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TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

March 28, 2011

TO: Internal File

THRU: April Abate, Team Lead *OGG*
3-30-2011

FROM: Priscilla Burton, Environmental Scientist III/Soils. *PWB by SJS*

RE: Construction of West Lease Portals, Canyon Fuel Company, LLC., SUFCO Mine, C/041/002-Task #3780.

SUMMARY:

The application is recommended for approval. In all, the Division calculates that approximately 5,000 yd³ will be cut from the fill. The application cover letter, dated March 21, 2011, states that excess soil will be tested for suitability and either placed in the subsoil stockpile or the waste rock pile at the waste rock site and that an as-built update to chapter 2 will state the volume of subsoil salvaged.

Three new portals accessing the West Lease and were approved with Task #3548 in 2010. This amendment to the MRP proposes the construction of concrete access tunnels to lessen the grade of the entry to Portal #1 (West Lease Beltline portal) and Portal #2 (West Lease Main Haulage portal). The concrete access tunnels will begin in the existing coal storage area of the lower mine yard and run along the west side of the canyon, beneath the upper mine yard, to the existing portals, a distance of 300 ft. The revised application was delivered to the Price Field Office on March 22, 2011, and includes construction drawings showing the two proposed concrete portal access tunnels and the proposed new coal storage bin (neither drawing is to be included in the MRP); a revision of MRP Table 5-4 Description of Existing Structures; and revisions to the bond calculations in Appendix 5-10, Vol 6 of the MRP.

Final reclamation contours that are shown on Plate 5-3A & B will need updating at the next mid-term review, to include the overflow pond downstream of the mine pond, while also adding the new portals and concrete tunnel structures.

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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

The Permittee has identified 2,160 yd³ of subsoil stored in the substation bin wall and 5,300 yd³ of road base and 2,224 yd³ subsoil stored at the waste rock site that is available for use as subsoil (Section 2.3.1.4). That is a total of 9,684 yd³ of substitute topsoil available for final reclamation of the 17.4 acre East Spring Canyon facilities pad site, as listed in MRP, Sec. 116. (This amounts to approximately 5 inches of subsoil cover.)

Topsoil is stored in two stockpiles at the mine facilities site. Together, the two piles contain 1,227 yd³ (Section 2.3.1.4). This amount will provide 0.5 inch of substitute topsoil over the 17.4 acre mine site. Substitute topsoil is also located in restored (seeded) slopes at the mine site (pp. 2-23). More specifically, the interim seeded slopes above the parking lot and portals will be used as substitute topsoil (personal communication with Mike Davis, November 24, 2009). Testing of the fill to contribute to the substitute topsoil layer is described in Section 2.2.4 and Section 2.3.3.2. The amendment should indicate where the soil removed from the fill will be stored and whether the material will be sampled, stockpiled and seeded for use in final reclamation as substitute topsoil.

Final reclamation grading of the mine site is described in Section 5.4.2.2 and Appendix 2-4. Cut/Fill estimates superceding those in App. 2-4 are presented in Appendix 2-5. Approximately 74,000 yd³ will be moved.

Based upon the drawings provided, the volume of fill material to be removed for construction of the concrete box accessing portal 1 is approximately 2,563 yd³.

$$2,563 \text{ yd}^3 = (22.33 \text{ ft.} \times 10.33 \text{ ft.} \times 300 \text{ ft}) \div 27 \text{ ft}^3 / \text{cu yd.}$$

For portal #2, the length is 300 ft. and the approximate volume removed is 2,392 yd³ for the concrete tunnel and 60.8 yd³ for the proposed ventilation shaft. Total is 2,452.8 yd³.

$$2,392 \text{ yd}^3 = (22.33 \text{ ft.} \times 10.33 \text{ ft.} \times 280 \text{ ft.}) \div 27 \text{ ft}^3 / \text{yd}^3.$$

$$60.8 \text{ yd}^3 = (3.14)(7 \text{ ft.})^2 (10.67 \text{ ft.}) \div 27 \text{ ft}^3 / \text{yd}^3.$$

The approximate volume to be removed for construction of the 72 inch culvert and junction boxes is 450 yd³.

$$439 \text{ yd}^3 = (3.14)(3 \text{ ft.})^2 (420 \text{ ft.}) \div 27 \text{ ft}^3 / \text{yd}^3.$$

In all approximately 5,000 yd³ will be cut from the fill. (In addition, the area of cut slope will be enlarged slightly for the placement of the new 42 inch bypass pipe carrying undisturbed drainage from Mud Spring Canyon and for the additional coal storage bin.) This is less than 1% of the total volume of 74,000 yd³ expected to be cut from the pad for reclamation. The application cover letter, dated March 21, 2011, states that excess soil will be tested for suitability and either placed in the subsoil stockpile or the waste rock pile at the waste rock site and that an as-built update to chapter 2 will state the volume of subsoil salvaged.

Findings:

In all approximately 5,000 yd³ will be cut from the fill. In addition, the west cut slope will be enlarged slightly. As built information will provide the volume of salvaged subsoil.

RECOMMENDATIONS:

Final reclamation contours that are shown on Plate 5-3A & B will need to be updated at the next mid-term review to include the overflow pond downstream of the mine pond, while also adding the new portals and concrete tunnel structures.