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):** Amy Eschberger	**INSP. DATE:** April 14, 2015	**INSP. TIME:** 11:30
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:** Amy Eschberger	**SIGNATURE DATE:** June 26, 2015

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

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

OBSERVATIONS

This was a normal monitoring inspection of the Cresson Project (Permit No. 1980-244) conducted by Amy Eschberger of the Division of Reclamation, Mining and Safety (Division). This is a 112d-3 heap leach gold mining operation with an approved permit area of 5,989.70 acres. The approved post-mining land use is rangeland and wildlife habitat. This was a partial inspection conducted as part of the Division's latest objective to inspect this site monthly while important construction projects are underway, including construction of the Squaw Gulch Valley Leach Facility (SGVLF), and the second Adsorption-Desorption Recovery facility (ADR-2). Additionally, in reviewing recent aerial images taken of the site, the Division had observed what appeared to be sloughing of a portion of the drain cover fill (DCF) material stockpile located west of the AMES construction yard, which required further investigation. Chris Hanks represented the operator during the inspection.

At the time of inspection, the weather was clear, cool and sunny, and the ground was dry with some snow cover remaining in shaded areas. Upon arrival at the operator's main office in the city of Victor, CO, Mr. Hanks informed the Division of a small spill of sodium cyanide leach solution (solution) that was discovered earlier that morning around 8:00-8:30 am. This spill occurred in the northeastern portion of Phase 5 of the Arequa Gulch Valley Leach Facility (AGVLF), where the old AMES shop was previously located (just southwest of the Main Cresson Mine). This area was inspected first. Mr. Hanks estimated that approximately 30-50 gallons of solution had leaked from the faulty dripline(s). This amount is based on the driplines running at a rate of approximately 2 gallons per hour, and the fact that the spill must have occurred after the area was last inspected by mine staff the previous morning around the same time (8:00-8:30 am). Mr. Hanks stated that the solution flow was shut off in this portion of the AGVLF immediately after the spill was discovered. He estimated it would take approximately 3 days to replace the faulty dripline(s). At the time of the inspection, a mine staff member was hand shoveling out the solution-saturated material in order to keep from damaging the liner underneath (**Photo 1**). The spill area appeared to cover approximately 225-300 square feet (approximately 15 feet wide by approximately 15-20 feet out from the liner berm; **Photo 2**). The solution appeared to stop flowing outward and began spreading out laterally once it left the liner berm and hit the compacted ground outside of the berm. A small wheeled loader was hauling off the shoveled solution-saturated material and dumping it back onto the AGVLF (inside the liner berm) at a nearby (dry) location. After all solution-saturated material is removed from the spill area, fresh material will be brought in from a nearby stockpile to replace any removed material and repair the berm. According to Mr. Hanks, the spill would be tracked in the mine's incident response system. Mr. Will Adams, the leach pad supervisor, would continue overseeing the project. The Division believes that mine staff responded appropriately to the spill incident and effectively minimized environmental impact.

Next, the Division inspected the new location for crushing stemming material for packing blast holes in the South Cresson Pit (**Photo 3**). The operation was active at the time of the inspection. Initially, this mobile crushing operation was to occur in the West Blue Overburden Storage Area located between the Wild Horse Extension Pit (WHEX) and the old Wild Horse Pit. However, the operation encountered a topographic constraint in the previous location and decided to move the operation to its current location. The previous location will still be utilized for storage of stemming material. This small crushing operation operates 12 hours per day at a rate of approximately 1,000 tons per hour. The mine operation requires a total of approximately 250,000 tons of crushed stemming material annually for blasting activities. The operator anticipates completion of this crushing operation by mid-June 2015. No problems were observed in this area.

The Division also inspected the main crusher area located between the AGVLF and the Main Cresson Mine (**Photos 4** and **5**). This facility includes a primary crusher, secondary crushers, and a lime silo. The crushed ore is conveyed up to a load-out bin (LOB) located northwest of the crusher area, where trucks haul the material to the AGVLF leach pad. The facility did not appear to be in operation at the time of the inspection. No mine staff were present. Before conducting this inspection, the Division was curious about what appeared to be a stockpile located adjacent to the old Hilfiger Wall just east of the old crusher (**Photo 6**; visible in Google Earth). Upon further inquiry, the operator informed the Division that the material was not a stockpile but a structural fill of 6-8 inch minus crush placed and

compacted against the old Hilfiger Wall for stability. Apparently, a slight bulge was found at the base of the wall, and a geotechnical evaluation was completed in 2013/2014. The fill against the Hilfiger wall was designed to pick up the slope angle above the wall and stabilize the structure for life of mine. Currently, the rest of the structure is stable and no further work is anticipated at this time. The primary crusher is located immediately west of the old crusher area, and therefore, maintaining the integrity of this area is critical. The area located uphill north and northeast of the main crusher area is undergoing construction. A portion of the haul road was removed for placement of a culvert that will help drain roads in this area to a catchment pond. No problems were observed in this area.

Before exiting the AGVLF area, the Division briefly inspected the Phase 4 area where spent ore (ore previously leached by sodium cyanide) was removed and hauled to the SGVLF. This material was used to stabilize the High Volume Solution Collection System (HVSCS) riser pipes in the Pregnant Solution Storage Area (PSSA) and to help build the ADR-2 platform to yard grade. This operation began in October 2014 after approval of Technical Revision No. 72 (TR-72, approved 09/18/2014). The operation was completed within a few weeks before this inspection. A total of approximately 1.75 million tons of spent ore was moved. At the time of the inspection, mine staff were re-loading Phase 4 with crushed ore (**Photo 7**). No problems were observed in this area.

Next, the Division inspected the southwestern edge of the DCF stockpile located west of the AMES construction yard. Based on a recent aerial image of this area (shown in the aerial inspection report from 12/03/2014), the Division was concerned that there may be sloughing of the stockpile into the adjacent Phase 2 stormwater diversion ditch. If this were the case, the Division would have concerns about overall slope stability of the stockpile and potential impacts on the diversion ditch. At the time of the inspection, any excess DCF material that had spilled over into the ditch had been removed, and this portion of the stockpile appeared to be stable (**Photos 8** and **9**). After discussing the matter with Mr. Hanks and other mine staff, it appears that this was not a case of stockpile sloughing, but occurred as the stockpile was being stacked approximately 1-1/2 to 2 years ago. Apparently, the stacker built up this portion of the stockpile too quickly, causing the material to spill over the surrounding berm. The problem was resolved by moving back the stacker. At that time, the adjacent diversion ditch was unlined. Now, the ditch is lined with riprap, and does not appear to be impacted by the stockpiled material. Because the DCF material is clean (not waste rock) there should be no concerns about surface water contamination. No problems were observed in this area.

The inspection continued at the SGVLF. The four HVSCS riser pipes located in the southwestern portion of the PSSA will be cut off and leveled, and the header will be installed at an elevation of approximately 9,450 feet (current grade). The southern slope of the SGVLF where the accepted Phase I 80-mil LLDPE geomembrane liner was installed before winter was in the process of being recertified by AMEC staff (**Photos 10** and **11**). This process includes inspecting the entire liner, marking locations of any defects, beading these areas, and performing vacuum tests. As each portion of the liner in this area is recertified, DCF material is placed per the approved specifications (**Photo 12**). Prior to DCF placement, the HVSCS piping is placed on the accepted liner (**Photo 13**). During the inspection, the Division also observed mine staff placing Soil Liner Fill material (SLF) on Phase I acceptance areas located above (southeast of) the area receiving DCF placement (shown in **Photo 10**). SLF was also being placed on the northern slope of the SGVLF (**Photo 14**). Mine staff had recently completed excavating the Phase I leak detection trench along the western edge of the liner near the ADR-2 (**Photo 15**; also shown in **Photo 14**). According to the approved specifications, a 3-inch perforated polyethylene leak detection pipe is installed in this trench and transitions to solid piping. During the inspection, mine staff were in the process of constructing the SLF plug and berm adjacent to the trench (as completed on the southern portion of the SGVLF) to create the cut-off wall from perforated to solid piping.

The Division observed construction activities in the ADR-2 pad area where foundation work was in progress (**Photos 16** and **17**). Mr. Hanks indicated that the concrete work would begin soon. According to the Weekly Construction Quality Assurance Report submitted by the operator for the weeks ending on 03/14/2015 and 03/21/2015, approximately 8 feet of spent ore (SO) was excavated from the ADR-2 engineered fill footprint (9,439 to 9,447-foot elevation) and replaced with a mixture of SO and Low Volume Solution Collection Fill (LVSCF) in the PSSA engineered fill area. The LVSCF material was hauled from the stockpile to the PSSA with Cat 777 haul

trucks and blended with SO in a 50/50 mixture. This engineered fill was placed and compacted beneath the footprint of the ADR-2 SO working platform at the 9,450 elevation. Quality assurance monitoring of this activity was conducted by New Fields. The Division verified with the operator that the engineered fill was tested to demonstrate that it meets the approved specifications outlined in the SGVLF quality assurance final report. No problems were observed in this area.

The Division observed the new growth medium stockpile (No. 34) located northwest of the SGVLF. According to the operator, this stockpile has been hydroseeded/hydromulched with 1 ton per acre of Biotic Earth (organic supplement), 800 pounds per acre of Sustane organic fertilizer, and 3,500 pounds per acre of Flexterra flexible growth medium and tackifier. The stockpile appeared to be stable at the time of the inspection.

The inspection continued to the portion of the valley below the SGVLF toe berm/Hwy 67 realignment. During the inspection, there was discussion with Mr. Hanks about the operator's plans to submit a Technical Revision in the near future to modify the approved SGVLF toe berm underdrain pump-back system. Initially, the operator had proposed pumping from the downgradient of the two concrete underdrain ponds (**Photo 18**) constructed to collect water from the underdrain line and toe berm cut-off trench. However, after further engineering review, the operator determined it would be better to build a subsurface enclosure with a well to collect water from the underdrain and cut-off trench that runs along the base of the toe berm. Water from the toe berm cut-off trench will be collected in the subsurface enclosure and then pumped with the water from the underdrain line up to the ADR-2 facility. The existing underdrain ponds will be lined and used only as emergency overflow for the subsurface enclosure. A trash pump will be used to feed water from the concrete ponds back into the well of the subsurface enclosure as space becomes available following an overflow event. Currently, water from the toe berm cut-off trench (**Photo 19**) is being pumped out and hauled to the SGVLF PSSA. A power line will need to be installed on the north side of the toe berm to accommodate the new pumpback system. After this inspection, the operator submitted Technical Revision No. 74 (on 05/14/2015) to address this modification to the SGVLF toe berm underdrain pumpback system. This revision is currently being reviewed by the Division and has a decision date of 07/13/2015.

Upon leaving the site, the Division observed the East Cresson Mine Wildhorse Extension (WHEX) pit where active mining and production drilling is occurring. A slope failure occurred in November/December 2014 on an east/northeast-facing wall in the southernmost portion of the WHEX (near the Ironclad Facility), affecting 6-7 mined benches (**Photo 20**). After the operator informed the Division of the slope failure, the Division met with mine staff in January 2015 to discuss the matter. The Division determined at that time that the incident is not a compliance issue. During the inspection, Mr. Hanks indicated that mine geologists and engineers are monitoring the area with LiDAR to help characterize the slope failure and detect any additional movements. Mining activities have been restricted from this portion of the WHEX until a plan of action is developed. The operator has committed to notifying the Division of any additional slope stability issues that develop on site.

After the inspection was completed, the Division met with Mr. Lawrence Myers at the operator's headquarters in Victor to discuss the locations of the mine's surface water and groundwater monitoring stations. It appears that there are some discrepancies between existing compliance sites and those shown on Figure 2-2 (MLE2 Boundaries and Monitoring Locations) which was provided with Amendment No. 10 (approved 09/12/2012). Some of the monitoring stations shown on Figure 2-2 have been abandoned or mined through, while some new stations have been added since the figure was created. The operator is submitting the required groundwater monitoring data in quarterly water quality monitoring reports; however, the Division needs a revised map showing locations of these wells. The Division does not receive surface water quality monitoring reports from the operator; however, locations of these sites should also be included on the site map. Mr. Lawrence indicated that they are in the process of compiling all current surface and groundwater monitoring stations on an ArcGIS map which they intend to submit to the Division with Amendment No. 11.

This concluded the inspection.

PHOTOGRAPHS

Photo 1. View of northeastern side of AGVLF Phase 5, showing small cyanide solution spill from busted dripline(s). Note mine staff hand-shoveling saturated material off of liner, and small loader (at left) depositing this material back onto AGVLF inside the liner berm at a nearby (dry) location.

Photo 2. View of northeastern side of AGVLF Phase 5, showing small cyanide solution spill from busted dripline(s). Note area affected by spilled solution is approximately 15 feet wide by 15-20 feet out from the liner berm. Liner is exposed at center where saturated material was shoveled out.

Photo 3. View of new mobile stemming material crushing operation located in the South Cresson Pit.

Photo 4. View of eastern portion of main crusher area located between AGVLF and Main Cresson Mine. Primary crusher at center.

Photo 5. View of western portion of main crusher area located between AGVLF and Main Cresson Mine. Lime silo at right and conveyor at center (which leads to load-out bin where trucks haul crushed ore to AGVLF leach pad).

Photo 6. View of main crusher area, showing structural fill (indicated) that was placed and compacted against the old Hilfiger Wall to help stabilize the structure.

Photo 7. View of AGVLF Phase 4 area where spent ore was removed and hauled to the SGVLF to help stabilize the HVSCS riser pipes. Mine staff are reloading this area with crushed ore.

Photo 8. View of southwestern edge of DCF stockpile located west of AMES construction yard. Note area (circled) where stockpiled material appeared to be sloughing into adjacent stormwater diversion ditch.

Photo 9. Closer view of southwestern edge of DCF stockpile located west of AMES construction yard where stockpiled material appeared to be sloughing into adjacent stormwater diversion ditch. Note diversion ditch is not currently impacted by DCF material.

Photo 10. View of southern slope of SGVLF, showing lined portion of Phase I being recertified by AMEC to receive DCF material. Note DCF material already placed on portion at far right. Also note SLF being placed on Phase I portion above (indicated). Four HVSCS riser pipes shown at center.

Photo 11. View of southern slope of SGVLF, showing lined portion of Phase I that has recently received DCF material placement. Note anchor trench and clay berm shown at right (southwestern edge of PSSA).

Photo 12. View of southern slope of SGVLF, showing lined portion of Phase I being recertified by AMEC personnel.

Photo 13. View of southern slope of SGVLF, showing lined portion of Phase I where HVSCS piping is being placed on accepted liner.

Photo 14. View of northern slope of SGVLF, showing placement of SLF material and finishing work of leak detection trench at western edge.

Photo 15. Closer view of western edge of SGVLF northern slope, showing finishing work of leak detection trench and SLF berm adjacent to anchor trench location.

Photo 16. View of northern portion of ADR-2 pad area where foundation work was in progress.

Photo 17. View of southern portion of ADR-2 pad area where foundation work was in progress. Note Hwy 67 located in background (at top of SGVLF embankment).

Photo 18. View of concrete underdrain ponds located in valley southwest of SGVLF toe berm/Hwy 67 realignment. TR-74 proposes to line these ponds and use them only as emergency overflow for the subsurface enclosure. Currently, water collected in these ponds is pumped out and hauled to SGVLF PSSA.

Photo 19. View of SGVLF toe berm cut-off trench where water is currently pumped out and hauled to SGVLF PSSA.

Photo 20. View of southernmost portion of WHEX pit where slope failure (circled) occurred on an east/northeast-facing wall in late 2014. This area is currently being monitored with LiDAR. Note production drilling in foreground; however, mining activities are restricted from area of the slope failure.

Inspection Contact Address

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

CC: Chris Hanks, CC&V
Wally Erickson, DRMS
Tim Cazier, DRMS
Elliott Russell, DRMS