July 29, 1986

TO: Technical File

FROM: Dave Cline, Reclamation Hydrologist DJC

RE: Proposal to Construct New Haul Road, Summit Coal Company, Boyer Mine, CEP/043/002, Summit County, Utah

The proposal to construct a new haul road by Summit Coal Company was reviewed to determine if the 24 inch culvert under the road that conveys undisturbed drainage is adequate to handle the 10-year, 24-hour peak flow. The supporting calculations show that the 10-year, 24-hour precipitation event is 2.0 inches and the resulting peak flow is 3.9 cubic feet per second. The 24 inch culvert is adequate to pass the 4.0 cfs with a headwall depth of less than one foot. Therefore, the proposal to use the 24 inch culvert is approved by this reviewer. There are no other comments concerning the construction of the new haul road.

jvb

cc: Sue Linner
Rick Summers

7000R-21

FILE COPY

Project: Summit Coal Co.; Boyer Mine
Date: 7/29/86
Reviewer: Dave Cline, Reclamation Hydrologist

Purpose: determine if 24" culvert under new road is capable of passing 10yr 24hr runoff from undisturbed drainage

1.) determine watershed
2.) calculate pk. flow
3.) determine culvert capacity.

Watershed area = 10.9 acres (see attached printout)
Pk flow: area = 10.9 acres
CN = 75 (arbitrary; no info available)
Tc (Kents) l = 1500 ft.
y = 48.3%
Precip. = 2.0" (Miller, et al, 1973

Peak Program - Qp = 3.9 cfs

Culvert sizing - use Bureau of Public Roads 1973, nomograph for CMP culvert w/ inlet control

Q = 4.0; culvert D = 24"
$\frac{HW}{D}$ is < .5; ∴ HW is less than 1.0' feet