

# WATER QUALITY MEMORANDUM

Utah Coal Regulatory Program

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April 12, 2004

TO: Internal File

THRU: Daron Haddock, Permit Supervisor

FROM: Steve Fluke, Reclamation Hydrogeologist

RE: 2003, Fourth Quarter Water Monitoring, Canyon Fuel Company,  
SUFCO Mine, C/041/0002-WQ03-4, Task ID #1831

**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.**

The MRP does not require a five-year resampling of baseline water data.

**Resampling due date.**

Not specified.

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

Additional stream and spring monitoring stations have been added to the East Fork of Box Canyon during undermining of the canyon beginning in November 2003. These monitoring stations, intended to more carefully document the effects of subsidence on the hydrologic balance of the East Fork of Box Canyon, also include existing quarterly stream and spring monitoring stations (Pines 106 and Pines 214). Only the quarterly monitoring stations are reviewed as part of this memo. The Permittee submits separate monitoring reports weekly for the East Fork of Box Canyon during undermining of the stream.

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

**Streams:**

006 – An elevated total dissolved solids (TDS) concentration was likely due to low flow caused by drought. This elevated TDS was reflected in the concentrations of specific conductivity, dissolved calcium, dissolved magnesium, dissolved potassium, dissolved sodium, bicarbonate, chloride, total alkalinity, total hardness, total cations, and total anions reported outside of two standard deviations.

041 – Dissolved oxygen concentration and temperature were reported outside of two standard deviations. The sample was collected in December and it is possible that the low water temperature of 0.5 °C affected the D.O. concentration.

046 – Dissolved calcium was reported at a concentration outside of two standard deviations; likely caused by drought.

047A – Sulfate was reported at a concentration outside of two standard deviations; likely caused by drought.

**Wells:**

WRDS-B6 – Dissolved calcium, bicarbonate, and total alkalinity were reported outside of two standard deviations.

WRDS-B8 – Bicarbonate and total alkalinity were reported outside of two standard deviations.

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

3rd quarter, 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. All required UPDES sites were monitored. No flow was reported for all three months at UPDES site 001 and for October and December for UPDES site 002.

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

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

**UPDES site 003:** reported a total iron discharge of 1.98 mg/L and 1.26 mg/L for October and December, respectively, which exceeds the permitted discharge requirement of 1.0 mg/L.

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

Irregularities identified in the stream data (with the exception of site 041) appear to be in response to ongoing drought conditions. Continue monitoring sites for anomalies and/or trends.

Irregularities identified in the WRDS well data appear to be in response to ongoing drought conditions. Continue monitoring sites for anomalies and/or trends.

The permittee notified the Utah Division of Water Quality (DWQ) and DOGM regarding the failure to comply with total iron discharge limitations at UPDES site 003 for October and December, 2003. The permittee has discussed the issue with DWQ and has collected in-mine water quality samples to determine the source of the iron. The investigation is ongoing, however, Mike Davis has stated that the east portion of the Pines Tract they have been mining seems to be naturally high in iron content.

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