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WATER QUALITY MEMORANDUM
Utah Coal Regulatory Program

October 29, 2009

TO: Internal File

THRU: James D. Smith, Permit Supervisor JDS

FROM: Steve Christensen Environmental Scientist SKC

RE: 2006 3rd Quarter Water Monitoring, Consolidation Coal Company, LLC, Emery Deep Mine, C/015/0015, WQ06-3, Task ID #3147

The Emery Deep Mine is an active coalmine. The coal mining operation utilizes room and pillar mining techniques with the use of a continuous miner machine. The coal reserves are fully extracted (thus falling into the planned subsidence category).

The approved Mining and Reclamation Plan (MRP) outlines the water monitoring requirements beginning on page VI-28. Table VI-17, *Emery Mine Hydrologic Monitoring Program* contains a comprehensive list of all groundwater (springs/seeps), surface water, groundwater monitoring wells and Utah Pollutant Discharge Elimination System (UPDES) outfalls. Plate VI-4, *Ground Water Monitoring Well and Surface Water Monitoring Site Location Map* depicts the locations of the various ground and surface water monitoring sites (including the UPDES discharge/outfall points).

1. Was data submitted for all of the MRP required sites? YES ☒ NO ☐

Springs

The MRP outlines the sampling of 5 springs within the permit and adjacent area. Flow and field parameters are sampled for quarterly with water quality samples collected in the 2nd and 3rd quarters.

The Permittee submitted all required samples for the spring sites.

Streams

The MRP outlines the sampling of 8 surface water monitoring stations within the permit and adjacent area.

The Permittee submitted all required samples for the spring sites.

Wells

The MRP outlines the sampling of 33 ground water monitoring wells within the permit and adjacent area. Of the 33 wells, 14 are monitored quarterly for water level only. The remaining 19 wells are sampled for water quality on a quarterly basis with the exception of wells RDA-1, RDA-2, RDA-3, RDA-4, RDA-5 and RDA-6 (sampled annually for both field parameters and water quality).

The Permittee submitted all required samples for the wells.

UPDES

The Emery Deep Mine's UPDES Permit, #UT0022616, identifies 9 outfalls (001-009). The discharges from each of the outfalls ultimately report to Quitchupah Creek, a tributary of Muddy Creek. The receiving waters are designated according to Utah Administrative Code (UAC) R317-2-13.1 as 2B, 3C and 4.

- *2B-Protected for secondary contact recreation such as boating, wading or similar uses.*
- *3- Protected for nongame fish and other aquatic life, including the necessary aquatic organisms in their food chain.*
- *4- Protected for agricultural uses including irrigation of crops and stock watering.*

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 ☐

Parameters Outside of Two Standard Deviations from the Mean

Several of the springs within the permit and adjacent area produced flow values beyond two standard deviations from the mean. Flood irrigation practices by local water users upgradient from these springs produce return flows that correspond to higher flow values for area springs. The field flow measurements were obtained shortly after the area was flood irrigated.

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 further actions are necessary at this time.

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

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

None.

8. Did the Mine Operator submit all the missing and/or irregular data?

Yes.