

# WATER QUALITY MEMORANDUM

## Utah Coal Regulatory Program

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December 27, 2019

TO: Internal File

THRU: Steve Christensen, Coal Program Manager 

FROM: Amanda Daniels, Environmental Scientist 

RE: 2019 2<sup>nd</sup> Quarter Water Monitoring, Canyon Fuel Company, LLC, Sufco Mine, C/041/0002, Task ID #5949

The Sufco Mine is an operating longwall mine. 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.

Sufco has added additional stream monitoring points to their plan: Sufco 006A, 006B, 006C, and 006D are intended to monitor the upstream and downstream flow along the South Fork of Quitchupah Creek. Additional spring sample locations were approved for the South Fork reach of Quitchupah located in the headwaters area and further downstream. These springs include: Spring 006A, Roberts Spring, RS-A, RS-B, Wedge Spring, Amanda Spring, 94-113 Seep.

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

#### *Springs*

YES  NO

*The MRP requires the Permittee to monitor 29 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.*

#### **Streams**

YES  NO

*The MRP requires the Permittee to monitor 20 streams during the second, third and fourth quarter as per Table 7-2. Perennial stream monitoring of Box Canyon is required at FP-1 and FP-2 at the beginning of the month of October each year.*

#### **Wells**

YES  NO

*The MRP requires the Permittee to monitor water levels for 7 wells. Monitoring*

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wells US-80-2, 89-20-2W, US-81-3, US-81-4 and 01-8-1 are monitored quarterly.  
Monitoring wells US-80-4 and US-79-13 are monitored annually during the 3<sup>rd</sup> quarter.  
Groundwater monitoring at the Waste Rock site occurs three times per year.

## 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.

2. Were all required parameters reported for each site? YES  NO
3. Were any irregularities found in the data? YES  NO

\*\*Sampling this year picked up spring runoff from a heavy snowfall winter.\*\*  
The following parameters were more than 2 standard deviations from the mean:

## Streams

006: Flow  
006D: Flow  
041: Conductivity, Dissolved Sodium  
046: Cations, Anions, Total Iron, Dissolved Calcium, Dissolved Magnesium, TDS, Conductivity, Dissolved Sodium, SO<sub>4</sub>, Chloride  
047A: Dissolved Sodium, Chloride  
Cowboy Bottom: Flow  
Cowboy Middle: Flow  
GH at Road: Flow  
M-STR4: Flow  
Muddy Creek ABV HR: Dissolved Calcium, Total Hardness  
Muddy Creek BLW HR: CaCO<sub>3</sub>, Dissolved Calcium, Total Hardness  
Northfork Mid: Flow  
Northfork Upper: Flow, TSS  
Pines 403: Chloride  
Pines 405: Dissolved Calcium, Total Hardness  
Pines 408: Conductivity  
SP60 Creek: Flow  
URGH: Flow

## Springs

Amanda Spring: Flow  
Broad Hollow Sp: Flow  
GW-13: Water Temp  
M-SP04: Flow  
M-SP05: Flow  
M-SP103: Flow  
M-SP104: Flow  
M-SP105: TSS  
M-SP12: Flow  
Pines 100: Cation, Anions, Dissolved Calcium, Dissolved Magnesium, Total Hardness, TDS, Conductivity, Dissolved Sodium, SO4, Chloride  
Pines 214: Temp, Conductivity

## **Wells**

WRDS-B3: Dissolved Calcium, Total Hardness, TDS, Conductivity, Dissolved Sodium, Chloride  
WRDS-B8: Dissolved Calcium, Bicarbonate, Total Hardness, TDS, Dissolved Sodium, Chloride

### **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?**

No recommendations are warranted at this time.