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Technical Analysis and Findings

Utah Coal Regulatory Program

May 3, 2017

PID:	**C0070022**
TaskID:	**5422**
Mine Name:	**SAVAGE COAL TERMINAL**
Title:	**MIDTERM COMPLETION RESPONSE**

General Contents

Identification of Interest

Analysis:

The application does meet the State of Utah R645 requirements for R645-301-112 Ownership and Control.

The Permittee updated the MRP, Chapter 1, pages 2-5, Officers and Directors information, Appendix 1-6 Designation of Authorized Representatives and Chapter 1, page 1, the current resident agent, address and phone number of Savage Services Corporation.

The ownership and control revisions have been updated in the Applicant/Violator System.

ssteab

Operation Plan

Spoil Waste Refuse Piles

Analysis:

The permittees response to the Midterm Review meets the State of Utah R645 requirements for Review of Permits and Permit changes, R645-302-212 and 220.

Figure 5-1 and the text on page 36 of Volume 1 chapter 5, Section 536 has been updated to reflect the current status of the refuse pile. [JCH 5/1/2017]

jhelfric

Reclamation Plan

Topsoil and Subsoil

Analysis:

Analysis:
The Mining and Reclamation Plan meets the requirements of soil redistribution.

R645-301-244,Mass Balance Table 2-9 states that the disturbed area is 132.5 acres. Of that acreage, 77.2 acres is pre-law and 55.3 acres is post law.

The pre and post law areas are illustrated on Plate 5-1. Pre law areas include a portion of the truck dumps (which were expanded post-law) and the processing facilities and ponds. Post law areas include the refuse and coal stockpile areas.

Table 2-9 states that there is 62,314 CY of soil in stockpiles. The location of the topsoil storage is shown on Plate 5-6.

The MRP Section 224 and Section 542.200 discuss soil redistribution plans. Pre-law areas will be graded, coal will be removed and the soil will be ripped (Section 542.200) or deep chiseled (Section 231.300). The pre-law in-place soil will be sampled and the upper twelve inches will be amended (Section 224, p. 23) in a plan to be worked out 60 days prior to reclamation in consultation with the Division (Section 231.200). Test plots on the waste rock pile indicate that an equal mixture of soil/refuse on the surface treated with either hydromulch or hay is the best reclamation treatment (Appendix 3-1). Test plots on undisturbed soil to evaluate species and mulching treatments indicate Agropyron cristatum (crested wheatgrass) should be in the seed mix and that 1 ton alfalfa hay/acre incorporated into the soil six inches deep is the best management treatment (Appendix 3-2). Seed mixes are provided in Tables 5-1 through 5-4.
Table 2-5 has sample analysis for one disturbed land sample. In the surface twelve inches this sample is sandy loam with near neutral pH, Electrical conductivity of 10.2, SAR of 5, 0 phosphorus, 39% nitrogen (likely due to coal). This describes a saline soil, but not a sodic soil. At final reclamation, it is recommended that the graded pre-law surface is sampled for pH, EC, SAR, and plant available nitrogen, potassium and phosphorus.

Post-law areas shown on Plate 5-1 will be graded except the refuse site (Section 541.100) and six inches of topsoil applied followed by discing or tilling (Section 542.200). Redistributed topsoil will be sampled on a basis of 1 composite sample/ac. Samples will be located on a grid of the reclaimed area. Section 243 refers to Section 540 for a description of the soil nutrients and soil amendments to be applied. Section 540, page 50 states the parameters to be analyzed to determine soil nutrients and amendments: texture, pH, EC, SAR, and plant available nitrogen, potassium and phosphorus.

On 4h:1v slopes or less, 1 ton /ac hay mulch will be applied and then disced or tilled in (Section 542.200). On steeper areas (truck dumps and refuse pile) 2,000 lbs/ac hydromulch will be used with tackifier. Hay will be crimped in on the side slopes of the refuse piles. There are no areas with final slopes steeper than 3h:1v.
Plate 5-6 Refuse Pile post-mining topography and Plate 5-3 As Constructed Refuse Pile show potential reclamation outcomes at the site. At the present time, the refuse pile does not have the contours shown on Plate 5-3, since the refuse pile was shipped as product. Since the refuse pile may be re-established in the future, a commitment was added to the MRP Section R645-301-542.200 to revise Plate 5-6 Reclamation Contours and Plate 5-3 (cross-section locations) with contours existing just prior to reclamation.

pburton

Bonding Determination of Amount

Analysis:

The Savage Coal Terminal Midterm Completion Response, Task 5422 is deficient and does not meet the minimum requirements of R645-301-830 due to missing and incorrect information. Permittee must submit corrected and complete bonding sheets with supporting documentation.

Deficiencies Details:

The midterm review to update the MRP is deficient and does not meet the minimum requirements of R645-301-830 due to missing and incorrect information. Please submit correct and complete bonding sheets with support documentation. Please include the following, with red lines where needed.

Demo sheets:
1) Shop Office 01, Is the calculations for CF on the Steel Bld Large correct?
2) Check all Disposal on Site for all sheets this should be CY instead of CF.
3) Missing ECDC cost and Quantity we had 12-volume on Conveyors Eight 08. Check and make sure that this is correct and if it happened on any of the other sheets.
4) The cost for Concrete Demo didn't calculate and is missing on some sheets. Example is sheet Conveyor 48 inch 09
5) Verify the cost and RS Means reference for the 3000 to 5000 gal tank.
6) Please provide all RS Means, EquipmentWatch Rental Rate Blue Book, or 3 bid for all costs and references

7) Sheet Asphalt 28, it looks like there is a CY and SY mix up, and the Parking Lot calculations are off.
8) Road Surfacing Material 38 seems to have a SY calculation error. Verify SY Calculations.

Earthwork Sheets:
All Earthwork sheets need to include
1) Equipment over head of 0.1
2) Include RS Means Reference or EquipmentWatch Rental Rate Blue Book Guide or 3 Bids
3) Verify that the Operator's Hourly Rate and Hourly Operating Rate are included and correct. The hourly operating rate doesn't include the operator rate.
4) When calculating hourly rate from monthly rate (believe 176 hrs a month) or daily rate make sure to use the same number of hours in the month or the day that RS Means uses to be consistent in the cost calculations.
5) Please include the hourly wage rates from the back page of the RS Means book

Reveg:
1) Verify that all bid are included and referenced.

Total Sheet:
1) Make sure all totals are updated to correct costs

bwiser