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: Schwartzwalder Mine	**MINE/PROSPECTING ID#:** M-1977-300	**MINERAL:** Uranium	**COUNTY:** Jefferson
INSPECTION TYPE: Monitoring	**INSPECTOR(S):** Amy Eschberger, Tim Cazier	**INSP. DATE:** November 19, 2020	**INSP. TIME:** 09:00
OPERATOR: Colorado Legacy Land, LLC	**OPERATOR REPRESENTATIVE:** Elizabeth Busby, Billy Ray, Sam Lowe	**TYPE OF OPERATION:** 112d-2 - Designated Mining Operation	

REASON FOR INSPECTION: Normal I&E Program	**BOND CALCULATION TYPE:** None	**BOND AMOUNT:** $8,900,000.00
DATE OF COMPLAINT: NA	**POST INSP. CONTACTS:** None	**JOINT INSP. AGENCY:** None
WEATHER: Clear	**INSPECTOR'S SIGNATURE:** Amy Eschberger	**SIGNATURE DATE:** December 10, 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------- N	(TS) TOPSOIL---------- N
(MP) GENL MINE PLAN COMPLIANCE- Y	(FW) FISH & WILDLIFE---------- N	(RV) REVEGETATION---- N
(SM) SIGNS AND MARKERS---------- N	(SP) STORM WATER MGT PLAN---- Y	(RS) RECL PLAN/COMP-- Y
(ES) OVERBURDEN/DEV. WASTE--------- N	(SC) EROSION/SEDIMENTATION--- Y	(ST) STIPULATIONS------- N
(AT) ACID OR TOXIC MATERIALS------- N	(OD) OFF-SITE DAMAGE---------- N	

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

OBSERVATIONS

This inspection of the Schwartzwalder Mine (Permit No. M-1977-300) was conducted by Amy Eschberger and Tim Cazier of the Division of Reclamation, Mining and Safety (Division). The operator was represented by Elizabeth Busby, Billy Ray, and Sam Lowe during the inspection. The site is located approximately 6 miles northwest from Golden, CO in Jefferson County. Access to the site is off Glencoe Valley Road. This site is on a quarterly inspection frequency. The 4th quarter inspection was conducted on October 8, 2020. **Photos 1-20** taken during the inspection are included with this report.

The primary purpose of this inspection was to observe the completed diversion channel project for the North Waste Rock Pile (NWRP) approved under Technical Revision No. 28 (TR-28; approved on March 27, 2020). Because the NWRP is considered an Environmental Protection Facility (EPF), per Rule 7.2.1(1), construction work shall be done in phases, and no construction work shall begin on any subsequent phases of the facility without first obtaining Division acceptance. The construction schedule provided in TR-28 proposed three primary phases for the project, after which, the Division would conduct an inspection of the work completed. The Division conducted the Phase 1 inspection on August 4, 2020 to observe the water capture structure (seal wall) trench constructed into bedrock in the ephemeral drainage above the NWRP, at the upstream end of the diversion channel. The Division accepted the Phase 1 work completed in its inspection report signed on August 6, 2020.

The Division conducted the Phase 2 inspection on October 8, 2020 to observe the completed channel subgrade and the installation of the Geoweb components. The Geoweb components include a three-liner base system composed of a geosynthetic liner sandwiched between two non-woven geotextile liners, and the four inch thick Geoweb panels installed across the top of the liner system. During the Phase 2 inspection, the Division also observed the completed water intake structure installed at the upstream end of the diversion channel, which includes a concrete seal wall, a perforated pipeline buried upstream of the seal wall which transitions to a solid pipeline prior to daylighting approximately 50 feet downstream of the seal wall to discharge into the channel, two cleanout pipes, and a riprap layer placed over the water intake structure. The Geoweb components from the diversion channel were mechanically attached to the upstream face of the seal wall prior to concrete placement inside the channel. The Division accepted the Phase 2 work completed in its inspection report signed on October 13, 2020.

While not required per the approved construction schedule, the Division also conducted an inspection on October 16, 2020 to observe the concrete infill placement into the Geoweb panels installed across the diversion channel. During the inspection, the operator completed filling a little more than half of the total channel length (approximately 600 feet) with concrete. The operator appeared to be following the manufacturer's recommendations, including leaving no Geoweb cells partially filled in between concrete pours. At that time, remaining construction work for the project included completing the concrete placement in the channel, completing backfilling and grading the ground surface along the outside edges of the channel to create positive drainage, constructing the energy dissipation basin and road crossing at the downstream end of the channel, and seeding areas disturbed by the project (besides the NWRP access road).

During the current inspection, the operator stated the NWRP diversion channel project had been completed the day before. The Division observed all components of the completed diversion channel project, including the water intake structure, the concrete-lined diversion channel, the outlet pipe into the channel, the grading completed in areas adjacent to the channel, the grading of other disturbed areas (e.g., top of NWRP, disturbed slope south of access road and channel, side slope of access road), the riprap-lined energy dissipation basin and road crossing, and the seeded areas. The water intake structure looked the same as it did during the Division's last inspection, except the operator had added some additional riprap to bolster the shoulders of the trench. The

concrete-lined diversion channel appeared to have been constructed in accordance with the proposed design. The areas adjacent to the channel have been backfilled and graded to create positive drainage into the channel. It should be noted, the low-lying diversion berm constructed south of the channel (where the channel curves around the hillside) may need maintenance or additional material added, as discussed during the inspection. The disturbed slope south of the access road and channel and the side slope of the access road were graded to 2H:1V. The riprap-lined energy dissipation basin appeared to be constructed per the approved design. The road crossing installation had some slight deviations from the approved design to include 6 inch thick Geoweb panels instead of 4 inch thick panels, and a gravel infill rather than a concrete infill. The Geoweb panels were filled with 1-1/2 inch minus gravel and surfaced with an approximate one inch thick layer of pea gravel. Any deviations from the design approved in TR-28 will be incorporated into the as-built drawings to be submitted with the final construction report. Areas disturbed by the NWRP diversion channel project, including the top of the NWRP, the disturbed slope located south of the access road and channel (near the top of the NWRP), the side slope of the access road, and areas immediately adjacent to the channel, have been seeded in accordance with TR-28. The operator will continue to monitor revegetation success in the seeded areas and reseed next year as needed.

The NWRP diversion channel project was completed as part of a corrective action for two hydrologic balance problems cited in the Division's inspection report signed on April 9, 2019. The operator believes the contaminated water observed ponded between the toe of the NWRP and Ralston Creek was most likely derived from surface flows onto the NWRP from the ephemeral drainage above the pile. The installation of the diversion channel should divert these flows around the NWRP, preventing future seep issues. The Division accepts the work completed for the NWRP diversion channel project, and will continue to monitor this facility during future site inspections.

At the time of the inspection, the mine pool was at 318 feet below the Steve Level, which is 168 feet below the required 150 foot depth. The water treatment plant was shut down for the winter. The operator will continue to monitor the mine pool level throughout this period and turn the plant back on as needed (currently expected to occur in May of 2021) to keep the mine pool below the required depth. The last in-situ injection treatment of the mine pool was completed in January of 2020, which included two tracers. The operator is currently analyzing the results of the in-situ treatment and tracer study, and will incorporate these analyses into the conceptual site model and final reclamation plan to be proposed in an upcoming Amendment application (anticipated to be submitted in the 3rd quarter of 2021). The operator continues to collect water quality samples from the mine pool on a quarterly basis and reports this data with other site sampling data in its quarterly monitoring reports submitted to the Division.

The alluvial excavation project was active during the inspection, with excavated material being hauled up to the CV Glory Hole inside the Minnesota Mine for disposal, per the approved permit. This project was put on hold while the NWRP diversion channel project was completed this fall. At the time of the inspection, the operator estimated there to be approximately 3 weeks of hauling left before they reach capacity in the CV Glory Hole. The Division is currently reviewing an Amendment application (AM-5) submitted by the operator to include disposal of the radio-nuclide impacted alluvial valley soils into the Black Forest Mine, which has an estimated capacity of 15,000 cy. The decision date for AM-5 is currently set for January 15, 2020.

In its last inspection report, signed on November 6, 2020, the Division discussed the borrow area located up the valley from the NWRP where rock and fill material was derived for the diversion channel project. The material excavated in this area was deposited in the valley during the September 2013 flood events. The borrow area is located outside of the approved mine permit area. However, the operator had indicated the area was included in their 404 permit held with the U.S. Army Corps of Engineers. The Division gave the operator two weeks from the date of its inspection report to provide a copy of the 404 permit. It should be noted, the operator did provide

a copy of the 404 permit on November 12, 2020 showing the disturbance and reclamation of the borrow area is included in that permit. The operator has not yet determined whether material from this area will be needed for reclamation of the Schwartzwalder Mine. The Division has informed the operator that any additional activities in the borrow area besides reclamation will require the area to be permitted through our office.

This concludes the report.

Any questions or comments regarding this inspection report should be forwarded to Amy Eschberger at the Colorado Division of Reclamation, Mining and Safety, 1313 Sherman Street, Room 215, Denver, CO 80203, via telephone at 303-866-3567, ext. 8129, or via email at amy.eschberger@state.co.us.

PHOTOGRAPHS

Photo 1. View looking east/southeast across side slope of NWRP access road, showing slopes graded to approximately 2H:1V per TR-28. This slope has been seeded for reclamation.

Photo 2. View looking east/southeast at riprap-lined energy dissipation basin constructed at downstream end of NWRP diversion channel (indicated with arrow) and road crossing composed of Geoweb system with gravel infill.

Photo 3. Ground view showing interface between riprap-lined energy dissipation basin (at left) and gravel-filled Geoweb system installed for road crossing. Note 1-1/2 inch minus gravel infill (partially exposed at center) and pea gravel plating (at right) on road crossing.

Photo 4. View looking east/southeast (upstream) across riprap-lined energy dissipation basin constructed at downstream end of NWRP diversion channel.

Photo 5. View looking west/northwest (downstream) across lower section of NWRP diversion channel. Note riprap-lined energy dissipation basin constructed at downstream end of channel (in background).

Photo 6. View looking east/southeast (upstream) across middle section of NWRP diversion channel. Areas adjacent to channel have been backfilled, graded for positive drainage, and seeded.

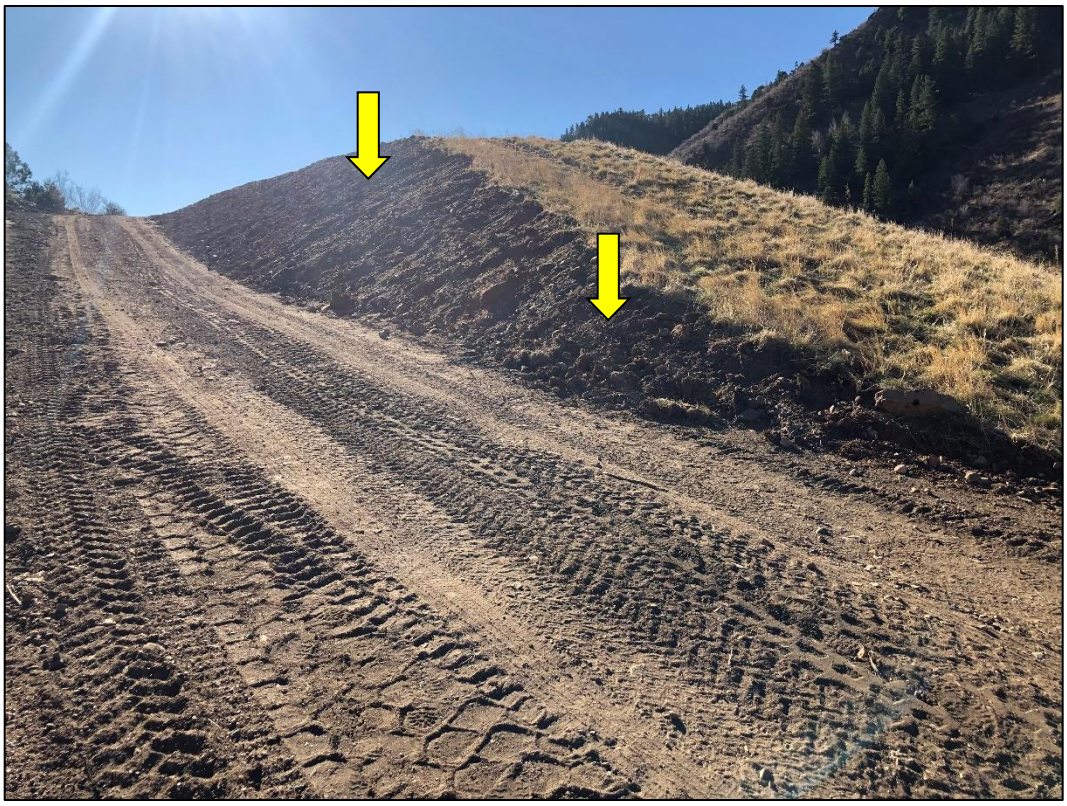

Photo 7. View looking southeast at disturbed slope (indicated with arrows) just south of NWRP access road which has been graded to 2H:1V and seeded.

Photo 8. View looking northwest across disturbed slope (at left) just south of NWRP access road which has been graded to 2H:1V and seeded.

Photo 9. View looking east (upstream) across section of NWRP diversion channel which curves around hillside. Areas adjacent to channel have been backfilled, graded for positive drainage, and seeded.

Photo 10. View looking south across top of NWRP where disturbed area has been scarified and seeded for reclamation.

Photo 11. View looking northeast at low-lying diversion berm (indicated with arrows) constructed at top of NWRP, east/southeast of diversion channel, to divert surface flows from eastern hillside into channel. This berm may need maintenance and/or additional material added.

Photo 12. View looking southwest at low-lying diversion berm (indicated with arrows) constructed at top of NWRP, east/southeast of diversion channel, to divert surface flows from eastern hillside into channel. This berm may need maintenance and/or additional material added.

Photo 13. View looking north/northeast (upstream) at upper section of NWRP diversion channel. Areas adjacent to channel have been backfilled, graded for positive drainage, and seeded.

Photo 14. View looking north/northeast (upstream) at upper section of NWRP diversion channel, showing pipeline from water intake structure (circled) which daylights to discharge into channel approximately 50 feet from seal wall. Areas adjacent to channel have been backfilled, graded for positive drainage, and seeded.

Photo 15. View looking north/northeast at riprap-lined water intake structure constructed at upstream end of NWRP diversion channel in ephemeral drainage above the pile.

Photo 16. View looking south/southwest from ephemeral drainage above NWRP at riprap-lined water intake structure constructed at upstream end of NWRP diversion channel.

Photo 17. View looking south/southwest (downstream) across upper section of NWRP diversion channel, between water intake structure and outlet pipe (circled) which daylights to discharge into channel. Areas adjacent to channel have been backfilled, graded for positive drainage, and seeded.

Photo 18. View looking southwest (downstream) at section of NWRP diversion channel which curves around hillside. Areas adjacent to channel have been backfilled, graded for positive drainage, and seeded. Note disturbed slope south of NWRP access road (indicated) which was graded to 2H:1V and seeded.

Photo 19. View looking east/southeast at above-ground bypass pipeline which diverts surface flows in Ralston Creek above cutoff wall around mine site, showing two ballards (circled) recently installed to keep pipeline from migrating toward access road.

Photo 20. View looking southeast across valley excavation project area. This project was active during the inspection, with excavated material being hauled up to the CV Glory Hole inside the Minnesota Mine for disposal.

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