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# TECHNICAL MEMORANDUM

## Utah Coal Regulatory Program

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November 15, 2010

TO: Internal File

THRU: Jim Smith, Permit Supervisor *DS 16 Nov 2010*

FROM: Steve Christensen, Lead *S/C*

SUBJECT: Updated Plates and Chapters, Headwaters, Inc., Covol, Permit C/007/0045, Task ID #3657

**SUMMARY:**

On October 14<sup>th</sup>, 2010, the Division of Oil, Gas and Mining (the Division) received an amendment from Headwaters, Inc. (the Permittee) for the Wellington Dry-Coal Cleaning Facility (COVOL). The amendment was submitted to address discrepancies (identified by Division field inspections) between the approved Mining and Reclamation Plan (MRP) and the on-site conditions.

As a result, the MRP has been modified to reflect additional culvert installations (and corresponding performance standard information) as well as the relocation of a topsoil stockpile.

The amendment meets the requirements of the State of Utah R645-Coal Mining Rules and should be approved.

## **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:**

#### **Diversions: General**

The application meets the Diversions: General Requirements of R645-301-742.300. The amendment revises the approved MRP with the addition of three culverts (C-4, C-5, C-6 and C-7). Plate 5-1, General Site Map, has been revised to depict the newly constructed culverts. Additionally, Plate 7-2, *Site Watershed and Drainage Map* has been revised to depict the locations of the newly constructed culverts.

According to Covol representatives, the culverts were installed in order to facilitate vehicle access to more areas of the site by allowing travel across the disturbed drainage ditches. The culverts have been designed to contain the peak flow resulting from a 100-year, 6-hour event. The ditch capacities and flow velocities were calculated using HydroCAD 8.5. HydroCAD 8.5 uses the Manning and continuity equations. As the post-mining land-use is to remain industrial, the diversions are not slated for removal/reclamation following the cessation of operations at the site. As such, the Permittee calculated runoff values assuming permanent diversion structures. A 100-year, 6-hour precipitation event was utilized in the drainage calculations for the diversion ditches as well.

Appendices 7-7, *Sedimentation Pond Hydrology Calculations* and 7-8, *Drainage Channel and Culvert Hydrology Calculations* have been revised to account for the alterations to the disturbed drainage. Additionally, Table 7-2, Summary of Sedimentation Pond Data, has been revised to account for the drainage alterations. The installation of the culverts resulted in a minimal reduction in peak flow rates reporting to both the East and West ponds.

### **Findings:**

The application meets the Hydrologic Information requirements of the State of Utah R645-Coal Mining rules.

## **RECOMMENDATIONS:**

The application should be approved at this time.