

# WATER QUALITY MEMORANDUM

Utah Coal Regulatory Program

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April 4, 2005

TO: Internal File

THRU: Wayne Hedberg, Permit Supervisor

FROM: Steve Fluke, Reclamation Hydrogeologist

RE: 2004, Second Quarter Water Monitoring, West Ridge Resources, Inc.,  
West Ridge Mine, C/007/0041-WQ04-2, Task ID #2009

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.**

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

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

Missing flow for spring site S-80 and flow and oil and grease for stream site ST-10.

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

Of the eight monitored spring sites, three (SP-12, SP-13, and WR-2) had parameter concentrations reported above two standard deviations. These were dissolved calcium and hardness for SP-12; dissolved calcium and magnesium for SP-13; and sulfate for WR-2. The concentrations reported did not exceed any regulatory limits.

The five monitored ephemeral streams did not have documented flow during the second quarter except for ST-5 and ST-6 that collect mine-discharge water mixed with storm water runoff. The samples sit in the automatic samplers for an unknown period of time before being collected and sent to the laboratory for analysis. Site ST-5 reported elevated concentrations of

field conductivity (2100 umhos/cm), TDS (1434 mg/L), dissolved magnesium (66.99 mg/L), and sulfate (764 mg.L). This is not uncharacteristic of an ephemeral stream during a storm event. These concentrations were similar for downstream site ST-6 collected after the same storm event, but were not outside of the two standard deviation range for that site.

**5. Were DMR forms submitted for all required sites?**

1<sup>st</sup> month, YES [ X ] NO [ ]  
2<sup>nd</sup> month, YES [ X ] NO [ ]  
3<sup>rd</sup> 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).

**6. Were all required DMR parameters reported?** YES [ X ] NO [ ]

**7. Were irregularities found in the DMR data?** YES [ X ] NO [ ]

The reported concentration for total iron of 1.08 mg/L exceeded the limit of 1.0 mg/L for the month of May.

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

Continue monitoring parameters outside of two standard deviations for spring sites SP-12, SP-13, 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 concentrations since approximately 1999.

Have operator provide missing flow data for spring site S-80.

Carbonate and bicarbonate concentrations for many of the sites are outside of two standard deviations because the laboratory is using a different analytical method based on calcium carbonate.

Have operator provide missing flow and oil and grease data for stream site ST-10.

Continue discussions with the permittee and mine hydrologist regarding whether the automatic sampling method for some of the stream sites can be improved upon. Implement a plan to have the automatic sampler collection and holding times reported to DOGM to aid in the

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evaluation of the analytical results. Although elevated concentrations of some parameters were reported for ST-5, the concentrations were consistent with previous reports.

The total iron concentration for UPDES site 002 was reported at 1.08 mg/L, exceeding the maximum limit of 1.0 mg/L. This is the first time the outflow has exceeded the maximum limit for total iron. Continue monitoring to determine if this was an anomalous reading.

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