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DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

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TO: ~~Internal File~~

FROM: Peter Hess, Reclamation Specialist III, Team Lead *Sm for PHH*

RE: Change of Location, Mine Water Discharge Point UPDES #001A, PacifiCorp, Cottonwood/Wilberg Mines, C~~015019~~-AM01A

**SUMMARY:**

Due to the cessation of underground coal extraction activities at the Trail Mountain Mine on March 7, 2001, the permittee made the decision to enter the Cottonwood/Wilberg Mines into temporary cessation status as of May 22, 2001. The effective sealing of Cottonwood/Wilberg Mine was completed on May 25, 2001. The Cottonwood/Wilberg Mine has not produced actively for several years, but the mainline conveyors in the Cottonwood portion were used to transport product from the Trail Mountain Mine through East Mountain to the Cottonwood surface facilities. From that point, product was trucked to the Hunter Power Plant.

During active operation of Cottonwood, intercepted groundwater was pumped upgrate to a collection sump located in-mine inby the office facilities. Treated effluent was thence discharged to Grimes Wash via a permitted UPDES discharge point #001A. Due to the loss of need for the transportation system in the Cottonwood Mine, the mine was electrically de-energized and sealed. The geologic dip of the coal seam in Cottonwood Mine provides the reasoning to verify that groundwater which will flow into the sealed mine will migrate toward the Cottonwood Canyon portals. Hence, the permittee desires to relocate the mine water discharge point from Grimes Wash to Cottonwood Creek.

The following technical memorandum will determine the adequacy of the permittee's amendment relative to the R645 coal rules and their relationship with the relocation of the UPDES discharge point.

**TECHNICAL ANALYSIS:**

**RECLAMATION PLAN**

TECHNICAL MEMO

## TOPSOIL AND SUBSOIL

Regulatory Reference: 30 CFR Sec. 817.22; R645-301-230.

### Analysis:

The ditch line to be constructed will occur in the County Road 506 right-of-way, therefore, the ground has been previously disturbed by the road construction as well as the construction activities in the Cottonwood portals area. The permittee will grade the ditch line to a pre-existing shape and then roughen it to enhance moisture retention.

### Findings:

The information provided is adequate.

## HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 784.14, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-301-512, -301-513, -301-514, -301-515, -301-532, -301-533, -301-542, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-733, -301-742, -301-743, -301-750, -301-751, -301-760, -301-761.

### Analysis:

#### Water quality standards and effluent limitations

Although the permittee has applied for a change/relocation of the mine water discharge point UPDES #001A from Grimes Wash to Cottonwood Canyon Creek, the Utah Department of Environmental Quality, Division of Water Quality has yet to approve the permit amendment. In anticipation that the seals will need to discharge prior to the receipt of the DWQ approval, the permittee notified the State regulatory agency on May 16, 2001 that an "unanticipated bypass of the (permitted) treatment facilities", (the in-Mine sump at the Grimes Wash facilities) may occur. As noted above, the permittee constructed a series of catch basins as well as a pea gravel/drain rock filter in the Trail Mountain Access (TMA) intake portal prior to the completion of the seal. These should enhance the discharging mine water to the point that quality would not be a concern to DEQ or other regulatory agencies. UPDES permit requirements will be monitored as long as the Mine continues to discharge.

### Findings:

The information provided meets the minimum regulatory requirements of this section.

## REVEGETATION

Regulatory Reference: 30 CFR Sec. 785.18, 817.111, 817.113, 817.114, 817.116; R645-301-244, -301-353, -301-354, -301-355, -301-356, -302-280, -302-281, -302-282, -302-283, -302-284.

### Analysis:

#### **Mulching and other soil stabilizing practices**

The submittal commits the permittee to seed the disturbed area that was created from the installation of the pipeline. The permittee will utilize the approved seed mix as outlined in Volume 11-Cottonwood Canyon Fan Portal.

### Findings:

The information provided is adequate.

## MAPS, PLANS, AND CROSS SECTIONS OF RECLAMATION OPERATIONS

Regulatory Reference: 30 CFR 783.24, 783.25; R645-301-323, -301-411, -301-521, -301-622, -301-722, -301-731.

### Analysis:

#### **Reclamation surface and subsurface manmade features maps**

As noted above, the natural dip of the developed coal seam within the Cottonwood/Wilberg Mines will cause any ground water that is intercepted to flow toward the portals located in Cottonwood Canyon. As all electrical equipment has been removed from the underground works, pumping of water to the underground sump is no longer possible. Gravitational flow has taken over since the completion of the Mine's seals on May 25, 2001. The permittee has determined that a flow volume of 150 GPM will migrate toward the Mine seals in Cottonwood Canyon. Due to that determination and the fact the U.S. Department of Labor, Mine Safety and Health Administration had informed the permittee that the approval to construct water retaining bulkheads in order to seal the Cottonwood Canyon portals could take up to a year, the permittee was prompted to pursue another sealing method. Hence, the alternate method of constructing a seal that is capable of allowing water accumulations inby to be treated and discharged was pursued.

The permittee has submitted a P.E. certified design drawing titled "Cottonwood Mine-TMA-Intake Portal, Mine Discharge/Drainage Manifold", (no drawing number has been assigned). A plan view of the Trail Mountain Access (TMA) portal area indicates that a three-foot high diversion (block stopping) has been installed where the belt entry intersects the first crosscut to divert water into the intake entry. In the intake entry, the permittee has installed three sediment traps by constructing three impounding embankments of gravel on 100-foot centers.

TECHNICAL MEMO

The third basin (last treatment basin in the series) is approximately thirty feet in by the solid block seal located in the intake entry.

The intake portal seal is constructed using eight-inch solid concrete blocks, keyed together with a pilaster in the center. The seal is hitched into the mine floor and ribs a minimum of four inches. All construction criteria are established via 30 CFR 75.335. Immediately in by the seal, a French drain constructed of perforated six-inch PVC pipe placed parallel with the seal was placed. Two to four inches of granite drain rock were placed on top of the inlet pipe, with an additional 3.75 feet of granite pea gravel placed on top of that for filtration purposes. The PVC pipe is routed through the stopping where it was terminated prior to the submission of this amendment. A secondary six-inch decant pipe with a valved shutoff was placed two feet below the mine roof. The profile view of the seal also shows an installed "observation pipe."

The six-inch discharge pipe exits the seal and is proposed to travel approximately fifty feet to the eastern edge of Emery County Road 506. The permittee has applied for and received an encroachment permit from the Emery County road department as of May 8, 2001. The proposed six-inch line will be buried approximately three feet and will run for a length of 180 feet, parallel with County Road 506, and on grade with the existing surface. At the termination of the 180 feet of new line, the six-inch PVC line will be coupled into a thirty-six inch side inlet culvert of the undisturbed bypass. The six-inch line will incorporate a 24" PVC dissipater as well as a metering manhole containing a three-inch Parshall flume.

A second map submitted as part of the amendment is titled "Cottonwood Fan Portal Reclamation Slope Surface Facilities Map" and is designated as Drawing # KS1700D, Plate 5-1. The map is P.E. certified by Mr. John Christensen, Utah registered professional engineer. Both maps submitted meet the requirements of the R645 coal rules for reclamation surface and subsurface manmade features maps.

**Findings:**

The information provided by the aforementioned maps meets the minimum regulatory requirements of this section.

**RECOMMENDATIONS:**

The permittee's submittal provides adequate information to address the requirements of the R645 coal rules. However, it is recommended that the permittee have the Utah Division of Water Quality's UPDES permit amendment approval to relocate 001A from Grimes Wash to Cottonwood Creek in place, as well as consensus from the USDA/USFS Manti-LaSal National Forest. At that time, a recommendation for a final approval from the Utah Division of Oil, Gas, and Mining can be made.