

#4329
OK

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

May 23, 2013

TO: Internal File

THRU: Ingrid Campbell, Team Lead *UC*

FROM: Ken Hoffman, Hydrologist *KH*

RE: Update to Volume 10, PacifiCorp, Cottonwood/Wilberg Mine, Permit C/015/0019, Task ID #4329

SUMMARY:

On April 25, 2013, the Division received an application from Energy West Mining Company to update Volume 10 of the Cottonwood Mine Waste Rock Volume in the Mining and Reclamation plan for Cottonwood/Wilberg Mine. The volume was updated to meet the organization structure required by the Utah Coal regulations. Energy west also requested that map 4-6 be removed from the MRP.

Findings:

Conditional approval is not recommended for the amendment until the following deviancies are addressed.

R645-301-724.100 The Ground Water Information section should be updated to reflect that data has been collected at well WCWR for many years. While no changes to the facility are going to be made based on this correction the fact that the baseline data was collected should be reflected.

R645-301-763.100 If it is the desire of the permittee to remove the siltation structure sooner than two years after the last augmented seeding then the permittee must add language to Section R645-301-763.100 justifying this action and demonstrating how suspended solids runoff will be controlled.

TECHNICAL MEMO

TECHNICAL ANALYSIS:

ENVIRONMENTAL RESOURCE INFORMATION

Regulatory Reference: Pub. L 95-87 Sections 507(b), 508(a), and 516(b); 30 CFR 783., et. al.

CLIMATOLOGICAL RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.18; R645-301-724.

Analysis:

Climatic information is included as Section R645-301-724.400 and states and average annual precipitation of 12.5 inches and temperatures from -10 to the upper 90's degree Celsius.

HYDROLOGIC RESOURCE INFORMATION

Regulatory Reference: 30 CFR Sec. 701.5, 784.14; R645-100-200, -301-724.

Analysis:

Baseline Information

Section R645-301-724.100 of the amendment states:

“Although two years of baseline data have not been collected specifically at the waste rock site, the samples discussed above are consistent with other Mancos influenced samples. To augment the data from the samples taken on-site, sampling continued through construction of the facility; thus providing at least one year's site-specific data prior to actual operation.”

This statement is inaccurate as at this time this baseline data has been collected. There is significant data available from well WCWR1.

Baseline Cumulative Impact Area Information

The amendment discusses the baseline groundwater and surface water in detail in sections R645-301-724.100 & .200. These discussions address the baseline cumulative hydrologic impact area.

Modeling

The peak flow for surface water runoff was modeled using the Storm Hydrograph Program. This model was used to determine the size of the detention basin. A peak flow of 22.13 cfs was determined for the 32.2 acre drainage area.

Probable Hydrologic Consequences Determination

The probable hydrologic consequences are discussed in section R645-301-728. The groundwater discussion is focused on the affects of the Mancos Shale in the area causing high total dissolved solids and the very low permeability of the surface conditions. The discussion finds the area lacks surface or groundwater resources other than storm water runoff.

Groundwater Monitoring Plan

Section R645-301-724.100 states that Drill-hole No. 4 will serve for groundwater monitoring.

Surface-Water Monitoring Plan

The surface water monitoring plan for the site shall be to monitoring the sedimentation pond discharge location as required by the UPDES permit.

Findings:

R645-301-724.100 The Ground Water Information section should be updated to reflect that data has been collected at well WCWR for many years. While no changes to the facility are going to be made based on this correction the fact that the baseline data was collected should be reflected.

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:

TECHNICAL MEMO

Groundwater Monitoring

The operations monitoring is discussed in Volume 9.

Surface Water Monitoring

The operations surface water monitoring is discussed in Volume 9.

Acid- and Toxic-Forming Materials and Underground Development Waste

Section R645-301-748 discusses the use of cased, sealed, or otherwise managed water wells to prevent acid or other toxic drainage from entering the ground water.

Water-Quality Standards And Effluent Limitations

Water quality standards shall be specified by the UPDES permit referenced in Section R645-301-731.220 as included in Volume 9 Appendix B. In addition, Section R645-301-751 discusses the mine will comply with 40 CFR 434.

Sediment Control Measures

Section R645-301-742 & -752 discusses sediment control measures including the use of siltation structures, road drainage, and vegetation.

Siltation Structures: Sedimentation Ponds

Section R645-301-742.220 discusses the sedimentation pond design and references Appendix C for specific design specifications. The design calculations are included in the Drainage Control Design section with an annual sediment yield of 3,592 tons/year.

Siltation Structures: Other Treatment Facilities

Section R645-301-742.230 discusses alternative sediment control areas will be used at the site and displayed on Plate 4-2.

Discharge Structures

The design specifications for the spillway design are included in the Drainage Control Design section for the concrete lined spillway.

Findings:

The information provided is considered adequate to meet the regulatory requirements of this section.

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:

Monitoring and Sampling Location Maps

Monitoring maps are included in Volume 9.

RECLAMATION PLAN

GENERAL REQUIREMENTS

Regulatory Reference: PL 95-87 Sec. 515 and 516; 30 CFR Sec. 784.13, 784.14, 784.15, 784.16, 784.17, 784.18, 784.19, 784.20, 784.21, 784.22, 784.23, 784.24, 784.25, 784.26; R645-301-231, -301-233, -301-322, -301-323, -301-331, -301-333, -301-341, -301-342, -301-411, -301-412, -301-422, -301-512, -301-513, -301-521, -301-522, -301-525, -301-526, -301-527, -301-528, -301-529, -301-531, -301-533, -301-534, -301-536, -301-537, -301-542, -301-623, -301-624, -301-625, -301-626, -301-631, -301-632, -301-731, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-732, -301-733, -301-746, -301-764, -301-830.

Analysis:

Sections R645-301-760 & 765 discuss reclamation and sealing of the monitoring well. The monitoring well will be abandoned as approved by the Division. The cover letter of the amendment requests approval for removal of Plate 4-6 however no details are provided in compliance with Sections R645-301-763.100.

Findings:

R645-301-763.100 If it is the desire of the permittee to remove the siltation structure sooner than two years after the last augmented seeding then the permittee must add language to Section R645-301-763.100 justifying this action and demonstrating how suspended solids runoff will be controlled.

TECHNICAL MEMO

CUMULATIVE HYDROLOGIC IMPACT ASSESSMENT (CHIA)

Regulatory Reference: 30 CFR Sec. 784.14; R645-301-730.

Analysis:

The amendment does not require changes to the CHIA.

Findings:

The information provided is considered adequate to meet the regulatory requirements of this section.

RECOMMENDATIONS:

Conditional approval is not recommended for the amendment until the following deviancies are addressed.

R645-301-724.100 The Ground Water Information section should be updated to reflect that data has been collected at well WCWR for many years. While no changes to the facility are going to be made based on this correction the fact that the baseline data was collected should be reflected

R645-301-763.100 If it is the desire of the permittee to remove the siltation structure sooner than two years after the last augmented seeding then the permittee must add language to Section R645-301-763.100 justifying this action and demonstrating how suspended solids runoff will be controlled.