

WATER QUALITY MEMORANDUM

Utah Coal Regulatory Program

February 10, 2006

TO: Internal File

THRU: Wayne Hedberg, Permit Supervisor

FROM: Steve Fluke, Reclamation Hydrogeologist

RE: 2004 Third Quarter Water Monitoring, Genwal Resources, Inc.,
Crandall Canyon Mine, C/015/0032-WQ04-3, Task ID #2163

1. Was data submitted for all required monitoring sites? YES [] NO [X]

The Crandall Canyon Mine is currently operational. Water monitoring data is evaluated from the data that is submitted quarterly by the mine to the Division EDI database. The abbreviated and extended groundwater analysis list, abbreviated and extended surface-water analysis list, and water monitoring program are outlined in the mine's MRP in Tables 7-4, 7-5, 7-8, 7-9, and 7-10, respectively. Quarterly groundwater monitoring for the Crandall Canyon Mine is required for four quarters, however many of the monitoring sites are inaccessible during the first quarter due to remote locations and winter conditions. Monthly UPDES reporting requirements are presented in Appendix 5-14 of the MRP. Plate 7-18 presents the Crandall Canyon Mine Water Monitoring Sites Map.

Surface *Operational sampling is required quarterly for five stream monitoring sites.*

All surface monitoring sites were sampled and data submitted for the 2004 third quarter monitoring.

Groundwater and Wells *Operational sampling is required quarterly for fourteen spring monitoring sites and eleven in-mine monitoring well sites. However, only two of those wells are currently accessible (DH-1 and MW-1) and one has been destroyed.*

All groundwater monitoring sites were sampled and data submitted for the 2004 third quarter monitoring. Of the two accessible in-mine monitoring wells, only data for DH-1 was submitted to the EDI.

UPDES *Operational sampling is required monthly for two active UPDES sites; sediment pond discharge UT0024368-001 and mine water discharge UT0024368-002 -002.*

The UPDES sites were sampled and data submitted for the 2004 third quarter monitoring.

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

Surface All required parameters were reported.

Groundwater and Wells With the exception of the missing data reported for MW-1, all required parameters were reported.

UPDES All required parameters were reported.

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

Surface No irregularities were found in the data with the following exceptions:

UPF-1 – TDS and total hardness concentrations are reported above two standard deviations.

LOF-1 – total hardness concentration is reported above two standard deviations.

Trends - Total dissolved solids, dissolved calcium, and sulfate have been steadily increasing in UPF-1 and LOF-1 since 2000 and 2001. Dissolved sodium has been steadily increasing in LOF-1 during this period. Levels do not exceed regulatory limits and may be do to drought conditions. This trend is not observed in other monitored streams for the permit area.

Groundwater and Wells No irregularities were found in the data with the following exception:

SP-36 – dissolved calcium and potassium concentrations are reported above two standard deviations.

SP-58 – total hardness and bicarbonate are reported above two standard deviations.

SP-33 – dissolved calcium is reported above two standard deviations.

Trends – TDS and sulfate concentrations have increased in SP-58 since 1999. All springs with laboratory parameters show slight increased concentrations in dissolved calcium since 1999, especially noticeable in SP-58. Levels do not exceed regulatory limits and may be do to drought conditions.

UPDES No irregularities were found in the data.

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

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.

The next baseline resampling is scheduled for 2005. No baseline resampling data for 2000 has been submitted to the database. Gary Gray believes that the 2000 baseline resampling was conducted, but cannot find the data. The Division has decided to allow the Permittee to conduct a baseline resampling during spring of 2005 as well as the scheduled fall of 2005 to make up for the lost data.

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

Surface

Continue tracking the trend of elevated constituents in Crandall Canyon Creek (UPF-1 and LOF-1). Arrange meeting with the Mine operator and hydrologist to discuss issue.

Groundwater and Wells

Continue tracking the trend of elevated constituents in SP-58. Arrange meeting with the Mine operator and hydrologist to discuss issue. Have data for MW-1 input to EDI if available.

UPDES

No further action is recommended.

6. Does the Mine Operator need to submit more information to fulfill this quarter's monitoring requirements? YES [X] NO []

Have data for MW-1 input to EDI if available.

7. Follow-up from last quarter, if necessary. Did the Mine Operator submit or provide an explanation for missing and/or irregular data?

No missing data from second quarter 2004.