

WATER QUALITY MEMORANDUM

Utah Coal Regulatory Program

June 29, 2005

TO: Internal File

THRU: Wayne Hedberg, Permit Supervisor

FROM: Steve Fluke, Reclamation Hydrogeologist

RE: 2004 Fourth Quarter Water Monitoring, West Ridge Resources, West Ridge Mine, C007/0041-WQ04-4, Task ID #2210

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

The West Ridge Mine is currently operational. Water monitoring data is evaluated from the data that is submitted quarterly by the mine to the Division EDI database. Water monitoring protocols, and surface, groundwater and monitoring wells, and UPDES sample parameters are outlined in the mine's MRP on Tables 7-1, 7-2, 7-3, and 7-4, respectively.

Surface Operational sampling is required quarterly for five stream monitoring sites (ST-3, ST-4, ST-8, ST-9, and ST-10). There are four stream monitoring sites (ST-5, ST-6, ST-6A, and ST-7) that are equipped with automatic samplers that are required to be checked following precipitation events.

All surface monitoring sites were sampled and checked and data submitted for the 2004 fourth quarter monitoring as required.

Groundwater and Wells Operational sampling is required quarterly for eight spring monitoring sites (SP-12, SP-13, SP-15, WR-1, WR-2, SP-16, SP-8, and S-80) and one groundwater monitoring well site (DH 86-2).

All groundwater and well monitoring sites were sampled and data submitted for the 2004 fourth quarter monitoring as required.

UPDES Operational sampling is required monthly for two active UPDES sites (D001 and D002).

All UPDES sites were sampled and data submitted for the 2004 fourth quarter monitoring.

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

Surface All required parameters were reported with the following exceptions:

No oil and grease analysis was submitted for **ST-6** and **ST-9** due to a bottle mix-up.

No flow was reported for **ST-5** because the crest gage was covered with debris. The laboratory could not analyze the sample for oil and grease because the automatic sampler does not use a glass bottle as required for laboratory protocol.

Groundwater and Wells 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:

ST-3 - total dissolved solids (TDS) were reported above two standard deviations and total iron was reported at 4.5 mg/L which exceeds Class 3A Cold Water Aquatic Wildlife standard of 1.0 mg/L, which is not uncommon for this site.

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

S-80 – conductivity, TDS, total alkalinity, and dissolved calcium and magnesium were reported below two standard deviations.

SP-13 – conductivity, TDS, total alkalinity, total hardness, and dissolved calcium, magnesium, and sodium were reported above two standard deviations.

SP-16 – TDS was reported above two standard deviations.

WR-2 – dissolved sodium and total iron were reported outside of two standard deviations.

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

D002 – the mine water discharge was reported at 1,153 mg/L for November, which exceeds the maximum limit of 2,000 lbs/day given the reported average monthly flow of 300 gpm (calculated at 4, 162 lbs/day).

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

Five-year baseline resampling is to occur at the time of the mid-term review. The next baseline resampling should be conducted by October 1, 2006.

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

Surface Continue discussions with the Permittee and mine hydrologist regarding whether the automatic sampling method for some of the stream sites can be improved upon.

Groundwater and Wells Continue monitoring parameters outside of two standard deviations for spring sites S-80, SP-13, SP-16, and WR-2. Historically high measurements of the parameters are likely attributed to the ongoing drought in the region. Most of the springs monitored have a trend of increasing TDS and sulfate concentrations since approximately 1999.

UPDES Follow up on the ongoing discussions between Jeff Studenka of the Utah DWQ and the mine to possibly amend the UPDES permit to account for greater outflows at UPDES DOO2 which cause TDS concentrations to exceed the daily maximum load. Karla Knoop (mine hydrologist) replied in an email (April 13, 2005) addressing this issue that the flow rate input in the EDI database may be higher than the million gallons per day (MGPD) rate that should be used for the load calculation. If this is the case, the mine should report the rate to be used for accurate load calculations.

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

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

I (Steve Fluke) met with Gary Gray (mine operator) in April 2005 to conduct a hydrology inspection for the West Ridge Mine and discuss missing and irregular data for 2004. Gary contacted Karla Knoop who provided information that resolved most issues.