

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

May 14, 2004

TO: Internal File

THRU: Stephen J. Demczak, Environmental Scientist III/Engineering, Team Lead

FROM: James D. Smith, Environmental Scientist III/Hydrogeology

RE: Update Volume 10 (Waste Rock Site), PacifiCorp, Deer Creek Mine, C/015/018, Task ID #1914

SUMMARY:

Permittee's Action		DOGM's Action	
Original submittal	08/28/2003	Assigned Task # 1658	
		Tech Memo – Hydrology	09/30/2003
		TA	10/03/2003
Response to TA	11/11/2003	Assigned Task # 1770	
		Tech Memo – Hydrology	12/19/2003
		TA	12/22/2003
Response to TA	01/26/2004	Assigned Task # 1823	
		Tech Memo – Hydrology	02/23/2004
Withdrawal of Response to TA	03/02/2004		
Response to TA	04/23/2004	Assigned Task # 1914	
		Tech Memo – Hydrology	05/21/2004
		TA	05/21/2004

The road to the Deer Creek Mine waste rock disposal site has been reclassified as a primary road in accordance with R645-301-527. Previously, this road was permitted and maintained as a temporary access way to the waste disposal pile. Because this road is now designed, constructed and maintained in accordance with R645-301 and R645-302 and because there are no upstream disturbed areas, the road is no longer considered part of the disturbed area for the purposes of the sediment control measures in R645-301-742.200 through R645-301-742.240, and R645-301-763 (no sedimentation pond or “other treatment facility” is required); however, the requirements of R645-301-732 and R645-301-742 through R645-301-742.126 still apply.

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Recently, the road was resurfaced with roto-milled asphalt, which was recycled from a road-resurfacing project in Huntington Canyon. This new surface will greatly reduce dust and reduce or eliminate the need for application of magnesium chloride. Several other changes - addition of vegetation as a sediment control measure along portions of the road, changes in repair of rills and gullies, and alternatives to riprap at inlets and outlets to culverts - have been included in this amendment.

Approval of the resurfacing is recommended as it will reduce air pollution and contribute to controlling sedimentation and erosion along the road. Approval of the changes regarding repair of rills and gullies and alternatives to riprap at culvert inlets and outlets is also recommended. However, the Permittee needs to provide additional information or clarification regarding the use of vegetation and silt fence as sediment control measures along the road before the proposed change can be approved.

TECHNICAL ANALYSIS:

OPERATION PLAN

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:

Sediment Control Measures

Silt Fence and Vegetation

Work done by Dr. Patrick Collins in 1995 and field investigations by DOGM personnel in 1996 determined that all silt fencing should be retained along the top of the topsoil berm around the Waste Rock Area. Also, that silt fence could be removed along many areas of the Waste Rock Access Road but needed to remain at certain areas of concern.

Effective May 13, 1997, the Division approved an amendment to remove silt fence along portions of the Waste Rock Access Road (ACT/015/018-97A). Drawing CM-10778-DR, Plate 4-5, Phase I shows the ASCAs and the areas treated by silt fence and those where vegetation alone was determined adequate. Page 2-10 of the Volume 10 and Table I on page 2-11 were

amended to describe the changes, and the following statement was added to page 2-10 of the MRP: "When revegetation [of ASCAs], as outlined in volume 10, page 3-7, chapter 3, has met those requirements, silt fencing ... can be removed (with DOGM approval) and vegetation will become the primary treatment method". This statement has been removed from this latest revision, but the standard for revegetation success on page 3-7 still applies: as determined by spring and fall inspections, there is a reproducing vegetative cover, on a majority of the slope or area, that prevents or minimizes erosion.

The revised plan still includes, on pages 2-7 and 2-8, a commitment that "Maintenance work on the ditches, sediment basin and silt fences will be done as the need arises. Sediment and debris accumulation will be removed by mechanical and hand methods".

Waste Rock Access Road ASCA

The ASCA along the Waste Rock Access Road, shown on drawing CM-10778-DR, Plate 4-5, Phase I, covers 0.69 acre. Based on reviews of revegetation cover in 1995 and 1996, vegetation was determined to be adequate to control sedimentation and erosion along most of the road. However, vegetation was found to be inadequate at four small areas, totaling 0.11 acre, and silt fence was retained for sediment and erosion control at those sites. Both the current and revised Drawing CM-10778-DR and the current Table I of Chapter II show Sediment Control along the access road consists of silt fence at the four areas and revegetation for the remaining 0.58 acre.

In the proposed revision of Table I, the Permittee has changed all Sediment Control in this ASCA to vegetation only, with no silt fence. The Permittee has not submitted data, inspection reports, or other information to show that vegetation in these four areas now meets the requirements outlined on page 3-7 and that the silt fence can be removed. The silt fences must be retained and maintained until it is demonstrated that vegetation meets the requirements on page 3-7, and Table I should continue to include silt fence as Sediment Control for the four areas along the Waste Rock Access Road.

Waste Rock Site Berm Outslope ASCA

The current Table I on page 2-10 shows that Sediment Control for the 1.72 acres of the Waste Rock Site Berm Outslope ASCA is silt fence. The 1996 review of revegetation also produced the determination that silt fence was to be retained around the base of this soil berm. In the proposed revision of Table I, the Permittee has changed Sediment Control for this area from silt fence to vegetation. However, inconsistent with this proposed change to Table I, the revised Drawing 4-5 (CM-10778-DR) shows silt fence as the sediment control for this ASCA (and conversely, the current version of this drawing does not show the silt fence).

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The MRP states (pages 2-7 and 2-8) that during both Phase I and Phase II of the waste rock disposal site, silt fence filter will be installed and maintained along the outside toe of the fill or “berm fill”. The Permittee has changed Table I so that only vegetation rather than silt fence is indicated as sediment control at the Waste Rock Site Berm Outslope ASCA.

The Permittee has not submitted data, inspection reports, or other information to show that vegetation now meets the requirements outlined on page 3-7 and that the silt fence is not needed. The silt fences must be retained and maintained until it is demonstrated that vegetation meets the requirements on page 3-7: as determined by spring and fall inspections, there is a reproducing vegetative cover, on a majority of the slope or area, that prevents or minimizes erosion. Table I should continue to include silt fence as Sediment Control for the Waste Rock Berm.

Repair of Rills and Gullies

As the road surface deteriorates, rills and gullies will be backfilled and a smooth surface developed (page 2-5). Specific commitments - to control sedimentation and erosion on fill slopes by backfilling where erosion is over 9 inches deep, riprapping small channels that develop where drainage concentrates, and cleaning silt fences - have been stricken in the proposed amendment (page 2-4 of the current MRP). These specific commitments have been replaced by a general commitment on page 2-5 that “Sediment control measures will conform to the requirements of R645-301-742.” Although R645-301-742 does not provide the same specificity as the commitments that are being removed, the expected performance standards remain: minimize erosion, meet effluent limitations, and prevent additional contributions of sediment to streamflow or runoff outside the permit area.

Discharge Structures

Under the discussion of access-road drainage controls on page 2-4 of the current MRP is the commitment to use riprap to control erosion at the inlets and outlets of all culverts. On page 2-5 of the proposed change, the words “or other method” have been inserted after “riprap”.

Findings:

The permittee did not meet the minimum requirements of this section. Prior to approval the permittee must address the following R645 Coal Rules.

R645-301-742, 121.200, To provide consistency and lessen the possibility of confusion, the Permittee needs to show in Table I that sediment control for the 0.11-acre portion of the Waste Rock Site Access Road and for the Waste Rock Site Berm Outslope is (or at least includes) silt fence.

MAPS, PLANS, AND CROSS SECTIONS OF MINING OPERATIONS

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-512, -301-521, -301-542, -301-632, -301-731, -302-323.

Analysis:

Mining Facilities Maps

Both the current and new versions of Drawing CM-10778-DR (Map Packet 4-5) and the current Table I show both vegetation and silt fence are used as sediment control measures along the access road, 0.11 acre treated with silt fence and 0.58 acre treated by revegetation. The location and extent of the silt fence along the outside toe of the fill or "berm fill" at the Waste Rock Site are clearly shown on the newly submitted Drawing CM-10778-DR (Map Packet 4-5).

Findings:

The permittee has met the minimum requirements of this section of the Coal Mining Rules.

RECOMMENDATIONS:

The proposed amendment should not be approved until the requirements of the Coal Mining Rules have been adequately addressed, as outlined above in this Technical Assessment.