



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: Schwartzwalder Mine	MINE/PROSPECTING ID#: M-1977-300	MINERAL: Uranium	COUNTY: Jefferson
INSPECTION TYPE: Surety Release Inspection	INSPECTOR(S): Tom Kaldenbach	INSP. DATE: June 14, 2013	INSP. TIME: 10:30
OPERATOR: Cotter Corporation	OPERATOR REPRESENTATIVE: John Hamrick, Ken Mushinski	TYPE OF OPERATION: 112d-2 - Designated Mining Operation	

REASON FOR INSPECTION: Surety Release Requested	BOND CALCULATION TYPE: None	BOND AMOUNT: \$4,339,003.39
DATE OF COMPLAINT: NA	POST INSP. CONTACTS: None	JOINT INSP. AGENCY: None
WEATHER: Clear	INSPECTOR'S SIGNATURE: <i>Tom Kaldenbach</i>	SIGNATURE DATE: October 10, 2013

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>NA</u>	(FN) FINANCIAL WARRANTY----- <u>Y</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>Y</u>
(MP) GENL MINE PLAN COMPLIANCE- <u>Y</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>Y</u>	(SC) EROSION/SEDIMENTATION--- <u>Y</u>	(RS) RECL PLAN/COMP-- <u>Y</u>
(AT) ACID OR TOXIC MATERIALS----- <u>Y</u>	(OD) OFF-SITE DAMAGE----- <u>Y</u>	(ST) STIPULATIONS----- <u>NA</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 was a surety reduction inspection and a monitoring inspection conducted by Tom Kaldenbach of DRMS. The mine operator was represented by John Hamrick and Ken Mushinski of Cotter Corporation. Also along on the inspection were Loretta Pineda and Tony Waldron from DRMS, and Julie Murphy of the Colorado Attorney General's office. The ground was dry and all of the site was accessible.

Surety Reduction Request SR-07

The surety reduction inspection was conducted in response to the mine operator's reduction request SR-07, received June 10, 2013. DRMS provided notice to the land owner of the affected land and the county, in accordance with Rule 4.17.2(1). The operator satisfied the requirement of Rule 7.2.10(2)(d) by providing proof of publication for its newspaper notice, published in the Golden Transcript on July 4, 2013.

SR-07 requests reduction of required financial warranty (bond) in the amount of \$3,092,729.24 for:

- 1) Performing interim groundwater treatment at Sump 1 (approved in TR-13),
- 2) Construction of Sumps 5,8,9, and 10 (approved in TR-15),
- 3) Purchase and operation of the ion exchange water treatment system through May 2013,
- 4) Installation of the 18-inch Ralston Creek diversion, with cut-off wall, and
- 5) Installation of ground water bedrock monitoring wells (approved in TR-19).

DRMS previously denied Surety Reduction requests SR-04, SR-05, and SR-06 which requested reductions in required financial warranty for completion of items 1 through 4 named above. The denials were based on an overall reclamation warranty deficiency for the site, although completion of items 1 through 4 had been verified during the SR-04, SR-05, and SR-06 inspections. During the current inspection, completion of items numbered 1 through 4, above, was re-verified. Also, during the current inspection, completion of item 5 was verified. Observations made during this inspection support a decision to approve Surety Reduction request SR-7.

Hydrologic Balance:

Eight new bedrock monitoring wells were approved in TR-19. The wells were drilled in late 2012. Each well was visited during this inspection. The wells are located as approved in TR-19 and no problems were found with the wellheads, as each was secured with a protective housing and marked with an identifying number. After the inspection the operator provided copies of completion information and diagrams. The wells appear to have been screened at the depths approved in TR-19 and underwent proper development.

Sediment Control:

No excessive erosion or sediment control problems in the areas where drilling and road construction had been conducted in late 2012 when the bedrock ground water monitoring wells were installed.

Support Facilities On-site:

No problems were found with on-site facilities.

Equipment was on site for implementing the mine pool pump down and mine water treatment recently approved in Permit Amendment 4. A new reverse osmosis (RO) unit was inside a trailer outside the Steve Adit, but is not yet operating. The operator is preparing to install a pump in the mine workings for pumping down the mine pool to a minimum depth of 150 feet below the elevation of the Steve Level. The pumped mine water will be run through the RO unit, then the clean portion of the RO discharge will be routed through a pipe, via the ion exchange plant, to the Ralston Creek discharge point near BPL. The operator does not plan to run the water through the IX plant unless necessary.

The residuals from the RO discharge at the Steve Adit (the RO treatment waste) will pass through a barium chloride treatment process inside a trailer next to the RO unit and then will be injected back into the mine pool as backfill slurry. EPA issued a determination on March 11, 2013 that injection of the backfill slurry back into the mine pool is "authorized by rule". The RO and barium chloride treatments will be conducted concurrently with biologic in-situ treatment of the mine pool water. The in-situ treatment began May 15, 2013 with the first addition of molasses and alcohol to the mine pool water.

The operator appears to be progressing toward meeting the July 29, 2013 deadline of initiating mine pool pumping to 150 feet below the Steve Level, as specified in the Mined Land Reclamation Board Order of September 18, 2012.

PHOTOGRAPHS



Photo 1 – Part of ion exchange treatment plant.



Photo 2 – Part of ion exchange treatment plant.



Photo 3 – South Waste Rock Pile.



Photo 4 – Concrete apron (on right side of photo) at upstream cut-off wall of Ralston Creek diversion wall.



Photo 5 – North Waste Rock Pile in distance as seen from concrete apron shown in Photo 4.



Photo 6 – Concrete-lined two-cell ponds next to ion exchange treatment plant.



Photo 7 – Small amount of water ponded (in center of photo) in Sump 10 area. Stand pipe in upper right of photo is a grout injection hole drilled in June 2012 as part of grout curtain effort (TR-20).



Photo 8 – Sump 10 area that was excavated for ground water investigation in 2012.



Photo 9 – Monitoring well MW-17 (in center of 3 yellow guard pipes). MW-17 total depth is 119 feet, in or near Illinois Fault zone. Insulated silver pipe that extends from Steve Adit to IX plant (extends across photo). Pierce Adit in background.



Photo 10 – Insulated silver pipe that extends from Steve Adit (in distance) to IX plant. This pipe will carry treated water from the RO unit at the Steve Adit to the ion exchange plant (but will not be treated there unless necessary). The water will be piped from the IX plant to the discharge into Ralston Creek near BPL.



Photo 11 – Sump 10 area. IX treatment plant in distance.



Photo 12 – Reverse osmosis treatment unit in trailer at Steve Adit.



Photo 13 – Portal of Steve Adit. Insulated black tank on right side of photo.



Photo 14 – View into Steve Adit from portal.



Photo 15 –Trailers outside Steve Adit that contain treatment equipment.



Photo 16 – Schwartz Trend well, MW-15 and 16 (stand pipes in distance near center of photo).



Photo 17 – MW-13 and MW-14 on top of hill.

Inspection Contact Address

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