

WATER QUALITY MEMORANDUM

Utah Coal Regulatory Program

January 16, 2014

TO: Internal File

THRU: Steve Christensen, Permit Supervisor 

FROM: Ken Hoffman, Hydrologist 

SUBJECT: First Quarter of 2013 Water Monitoring, Bear Canyon Mine, Castle Valley Mining, LLC, C/015/0025, Task ID #4267

The monitoring plan is described on pages 7-48 through 7-60A of the MRP. It includes Tables 7-12 through 7-17. The mine is now operating under a permit held by Castle Valley Mining, LLC. The Permittee has recently been approved to reactivate the following water monitoring locations: Fish Creek Stream sample locations FC-2, FC-3, FC-4, FC-6, FC-7, FC-8 and SMH-5 (a spring-fed stock watering trough). The following springs are due to be reactivated upon approaching within 500 feet of the Mohrland mining area: SBC-18, SBC-20, SBC-21, SBC-22, and SCC-2.

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

In-mine YES NO

A total of two in-mine samples are listed in the Bear Canyon water monitoring plan: SBC-9A and SCC-3. The Mohrland Portal, sample SCC-3 is sampled for field parameters only in May, August and October of each year. The Hiawatha Seam sample, SBC-9A is sampled for operational parameters in February, May, August, and October (quarterly). The SCC-3 location - Mohrland Portal was not sampled this quarter. In-mine locations SBC-9A and SCC-3 were sampled this quarter.

Springs YES NO

Most of the spring samples in and around the Bear Canyon mine are sampled for field, or either operational or expanded list parameters once every five years prior to permit renewal. Active springs requiring operational parameter sampling during the months of February, May, August, and October include: SBC-4: Big Bear Springs, SBC-5: Birch Spring, SBC-17 (16-7-24-4). SBC-14 requires operational monitoring in May, August and October only. Currently active springs requiring field parameter only measurements during the months of May, August and October include: SCC-2, SBC-15, SBC-16, SBC-16A, SBC-16B, SBC-18, SBC-20, SBC-21,

SBC-22. No accelerated monitoring was conducted during the First Quarter of 2013 due to access.

Streams

YES NO

Active stream samples required for quarterly operational monitoring include: BC-1, BC-2, BC-3, BC-4, CK-1, CK-2, FC-1, FC-2, FC-3, FC-4, FC-6, FC-7, FC-8 and SMH-5. Bear Creek is the principal drainage that runs through the active mining area. BC-2 is the downstream surface water sample from the mine facilities area. CK-1 and CK-2 are the upstream and downstream locations for Cedar Creek located just outside the northeast portion of the permit boundary. Stream locations FC-1, FC-2, FC-3, FC-4, FC-6, FC-7, FC-8 and SMH-5 are sampled for field parameters only during the months of May, August and October.

According to Table 7-14 of the MRP, operational monitoring at stream sampling sites is scheduled in February, May, August, and October for BC-1, BC-2, BC-3, BC-4, CK-1, CK-2. Field measurements only are scheduled in May, August, and October for all of the Fish Creek samples (FC-1 through FC-8). During the First Quarter of 2013, flow was reported at BC-1, BC-2, and CK-2. No accelerated monitoring was conducted during the First Quarter of 2013 due to access.

UPDES

YES NO

Five stations are monitored for the Bear Canyon UPDES permit on a monthly basis: Sediment Pond A (Outfall ID 002), Sediment Pond B (Outfall 003), Mine Water Overflow discharge to Bear Creek (Outfall 004), Sediment Pond C (Outfall 006), Sediment Pond D (Outfall 007). None of these stations reported any monthly flow data from the five stations during this quarter with the exception was discharge point UTG040006-004 - Mine Water to Bear Canyon Creek, which reported monthly discharges.

Serial Discharge No. 004 averaged 97 gallons per minute (gpm) and TDS concentrations averaged 1,041 mg/L during this quarter. The Bear Canyon UPDES permit requires that if one outfall cannot meet the 30-day average of 500 mg/L at a discharge point then the sum of all permitted outfalls must meet 2,000 lbs per day limit. The Permittee is meeting their required TDS permit loading limits of under 2,000 lbs/day during the First Quarter of 2013.

Wells

YES NO

Three wells are monitored at the mine. SBC-3 (Creek Well) is monitored for operational parameters on a quarterly basis. MW-114 and MW-117 are gauged for depth to water level only during the 3rd and 4th quarters.

2. **Were all required parameters reported for each site?**

In-mine	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
Springs	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
Streams	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
UPDES	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>

3. Were any irregularities found in the data?

In-mine	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
Springs	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
Streams	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>

All stream samples for total dissolved solids detections during this quarter were well below the state water quality standards of 1,200 mg/L. Total iron concentrations exceeded state surface water quality objective of 1.0 mg/L at BK-1.

UPDES	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
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Mine water from Bear Canyon Creek at Outfall 004 was the only point that discharged this quarter. Mine water has been continuously discharging from this location since May 2009.

Wells	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
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4. On what date does the MRP require a five-year resampling of baseline water data?

Baseline parameters are to be taken in August of year 5 prior to each permit renewal. The parameters are referred to as the "Expanded List" in Tables 7-13 and 7-17 of the MRP. The next permit renewal date is November 02, 2015. Expanded List parameters are due for sampling in August 2014.

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

Weekly sampling of the reactivated spring and stream locations began on July 9, 2012. Mining in the Wildhorse Ridge/Mohlrland area began in the fall 2012. The MRP requires that the springs above the mine workings in this area be monitored on a weekly basis. The Permittee has recently been approved to reactivate these spring and stream water monitoring locations in accordance with the specified protocol in the MRP. The Permittee has begun filing monthly reports of the accelerated weekly sampling via email and has updated the MRP to reflect these reports will be filed by the second Friday of every month.

- 6. Does the Mine Operator need to submit more information to fulfill this quarter's monitoring requirements?** YES NO

As part of the midterm permit review the Permittee has updated the MRP for the submission timeline for accelerated monitoring data.

- 7. Follow-up from last quarter, if necessary.**

None.