



**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.

<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> Tom Kaldenbach	<b>INSP. DATE:</b> June 28, 2012	<b>INSP. TIME:</b> 13:15
<b>OPERATOR:</b> Cotter Corporation	<b>OPERATOR REPRESENTATIVE:</b> John Hamrick	<b>TYPE OF OPERATION:</b> 112d-2 - Designated Mining Operation	

<b>REASON FOR INSPECTION:</b> Inspection and Enforcement	<b>BOND CALCULATION TYPE:</b> None	<b>BOND AMOUNT:</b> \$2,843,671.63
<b>DATE OF COMPLAINT:</b> NA	<b>POST INSP. CONTACTS:</b> None	<b>JOINT INSP. AGENCY:</b> None
<b>WEATHER:</b> Cloudy	<b>INSPECTOR'S SIGNATURE:</b> <i>Tom Kaldenbach</i>	<b>SIGNATURE DATE:</b> July 5, 2012

**GENERAL INSPECTION TOPICS**

This list identifies the environmental and permit parameters inspected and gives a categorical evaluation of each. **IF PB or PV IS INDICATED, YOU SHOULD READ THE FOLLOWING PAGES CAREFULLY IN ORDER TO ASSURE COMPLIANCE WITH THE TERMS OF YOUR PERMIT AND APPLICABLE RULES AND REGULATIONS.** If PV is indicated, you will be notified under separate cover when the Mined Land Reclamation Board will consider possible enforcement action. 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>Y</u>
(HB) HYDROLOGIC BALANCE----- <u>Y</u>	(BG) BACKFILL & GRADING----- <u>Y</u>	(EX) EXPLOSIVES----- <u>NA</u>
(PW) PROCESSING WASTE/TAILING---- <u>NA</u>	(SF) PROCESSING FACILITIES----- <u>Y</u>	(TS) TOPSOIL----- <u>N</u>
(MP) GENL MINE PLAN COMPLIANCE- <u>PV</u>	(FW) FISH & WILDLIFE----- <u>Y</u>	(RV) REVEGETATION---- <u>Y</u>
(SM) SIGNS AND MARKERS----- <u>Y</u>	(SP) STORM WATER MGT PLAN---- <u>NA</u>	(SB) COMPLETE INSP---- <u>NA</u>
(ES) OVERBURDEN/DEV. WASTE----- <u>NA</u>	(SC) EROSION/SEDIMENTATION--- <u>Y</u>	(RS) RECL PLAN/COMP-- <u>N</u>
(AT) ACID OR TOXIC MATERIALS----- <u>N</u>	(OD) OFF-SITE DAMAGE----- <u>Y</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**

This inspection was conducted on June 28, 2012 by Tom Kaldenbach of DRMS. John Hamrick represented the operator. The inspection was prompted by a phone call that the inspector received at approximately 11:20 on the morning of the inspection from Amory Quinn of Cotter Corporation. In the phone call, Mr. Quinn said Cotter was drilling holes at the Schwartzwalder Mine for a grout curtain that Cotter had recently proposed in their application for TR-20. He said grouting had not yet begun, and he wanted to notify DRMS before grouting begins. A short time after the phone call, the inspector called Mr. Quinn back and told him an inspection would need to be done as soon as possible because DRMS had not yet approved the drilling, and the TR-20 application was still being reviewed. (Cotter had filed the TR-20 application with DRMS on June 22, 2012, starting the maximum 30-day review period specified by Rule 1.9.1).

The inspection began at 1:15 pm. A work crew with drilling and pressure grouting equipment was active near Sump 10, the area of the grout curtain proposed in TR-20 (the "project area"). The operator's representative described the work that had been completed so far as:

- An old core hole had been sealed with grout.
- Seven new 3-inch diameter vertical holes had been drilled on 15-foot spacing, to depths between 35 feet and 40 feet.
- Pressure grouting the new holes had begun after the crew's lunch break.
- Grouting pressure was 1 psi per foot of hole depth.

In the project area, there appeared to be four smaller areas, each measuring a few square feet in area, where clear water was trickling out of the metamorphic bedrock and pooling in low areas. The total flow of water coming out of the rock in the four smaller areas was visually estimated to be between 10 and 50 gpm. Water in the lowest of the pooled areas was being pumped into a 4-inch diameter HDPE pipe that led to the treatment plant approximately 400 feet northwest of the project area. From the treatment plant, the water is piped to the CDPS-permitted discharge into Ralston Creek (Outfall 001A, CDPS permit CO-0001244).

The inspector told the operator's representative that conducting the drilling and grouting work prior to approval of TR-20 gives DRMS a reason to believe a violation has occurred. The operator's representative explained that the drilling and grouting work had begun in advance of TR-20 approval because it was necessary to prevent a violation of the 250 mg/l sulfate standard in Ralston Creek at Outfall 001A. He explained that the water discharging from the rock in the project area had a uranium of approximately 20 mg/l and probable high sulfate concentration as indicated by electroconductivity measurements. He further explained that most of the uranium can be removed from the water at the treatment plant, but the plant has no process for removing sulfate.

The work being performed in the project area appeared to be as proposed in the TR-20 application. The project area is within a previously disturbed area of the mine site where the operator has been excavating alluvial material over the last few months near Sump 10 in an effort to find sources of groundwater seepage. Surface runoff in the project area would be retained within the excavated area.

## **PHOTOGRAPHS**



Photo 1 – Grout hole drill rig (left side of photo) and pressure grouting control panel (underneath canopy on right side of photo).



Photo 2 – Grout hole drill rig (on right side of photo).





Photo 3 – Grout hole project area. Water seeping out of ground pools in low area near left side of photo. Water is pumped from that low spot to water treatment plant approximately 400 feet away.



Photo 4 – Water pooled around casing of recently drilled grout hole in grout drilling project area. Water seeps out from around the casing.





Photo 5 – Light-colored material that crosses photo appears to be old grout in current grouting project area.



Photo 6 – Treatment plant discharge into dry channel of Ralston Creek at downstream side of permit area (BPL site).



Photo 7 – Dry channel of Ralston Creek, upstream from BPL monitoring location.

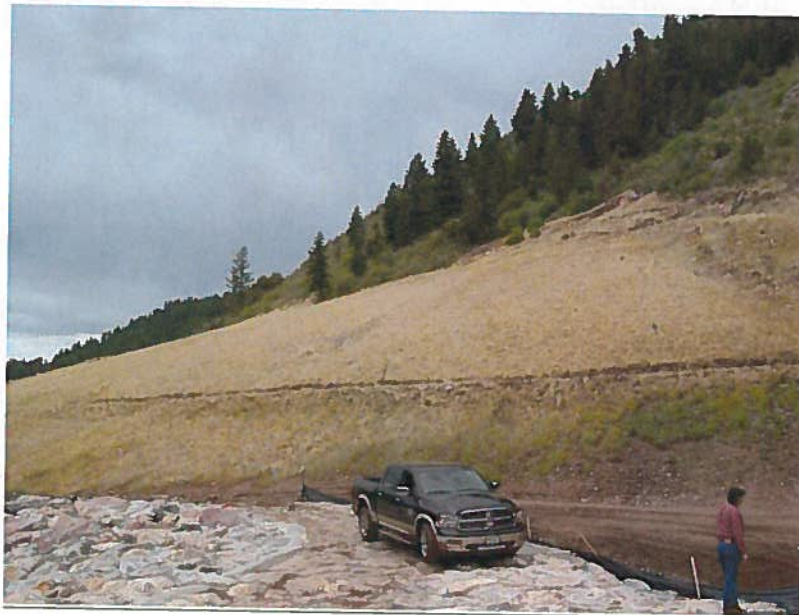


Photo 8 – South waste rock pile.





Photo 9 – Two-cell, concrete –lined pond next to treatment plant.

**Inspection Contact Address**

Mr. John Hamrick  
Cotter Corporation  
P.O. Box 1750  
Canon City, CO 81215

