

#4185
OK

WATER QUALITY MEMORANDUM Utah Coal Regulatory Program

February 21, 2013

TO: Internal File

THRU: Steve Christensen, Permit Supervisor *Gac*

FROM: April A. Abate, Environmental Scientist III *AAA 2/21/13*

RE: 2012 Third Quarter Water Monitoring, Canyon Fuel Company, LLC, SUFCO Mine, C/041/0002, WQ12-03, Task ID #4185

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 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.

All required springs were monitored during the third quarter of 2012.

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.

All required streams were monitored during the third quarter of 2012.

Wells

YES NO

The MRP requires the Permittee to monitor water levels for 7 wells. Monitoring 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 3rd quarter. Groundwater monitoring at the Waste Rock site occurs three times per year.

All wells including the waste rock wells were monitored in accordance with the monitoring plan during the third quarter of 2012.

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. Other mine water discharge outfall locations reported the following:

	SED POND Q TO E SPRING CYN Outfall: UT0022918-002	Mine Water Discharge to N.Fk. Quitchupah Outfall: UT0022918-003A
TDS Daily Limit (mg/l)	1,289	1,216
TDS Loading Limit	2,000 lbs/day	No established limit
Average TDS (mg/L)	637	642
Average Flow (gpm)	15	2,424

Oil and Grease (O&G) was detected at a concentration of 6 mg/l on July 10, 2012 from UPDES 003A. The daily maximum for O&G is 10 mg/l. However, subsequent samples collected during 3rd quarter 2012 indicated that O&G results were non-detect. All other parameters met the requirements of the UPDES Permit No. UT0022918.

The permit establishes the TDS concentration maximum daily limit for Outfalls 001 and 003 to not exceed 1216 mg/l. All quarterly TDS concentrations at these two outfalls complied with the established limit.

Mine water discharge from the North Fork of Quitchupah Creek (sample location UT0022918- 003W) requires toxicity tests in the permit for Acute Whole Effluent Toxicity and Chronic Whole Effluent Toxicity. The permit requires semi-annual testing with results measured on a Pass/Fail basis.

The toxicity sample passed during the third quarter of 2012.

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

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

The following sample locations reported results outside of at least two standard deviations:

Sample ID	Date	Parameter	Value	STD. Deviation
GW-8	9/26/2012	TDS	820 mg/l	4.2
		Cl	71 mg/l	3.96
		T-Ca	112 mg/l	4.41
M-SP18	9/6/2012	Water Temp.	14.2 C	2.98
		Cond.	1528 umhos/cm	3.10
PINES 303	9/6/2012	Water Temp.	12.9 mg/l	2.81
006B	9/12/2012	D-Na	22.2 mg/l	2.01
007	9/26/2012	D-K	1.5 mg/l	2.05
		D-Na	38.9 mg/l	2.83
041	7/4/2012	T-Alk	365 mg/l	2.05
		Cat-Ani bal	6.9%	>5% is considered invalid data
PINES 403	9/7/2012	Cond.	864 umhos/cm	2.86

		D-Mg	68 mg/l	2.05
		SO4	246 mg/l	4.95
		TDS	626 mg/l	3.26
		T-Anis	10.5 meq/l	2.26
PINES 405	9/7/2012	Water Temp.	17.8 C	2.07
PINES 407	9/6/2012	Flow	18 gpm	2.01
UPDES-002	8/7/2012	Water Temp.	18.8 C	2.08
UPDES-003	7/10/2012	Water Temp.	16.3 C	2.09
	7/10/2012	SO4	291 mg/l	2.11
	9/18/2012	SO4	299 mg/l	2.54

Temperature data were reported higher than average for the given season on several of these samples. For example, at the spring sites PINES 405 and M-SP18 September 2012 water temperatures were reported 6-7 degrees higher than in September 2011.

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.