




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: October 16, 2020	INSP. TIME: 12:30
OPERATOR: Colorado Legacy Land, LLC	OPERATOR REPRESENTATIVE: 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: 	SIGNATURE DATE: October 22, 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----- <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>N</u>	(TS) TOPSOIL----- <u>N</u>
(MP) GENL MINE PLAN COMPLIANCE- <u>Y</u>	(FW) FISH & WILDLIFE----- <u>N</u>	(RV) REVEGETATION---- <u>N</u>
(SM) SIGNS AND MARKERS----- <u>N</u>	(SP) STORM WATER MGT PLAN---- <u>Y</u>	(RS) RECL PLAN/COMP-- <u>N</u>
(ES) OVERBURDEN/DEV. WASTE----- <u>N</u>	(SC) EROSION/SEDIMENTATION--- <u>Y</u>	(ST) STIPULATIONS----- <u>N</u>
(AT) ACID OR TOXIC MATERIALS----- <u>N</u>	(OD) OFF-SITE DAMAGE----- <u>N</u>	

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 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 1-14** taken during the inspection are included with this report.

The primary purpose of this inspection was to observe the infill placement (concrete) for the North Waste Rock Pile (NWRP) diversion channel project approved under Technical Revision No. 28 (TR-28; approved on March 27, 2020). The Division already approved the Phase 2 construction work completed for this project during its October 8, 2020 inspection, authorizing the operator to proceed with construction as planned. The next required inspection for the NWRP diversion channel project [per Rule 7.3.1(1)] is after the project is completed. While this inspection was not required, the Division was interested in observing this phase of the project given its limited experience with the Geoweb system.

At the time of the inspection, all four components of the Geoweb system had been installed in the diversion channel, including the three-liner base system composed of a geosynthetic liner sandwiched between two non-woven geotextile liners, and the overlying Geoweb panels. The Geoweb panels are connected with ATRA Keys, tendons, and ATRA Tendon Clips, and anchored to 4 inch solid wall PVC deadman pipes buried along the edges of the channel a minimum of one foot below crest elevation. A variety of infill materials can be used with the Geoweb system, and the manufacturer (Presto Geosystems) recommended concrete infill for this project. The manufacturer recommended pre-shaping the Geoweb system before infill placement, limiting the drop of the infill into the Geoweb panels to prevent distortion, filling the Geoweb cells flush with the top of the cells (4 inches in depth), and ensuring no Geoweb cells are left partially filled in between concrete pours.

During its October 8, 2020 inspection, the operator and manufacturer representative had estimated the concrete pour would begin approximately one week after that inspection, and would occur over a period of approximately two weeks. Therefore, the concrete placement was expected to be completed the last week of October. However, this was a conservative estimate based on the anticipated equipment, work force, and concrete delivery schedule at the time. Fortunately, this schedule has been expedited due to equipment availability, additional labor resources, and an accelerated concrete delivery schedule. Additionally, the manufacturer representative was on site the first day of concrete placement (the day before this inspection) to guide and oversee the initial stages of the project. At this point, the operator expects to complete concrete placement in the channel early next week (October 19-20).

During the inspection, a concrete truck was on site and the crew was placing concrete into the Geoweb panels installed in the diversion channel. According to the operator, installation of the Geoweb components in the channel was completed the week before the inspection and concrete placement began at the top of the channel the morning before the inspection (Thursday). Approximately 36 cubic yards (cy) of concrete had been placed on Thursday, and approximately 24 cy was expected to be placed the day of the inspection (Friday). At the time of the inspection, the operation had received the last concrete load for the day, and finished filling a little more than half of the total channel length (approximately 600 feet). The operator appeared to be following the manufacturer's recommendations, including leaving no Geoweb cells partially filled in between concrete pours. The next concrete delivery was scheduled for Monday morning (October 19).

At the upper end of the diversion channel where the water intake structure is installed in the ephemeral drainage above the NWRP, Mr. Lowe explained the Geoweb components had been mechanically attached to the

upstream face of the concrete seal wall using concrete anchor bolts, and concrete was placed into the Geoweb cells exposed above the riprap. During the inspection, there was discussion regarding whether the riprap should be pushed down to cover the upper edge of the concrete-lined channel above the seal wall. The Division has no issue with the current placement of the riprap which should minimize migration of the riprap down channel during a storm event.

After the concrete placement is completed, the operator will begin backfilling and grading the ground surface along the outside edges of the channel to create positive drainage into the channel. Water bars will be installed primarily on the north sides of the channel for erosion control. Water bars or berms are also planned for the south side of the diversion channel where necessary to convey runoff from the NWRP access road and the area north of the NWRP and east of the ephemeral drainage into the diversion channel. The operator will also begin construction of the energy dissipation basin and road crossing at the lower end of the diversion channel. During the inspection, the operator indicated they are reconsidering the road crossing design which currently calls for installing a Geoweb-lined, concrete-filled, low-flow road crossing. The operator is considering whether installation of a larger sized Geoweb system (6 inches depth rather than the 4 inches depth installed in the diversion channel) filled with gravel rather than concrete may be more appropriate for the road crossing.

After completion of the NWRP diversion channel project, the operator will provide the Division with a final report including the as-built construction drawings and certified verification by a professional engineer that confirms the facility was constructed in accordance with the approved design plan. Any deviations from the design approved in TR-28 will be incorporated into the as-built drawings. This final report does not need to be submitted as a separate Technical Revision, but as an addendum to TR-28.

No problems were observed during the inspection.

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 of water intake structure installed at upper end of NWRP diversion channel. Geoweb components have been mechanically attached to upstream face of concrete seal wall using concrete anchor bolts, and concrete has been placed into Geoweb cells exposed above riprap.



Photo 2. View looking southwest across upper section of NWRP diversion channel with concrete infill placed into Geoweb cells.



Photo 3. View looking west across NWRP diversion channel with concrete infill placed into Geoweb cells, at point where channel curves around edge of slope.



Photo 4. View looking east across NWRP diversion channel with concrete infill placed into Geoweb cells, at point where channel curves around edge of slope.



Photo 5. Closer view of NWRP diversion channel with concrete infill placed into Geoweb cells.



Photo 6. View looking northwest across middle section of NWRP diversion channel, showing crew pouring concrete into Geoweb cells during inspection.



Photo 7. View of middle section of NWRP diversion channel, showing crew shaping final concrete placement into Geoweb cells for the day.

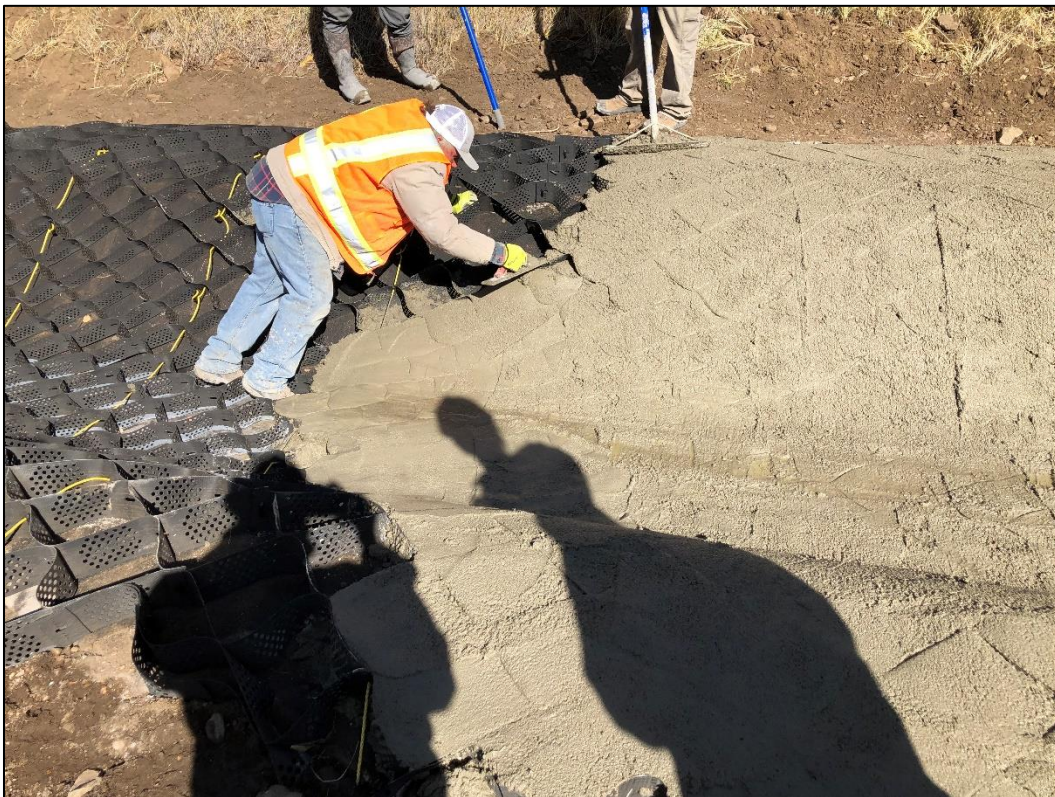


Photo 8. Closer view of middle section of NWRP diversion channel, showing crew shaping final concrete placement into Geoweb cells for the day, ensuring no cells are left partially filled.



Photo 9. Closer view of middle section of NWRP diversion channel where concrete placement terminated for the day. Note no Geoweb cells left partially filled in between pours.



Photo 10. View looking southeast across lower section of NWRP diversion channel with Geoweb components installed, ready for concrete infill.



Photo 11. View looking northwest across lower section of NWRP diversion channel with Geoweb components installed, ready for concrete infill.



Photo 12. View looking west at lower end of NWRP diversion channel, showing approximate location (circled) of energy dissipation basin and road crossing which will be constructed to convey channel flows across the road to Ralston Creek.



Photo 13. View looking east at lower end of NWRP diversion channel, showing location (in foreground) where riprap energy dissipation basin will be constructed.



Photo 14. View looking south (toward Ralston Creek) at anticipated location for NWRP diversion channel road crossing, marked with survey laths.

Inspection Contact Address

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