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TO: Internal Files

FROM: Peter H. Hess, Sr. Reclamation Specialist/Engineering, Team Lead *PHH*

RE: Amendment to Remove Straw Bales from BTCA Area, PacifiCorp, Trail Mountain Mine, C/015/009-02A-1

SUMMARY:

The permittee is proposing to revise the methods used to provide the sediment control for the alternate sediment control area designated in the mining and reclamation plan as "BTCA" area one, which is located just south of the mine site sediment pond. The currently approved method of treatment for the 0.21 acres involved is a straw bale dike. This technical memorandum will address a second round of information received on September 4, 2002.

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:

Surface Water Monitoring

The permittee has not requested a reduction in the number of surface water monitoring locations near the BTCA or downstream from it. Stream monitoring location SW-2 is located adjacent to this area; SW-3 is located approximately two miles below the mine above the confluence of Cottonwood Canyon and Straight Canyon. If TSS levels increase upon removal of the straw bales, accurate monitoring methods remain in place to inform the permittee as well as the Division that a problem does exist.

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TECHNICAL MEMO

As indicated in Volume 2, Chapter 7, Table 7-3, 3 of 3, both SW-2, and SW-3 are monitored on a quarterly basis, utilizing all required surface water monitoring parameters.

A review of information contained in the Division's electronic water monitoring database as it relates to total suspended solids and flow for SW-2 and SW-3 indicates the following:

- 1) The majority of the provided data was collected at flow volumes less than or equal to 1500 GPM.
- 2) At SW-2, flow volumes less than 1500 GPM consistently report TSS levels less than 150 mg/l.
- 3) At SW-3, flow volumes less than 1500 GPM consistently reported TSS levels less than 150 mg/l. Suspended solids concentrations vary proportionately with flow rate.

Thus, we have historic information in place that indicates consistent levels of TSS relative to flow volumes. If TSS levels start to climb higher than what should normally be expected relative to flow, then a re-evaluation of this BTCA area adjacent to the Cottonwood Canyon Creek would be necessary.

Sediment Control Measures

The currently approved mining and reclamation plan for the Trail Mountain Mine discusses the two "BTCA" areas at the site in HYDROLOGY, page 7-38. The permittee has submitted a proposed revision to page 7-38 in a highlighted / strike out version. As noted in the currently approved plan, the area consists of 0.34 acres and is located just south of the sediment pond. The runoff calculated from the 10 year 24 hour design event has been determined to be 0.013 acre-feet. This volume currently reports to a dike that is constructed of approximately six or seven straw bales placed end to end on the Cottonwood Creek embankment (the opposite side of the County road). The area was inspected in July of 2002 and photo documentation was made. The area is well vegetated, and where vegetation does not exist, litter in the form of leaves, twigs and branches serves to reduce rain drop impact. Rock litter of various sizes also exists in the area to reduce raindrop impact. There was no visual evidence of erosion, or of sediment deposition near the undisturbed drainage, Cottonwood Canyon Creek.

Findings:

The submitted information is adequate to meet the requirements of the R645 coal rules.

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

The permittee has submitted map revisions for the plates designated as PLATE 3-1, *TMS1362D, TRAIL MOUNTAIN MINE SURFACE FACILITIES*, and PLATE 7-5, *TMS1371D, TRAIL MOUNTAIN MINE DRAINAGE CONTROLS*.

- 1) The revised plates (as submitted on September 4, 2002) depict a total area of cross-hatching (270 feet long (average length) and 55 feet wide, or 0.34 acres) located immediately down channel of the sediment pond outslope. An examination of the channel on 8/20/2002 revealed that the channel bottom does not appear to be protected with riprap, although large rock has been placed along the banks to protect them during very large flows. The channel bottom, as it exists in the field, consists of earth material. The rock that exists in the channel appears to have been naturally placed, as it is sporadic regarding its location and gradation. The riprap that was placed in the channel bottom has probably been covered over with silt through the many years that the installation has been in place.
- 2) The area of the BTCA watershed that reports to the "in-place" straw bales is depicted on Plate 7-5, *TRAIL MOUNTAIN MINE DRAINAGE CONTROLS*. The additional area added amounts to 0.13 acres.
- 3) The sediment control previously designated as straw bales for the area described on Page 7-38 in the plan is being changed to vegetation, riprap, and litter. The revised map received September 4, 2002 contains a note that the sediment control implemented in this BTCA area is vegetation and rock. The description is adequate.

During the site visit conducted on August 8, 2002, the permittee indicated that a revision to the treatment controls in the "BTCA" on the north end of the Trail Mountain parking lot was desirable. That treatment change would be to remove the silt fence that parallels the cyclone fence perimeter, and thus rely only upon vegetation and the riprap that is in place. Photographs were taken of the area on 8/08/2002, and these are on file in the "O" drive, C/015/009, Image, 08082002. Vegetation in the area appears to be adequate to allow this removal. The in-place fence treats the outslope of the fill which was built as a part of the parking lot area. The riprap which is in place on the outslope is well placed and shows size gradation. As noted in the analysis section of **SURFACE WATER MONITORING** in this document, monitoring points

TECHNICAL MEMO

SW-2 and SW-3 remain as a part of the approved water-monitoring plan. An increase of total suspended solids will be easily detectable by comparing future TSS levels with the current history of those levels at the two monitoring points.

The revised Plates 3-1 (Surface Facilities) and 7-5 (Drainage Controls) received on September 4, 2002 reflect this change.

Findings:

The permittee has adequately addressed the requirements relative to **R645-301-731 & R645-301-512.240** describing the sediment treatment methods for the two BTCA areas.

RECOMMENDATIONS:

The amendment should be approved as submitted. An adequate number of clean copies have already been submitted.