


**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 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> Cresson Project	<b>MINE/PROSPECTING ID#:</b> M-1980-244	<b>MINERAL:</b> Gold	<b>COUNTY:</b> Teller
<b>INSPECTION TYPE:</b> Monitoring	<b>INSPECTOR(S):</b> Patrick Lennberg	<b>INSP. DATE:</b> June 24, 2019	<b>INSP. TIME:</b> 08:30
<b>OPERATOR:</b> Cripple Creek & Victor Gold Mining Company	<b>OPERATOR REPRESENTATIVE:</b> Justin Bills	<b>TYPE OF OPERATION:</b> 112d-3 - Designated Mining Operation	

<b>REASON FOR INSPECTION:</b> Normal I&E Program	<b>BOND CALCULATION TYPE:</b> None	<b>BOND AMOUNT:</b> \$209,491,188.00
<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> July 22, 2019

**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:** Fish & Wildlife

**PROBLEM:** A significant volume of process solution was ponded in the Arequa Gulch Valley Leach Facility. This is a potential attractant to wildlife. The surface area of the exposed fluid exceeded the permit condition (not to exceed 3 feet x 3 feet area).

**CORRECTIVE ACTIONS:** Provide the Division with photographic evidence that measures were taken to allow the solution within this area to infiltrate into the pad or other wildlife mitigation measures have been employed by the corrective action date.

**CORRECTIVE ACTION DUE DATE:** 8/09/19

## **OBSERVATIONS**

This was a normal monitoring inspection of the Cresson Project (Permit No. M-1980-244) conducted by Patrick Lennberg of the Division of Reclamation, Mining and Safety (Division). The Division was accompanied by Justin Bills, Charles Bissue, and others during the inspection. This is a 112d-3 Designated Mining Operation (DMO) permitted for 6,007 acres to mine and process gold ore. The site is located between the towns of Cripple Creek and Victor in Teller County. The approved post-mining land use is a combination of rangeland and wildlife habitat. Photos 1-24 taken during the inspection are included with this report.

This inspection included the following facilities and areas:

- Squaw Gulch Valley Leach Facility (VLF2)
- Arequa Gulch Valley Leach Facility (VLF1)
- Valley Leach Facility Leak Detection Sumps
- Valley Leach Facility Water Level Readings
- High Grade Mill Facility (HGM)
- Phase 2 Construction of VLF2 Liner
- Explosives Storage Area
- East Cresson Overburden Storage Area Seep (ECOSA)

### **Squaw Gulch Valley leach Facility (SGVLF or VLF2):**

The operation is currently advancing the 9,950 foot lift, which is very close to the top elevation of the mill platform. The Division inspected active leaching surfaces on the SGVLF. The operation is required to minimize ponding of leaching solution to less than 3 feet by 3 feet in area. This is to prevent the ponds from being a wildlife attractant. Active leaching areas appeared to be well-ripped to minimize ponding. No ponding was observed. The elongated sump present at the southwestern toe of the SGVLF (near the ADR-2 Facility) that was filled with bird balls has received an abundant amount of storm water run-off that has scattered the balls. However, no ponded stormwater was observed.

One of the three of the SGVLF Leak Detection System (LDS) sumps was inspected, SG-LDS-2. The sump was found to be dry. The operator must inspect all sumps weekly, and sample and characterize any water present. Any water should be removed after sampling so it can be determined if water continues to enter the sump.

### **Arequa Gulch Valley Leach Facility (AGVLF or VLF1):**

The current and maximum elevation of ore placement in the AGVLF is 10,400 feet (for Phase V). The Division inspected active leaching surfaces on the AGVLF. These surfaces were well saturated and ponding of leachate, greater than 3 feet by 3 feet, was common. In addition, ponding of leachate was observed on the lower 10,200 foot level, although not as common as was observed on the upper level. During the close-out meeting the Operator indicated that the application rate of leachate had been reduced by approximately 120 gpm in these areas. Also, a crew that was observed on the 10,200 foot level was moved to the upper level to begin ripping the material to promote infiltration. While the weather in the recent past had been wet this was not a significant factor in the ponding. Finally, during an aerial inspection in early June there were several areas of ponding noted including the areas observed during this inspection. A problem is being cited in this report due

to the ponding observed in excess of the 3 foot by 3 foot requirement.

While inspecting the leaching surfaces of AGVLF, the leach cell study area defined in Technical Revision No. 113 was observed. Approximately 18,000 tons of previously processed (leached) crushed ore has been placed and distributed over the cell liner in this area, at a depth of approximately 3 feet (without Division consent). TR-113 is currently being reviewed to address the test cell. The cell liner was installed in an overlapping fashion, with a 10% grade to direct solution to the north (toward the facility).

#### **Valley Leach Facility Water Level Readings:**

The Division recorded water level readings from transducers for the high volume solution collection system (HVSCS), pond piezometers, and low volume solution collection system (LVSCS) of the SGVLF and Phases I, II/III, IV and V of the AGVLF. The values recorded during this inspection are presented on the enclosed Attachment A. All recorded values were below their respective reporting limits (see Attachment A).

During inspection of the AGVLF Phase I HVSCS the stand pipe for pump #303 that connects the pump flow to the main solution pipe was leaking. The pump has been disconnected from the main pipe for maintenance. The remaining pipe had a valve that was intended to prevent flow from the main solution pipe from flowing back towards the pump. The valve was not working correctly and was allowing solution to discharge at an estimated rate of 10-15 gpm onto the surrounding ground surface. The solution was infiltrating as fast as it was being discharged. The Operator indicated that a maintenance crew had been dispatched to investigate and fix the issue.

#### **High Grade Mill (HGM) Facility:**

The Division performed a mill exterior walk-around inspection. The purpose was to perform a visual inspection for leaks, spills and secondary containment problems. Both the east and west sides of the mill exterior were inspected, as well as the area around the concentrate storage facility (Con Barn). No problems were observed. The Operator noted to the Division that the Mill continues to pursue efficiencies to reduce the mill's freshwater consumption and to date have decreased consumption by 21-22%.

The vat leach circuit on the west side of the HGM continued to be offline (since around February 18, 2018)

#### **VLF 2 Phase 2 Construction Overview:**

The Division observed the construction activities associated with the new liner construction in the Phase 2 area. The Operator informed the Division that due to weather delays the first volume of the QA/QC Report expected in mid-July has been rescheduled for mid-August. The Division observed hauling and placement of Drain Cover Fill (DCF) using articulating haul trucks. The trucks hauled DCF to LGP dozers that then spread the material out. The trucks travelled on a minimum of 4 foot thick DCF material that had been placed on a geofabric that lied directly on the textured liner. Travelling on thick DCF material is intended to protect the geomembrane liner from damage. As the material was spread by the dozers there were two laborers that watched for material larger than 2-inches and removed any wrinkles in the liner from being buried. The laborers also monitored for DCF thickness. Overseeing the two laborers was a NewFields employee for QA oversight.

By noon approximately 60,000 square feet of liner had been deployed that day and subgrade was being prepped for additional panels to be deployed. Subgrade preparation includes density testing to confirm proper compaction, final survey of prepared surface, and final inspection by liner contractor to verify that the subgrade is free of any large and/or sharp particles that could damage the liner.

In addition to hauling DCF material other articulating haul trucks were transporting clay material for placement in areas that are planned for liner placement.

NewFields, the QA/QC contractor, has offices and a materials lab onsite to assist in testing.

#### **Explosives Storage Area:**

The Division walked the perimeter of the explosives storage area, no problems were observed.

#### **East Cresson Overburden Storage Area (ECOSA) Seep:**

The Division inspected the seep area located at the eastern toe of the ECOSA. The seep accumulation trench was holding water during the inspection. The water was red in color and approximately 2-1/2 feet deep, as measured by a recently installed staff gauge. No water was observed flowing into the trench (within the toe berm of the ECOSA) from the south/southeast. The Operator pumps water out of the trench when they have approximately 5,000 gallons or a full truck volume. They are in the process of investigating the correlation between precipitation and volume seen at the seep and removing full truck volumes at one time aids in the investigation. The Operator removed six truck loads in May and have removed 1-2 truckloads a week during June. Water from the seep is transported and dumped onto a lined facility (one of the valley leach facilities).

Please contact Patrick Lennberg (303)866-3567 ext. 8114 or email at [patrick.lennberg@state.co.us](mailto:patrick.lennberg@state.co.us) if you have any questions regarding this report.

#### **Inspection Contact Address**

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

Enclosure      Attachment A

ec:      Michael Cunningham, DRMS  
         Elliott Russell, DRMS  
         Patrick Lennberg, DRMS  
         Amy Eschberger, DRMS  
         DRMS file  
         Justin Raglin, CC&V  
         Justin Bills, CC&V



**PHOTOGRAPHS**



**Photo 1:** Leak Detection System Sump, SG-LDS2 (dry)

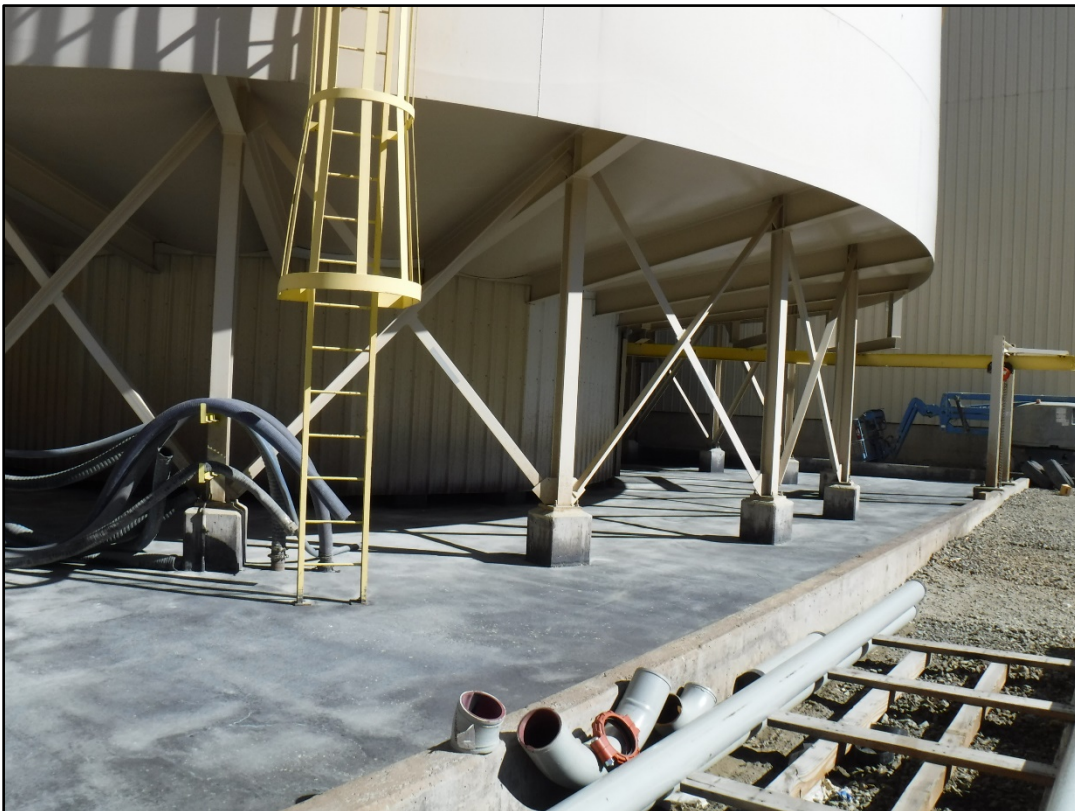


**Photo 2:** Squaw Gulch high volume extraction pumps





**Photo 3:** The 9950' level (VLF2) being built out adjacent to the Mill



**Photo 4:** East side of the Mill (Processed Ore Thickener – east side), typical conditions





**Photo 5:** East side of the Mill (Processed Ore Thickener – west side), typical conditions



**Photo 6:** East side of the Mill (Neutral pH Process Water Tank), typical conditions





**Photo 7:** The elongated sump present at VLF1



**Photo 8:** SGVLF active leaching areas appeared to be well-ripped to minimize ponding, 9900' level



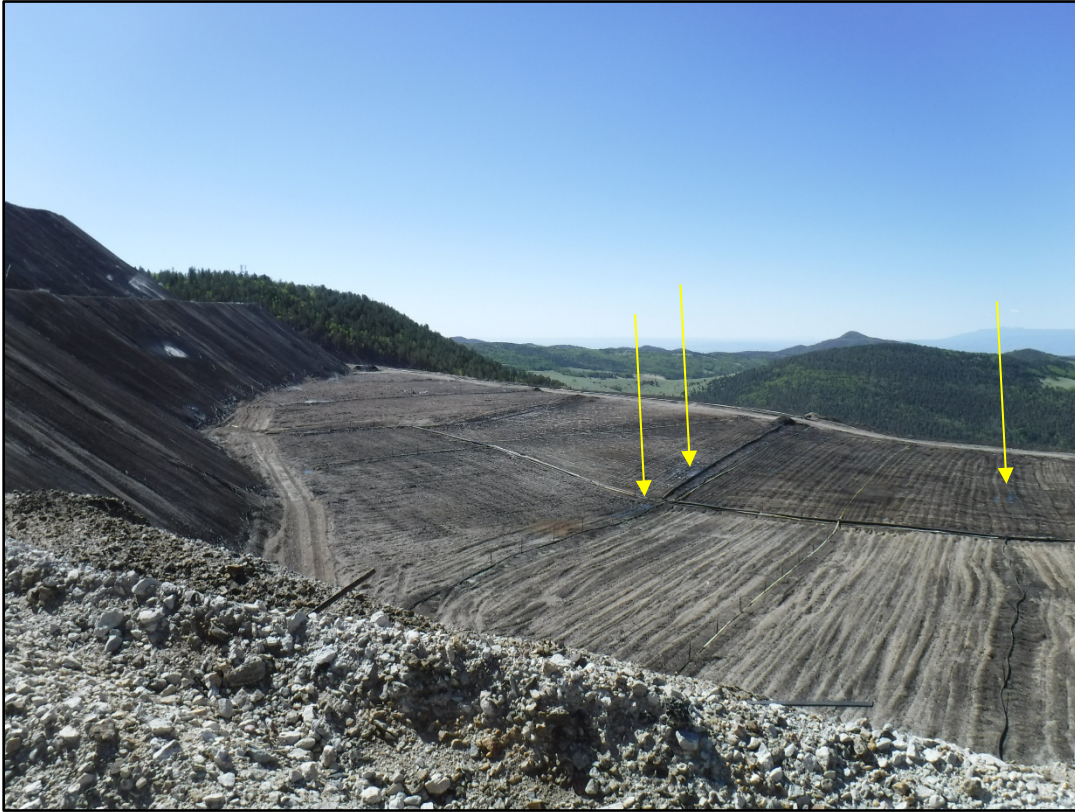


**Photo 9:** SGVLF overview

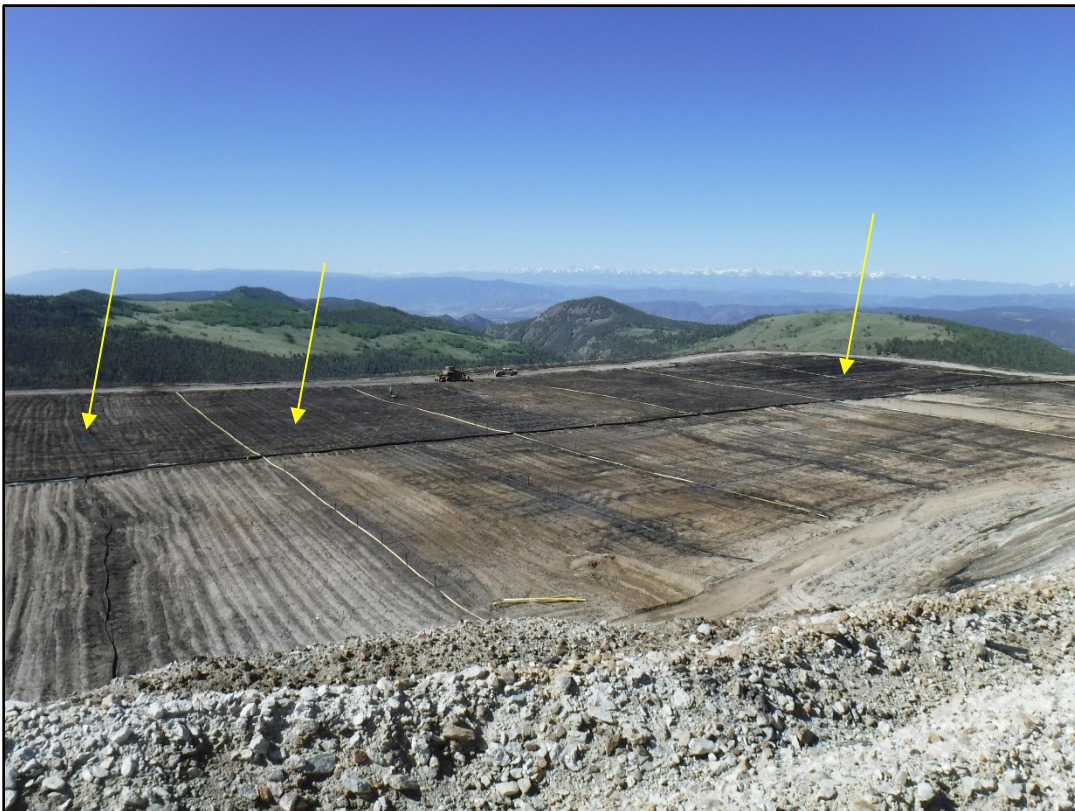


**Photo 10:** Mill Area overview





**Photo 11:** AGVLF 10,200' level east area, arrows show ponding



**Photo 12:** AGVLF 10,200' level west area, arrows show ponding





**Photo 13:** AGVLF 10,400' level, typical ponding observed

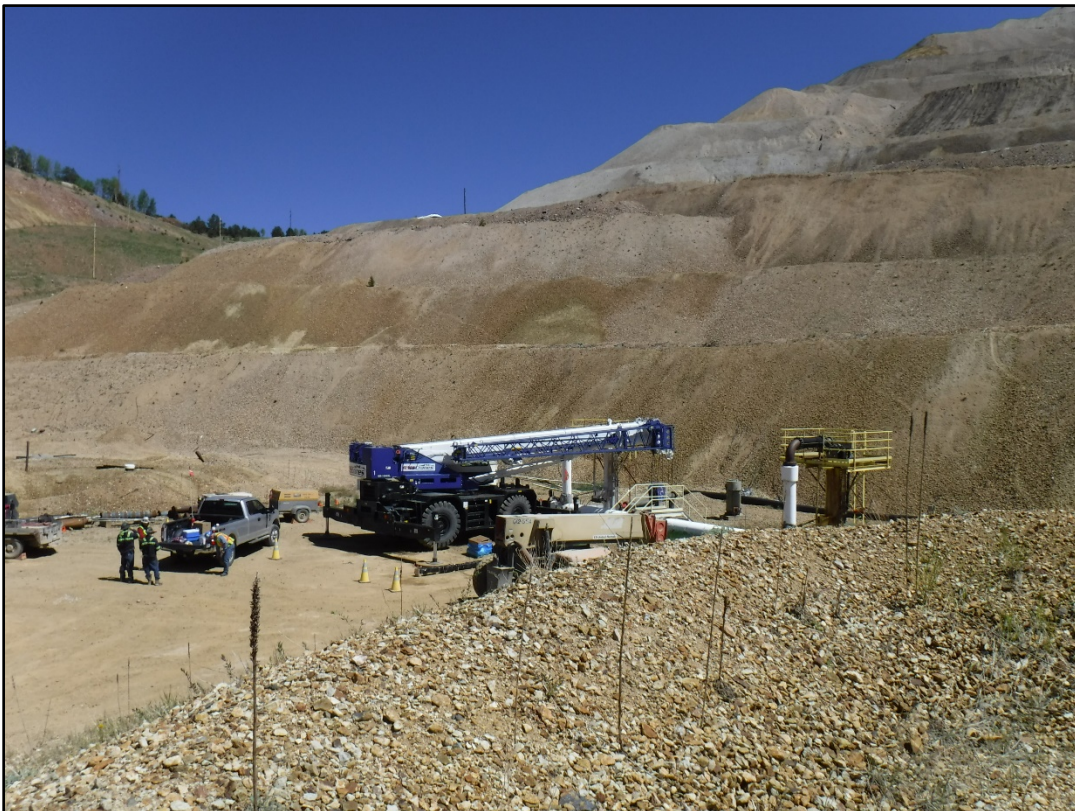


**Photo 14:** AGVLF 10,400' level, typical ponding observed





**Photo 15:** Solution bypassing the gate valve at the 303 pump Phase I, AQVLF



**Photo 16:** Phase II pump 5 maintenance





**Photo 17:** VLF 2 Phase 2 construction, panels deployed in morning and subgrade prep for additional liner placement



**Photo 18:** VLF 2 Phase 2 construction, clay material staging





**Photo 19:** VLF 2 Phase 2 construction, DCF hauling and placement



**Photo 20:** VLF 2 Phase 2 construction, DCF hauling and placement





**Photo 21:** VLF 2 Phase 2 construction, liner storage area



**Photo 22:** Explosives storage area





**Photo 23:** Staff gauge installed at ECOSA seep pond



**Photo 24:** ECOSA seep pond, note no flow coming into pond

### GENERAL INSPECTION TOPICS

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

(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>N</u>	(SF) PROCESSING FACILITIES----- <u>Y</u>	(TS) TOPSOIL----- <u>N</u>
(MP) GENL MINE PLAN COMPLIANCE- <u>Y</u>	(FW) FISH & WILDLIFE----- <b>PB</b>	(RV) REVEGETATION---- <u>N</u>
(SM) SIGNS AND MARKERS----- <u>N</u>	(SP) STORM WATER MGT PLAN---- <u>N</u>	(RS) RECL PLAN/COMP-- <u>N</u>
(ES) OVERBURDEN/DEV. WASTE----- <u>Y</u>	(SC) EROSION/SEDIMENTATION--- <u>N</u>	(ST) STIPULATIONS----- <u>N</u>
(AT) ACID OR TOXIC MATERIALS----- <u>Y</u>	(OD) OFF-SITE DAMAGE----- <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