

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

July 3, 2006

TO: Internal File

THRU: Wayne Hedberg, Permit Supervisor
Pete Hess, Team Lead

FROM: James D. Smith, Environmental Scientist III

RE: Wild Horse Ridge Tank Seam As-built/Snow Storage, Task # 2523, CO-OP Mining Company, Bear Canyon Mine, Permit C/015/0025

SUMMARY:

This amendment has been submitted to mitigate violation N06-46-2-2.

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:

General

Watersheds are shown on Plate 7-5A. Watershed characteristics are listed on page 7-G3, -G4, and G5, and watershed sizes are tabulated in Table 7-23. Peak runoff flows for a 10-yr, 6-hr storm are tabulated on page 7-6G. STORM calculation results are in Appendix 7-G and summarized in Table 7-23. Table 7-24 is a Summary of Ditch Calculations, and Table 7-25 is a Summary of Culvert Characteristics.

Plate 7-5A shows the watersheds, along with drainages and diversions for the #3 and #4 Mine areas. There are a number of discrepancies between this map and Tables 7-24 and 7-25: these are listed below in the Findings. The Permittee must re-examine Plate 7-5A and Tables 7-24 and 7-25 and reconcile ambiguous and contradictory information. After the discrepancies in Plate 7-5A and Tables 7-24 and 7-25 have been remedied, the Permittee may need to recalculate all affected hydrograph values and channel-sizing worksheets in Appendix 7G.

BTCA Area L is described on page 7K-14 as being "...two areas along the lower portion of the WHR Tank Seam Access Road." Plate 7-1G shows it as two areas on the upper portion of the WHR Tank Seam Access Road, just below the #4 Mine pad. BTCA Area N is described on page 7K-15 as being "...located below the second switchback on the WHR Tank Seam Access Road." Plate 7-1G shows it as two areas on the #4 Mine pad. The Permittee needs to clarify these descriptions.

On Plate 7-1G, there are numerous lines across the road between C-34U and C-26U, roughly perpendicular to the centerline and of varying lengths. The Permittee needs to describe these lines in the LEGEND section of this map.

Findings:

Hydrologic Information is not sufficient to meet the requirements of the Coal Mining Rules. Before the Division can approve this amendment, the Permittee needs to provide the following in accordance with:

R645-301-742.300, Plate 7-5A shows the watersheds, along with drainages and diversions for the #3 and #4 Mine areas. There are a number of discrepancies between this map and Tables 7-24 and 7-25. The Permittee must re-examine Plate 7-5A and Tables 7-24 and 7-25 and reconcile ambiguous and contradictory information. This includes but is not limited to the following:

- Culvert C-39U is shown on Plate 7-5A. Table 7-25 indicates that for this culvert information in the Culvert and Type columns is to be removed from the table and information in the other columns remains, although modified. The Permittee needs to clarify this.
- Plate 7-5A and Tables 7-24 and 7-25 show runoff from drainage AU-22 reporting to D-42U, C39U, D-37U, and D-38U; however, Tables 7-24 and 7-25 do not show that runoff from drainage AU-22 was included in sizing calculations for subsequent down stream structures such as D-31U, C-29U and C-28U. The Permittee needs to include runoff from AU-22 is included in the sizing calculations for structures downstream of D-37U.
- Undisturbed drainages AU-20- AU-21, AU-22, AU-25, AU-26, and AU-30 eventually report to D-24U. The Permittee needs to size D-24U – at least the

TECHNICAL MEMO

lower end –to carry runoff not only from AU-35 and AD-17, as shown in Table 7-24, but also from all the undisturbed drainages upgradient of C-28U.

- The Permittee needs to include runoff from drainage AU-23 in the design calculations for C-33U in Table 7-25.
- The Permittee needs to include runoff from drainages AU-23 and AU-28A in the design calculations for D-34U in Table 7-24.
- Table 7-25 indicates runoff from drainage AU-22 has been included in the design calculations for C-32 U and C-27U, but AU-22 does not report to those structures. The Permittee needs to correct this in Table 7-25.
- Plate 7-5A has two culverts labeled C-34U: the Permittee needs to clarify this.
- Table 7-24 indicates drainage AU-26 reports to D-23U, but on Plate 7-5A, the main channel appears to separate AU-26 from D23U. The Permittee needs to clarify this on Plate 7-5A and in Table 7-24.
- Plate 7-5A is confusing because although Table 7-25 shows C-30U, C-36U, and C-37U have been abandoned in place, they appear to still be part of the drainage system on Plate 7-5A. On Plate 7-1G, C-37U is labeled as abandoned, but not C-30U or C-36U. The Permittee needs to clearly indicate on Plate 7-5A and 7-1G that these structures have been abandoned in place and no longer function as part of the sediment and erosion control drainage system. Also update Table 7-25, which incorrectly shows C-30U still reports to C-26U.
- The proposed changes to Table 7-25 indicate C-25U and C-40U are to be removed from the table. C-40U is shown on Plate 7-1G. The Permittee needs to clarify whether culverts C-25U and C-40U were never built or were abandoned in place, and, if needed, indicate and label these culverts on Plates 7-1G and 7-5A.
- Table 7-25 indicates drainage AU-43 reports to C-28U, but Plate 7-5A shows this should be AU-34. The Permittee needs to correct this.
- Table 7-25 indicates drainage AU-34 reports to C-23U, but Plate 7-5A shows this should be AU-43. The Permittee needs to correct this.
- Table 7-25 shows AU-25 reporting to both C-22U by way of D-22U and to C-29U by way of D-30U. Even though the exact location of C-22U is not clear from Plate 7-5A, C-22U and C-29U do not appear to share a common flow stream. The Permittee needs to clarify the location of C-22U on Plate 7-5A and which drainage(s) report to it in Table 7-25. The Permittee needs to reconcile Plate 7-5A and Table 7-24 and clarify which ditches and culverts receive the runoff from AU-25.
- According to Table 7-25, AD-17 and AU-30 were not included in the sizing calculations of C-23U. The Permittee needs to include runoff from drainages AD-17 and AU-30 in designing C-23U.
- Table 7-24 indicates AU-42 reports to D-20U, but D-20U is not shown on plate 7-5A.

- Plate 7-5A shows AD-16, but not D-15D that receives the runoff. On page 7G-3, AD-16 is described as an ASCA. The Permittee needs to show D-15D on Plate 7-5A.

R645-301-742.300, After the discrepancies in Plate 7-5A and Tables 7-24 and 7-25 have been remedied, the Permittee must recalculate all affected hydrograph values and channel-sizing worksheets in Appendix 7G.

R645-301-121.200, BTCA Area L is described on page 7K-14 as being "...two areas along the lower portion of the WHR Tank Seam Access Road." Plate 7-1G shows it as two areas on the upper portion of the WHR Tank Seam Access Road, just below the #4 Mine pad. The Permittee needs to clarify the description of the location of BTCA area L on page 7K-14.

R645-301-121.200, BTCA Area N is described on page 7K-15 as being "...located below the second switchback on the WHR Tank Seam Access Road." Plate 7-1G shows it as two areas on the #4 Mine pad. The Permittee needs to clarify the description of the location of BTCA area N on page 7K-15.

R645-301-121.200, On Plate 7-1G, the Permittee needs to describe in the LEGEND the numerous lines, roughly perpendicular to the centerline and of varying lengths, that are drawn across the road between C-34U and C-26U.

RECOMMENDATIONS:

The MRP cannot be approved until the deficiencies described above are addressed satisfactorily.