

WATER QUALITY MEMORANDUM Utah Coal Regulatory Program

March 3, 2011

TO: Internal File

THRU: James Smith, Permit Supervisor *JS 03/09/11*

FROM: April A. Abate, Environmental Scientist II *AAA 3-9-11*

RE: 2010 Third Quarter Water Monitoring, Canyon Fuel Company, LLC, SUFCO Mine, C/041/0002, WQ10-03, Task ID #3639

The SUFCO Mine is an operating longwall mine. Current operations are in the Quitchupah and Muddy Tracts. Water monitoring requirements can be found in Section 7.3.1.2 of the MRP, see Tables 7-2, 7-3, 7-4, 7-5, and 7-5A. Page 7-48 contains the important statement that (non Box-Canyon, non-UPDES) "monitoring sites are sampled three times per year," meaning the second, third, and fourth quarters.

SUFCO has added two additional stream monitoring points to their plan: SUFCO 006A and SUFCO 006B are intended to monitor the upstream and downstream flow along the South Fork of Quitchupah Creek on a quarterly basis and every two weeks while mining is taking place within a 15-degree angle of draw of the stream channel.

1. Was data submitted for all of the MRP required sites?

Springs

YES NO

The MRP requires the Permittee to monitor 25 springs during the second, third, and fourth quarter as per Table 7-2. Some require full laboratory analysis according to Table 7-4, while others simply require field measurements.

Each of the required spring locations were monitored during the third quarter of 2010.

Streams

YES NO

The MRP requires the Permittee to monitor 20 streams during the second, third and fourth quarter as per Table 7-2.

Each of the required stream locations were monitored during the third quarter of

2010.

Wells

YES NO

The MRP requires the Permittee to monitor water levels for 6 wells. Monitoring wells US-80-2, 89-20-2W, US-81-4, and 01-8-1 are monitored quarterly. Monitoring wells US-80-4 and US-79-13 are monitored annually during the 3rd quarter.

All wells were gauged during the third quarter of 2010.

Additional wells associated with the waste rock disposal site are in the database including: WRDS-B3, WRDS-B5, WRDS-B6, WRDS-B8, and WRDS-B9. The sampling protocol for these wells is found in Volume 3, pages 4-10 through 4-12. These wells were sampled for analytical parameters during the third quarter of 2010.

Groundwater monitoring wells 79-13 and 80-4 were gauged annually during the third quarter. The water levels in both wells remain relatively unchanged based on the three years of annual data on each of the wells.

UPDES

The UPDES Permit/MRP require bi-weekly monitoring of 3 outfalls: UT0022918-001: mine water discharge to Spring Canyon; UT0022918-002: sedimentation pond discharge to Spring Canyon; and UT0022918-003A: the mine water discharge to the North Fork of Quitchupah Creek.

The Permittee submitted all required samples for the UPDES sites. Outfall 001 reported no flow this quarter. The mine water discharge outfall location to the North Fork of Quitchupah Creek averaged a flow of 2,666 gallons per minute (gpm) and an average Total Dissolved Solids (TDS) concentration of 608 mg/L this quarter.

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

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

Dissolved magnesium was slightly elevated in stream samples 041 and 046 this quarter at concentrations 31.4 and 44.8 mg/l, respectively. For the stream samples, Sample 047 - the pumphouse discharge had alkalinity, dissolved calcium and dissolved magnesium all outside of two standard deviations during the 3rd quarter. In stream sample Pines 100, bicarbonate was slightly elevated this quarter.

In the waste rock wells, well WRDS-B8 reported alkalinity lower than usual at a

concentration of 227 mg/L; however the pH was reported within a neutral range (7.09). Dissolved potassium and bicarbonate were slightly elevated in waste rock well sample WRDS-B6.

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

There is no commitment in the MRP to resample for baseline parameters.

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

As a general comment, the existing water monitoring plan in the MRP contains several outdated references to sampling protocols that were performed in the 1990s. The Division recommends that the water monitoring plan be updated in the near future that is more reflective of current sampling protocols (i.e. addressing the U.S. Forest Service sampling locations in the MRP).