

**From:** Priscilla Burton  
**To:** Grubaugh-Littig, Pam; Haddock, Daron; Hess, Pete; Smith, Jim  
**Date:** 3/28/03 6:45PM  
**Subject:** Des Bee Change Order #2

Please find my review and recommendation attached.

I spoke with Chuck by telephone and discussed this issue with him. He verbally agreed to sample the soils for SAR, pH and EC from Station 5+00 to 7+00 below 3 feet and he agreed not to use the upper three feet except as fill.

We discussed your concerns about the road cut, Pete, and he said he would eliminate the road cut.

Any additional cover that can be had over the coal mine waste and on the slopes of the drainage is a plus, as long as it is suitable (according to our guidelines).

See you all on April 7.  
Priscilla.

March 28, 2003

TO: Internal File

THRU: James D. Smith, Sr. Reclamation Specialist/Hydrogeology, Team Lead

FROM: Priscilla Burton, Sr. Reclamation Specialist/Soils

RE: ChangeOrder #2Reclamation Plan – Lower Pad (Phase 2), Energy West Mining Company, Des-Bee-Dove Mine, C/015/017

**SUMMARY:**

An Email from Mr. Chuck Semborski requested a change in reclamation plans from those described in Appendix XV for the bathhouse pad outslope between stations 3+00 and 7+00 (see Plate 500-3). The change entails adding 0.6 acres to the disturbed area. Between Stations 3+00 and 7+00 the length of the slope from the pad to the drainage will be reshaped to lessen the existing slope incline and to recover fill and substitute topsoil from the outslope. This plan might generate an additional 10,000 cubic yards of cover material for the site.

The soils of the bathhouse pad were generally considered the best in the permit area for use as substitute topsoil. However, the soils in the vicinity of Sta 5+00 north to 7+00 were not acceptable as represented by the analysis of the soils in trenches T7A and T8A. The Division should recommend that in this area (Station 5+00 to 7+00) the top three feet of surface soils is used only as fill. The Permittee could then randomly sample the slope between Sta 5+00 and 7+00 for pH, EC and SAR before using any of the material from 3 – 25 feet as substitute topsoil.

**TECHNICAL ANALYSIS:**

TECHNICAL MEMO

---

## RECLAMATION PLAN

### TOPSOIL AND SUBSOIL

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

#### Analysis:

Phase II reclamation covers 22 acres (Section 310). The area of cut and fill activity is outlined in the submittal Section 553.100. Drawing #200-2 shows substitute topsoil will be redistributed over 5.25 acres of reconstructed fill slopes on the bathhouse pad and in the lower main drainage and at the Deseret portal and access road to the Beehive. Another 3.16 acres of cut slope area may receive substitute topsoil depending upon the rock outcrop and "native ground" exposed. Therefore, the total acreage to receive substitute topsoil is between 5.25 and 8.5 acres.

The Deseret pad area was covered with one foot of substitute topsoil, using 1,774 cu yds. Cover over the bathhouse area (2.0 acres) at a depth of 2 feet will require about 6,500 cu yds of soil. Plans to cover the remaining 5.4 acres of the reclamation fill with a minimum of 0.5 feet will require at least another 4,500 cu yds. Any additional soil cover would benefit reclamation.

#### Redistribution

Sources of substitute topsoil are outlined in Table 5 Substitute Topsoil Excavation and shown on Drawing #200-1. In total, 20,500 cu yds of substitute topsoil may result from the sources identified in Table 5. These sources are

- 1) Substitute topsoil transferred from Phase 1 (500 cu yds);
- 2) Bathhouse outslope (8,700 cu yds);
- 3) Bathhouse trenches (8,400 cu yds);
- 4) Undisturbed island within the disturbed area (2,900 cu yds).

The Permittee has gathered an additional 750 cu yds of topsoil from the slope below the cattle trail (Change Order #1) and the first bathhouse trench has added 2,500 cu yds of topsoil which is in storage for use at the site. In addition there is approximately 2,000 cu yds of material that was considered worth segregating from the Tipple yard for use as cover material. Therefore, at present there is about 5,000 cu yds of material stockpiled on site for cover over the remaining 5.4 acres.

The change in grading as indicated in Change Order #2 might generate 10,000 cu yds of soil and eliminate the need for a second bathhouse trench and the undisturbed island as sources

of substitute topsoil.

Drawing 200-1 shows a 50 foot wide band along the length of the bathhouse pad as a source of substitute topsoil. This swath was expected to yield 8,700 cu yds from 1.02 acres, which calculates to a salvage depth of 5.5 feet from the 50 foot wide band. The band, as shown on Drawing 200-1 encompasses about 20 feet of the outslope and the remainder is from the pad surface, overlapping two proposed excavations.

Change Order #2 would widen the width of the band by 125 feet at Sta 4+00, 75 feet at Sta 5+00 and 50 feet at Sta 6+00. The depth of salvage would increase from twelve to 25 or 30 feet in these locations. The increased area of disturbance is stated in the email as 0.6 acres.

The quality of the material within the proposed excavations is illustrated by the laboratory analyses for trenches T7A, T8, T8A, see Appendix C, Chapter 2 of Appendix XIV Phase 1 of the MRP. The surface 2-3 feet of soil in these trenches had very high SAR values and was high in coal and asphalt and gravels and would be best suited as fill. Below 30 inches the soil in Trench T7A was not sampled. Trenches T7 and T8A were sampled below this depth. The two composite samples drawn from 0 – 12 feet (Trench T7) and from 3 – 20 feet (Trench T8A) indicate that the bathhouse pad outslope materials in this vicinity are high in Sodium Adsorption Ratio ( SAR). The excess sodium was probably due to the use of road salt during operations of the mine. The Permittee should randomly sample the soils of the slope between Station 5+00 and 7+00 below three feet for pH, EC and SAR to determine more exactly where the contamination by road salt occurs. Soils with SAR values of 4 and above should be used as fill, the rest would be suitable as substitute topsoil.

Increasing the area of substitute topsoil salvage from the south half of the bathhouse pad from as represented by soil taken from 0 – 18 feet depth at sample site #19 (see year 2000 sampling, Appendix A, Chapter 2, Appendix XIV of the MRP).

### **Findings:**

Information provided in the proposed amendment is not adequate to meet the Substitute topsoil handling requirements of the Regulations. Prior to approval, the following must be provided, in accordance with:

- R645-301-232**, Increasing the area of salvage from the bathhouse pad is reasonable. However, the Permittee should randomly sample the area north of Station 5+00 from a depth of 3 to 25 feet for pH, EC and SAR to assure the quality of the material is suitable according to Division Guidelines for use as substitute topsoil

**TECHNICAL MEMO**

---

**RECOMMENDATIONS:**

Prior to approval, the Permittee should commit to randomly sample the soils of the slope between Station 5+00 and 7+00 between three and 25 feet for pH, EC and SAR to determine more exactly where the contamination by road salt occurs. Soils with SAR values of 4 and above should be used as fill, the rest would be suitable as substitute topsoil.

O:\015017.DBD\DRAFT\pwb\_ChangeOrder#2.doc