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Technical Analysis and Findings

Utah Coal Regulatory Program

PID: C0410002
TaskID: 4450
Mine Name: SUFCO MINE
Title: SEDIMENT OVERFLOW POND AS-BUILT

Reclamation Plan

Topsoil and Subsoil

Analysis:

In Sec. 2.2.4 the Permittee states that the outslopes of dams will be used as substitute topsoil at final reclamation. The overflow pond dam was to be constructed from a former road pad that was well vegetated and would provide a source of suitable substitute topsoil. Using the outslope of the pond as a source of suitable cover in reclamation of the overflow pond is described in Sec. 5.4.2.2, p. 5-68A and Section 2.2.4. The soil survey revealed that there is 30 inches of coal waste on the side slopes west of the dam in the vicinity of S-3-09 and another 40 inches of mixed coal and soil above a buried surface horizon.

Section 2.2.4 describes a random composite sample to be taken for every 2,000 tons of soil collected for use as substitute topsoil (the same commitment is found in Section 2.3.3.2). This rate of sampling calculates to one sample per hectare, based upon a replacement depth of six inches of the substitute topsoil and the average weight of an acre/furrow/slice being approximately 2,000,000 lbs. Although not expressly stated, the sampling is to demonstrate suitability and would include analysis of pH, EC, SAR, B, and Se and acid/base accounting in accordance with the Division's Soil and Overburden Guidelines.

The information provided meets the soils handling requirements of the R645Rules.

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Environmental Resource Information

General

Analysis:

The sediment control overflow pond is 800 ft. downstream of the existing mine sediment pond on U SFS land under a special use permit (p. 1-10). The pond was approved in the fall of 2009 and added 2.3 acres to the mine site disturbed area (pg 1-11). The disturbed area includes several hundred feet of culvert burial where no topsoil was salvaged.

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Soils Resource Information

Analysis:

Plate 5-2Bv17 outlines several pre-SMCRA coal dumps in the vicinity of the proposed overflow pond and topsoil storage area.

Prior to disturbance, in the fall of 2009, the Permittee conducted a site specific soil survey of the overflow pond area (Sec. 2.2.2 p. 2-3), which is found in Appendix 2-2 (Sec. 2.2.2 p. 2-8). Fourteen pages of laboratory analysis were placed out of sequence in the .pdf document, so that they appear before the survey and not in the Appendix B Laboratory Analysis section of the survey with the remaining laboratory sheets. This should be corrected in a final submittal.

The information from the soil survey was used to determine topsoil salvage depth of approximately 12 inches. The information from this survey will be invaluable at the time of reclamation in determining potential locations of suitable soil and areas of coal fine deposition.

Ordinarily this information is required prior to disturbance. In this instance the Permittee and soil consultant worked closely with the Division during the soil survey. The as-built information provided completes the requirements of the soil resource information.

Deficiencies Details:

Fourteen pages of laboratory analysis were placed out of sequence in the .pdf document of Appendix 2-2, so that they appear before the soil survey and not in the Appendix B Laboratory Analysis section of the survey with the remaining laboratory sheets. This should be corrected in a final submittal.

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Operation Plan

Topsoil and Subsoil

Analysis:

Soil salvage operations are described for new surface operations in Sec. 2.3.1.1 of the MRP. The MRP states that the A & B horizons will be stockpiled together or separately and a third stockpile of boulders will be in an adjacent location. The stockpiles will be graded to a 3h:1v slope and seeded.

Sec. 2.3.1.4 of the MRP describes the construction ,modification, use and maintenance of topsoil storage piles. The information states that the stockpiles will be placed on a stable site, and protected by vegetation (seed mix minus shrubs and trees) and by a silt fence below the topsoil stockpiles.

In Section 2.3.1.4 of the MRP the narrative refers to Plate 5-2B and a figure in App. 2-2 for information on the construction of the overflow pond topsoil stockpile. The shaded area at the inlet and outlet of the overflow pond and at the south end of the topsoil storage pile represents rip rap, although it is not stated as such in the legend of Map 5-2Bv20. The Figure in 2-2 shows the stockpile location and area and elevation with an estimate of the volume contained. provides a schematic of the topsoil pile location and (There is much more detail of the overflow pond bypass culvert and topsoil stockpile provided on Plate 7-4A which was a design drawing.)

The overflow pond topography is shown on Plates 7-4A and 7-5A. The topsoil stockpile was estimated at 1,850 cu yds (based upon 12 inches of topsoil salvaged from a proposed 1.14 acres. Actual volume recovered was 1,488 yd3 (Sec. 2.3.1.1, p. 18). The stockpile occupies 0.141 acres (Sec. 7.4.2.1). Plate 7-4A has 5 ft contours. It shows the location of the topsoil stockpile on an existing 4h:1v slope. The stockpile is shown having an outslope that rises 52 ft. horizontal :20 ft. vertical or 2:1 slope at the steepest face, which is also the south face. The overflow pond stockpile is protected with a berm and silt fencing (Sec. 7.4.2.1). The design installation for the berm's spillway is presented on Plate 7-5C.

Topsoil was temporarily stockpiled along the length of the bypass culvert installation. The stockpile was replaced after culvert installation and the soil was seeded with the reclamation seed treatment (Section 2.3.1.1, p. 18, and email confirmation from Mike Davis on June 21, 2013 forwarded to file on 9/12/2013).

The information provided meets the requirements of the topsoil handling rules.

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