




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: Cresson Project	MINE/PROSPECTING ID#: M-1980-244	MINERAL: Gold	COUNTY: Teller
INSPECTION TYPE: Monitoring	INSPECTOR(S): Timothy A. Cazier	INSP. DATE: July 27, 2017	INSP. TIME: 9:15
OPERATOR: Cripple Creek & Victor Gold Mining Company	OPERATOR REPRESENTATIVE: Clara Steward	TYPE OF OPERATION: 112d-3 - Designated Mining Operation	
REASON FOR INSPECTION: Normal I&E Program	BOND CALCULATION TYPE: None	BOND AMOUNT: \$207,828,540.00	
DATE OF COMPLAINT: NA	POST INSP. CONTACTS: None	JOINT INSP. AGENCY: None	
WEATHER: Clear	INSPECTOR'S SIGNATURE: 	SIGNATURE DATE: February 7, 2018	

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>Y</u>
(HB) HYDROLOGIC BALANCE----- <u>Y</u>	(BG) BACKFILL & GRADING----- <u>Y</u>	(EX) EXPLOSIVES----- <u>N</u>
(PW) PROCESSING WASTE/TAILING---- <u>Y</u>	(SF) PROCESSING FACILITIES----- <u>N</u>	(TS) TOPSOIL----- <u>Y</u>
(MP) GENL MINE PLAN COMPLIANCE- <u>Y</u>	(FW) FISH & WILDLIFE----- <u>Y</u>	(RV) REVEGETATION---- <u>Y</u>
(SM) SIGNS AND MARKERS----- <u>N</u>	(SP) STORM WATER MGT PLAN---- <u>NA</u>	(RS) RECL PLAN/COMP-- <u>Y</u>
(ES) OVERBURDEN/DEV. WASTE----- <u>Y</u>	(SC) EROSION/SEDIMENTATION--- <u>Y</u>	(ST) STIPULATIONS----- <u>N</u>
(AT) ACID OR TOXIC MATERIALS----- <u>Y</u>	(OD) OFF-SITE DAMAGE----- <u>Y</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 Division conducted a monitoring inspection of the site on July 27, 2017. Ms. Clara Steward represented CC&V during the inspection. Tim Cazier represented the Division. The planned inspection agenda included the following facilities and areas:

- High Grade Mill (HGM): vat leach and east side secondary containment;
- Arequa Gulch Valley Leach Facility (AGVLF): northwest corner drainage conditions;
- Squaw Gulch Valley Leach Facility (SGVLF);
- East Cresson Overburden Storage Area (ECOSA) seep;
- Reclamation progress – WHEX (Zoon area) and Altman backfill ;

Site Inspection:

High Grade Mill: The Division was accompanied by Dylan Noble at the HGM to perform an exterior walk-around inspection. The focus was to observe the status of secondary containment on both the west side (vat leach area) and the east side. No significant reduction in secondary containment was observed in either the vat leach area (**Photo 1**) or the east side (**Photo 2**).

The mill satellite warehouse was inspected. This area is used primarily for oil storage. All containers were on pallets (**Photo 3**), some of those with secondary containment capacity (**Photo 4**). The Division recommends all pallets with non-empty containers of fresh or used oil be placed on pallets with secondary containment.

AGVLF: The Division was accompanied by Ms. Steward to inspect the area near the northwest toe of the AGVLF where the Division had observed an area of concern relating to stormwater control where the access road crosses the edge of liner during the October 27, 2016 inspection (*UTM coordinates: Zone 13 S, 485856.96 m E, 4286300.68 m N*). Ms. Steward indicated the mine site had received 8.06 inches of precipitation since July 1, 2017 through the day before this inspection (i.e., 7/26). The repairs made to the drainage controls appeared to be adequate and functioning as intended (**Photos 5 and 6**).

In addition, water levels in the high and low volume solution collection systems (Phases I, II/III and V) were checked for compliance with maximum levels. All observed levels were in compliance.

Squaw Gulch Valley Leach Facility: The Division was accompanied by Ms. Steward to observe the surface for ponded solution and general slope stability concerns (**Photo 7**). No ponded solution or slope concerns were observed.

ECOSA seep: A seep at the toe of the south end of the ECOSA was first observed during the Division's June 15, 2017 inspection. Subsequent review of aerial photos taken on March 30, 2017 suggest the seep may have been active at that time.

During this inspection, the Division was accompanied by Ms. Steward to the seep area where other CC&V representatives were available to discuss the seep and how the mine was approaching characterization and mitigation. The flow was estimated to be on the order of a gallon per minute and appeared to be confined to the ditch formed by the toe berm along the base of the ECOSA (**Photo 8**). Portions of this ditch were covered with boulders making it difficult to determine exactly where the seep initiated and where flow in the ditch stopped (**Photo 9**). Large mammal footprints were observed near where the seep first appears from under the boulders on the south end (**Photo 10**). A large volume of the seep water was observed pooled (**Photo 11** and

12) in a relatively flat segment of the toe berm ditch. This pool was also observed to have flow exiting it towards the north end (**Photo 13**). The Division was accompanied by Ms. Steward to a segment of the toe ditch past the boulder coverage. No flow was observed here suggesting the seep infiltrated somewhere under this segment. The March 30, 2017 aerial inspection report indicated some of the seepage may have been expressed on the toe berm road. Although the road was muddy from recent rains, it did not appear to have seepage from the toe ditch as a contributor (**Photo 14**).

A CC&V representative collected samples of the seep water for laboratory analyses. The Division received the results of the laboratory analyses on August 22, 2017 via email. Several analytes exceeded the Table Value Standards of the Water Quality Control Division's Rule 41 for groundwater (see **Attachment A**). The Division and CC&V representatives met in the Division's office on November 28, 2017 to discuss details for monitoring and mitigating impacts as necessary. During this November meeting, it was agreed that CC&V would submit a technical revision (TR) to the permit to install infiltration drains and a monitoring plan for the seep. As of the date of this report, the Division has not received the request for this required TR. The Division expects to receive this TR request within 60 days (**April 8, 2018**) of the signature date of this report and installation of the necessary monitoring wells during the second quarter of 2018 with the goal of monitoring seepage impacts during the summer of 2018.

WHEX (Zoon area) and Altman backfill: During a review of Google Earth images of the site, the Division noted significant rill and gulley erosion on the reclaimed area on the south end of the WHEX pit, known to site personnel as the Zoon area. The purpose of inspecting the Zoon area and the Altman Backfill reclamation area was to assess these areas in terms of erosional stability. The Zoon area accessibility was limited for safety reasons as the toe of the area is at the crest of the WHEX highwall (**Photo 15**). It is a steep slope and from the uphill perspective, no erosion features could be seen (**Photo 16**).

The inspection of the Altman backfill area indicated no significant evidence of erosion (**Photos 17 and 18**). The Division will continue to monitor this and other reclamation areas.

Please contact Tim Cazier (303-866-3567, ext. 8169) if you have any questions regarding this report.

PHOTOGRAPHS



Photo 1. Secondary containment observed in vat leach area (no significant volume used).



Photo 2. Typical available secondary containment on east side of HGM.

PHOTOGRAPHS (cont.)



Photo 3. Drum storage on pallets in mill satellite warehouse.



Photo 4. Used oil storage on pallets with secondary containment in mill satellite warehouse.

PHOTOGRAPHS (cont.)



Photo 5. Functioning drainage repairs on northwest toe of the AGVLF (looking upgradient).



Photo 6. Functioning drainage repairs on northwest toe of the AGVLF (looking downgradient)..

PHOTOGRAPHS (cont.)



Photo 7. No ponded solution or slope concerns observed on SGVLF (looking NW).



Photo 8. ECOSA seep in toe berm ditch (looking SW/upgradient).

PHOTOGRAPHS (cont.)



Photo 9. ECOSA toe berm ditch covered with boulders, seep flow not observable (looking NE/downgradient).



Photo 10. Large mammal footprints within the area affected by the ECOSA seep.

PHOTOGRAPHS (cont.)



Photo 11. Pooled ECOSA seep water (1 of 2).

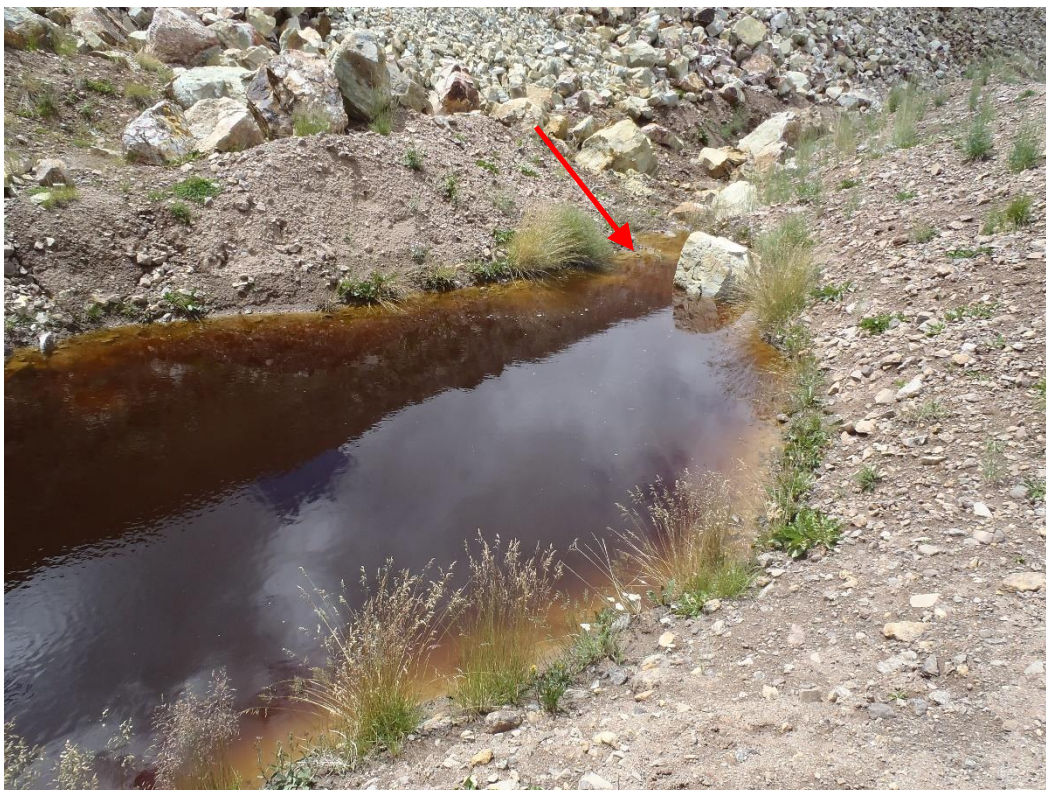


Photo 12. Pooled ECOSA seep water (2 of 2, showing overflow outlet).

PHOTOGRAPHS (cont.)



Photo 13. Pooled ECOSA seep water overflow outlet.



Photo 14. Toe berm ditch (looking SW, truck is near ECOSA seep pool).

PHOTOGRAPHS (cont.)



Photo 15. Zoon reclamation area (looking SW from WHEX pit).



Photo 16. Zoon reclamation area (looking NE from above WHEX pit).

PHOTOGRAPHS (cont.)



Photo 17. Altman backfill reclamation (1 of 2).



Photo 18. Altman backfill reclamation (2 of 2).

Inspection Contact Address

Mike Schaffner
Cripple Creek & Victor Gold Mining Company
P.O. Box 191
100 North Third Street
Victor, CO 80860

EC: Wally Erickson, DRMS
Elliott Russell, DRMS
Amy Eschberger, DRMS
Meg Burt, CC&V
DRMS file

ATTACHMENT A

July 27, 2017 ECOSA Seep Water Quality Analyses Exceedances

Parameter	Result	WQCC Rule 41 Standard
Cadmium	3.52 mg/l	0.005 mg/l (Table 1)
Nickel	2.61 mg/l	0.1 mg/l (Table 1)
Nitrate	11.8 mg/l	10.0 mg/l (Table 1)
Iron	86.5 mg/l	0.3 mg/l (Table 2)
Manganese	303 mg/l	0.05 mg/l (Table 2)
pH	3.07	6.5 – 8.5 (Tables 2 & 3)
Sulfate	8470mg/l	250 mg/l (Table 2)
Copper	3.32 mg/l	0.2 mg/l (Table 3)
Selenium	0.069 mg/l	0.02 mg/l (Table 3)
Zinc	72.5 mg/l	2 mg/l (Table 3)