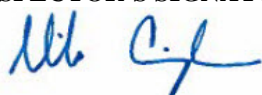


**COLORADO**Division of Reclamation,  
Mining and Safety

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.

<b>MINE NAME:</b> Schwartzwalder Mine	<b>MINE/PROSPECTING ID#:</b> M-1977-300	<b>MINERAL:</b> Uranium	<b>COUNTY:</b> Jefferson
<b>INSPECTION TYPE:</b> Monitoring	<b>INSPECTOR(S):</b> Michael A. Cunningham	<b>INSP. DATE:</b> November 1, 2016	<b>INSP. TIME:</b> 10:00
<b>OPERATOR:</b> Cotter Corporation	<b>OPERATOR REPRESENTATIVE:</b> Ken Mushinski, Steve Cohen	<b>TYPE OF OPERATION:</b> 112d-2 - Designated Mining Operation	
<b>REASON FOR INSPECTION:</b> Normal I&E Program	<b>BOND CALCULATION TYPE:</b> None	<b>BOND AMOUNT:</b> \$4,339,003.39	
<b>DATE OF COMPLAINT:</b> NA	<b>POST INSP. CONTACTS:</b> None	<b>JOINT INSP. AGENCY:</b> None	
<b>WEATHER:</b> Clear	<b>INSPECTOR'S SIGNATURE:</b> 	<b>SIGNATURE DATE:</b> November 23, 2016	

**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>N</u>	(FN) FINANCIAL WARRANTY----- <u>N</u>	(RD) ROADS----- <u>N</u>
(HB) HYDROLOGIC BALANCE----- <u>Y</u>	(BG) BACKFILL & GRADING----- <u>N</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>N</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>N</u>	(CI) COMPLETE INSP---- <u>Y</u>
(ES) OVERBURDEN/DEV. WASTE----- <u>N</u>	(SC) EROSION/SEDIMENTATION--- <u>N</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 and found in compliance / N = Not inspected / NA = Not applicable to this operation / PB = Problem cited / PV = Possible violation cited

### **OBSERVATIONS**

The inspection was conducted by Michael Cunningham of the Division of Reclamation, Mining and Safety (Division). Ken Mushinski and Steve Cohen were present on behalf of Cotter Corporation; Jim Harrington was present on behalf of Alexco Environmental; and Mike Harris and Jon Harrison were present on behalf of the Colorado Water Quality Control Division. The Schwartzwalder Mine is inspected quarterly, this inspection serves as the 4th quarter inspection of 2016.

The primary activities occurring at the Schwartzwalder Mine are related to water treatment. Technical Revision No. 24 which addressed the relocation of the water treatment facility was approved on November 2, 2016. Construction of the new water treatment building is complete and the two reverse osmosis (RO) units have been transferred to the new facility. The ion exchange (IX) water treatment system is still located in the original water treatment building and will be transferred to the new water treatment building upon renewal of the radioactive materials license. The IX water treatment system was not online at the time of the inspection. All water was being treated through the RO water treatment system. The Operator anticipated using the IX system during periods of high flow/runoff, and occasionally running the RO effluent through the IX system. The Operator is working with Alexco Environmental to solve technical challenges related to the water treatment process. The RO filters are fouling quickly due to iron and manganese in the treated water and the filters are currently being replaced monthly rather than quarterly. The current estimated life of the RO treatment system is between 10 to 15 years.

The Division inspected Sump 10 and did not observe any standing water. The Operator carried out a grouting project at Sump 10 in 2015 under Technical Revision No. 22. The Division also inspected the three pumps located within Ralston Creek. The pumps had become clogged with sediment following above average flows in Ralston Creek during August of 2016. The Operator replaced all three pumps as well as the culverts which surround the pumps. In addition, the Operator placed coverings over the pumps to prevent leaves and other materials from accumulating near the pumps. The in-stream pumps were not operating at the time of the inspection, as all water in Ralston Creek was flowing through the pipeline diversion.

This concluded the inspection.

#### **Inspection Contact Address**

Steve Cohen  
Cotter Corporation  
7800 E. Dorado Place, Suite 210  
Greenwood Village, CO 80111

CC: Wally Erickson, DRMS



## PHOTOGRAPHS



1. New water treatment building.



2. Reverse osmosis water treatment system.



3. Sump 10 area.



4. Ralston Creek.



5. In-stream pump and culvert.



6. In-stream pump.