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Technical Analysis and Findings Utah Coal Regulatory Program

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PID: C0150015
TaskID: 4896
Mine Name: EMERY DEEP MINE
Title: SOIL SAMPLE DATA

Reclamation Plan

Contemporaneous Reclamation General

Analysis:

Analysis:

The commitments on p. 4a, Chapter III of the MRP outline several steps to be taken to improve our knowledge of reclamation techniques at the site.

In accordance with item #1 of this plan, a soil and vegetation study of reference areas, topsoil and subsoil stockpiles and reclaimed locations within the permit area was conducted in 2003 and is included in Appendix III-1 of Chap III of the MRP.

Item #2 of this plan was formulated in April 2014 (Inspection report #3810). The seed mix was reformulated to include more salt tolerant species in October 2014 (Task 4700). Reclamation study areas were graded, mulched and seeded in January 2014 as described in Inspection reports #4081. Soil samples were taken from the regraded areas on February 25, 2015 as described in Inspection Report #4118.

The soil sampling laboratory analysis was provided on April 8, 2015 for inclusion in App III-1. James Sage, III, working for Stantec Consulting Services, took one sample from 0 - 6 inches and one sample from 6 - 12 inches at each reclamation study location. Thus samples labeled SS-1-6 represents the 0-6 inch sample and SS-1-12 represents the 6 - 12 inch sample from location 1. Field notes were included with the amendment and the sample locations are identified on a map. Samples were sent to ESC Labs for analysis (Mt. Juliet, TN).

Given the variation between duplicates, the laboratory results indicate that at most sites, there was no difference between depths for the parameters analyzed, which were pH, EC, and SAR. There were two exceptions to this generalization : the undisturbed reverse osmosis pond bottom (sample location 2) and the topsoil pile near pond #6 (sample location 4). Soils sampled in the undisturbed half of the osmosis pond bottom showed a pH increase with depth and movement of salts down the profile. Topsoil sampled near pond #6 showed movement of sodium through the profile, as the SAR increased with depth.

The reclamation study has now progressed to Item #3, p. 4, Chap III which states that qualitative evaluations of vegetative growth on the stockpiles and contemporaneously reclaimed areas will be performed during the growing season for the next three years, and in year 5. These qualitative evaluations will begin in 2015. In the fourth and sixth years (2018 and 2020) a quantitative evaluation will be performed during the growing season.

Item #4 (p. 4 Chap III) states that following these qualitative and quantitative vegetation surveys, a reclamation plan will be developed to incorporate the reclamation practices found to be effective in the reclamation study.

Findings: The information provided meets the requirements of R645-301-231.300 and R645-301-341.300.

pburton