

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

March 1, 2006

TO: Internal File

THRU: D. Wayne Hedberg, Permit Supervisor
Karl R. Houskeeper, Environmental Scientist/Engineering, Team Lead

FROM: Priscilla W. Burton, Certified Professional Soil Scientist

RE: Revised Appendix X and GVH #5A, 7, 8, & 9, Andalex Resources, Inc., Centennial Project, C/007/0019, Task ID #2420

SUMMARY:

Five holes were drilled in 2005: (GVH #1, 3, 4, 5, & 6. There are four additional holes being proposed with this application: GVH#5A, 7, 8, and 9. The nine gob vent holes are located within the permit boundary on privately held surface in T. 12 S., R. 11 E. in Sections 1, 31, and 36 (Sec. 110). Locations are shown on Figure 1-1 of Appendix X. The well sites, the underground mining panels and the surface ownership are illustrated on Figure 1-1. The four proposed gob vent holes all lay above longwall panel #7. Fig. 1-1 shows a total of 21 existing and proposed gob vent hole locations, indicating that there will be a vent hole every 8-900 ft. above future panels #8 and #9.

Carbon County Soil Survey information indicates that existing vent holes fall within Map Units 7, 63, 105, and 117.

Future Division correspondence should request confirmation of contemporaneous reclamation of GVH 1, 3, 4, 5, and 6 (mud pits and staging areas) this past field season. Confirmation that these areas have been stabilized to handle spring thaws is the responsibility of the Division and will provide peace of mind to the landowners, as well.

TECHNICAL ANALYSIS:

ENVIRONMENTAL RESOURCE INFORMATION

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

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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:

The gob vent holes are located within the permit boundary on privately held surface in T. 12 S., R.11 E. (Sec 110 and Fig. 1-1). Carbon County Soil Survey information indicates that vent holes fall within Map Units 7 (Beje – Trag Complex), 63 (Midfork Family – Podo Association), 117 (Trag - Beje – Senchert complex) and 105 (Senchert family-Senchert complex). Attachment 2-1 provides Order 3 level information from the 1988 Carbon County Soil Survey and the site-specific Order 1 description. Laboratory analysis of the representative pedons is found in Attachment 2-1. The information provided in the application meets the requirements for baseline soil survey, description, laboratory analysis, and productivity information.

GVH #3, 4, 7, and 8 are on gently sloping terrain on top of a ridge at an elevation of 8,500 ft. The soils are Midfork Family (Map Unit 63) and Senchert Family (Map Unit 104 & 105). The soils to be disturbed are Mollisols, meaning they have a well-developed, dark colored, base-rich topsoil horizon extending to a depth of 24 – 36 inches. The subsoil is a clay loam. With the exception of GVH #8, these soils have 15 - 22% rock fragments on the surface. Vegetation includes aspen, sagebrush, grasses, vetch, lupine and other forbs.

GVH #1, 5, 5A and 6 are located on concave slopes of the ridge. These sites are located in Trag soil (Map unit 117) and are also mollisols. The Trag soil has a 24 – 26 inch topsoil horizon over a clay subsoil (C horizon). The soils have no rock fragments. GVH 5 differs from GVH 1 and 6 in that the C horizon has little carbonate content (no effervescence). The vegetation includes snowberry, sage, rabbitbrush, flax, grasses, lupin, quaken aspen.

GVH-9 is located on a ridge within the Beje – Trag complex. Attachment 2-1 reports that the exposed location has a surface loam to a depth of 19 – 30 inches. The laboratory and field description forms are found in Attachment 2-1 of the application.

The Senchert soil is in the High Mountain Loam (Thurber Fescue) range site. The senchert soil is in the High Mountain Loam (Aspen) woodland site. The Trag-Beje-Senchert complex contains the Mountain Loam (Salina Wildrye)-Mountain Shallow Loam (Mountain Big Sagebrush)-High Mountain Loam (Aspen) woodland range sites. In a normal year production from all these range sites is expected to be between 1,200 and 1,500-lbs/ac dry weight. In a

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favorable year the productivity would be expected to increase to 2,000-lbs/ac dry wt. Attachment 3-1 provides more specific information for the gob vent hole productivity.

Findings:

Information provided meets the requirements of Environmental Resources - Soils.

PRIME FARMLAND

Regulatory Reference: 30 CFR 785.16, 823; R645-301-221, -302-270.

Analysis:

The site is undeveloped rangeland at an elevation of 8,500 ft., with no developed water resources. There is no prime farmland at this location.

Findings:

The Division finds that there is no prime farmland at the location of the gob vent holes.

OPERATION PLAN

TOPSOIL AND SUBSOIL

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

Analysis:

Topsoil Removal and Storage

Table 2 of Attachment 2-1 provides a listing of the range of thickness of the topsoils at GVH 5A, 7, 8, and 9. The average salvage depth is also provided. There has been no change to the operations procedure described in Sec. R645-301-230 for salvaging and stockpiling soils.

Findings:

The information provided meets the requirements of R645-301-230 for topsoil and subsoil salvage.

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RECLAMATION PLAN

TOPSOIL AND SUBSOIL

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

Analysis:

Redistribution

There has been no change to the reclamation procedure described in Section R645-301-240.

Findings:

The information provided meets the requirements for topsoil and subsoil replacement.

HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 773.17, 774.13, 784.14, 784.16, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-300-140, -300-141, -300-142, -300-143, -300-144, -300-145, -300-146, -300-147, -300-147, -300-148, -301-512, -301-514, -301-521, -301-531, -301-532, -301-533, -301-536, -301-542, -301-720, -301-731, -301-732, -301-733, -301-742, -301-743, -301-750, -301-761, -301-764.

Analysis:

Acid- and Toxic-Forming Materials and Underground Development **Waste**

Gob Vent Holes Amendment X

There has been no change to the information provided in Section 731.300 for identification and burial of acid/toxic forming materials.

Findings:

The information provided meets the requirements of R645-301-731.311 for identification and burial of acid/toxic forming materials.

CONTEMPORANEOUS RECLAMATION

Regulatory Reference: 30 CFR Sec. 785.18, 817.100; R645-301-352, -301-553, -302-280, -302-281, -302-282, -302-283, -302-284.

Analysis:

General

There has been no change to the information presented in Chapter 2 concerning contemporaneous reclamation.

Findings:

The information provided meets the requirements for contemporaneous reclamation (R645-301-352) and sediment control as described in R645-301-532.

STABILIZATION OF SURFACE AREAS

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

Analysis:

There has been no change to the information provided in Sec. 234.200, Section 242, Sec. 527.100, and Section 244.300.

Findings:

The information provided in the application meets the requirements of R645-301-244 for soil stabilization.

RECOMMENDATIONS:

Approval is recommended.

The Division should request confirmation of contemporaneous reclamation of GVH 1, 3, 4, 5, and 6 (mud pits and staging areas).