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State of Utah  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

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January 11, 2001

TO: [REDACTED]

THRU: Jim D. Smith, Team Lead *JDS*

FROM: Priscilla W. Burton, Soils Reclamation Specialist *Priscilla Burton*

RE: Phase I Bond Release for Cottonwood Fan Portal, PacifiCorp, Cottonwood/  
Wilberg Mine, [REDACTED] 9-BR00D-1

**SUMMARY:**

The Phase 1 bond release application was submitted June 30, 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.

In response, this submittal contains revisions of pages 5 and 6 of the narrative; Plate 5-1 (Cottonwood Fan Portal Reclamation Slope Surface Facilities Map); Plate 5-2 (Cottonwood Fan Portal Surface Facilities Map Proposed Soil Placement); Plate 5-5 (Cottonwood Fan Portal Surface Facilities Map Phase I Reclamation); Plate 5-5A (Cottonwood Fan Portal Surface Facilities Map Phase II Reclamation); and Plate 5-7 (Cottonwood Fan Portal Access Road/Final Reclamation Cross Sections)

Until all the above 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:**

**TECHNICAL MEMO**

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. This submittal indicates that 2,771 cubic yards of topsoil and subsoil were used in the reclamation of the fan portal. Approximately 7023 cubic yards of subsoil remains. It has been recontoured and revegetated.

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

	Projected (07-08-00)	As- Built (12-14-00)
Topsoil	1061	1061
Subsoil (includes access road)	2412	1710
<b>Total</b>	<b>3473</b>	<b>2771</b>

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. Plate 5-3 Sheet 2 of 2 illustrates a typical cross section of the Cottonwood Fan Portal and indicates that bench areas should have received 12 inches of topsoil and 1½:1 slopes should have received six inches of topsoil. Plate 5-3 was not revised with this submittal. But Plate 5-3 no longer reflects the site conditions. Plate 5-3 must be revised to show a typical cross-section as constructed. (The narrative on page 6 was changed to eliminate reference to minimum topsoil placement).

Plates 5-7 and 5-5 were revised with this submittal. The approved MRP has a mass balance table on Plate 5-5 which indicated that a total of 2581.4 cubic yards of soil was projected

to be used for terraces 1, 2, 3, 4 and 4a. The revised MRP refers to this table in the last sentence of page 4 (Soils Section Volume 11, Cottonwood Fan Portal) However, the "As-Built" Plate 5-5 just submitted does not contain this information. Reference to the information should be clarified. The revised Plate 5-5 is an as-built document and therefore does not include the mass balance table. Other changes to Plate 5-5 are the removal of the topsoil pile and revision of the subsoil pile and changes to the delineation of the 'undisturbed old Johnson Mine site.'

A mass balance table on Plate 5-7 projected that 666.58 cubic yards would be used for the Johnson Mine Access Road. The revised Plate 5-7 (Cottonwood Fan Portal Access Road/Final Reclamation Cross Sections) indicates that only 160.08 cubic yards of material were used from the subsoil pile to reclaim the access road. The difference is accounted for from stations 3+32, 3+82 and 4+32 where rock outcrops were left exposed to blend into the terrain. However, the revised page 5 of (Soils Section Volume 11, Cottonwood Fan Portal) states in the last sentence of the first paragraph that "667 cubic yards of subsoil will be used in the reclamation of the road." This statement and Plate 5-7 do not agree.

### **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 with netting used after seeding (rather than curlex blankets as indicated on page 6). Please revise the narrative accordingly.

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.

### **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 7,023 cubic yards of soil remains in the subsoil stockpile after reclaiming the Cottonwood fan portal area. Plate 5-4 requires revision to accurately portray the new subsoil pile configuration.

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

**TECHNICAL MEMO**

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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**, The narrative and Plates submitted must correlate, see the above technical analysis for details (i.e. Plate 5-5 and the last sentence of page 4 (Soils Section Volume 11, Cottonwood Fan Portal; Revised Plate 5-7 and the last sentence of the first paragraph of the revised page 5.

**R645-301-242.130**, The action taken to protect the redistributed soil from wind and water erosion should be accurately *reflected in the submittal.* *FB*

**R645-301-231.400**, Plate 5-4 requires revision to accurately portray the new subsoil pile configuration.

**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).

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