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.

MINE NAME: Cresson Project	**MINE/PROSPECTING ID#:** M-1980-244	**MINERAL:** Gold	**COUNTY:** Teller
INSPECTION TYPE: Monitoring	**INSPECTOR(S):** Timothy Cazier	**INSP. DATE:** January 28, 2020	**INSP. TIME:** 10:00
OPERATOR: Cripple Creek & Victor Gold Mining Company	**OPERATOR REPRESENTATIVE:** Justin Bills, Katie Blake	**TYPE OF OPERATION:** 112d-3 - Designated Mining Operation	

REASON FOR INSPECTION: Normal I&E Program	**BOND CALCULATION TYPE:** None	**BOND AMOUNT:** $209,491,188.00
DATE OF COMPLAINT: NA	**POST INSP. CONTACTS:** None	**JOINT INSP. AGENCY:** None
WEATHER: Clear	**INSPECTOR'S SIGNATURE:**	**SIGNATURE DATE:** February 12, 2020

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---------- Y	(FN) FINANCIAL WARRANTY-------- N	(RD) ROADS---------- Y
(HB) HYDROLOGIC BALANCE---------- Y	(BG) BACKFILL & GRADING---------- Y	(EX) EXPLOSIVES--------- N
(PW) PROCESSING WASTE/TAILING---- N	(SF) PROCESSING FACILITIES------- Y	(TS) TOPSOIL---------- N
(MP) GENL MINE PLAN COMPLIANCE- Y	(FW) FISH & WILDLIFE---------- Y	(RV) REVEGETATION---- N
(SM) SIGNS AND MARKERS---------- Y	(SP) STORM WATER MGT PLAN---- NA	(RS) RECL PLAN/COMP-- N
(ES) OVERBURDEN/DEV. WASTE--------- Y	(SC) EROSION/SEDIMENTATION--- N	(ST) STIPULATIONS------- N
(AT) ACID OR TOXIC MATERIALS------- Y	(OD) OFF-SITE DAMAGE----------N	

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

OBSERVATIONS

Tim Cazier (DRMS) conducted a regular monitoring inspection of the site on Tuesday, January 28, 2020. Mr. Justin Bills and Ms. Katie Blake represented CC&V during the inspection. Two to three inches of snow had fallen the afternoon preceding the inspection. Much of the ground surface was not visible. The planned inspection agenda included the following facilities and areas:

- High Grade Mill (HGM);
- Squaw Gulch Valley Leach Facility (SGVLF, a.k.a. VLF2);
- Arequa Gulch Valley Leach Facility (AGVLF, a.k.a. VLF1), including TR-57 HydroJex injection wells;
- Poverty Gulch Diversion Channel (postponed due to snow cover);

High Grade Mill: Messrs. Charles Bissue and Dylan Noble accompanied the DRMS on the 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. Snow in the secondary containment areas ranged from none in the semi-sheltered areas (see **Photo 1**) to a maximum of about two inches in the more open west side vat leach area (see **Photo 2**).

Squaw Gulch Valley Leach Facility (VLF2): Messrs. Bissue, Noble and Laurin Colby accompanied the DRMS to the VLF 2 overlook (from VLF 1). Snow was observed on the outslopes of VLF2, but the top was relatively clear and no ponded process solution was observed (see **Photo 3**).

High Volume Solution Collection System (HVSCS) and Low Volume Solution Collection System (LVCSC) water levels were checked from the control room in ADR2 as sunlight was too bright to read the display monitors adjacent to the pumps. Water levels in the HVSCS were below the 80 percent level and water levels in the LVSCS were below the maximum allowed 24 inches (See **Attachment A**).

Arequa Gulch Valley Leach Facility (VLF1): Messrs. Bissue, Noble and Colby accompanied the DRMS to VLF 1 where the focus was on the operation of the injection wells approved with TR-57. Nine injection wells were constructed on the 9,925 level bench for the purpose of injecting lime at depth in VLF1. Well HJ-8 (see **Photo 4**) was being operated at the time of the inspection, but for process solution injection, rather than for lime. Site representatives explained only one well in an area contributing to a process solution storage area (PSSA "pond") is used for injection at one time and at no more than 1,600 gpm so as not to overwhelm the pumping capacity of the PSSA pumps. Site representatives explained the injection wells had perforations (approximately 1 inch in diameter) cut into the casing internally after it was set over a hundred or more feet, depending on the well. However, the specific injection interval is set to five feet by setting inflatable packers (pressurized to 300 psi and monitored). Well HJ-8 was being injected at a depth of 115 ft bgs at operated at a pressure of about 112 psi as indicated by the pressure gage (see **Photo 5**). The well operator explained the injection is limited by both pressure and flow rate, so as not to exceed either. Furthermore, the injection pressure at the injection depth is not to exceed the estimated lithostatic overburden pressure determined by HydroGeophysics in 2010 as part of the TR-57 pilot project. According to the HydroGeophysics determination, the estimated overburden pressure at 115 feet bgs is approximately 90 psi. The HydroJex pilot program measured the pressure at both the top of the well head and in the injection zone, within the casing. Due in part to the high flow rate (up to 1600 gpm) in a small pipe (three inch diameter), significant pressure/head loss was measured at the injection depth. As such, the pressure at the top of the well greatly exceeds that in the injection zone. Based on formulae developed from the pilot program data, the maximum top of well pressure (including a factor of safety) for an injection

depth of 110 feet is 119 psi. Therefore, the observed operating pressure was below the limit for the injection depth. It should be noted the DRMS is reviewing the February 10, 2020 adequacy response to the DRMS and additional information may be required.

HVSCS and LVSCS water levels were checked on VLF 1. Water levels in the HVSCS were below the 80 percent level, however the Phase II water level was at 47.4 feet where the 80 % level is 49.4 feet, near the limit requiring reporting to the DRMS. Water levels in the LVSCS sumps were below the maximum allowed 24 inches (See **Attachment A**). Each LVSCS facility has a log book where site personnel are to record the LVSCS levels at least once daily. The water level for the Phase V facility had not been recorded in the log book since January 26, 2020, two days prior to this inspection. Site representatives stated water levels are constantly monitored in the ADRs. As water levels were being monitored remotely, the missing log book entry was not cited as a problem. However, if missing log book entries are observed during future inspections, the DRMS may cite a problem. If CC&V wishes to alter their monitoring record keeping, a technical revision should be submitted to the DRMS.

Poverty Gulch Diversion Channel: The visit to the diversion channel was postponed due to snow cover preventing visual inspection of the channel condition.

General Site Observations: The DRMS performed an aerial inspection on January 24, 2020 (see separate aerial inspection report). Photos from this aerial inspection were reviewed to determine if appropriate ore stacking practices were being adhered to on VLF2 (see **Photo 6**).

Please contact Tim Cazier (303)866-3567 ext. 8169 or email at tim.cazier@state.co.us if you have any questions regarding this report.

PHOTOGRAPHS

Photo 1. Very little snow in semi-sheltered Neutral pH Process Water Tank secondary containment area.

Photo 2. 2" - 3" snow in the vat leach secondary containment area.

PHOTOGRAPHS (cont.)

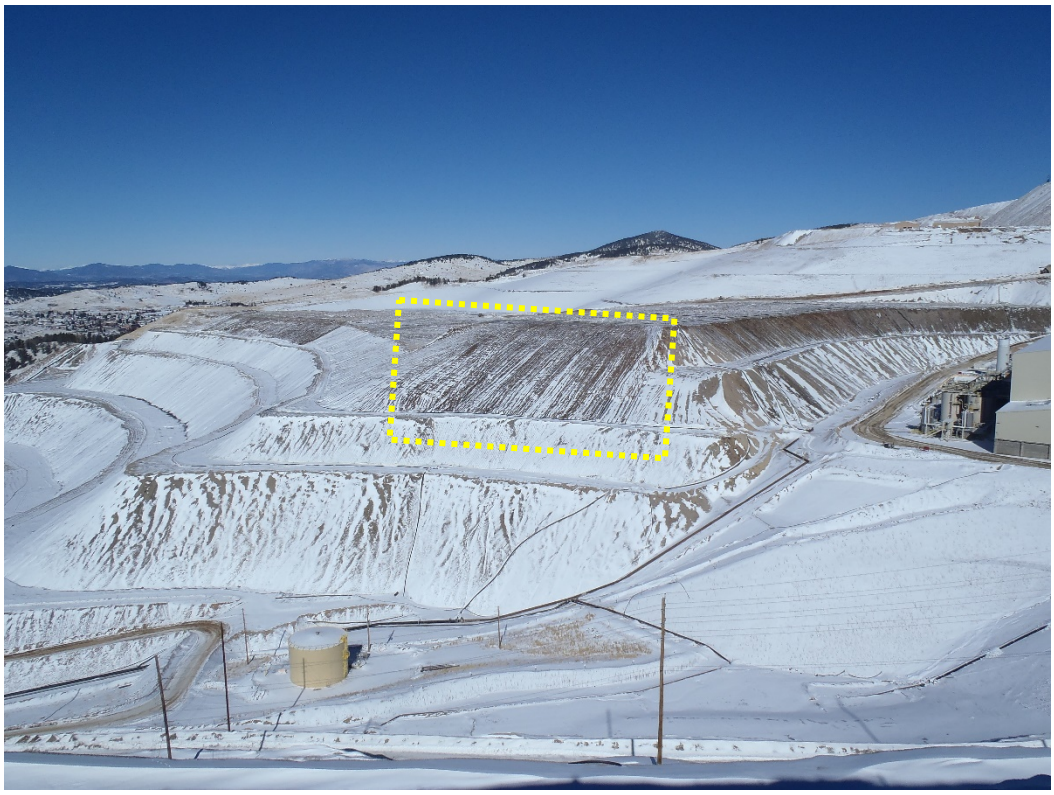

Photo 3. VLF2 from VLF1 overlook – no ponded process solution observed (note flattened slope).

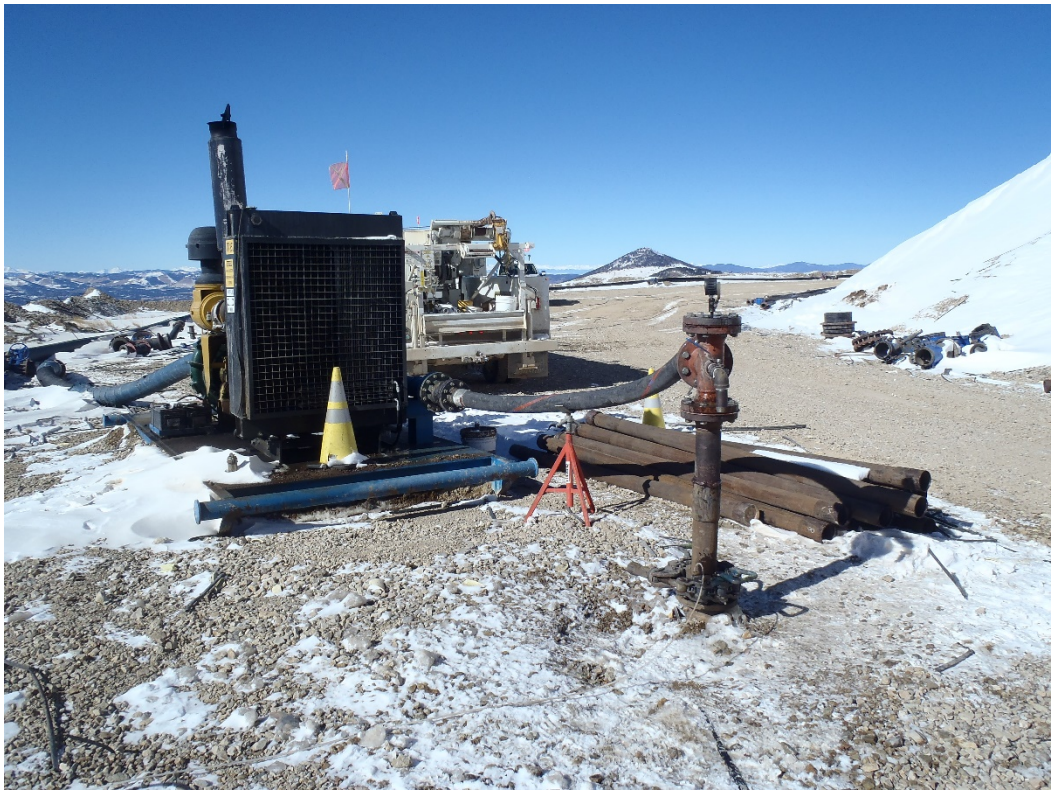

Photo 4. HJ-8 injection well on 9925 bench of VLF1 (looking NW).

PHOTOGRAPHS (cont.)

Photo 6. Top of HJ-8 well gage pressure (111.9 psi) at time of inspection.

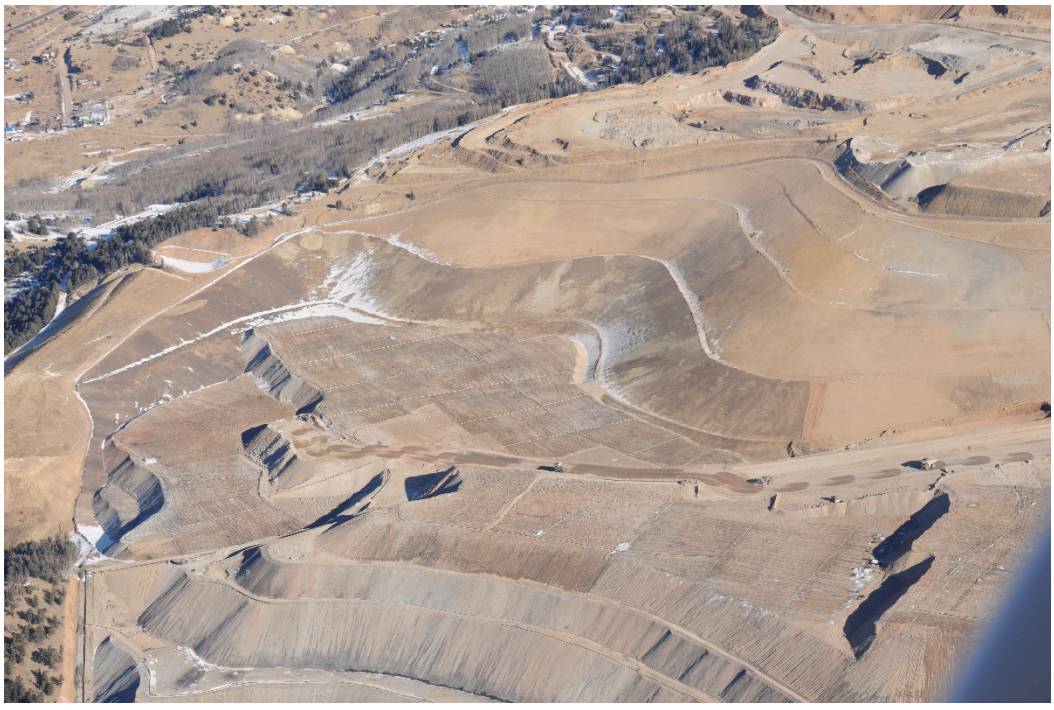

Photo 7. January 24, 2020 aerial view of VLF2 ore stacking.

Inspection Contact Address

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Enclosure

ec: Elliott Russell, DRMS
Patrick Lennberg, DRMS
Brock Bowles, DRMS
DRMS file
Justin Bills, CC&V
Justin Raglin, CC&V
Katie Blake, CC&V
Wendy Conley, CC&V

ATTACHMENT A

CC&V VLF Water Level Inspection Readings

Previous Results

Date:			5/21/19	6/24/19	7/23/19	11/4/19	11/19/19	1/28/26	Notes
AREQUA VLF:		EPS:	TC1	JPL	TC1		TC1	TC1	
Phase I HVSC & Pond Piezometers		TIME:	13:14	10:45		11:15		10:45	
Note: 80% cap. @ 63.75 ft	Max. of Pump #299, #300, #301, 302, or #303 (Circle Pump #)	(ft)	57.8	49.5	--	43.8	--	58.9	
	Pond Lvl / XDCR #1	(ft)	58.0	48.7	--	41.9	--	58.2	
	System Press / XDCR #2	(ft)	39.3	41.6	--	42.2	--	36.4	system head
Phase I Low Volume Solution Collection		TIME:	13:03					10:51	
Note: Req'd < 2 ft	Piezo #1 (HAND)	(ft)	0.44	0.45	--	0.28	--	0.61	
	Piezo #2 (AUTO)	(ft)	0.75	0.79	--	0.48	--	0.82	
Phase II & III HVSC & Pond Piezometer		TIME:	13:09	10:50		11:05		10:55	
Note: 80% @ 49.4 ft	Max. of XDCR #4, #5, or #6 (Circle XDCR #)	(ft)	35.2	40.6	--	21.9	--	47.4	
	Piezo (Pipe)	(ft)	44.6	41	--	31.2	--	48.2	
Phase II & III Low Volume Solution Collection		TIME:	13:06	10:55				10:58	
Note: Req'd < 2 ft	Pump / XDCR #1 (AUTO)	(ft)	0.64	0.69	--	0.94	--	0.58	
	Pump / XDCR #2 (AUTO)	(ft)	0.48	0.49	--	0.79	--	0.44	
Phase IV High Volume Solution Collection		TIME:	10:54	10:10		12:30		12:13	
Note: 80% cap. @ 56.5 ft	Max. of Pump #307, #308, or #309 (Circle Pump #)	(ft)	35.1	27.1	--	40.2	--	46.5	
	XDCR pipe (#310 Resv'd)	(ft)	25.1	37.7	--	38.9	--	46.8	
Phase IV Low Volume Solution Collection		TIME:	10:59	10:15				12:15	
Note: Req'd < 24"	Pump / XDCR #1	(in)	16.4	15.3	--	17.1	--	too variable	use upe 2 date
	Pump / XDCR #2	(in)	12.4	12.1	--	12.5	--	12.6	
Phase V High Volume Solution Collection		TIME:	12:44	10:35			10:00	10:30	
Note: 80% cap. @ 36.5 ft	Max. of XDCR #311, #312, #313, or #314 (Circle XDCR #)	(ft)	28.1	28.9	--	--	25.7	29.4	
Phase V Low Volume Solution Collection		TIME:	12:46				10:03	10:32	SPID DYLAN, Note CCR check
Note: Req'd < 24"	XDCR #001	(in)	15.37	10.5	--	--	16	12.0	
	XDCR #002	(in)	15.1	14.4	--	--	16.8	16.8	since 1/26
External Pond Low Volume Solution Collection		TIME:	13:00			11:00			
Note: Req'd < 24"	Pump / XDCR #1-EXT (AUTO)	(in)	13.2		--	7.0	--		
	Pump / XDCR #2-EXT (AUTO)	(in)	7.2		--	14.9	--		
Underdrain Discharge Area		TIME:	13:24						
Note: 1 ℓ/sec = 15.85 gpm	South Underdrain (S U/D)	(gpm)	0.0		--	--	--		
	4" Pipe Discharge AG 01 Spring Pipe	(gpm)	0.0		--	--	--		
	NPDES Discharge AG 1.5 -001A	(gpm)	0.0		--	--	--		
	North Underdrain (N U/D)	(gpm)	0.0		--	--	--		
	24-inch Solid Pipe	(gpm)	0.0		--	--	--		
Arequa Gulch Monitor Well Pumpback System		TIME:							
Data first collected by DRMS 3/8/12	35A	(in)	0.00		--	--	--		
	63B	(ft)	OFF		--	--	--		
	B63	(gpm)	0.0		--	--	--		
	A35	(gpm)	0.0		--	--	--		
SQUAW GULCH VLF High Vol. SC:		TIME:	12:22	8:30	9:23		10:28	11:15	
Note: 80% cap. @ 94 ft	LIT #88301 (north end)	(ft)	52.79	62.2	42.1	--	44.76	56.0	From Control Room in AD 2
	LIT #88303	(ft)	51.89	61.1	41.9	--	44.32	54.9	
	LIT #88305	(ft)	52.32	61.7	42.4	--	44.27	54.1	
	LIT #88307 (south end)	(ft)	55.1	63.1	45.9	--	48.8	54.8	
	Piezometer-LIT #88314	(ft)	62.4	69.1	55.4	--	54.4	~~56 or 66.9~~	~~54.8~~ 65.1
SQUAW GULCH VLF Low Vol. SC:		TIME:	12:28	8:35	9:28		10:34		
Note: Req'd < 24"	Leachate Pump 1	(in)	8.1	6.8	12.5	--	13.4	13.1	
	Leachate Pump 2	(in)	8.8	7.1	12.9	--	13.7	10.5	

(1) Recorded also where