

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

July 27, 2004

OK

TO: Internal File

FROM:  Priscilla Burton, Environmental Scientist III, Soils

RE: Gravel Canyon Topsoil Stockpile Reclamation, Plateau Mining Corporation, Willow Creek Mine, C/007/0038, Task ID #1962

SUMMARY:

The Division received an application from Plateau Mining Corporation on June 17, 2004 providing three design options for the reclamation of the five acre Gravel Canyon topsoil storage area and associated intermittent stream channel.

The Gravel Canyon storage site held 107,639 CY of soil (Table 4.2-1). To date approximately 37,000 CY of topsoil have been removed from Gravel Canyon and placed in Schoolhouse Canyon (cover letter with the application dated June 10, 2004).

Table 3.6-6 presents the reclamation mass balance for three options:

- Option A = net cut of 97,093 cu yds, 10,546 cu yds remain.
- Option B = net cut of 64,977 cu yds, 42,662 cu yds remain.
- Option C = net cut of 37,078 cu yds, 70,000 cu yds remain.

The graded soil remaining will be gouged and seeded.

The stream channel will be filled with soil and seeded (Appendix 3.6B).

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TECHNICAL ANALYSIS:

ENVIRONMENTAL RESOURCE INFORMATION

Regulatory Reference: Pub. L 95-87 Sections 507(b), 508(a), and 516(b); 30 CFR 783., et. al.

SOILS RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.21; 30 CFR 817.22; 30 CFR 817.200(c); 30 CFR 823; R645-301-220; R645-301-411.

Analysis:

Soils information for the Gravel Canyon storage area is described in MRP volume 13, sec 8.4-2(4) and volume 11, sec 3.6. The five acre Gravel Canyon site was previously disturbed for road construction materials. Native soils were lost. Its use as a topsoil storage area began in 1983 (Section 3.6-1). Operational contours are shown on Exhibit 3.6-2. The reclamation plan described in the MRP for the Gravel Canyon Mine site entails removing 97,000 cu yds of stored topsoil from Gravel Canyon (v. 11, sec 3.6, Table 3.6-6 and Figure 3.6-5). To date approximately 37,000 CY of topsoil have been removed from Gravel Canyon and placed in Schoolhouse Canyon (cover letter with the application dated June 10, 2004).

Exhibit 3.6-3 (v. 11) illustrates the approved reclamation contours for the site, assuming 97,000 cu yds are cut for use as topsoil. However, current designs for gravel canyon envision less than 97,000 cu yds being removed from the site (Sec 3.6-4). Exhibit 3.6-4 illustrates the reclamation contours and cross-sections for Options B and C being proposed that would leave more soil material in the canyon.

The soil was sampled in 2003 for the purposes of channel filter design and classified as clayey sand with gravel (SC): 30% gravel, 30% sand, 40% silt and clay (Appendix 3.6B).

Commitments in the plan to sample the surface soils (Section 3.6-4(1), page 3.6-5) have been removed with this application. The Division requests that two composite samples be taken of the surface after grading and before seeding to be analyzed for the following parameters: pH, EC, SAR, texture, nitrate N, available Phosphorus and extractable Potassium. This sampling need not hold up the reclamation work and is recommended to provide information on the characteristics of the soils after excavation. The plan does not call for fertilizer and none is suggested at this time.

Findings:

The information provided does not meet the requirements of the Regulations. Prior to approval, the Permittee should provide the following in accordance with:

R645-301-223, The reclamation plan in Section 3.6-4(1) should include two composite samples taken of the regarded surface, before seeding, to be analyzed for the following parameters: pH, EC, SAR, texture, nitrate N, available Phosphorus and extractable Potassium.

RECLAMATION PLAN

TOPSOIL AND SUBSOIL

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

Analysis:

Redistribution

The five acre Gravel Canyon storage site held 107,639 CY of soil (Table 4.2-1). To date approximately 37,000 CY of topsoil have been removed from Gravel Canyon and placed in Schoolhouse Canyon (cover letter with the application dated June 10, 2004).

Table 3.6-6 presents the reclamation mass balance for three options:

- Option A = net cut of 97,093 cu yds, 10,546 cu yds remain.
- Option B = net cut of 64,977 cu yds, 42,662 cu yds remain.
- Option C = net cut of 37,078 cu yds, 70,000 cu yds remain.

The graded soil remaining will be gouged and seeded (Section 3.6-4).

The channel will be filled with soil and seeded (Appendix 3.6B).

Findings:

The information provided meets the requirements of the Regulations.

MAPS, PLANS, AND CROSS SECTIONS OF RECLAMATION OPERATIONS

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Regulatory Reference: 30 CFR Sec. 784.23; R645-301-323, -301-512, -301-521, -301-542, -301-632, -301-731.

Analysis:

Reclamation Backfilling And Grading Maps

Exhibits 3.4-10 and 3.4-10a provide cross sections and Exhibit 3.4-12 provides station locations for the profile of the Gravel Canyon drainage under reclamation Option A.

Exhibit 3.6-4 illustrates the reclamation contours and cross-sections for Options B and C being proposed that would leave more soil material in the canyon. This exhibit presents cross-sections, but not a profile of the proposed drainage configuration.

The Permittee indicated in a letter dated March 19, 2004 to Daron Haddock that an as-built topography map will be created from aerial photography of Gravel Canyon and the Willow Creek Mine site.

Reclamation Monitoring And Sampling Location Maps

The Permittee indicated in a letter dated March 19, 2004 to Daron Haddock that an as-built topography map will be created from aerial photography of Gravel Canyon and the Willow Creek Mine site. Soil sampling locations should be indicated on Exhibit 3.6-4 to document the sampling effort.

Findings:

The information provided does not meet the requirements of the Regulations. Prior to approval, the Permittee should provide the following in accordance with:

R645-301-742.324, The Permittee should provide a drainage profile design drawing for Options B and C.

STABILIZATION OF SURFACE AREAS

Regulatory Reference: 30 CFR Sec. 817.95; R645-301-244.

Analysis:

Two tons/acre of certified noxious-weed-free-hay will be gouged into the soil surface. Following seeding an additional 1 to 1.5 tons/acre of certified noxious-weed-free-straw will be

applied to the surface and sprayed with a tackifier and mulch mixture at a rate of 0.25 tons/acre (section 3.6-4(1), pg 3.6-6).

Gullies greater than nine inches in depth will be filled as necessary to establish vegetation (sec 3.6-4(3), pg 3.6-13).

Appendix 3.6C presents the RUSLE calculations for sediment yield, indicating that pre-mining conditions would yield 24.2 tons/acre/yr and after vegetation establishment that yield is reduced to 20.7 tons/acre/yr.

Findings:

The information provided meets the requirements of the Regulations.

RECOMMENDATIONS:

Two deficiencies in the application have been identified that should be addressed before approval.