



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: Cresson Project	MINE/PROSPECTING ID#: M-1980-244	MINERAL: Gold	COUNTY: Teller
INSPECTION TYPE: Monitoring	INSPECTOR(S): Elliott R. Russell	INSP. DATE: June 17, 2015	INSP. TIME: 07:30
OPERATOR: Cripple Creek & Victor Gold Mining Company	OPERATOR REPRESENTATIVE: Chris Hanks	TYPE OF OPERATION: 112d-3 - Designated Mining Operation	

REASON FOR INSPECTION: Normal I&E Program	BOND CALCULATION TYPE: None	BOND AMOUNT: \$136,475,000.00
DATE OF COMPLAINT: NA	POST INSP. CONTACTS: None	JOINT INSP. AGENCY: None
WEATHER: Clear	INSPECTOR'S SIGNATURE: 	SIGNATURE DATE: June 24, 2015

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.

GENERAL INSPECTION TOPICS

The following list identifies the environmental and permit parameters inspected

(AR) RECORDS----- <u>N</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>Y</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>	(SP) STORM WATER MGT PLAN---- <u>N</u>	(SB) COMPLETE INSP---- <u>N</u>
(ES) OVERBURDEN/DEV. WASTE----- <u>N</u>	(SC) EROSION/SEDIMENTATION--- <u>Y</u>	(RS) RECL PLAN/COMP-- <u>N</u>
(AT) ACID OR TOXIC MATERIALS----- <u>PB</u>	(OD) OFF-SITE DAMAGE----- <u>PB</u>	(ST) STIPULATIONS----- <u>N</u>

Y = Inspected / N = Not inspected / NA = Not applicable to this operation / **PB = Problem cited** / PV = Possible violation cited

INSPECTION TOPIC: Gen. Compliance With Mine Plan

PROBLEM/POSSIBLE VIOLATION: Problem: Pondered solution was observed on the Arequa Gulch Valley Leach Facility.

CORRECTIVE ACTIONS: The Operator shall mitigate the cause of the pondered solution and submit photographs as proof that the solution has percolated into the pad.

CORRECTIVE ACTION DUE DATE: 7/09/15

INSPECTION TOPIC: Acid And Toxic Materials

PROBLEM/POSSIBLE VIOLATION: Problem: A petroleum product spill(s) has/have occurred at the site which has impacted soils, surface water or groundwater.

CORRECTIVE ACTIONS: The Operator shall immediately remediate the spill and submit a final report to the Division containing at least a description of how the spill was cleaned up (containing at a minimum - the appropriate maps, volumes removed, photo documentation, and disposal) and provide a plan on how the Operator will prevent this issue from occurring again. The plan may include a design modification in the secondary containment structure at the site of the spill.

CORRECTIVE ACTION DUE DATE: 7/24/15

INSPECTION TOPIC: Off-Site Damage

PROBLEM/POSSIBLE VIOLATION: Problem: Sprinklers may be causing an off-site odor

CORRECTIVE ACTIONS: The Operator shall submit the following requested information related to the sprinkler/snow-making machine evaporation operation: 1) cyanide concentration, 2) concentration of other constituents (including those that may be contributors to the detected odor), 3) estimated daily volume of solution emitted through the sprinklers/snow-making machines, and 4) confirmation that the emitted solution is barren.

CORRECTIVE ACTION DUE DATE: 7/24/15

OBSERVATIONS

The Division of Reclamation, Mining and Safety (Division) conducted an inspection of the Cresson Project (Permit File No. M-1980-244), a Regular 112d(3) Designated Mining Operation Reclamation Permit with 5,989.7 permitted acres and an approved post-mining land use of Rangeland and Wildlife Habitat. The mine is located southeast of Cripple Creek, Colorado and north of Victor, Colorado. Chris Hanks, representing the Operator, accompanied the inspection. This inspection was carried out as a part of the Division's normal monitoring program. The primary focus of this inspection was to observe solution levels in the PSSAs (Pregnant Solution Storage Area) and to monitor ongoing construction projects on site.

Inspection:

- A new mine site identification sign (see **Photo 1**) was observed at the Highway 67 entrance to the Squaw Gulch Valley Leach Facility (SGVLF) and was in compliance with Rule 3.1.12(1).
- The Phase V pad area of the Arequa Gulch Valley Leach Facility (AGVLF) was actively being loaded with ore and solution feeder lines were being laid down on various portions of the leaching pad. A new ramp was being constructed on the AGVLF to reach the 10,400' level (see **Photo 2**).
- Sprinklers and snow-making machines were being utilized on the AGVLF to help evaporate water and reduce the high volume of solution in the AGVLF (see **Photo 3**).
- The small area of impacted soil along the eastern edge of the AGVLF (between the Main Cresson and South Cresson Pits), where an off-liner spill occurred from a broken drip line, had been excavated and placed over the liner (see **Photo 4**). The berm where the spill occurred had been repaired.
- The new location for crushing stemming material, used for packing blast holes, was observed in the South Cresson development pit (see **Photo 5**). Mr. Hanks anticipated that half the desired amount of material has been crushed, but the Operator was pursuing a new contractor to finish the crushing.
- Lawrence Myers accompanied the Division to the Carlton Tunnel discharge area. The Operator is currently having the 5 ponds at the facility cleaned out. They are also replacing the 2 plastic baffles that span the length of each pond (see **Photo 6**).

PSSA Solution Levels:

The inspection continued as the Division visited each of the high and low volume solution collection system transducers and recorded the solution level values (field data sheet attached) for each Phase of the AGVLF. The values obtained from this visit are summarized in the Transducer Readings table below (see **Table 1**). The majority of these readings were all within their corresponding range of acceptable value. Pump #303 of the Phase 1 High Volume Solution Collection System and XDCR #1 Phase I Pond Piezometer were in exceedance of the 63.75' limit at 66.3' and 71.6', respectively. As previously reported by the Operator, per the permit requirements, and inspected by the Division, the AGVLF currently has a water management problem resulting in this exceedance. The water management problem is primarily an artifact of a previously broken header pipe in Phase 4 (which limited the ability to distribute leaching solution in the Phase 4 pad) and the unusual amount of precipitation since winter.

The Phase V gauges had just recently been updated and are no longer located on the pumps but are all centrally located within the Phase V support building (see **Photo 7**), just southeast of the pumps. The Operator is in the process of posting the exceedance limits and guidelines near the readouts.

While traveling across the southwestern face of the AGVLF to access the Phase V PSSA pumps, the Division observed a damaged slope drip-line that was causing solution to pond on the inside of the access road (see **Photo 8**). The area where this ponding has occurred is also of concern because pickup truck traffic could potentially track this material off the liner. Mr. Hanks contacted Process Operations to resolve the issue with the drip-line and, if necessary, to rip the ponded solution area to allow the solution to percolate into the pad. However, because no ponded solution of significant amount is allowed, it has been cited as a problem requiring corrective action.

Construction:

The Division and Mr. Hanks were accompanied by Ron DiDonato into the Squaw Gulch Valley Leach Facility (SGVLF).

The Division observed:

- The prefabricated security, office, Low Volume Solution Collection System buildings in place. The ADR2 frame was being constructed (see **Photo 9**);
- Temporary underdrain pumpback line's trench on the northern side of the toe berm (see **Photo 10**);
- 2 GPS equipped bulldozers grading the final out-slope northwest of the new high grade mill (the slope was prepared at several tenths of a foot high to allow compaction prior to this final grading) (see **Photo 11**);
- Personnel preparing the soil liner fill for the placement of the LLDPE liner;
- A GPS equipped bulldozer grading the placement of 2 feet of Drain Cover Fill (DCF) on the LLDPE liner on the northwest slope (see **Photo 12**);
- DCF staged on the lined southeast slope for grading; and
- The remediation of the underground working UG #6004.

Periodic Inspection Topic:

Routine inspections occur on various facilities as a part of the Division's inspections. During this inspection the Ironclad Maintenance Shops and Contractor Laydown Areas/Maintenance Shop(s) were inspected.

The contractor's (Ames Construction) laydown area and maintenance shop is located between the DCF crushing area and the Squaw Gulch Overburden Storage Area. Jeff Wright, representing the contractor, accompanied Mr. Hanks and the Division on the walk through of their facilities. Doubled walled tanks, spill kits, secondary containments structures and pallets, and designated areas were observed. The Division observed a conex storage container unit which contained 5-300 gallon IBC tanks and at least a dozen 5 gallon cans which contained oil and other miscellaneous products (see **Photo 13**). The Division requests the Operator or the contractor verify that the secondary containment capacity of the storage container is at least 110% of the largest container within the storage unit; the volume of cans, pallets, miscellaneous equipment which occupies the containment area should be subtracted from its total capacity. Mr. Wright informed the Division on how they use absorbent pads prior to pumping stormwater out of the large concrete secondary containment structure that encases the used motor oil tanks. The Division requests the Operator to verify that the contractor is utilizing the Appendix F form, provided in the 2010 CC&V Spill Response Plan (SRP), when water is being pumped to the ground outside of the containment, as specified in the SRP (this form has been attached for the Operator's reference). No other issues or concerns were raised regarding the walk through of these facilities.

The Ironclad Facilities (large vehicle shop, light vehicle shop, and warehouse) located in the northern portion of the mine site, just south of the WHEX pit, were inspected. Secondary containment structures, sumps, a washbay hydrocarbon skimmer (see **Photo 14**), aerosol can disposal stations, spill kit stations, a hazardous waste accumulation room, and a clay-lined sediment drying pond were observed. The Division observed a large amount of contaminated soils near the west side of the warehouse, just outside of the Oil Room near the vicinity of the 9 connection fill manifold which the mobile lube trucks utilize (see **Photo 15**). The SRP states that a small concrete pad provides minimal secondary containment at this off loading area. The Division believes this small pad is not adequate due to the amount of contaminated soils observed; this will be cited as a problem requiring corrective action. No other issues or concerns were raised regarding the walk through of these facilities.

Complaint:

On June 8, 2015, the Division received a verbal complaint that a citizen of Victor, Colorado smelled cyanide and observed the use of sprinklers on the AGVLF. As mentioned above the sprinklers and snow-making machines are currently being utilized to help evaporate excess water within the AGVLF. Prior to the inspection, while driving along Highway 67 along the south side of the VLF, I smelled an odor which I had not smelled before on any of my other site inspections. This could be related to the use of the sprinklers and has been cited as a problem requiring corrective action; please see the specific requirements of this corrective action on page 2 of this report.

Table 1. Transducer readings recorded at the Cresson Project on June 17, 2015.

<u>Phase I High Volume Solution Collection</u> (readings in ft)				
<u>Pump #299 / XDCR #xx</u>	<u>Pump #300 / XDCR #00</u>	<u>Pump #301 / XDCR #01</u>	<u>Pump #302 / XDCR #02</u>	<u>Pump #303 / XDCR #03</u>
39.3	35.0	48.8	55.1	66.3
<u>Phase I Low Volume Solution Collection</u> (readings in ft)				
<u>Pond Lvl / XDCR #1</u>	<u>System Press / XDCR #2</u>			
0.49	0.53			
<u>Phase I Pond Piezometers</u> (readings in ft)				
<u>Piezo #1 (HAND)</u>	<u>Piezo #2 (AUTO)</u>			
71.6	50.7			
<u>Phase II & III High Volume Solution Collection</u> (readings in ft)				
<u>Pump / XDCR #4</u>	<u>Pump / XDCR #5</u>	<u>Pump / XDCR #6</u>		
14.6	17.4	14.6		
<u>Phase II & III Low Volume Solution Collection</u> (readings in ft)				
<u>Pump / XDCR #1 (AUTO)</u>	<u>Pump / XDCR #2 (AUTO)</u>			
0.36	0.38			
<u>Phase II & III Pond Piezometer</u> (readings in ft)				
<u>Piezo (Pipe)</u>				
30.9				
<u>Phase IV High Volume Solution Collection</u> (readings in ft)				
<u>Pump #4 / XDCR #307</u>	<u>Pump #5 / XDCR #308</u>	<u>Pump #6 / XDCR #309</u>	<u>XDCR pipe (#310 Reserved)</u>	
26.8	26.5	26.7	26.8	
<u>Phase IV Low Volume Solution Collection</u> (readings in inches)				
<u>Pump / XDCR #1</u>	<u>Pump / XDCR #2</u>			
11.7	11.5			
<u>Phase V High Volume Solution Collection</u> (readings in ft)				
<u>XDCR #311 (AUTO)</u>	<u>XDCR #312 (AUTO)</u>	<u>XDCR #313 (AUTO)</u>	<u>XDCR #314 (AUTO)</u>	
14.1	13.3	14.2	13.9	
<u>Phase V Low Volume Solution Collection</u> (readings in inches)				
<u>XDCR #001</u>	<u>XDCR #002</u>			
12.34	14.80			
<u>External Pond Low Volume Solution Collection</u> (readings in inches)				
<u>Pump / XDCR #1-EXT (AUTO)</u>	<u>Pump / XDCR #2-EXT (AUTO)</u>			
NA	NA			

Please note: the External Pond levels were not inspected during this inspection

Red Bold = Values Exceed 80% Operating Level

Red Bold Underlined = Values Exceed 100% Capacity Level

PHOTOGRAPHS



Photo 1. Site identification sign at the entrance of the SGVLF; looking southeast.



Photo 2. AGVLF ramp to the 10,400' level of the leach pad; looking southwest.



Photo 3. Solution sprinklers on the AGVLF southwest face; looking northwest from the Phase V pumps.



Photo 4. Impacted soil placed over the liner, within the edge of liner berm, from off-liner spill; looking southwest



Photo 5. Crushed stemming material in the South Cresson Pit; looking east.



Photo 6. Pond #2 of the Carlton Tunnel discharge area; looking southeast.



Photo 7. New Phase V PSSA pump gauges; looking northwest.



Photo 8. Poned solution from faulty drip line along the Phase V PSSA access road; looking northwest.



Photo 9. Construction on the ADR2, Low Volume Solution Collection System building located in the back right of the photo; looking southwest.



Photo 10. Trench being constructed for a temporary SGVLF underdrain pumpback line; northeast.



Photo 11. Bulldozers grading the ball mill slope; looking east.



Photo 12. DCF placement; looking southwest.



Photo 13. Conex storage container unit, welded lip at door is the secondary containment; looking south.



Photo 14. Hydrocarbon skimmer observed at the large vehicle washbay sump in the Ironclad Facility; looking southwest.



Photo 15. Area of the contaminated soils outside of the Oil Room at the Ironclad Warehouse; looking southeast.

Inspection Contact Address

Jonathan Gorman
Cripple Creek & Victor Gold Mining Company
P.O. Box 191
Victor, CO 80860

Enclosure: 6-17-15 M1980244 Field Data Sheet
2010 CC&V Spill Response Plan Appendix F form

CC: Chris Hanks; CC&V
Wally Erickson; DRMS
Tim Cazier; DRMS
Amy Eschberger; DRMS

Appendix F. CC&V SRP Plan

Secondary Containment Contained Storm Water Release Form

(Completed Every Time Storm Water is Released From Secondary Containment)

[illegible]

ATTACHMENT A

Date:	12/10/14	1/7/15	2/24/15	3/11/15	5/21/15		Notes	
Ref. Col:	1	2	25	26	27	28	29	30
Phase I High Volume Solution Collection		Units	10:54	15:19	10:59	12:12	13:23	
	Pump #299 / XDCR #xx	(ft)	36.4	34.1	42.1	36.9	34.5	39.3
<u>Note: 80%</u>	Pump #300 / XDCR #00	(ft)	36.4	33.9	44.1	34.3	37.9	35
<u>cap. @ 63.75</u>	Pump #301 / XDCR #01	(ft)	22.5	39.6	24.9	23.0	51.5	48.8
<u>ft</u>	Pump #302 / XDCR #02	(ft)	33.6	46.3	37.3	33.8	58.5	55.1
	Pump #303 / XDCR #03	(ft)	37.0	52.8	42.0	37.8	67.7	66.3
Phase I Pond Piezometers			10:54	15:19	10:59		13:23	
<u>80% cap. @ 63.75 ft</u>	Pond Lvl / XDCR #1	(ft)	52.4	63.8	57.1	53.2	71.9	71.6
	System Press / XDCR #2	(ft)	47.3	51.9	48.2	48.8	49.6	50.7
Phase I Low Volume Solution Collection			10:30	14:44	10:21	12:19	13:34	
<u>Note: Req'd</u>	Piezo #1 (HAND)	(ft)	0.53	0.39	0.55	0.57	0.52	0.49
<u>< 2 ft</u>	Piezo #2 (AUTO)	(ft)	0.64	0.64	0.68	0.74	0.61	0.53
Phase II & III High Volume Solution Collection			10:46	15:10	10:47	12:33	13:37	
<u>Note: 80%</u>	Pump / XDCR #4	(ft)	27.4	38.4	25.0	23.0	25.3	14.6
<u>cap. @ 49.4</u>	Pump / XDCR #5	(ft)	34.4	46.4	18.3	17.8	24.0	17.4
<u>ft</u>	Pump / XDCR #6	(ft)	30.3	42.9	27.1	24.7	29.5	14.6
Phase II & III Pond Piezometer			10:47	15:10	10:47		13:37	
<u>80% @ 49.4 ft</u>	Piezo (Pipe)	(ft)	33.7	46.7	31.8	31.8	30.9	30.9
Phase II & III Low Volume Solution Collection			10:49	15:12	10:52	12:30	13:39	
<u>Note: Req'd</u>	Pump / XDCR #1 (AUTO)	(ft)	0.28	0.70	0.46	0.71	0.70	0.36 0.36
<u>< 2 ft</u>	Pump / XDCR #2 (AUTO)	(ft)	0.54	0.25	0.30	0.41	0.32	0.38 0.38
Phase IV High Volume Solution Collection			11:15	13:47	11:52	11:28	12:00	
	Pump #4 / XDCR #307	(ft)	15.1	27.1	35.7	32.9	35.0	26.8
<u>Note: 80%</u>	Pump #5 / XDCR #308	(ft)	14.8	26.7	35.4	32.8	35.2	26.5
<u>cap. @ 56.5</u>	Pump #6 / XDCR #309	(ft)	14.9	26.7	35.3	32.5	35.0	26.7
<u>ft</u>	XDCR pipe (#310 Reserved)	(ft)	14.8	26.7	35.3	32.5	35.0	26.8
Phase IV Low Volume Solution Collection			11:17	13:52	11:57	11:35	12:15	
<u>Note: Req'd</u>	Pump / XDCR #1	(in)	15.9	16.7	18.3	17.8	16.3	11.7
<u>< 24"</u>	Pump / XDCR #2	(in)	11.5	11.0	11.5	11.8	11.9	11.5
Phase V High Volume Solution Collection			11:03	15:27	11:08	12:04	13:09	
	XDCR #311 (AUTO)	(ft)	23.28	29.46	19.20	32.74	42.87	14.1
<u>Note: 80%</u>	XDCR #312 (AUTO)	(ft)	15.31	19.13	29.53	21.17	21.04	13.3
<u>cap. @ 36.5</u>	XDCR #313 (AUTO)	(ft)	25.10	28.34	32.29	20.30	19.90	14.2
<u>ft</u>	XDCR #314 (AUTO)	(ft)	15.80	18.96	32.28	30.90	31.65	13.9
Phase V Low Volume Solution Collection			11:05	15:29	11:12	11:59	13:13	
<u>Note: Req'd</u>	XDCR #001	(in)	9.00	10.08	12.84	9.42	13.14	12.34
<u>< 24"</u>	XDCR #002	(in)	12.90	16.80	16.30	15.50	14.60	14.8
External Pond Low Volume Solution Collection			10:25	14:40	10:18	12:24	13:29	
<u>Note: Req'd</u>	Pump / XDCR #1-EXT (AUTO)	(in)	13.1	13.5	9.1	9.7	14.0	
<u>< 24"</u>	Pump / XDCR #2-EXT (AUTO)	(in)	15.6	17.1	12.2	13.4	11.8	
Underdrain Discharge Area			10:38	14:56	10:39	12:42		
	South Underdrain (S U/D)	(gpm)	20.0	14.0	8.0	15.0	28.6	
<u>Note: 1</u>	4" Pipe Discharge AG 01 Spring Pipe	(gpm)	N/C	Dry	Dry	Dry	Dry	
<u>8/sec =</u>	NPDES Discharge AG 1.5 -001A	(gpm)	N/C	Dry	Dry	Dry	Dry	
<u>15.85 gpm</u>	North Underdrain (N U/D)	(gpm)	N/C	Dry	Dry	Dry	Dry	
	24-inch Solid Pipe	(gpm)	N/C	Dry	Dry	Dry	Dry	
Arequa Gulch Monitor Well Pumpback System			10:35	14:52	10:32		13:46	
	35A	(in)	N/C	0.00	0.00	0.00	0.00	
<u>Data first</u>	63B	(ft)	29.28	28.29	35.92	36.98	39.38	
<u>collected by</u>	B63	(gpm)	N/C	0.4	0.0	0.0	0.0	
<u>DRMS 3/8/12</u>	A35	(gpm)	N/C	0.0	0.0	0.0	0.0	