reason to believe that the Phoenix Mine meets the definition of a DMO. Any determination of DMO status will follow the process outlined in Rule 7.2. In order to make a determination, the Operator will be required to perform a geochemical evaluation of any material that will be exposed by mining, placed in on-site solution containment systems or facilities, stockpiled or disposed of on the affected land that has the potential to cause acid mine drainage or to release designated chemicals or toxic or acid-forming materials. The Operator will be required to perform an acid-base accounting (ABA) analysis to calculate the net acid-generating potential of on-site materials. Prior to performing an ABA analysis, the Division will require the Operator to submit a sampling plan, as a Technical Revision, which ensures the collected samples are representative of the diverse lithology, mineralogy and ore grade of all material that is subject to the provisions of Rule 6.4.21(14).

The sampling plan shall specify the following:

- a) Total number of samples to be collected
- b) Locations of collected samples
- c) Sample collection methodology
- d) Analytical method to be used for acid-base accounting test
- e) Accredited Laboratory that will analyze samples

The lack of detail in the Mining Plan in regards to the acid-generating potential of the mined material has been cited as a problem and will require corrective action by the Operator. Please see the first page of this report for additional detail regarding the corrective action.

Financial Warranty:

The Division holds a financial warranty in the amount of \$200.00, which is not adequate to complete reclamation of the site. Pursuant to Rule 4.2.1, all financial warranties shall be set and maintained at a level which reflects the actual current cost of fulfilling the requirements of the Reclamation Plan. The surface reclamation which must be performed at the site includes the removal of refuse and the removal of the mill building. The mill building is a multi-story corrugated metal structure located adjacent to the mine entrance. The Reclamation Plan does not include any information regarding removal of the mill building. However, the structure would not be in conformance with the approved post-mining land use of recreation. Therefore, the Division will include a cost to remove the mill structure in the financial warranty calculation. In addition, the Division observed refuse which must be removed from the site including a 30' trailer, several fuel storage tanks, and an assortment of old mining equipment. Pursuant to Rule 4.2.1(2), if the financial warranty is determined to be insufficient to perform reclamation, the Permittee will have up to sixty (60) days to post the additional financial warranty. Notice of an increase to the financial warranty will be sent under separate cover.

Support Facilities On-site:

The inspection focused on the surface facilities; the underground portions of the mine were not inspected. All mine entrances contain a set of steel doors which were securely locked. As noted above, the Operator has constructed a multi-story corrugated metal mill building. The mill building houses a crusher, a grinder, a bank of float cells and a shaker table. In addition, a variety of spare parts and tools are stored in the mill building. The upper level of the mill is accessed by way of a cat-walk which connects to the hill-side above the mill building. The upper level of the mill building contains an office area. According to the Operator, the mill building is not used on a regular basis and would require some additional work to be fully functional. At the time of the inspection, the mill floor was covered in ice. The Operator explained that Trail Creek, which lies on the south side of Trail Ridge Rd, will partially freeze in the winter and cause the creek to flow to the north side of the road. As a result, water flows beneath the mill building and through the floor. The Operator does not use chemicals in metal recovery and relies on gravity concentration. The bank of float cells were not hooked up to the milling circuit. The Division found no evidence of chemicals being stored or used in the mill.

The Mining Plan does not contain any details about how the mill will be operated. As noted in this report, the Division is currently assessing whether the operation should be converted to a DMO. The Operator would be notified of a DMO determination in accordance with Rule 7.2.2, at which point the Operator would be required to convert the existing 110(2) Reclamation Permit to a 110d Reclamation Permit. The conversion process would include a complete review of all processing facilities, including the mill. However, regardless of a DMO designation, the Operator will need to update and clarify the Mining Plan before the mill may be operated.

PHOTOGRAPHS



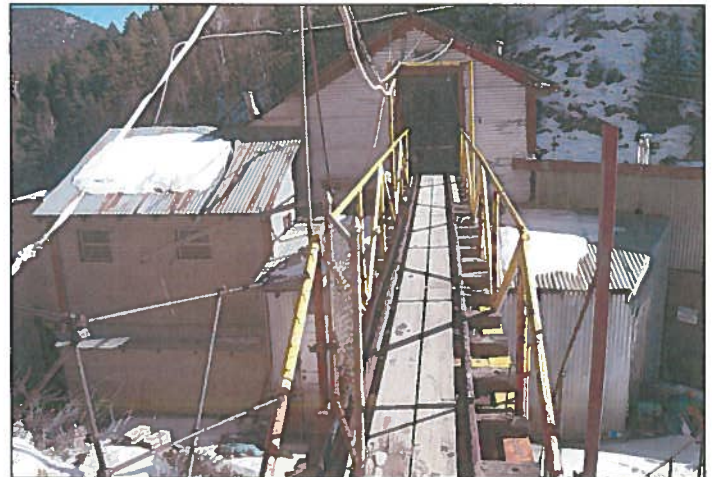
1. West end of permit area.



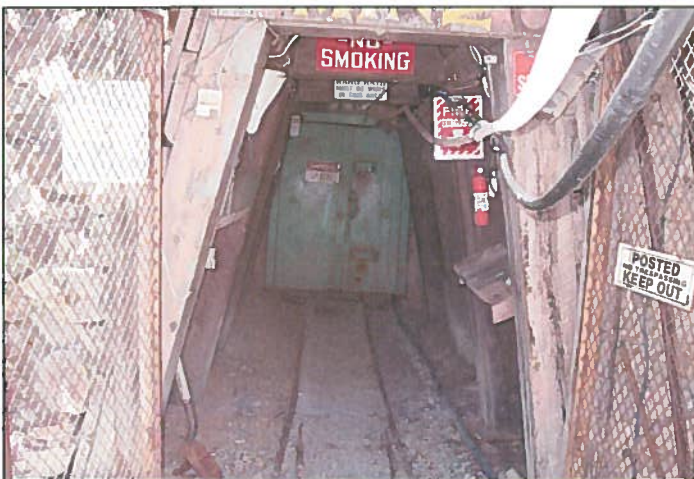
2. 30' trailer adjacent to mill bldg.



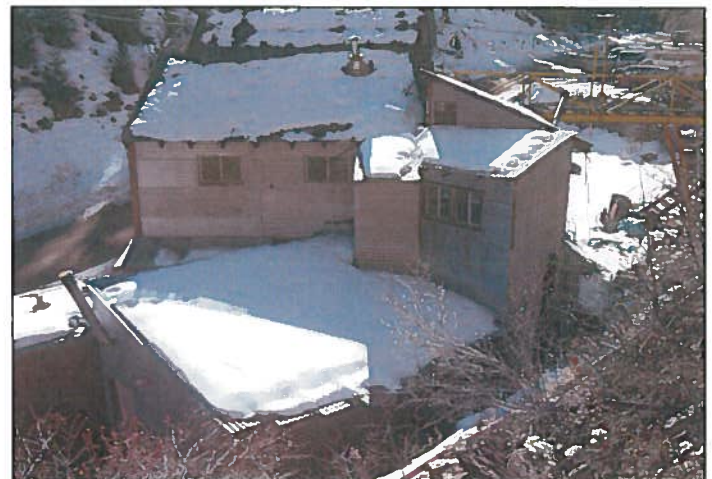
3. Photo of mill bldg. taken from Trail Ridge Rd.



3. Cat-walk leading to 2nd story of mill bldg.



4. Upper mine entrance.



6. Photo of mill bldg. taken from hillside.



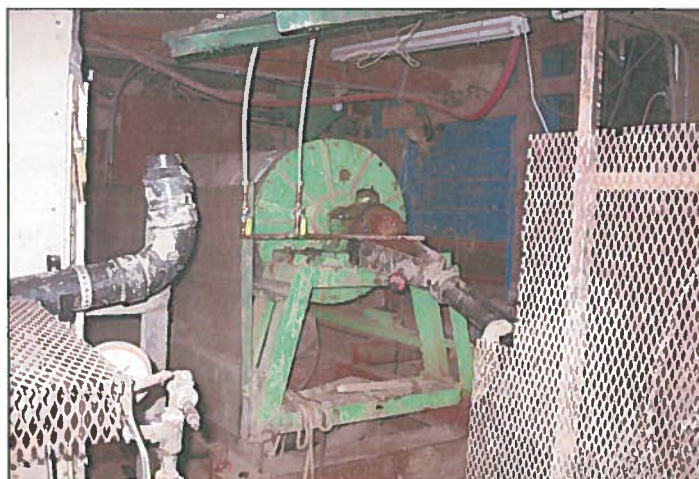
7. Phot of trailer taken from hillside.



8. Air compressor on hillside.



9. Lower mine entrance.



10. Inside of lower level of mill bldg.

GENERAL INSPECTION TOPICS

The following list identifies the environmental and permit parameters inspected and gives a categorical evaluation of each

(AR) RECORDS----- <u>PB</u>	(FN) FINANCIAL WARRANTY----- <u>N</u>	(RD) ROADS----- <u>NA</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>PB</u>	(FW) FISH & WILDLIFE----- <u>N</u>	(RV) REVEGETATION---- <u>N</u>
(SM) SIGNS AND MARKERS----- <u>Y</u>	(SW) STORM WATER MGT PLAN---- <u>N</u>	(CI) COMPLETE INSP---- <u>Y</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>PB</u>	(OD) OFF-SITE DAMAGE----- <u>N</u>	(ST) STIPULATIONS----- <u>NA</u>

Y = Inspected and found in compliance / N = Not inspected / NA = Not applicable to this operation / PB = Problem cited / PV = Possible violation cited

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