



State of Utah  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

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July 25, 2002

TO: Internal File

THRU: Daron R. Haddock, Permit Supervisor *DRH*

FROM: Gregg A. Galecki, Reclamation Specialist III, Hydrology *GA*

RE: Culvert UC-4 Headwall Modification, Canyon Fuel Company, Dugout Canyon Mine, C/007/039-AM02I, Internal File

**SUMMARY:**

The following review addresses changes to Chapter 7 – Hydrology and Appendix 5-6, due to modification of the culvert UC-4 headwall at the Dugout Canyon Mine facilities. The modification serves to fortify the existing headwall. The modification does not require revision to the culvert design calculations in Appendix 7-9. A drawing of the proposed modification and the stream alteration permit are included in the submittal for incorporation into the existing Appendix 7-9. Appendix 5-6 is a spreadsheet that estimates the reclamation costs. The Division originally received the submittal on July 10, 2002, and received additional bond information on July 26, 2002. Approval is recommended.

**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.

**TECHNICAL MEMO**

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**Analysis:**

**Diversions**

Undisturbed culvert UC-4, draining the East Fork of Dugout Creek above the mine, is currently designed to handle a 100-year/6-hour storm event. No modifications to the culvert sizing are proposed in the current permit application. The application proposes installing gabion baskets adjacent to the culvert to better armor the inlet of culvert UC-4. Gabion basket (9-gauge) filled with clean rock will surround the culvert and its headwall on three sides. Non-woven filter fabric will underlie the gabion baskets. A stream alteration permit (# 01-91-16SA) has been acquired, however no disturbance of the existing stream channel elevation is planned. Existing structures associated with the culvert (trash racks and trash pipes) will remain in place. The applicant commits to best management practices in minimize sedimentation and temporary erosion of the stream bank during construction.

**Findings:**

The information provided adequately addresses the minimum regulatory requirements of the Operation Plan – Hydrologic Information section of the regulations.

## **RECLAMATION PLAN**

### **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:**

**Diversions**

The applicant has submitted adjusted bond calculations to address the removal of the gabion baskets at reclamation in Appendix 5-6 – Reclamation Bond Estimate.

**Findings:**

The information provided adequately addresses the minimum regulatory requirements of the Reclamation Plan – Hydrologic Information section of the regulations.

### **RECCOMENDATIONS:**

The amendment meets the minimum requirements for both the Operation and Reclamation – Hydrologic Information sections of the regulations. Approval is recommended.