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 DIVISION OF OIL, GAS AND MINING

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TO: Internal File

FROM: James D. Smith, Reclamation Specialist – Team Lead *JDS*

RE: Fan Portal Phase I Bond Release, PacifiCorp, Cottonwood/ Wilberg Mine, C/015/019-BR00D-4

SUMMARY:

The Cottonwood Fan Portal (CFP) site is located directly across Cottonwood Canyon from the Trail Mountain Mine in Emery County. The site was initially disturbed under an exploration permit in anticipation of construction of a fan portal for the Cottonwood/Wilberg Mine. The area was cleared of vegetation and topsoil in 1980, but poor quality coal in this area led to changes in the coal recovery and mine layout plans and construction of the fan portal was abandoned. The area disturbed was 6.1 acres.

The CFP site has not been returned to a contour similar to adjacent areas because of slope-stability concerns. Cast-off material below the site was seeded in 1981, and these reclaimed, side-cast soils remain on the slope above the Cottonwood Canyon Road as the final configuration of the site. (Dr. Patrick Collins measured cover and productivity in 1994 and 1995. The methods used did not meet the 90% confidence statistical confidence required for final bond release, but the results indicated revegetation has been successful.) Backfilling, grading and seeding of the remaining CFP area was initiated in November of 1998. The reclaimed cast-off material below the site was not re-disturbed in 1998. Based on appearance, vegetation provides good cover in spite of the dryness of the past several years. Post mining land use of the site is wildlife and grazing.

A historically significant abandoned mine, the Old Johnson Mine, is located within the CFP reclamation area. The Old Johnson Mine is not part of the disturbed area and is not covered by the bond. Historic remnants included an old wagon road and two sealed portals. (The Division's AML program is scheduled do rebuild the seals at the portals in 2002 or 2003). The old wagon road, which was disturbed by the original CFP work, was upgraded and utilized for hauling topsoil during reclamation of the fan portal area in 1998. The road has been reclaimed

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up to the Old Johnson Mine site boundary (a rough trail to the Old Johnson Mine was left at the request of SHPO) and is included in the bond release application. The section of the road within the Old Johnson Mine site is not part of the disturbed area and has not been backfilled or graded, but it was seeded along with the reclaimed areas in 1998.

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 that carries water from above the reclaimed 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.

A chronology of the Phase I Bond Release Application

Phase I Bond Release application rec'd	July 6, 2000	
Initial Division TA BR00D		September 26, 2000
Energy West Mining Co. response rec'd	December 14, 2000	
Division TA BR00D-1		March 13, 2001
Energy West Mining Co. response rec'd	August 8, 2001	
Division TA BR00D-2		October 12, 2001
Query about status	January 14, 2002	
Division TA BR00D-3		January 23, 2002
Phase I Bond Release Inspection		April 2, 2002
Division TA BR00D-3(a)		May 30, 2002
Energy West Mining Co. response rec'd	August 28, 2002	
Division TA BR00D-4		October 21, 2002

A Phase I bond-release inspection, as per R645-301-880.210, was conducted on April 2, 2002 (field visit report dated April 9, 2002). Representatives from DOGM, Energy West, Corporation of the Presidency (LDS Church), and BLM participated in the inspection. The U.S. Forest Service and U.S. Office of Surface Mining were invited to participate in the inspection, but no one from either organization attended.

Drainage control was found not to be in accordance with the approved reclamation plan (R645-301-880.310 and R645-301-761). The Permittee was asked to modify the Reclamation Plan to describe reclamation of undisturbed drainage collection ditch UD-3, so that UD-3 would not remain above the site. Damage from erosion at the south end of UD-3 was to be repaired (R645-301-742.311): the filling and grading portion of this repair was done on August 5, 2002, but vegetation has not been established. A submittal received from the Permittee on August 28, 2002 addresses the concerns from the bond release inspection.

TECHNICAL ANALYSIS:

RECLAMATION PLAN

BACKFILLING AND GRADING

Regulatory Reference: 30 CFR Sec. 785.15, 817.102, 817.107; R645-301-234, -301-537, -301-552, -301-553, -302-230, -302-231, -302-232, -302-233.

Analysis:

General

The sedimentation pond at the base of DD-4, downslope of the Johnson Mine, has been reclaimed, and another pond near the topsoil storage was removed at the same time. When these basins were removed, Energy West salvaged the organic-rich sediment and used it as topsoil. Removal and reclamation of sedimentation ponds is part of Phase II reclamation and does not affect Phase I bond release.

Erosion of the hillside at the south end of the undisturbed ditch UD3 was discussed on April 2, 2002 during the Phase I Bond Release field inspection of the site. On August 5, 2002, a helicopter hauled approximately 16 cubic-yards of +6-inch drain rock and 7 cubic-yards of topsoil to repair this gully.

Division personnel visited the site on August 8, 2002 and it appeared backfilling and regrading of the gully was satisfactory. The Division examined the site again during a routine quarterly inspection on September 19, 2002: sheet flow from recent heavy rains had washed off most of the seed that had been hand cast, but the fill and topsoil were stable with no signs of rills or gullies. There does not appear to be a deficiency in reclamation as regards the backfilling and regrading of this site.

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Findings:

Except as discussed under the following Hydrologic Information section, the reclamation backfilling and grading plan is adequate to meet the requirements of the Coal Mining Rules, and backfilling and grading are sufficient for Phase I bond release.

HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 784.14, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-301-512, -301-513, -301-514, -301-515, -301-532, -301-533, -301-542, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-733, -301-742, -301-743, -301-743, -301-750, -301-751, -301-760, -301-761.

Analysis:

Hydrologic Reclamation Plan

Diversions

In the past, the Division has recommended reclamation of undisturbed drainage diversion ditch UD-3 and ditch DD-4. The Permittee maintained that these ditches were needed to protect the reclaimed and revegetated areas on the slopes below (see memo dated February 4, 1998). The Coal Mining Rules require that all temporary diversions will be removed when no longer needed for the purpose for which they were authorized, and that before bond release, all temporary structures are to be removed and reclaimed.

A bond-release inspection was conducted on April 2, 2002. UD-3 was found not to be in accordance with the approved reclamation plan and had not been maintained to perform as described (Volume 11, R645-301-761; Plates 4-8 CM-10828-CP and 4-9 CM-10827-CP). In several places sediment had accumulated and reduced the capacity of the ditch to the point that water had either overflowed or breached the ditch. Sediment had filled the silt fence at the south end of the ditch.

The Permittee is now of the opinion that the reclaimed areas below UD-3 and DD-4 will not be jeopardized by overland flow, that the backfill will not become saturated and fail. The Permittee now anticipates that UD-3 and DD-4 will reclaim themselves with time and that flow will eventually be reestablished in natural channels down the hillside without forming new rills or gullies. Therefore, they have stopped maintenance and repair of UD-3 and DD-4. The Permittee feels that discussions with the Division have established that the Permittee would be able to leave the UD-3 as is and allow it to self-reclaim.

Because UD-3 was not maintained as described in the MRP, the Division required that the Permittee clarify in the MRP that the undisturbed drainage collection ditch UD-3 above the

site will not remain as a permanent diversion, and provide a reclamation plan for UD-3.

According to Volume 11, Sections R645-301-761 and -762.100 (page 25), UD-3 and DD-4 are retained as diversions to prevent disturbance of steep-slope reclamation areas. In response to the Division's requirement for a reclamation plan, the August 2002 submittal added that no maintenance will be done and these ditches will be allowed to self-reclaim.

Some sections of ditch UD-3 have returned to AOC and an apparently stable condition without any reclamation effort, and these sections probably would not benefit from further regrading or backfilling. Satisfactory revegetation may require reseeding or replanting, and weed control may be needed. Other sections of UD-3 however, such as the steeper reaches and the south end, may require backfilling and regrading to achieve adequate appearance, function, and stability and to eliminate concentration of runoff due to eventual overflow or failure.

Surface runoff - mainly sheet flow - and seepage from the french drains report to ditch DD-4. In the past there has been an assertion that the county requested DD-4 remain as a terrace to stop debris from rolling down the slope and onto the road, but it appears this is no longer considered a factor in retaining this ditch. Cast-off material below DD-4 was seeded in 1981, and Dr. Patrick Collins measured cover and productivity for this area in 1994 and 1995. The methods used did not meet the 90% confidence statistical confidence required for final bond release, but Dr. Collins indicated revegetation has been successful (1997 Annual Report).

According to R645-301-880.320, to receive Phase II bond release, the disturbed lands where DD-4 and UD-3 are located:

- must have revegetation established and
- cannot be contributing suspended solids in excess of requirements set by state and federal water-quality laws, to streamflow or runoff outside the permit area.

Self-reclamation at UD-3 and DD-4 may eventually achieve adequate AOC, appearance, function, and stability and eliminate the potential for overflow or failure of the ditches. The Permittee needs to realize that a more aggressive alternative, perhaps involving additional backfilling or regrading and revegetation, might be needed if self-reclamation does not produce the satisfactory, stable results needed for Phase II and Phase III bond release.

Findings:

R645-301-541.400, --542.100, -553.100, -752.100, Letting ditch UD-3 self-reclaim may eventually achieve adequate reclamation contours, appearance, and function and eliminate concentration of runoff, but to assure timely and satisfactory results the Reclamation Plan must include an alternative reclamation plan in case self-reclamation does not produce the required results during the Phase II and Phase III bond release periods.

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STABILIZATION OF SURFACE AREAS

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

Analysis:

Erosion of the hillside at the south end of the undisturbed ditch UD3 was discussed on April 2, 2002 during the Phase I Bond Release field inspection of the site. Energy West indicated that steps to reclaim the gully had been taken once before, but seemed open to taking further corrective action. On August 5, 2002, a helicopter hauled approximately 16 cubic-yards of +6-inch drain rock and 7 cubic-yards of topsoil to repair this gully.

Division personnel visited the site on August 8, 2002. The site had not been seeded, but it appeared backfilling and regrading of the gully was satisfactory. The Division examined the site again during a routine quarterly inspection on September 19, 2002: sheet flow from recent heavy rains had washed off most of the seed that had been hand cast, but the fill and topsoil were stable with no signs of rills or gullies. There does not appear to be a deficiency in reclamation as regards the backfilling and regrading of this site, but the Permittee needs to be diligent in revegetation and overall reclamation at this site to meet Phase II and Phase III bond release.

Findings:

The reclamation plan for stabilization of surface areas is adequate to meet the requirements of the Coal Mining Rules. Stabilization of the area that was washed out near the end of UD-3 by backfilling and grading is sufficient for Phase I bond release, but the Permittee needs to be diligent in following the reclamation plan, particularly revegetation, at this time.