

WATER QUALITY MEMORANDUM

Utah Coal Regulatory Program

March 1, 2005

TO: Internal File

THRU: D. Wayne Hedberg, Permit Supervisor

FROM: Steve Fluke, Reclamation Hydrogeologist

RE: 2004, Second Quarter Water Monitoring, Genwal Resources, Inc.,
Crandall Canyon Mine, C/015/0032-WQ04-2, Task ID #2013

1. Was data submitted for all of the MRP required sites? YES [X] NO []

2. On what date does the MRP require a five-year resampling of baseline water data.

Resampling due date.

Sampling and analyses for baseline parameters (Tables 7-5 and 7-9 in the MRP) are to be performed during low-flow (fourth quarter) in 1990, 1995, 2000, and at five-year intervals thereafter until the surety bond is released. No baseline resampling data for 2000 has been submitted to the database. Gary Gray stated that the baseline resampling was conducted in 2000 but has not been input to the database. He plans to find and input the data. The next baseline resampling is scheduled for 2005.

3. Were all required parameters reported for each site? YES [X] NO []

4. Were irregularities found in the data? YES [X] NO []

Spring Sites:

SP-58 – Sulfate and TDS concentrations are above two standard deviations and have been generally increasing since approximately 1999. Possibly drought related.

Bicarbonate is historically low and below two standard deviations for spring sites SP1-9, SP2-24, and SP2-9.

Stream Sites:

Bicarbonate is historically low and below two standard deviations for stream sites Blind Canyon Flume, Horse Canyon, and Upper Crandall Flume.

BCF – historically low and below two standard deviations for dissolved magnesium and bicarbonate.

Historical data indicate that total dissolved solids, specific conductivity, and sulfate concentrations for the Lower and Upper Crandall Flumes (LOF and UPF) show an increasing trend since approximately 2000. Additionally, dissolved sodium and chloride are significantly higher for LOF when compared to UPF. None of the constituents exceed Class 3A Cold Water Aquatic Wildlife standards. It is possible that these increasing constituents are due to the ongoing drought.

Wells:

Most wells designated for monitoring are either no longer accessible within the mine.

Two wells have been reported as dry. DH-1 is a tap into a sand channel within the Blackhawk formation that has been dry since 1992. MW-1 is a well completed within the Starpoint sandstone that has been mostly reported as dry since 2000.

5. Were DMR forms submitted for all required sites?

1st month, YES [X] NO []
2nd month, YES [X] NO []
3rd month, YES [X] NO []

DMR data is submitted to the DOGM database. No flow was reported for UPDES site 001 (discharge from the sediment pond to Crandall Creek).

6. Were all required DMR parameters reported?

YES [X] NO []

7. Were irregularities found in the DMR data?

YES [] NO [X]

8. Based on your review, what further actions, if any, do you recommend?

Continue monitoring TDS and sulfate trend for spring site SP-58.

Determine why so many monitoring locations report low bicarbonate data. It is likely due to the change in methods by the laboratory.

Continue to monitor the trends of increasing constituent in Upper and Lower Crandall Flume data. The trends should be examined more thoroughly with the permittee to ensure that impacts to the water quality of Crandall Canyon Creek are minimized.

The baseline resampling data for 2000 still needs to be input to the database.