




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: April 28, 2016	INSP. TIME: 10:30
OPERATOR: Cripple Creek & Victor Gold Mining Company	OPERATOR REPRESENTATIVE: Marc Tidquist	TYPE OF OPERATION: 112d-3 - Designated Mining Operation	

REASON FOR INSPECTION: Normal I&E Program	BOND CALCULATION TYPE: None	BOND AMOUNT: \$173,434,420.00
DATE OF COMPLAINT: NA	POST INSP. CONTACTS: None	JOINT INSP. AGENCY: None
WEATHER: Overcast	INSPECTOR'S SIGNATURE: 	SIGNATURE DATE: May 6, 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.

GENERAL INSPECTION TOPICS

The following list identifies the environmental and permit parameters inspected

(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>PV,</u> <u>PB</u>	(TS) TOPSOIL----- <u>Y</u>
(MP) GENL MINE PLAN COMPLIANCE- <u>Y</u>	(FW) FISH & WILDLIFE----- <u>PB</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>N</u>
(ES) OVERBURDEN/DEV. WASTE----- <u>N</u>	(SC) SEDIMENT CONTROL----- <u>Y</u>	(RS) RECL PLAN/COMP-- <u>N</u>
(AT) ACID OR TOXIC MATERIALS----- <u>N</u>	(OD) OFF-SITE DAMAGE----- <u>N</u>	(ST) STIPULATIONS----- <u>N</u>

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

PROBLEMS/POSSIBLE VIOLATIONS

INSPECTION TOPIC: Processing Facilities

POSSIBLE VIOLATION: Vat Leach Tank #1 of the High Grade Mill has overtopped with process slurry. The Operator failed to maintain the approved capacity of the secondary containment for the cyanidation leach tanks. The Operator failed to notify the Division of this situation, a possible violation of C.R.S. 34-32-121.5 and Rule 8.1(b). Pursuant to C.R.S. 34-32-124(1), this is a possible violation for failure to comply with conditions of an order, permit, or regulation.

CORRECTIVE ACTIONS: This possible violation has been scheduled to be considered by the Mined Land Reclamation Board, during the June 22-23, 2016 Board meeting. Official notice of the schedule and other details for the MLRB hearing will be provided under a separate document to be sent via certified mail to the operator. The Operator shall also reestablish the approved secondary containment capacity for the cyanidation leach tanks by the corrective action due date.

CORRECTIVE ACTION DUE DATE: May 20, 2016

INSPECTION TOPIC: Fish & Wildlife

PROBLEM 1: A significant volume of metallurgical processing fluid was exposed in the High Grade Mill infiltration trench. 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 the entire surface area of the solution within the High Grade Mill infiltration trench is covered by "bird balls" or other wildlife mitigation measures.

CORRECTIVE ACTION DUE DATE: May 9, 2016

INSPECTION TOPIC: Processing Facilities

PROBLEM 2: A significant volume of metallurgical processing fluid was observed in the High Grade Mill infiltration trench. The approved permit states the remainder of the mill leach circuit water balance, not recycled, will be pumped to AGVLF or SGVLF and either injected into the barren pipeline or to a designated drip tube distribution system. As such, the infiltration trench is an unapproved structure and the construction and use of the structure is not authorized by the Permit, the Act and Rules.

CORRECTIVE ACTIONS: The Operator shall immediately cease placing fluids within the unapproved infiltration trench. The Operator shall, within one working day of receiving this inspection report, due May 9, 2016, provide the Division a written statement affirming timely compliance with this corrective action.

CORRECTIVE ACTION DUE DATE: May 9, 2016

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, operated by the Cripple Creek & Victor Golding Mining Company (CC&V), is located southeast of Cripple Creek, Colorado and north of Victor, Colorado. Elliott Russell, with the Division, inspected the site. Marc Tidquist, 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 monitor ongoing construction projects on site. The following facilities were inspected during this site visit:

- Squaw Gulch Valley Leach Facility (SGVLF)
- High Grade Mill (HGM)
- Arequa Gulch Valley Leach Facility (AGVLF)

On Site Meeting:

The Division met with Mr. John Corra, Projects Manager for CC&V, to discussed possible schedule changes of the SGVLF construction activities. At this time, CC&V plans to not complete Phase II activities (besides rough-grade earthwork and underground workings remediation) of the SGVLF after Phase I. This is due to several reasons, but mainly because the stacking of the leach pad is well behind Phase I limits. The Division has concluded this delay of construction

schedule of an Environmental Protection Facility must be submitted for Division review and approval through the Technical Revision process. CC&V should include information on storm water controls for Phase II areas in the Technical Revision. The Division is currently reviewing the approved TR-59 and TR-72, regarding how these relate to the haulage of agglomerated tailings from the HGM to the SGVLF as well as the haulage of crushed ore from the Load Out Bin to the SGVLF on unlined areas.

SGVLF Inspection:

The Division and Mr. Tidquist were accompanied by Mr. Jeff Gaul into the SGVLF. The first lift of ore within the SGVLF was completed and the new 9650-foot lift was actively being stacked at the time of the inspection (**Photo 1**). Mr. Gaul stated that the Squaw Gulch Adsorption Desorption and Recovery facility (SGADR) was in testing and at approximately 50% operational capacity with a projected commissioning later this fall. CC&V was currently having three new level indicators installed near the Pregnant Solution Storage Area (PSSA) pumps because the indicators on the casings had been compromised (**Photo 2**). CC&V also plans on installing a forth indicator near the toe of the first heap leach lift to acquire data of the pregnant solution level outside of the pumps' cone of influence. The Division inspected an area of Drain Cover Fill (DCF) that had recently been repaired in the southwest corner of the SGVLF (**Photo 3**). Runoff from the south perimeter road drained down to the 9550-foot bench, crossed onto the pad, and washed out DCF beneath the barren solution line (**Photo 4**). Repairs to this area should take future mitigation of similar runoff events into consideration.

HGM Inspection:

Following up with previous observations, the Division inspected the southwest corner of the HGM pad where a seep/possible discharge was observed coming from the edge of the HGM pad liner. These areas of concern were dry at the time of the inspection (**Photo 5**). The Division observed gray staining on the surface grate of the western most sump (sump CB-3) of the HGM pad liner and a corroded metal pipe (**Photos 6 & 7**). It appears that metallurgical processing solution was possibly drained into the HGM sump. The Division observed gray staining on the sides of cyanidation vat leach tank #1 and the side of the nearby building located on the west side of the HGM (**Photo 8**); it appears this tank was overtopped with process slurry and splattered on the adjacent building. Evidence of splatter on the entire height of the adjacent building, approximately 30 feet tall, was observed. The Division observed a large amount of processed material inside the curbed concrete foundation, consuming the capacity of the secondary containment of the cyanide vat leach tanks. This solid material was dark gray in color and consistent with the characteristics of the mill's process slurry. The approved permit discusses that the process slurry associated with the vat leach process is comprised of a dilute sodium cyanide solution, lime, and the fine concentrate slurry which had been floated through the mill's froth floatation process. There are six vat leach tanks, each are approximately 173,000 gallons in size and the curbed concrete foundation has the capacity of 75% of one vat leach tank. The Division observed that the secondary containment was filled to within approximately 6 inches of the top of the curbed foundation (**Photo 9**). A large amount of this material was heaped up in the southern end of the secondary containment, between the foundation for future leach tank #7 and the leach area sump #2; it appears the sump as well as multiple electrical junction boxes had been cleared of the slurry residue (**Photo 10**). Observations made during the inspection and recorded in this report indicate the Operator has failed to maintain the secondary containment capacity of the vat leach tanks. This is cited as a part of a Possible Violation, additional details are provided on page two of this report.

The Division observed traces of material outside of the secondary containment structure, which appears similar to the material consuming the capacity of the secondary containment. This material, located outside of the secondary containment vessel, could be related to the cleanout of the sump and electric boxes discussed above. Given the height of the tank and relatively short height of the curbing, the pattern of splatter observed on the adjacent building indicates material from vat leach tank #1 was broadcast beyond the secondary containment structure (**Photo 11**). The approved permit states that all spills and leaks from the cyanidation leach tanks will be contained within the curbed concrete foundation. The loss of containment at the secondary structure is cited as part of a Possible Violation, additional details are provided on page two of this report.

For Designated Mining Operations, Operators are required to notify the Office, as soon as reasonably practicable, but no later than twenty-four hours, after the Operator has knowledge of a failure or imminent failure of any Environmental Protection Facility designed to contain or control designated chemicals or process solutions as identified in the permit per the requirements of C.R.S. 34-32-121.5 and Rule 8.1(b). The Operator failed to notify the Division when the vat leach

tank failed to contain or control process solutions. The Operator failed to notify the Division of possible loss of secondary containment, not only when the capacity of the secondary containment structure had been consumed, but also when the curbing of the secondary containment structure failed to contain and control process solutions ejected from the vat leach tank #1. This issue is cited as part of a Possible Violation, additional details are provided on page two of this report.

AGVLF Inspection:

The AGVLF was inspected and accessed by the 10,100-foot and Phase V pumps access roads. No ponding of solution was observed on the top of the AGVLF pad and associated access roads. The solution levels of the various PSSA Phases of the AGVLF were not checked as a part of this inspection.

Also associated with the High Grade Mill, the infiltration trench that allows the infiltration of mill solution discharge into the AGVLF pad, was inspected. The infiltration trench, constructed on the crest of one of the northern slopes of the AGVLF pad, was near capacity; the amount of solution in the trench had dramatically risen since the last DRMS inspection. This rise in solution level has caused the surface area to increase, causing the amount wildlife mitigation measures, the floating "bird balls", to become inadequate (**Photo 12**). As approved in the permit, the Wildlife Protection Plan states that any area of standing process solution with a surface area larger than 3 feet x 3 feet should be corrected as soon as reasonably possible. The area of the trench lacking "bird balls" is greater than the area allow as identified in the permit; this is cited as Compliance Problem 1 on page two of this report.

During the March 15, 2016 inspection, the Division raised questions regarding if a stability analysis has been performed to assess the affect the infiltration trench might have on the slope stability of the AGVLF and if an associated geotechnical report was available. The Division reviewed the permit for information regarding the infiltration trench. The approved permit states that the remainder of the mill leach circuit water balance, not recycled, will be pumped to AGVLF or SGVLF and either injected into the barren pipeline or to a designated drip tube distribution system. There is no discussion for the use of an infiltration trench as a circuit water structure. As such, the infiltration trench is an unapproved structure and the construction and use of the structure is not authorized by Permit, the Act and Rules. This is cited as Compliance Problem 2 on page two of this report.

This concludes the Division's Inspection Report; a subset of photographs taken during the time of the inspection are included below. If you need additional information or have any questions, please contact me at Division of Reclamation, Mining and Safety, 1313 Sherman Street, Room 215, Denver, CO 80203, by telephone at **303-866-3567 x8132**, or by email at elliott.russell@state.co.us.

Inspection Contact Address

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PHOTOGRAPHS



Photo 1. Overview of the SGVLF, 9650-foot lift circled; looking northwest.



Photo 2. A small drill rig installing a level indicator between the northern two PSSA pumps adjacent to the SGADR; looking northwest.



Photo 3. Area of repaired DCF under the barren solution line; looking northwest toward the SGADR.



Photos 4. SGVLF south perimeter road, showing approximate storm water flow that caused DCF erosion; looking east.



Photo 5. One of the sweeps near the southwest corner of the HGM pad, surveyed edge of liner approximated by yellow line; looking southeast.



Photos 6 & 7. Surface grate to the southwest HGM pad liner sump, gray staining and corroded still pipe.



Photo 8. Gray staining on the sides of vat leach tank #1, adjacent building with splatter located to the left; looking northeast.



Photo 9. Significant amount of process slurry material within the secondary containment concrete foundation; looking northeast.

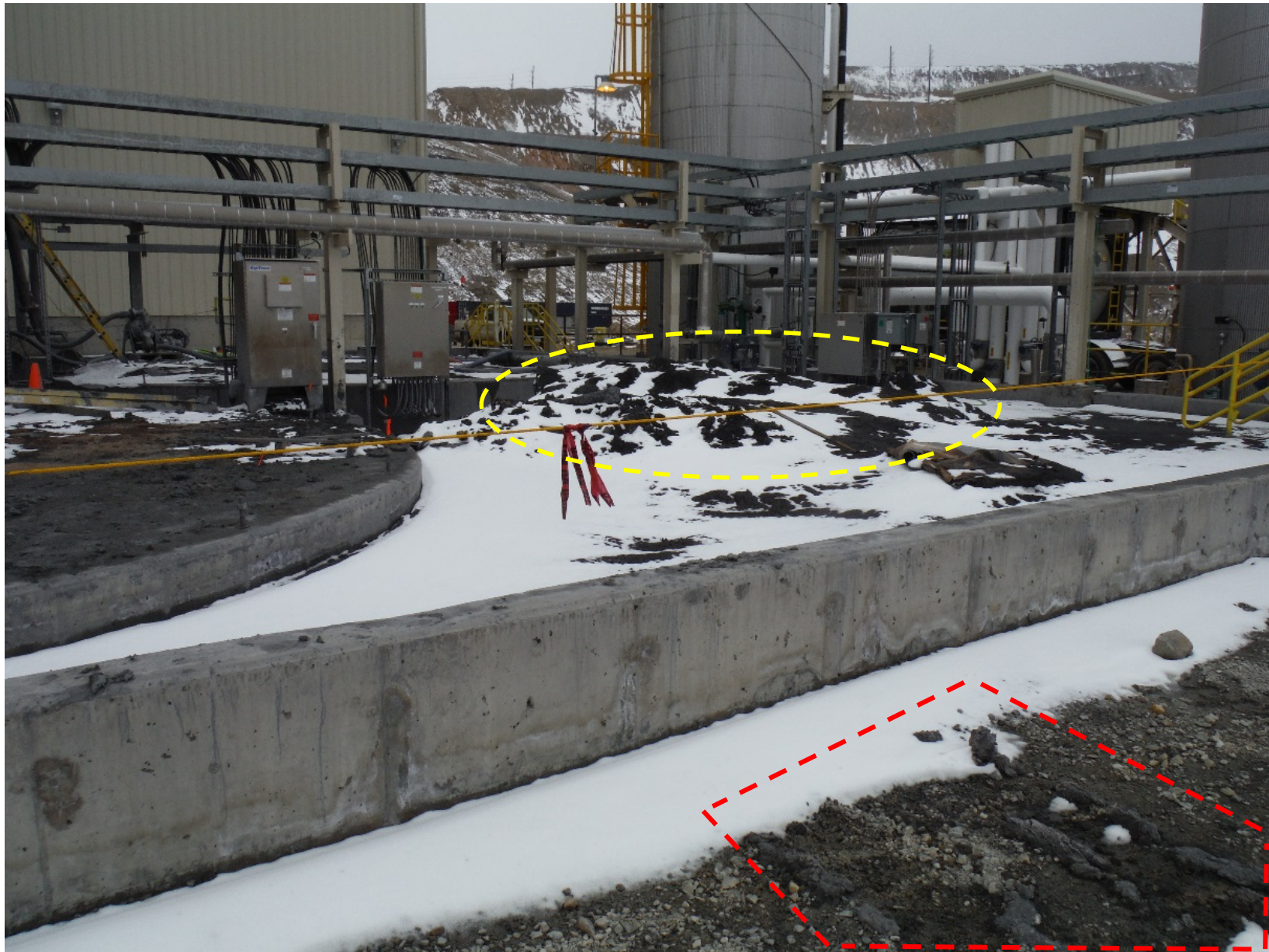


Photo 10. Heaped material within secondary containment foundation (yellow), similar material outside of secondary containment (red); looking southeast.



Photo 11. Splatter on the building adjacent to vat leach tank #1, red arrows representing direction of splatter and yellow line shows secondary containment; looking east



Photo 12. HGM solution infiltration trench, the farther dark area are the “bird balls”; looking west.