

**Utah
power**
& LIGHT COMPANY
MINING DIVISION
P.O. Box 310
Huntington, Utah 84528

FILE COPY

November 24, 1987

Mr. D. Wayne Hedberg
Data Management Coordinator
State of Utah Natural Resources
Division of Oil, Gas and Mining
355 W. North Temple
3 Triad Center, Suite 350
Salt Lake City, UT 84180-1203

Dear Mr. Hedberg

Re: Review of PAP Amendment, C-2 Conveyor Culvert Installation, Utah
Power & Light Company, Deer Creek, ACT/015/018-87D, Folder #2

In accordance with the requests in your letter of October 21, 1987, I have enclosed 14 sets of the following documents for insertion in the Deer Creek permit in order to address the installation of one 24-inch culvert at support number U-86 of the C-2 overland conveyor.

1. Revised drawing CM-10546-DR, Sheet 5 of 8, certified 11/20/87, for Volume 7, packet 3-19.
2. Engineering Report for diversion culvert, supplement to drawing CM-10546-DR, sheet 5 of 8, for Volume 7, packet 3-19. New 11/24/87.
3. Table of Contents, page 10, revised 11/24/87 to show location of above Engineering Report for replacement of page 10, Table of Contents, Volume 1.

This transmittal should be adequate to receive Division approval for this project.

Sincerely,


Ray Christensen
Manager, Permitting & Compliance

RC/lbk

cc: Tom Munson - DOGM
John Whitehead - DOGM
Larry Guymon - UP&L
Jim Hislop - UP&L
Morgan Moon - UP&L

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DIVISION OF
OIL, GAS & MINING

VOLUME 7

3-10	Sanitation System/Sewer Lines (R&S)	7750-C1
3-11	Sanitation System (EMC)	DS-667-C
3-12	Underground Drainage Diversion Map (3 Sheets)	CM-10380-DR
3-13	Surface Drainage Collective System	CM-10387-DR
3-14	Track Layout (EMC)	DS-453-C
3-15	Sedimentation Pond	MK-00-52-1-009
	Sedimentation Pond Cross Section	CM-10593-DR
3-16	Sedimentation Pond	MK-00-52-1-010
3-17	Waste Rock Disposal Site	CM-10386-DR
3-18	Access Road Plan & Profiles Sheets 1-4	CM-10546-DR
3-19	Access Road Plan & Profiles Sheets 5-8	CM-10546-DR
	Engineering Report Supplement to Drawing CM-10546-DR, Sheet 5 of 8.	

Reclamation

4-1	Final Reclamation (3 Sheets)	CM-10545-DR
4-2	Revegetation Location Map	CM-10548-DR
4-3	Disturbed Mine Plan Area Cross Sections	CM-10483-DR
4-4	Final Reclamation Backfill & Grading Cross Sections (3 Sheets)	CM-10551-DR
4-5	Subsidence Monitoring Plan (3 Sheets)	CM-10400-DR
	East Mountain 1980 Primary Control Diagram	CM-10590-DR

Revised 11/21/83
Revised 10/1/84
Revised 11/24/87
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ENGINEERING REPORT

DEER CREEK MINE

C-2 CONVEYOR ACCESS ROAD DIVERSION CULVERT (Located a Support U-86)

INTRODUCTION

The access road to the Deer Creek Mine is a county road. A section of this road, approximately 1400', runs parallel to the C-2 conveyor and maintenance road corridor for which Utah Power and Light must maintain drainage control.

Drainage along this portion of the access road is separated by a dirt berm along it's length. At the lowest point along this 1400' length a culvert is to be installed to pass access road drainage under the conveyor corridor and into the creek.

DESCRIPTION

- A. The drainage area served by this culvert is the access road. The following data was used to calculate the peak flow rate:

Methods of Calculation: Rational Method

Area/Asphalt Road = 1400' Long X 30' Wide = 42,000 ft²

C = .87

i = 7 Inches/Hour

Maximum Flow Rate = 6.1 C.F.S.

- B. The culvert selected is 24" diameter. This size culvert will safely pass the flow rate of 6 C.F.S. with no headwater.

Therefore: A 24" diameter culvert is used. Inlet protection is a flared metal inlet with rock rip-rap protection around the inlet.

- C. Using methods from "Applied Hydrology and Sedimentology for Disturbed Areas", the following outlet protection is calculated.

Peak Flow = 6.1. C.F.S.

Channel Slope: = 30%

Channel Section: = Trapezoidal 3 foot bottom width

Side Slope 3:1

Channel Lining: = Rock Rip Rap D₅₀ = 2.75 ft.

Thickness Equal to D₁₀₀

Filter Blanket None

The existing material is a gravelly material 8" minus.

At the point of discharge into the creek a rock rip-rap fan will be installed as follows:

Size = 10' X 10'

Rip Rap = Size D₅₀ = 2.75'

Thickness equal to D₁₀₀

Filter Blanket will be existing material.