



Technical Analysis and Findings

Utah Coal Regulatory Program

May 12, 2105

PID: C0150015
TaskID: 4865
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 2015 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. A map of the sample locations was included in the unofficial copy of the Stantec report, but was not included with this application. The 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 with greater SAR at depth.

Deficiencies Details:

Finding:

R645-301-231.300, The sampling locations and field notes included with the Stantec Consulting Services report must be included in the application with the laboratory analysis.

pburton