

# TECHNICAL MEMORANDUM

## Utah Coal Regulatory Program

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June 24, 2013

TO: Internal File

FROM: Priscilla Burton, Team Lead *PWB by SDS*

RE: Revised Diversion Ditch 1 and Sediment Impoundment 4, Coal Hollow Mine, Alton Coal Development, LLC, Kane County, C/025/005, Task ID #4369

### SUMMARY:

There are no revisions to the soils handling plan provided in the MRP. This memo summarizes the quality and quantity of topsoil handled in construction of DD#1 and sediment pond #4. The berm adjacent to DD#1 need not be roughened or mulched, but must be seeded in accordance with Utah Coal Rule 244.100.

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**TECHNICAL ANALYSIS:**

**OPERATION PLAN**

**TOPSOIL AND SUBSOIL**

Regulatory Reference: 30 CFR Sec. 817.22; R645-301-230.

**Analysis:**

**Topsoil Removal and Storage**

Construction of ditch DD1 and sediment pond #4 was previously approved at the time of permit issuance in 2010. The construction was delayed however, and topsoil was stripped in April 2013 and placed in topsoil stockpile #4 or into a berm alongside DD#1. Drawing 5-3 shows the location of DD#1 and Pond #4.

Dwg 2-1 shows sample location SP 48 represents soils encountered during construction of sediment pond #4. These soils are in Soils Map Unit 12 which are very fine (textured), superactive mesic Aridic Calcustepts. These soils are clayey in texture with only six inches of salvageable topsoil. Subsoil quality is poor due to high SAR values below 12 inches. Salvage of subsoil down to 26 inches was envisioned. Sediment pond #4 construction is described on page 7-67 of the MRP as 90 ft x 582 ft x 12 ft. depth. Subsoils were used to construct a 12 ft. wide embankment around the pond. Based upon the pond dimensions, approximately 970 yd<sup>3</sup> of topsoil were salvaged from the pond and stored in topsoil pile #4.

Sample locations SP 43, SP 44, SP 38, SP 45, SP 46, SP 47 shown on Dwg 2-1 reflect soils encountered during construction of ditch DD#1. The majority of these sample sites represent soil in Map Unit #7. (Small areas were salvaged within Map Unit 13 and Map Unit 8, represented by SP 45 and SP47, respectively.) Soils represented by the typical pedon for Map Unit #7 are described as fine, mixed, superactive frigid Aeric Epiaquepts. These soils are silty clays. Soil mottling and gleying below 12 inches indicates a high water table which was encountered at 29 inches in March 2007. Topsoil removal to a depth of 10 inches and subsoil salvage to a depth of 37 inches is recommended for Map Unit #7. Drawing 5-33 shows a typical cross section of Ditch DD#1, which is 3 ft. wide at its base and approximately double that width at the outer edge to accommodate the 2h:1v ditch slope. The ditch runs for approximately one mile. Therefore a volume of 162 yd<sup>3</sup> topsoil (10 inch salvage depth) and 586 yd<sup>3</sup> of subsoil were salvaged and stored in a berm along the length of the ditch.

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The berm adjacent to DD#1 need not be roughened or mulched, but must be seeded in accordance with Utah Coal Rule 244.100.

**Findings:**

The application meets the requirements of the topsoil handling requirements of the Utah Coal Rules, R645-301-230.

**RECOMMENDATIONS:**

The berm adjacent to DD#1 need not be roughened or mulched, but must be seeded in accordance with Utah Coal Rule 244.100.