

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

December 19, 2003

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, PacifiCorp, Deer Creek Mine, C/015/0018, Task ID #1770

SUMMARY:

The road to the Deer Creek Mine waste rock disposal site has been surfaced with rotomilled 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. Also, the location and extent of silt fence along the outside toe of the fill or "berm fill" at the Waste Rock Site needs to be clarified on maps.

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

In the proposed revision of Table I, the Permittee indicates silt fence and vegetation as methods of Sediment Control for several small areas, totaling 0.11 acre, along the Waste Rock Site Access Road: up until now these small areas have been treated by silt fence only. These areas are shown on Drawing 4-5 (CM-10778-DR), along with the areas along the road, totaling 0.58 acre, that are treated by vegetation only.

DOGM approved removal of most of the silt fence along Waste Rock Site access road effective May 13, 1997 (ACT/015/018-97A). However, based on a review of revegetation cover done by both DOGM and Energy West personnel during the summer of 1996, vegetation was found deficient to control sedimentation and erosion along specific sections of the Waste Rock Site Access Road. Silt fence was therefore retained as the sediment control measure in those specific locations, totaling 0.11 acre. The proposed revision would add vegetation as a sediment control measure for these locations along the Waste Rock Site Access Road, without eliminating silt fence.

Page 2-10 of the Volume 10 was revised March 26, 1997 to state, "When revegetation, 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." The Permittee has not submitted data, inspection reports, or other information to show that vegetation now meets the requirements outlined on page 3-7, that vegetation is adequate to control sedimentation. The silt fences are currently full of sediment, indicating vegetation alone is not yet sufficient to provide sediment control. The silt fences must be retained and maintained until it can be demonstrated that vegetation meets the requirements.

The paragraph “When revegetation, as outlined in volume 10, page 3-7, chapter 3, has met those requirements, silt fencing or other sediment control means can be removed (with DOGM approval) and vegetation will become the primary treatment method. Any erosion rills that may develop will be addressed as outlined on page 3-7, volume 10.” has been omitted from the revised section R645-301-751. Because silt fence is a sediment control measure, this paragraph needs to be retained as part of the MRP.

Pages 2-5 and 2-6 of the MRP state 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 1996 review also produced the determination that silt fence was to be retained around the base of this soil berm, and Table I on page 2-10.0 (revised March 26, 1997) shows that sediment control for the 1.72 acres of the Waste Rock Site Berm Outslope ASCA is to be silt fence. The proposed revision still contains these commitments, on pages 2-6 and 2-8, and Table 1 in the proposed revision indicates silt fence will still be the only sediment control measure for this ASCA.

The current permit contains a paragraph that describes the cleaning of the silt fences, but this paragraph has been omitted in the revision. This information needs to be included in the proposed revision.

Repair of Rills and Gullies

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 (page 2-5 of the proposed amendment) 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 results 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 2-5 of the current MRP is the commitment to use riprap to control erosion at the inlets and outlets of all culverts. In the proposed change, the words “or other method” have been inserted after “riprap”. “Sediment control measures will conform to the requirements of R645-301-742” has also been added.

There are undoubtedly acceptable methods other than riprap to control erosion at these inlets and outlets. The Permittee has clarified that before any “other methods” are implemented, they will be submitted to the Division for approval.

TECHNICAL MEMO

Findings:

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

R645-301-742.110, Page 2-5 of the current permit contains a paragraph that describes the cleaning of the silt fences, but this paragraph has been omitted in the latest revision. Because silt fence is a sediment control measure, this information needs to be retained in the proposed revision.

R645-301-742.100, The paragraph “When revegetation, as outlined in volume 10, page 3-7, chapter 3, has met those requirements, silt fencing or other sediment control means can be removed (with DOGM approval) and vegetation will become the primary treatment method. Any erosion rills that may develop will be addressed as outlined on page 3-7, volume 10.” needs to be retained as part of the MRP.

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

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 is not clearly shown on either Drawing CM-10778-DR (Map Packet 4-5) or CM-10779-DR (Map Packet 4-6).

Findings:

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

R645-301-741, The Permittee needs to clearly show the silt fence along the outside toe of the fill or “berm fill” at the Waste Rock Site on either Drawing CM-10778-DR (Map Packet 4-5) or CM-10779-DR (Map Packet 4-6).

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.