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

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May 3, 2001

TO: Internal File

FROM: Jim D. Smith, Reclamation Specialist & Team Lead *JDS*

RE: Ball Park Drainage, CO-OP Fuel Company, Bear Canyon Mine, C/015/025-AM01A

**SUMMARY:**

On March 14, 2001 the Division received an amendment to the Bear Canyon Mine MRP that proposes to add an undisturbed drainage diversion across the upslope side of the Ball Park Topsoil Pile. The purpose is to divert water that originates at springs located above the ballpark: during 2000, the flow from these springs was higher than in the past and this water flowed across the ballpark and deposited sediment on the field, eroded the outslope of the topsoil pile, and carried sediment over or through the silt fence and straw bales at the boundary of the permit and disturbed area. This amendment was instigated by the operator to eliminate the potential for erosion of topsoil from the south slope of the pile and deposition of that sediment outside the disturbed area and permit area boundary.

TECHNICAL MEMO

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**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**

Diversion RC-BP1 has been designed to divert a flow of 0.13 cfs, three times the current observed flow from the springs. Channel flow and cross-section were analyzed using "Flowmaster" channel design software, which uses Manning's formula. Calculation results are on pages 7H-78 through 7H-81 and in Table 7.3-1: pages 7H-78, 7H-79, and 7H-80 are certified. No rip-rap is needed in the diversion.

**Findings:**

The proposed amendment is adequate to meet the requirements of this section of the regulations.

**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**

Plates 2-4A – Surface Facilities - and 7-1A – Hydrology Map - have been updated to show undisturbed drainage diversion RC-BP1, which is within the present disturbed area boundary. The map also shows additional silt fence along the toe of the south slope of the Ball Park Topsoil Pile.

These maps no longer show the disturbed area boundary, which coincides with the permit area boundary that is shown on the maps.

**Findings:**

The information in this section is not sufficient to meet the requirements of this coal mining rules. Prior to approval, the applicant must respond adequately to the following deficiency:

**R645-301-521.140, -521.150** – the permit area boundary at the Ball Park Topsoil Pile is shown and identified on Plates 2-4A, 3-2A, and 7-1A, but the disturbed area boundary is not identified; although the disturbed area boundary and the permit area boundary coincide at the Ball Park Topsoil Pile, the maps need to identify this boundary as both the permit and disturbed area boundary.

## RECLAMATION PLAN

### POSTMINING LAND USES

Regulatory Reference: 30 CFR Sec. 784.15, 784.200, 785.16, 817.133; R645-301-412, -301-413, -301-414, -302-270, -302-271, -302-272, -302-273, -302-274, -302-275.

**Analysis:**

The planned postmining land use for this area is wildlife, grazing, and recreation. This amendment will not change the postmining land use.

**Findings:**

The proposed amendment does not change or affect postmining land use.

### 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 diversion has been designed to carry a flow of 0.13 cfs, three times the current observed flow from the springs. Channel flow and cross-section were analyzed using "Flowmaster" channel design software, which uses Manning's formula, and designs are certified.

TECHNICAL MEMO

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**Findings:**

The proposed amendment is adequate to meet the requirements of this section of the regulations.

**STABILIZATION OF SURFACE AREAS**

Regulatory Reference: 30 CFR Sec. 817.95; R645-301-244.

**Analysis:**

The purpose of the proposed diversion is to protect and stabilize the Ball Park Topsoil Pile and adjacent areas, to control erosion and stop formation of rills and gullies in areas that have been regraded and topsoiled, to protect and maintain land for the approved postmining land, protect the vegetative cover, and prevent violation of water quality standards for receiving streams.

**Findings:**

The proposed amendment is adequate to meet the requirements of this section of the regulations.

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

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-323, -301-512, -301-521, -301-542, -301-632, -301-731.

**Analysis:**

**Final surface configuration maps**

Plate 3-2A – Post-Mining Topography - has been updated to show undisturbed drainage diversion RC-BP1, which is within the present disturbed area boundary. The map also shows additional silt fence along the toe of the south slope of the Ball Park Topsoil Pile.

This map no longer shows the disturbed area boundary, which coincides with the permit area boundary that is shown on the map.

**Findings:**

The information in this section is not sufficient to meet the requirements of this coal mining rules. Prior to approval, the applicant must respond adequately to the following deficiency:

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**TECHNICAL MEMO**

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**R645-301-521.140, -521.150 – see comment under MAPS, PLANS, AND CROSS  
SECTIONS OF MINING OPERATIONS.**

**RECOMMENDATION:**

The amendment is not ready for insertion into the MRP. The permittee needs to adequately respond to the deficiency given above.

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