

0013

Mine File



BEAVER CREEK Coal Company

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April 17, 1986

Mr. Lowell Braxton
Administrator
Utah Division of Oil, Gas & mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Attn: Mr. Wayne Hedberg

Re: Abatement Plans
for NOV N86-42-1
Gordon Creek No. 2 Mine
ACT/007/016, #3 & #7
Carbon County, Utah

Dear Mr. Braxton:

In response to Mr. Hedberg's letter of 4/8/86, I am submitting three copies of additional information for the above noted abatement plans.

The following items have been addressed:

1. Rip-rap sizing based on expected flows and velocities;
2. Type of flexible culvert to be placed on slope;
3. Measures to be implemented to allow road drainage to meet effluent limitations (including maintenance).

The pages are numbered, and if approved, should be added to the approved M.R.P. Additional copies will be provided as requested upon approval.

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If you have any questions, or need any further information, please let me know.

Respectfully,



Dan W. Guy
Manager Permitting & Compliance

DWG/rs

cc: Jay Marshall (w/o attachments)
File 4-P-5-1-6-2
File 4-P-5-6-2

7.2.3.2 Sediment Control Structures and Devices (continued)

Road Drainage

The road is gravel surfaced, crowned and sloped slightly towards each side where a conveyance ditch is maintained to carry runoff to the culvert and catch basin below. The drainage along the berm side is collected in a concrete catch basin and taken to the Bryner Canyon Channel via a 15" A.D.S. corrugated flexible culvert.

The discharge from the flexible culvert is onto rip-rap with a median diameter of 9". The 9" diameter rip-rap was selected from Figure 7-5, page 539, "Applied Hydrology and Sedimentology for Disturbed Areas", by Barfield, Warner and Haan. Velocities and flow were based on Table 7-11b and 7-11c. This area blends into the rip-rap protection for the 30" side drainage culvert, which is approximately 12" median diameter.

The ditch sizing is also shown on Table 7-11c, and the ditch and road typical sections and locations are shown on Plates 3-2, 3-2a, and 3-2b.

The road drainage will be cleaned as necessary to meet effluent standards. This will be done by one, or a combination of the following methods: establishment of vegetation in the ditches,

use of straw bale dikes for trapping sediment, use of standard silt fences for trapping sediment. The numbers and exact location of the controls may vary depending on the quality of the drainage. All required controls will be maintained as necessary to ensure their proper operation.

Table 7-11b
Peak Flow Determination
Gordon Creek Haul Road Drainage

	<u>Berm Ditch</u>
Area	1.03 acres
Precipitation (10yr. - 24 hr.)	2.00 inches
Slope length	1,100'
Slope	10.0%
Lag (hrs) (Curve No. Method)	.0761 hrs.
Time of Concentration	.1268 hrs.
Peak Discharge	1.65 cfs

TABLE 7-11c

Channel and Culvert Specifications
Gordon Creek Haul Road

<u>Berm-Side Channel</u>	<u>10yr.-24hr.</u>
Discharge	1.65 cfs
Length	1,100 ft.
Slope	10.0 ft.
Manning's Roughness	0.035
Side slope (triangular)	1:1
Velocity	8.52 fps
Normal depth	5.5 inches

15 ADS Corrugated, Flexible Culvert

Discharge	1.65 cfs
Slope (ft./ft.)	0.75
Mannings Roughness	0.025
Cross-Sectional area	1.2266 ft ²
Hydraulic radius	0.3125
Velocity	23.94 fps
Normal depth	3.0 inches

Note: Based on Mannings Equation $V = \left(\frac{1.49}{n} \right) R^{.66} S^{.5}$