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DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

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September 25, 2001

TO: Internal File

THRU: James D. Smith, Team Lead JDS

FROM: Priscilla W. Burton, Soils Reclamation Specialist B

RE: Phase I Bond Release for Cottonwood Fan Portal, PacifiCorp, Cottonwood/Wilberg Mine, C/015/019-BR00D-2

**SUMMARY:**

The Phase 1 bond release application was submitted on July 7, 2000. A technical deficiency document (dated September 27, 2000) raised two issues: 1) The approved reclamation plan was not followed. 2) Amendments to the plan should be filed to accurately portray what took place during reclamation.

A chronology of the Phase I Bond Release Application

Phase I Bond Release application rec'd	July 7, 2000	
Initial Division review		September 27, 2000
Energy West Mining Co. response	December 8, 2000	
Division review		March 7, 2001
Energy West Mining Co. response rec'd	August 8, 2001	
This technical memo		September 25, 2001

To answer Division comments of March 7, 2001, the soils section has again been rewritten and resubmitted, along with Plates 5-2, 5-3 sheets 1 and 2, 5-4, 5-5, 5-5A, and 5-7. There appears to be an error in the topsoil/subsoil distribution table calculation found on Plate 5-5.

**TECHNICAL MEMO**

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Until all the modifications have been approved and accepted as per item 5 (Procedure) of the Bond Release Directive (Tech - 006, dated September 5, 2000), the Phase 1 bond release application should be placed on hold.

**TECHNICAL ANALYSIS:**

**RECLAMATION PLAN**

**TOPSOIL AND SUBSOIL**

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

**Analysis:**

The five-acre Cottonwood Fan Portal site was initially disturbed under an exploration permit in anticipation of constructing a major portal facility. However, this site was never developed. After the exploratory disturbance, the cast-off material below the site was contemporaneously reclaimed in 1981. Final reclamation of the Cottonwood fan portal area was initiated and completed in November of 1998. The slope reclaimed in 1981 was not re-disturbed and remains as part of the final configuration.

An historical abandoned mine (Old Johnson Mine) is located within the Cottonwood fan portal reclamation area. Historical remnants include an old wagon road and two sealed portals. The old wagon road was upgraded and utilized for hauling topsoil during reclamation of the fan portal area in 1998. Afterwards, the roadway was reclaimed. The portals remain exposed at the landowner's request.

**Soil Redistribution**

Backfilling and grading consisted of placing soil on each of the five terraces and the access road to the Old Johnson Mine site (see Drawing KS1710D). The topsoil and subsoil were used interchangeably. The topsoil stockpile was completely utilized and its location was reclaimed. A mass-balance table provided with this submittal on Plate 5-5 indicates that 2,819 cubic yards of topsoil and subsoil were used in the reclamation of the fan portal (48 more yards than previously estimated on 12/14/00), leaving approximately 6,975 cubic yards of subsoil stored in the subsoil pile. (The subsoil remaining has been recontoured and revegetated.)

Volume of Soil used in the Cottonwood Fan Portal Reclamation  
(in cubic yards)

	Projected (07-08-00)	As- Built (7/27/01)
Topsoil	11061	1061
Subsoil (includes access road)	<u>2412</u>	<u>1759</u>
Total	3473	2819

Unfortunately, the information in the topsoil/subsoil distribution table on Plate 5-5 does not add up. As reported in the table, there were 3,129.03 cubic yards of topsoil and subsoil used to reclaim Terrace 1 through 4a and the CFP access road. However, the table records that there were 2,820.18 cubic yards of topsoil and subsoil used in the project. The approved MRP shows cross-sectional views for soil placement on the reclaimed terraces (Plate 5-3, Sheets 1 and 2) and the Old Johnson portal access road (Plate 5-7), which correspond to stations on Plate 5-5. The manner in which this information is presented makes it extremely difficult to crosscheck the information in the narrative and with that provided on the plates. There is no horizontal or vertical scale for the cross sections. There are no tick marks to indicate where elevation markings belong on the cross-section line.

A mass balance table on Plate 5-7 projected that 506.10 cubic yards was used to back fill the CFP access road, of this approximately 242 cubic yards came from the topsoil/subsoil pile and was accounted for in the mass balance calculation on Plate 5-5. The rest of the fill for the road came from cuts along the road.

### **Soil Stabilization and Erosion Control**

Various size rocks and boulders were used on the surface for erosion control and slope stability as well as for aesthetics. No evidence of slope sloughing was noted in a field visit on January 4, 2001.

The soil was treated with a tackifier and straw mulch on level ground and with hydromulch and tackifier on steep slopes (as indicated on page 6).

One particular location in the vicinity of the Johnson Mine site requires monitoring by the Permittee and Division to protect the soil from further erosion. This is a straight drop chute which carries water from above the reclaim site into the disturbed area with great force. This is in the vicinity of the disturbed area perimeter as it comes west and then north above the Johnson Mine Site. This also happens to be the location of the Johnson Mine Site Coal Chute. During a site visit on January 4, 2001, the Permittee agreed to monitor this location frequently and take steps to ensure that a large gully does not form. The Permittee is expecting that as plants take root, the erosion will cease.

TECHNICAL MEMO

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**Remaining Subsoil Piles**

Both the topsoil and subsoil piles are shown with soil volumes calculated using baseline cross-section stations as shown on the MRP Plate 5-4. The salvaged topsoil pile contained approximately 1,061 cubic yards, all of which was used in the final reclamation of the fan portal. The subsoil pile contained approximately 8,733 cubic yards of soil. Approximately 6,975 cubic yards of soil remains in the subsoil stockpile after reclaiming the Cottonwood fan portal area.

The remaining subsoil stockpile was pocked and revegetated. It was not treated with a tackifier.

This submittal indicates that the remaining stored soil will be used to reclaim the Cottonwood overland tube conveyor, intake and diesel portals, and Trail Mountain Mine if needed.

**Findings:**

Information provided in the application does not accurately reflect the activity as it occurred during reclamation. Therefore the information does not meet the requirements of this section of the regulations. Prior to approval, the applicant must supply the following in accordance with:

**R645-301-240**, Unfortunately, the information in the topsoil/subsoil distribution table on Plate 5-5 does not add up. As reported in the table, there were 3,129.03 cubic yards of topsoil and subsoil used to reclaim Terrace 1 through 4a and the CFP access road. However, the table records that there were 2,820.18 cubic yards of topsoil and subsoil used in the project. Please explain the variation.

**RECOMMENDATIONS:**

This submittal modifies the approved MRP. The Phase 1 bond release application should be placed on hold until all modifications have been approved and accepted as per item 5 (Procedure) of the Bond Release Directive (Tech - 006, dated September 7, 2000).