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DIVISION OF OIL, GAS AND MINING

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February 19, 1998

TO: File

THRU: Joe Helfrich, Permit Supervisor JH

FROM: Robert Davidson, Soils Reclamation Specialist RAD

RE: NOV N97-45-1-1 Amendment, Horizon Coal Corporation, Horizon Mine, ACT/007/020-97F-3, Folder #2, Carbon County, Utah

SYNOPSIS:

Horizon Coal Corporation submitted an amendment on 11/3/97 for abating the Notice of Violation N97-45-1-1. The Division responded on November 7, 1997. Generally, the amendment was found deficient because of lack of specific information required for abatement.

On November 19, 1997, an informal Hearing and Assessment Conference was held to review the fact of violation and proposed assessment for the violation N97-45-1-1. On December 9, 1997, the Division issued a "Findings of Fact, Conclusions of Law and Order and Finalized Assessment for Notice of Violation (NOV) N97-45-1-1." The violation was upheld. By order, Horizon Coal Corporation must abate the NOV in accordance with schedules established in the NOV.

Horizon resubmitted Amendment 97F on December 5, 1997 and the amendment was still found deficient with respect to reclamation as discussed in the Division's Technical Analysis written on December 18, 1997. An extension was granted with Horizon responding one day late on January 16, 1998. Technical Analysis of this version still contained two deficiencies. An additional extension was granted with Horizon submitting changes addressing these last two deficiencies on February 9, 1998.

TECHNICAL ANALYSIS:

ENVIRONMENTAL RESOURCE INFORMATION

SOILS RESOURCE INFORMATION

Regulatory Reference: 30 CFR Sec. 783.21, 817.200(c); R645-301-220, -301-411.

Analysis:

Appendix 8-1, Soils Data, contains Environmental Resource Information for the imported topsoil resources that were distributed within the disturbance area on the north facing slopes within Portal Canyon and the lower end of Jewkes Creek. The imported topsoil was placed within three designated

areas (Area A, B, & C, Plate A, Appendix 8-1).

Sampling and characterization of the imported topsoil resources after placement was performed on November 12, 1997. The purpose for sampling was to characterize the soil according to the Division's guidelines for topsoil and overburden.[1] Random samples were taken from each area and a composite made, giving three separate composite samples representing each of the three areas. Using grid sections and randomized numbers, five sample pairs each were collected from Areas A and B and seven pairs from Area C. The location of these randomized sample points are illustrated on Plate A, Appendix 8-1. Samples were obtained using a 12-inch long, 4-inch diameter bucket auger. Auger cores were taken, using the same depth/volume of soil at each location. After mixing the bulk composite samples, representative cuts were taken and submitted to the laboratory for analysis.

Laboratory data sheets are included in Appendix 8-1, in addition to the summarized data in table format. Based on the sample analysis results, soils in all three areas meet the Division guidelines for topsoil and overburden.

Findings:

The information provided meets the minimum regulatory requirements of this section.

OPERATION PLAN

TOPSOIL AND SUBSOIL

Regulatory Reference: 30 CFR Sec. 817.22; R645-301-230.

Analysis:

Amendment 97F updates the operation plan with additional information as follows to meet the remedial action requirements for abatement of N97-45-1-1:

- Imported Soil's Placement and Volumes
- Soil Salvage Updates
- Disturbed Topsoil Stockpile Soil Placement

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[1] Leatherwood, James, and Dan Duce. 1988. Guidelines for Management of Topsoil and Overburden for Underground and Surface Coal Mining. State of Utah, Department of Natural Resources, Division of Oil, Gas and Mining. Salt Lake City, Utah.

- Resoiled Areas Protection and Stabilization

- Plate 3-1, Surface Facilities

Imported Soil's Placement and Volumes

Section 8.8.1, Resoiled Areas, Appendix 8-1, and Plate A Appendix 8-1 all give an accounting of soil imported into the surface disturbance area, placement locations, thickness, affected acreage, and soil volumes. Appendix 8-1 contains an "Imported Topsoil Table" identifying topsoil volumes by location. The total amount of topsoil imported is 975 cubic yards distributed between Areas A, B, and C with soil placement thickness between 10 to 12 inches.

The locations within the disturbed area which received the imported topsoil are designated on Plate A, Appendix 8-1. They are identified as soils removed and placed by land owner's contractor during the county road realignment. Area A is located at the lower Jewkes Canyon surface disturbance area; Area B and C are located along the lower to mid south slope in the Portal Canyon area.

Soil Salvage Updates

A new table, Topsoil/Growth Medium Recovery and Placement Calculations, is located in Appendix 8-1. Information in the table, Appendix 8-1 is presented as follows:

- The surveyed volume of topsoil recovered during mine construction, prior to the UC-3 culvert extension, is shown as 10,993 cubic yards.

- The 10,993 cubic yards excludes the un-salvaged, south hillside which is located at the toe of the stockpile. This hillside is described in detail in Section 8.8.1 and is shown on Plate A, Appendix 8-1.

- The current surveyed volume of soil in the stockpile, prior to the UC-3 culvert extension, is shown at 10,494 cubic yards. This volume takes into account the 499 cubic yards of topsoil that was removed from the stockpile during repair of the crushed culvert and placed on Area D (Section 8.8.1 & Plate A, Appendix 8-1).

- The total surveyed volume of soil currently placed in the stockpile, prior to the UC-3 culvert extension, including the in-place soils available in Area 10 and 11, is estimated at 14,448 CY. This volume does not include the volume of soil imported to Areas A, B, and C.

- The resulting survey volume of soil agrees with the 1996 calculated topsoil salvaged during construction. The soil-salvage report submitted by EathFax to Horizon, Appendix 8-1, Soil Salvage Practices Fall 1996, December 15, 1996 calculated a stockpile volume of 15,312 CY and a compaction corrected volume of 13,741 CY, which included Area 10 & 11. The estimated projected volume of soil to be salvaged at the start of construction was estimated at 13,670 cubic yards as shown in Table 8-3, Chapter 8.

Disturbed Topsoil Stockpile Soil Placement

This section, and the following section, both discuss activities that occurred during the 1996 and 1997 construction phases of mine development. Section 3.5.1 of the current Mine Reclamation Plan refers to these activities as "Contemporaneous Reclamation." Otherwise, these activities are considered reclamation and are covered by R645-301-240, Reclamation Plans.

Section 8.8.1, Resoiled Areas, includes discussion on the topsoil removal from the stockpile and soil placement in Area D (see Plate A, Appendix 8-1). During the repair of the crushed culvert, permission was granted from the Division's Price office for disturbing a portion of the stockpile. Soil was subsequently removed from above and around the crushed culvert which runs through the topsoil stockpile. The culvert was crushed during portal construction, thus requiring repair (see N97-26-5-1). The damaged portion of UC-2 culvert was replaced and installed within the topsoil stockpile. Topsoil was used to fill around and bury the repaired culvert; no fill material was used during the original installation nor during the culvert repair.

Area D (Plate A, Appendix 8-1) received 499 cubic yards of the displaced topsoil from the stockpile disturbance during the culvert repair. Approximately 11 inches of topsoil was placed on the hillside above the supply building, office, and bath house locations. The amendment discusses that adjacent in-place undisturbed and pre-Horizon Mine soils above Area D were disturbed by machinery during soil placement. The in-place soils were graded and blended with the surface of the topsoiled area.

Resoiled Areas Protection and Stabilization

Areas receiving imported topsoil and soil redistribution from the stockpile are Areas A, B, C, & D as shown on Plate A in Appendix 8-1. These soiled areas were seeded, fertilized and stabilized as described in Section 3.5.1. Amendment 97F states that all resoiled areas during 1997 will be retained and not re-disturbed and are referred to as contemporaneously reclaimed.

For the short term to protect contemporaneously reclaimed areas from erosion, the surfaces were roughened with either the tracks of a dozer or a trackhoe prior to mulching and reseeding. Seed mix 1 was applied using hydro seeding. It appears as though the seed and mulch were applied in the same application since the amendment then states that the hydro-seed mixture included long fiber mulch with a tackifier was then applied. The mulch blanket is used to provide temporary protection from surface erosion. The operator plans to maintain the resoiled areas by filling rills and gullies and reseeding when necessary until vegetation is established.

Permanent protection against erosion of the contemporaneously reclaimed areas will be achieved by vegetation reestablishment and by excluding disturbance of these resoiled areas. The amendment then proposes other possible methods of protection, but does not commit to any specific method. Protection of the Portal Canyon slope which parallels the coal stockpile will be provided by installing concrete jersey barriers at the bottom of the slope to prevent equipment from accessing the slope. In addition, the barriers would form a boundary for the bottom of the coal stockpile. Should the resoiled areas adjacent to the coal loading facilities become impacted with coal, alternate methods will be used for removing the coal, i.e., vacuuming.

Plate 3-1, Surface Facilities

A surface facilities' map (Plate 3-1, Surface Facilities) has been submitted which updates operational contours as a result of altered topography from both the topsoil placement during "contemporaneous reclamation" and the illegal installation of the UC-3 culvert extension. Both these operational activities have had a direct impact on the current surface topography (see NOV N97-45-1-1 and CO 98-26-1-1). This Technical Analysis considers the unauthorized placement of topsoil while CO 98-26-1-1 deals with the illegal installation of the UC-3 culvert extension.

Findings:

The information provided meets the minimum regulatory requirements of this section.

RECLAMATION PLAN

TOPSOIL AND SUBSOIL

Regulatory Reference: 30 CFR Sec. 817.22; R645-301-240.

Analysis:

The reclamation portion of the culvert extension amendment contains the following items that are either discussed or still need additional corrections:

- Soil Redistribution
- Reclamation Updates

Soil Redistribution

Section 8.8, Plans for Redistribution of Soils, and Plate B Appendix 8-1, contains information for soil redistribution. This information has been updated as impacted from the 1997 activities of importing topsoil and distributing topsoil from the disturbed stockpile during the crushed culvert repair. During final reclamation, topsoil placement thickness will be 20 inches. The thickness of topsoil placement is calculated from the total available topsoil divided by the total area to receive topsoil. Plate B, Appendix 8-1, shows all reclamation areas that will receive topsoil. As shown, only 4.75 acres of the 9.15 acres of surface disturbance will actually receive topsoil. Soiled portions as shown on Plate B, Appendix 8-1, agree with the altered reclamation topography as shown on Plate 3-7, Reclamation Topography.

Reclamation Updates

The unapproved reclamation activities (N97-45-1-1) altered the approved Mine Reclamation

Plan by affecting final reclamation topography and changing calculated final reclamation fills thereby invalidating portions of the approved reclamation plan. Amendment 97F addresses these concerns as follows:

- Details regarding the reestablishment of both drainage areas in Jewkes Creek and Portal Canyon are provided in the currently approved MRP, Section 7.2.3.2.

- The road on the north side of Portal Canyon will be reclaimed by backfilling, regrading, and top-soiling.

- Plates 3-7, Reclamation Topography, and 3-7A, Post Mining Cross Sections, are provided showing revised reclamation contours and cross sections.

- This amendment revision, Amendment 97F-3, contains an exception for not re-disturbing the contemporaneously reclaimed areas during reclamation based on the revised reclamation topography. The affected contemporaneous reclaimed areas requiring disturbance during reclamation are about 0.2 acres as explained and are depicted on Plate 3-7. Prior to cutting or filling these contemporaneously reclaimed areas, topsoil will be stripped and temporarily stockpiled. Once these impacted areas are regraded according to the reclamation topography, topsoil will be replaced. A total of 296 cubic yards of topsoil will be affected by this effort.

- Updated reclamation cut and fill calculations are provided in Table 3-1.

Findings:

The information provided meets the minimum regulatory requirements of this section.

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