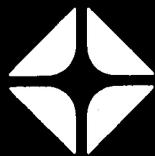


Beaver Creek Coal Company

Mining and Reclamation Plan  
Huntington Canyon No. 4 Mine  
Volume 1



### PLAN UPDATE REGISTER

MINE NAME: HUNTINGTON #4 MINE				FILE NUMBER: INA/015/004				
			Change #	Approval Date	Page #(s)	Plate #(s)	Entry Date/By	Description
<input type="radio"/> Add	<input checked="" type="radio"/> Replace	<input type="radio"/> Remove	95C	11/1/95	7-87, 88, 89 90, 91		11/13/95 Susan & Mike	Surface Water Monitoring Plan.
<input type="radio"/> Add	<input type="radio"/> Replace	<input type="radio"/> Remove						
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# MRP Update Register

Mine Name

File Number

Huntington #4

INA/OIS/004

Date Rec.	Page #s	Plate #s	Approval Date	Insert By	Content/Remarks
11/11	785A, 7-86, 7-89, 7-90, 7-93		11/29/88	TM	WATER MONITORING AMENDMENT
1/4	PLATE 3-8		1/2/88	TM	AMENDMENT DRA. MAP, E. CHANGE
5/15/89	7-73-83		5/15/89	TM	Amendment drainage
Permit Renewal Updates					
Approved 4/30/90; Inserted 5/15/90 (page)					
Pages 1-8, 2-1 through 2-21 through 2-34.					
Appendix 9 - Mine Site Reclamation (Attachment A-E)					
Plate 3-8					
Pages 3-40, 3-58b, 3-67, 3-67a, 3-68, 4-27, 10-69					
11/20/90		Updated Plate 7-6	11/24/90	pef	<del>190-20-3-1</del> NOV N-36-25-2-1
11/4/91	Chapter 2		10/91	pef	Legal, Financial Information
6/9/92		Plate 3-8 + 3-9	6/9/92	JB	N91-35-51 Post Mining Topography
2/2/93	—	3-9	6/15/93	JB	93A (only 1 of 2 maps)
8-4-93	7-85, 7-86, 7-87, 7-93	7-3	9/1/93	sm	Water quality monitoring locations
4-11-94	7-86 to 7-90		4/11/94	sm	Paishell Flume replacements

**BEAVER CREEK Coal Company**

Post Office Box 1378  
Price, Utah 84501  
Telephone 801 637-5050



May 10, 1991

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

Re: Transfer of Permit  
from Beaver Creek Coal Company  
to Mountain Coal Company  
and Lease Permit Application  
Huntington Canyon No. 4 Mine  
INA/015/004  
Emery County, Utah

Dear Mr. Braxton:

West Elk Coal Company, Inc. (Colorado) has been merged into Beaver Creek Coal Company (Utah). The name of Beaver Creek Coal Company has been changed to Mountain Coal Company. In addition, the name of the Trail Mountain No. 9 Mine has been changed to simply the Trail Mountain Mine.

By this letter, Mountain Coal Company requests approval of the assignment of the above referenced permits from Beaver Creek Coal Company to Mountain Coal Company, including the renaming of the mine from Trail Mountain No. 9 Mine to Trail Mountain Mine.

Pursuant to R614-303.300, Mountain Coal Company submits the following information and materials in support of its request for approval of the assignment:

- (1) Name and address of the existing permittee:

Beaver Creek Coal Company  
P.O. Box 1378  
Price, Utah 84501

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MAY 24 1991

DIVISION OF  
OIL GAS & MINING

- (2) Name and address of the assignee and assignee's resident agent:

(a) Assignee:

Mountain Coal Company  
P.O. Box 1378  
Price, Utah 84501

(b) Resident Agent:

The Corporation Trust Company  
1209 Orange Street  
Wilmington, Delaware 19801

- (3) Permit Name and Number:

Trail Mountain No. 9 Mine  
(changed to: Trail Mountain Mine)

Trail Mountain No. 9 Mine Lease Permit Application  
(changed to: Trail Mountain Mine Lease Permit Application)

ACT/015/009

- (4) Legal, Financial, Compliance and Related information required by R614-301-100:

See attached revised Permit Chapter II-Legal, Financial, Compliance and Related Information.

In making this request, Mountain Coal Company agrees to continue operations in compliance with the terms and conditions of the existing permit. Concurrently, with the filing of this request, Mountain Coal Company has submitted for advertisement a notice of the filing of this request. The advertisement will be in the form included in the revised Chapter II.

I appreciate your consideration in this matter. If you have any questions, or need any further information, please let me know.

Respectfully,

*Dan W. Guy / pd*

Dan W. Guy  
Mgr. Permitting/Compliance

cc: Dave Arnolds  
Scott Jones  
Dana Echter  
File

DIVISION OF  
MINE & MINING

JUN 20 1983

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STATE OF UTAH

**PERMANENT REGULATORY PROGRAM**

**UNDERGROUND COAL MINING PERMIT APPLICATION**

and

**MINING AND RECLAMATION PLAN**

(Including A.C.R. Responses)

for the

**HUNTINGTON CANYON NO. 4 MINE**

**CARBON COUNTY, UTAH**

Submitted by

**BEAVER CREEK COAL COMPANY**

**Price, Utah**

**June 6, 1983**

Mining and Reclamation Plan  
Huntington Canyon No. 4 Mine Permit Application

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GAS & MINING**

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- 211.10(c)(6)(i) - Section 6.5.5
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- 211.10(c)(6)(iv) - Sections 3.3.1, 3.3.2, Appendix 3
- 211.10(c)(6)(v) - Section 3.3.4
- 211.10(c)(6)(vii) - Sections 3.3.1, 3.3.2, 3.3.3, 3.4, 3.5
- 211.10(c)(6)(viii) - Sections 3.3.1, 3.3.7, 3.3.8
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## Section 1

### INTRODUCTION

#### 1.1 Scope of Operation

The Wasatch Plateau area of Carbon County, Utah, contains seams of high quality bituminous coal with a long history of coal mining activities. Beaver Creek Coal Company, a wholly-owned subsidiary of the Atlantic Richfield Company, currently operates several mines and a coal processing and loadout facility near Price, Utah (See Figure 1-1). Processed coal from these facilities is transported by unit trains to Nevada and Mississippi for electrical generation.

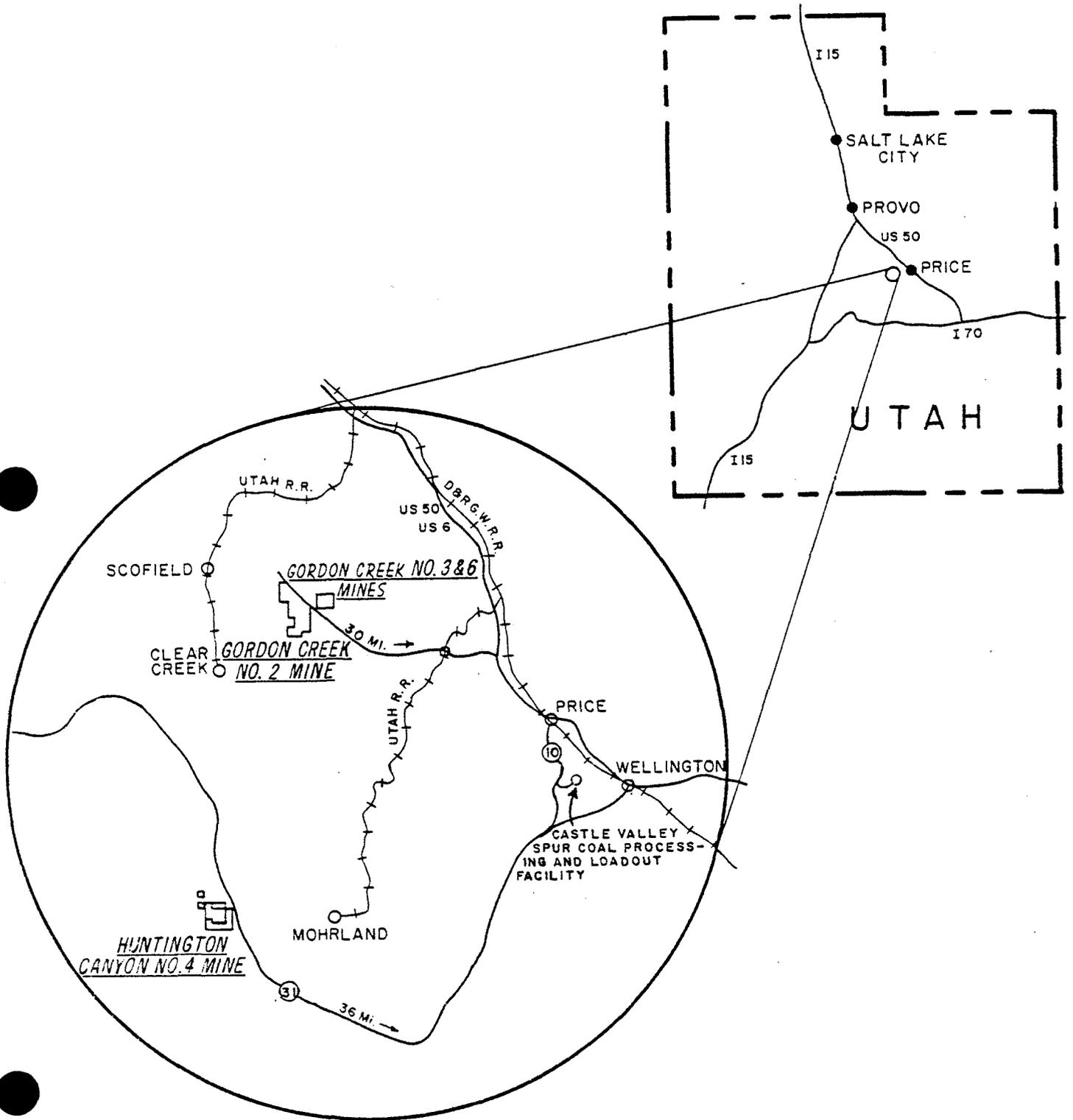
The Huntington Canyon No. 4 Mine is located between Mill Fork Canyon and Crandall Canyon southwest of Price, Utah. The permit area is illustrated in Figure 1-2.

The mine began production in early 1977 on areas disturbed by mining operations in the 1940's. All facilities for existing operations were completed by late 1976, except for diversions, sedimentation ponds and culverts subsequently installed in compliance with Utah Interim Regulatory Program performance standards. The coal is mined by room-and-pillar method with continuous miners and is transported by shuttle car, conveyors and then haul trucks to the preparation plant. Present production of 1200 tons/day may increase to as much as 3000 tons/day, depending upon market conditions.

#### 1.2 Environmental Impacts

The permit area (see Figure 1-2) is located on the eastern edge of the Wasatch Plateau and is characterized by steep, narrow canyons containing conspicuous sandstone cliffs. The area is drained

Figure 1-1  
BEAVER CREEK COAL COMPANY  
AREA OF OPERATIONS



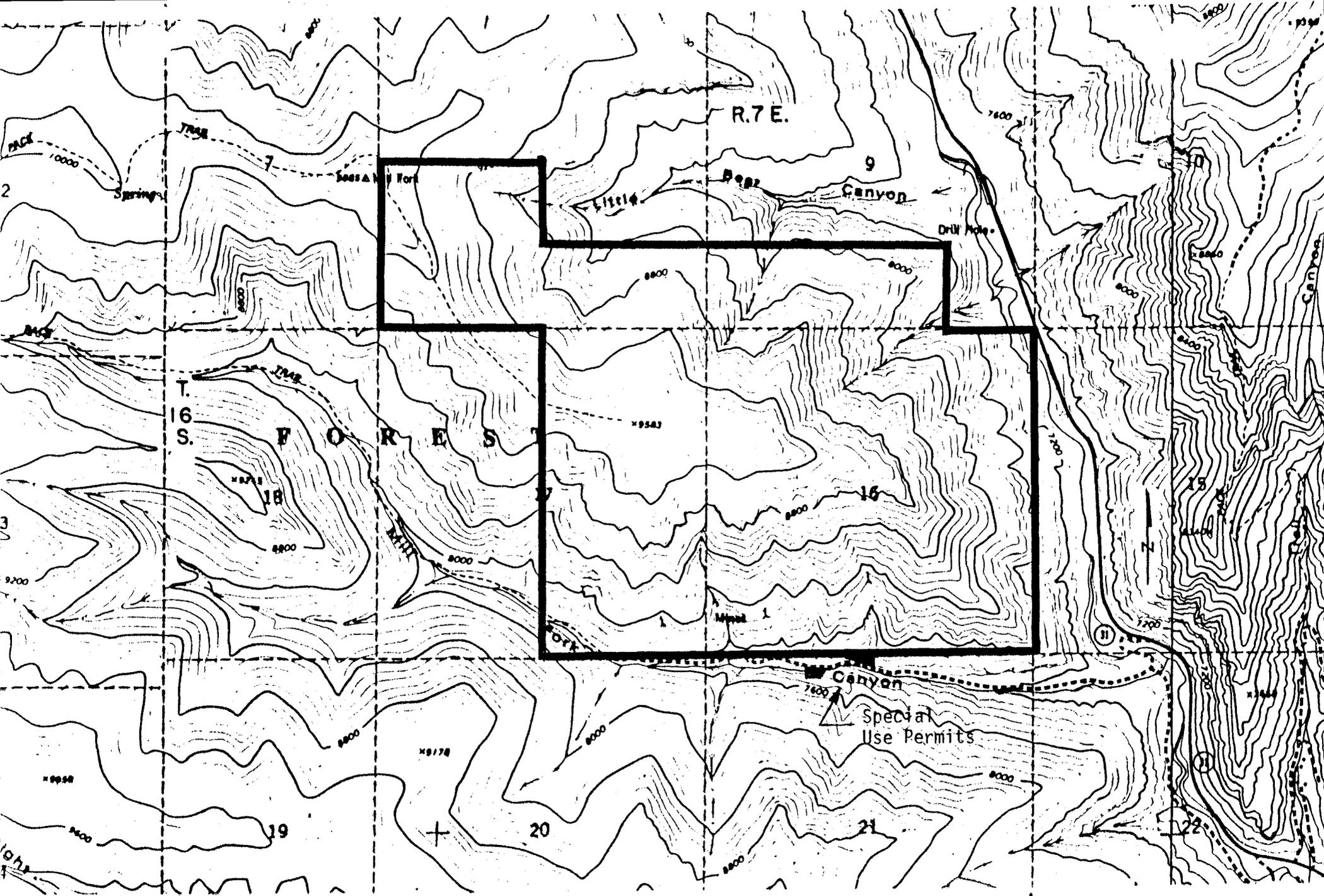


FIGURE I-2. Huntington Canyon No.4 Mine Permit Area 

SCALE-1"=2000'

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Huntington Canyon No. 4 Mine Permit Application

1.2 Environmental Impacts (continued)

primarily by intermittent and perennial streams. The complex geological and geomorphological conditions have produced a variety of site specific soils that support the Douglas fir forest, Pinyon-Juniper woodlands and Great Basin Sagebrush vegetation types. These habitats in turn support a variety of wildlife.

A distinction of an underground mine is its minimal effect on these ecosystems. The relatively small scale of surface disturbance, when operated with proper drainage and sedimentation controls, causes negligible impact to the prevailing hydrologic balance of the area. Subsidence, a potential problem with any underground mining, will be monitored as mining progresses. Fractures which may develop as subsidence occurs could very well serve to increase groundwater infiltration and storage and simply change local groundwater migration and discharge locations. The temporary loss of wildlife habitat due to construction and operation of surface facilities is negligible in light of the abundant nearby habitat in which displaced wildlife can reside. Upon cessation of mining, portal sealing and reestablishment of final topography and drainage will proceed. Revegetation of disturbed areas will replace native habitat and land uses that existed prior to mining and post-reclamation monitoring management will assure the permanency of the reclaimed area upon land release.

1.3 Document Organization

The mining permit application has been prepared according to General Guidelines for Permit Application Organizational Format and Contents issued by the Division of Oil, Gas and Mining. The application readily lends itself to distribution for review by separate disciplines by containing discrete sections discussing environ-

Mining and Reclamation Plan  
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1.3 Document Organization (continued)

mental resource topics, mining operations, environmental protection and reclamation, and legal and administrative matters. Plates, figures and tables are included within each applicable section rather than as attachments in order to facilitate the review. A detailed table of contents and accompanying cross-reference to all applicable regulations of Chapter I, State of Utah Underground Coal Mining and Reclamation Permanent Program Regulations, provides reviewers with a checklist assuring that all requirements of the regulatory program have been met.

1.4 Acknowledgements

The compilation of the Mining and Reclamation Plan for this permit application was a joint effort by personnel of Anaconda Minerals Company, a division of the Atlantic Richfield Company, Beaver Creek Company and various consultants.

1.4.1 Verification of Application

I, as an official of the applicant, hereby certify that the information and engineering designs used in preparation of this document, including all maps, plans, and specifications, were prepared under my direct supervision.

I further certify that all such information and design is true and correct to the best of my information and belief, and is in accordance with all applicable local, state, and federal laws, rules, and regulations.

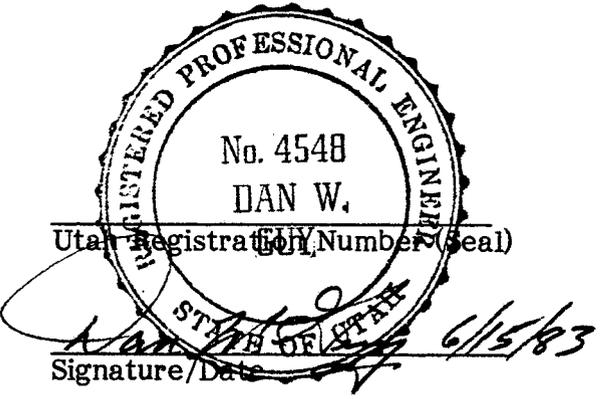
Mining and Reclamation Plan  
Huntington Canyon No. 4 Mine Permit Application

1.4.1 Verification of Application (continued)

Dan W. Guy, P.E.  
Name

Beaver Creek Coal Company  
Firm

P. O. Box AU  
Price, UT 84501  
Address





# Beaver Creek Coal Company

P.O. Box 1378  
Price, UT 84501

VENDOR NUMBER

CHECK NUMBER 225468

INVOICE NOS.	GROSS	DISCOUNT	NET AMOUNT
Permit renewal Fee Huntington Canyon #4 Mine INA/015/004	5.00		
APPROVAL			
	5.00		
PLEASE DETACH BEFORE DEPOSITING CHECK	TOTAL GROSS	TOTAL DISCOUNT	TOTAL NET

THIS CHECK IS VOID IF COLORED BACKGROUND IS ABSENT

## Beaver Creek Coal Company

89-5  
1262

CHECK NUMBER  
225468

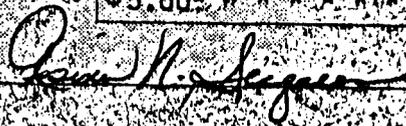
MO. DAY YEAR  
02/05/90

PAY TO THE ORDER OF

Utah Division of Oil, Gas & Mining  
355 West No. Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203

PAY EXACTLY

\$5.00\*\*\*\*\*



NATIONAL BANK OF ALASKA ANCHORAGE AK

AUTHORIZED SIGNATURE

⑈00225468⑈ ⑆125200057⑆ 37⑈723820⑈

1-8

Mountain Coal Company  
Huntington Canyon No. 4 Mine

CHAPTER 2

LEGAL, FINANCIAL  
COMPLIANCE AND  
RELATED INFORMATION

Mountain Coal Company  
Huntington Canyon No. 4 Mine

Mountain Coal Company  
Huntington Canyon No. 4 Mine

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Mountain Coal Company  
Huntington Canyon No. 4 Mine

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LEGAL, FINANCIAL, COMPLIANCE, AND RELATED INFORMATION

2.1 Scope

The scope of the legal, financial, compliance and related information chapter of this mining and reclamation plan is to describe the status of the owner of the Mountain Coal Company Huntington Canyon No. 4, including the new federal coal lease, and to document its right to mine the property. Sections within this chapter cover the following major topics; identification of interests, right of entry and operation information, other license and permits, location of public office for filing applications, and newspaper publication.

2.2 Identification of Interests

2.2.1 Permit Applicant. The permit applicant, name and address, including telephone number:

Mountain Coal Company  
P.O. Box 1378  
Price, Utah 84501

Phone Number (801) 637-5050

2.2.2 Owner of Record of Surface Area and of Coal Rights.

Every legal or equitable owner of record of the areas to be affected by surface operations and facilities and every legal or equitable owner of record of the coal to be mined:

a) Surface

- (i) United States of America  
U.S. Forest Service  
Manti-LaSal National Forest  
599 West River Drive  
Price, Utah 84501
- (ii) Utah State Road Commission  
Right-of-Way Division  
State Office Building, Room 500  
Salt Lake City, Utah 84114

Mountain Coal Company  
Huntington Canyon No. 4 Mine

- (iii) Marena Madden Hiatt  
687 30th Street  
Marathon, Florida 33050
- (iv) Leonora W. Wertheimer  
c/o Edward J. Wynne, Jr. Esq.  
44 Montgomery Street  
Suite 3300  
San Fransisco, Calif. 94104
- (v) Mountain Coal Company  
P.O. Box 1378  
Price, Utah 84501

b. Coal

- (i) United States of Americq  
Dept. of Interior  
Bureau of Land Management  
Moab District  
P.O. Box AB  
Price, Utah 84501
- (ii) Mountain Coal Company  
P.O. Box 1378  
Price, Utah 84501
- (iii) Utah State Road Commission  
Right-of-Way Division  
State Office Building, Room 500  
Salt Lake City, Utah 84114
- (iv) Marena Madden Hiatt  
687 30th Street  
Marathon, Florida 33050
- (v) Leonora W. Wertheimer  
c/o Edward J. Wynne, Jr. Esq.  
44 Montgomery Street  
Suite 3300  
San Fransisco, Calif. 94104
- (vi) Northwest Carbon Corp.  
P.O. Box 1526  
Salt Lake City, Utah 84110

Mountain Coal Company  
Huntington Canyon No. 4 Mine

2.2.3 Holders of Leasehold Interests in Surface Area and of Coal Rights. The holder of record of leasehold interests in areas to be affected by surface operations of facilities and the holders of record of any leasehold interest in the coal to be mined is shown below:

a) Leasehold interest in surface:

None

b) Leasehold interest in coal:

None

2.2.4 Purchaser of Record Under a Real Estate Contract for Surface Area or Coal. Any purchaser of record under a real estate contract of area to be affected by surface operations and facilities and any purchaser of record under a real estate contract of the coal to be mined:

None.

Mountain Coal Company  
Huntington Canyon No. 4 Mine

2.2.5 Operator. The operator, if the operator is a person different from the applicant, including his or her telephone number:

The operator is the same as the applicant.

2.2.6 Resident Agent. The resident agent of the applicant who will accept service of process, including his or her telephone number:

The Corporation Trust Company  
1209 Orange Street,  
Wilmington, Delaware 19801  
Telephone Number: 1-(800)441-9820

2.2.7 Business Designation. A statement of whether the applicant is a corporation, partnership, single proprietorship, association or other business entity:

The applicant is a Delaware corporation.

2.2.7.1 Officers and Directors of the Applicant. The names and addresses of every officer, partner, director, or other person performing a function similar to a director of the applicant:

<u>OFFICER</u>	<u>TITLE</u>	<u>ADDRESS</u>
E.E. DiClaudio	President and Director	Mountain Coal Co. P.O. Box 591 Somerset, Colo. 81434
C.A. Youngs	Vice President and Director	Atlantic Richfield Co. 555 Seventeenth Street Denver, Colorado 80202
R.D. Pick	Vice President	Atlantic Richfield Co. 555 Seventeenth Street Denver, Colorado 80202
M.W. DeGenring	Vice President and Director	Atlantic Richfield Co. 555 Seventeenth Street Denver, Colorado 80202
M.C. Recchuite	Treasurer	Atlantic Richfield Co. ARCO Plaza 515 S. Flower Street Los Angeles, CA 90071

Mountain Coal Company  
Huntington Canyon No. 4 Mine

H.L. Edwards	Vice President and Secretary	Atlantic Richfield Co. ARCO Plaza 515 S. Flower Street Los Angeles, CA 90071
S.R. Mut	Chairman and Director	Atlantic Richfield Co. 555 Seventeenth Street Denver, Colorado 80202
C.P. Cooley	Assistant Treasurer	Atlantic Richfield Co. ARCO Plaza 515 S. Flower Street Los Angeles, CA 90071
K.R. Collard	Assistant Secretary	Atlantic Richfield Co. 555 Seventeenth Street Denver, Colorado 80202
B.M. Hinds	Assistant Secretary	Atlantic Richfield Co. ARCO Plaza 515 S. Flower Street Los Angeles, CA 90071
T.F. Linn	Assistant Secretary and Director	Atlantic Richfield Co. 555 Seventeenth Street Denver, Colorado 80202
G.D. Luttrell	Assistant Secretary	Atlantic Richfield Co. 555 Seventeenth Street Denver, Colorado 80202
S.G. McElyea	Assistant Secretary	Atlantic Richfield Co. 555 Seventeenth Street Denver, Colorado 80202
P.B. Fisher	Assistant Secretary	Atlantic Richfield Co. 555 Seventeenth Street Denver, Colorado 80202

2.2.7.2 Principal Shareholder of the Applicant. The name and address of any person who is a principal shareholder of the applicant:

Atlantic Richfield Co.  
555 Seventeenth Street  
Denver, Colorado 80202  
(Principal and only shareholder)

EFFECTIVE  
FEB 24 1995

Mountain Coal Company  
Huntington Canyon No. 4 Mine

2.2.7.3 Names Under Which Applicant and Principal Shareholder Operated U.S. Coal Mines. Names under which the applicant, partner, or principal shareholder previously operated underground or surface coal mining operations in the United States within the five years preceeding the date of application:

- (i) Beaver Creek Coal Company  
Price, Utah
- (ii) West Elk Coal Company  
Somerset, Colorado

Mountain Coal Company  
Huntington Canyon No. 4 Mine

(iii) Thunder Basin Coal Company  
Gillette, Wyoming

2.2.7.4 Principals, Officers and Resident Agents. If any owner, holder, purchaser, or operator identified under paragraph 2.2. of this section is a business entity other than a single proprietor, the application shall contain the names and addresses of their respective principals, officers and resident agents.

The officers and directors of Mountain Coal Company, the owner identified in 2.2.2, are the same as the applicant in Section 2.2.7.1.

2.2.8 Current, Pending or Previous Coal Mining Permits.

A statement of any current or previous coal mining permits in the United States held by the Applicant subsequent to 1970 and by any person identified in paragraph 2.2.7.3 of this section and of any pending permit application to conduct underground or surface coal mining activities in the United States. The information shall be listed by permit or application number and identify the division for each of those coal mining operations:

See Appendix 2-1 - Coal Mining Permits -  
Approved and Pending.

2.2.9 Owner of Record of Surface and Subsurface Areas Contiguous to Proposed Permit Area.

The names and addresses of the owners of record of all surface and subsurface areas contiguous to any part of the proposed permit area:

a) Contiguous Surface

- (i) United States of America  
Manti-LaSal National Forest  
Price, Utah 84501
- (ii) Northwest Carbon Corp.  
P.O. Box 1526  
Salt Lake City, Utah 84110

Mountain Coal Company  
Huntington Canyon No. 4 Mine

b. Contiguous Subsurface

(i) United States of America  
Bureau of Land Management  
Moab District  
P.O. Box Ab  
Price, Utah 84501

(ii) Northwest Carbon Corp.  
P.O. Box 1526  
Salt Lake City, Utah 84110

2.2.10 Mine Name and MSHA Identification. The name of the proposed mine and the Mine Safety and Health Administration identification number for the mine and all sections:

a) Mine Name

Mountain Coal Company  
Huntington Canyon No. 4

b) MSHA Identification Number

Former M.S.H.A. I.D.: 42-01270

2.2.11 Applicant's Interest in Areas Contiguous to Proposed Permit Area. A statement of all lands, interests in lands, options or pending bids on interests held or made by the applicant for lands which are contiguous to the area to be covered by the permit:

None.

2.3 Compliance Information.

2.3.1 Status of Mining Permits or Bonds. A statement of whether the applicant, any subsidiary, affiliate or person controlled by or under common control has had any federal or state mining permits suspended or revoked in the last five years or has forfeited a mining bond or security deposit:

a) Permits Suspended or Revoked

None

b) Bond or Security Forfeited

None.

2.3.2 Suspension, Revocation or Forfeiture. Each application shall describe all proceedings identified under 2.3.1 and the status of any suspension, revocation of forfeiture proceedings:

None.

2.3.3 Compliance Information. A list of all notices of violation received by the applicant in the past 3 years for violations pertaining to air or water environmental protection:

See Appendix 2-2 - Compliance History.

2.4 Right of Entry and Operation Information. A description of the documents upon which the applicant bases its legal right to enter and begin underground coal activities in the permit area and whether the rights are the subject of pending litigation. For underground activities where operations involve the surface mining of coal, evidence of the right to surface mine must be provided:

a) Documents Establishing Rights

See Tables 4-1 and 4-2 for all required leases, easements and rights to access.

b) Pending Litigation

None.

c) Surface Mining Rights

None.

2.5 Relationship to areas Designated Unsuitable for Mining. The relationship of the permit area to possible areas designated as being unsuitable for mining, whether an exemption is claimed under the regulations, and whether surface operations will be conducted within 300 feet of occupied dwellings:

a) Areas Designated Unsuitable for Mining

The proposed permit area is not within an area designated unsuitable for the surface effects of underground coal mine activities under the R614 regulations. Neither is the proposed permit area under study for designation in an administrative proceeding initiated under those parts. Mining would not affect renewable resource lands and would not result in substantial losses of food, fiber, or water supply.

The permit area contains no prime farmland or merchandisable timber. Mining would not affect natural hazard lands and thereby endanger life and property. In addition, the permit area includes no cemeteries, no national trails, no wild and scenic rivers, no wilderness or wilderness study areas, and no sufficient harvestable forest cover.

b) Exemption

The applicant does not claim exemption.

c) Dwellings

There are no occupied dwellings within 5 miles of the proposed permit area.

2.6 Permit Term Information. The number of surface acres to be affected and the horizontal and vertical extent of the workings:

a) Status

The Huntington Canyon No. 4 Mine has been permanently reclaimed under State of Utah Mining Permit INA/015/004 and OSM Permit.

b) Permit Term

This permit will be for the term of the previous permit - starting on April 30, 1990 through April 30, 1990. The permit is expected to be renewed at 5 year intervals until final bond release.

2.7 Personal Injury and Property Damage Insurance Information. A certificate of liability insurance or evidence that the self insurance requirements are satisfied.

See Appendix 2-3 - Certificate of Liability Insurance.

2.8 Proposed Performance Bond. A performance bond in the name of Beaver Creek Coal Company is included.

See Appendix 2-4 - Performance Bond

2.9 Identification of Other Licenses and Permits. A list of all other licenses and permits under applicable state and federal law needed by the applicant to conduct underground coal mining activities:

See Appendix 2-5 - Other Licenses and Permits.

2.10 Identification of Location of Public Office for Filing of Application. Mountain Coal Company will simultaneously file a complete copy of this permit application for public inspection with:

- a) Emery County Recorder  
Emery County Courthouse  
Castle Dale, Utah
- b) Utah Division of Oil, Gas and Mining  
3 Triad Center, Suite 350  
355 West North Temple  
Salt Lake City, Utah 84180-1203

2.11 Newspaper Advertisement and Proof of Publication. On the date of the filing of the permit transfer application with the Division of Oil, Gas and Mining, the applicant will also file an advertisement in the Emery County Progress and Sun-Advocate, local newspapers with circulation in Carbon and Emery Counties sufficient to cover the locality of the applicants operations. This advertisement will be run as required. A copy of the proposed advertisement is attached.

See Appendix 2-6

APPENDIX 2-1  
COAL MINING PERMITS  
APPROVED AND PENDING

COAL MINING PERMITS - APPROVED AND PENDING

<u>Company and Mine Name</u>	<u>Type of Permit</u>	<u>Name and Address of Issuing Authority</u>	<u>Permit or Application Number</u>	<u>Status</u>
Beaver Creek Coal Company Gordon Creek No. 2 Mine	Mine Plan Approval	U.S. Geological Survey Salt Lake City, Utah	U-8319	Approved 01-24-78
Beaver Creek Coal Company Gordon Creek No. 2/7 Mines	State Mining Permit	Utah Dept. of Natural Resources	ACT/007/016	Issued 08-27-84
Beaver Creek Coal Company Gordon Creek No. 2 Mine	Mine Plan Approval Lease Modification	U.S. Office of Surface Mining Denver, Colorado	UT-0010	Issued 05-05-80
Beaver Creek Coal Company Gordon Creek No. 3 and 6 Mines	State Mining Permit	Utah Dept. of Natural Resources Division of Oil, Gas & Mining Salt Lake City, Utah	INA/007/017	Issued 09-11-86
Beaver Creek Coal Company Huntington Canyon No. 8 Mine	Mine Plan Approval	U.S. Geological Survey Salt Lake City, Utah	U-33454	Approved 02-16-77
Beaver Creek Coal Company Huntington Canyon No. 4 Mine	State Mining Permit	Utah Dept. of Natural Resources Division of Oil, Gas & Mining Salt Lake City, Utah	INA/015/004	Issued 04/30/90
Beaver Creek Coal Company Castle Valley Spur Coal Process- ing and Loadout Facility	State Mining Permit	Utah Dept. of Natural Resources Division of Oil, Gas & Mining Salt Lake City, Utah	ACT/007/022	Issued 08-06-84
Thunder Basin Coal Company Black Thunder Mine	Permit to Mine	Land Quality Division Dept. of Environmental Quality Cheyenne, Wyoming	233	Issued 12-03-74
Thunder Basin Coal Company Black Thunder Mine	License to Mine	Land Quality Division Dept. of Environmental Quality Cheyenne, Wyoming	233-L1	Issued 12-03-74
Atlantic Richfield Company Coal Creek Mine	Licenses to Mine	Dept. of Environmental Quality Cheyenne, Wyoming	483-L1	Issued 03-16-79
Atlantic Richfield Company Coal Creek Mine	Mine Plan Approval	U.S. Office of Surface Mining Washington, D.C.	W4-0003	Approved 03-16-79

Appendix 1 Continued

<u>Company and Mine Name</u>	<u>Type of Permit</u>	<u>Name and Address of Issuing Authority</u>	<u>Permit or Application Number</u>	<u>Status</u>
Atlantic Richfield Company Mt. Gunnison No. 1 Mine	Mine Permit Application	Colorado Mine Land Reclamation Reclamation Division Dept. of Natural Resources	C-007-80	Issued 07-31-81
Atlantic Richfield Company Rocky Hill No. 1 Underground-	Research and Development Test- ing License Application	Land and Water Quality Division Dept. of Environmental Quality Cheyenne, Wyoming		Submitted 02-81
Thunder Basin Coal Company Black Thunder Mine	License to Mine Overstripping Agree- ment Kerr McGee Coal Corporation	Land Quality Division Dept. of Environmental Quality Cheyenne, Wyoming	233-L2	Issued 12-17-77
Thunder Basin Coal Company Black Thunder Mine	Permit to Mine Amendment	Land Quality Division Dept. of Environmental Quality Cheyenne, Wyoming	233-A1	01-27-78
Thunder Basin Coal Company Black Thunder Mine	State Program Approval	Land Quality Division Dept. of Environmental Quality Cheyenne, Wyoming	IPN 1/207	Submitted 10-31-80
Atlantic Richfield Company Black Thunder Mine	Mine Plan Approval	U.S. Geological Survey Billings, Montana	W-2313 W-36094	Approved 02-24-76
Atlantic Richfield Company Coal Creek Mine	Mine Plan Approval	Land Quality Division Dept. of Environmental Quality Cheyenne, Wyoming	483	Approved 03-16-79
Atlantic Richfield Company Coal Creek Mine	Permit to Mine Cheyenne, Wyoming	Dept. of Environmental Quality	483	Issued 03-16-79

**APPENDIX 2-2**  
**COMPLIANCE HISTORY**

APPENDIX 2-2

MOUNTAIN COAL COMPANY

COMPLIANCE HISTORY  
(1984-1990)

<u>Date</u>	<u>Location</u>	<u>Agency</u>	<u>N.O.V.#</u>	<u>Description</u>	<u>Proceedings</u>	<u>Status</u>	<u>Abatement Action</u>
02-09-84	#4	DOG&M	84-6-2-1	Blocked road drainage	Assessment Conf. 5-10-84	Vacated	Remove snow blockage
02-22-84	#2/7	DOG&M	84-6-3-1	Sediment pond waste	None	03-14-84	Remove material
04-18-84	#2/7	DOG&M	84-6-5-1	Failure maint.sed.pond	Assessment Conf.11-1-84	07-16-84	Terminated Meet EPA Limits
06-06-84	#2/7	DOG&M	84-6-6-5(1)	Failure to meet app. plan	Assessment Conv.11-1-84	07-16-84	Terminated Modify plans
06-06-84	#2/7	DOG&M	84-6-6-5(3)	Short circuit in pond	Assessment Conf.11-1-84	07-16-84	Terminated Repair pond
06-06-84	#2/7	DOG&M	84-6-6-5(3)	Failure to divert	Assessment Conf.11-1-84	07-16-84	Terminated Repair ditch
06-06-84	#2/7	DOG&M	84-6-6-5(4)	Contribution of sediment	Assessment Conf.11-1-84	07-16-84	Terminated Completed const.
06-06-84	#2/7	DOG&M	84-6-6-5(5)	Failure to smooth topsoil	Assessment Conf.11-1-84	Vacated	Terminated None
06-15-84	#2/7	DOG&M	84-6-7-1	Failure to meet app. plan	None	06-26-84	Repair barn
07-17-84	#2-7	DOG&M	84-8-6-1	Plugged culvert	None	06-14-84	Terminated Cleaned culvert
08-28-84	#4	DOG&M	84-6-12-1	Plugged culvert	None	09-18-84	Terminated Cleaned culvert
09-18-84	#2/7	DOG&M	84-6-3-1	Fail to protect hyd. bal	Assessment Conf.3-4-85	10-12-84	Terminated Submit Plans
12-17-84	#2/7	DOG&M	84-8-4-1	Fail to comply w/permit	Assessment Conf. 7-6-85	01-19-85	Terminated Submit response
01-15-85	#2/7	DOG&M	85-8-2-1	Fail to comply w/permit	Assessment Conf. 3-12-86	01-21-85	Terminated Submit monitoring
02-26-85	#2/7	DOG&M	85-8-4-1	Fail to comply w/permit	None	02-27-85	Terminated Repair drainage
03-25-85	#2/7	DOG&M	85-8-5-1	Sediment to stream	Assessment Conf.2-20-86	Vacated	Terminated Clean ditch

5/10/91

APPENDIX 2-2

MOUNTAIN COAL COMPANY

COMPLIANCE HISTORY

(1984-1990)

<u>Date</u>	<u>Location</u>	<u>Agency</u>	<u>N.O.V.#</u>	<u>Description</u>	<u>Proceedings</u>	<u>Status</u>	<u>Abatement Action</u>
4-12-85	#2/7	DOG&M	C-85-8-2-1	Sediment to stream	Assessment Conf. 3-12-86	04-25-85	Clean structures
6-04-85	#2/7	DOG&M	C-85-8-2-1	Failure to abate	Assessment Conf. 2-19-86	Terminated 06-18-85	Repair drainage
6-18-85	C.V.	DOG&M	85-8-9-1	Fail to protect hyd. ba.	None	Terminated 06-18-85	Repair drainage
8-08-85	#2/7	DOG&M	85-8-11-1	Pipe leak to sed. pond	None	Terminated 08-23-85	Repair leak
9-26-85	#2/7	DOG&M	85-8-17-1	Fail to comply w/permit	None	Terminated 02-03-86	Permit disposal
0-02-85	#4	DOG&M	85-8-18-1	Fail to protect topsoil	None	Terminated 10-02-85	Repair Berm
3-12-86	#2/7	DOG&M	86-4-2-1	Erosion on Class I road	Assessment Conf. 8-27-86	Terminated 06-17-86	Repair, submit plans
4-07-86	#3/6	DOG&M	86-8-7-1	Sediment pond outlet	None	Terminated 04-29-86	Repair structure
6-06-87	#3/6	DOG&M	87-26-5-1	Fail to monitor water	Assessment Conf. 11-18-87	Terminated 08-06-87	Monitor 'per plan
8-06-87	#3/6	DOG&M	87-26-6-1	Erosion control	Assessment Conf. 11-18-87	Terminated 09-03-87	Repair outlets
9-06-87	#3/6	DOG&M	87-26-7-1	Plugged culverts	Assessment Conf. 11-18-87	Terminated 09-03-87	Repair culverts

APPENDIX 2-2  
MOUNTAIN COAL COMPANY  
COMPLIANCE HISTORY  
(1984-1990)

<u>Date</u>	<u>Location</u>	<u>Agency</u>	<u>N.O.V.#</u>	<u>Description</u>	<u>Proceedings</u>	<u>Status</u>	<u>Abatement Action</u>
1-07-88	#9	DOG&M	88-27-3-1	Failure to Monitor Water	Assessment Conf. 4-12-88	01-11-88 Terminated	Monitor per plan
1-25-88	#2/7	DOG&M	88-22-1-1	Failure to Monitor Water	Assessment Conf. 4-12-88	01-25-88 Terminated	Monitor per plan
5-09-88	#9	DOG&M	88-19-1-1	Failure to Monitor Subsidence	Assessment Conf. 9-27-88	08-18-88 Terminated	Monitor per plan
6-22-88	#2/7	OSM	88-02-107-1	Inspections on Impoundments	None	06-22-88 Terminated	Begin inspections
8-15-88	C.V.	DOG&M	88-22-2-1	Failure to respond to approval	None	09-19-88 Terminated	Submit response
9-14-89	#2/7	DOG&M	89-33-2-1	Failure to comply with plan	None	Vacated Terminated	N/A
9-10-90	#4	DOG&M	90-26-25	Sediment Pond Failure	Pending	11/26/90 Terminated	Repair Pond
9-10-90	#4	DOG&M	90-26-25-2	Diversion Erosion	Pending	11/27/90 Terminated	Rip-rap Diversion
11-20-90	#4	DOG&M	C90-2--03-01	Failure to Abate	Pending	11/26/90	Submit Pond Drawing

5/10/91

THUNDER BASIN COAL CO.  
COMPLIANCE HISTORY

(1987-1990)

<u>DATE</u>	<u>LOCATION</u>	<u>NOV NO.</u>	<u>DESCRIPTION</u>
10/1/90	Black Thunder Mine	100130	Failure to follow Mine Plan

WEST ELK COAL COMPANY  
(Now Part of Mountain Coal Company)

N/A - No NOV's since 1986

5/10/91

Mountain Coal Company  
Huntington Canyon No. 4 Mine

APPENDIX 2-3

CERTIFICATE OF LIABILITY INSURANCE  
(see accompanying Certificate of Insurance)

5/10/91

**CERTIFICATE OF INSURANCE**

08-28-91 ejl

CIGNA Property and Casualty Companies



certifies that the following described policy or policies, issued by The Company as coded below, providing insurance only for hazards checked by "X" below, have been issued to:

COMPANY CODES

- CIGNA INSURANCE COMPANY
- CIGNA INS. CO. OF TEXAS
- PACIFIC EMPLOYERS INS. CO.
- INSURANCE COMPANY OF NORTH AMERICA
- CIGNA INS. CO. OF ILLINOIS
- CIGNA INS. CO. OF OHIO
- (OTHER; — SPECIFY) FOLD

This is to Certify to

State of Utah  
 Dept. of Natural Resources  
 Division of Oil, Gas and Mining  
 355 West North Temple  
 3 Triad Center, Suite 350  
 Salt Lake City, Utah 84180-1203

that the following described policy or policies, issued by The Company as coded below, providing insurance only for hazards checked by "X" below, have been issued to:

**NAME AND ADDRESS OF INSURED** Atlantic Richfield Company, its Subsidiaries and subsidiaries thereof as now or hereinafter constituted, Atlantic Richfield Plaza, 515 South Flower Street, Los Angeles, California 90071 covering in accordance with the terms thereof, at the following location(s):

Including Mountain Coal Company and ARCO Coal Company

TYPE OF POLICY	HAZARDS	CO. CODE	POLICY NUMBER	POLICY PERIOD	LIMITS OF LIABILITY
(a) Standard Workmen's Compensation & Employers' Liability	<input type="checkbox"/>	<input type="checkbox"/>			Statutory W. C. One Accident and Aggregate Disease
(b) General Liability Premises—Operations (including "Incidental Contracts" as defined below) Independent Contractors Completed Operations/Products Contractual, (Specific type as described in footnote below)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> 9	ISL G1 077856-6	01-01-90 to 01-01-93	\$*See Below \$ Each Person Each { <input type="checkbox"/> Accident <input type="checkbox"/> Occurrence \$ Aggregate—Completed Operations/Products
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> 9			
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> 9			
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> 9			
(b) General Liability Premises—Operations (Including "Incidental Contracts" as defined below) Independent Contractors Completed Operations/Products Contractual, (Specific type as described in footnote below)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> 9	ISL G1 077856-6	01-01-90 to 01-01-93	\$*See Below \$ Each { <input type="checkbox"/> Accident <input type="checkbox"/> Occurrence \$ Aggregate—Prem./Oper. \$ Aggregate—Protective \$ Aggregate—Completed Operations/Products \$ Aggregate—Contractual
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> 9			
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> 9			
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> 9			
(c) Automobile Liability Owned Automobiles Hired Automobiles Non-owned Automobiles	<input type="checkbox"/>	<input type="checkbox"/>			\$ Each Person Each { <input type="checkbox"/> Accident <input type="checkbox"/> Occurrence
	<input type="checkbox"/>	<input type="checkbox"/>			
	<input type="checkbox"/>	<input type="checkbox"/>			
(c) Automobile Liability Owned Automobiles Hired Automobiles Non-owned Automobiles	<input type="checkbox"/>	<input type="checkbox"/>			\$ Each { <input type="checkbox"/> Accident <input type="checkbox"/> Occurrence
	<input type="checkbox"/>	<input type="checkbox"/>			
	<input type="checkbox"/>	<input type="checkbox"/>			
(d) **INCLUDES "XCU" COVERAGE					*\$500,000 Combined Single Limit Each Occurrence Aggregate Where Applicable

Contractual Footnote: Subject to all the policy terms applicable, specific contractual coverage is provided as respects

(Check)  a contract  
 (Applicable)  purchase order agreements } between the Insured and:  
 (Block)  all contracts

It is the intention of the company that in the event of cancellation of the policy or policies by the company, (45) days' written notice of such cancellation will be given to you at the address stated above.

NAME OF OTHER PARTY: \_\_\_\_\_ DATE (if applicable): \_\_\_\_\_ CONTRACT NO. (if any): \_\_\_\_\_

DESCRIPTION (OR JOB): **Huntington #4 ACT/015/004**

Definitions: "Incidental contract" means any written (1) lease of premises (2) easement agreement, except in connection with construction or demolition operations on or adjacent to a railroad, (3) undertaking to indemnify a municipality required by municipal ordinance, except in connection with work for the municipality, (4) sidetrack agreement, or (5) elevator maintenance agreement.

*[Signature]*  
 Authorized Representative

APPENDIX 2-4  
RECLAMATION PERFORMANCE BOND  
FOR  
HUNTINGTON CANYON NO. 4 MINE

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING  
355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203  
(801) 538-5340

RECEIVED  
JUN 17 1998

DIVISION OF  
OIL, GAS & MINING

THE MINED LANDS RECLAMATION ACT  
BOND  
\*\*\*\*\*

BOND NO. U-630694

Know all men by these presents, that we the undersigned, BEAVER CREEK COAL COMPANY

(State name and form of business organization of the Permit Applicant)

duly authorized to do business in the State of Utah, AS PRINCIPAL, and UNITED PACIFIC INSURANCE COMPANY

a corporation organized and existing under the laws of the State of Washington and duly authorized to do business in the State of Utah, AS SURETY, are held and firmly bound unto the STATE OF UTAH, DIVISION OF OIL, GAS, AND MINING, in the sum of ONE HUNDRED FORTY FOUR THOUSAND FORTY-ONE DOLLARS AND 60/100 DOLLARS (\$144,041.60), lawful money of the United States, to be paid to the State of Utah, Division of Oil, Gas, and Mining and the United States Department of the Interior, Office of Surface Mining, upon order of forfeiture by the State of Utah, Division of Oil, Gas, and Mining, for the payment of which sum, well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors, and assigns.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH that whereas the above named principal did on the 16th day of March, 1976, file with the Division of Oil, Gas, and Mining a "Notice of Intention to Commence Mining Operations" and a "Mining and Reclamation Plan", to secure authorization to engage in mining operations in the State of Utah, under the terms and provisions of the Mined Land Reclamation Act; that in said Notice the principal estimated that 1,320.46 acres of land will be affected by mining. Said land is described as follows:

All of Section 16	T16S, R7E	640 acres more or less
E/2 Section 17	T16S, R7E	320 acres more or less
SW/4 Section 8	T16S, R7E	160 acres more or less
S/2SE/4 Section 8	T16S, R7E	80 acres more or less
S/2S/2 less SE/4SE/4 Section 9	T16S, R7E	120 acres more or less

\* Pump house area located in the NE 1/4 NW 1/4, Section 21, T.16S, R.7E., S16M, containing approximately 0.46 acres more or less.

\* Sediment Pond Site located in the NE 1/4 NW 1/4 NE 1/4, Section 21, T16S, R7E S16M, containing approximately 0.255 acres, more or less.

All above lands in Emery County, Utah

Now, therefore, the conditions of the obligation are such that, this bond shall remain in full force and effect until either released or forfeited pursuant to the provisions of the Utah Mined Land Reclamation Act and the Surface Mining Control and Reclamation Act of 1977 PL(95-87) and any rules and regulations adopted pursuant to said Acts.

(THIS BOND REPLACES FEDERAL INSURANCE COMPANY BOND NUMBER 8082-89-88)

\* Description revised on 4/26/90 to reflect actual conditions on site

4/30/90

PRINCIPAL

Bond No. U-630694

Signed and executed this 4th day of June, 1988:

By: Charles B. Smith



TITLE: Vice President

State of Colorado

County of Denver ) SS.

The foregoing instrument was acknowledged before me by \_\_\_\_\_

Charles B. Smith, this 14th day of June, 1988.

Witness my hand and official seal.

William Bledsoe  
(Notary Public or other authorized officer)

My Commission Expires: Aug 22, 1991

SURETY

Signed and executed this 18TH day of MAY, 1988:

By: [Signature]  
DANIEL ORTIZ

TITLE: ATTORNEY-IN-FACT

State of CALIFORNIA

County of LOS ANGELES ) SS.

The foregoing instrument was acknowledged before me by DANIEL ORTIZ,

ATTORNEY-IN-FACT, this 18TH day of MAY, 1988.

Witness my hand and official seal.



Cora V. Rodriguez  
(Notary Public or other authorized officer)  
CORA V. RODRIGUEZ

My Commission Expires: MARCH 24, 1989

RESIDENT AGENT FOR SERVICE

Resident Agent: \_\_\_\_\_ Date: \_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Printed Name) Address: \_\_\_\_\_

Approved as to form and execution:

\_\_\_\_\_  
Attorney General  
By: \_\_\_\_\_ Date: \_\_\_\_\_  
Assistant

APPROVED: \_\_\_\_\_ Date: \_\_\_\_\_  
Coordinator of Mined Land Development

Permit No. \_\_\_\_\_

# UNITED PACIFIC INSURANCE COMPANY

HEAD OFFICE, FEDERAL WAY, WASHINGTON

## POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, That the UNITED PACIFIC INSURANCE COMPANY, a corporation duly organized under the laws of the State of Washington, does hereby make, constitute and appoint

DANIEL ORTIZ of LOS ANGELES, CALIFORNIA -----

its true and lawful Attorney-in-Fact, to make, execute, seal and deliver for and on its behalf, and in its act and deed

ANY AND ALL BONDS AND UNDERTAKINGS OF SURETYSHIP -----

and to bind the UNITED PACIFIC INSURANCE COMPANY thereby as fully and to the same extent as if such bonds and undertakings and other writings obligatory in the nature thereof were signed by an Executive Officer of the UNITED PACIFIC INSURANCE COMPANY and sealed and attested by one or more of such officers, and hereby ratifies and confirms all that its said Attorney(s)-in-Fact may do in pursuance hereof.

The Power of Attorney is granted under and by authority of Article VII of the By-Laws of UNITED PACIFIC INSURANCE COMPANY which became effective September 7, 1976, which provisions are now in full force and effect, reading as follows.

### ARTICLE VII - EXECUTION OF BONDS AND UNDERTAKINGS

1. The Board of Directors, the President, the Chairman of the Board, any Senior Vice President, any Vice President or Assistant Vice President or other officer designated by the Board of Directors shall have power and authority to (a) appoint Attorneys-in-Fact and to authorize them to execute on behalf of the Company, bonds and undertakings, recognizances, contracts of indemnity and other writings obligatory in the nature thereof, and (b) to remove any such Attorney-in-Fact at any time and revoke the power and authority given to him.

2 Attorneys-in-Fact shall have power and authority, subject to the terms and limitations of the power of attorney issued to them, to execute and deliver on behalf of the Company, bonds and undertakings, recognizances, contracts of indemnity and other writings obligatory in the nature thereof. The corporate seal is not necessary for the validity of any bonds and undertakings, recognizances, contracts of indemnity and other writings obligatory in the nature thereof.

3 Attorneys-in-Fact shall have power and authority to execute affidavits required to be attached to bonds, recognizances, contracts of indemnity or other conditional or obligatory undertakings and they shall also have power and authority to certify the financial statement of the Company and to copies of the By-Laws of the Company or any article or section thereof.

The power of attorney is signed and sealed by facsimile under and by authority of the following Resolution adopted by the Board of Directors of UNITED PACIFIC INSURANCE COMPANY at a meeting held on the 5th day of June, 1979, at which a quorum was present, and said Resolution has not been amended or repealed.

"Resolved, that the signatures of such directors and officers and the seal of the Company may be affixed to any such power of attorney or any certificate relating thereto by facsimile, and any such power of attorney or certificate bearing such facsimile signatures or facsimile seal shall be void and binding upon the Company and any such power so executed and certified by facsimile signatures and facsimile seal shall be void and binding upon the Company in the future with respect to any bond or undertaking to which it is attached."

IN WITNESS WHEREOF, the UNITED PACIFIC INSURANCE COMPANY has caused these presents to be signed by its Vice President, and its corporate seal to be hereunto affixed, this 23rd day of June 1987



UNITED PACIFIC INSURANCE COMPANY  
*Charles B. Schaalz*  
Vice President

STATE OF Washington }  
COUNTY OF King } ss.

On this 23rd day of June 1987 personally appeared Charles B. Schaalz

to me known to be the Vice-President of the UNITED PACIFIC INSURANCE COMPANY, and acknowledged that he executed and attested the foregoing instrument and affixed the seal of said corporation thereto, and that Article VII, Section 1, 2, and 3 of the By-Laws of said Company, and the Resolution, set forth therein, are still in full force.

My Commission Expires:  
May 15 1990



*Pamela Young*  
Notary Public in and for State of Washington  
Residing at TACOMA

I, Lawrence W. Carlstrom, Assistant Secretary of the UNITED PACIFIC INSURANCE COMPANY, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney executed by said UNITED PACIFIC INSURANCE COMPANY, which is still in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said Company this 18TH day of MAY 1988



Assistant Secretary *Lawrence W. Carlstrom*  
Lawrence W. Carlstrom



STATE OF UTAH  
NATURAL RESOURCES  
Oil, Gas & Mining

Norman H. Bangertter, Governor  
Dee C. Hansen, Executive Director  
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

November 10, 1986

Ms. Mary Cristaudo  
Bonding Representative  
Grant Hatch & Associates, Inc.  
P. O. Box 11809  
Salt Lake City, Utah 84147

Dear Ms. Cristaudo:

Re: Phase I Bond Release, Beaver Creek Coal Company,  
Huntington #4 Mine, INA/O15/004, Folder #5, Emery County,  
Utah

The Division hereby approves the Phase I bond release of \$216,062.40, or 60 percent of the bond for the Huntington #4 Mine. This bond release is effective as of November 10, 1986.

Thank you for your cooperation.

Best regards,

*Lowell P. Braxton*

Lowell P. Braxton  
Administrator  
Mineral Resource Development  
and Reclamation Program

PGL/djh  
cc: D. Guy, BCCC  
P. Grubaugh-Littig  
J. Whitehead  
8808R/9

4/30/90

2-26

# ORIGINAL

## R I D E R

RIDER to be attached to and form a part of Bond Number U-630694

on behalf of BEAVER CREEK COAL COMPANY  
(Name)

555 SEVENTEENTH STREET, DENVER, COLORADO 80202  
(Address)

as Principal, and in favor of STATE OF UTAH, DIVISION OF OIL, GAS AND MINING

as Obligee, executed by UNITED PACIFIC INSURANCE COMPANY as Surety ,

in the amount of ONE HUNDRED FORTY-FOUR THOUSAND FORTY-ONE  
AND 60/100-----

Dollars (\$ 144,041.60 ) effective JULY 8 , 19 88 .

It is hereby understood and agreed that effective as of SEPTEMBER 5, 1991 ,  
the said bond has been amended as follows:

1) The Principal's Name has been changed from: BEAVER CREEK COAL COMPANY  
to: MOUNTAIN COAL COMPANY

2) Specific Language has been added:  
"In the event the Cooperative Agreement between the DIVISION and OSM  
is terminated, then the portion of the bond covering the Federal Lands  
will be payable only to the United States, Department of Interior,  
Office of Surface Mining."

Nothing herein contained shall vary, alter or extend any provisions or conditions  
of the bond other than as above stated.

SIGNED, SEALED AND DATED this 5TH day of SEPTEMBER , 19 91 .



MOUNTAIN COAL COMPANY  
Principal

UNITED PACIFIC INSURANCE COMPANY  
Surety

BY: Thomas H Parker  
Vice President

BY: Dorothy M. Iwanoff  
DOROTHY M. IWANOFF  
ATTORNEY-IN-FACT

CALIFORNIA  
ACKNOWLEDGEMENT BY SURETY

STATE OF CALIFORNIA

COUNTY OF LOS ANGELES } ss.

On this 5TH day of SEPTEMBER in the year 19 91, before me CORA V. RODRIGUEZ personally

appeared DOROTHY M. IWANOFF  
personally known to me (or proved to me on the basis of satisfactory evidence) to be the person who executed the within

instrument as attorney-in-fact of UNITED PACIFIC INSURANCE COMPANY  
and acknowledged to me that the corporation executed it.



*Cora V. Rodriguez*

Notary Public

# UNITED PACIFIC INSURANCE COMPANY

HEAD OFFICE, FEDERAL WAY, WASHINGTON

## POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, That the UNITED PACIFIC INSURANCE COMPANY, a corporation duly organized under the laws of the State of Washington, does hereby make, constitute and appoint

DOROTHY M. IWANOFF OF LOS ANGELES, CALIFORNIA -----

its true and lawful Attorney-in-Fact, to make, execute, seal and deliver for and on its behalf, and as its act and deed

ANY AND ALL BONDS AND UNDERTAKINGS OF SURETYSHIP -----

and to bind the UNITED PACIFIC INSURANCE COMPANY thereby as fully and to the same extent as if such bonds and undertakings and other writings obligatory in the nature thereof were signed by an Executive Officer of the UNITED PACIFIC INSURANCE COMPANY and sealed and attested by one other of such officers, and hereby ratifies and confirms all that its said Attorney(s)-in-Fact may do in pursuance hereof.

This Power of Attorney is granted under and by authority of Article VII of the By-Laws of UNITED PACIFIC INSURANCE COMPANY which became effective September 7, 1978, which provisions are now in full force and effect, reading as follows:

### ARTICLE VII — EXECUTION OF BONDS AND UNDERTAKINGS

1. The Board of Directors, the President, the Chairman of the Board, any Senior Vice President, any Vice President or Assistant Vice President or other officer designated by the Board of Directors shall have power and authority to (a) appoint Attorneys-in-Fact and to authorize them to execute on behalf of the Company, bonds and undertakings, recognizances, contracts of indemnity and other writings obligatory in the nature thereof, and (b) to remove any such Attorney-in-Fact at any time and revoke the power and authority given to him.

2. Attorneys-in-Fact shall have power and authority, subject to the terms and limitations of the power of attorney issued to them, to execute and deliver on behalf of the Company, bonds and undertakings, recognizances, contracts of indemnity and other writings obligatory in the nature thereof. The corporate seal is not necessary for the validity of any bonds and undertakings, recognizances, contracts of indemnity and other writings obligatory in the nature thereof.

3. Attorneys-in-Fact shall have power and authority to execute affidavits required to be attached to bonds, recognizances, contracts of indemnity or other conditional or obligatory undertakings and they shall also have power and authority to certify the financial statement of the Company and to copies of the By-Laws of the Company or any article or section thereof.

This power of attorney is signed and sealed by facsimile under and by authority of the following Resolution adopted by the Board of Directors of UNITED PACIFIC INSURANCE COMPANY at a meeting held on the 5th day of June, 1979, at which a quorum was present, and said Resolution has not been amended or repealed:

"Resolved, that the signatures of such directors and officers and the seal of the Company may be affixed to any such power of attorney or any certificate relating thereto by facsimile, and any such power of attorney or certificate bearing such facsimile signatures or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by facsimile signatures and facsimile seal shall be valid and binding upon the Company in the future with respect to any bond or undertaking to which it is attached."

IN WITNESS WHEREOF, the UNITED PACIFIC INSURANCE COMPANY has caused these presents to be signed by its Vice President, and its corporate seal to be hereto affixed, this 7th day of May 19 90



UNITED PACIFIC INSURANCE COMPANY

*Lawrence W. Carlstrom*  
Vice President

STATE OF Washington }  
COUNTY OF King } ss.

On this 7th day of May, 1990, personally appeared Lawrence W. Carlstrom

to me known to be the Vice-President of the UNITED PACIFIC INSURANCE COMPANY, and acknowledged that he executed and attested the foregoing instrument and affixed the seal of said corporation thereto, and that Article VII, Section 1, 2, and 3 of the By-Laws of said Company and the Resolution, set forth therein, are still in full force.

My Commission Expires:  
May 15, 19 90



*Pamela Young*  
Notary Public in and for State of Washington  
Residing at Tacoma

Robert D. Ritzhaupt, Assistant Secretary of the UNITED PACIFIC INSURANCE COMPANY, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney executed by said UNITED PACIFIC INSURANCE COMPANY, which is still in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said Company this 5TH day of SEPTEMBER 19 91



Assistant Secretary *Robert D. Ritzhaupt*

APPENDIX 2-5

OTHER LICENSES AND PERMITS

MOUNTAIN COAL COMPANY LICENSES AND PERMITS  
HUNTINGTON CANYON NO. 4 MINE

<u>Type</u>	<u>I.D. Number</u>	<u>Issuing Authority</u>	<u>Approval Date</u>
State Permit Approval	INA/015/004	State of Utah Division of Oil, Gas & Mining 355 West North Temple #3 Triad Center Suite 350 Salt Lake City, Utah 84180-1203	04/30/90
Special Use Permit (Sedimentation Pond)		USDA - Forest Service 599 West Price River Dr. Price, Utah 84501	11/21/79
Spill Prevention Control & Countermeasure Plan		U.S. EPA - Region VIII 999 18th Street Denver, Colorado 80202	
Special Use Permit (Surface water gaging stations)		USDA - Forest Service 599 West Price River Dr. Price, Utah 84501	11/10/81

5/10/91

Mountain Coal Company  
Huntington Canyon No. 4 Mine

APPENDIX 2-6

PUBLIC NOTICE

PERMIT TRANSFER APPLICATION

5/10/91

Proposed Newspaper Advertisement

Public Notice

Mountain Coal Company has applied for approval of the transfer of the Mining and Reclamation Permit for the Huntington Canyon No. 4 Mine from Beaver Creek Coal Company to Mountain Coal Company.

The applicant is:

Mountain Coal Company  
P.O. Box 1378  
Price, Utah 84501

The original permittee is:

Beaver Creek Coal Company  
P.O. Box 1378  
Price, Utah 84501

The permit for which transfer is being sought is Utah #ACT/015/004. This is a Mining and Reclamation Permit for the Huntington Canyon No. 4 Mine, which is located in the Millfork Canyon area of Emery County, Utah in Sections 8, 9, 16, 17 and 21, T. 16 S., R. 7 E., S.L.B.&M.

Written comments on this application for transfer may be addressed to :

Utah Division of Oil, Gas and Mining  
355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203

# APPLICATION FOR PERMIT CHANGE

Title of Change:

UPDATE OF OFFICERS ( HUNTINGTON CYN. NO. 4 MINE )

Permit Number: INA / 015 / 004

Mine: HUNT. CYN. NO. 4 MINE

Permittee: MOUNTAIN COAL

Description, include reason for change and timing required to implement:

- |                              |  |  |
|------------------------------|--|--|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 1. Change in the size of the Permit Area? _____ acres <input type="checkbox"/> increase <input type="checkbox"/> decrease.               |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 2. Change in the size of the Disturbed Area? _____ acres <input type="checkbox"/> increase <input type="checkbox"/> decrease.            |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 3. Will permit change include operations outside the Cumulative Hydrologic Impact Area?  |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 4. Will permit change include operations in hydrologic basins other than currently approved?   |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 5. Does permit change result from cancellation, reduction or increase of insurance or reclamation bond?                                  |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 6. Does permit change require or include public notice publication?  |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 7. Permit change as a result of a Violation? Violation # _____   |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 8. Permit change as a result of a Division Order? D.O.# _____  |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 9. Permit change as a result of other laws or regulations? Explain: _____  |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 10. Does permit change require or include ownership, control, right-of-entry, or compliance information?                                 |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 11. Does the permit change affect the surface landowner or change the post mining land use?  |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 12. Does permit change require or include collection and reporting of any baseline information?  |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 13. Could the permit change have any effect on wildlife or vegetation outside the current disturbed area?                                |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 14. Does permit change require or include soil removal, storage or placement?  |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 15. Does permit change require or include vegetation monitoring, removal or revegetation activities?                                     |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 16. Does permit change require or include construction, modification, or removal of surface facilities?                                  |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 17. Does permit change require or include water monitoring, sediment or drainage control measures?                                       |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 18. Does permit change require or include certified designs, maps, or calculations?  |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 19. Does permit change require or include underground design or mine sequence and timing?  |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 20. Does permit change require or include subsidence control or monitoring?  |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 21. Have reclamation costs for bonding been provided or revised for any change in the reclamation plan?                                  |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 22. Is permit change within 100 feet of a public road or perennial stream or 500 feet of an occupied dwelling?                           |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 23. Is this permit change coal exploration activity <input type="checkbox"/> inside <input type="checkbox"/> outside of the permit area? |

EFFECTIVE:

Attach 3 complete copies of proposed permit change as it would be incorporated into the Mining and Reclamation Plan.

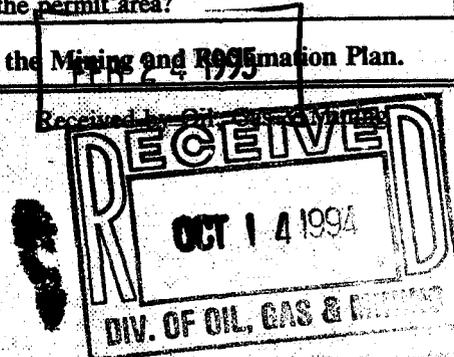
I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments, undertakings, and obligations, herein.

*Dana Ballard*  
Signed - Name - Position - Date

Subscribed and sworn to before me this 13 day of 10, 19 94  
*Dana Ballard*  
Notary Public  
My Commission Expires: 9-27, 19 97  
Attest: Utah STATE OF  
Carbon COUNTY OF



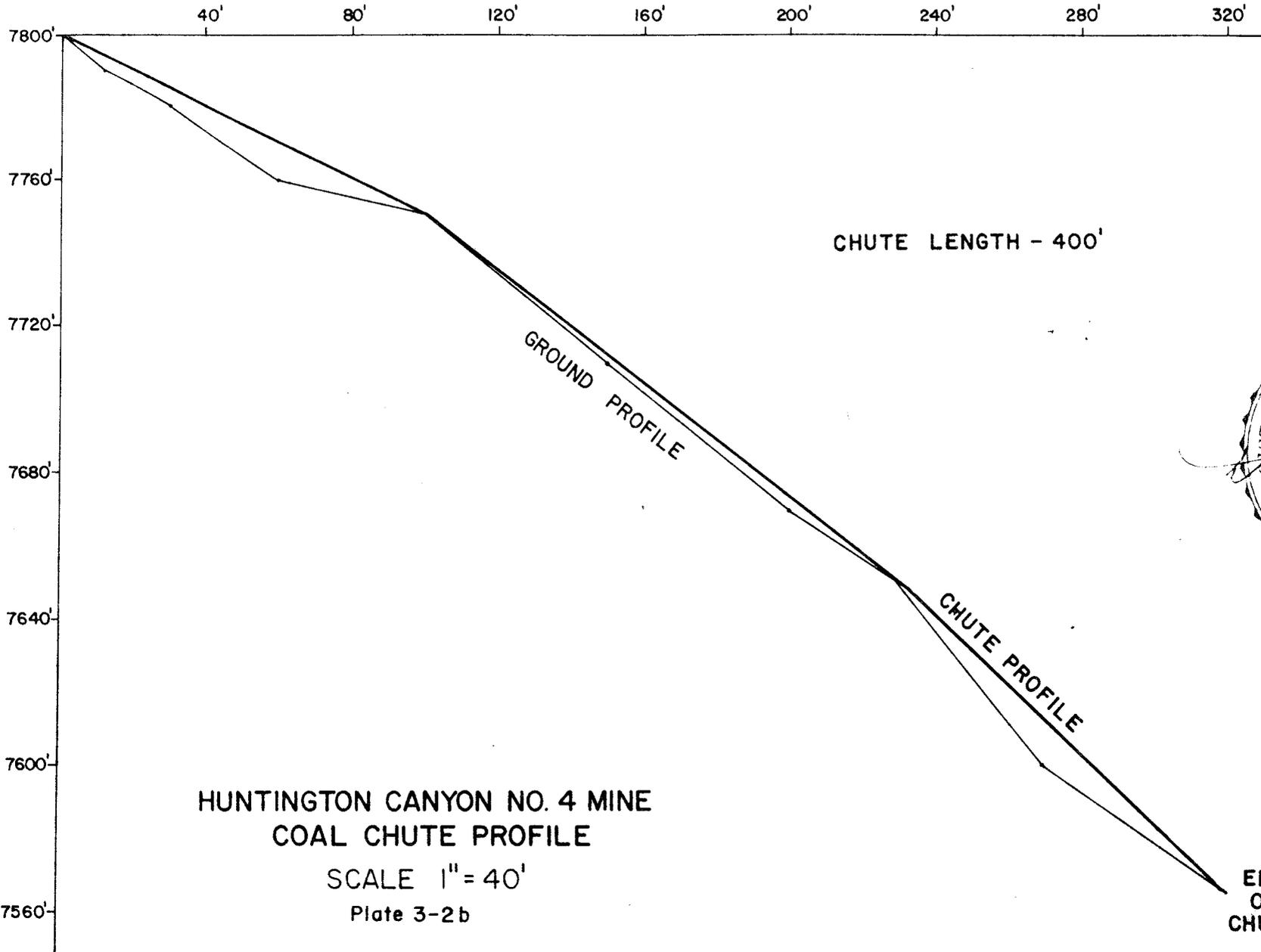
**DANA BALLARD**  
NOTARY PUBLIC - STATE OF UTAH  
865 EAST 2800 SOUTH  
PRICE, UTAH 84501  
COMM. EXP. 9-27-97



ASSIGNED PERMIT CHANGE NUMBER







### Section 3

## OPERATION AND RECLAMATION PLAN

### 3.1 Scope

This section outlines the scope of mining, environmental control and reclamation activities that will occur under the terms of the permit. The purpose of this plan is to provide the regulatory authority with comprehensive and reliable information which ensures that proposed activities will be conducted in compliance with the Act, the regulations, and guidelines of the permanent regulatory program.

### 3.2 Surface Facilities/Construction Plans

#### General

The Huntington Canyon No. 4 Mine is located in Mill Fork Canyon, approximately 12 miles northwest of Huntington, Utah. The mine started production in early 1977, was temporarily inactive in October, 1978, and resumed full-time operation in March, 1980. The mine operation is located on the same surface areas used by the Leamaster Mine in the early 1940's.

All surface facilities and construction for the existing operation were in place by late 1976, with the exception of diversions, sediment ponds and minor culvert work.

All existing facilities and environmental controls are presently covered by an approved Mining and Reclamation Plan, O.S.M. Mine Plan Approval No. UT-004.

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Huntington Canyon No. 4 Mine Permit Application

3.2.1 Site Selection and Preparation

The land on which the Huntington No. 4 Mine is located has long been used for coal mining. Mill Fork Canyon has supported three underground operations in the past and the surface facilities of the No. 4 Mine are located in exactly the same area as those of the old Leamaster Mine which was operated nearly a quarter of a century ago.

Initial disturbances of this area took place in the early 1940's. Swisher Coal Company (now Beaver Creek Coal Company) performed additional work on the area in 1976 to reactivate the Leamaster Mine. Consequently, all major disturbance was performed prior to the enactment of P.L. 95-87, the Surface Mining Control and Reclamation Act of 1977, and methods of site selection and preparation were not conducted per existing regulation. Roads and pads were constructed with the cut and fill technique commonly used in mountainous terrain and no topsoil was saved. The only disturbance created since 1977 has been the construction of sedimentation ponds and diversions with the topsoil from these areas having been saved and placed in a designated storage pile area.

All surface facilities are sited on privately owned surface and are operated and maintained in compliance with existing surface mining regulations. There are no plans at this time to construct additional surface facilities at the operation nor create any further surface disturbance.

3.2.2 Portals

There are three portals in the upper seam (Blind Canyon Seam) at No. 4 Mine: one intake, one belt and one return portal. These portals are in the coal outcrop and represent the only access into

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3.3.2 Portals (continued)

the No. 4 Mine. There are presently no plans for any additional portals for this mine. The existing portals were reconstructed in 1976 and go into the old Leamaster Mine.

The portals consist of steel ("T" beam) structures extending 50' to 100' underground and are maintained to provide clear, safe access to the mines. Upon final abandonment of the mine, the structures will be removed, the portals sealed and the coal outcrop covered as described in the Reclamation Plan, Section 3.5.3.1.

3.2.3 Surface Buildings and Structures

All surface buildings and structures are shown on Plate 3-1, the Surface Facilities Map. A topographic map with surface facilities is provided as Plate 3-1A. All maps, cross sections and plans have been approved by a registered professional engineer. These are all existing facilities and there are presently no plans for additional structures or facilities.

Upon termination of operations, all structures will be removed and the areas reclaimed as outlined in the Reclamation Plan, Section 3.5.3.

Following is a list of major buildings and structures associated with this operation:

- (a) Portals - three portals are in place at the mine site. See Section 3.2.2 for details. (1976)
- (b) Fan - A 9' diameter Jeffery fan exhausts mine air at 92,000 cfm. (1976)

3.2.3 Surface Buildings and Structures (continued)

- (c) Conveyor/chute - A 42" conveyor brings the coal from the mine along the upper pad. The coal is discharged into a 400' long chute and dropped approximately 250' to the lower stockpile area. The conveyor and chute are covered and drainage from each structure is carried into approved sedimentation ponds. (1976)
- (d) Mine Building - This is an 18' x 25' cinder block building near the portals used for a mine site office and lamp room for the miners. (1976)
- (e) Supply Trailer - This trailer sits on the portal pad and is used as an on-site warehouse for small items that are commonly needed in the mine.(1976)
- (f) Sub-station - The sub-station sits east of the intake portal and supplies power to the mine operation. It receives power at 12.5 KVA and distributes it into the mine at 4160 volts where it is further transformed to 440 volts for the mining machinery. The sub-station is fenced and maintained per MSHA regulations. (1976)
- (g) Diversions - Two diversions are in place at the base of the highwall on the upper pad. These divert natural runoff from the areas above the portals into undisturbed drainages. (8/79 - 9/79)
- (h) Access Road - The access road to the upper (portal) pad is 900' within the permit area. It has a berm on the canyon side (per MSHA regulations) and a conveyance ditch on the highwall side. Culverts are placed along the road at key points to control runoff. All culverts are equipped with trash

3.2.3 Surface Building and Structures (continued)

- (h) Diversions - Two diversions are in place at the base of the highwall on the upper pad. These divert natural runoff from the areas above the portals into undisturbed drainages. (8/79-9/79)
- (i) Access Road - The access road to the upper (portal) pad is 4800' within the permit area. It has a berm on the canyon side (per MSHA regulations) and a conveyance ditch on the highwall side. Culverts are placed along the road at key points to control runoff. All culverts are equipped with trash racks and discharge control devices to reduce plugging and erosion. The access road is gravel surfaced and maintained regularly to provide safe access of men and materials to the mine site. No coal is hauled on this road. The road joins the Mill Fork Canyon Road just off the permit boundary. This is the U.S. Forest Service road down to U.S. Highway 31 in Huntington Canyon. (1976)
- (j) Coal Haul Road - This road extends approximately 900' within the permit area and is used for coal haulage by 28 to 40 ton coal trucks. The road is gravel surfaced and is watered as necessary for dust control. (1976)
- (k) Water Supply System - A small channel modification is fenced off in Mill Fork Canyon to catch spring water. This water then gravity feeds to a pump and cyclone in the pump house. The pump is activated by probes in the large water tank. When the tank shows no demand, the water flows through the pump station and on down Mill Fork Creek. (1976)

3.2.3 Surface Buildings and Structures (continued)

A map showing the details fo this system as well as a plan and section view of the channel modi- fication is included as Plate 3-1b, Mill Fork Pump House area.

The modification has been designed, constructed and maintained in accordance with UMC 817.44. The basin is cleaned of sediment as needed, and the entire concrete retaining wall can act as a wier some 30' wide in the event of a massive runoff event. The area is fenced off to minimize activity. Sediment loading is minimized by prohibiting machine access, settling within the modification, and contemporaneous revegetation of previously disturbed areas. The system is temporary, and the area will be reclaimed by removing all structures, including the concrete retaining wall. The stream will be rip-rapped through the modification area with 12" median material to a depth of 18". The schedule and cost for reclamation is included in Secs. 3.5.6 and 3.5.7. A complete reclamation plan for this area is included in Appendix 7 of this M.R.P.

- (l) Middle Water Tank - This is a 16,000 gallon intermediate storage tank which distributes water to both the underground operations and to the culinary water treatment unit. (1976)
- (m) Pump House - A 10' x 12' cinder block building with a steel roof houses a pump to distribute water to the upper or lower water tanks. (1976)
- (n) Upper Water Tank - This is a 10,000 gallon tank which stores water near the portal where it is drawn into the mine on demand. (1976)

3.2.3 Surface Buildings and Structures (continued)

- (o) Culinary Water Treatment Plant - This plant is housed in a block building and will treat approximately five gallons per minute of spring water to provide culinary water for the bath houses. (7/80 - 9/80)
- (p) Lower Water Tank - This is a 8,000 gallon tank which stores culinary water for bathhouse use. (1976)
- (q) Bath Houses - Three trailer-type bath house units are presently in place at the mine site. These bath houses (two for men - one for women) will serve the needs of the miners over the term of this permit. All bath houses are equipped with lockers, showers and lavatories. Sewage is handled through an approved septic tank/drainfield disposal system. (1976)
- (r) Guard Trailer - This small trailer is in place to house a security guard on weekends and off-shifts. The Mill Fork Canyon road is a public road and its close proximity to the operation necessitates additional security during idle times. (1976)
- (s) Sedimentation Ponds - Two sedimentation ponds in a series are located just below the disturbed area of operations. Runoff from all disturbed areas (except the access road) is directed and contained within these ponds. (7/79 - 9/79)
- (t) Fuel Tanks - Diesel is stored in a 2 - 500 gallon tanks and 1 - 2,000 gallon tank on the upper pad, and is also stored in a 2,000 gallon tank on the lower pad. All fuel tanks are surrounded with a

3.2.3 Surface Buildings and Structures (continued)

berm to contain any spillage or complete tank rupture. Tank locations are shown on Plate 3-1. (1976)

- (u) Bridge - The bridge on the upper pad allows the road to cross over the conveyor. It is a steel structure 20' wide x 15' long. (1976)
- (v) Powder Magazine - This is a 6'w x 6'l x 8'h steel unit used to store explosives for use underground. It is located in a dead-end entry and is maintained in accordance with MSHA standards. This is a portable unit, and will be hauled off for re-use upon reclamation. (1976)
- (w) Trash Dumpsters - 2 or more trash dumpsters are used for temporary storage of non-coal waste from the operation. These are hauled off to an approved sanitary land fill by a contractor, and empty dumpster(s) are left in their place. (1981)

### 3.2.3 Coal Handling

Coal is being brought out of the mine on a 42 inch belt conveyor and then discharged down an enclosed chute into a 10,000 ton capacity storage pile located lower in the box canyon. The coal is then loaded in 40 ton trucks by a front-end loader and hauled to the preparation plant.

#### 3.2.3.1 Surface Facilities - Maintenance

- (a) Chute/Conveyor - As mentioned above, both the chute and conveyor are covered to minimize spillage and fugitive dust. Maintenance on the chute and conveyor includes keeping the covers intact, cleanup of spills and buildup beneath return idlers, drainage controls to sediment ponds, and normal lubrication, cleaning and replacement of parts.

Once removed, any coal accumulation along the conveyor will be removed and either placed along the highwall (coal outcrop) or hauled to a disposal site approved by the Division. Coal accumulations along the chute shall be removed by equipment where accessible. Where inaccessible by machinery, hand cleanup will be performed to minimize the depth of coal on the surface prior to revegetation.

This maintenance and reclamation procedure uses best available technology and is designed to control and minimize diminution or degradation of the environment, damage to

3.2.3.1 Surface Facilities - Maintenance (continued)

fish and wildlife, and to prevent additional contributions of suspended solids to stream flow or runoff outside the permit area.

- (b) Other Support Facilities - All support facilities used on the property are maintained in such a manner as to facilitate their continued efficient operation, and to prevent damage to fish, wildlife and related environmental values and well as to prevent additional contributions of suspended solids to stream flow or runoff outside the permit area. All drainage from support facilities and disturbed areas is directed to sedimentation ponds for cleaning. Oil and grease are stored in containers with surrounding berms to contain any spillage. Air pollution is minimized by watering and/or chemical treatment as necessary.

3.2.4 Coal Handling

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### 3.2.5 Power System

Power is supplied by the Utah Power and Light Company. The main transmission lines are 12.6 KV and feed into a sub-station at the mine portal. From the sub-station, a 4160 volt line feeds a 10,000 watt transformer underground which feeds each individual piece of equipment.

Utah Power and Light Company will be responsible for removal of the main transmission lines in the permit area. The remaining power lines are shown on Plate 3-1; these will be removed by Beaver Creek Coal Company during the final reclamation. The removal cost and timing is included in the Sub-Station reclamation, Section 3.5.7.1, page 3-70.

### 3.2.6 Water Supply

Water for use both underground and in the bath houses is pumped from Mill Fork to a holding tank above the lower yard. From this tank, water is pumped underground for use on the equipment and is pumped to a culinary water treatment plant in the lower yard where it is treated and stored in a tank for use in the bath houses. Permits for the water supply are included as Appendix 4.

### 3.2.7 Sewage System

Sewage from the bath houses and security trailer in the lower yard flows into 2 - 2500 gallon Duracrete Septic Tanks. The seepage pit for the septic tank is loam soil 7' to 9' thick with a total seepage area of 5208 square feet. The system is approved by the State of Utah Department of Health. (1976) Permits for the sewage disposal system are included as Appendix 5.

3.2.8 Water Diversion Structures

There are two water diversion structures constructed on the upper (portal) mine pad. These structures are located at the base of the highwall and are for the sole purpose of diverting natural runoff from the area above the mine site. Diversion "A" diverts the water from the fan portal area to the west into an undisturbed drainage. Diversion "B" carries natural drainage to the east into another undisturbed drainage. Locations of these structures are shown on Plate 3-1, the Surface Facilities Map. Design, maintenance and operation of the diversions is further detailed in Section 7.2.3.2.

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3.2.8 Water Diversion Structures (continued)

undisturbed drainage. Locations of these structures are shown on Plate 3-1, the Surface Facilities Map. Design, maintenance and operation of the diversions is further detailed in Section 7.2.3.2.

3.2.9 Sedimentation Control Structures and Water Treatment Facilities

All runoff from the disturbed area is directed into sedimentation ponds located directly below the area of disturbance. Two ponds have been constructed in series to contain the expected runoff from a ten-year, 24-hour precipitation event in this area. These ponds serve as total containment structures; however, they are equipped with proper spillways and a filter in the event of a storm or mine water discharge exceeding their design.

Since some water is being discharged from the mine, the ponds serve as sedimentation control structures and as mine water cleaning structures. There are no other water treatment facilities at this mine site, except the culinary water facility previously discussed.

The locations of the ponds are shown on Plate 3-1, the Surface Facilities Map. Design, construction, maintenance and operation are discussed in detail in Section 7.2.3.2.

3.2.10 Transportation, Roads, Parking Areas, Railroad Spurs

Transportation

Coal is transported from the mine via a covered surface conveyor where it is transferred into a chute and dropped into the coal storage area. From here it is loaded by front-end loader into trucks and hauled to the preparation plant. Chute profiles are

3.2.10 Transportation, Roads, Parking Areas, Railroad Spurs

Transportation

Coal is transported from the mine via a covered surface conveyor where it is transferred into a chute and dropped into the coal storage area. From here it is loaded by front-end loader into trucks and hauled to the preparation plant. Chute profiles are shown on Plate 3-2a, Transportation Facilities and the conveyor profiles are shown on 3-2b.

Roads

The major portion of the upper road was established and used in the 1940's by the old Helco, Skeen and Leamaster mining operations. Minor reconstruction of the road was performed by Swisher (G.E.X.) in 1976-1977 to bring it to its present grade and alignment. The only work performed on the road since that time has been maintenance and some minor culvert installations. The majority of the road lies above the massive Starpoint Sandstone, and ongoing inspections of the road fill slopes have indicated no instability; there is no evidence of creep, slipping or other failures due to instability. An inspection of the road was performed by Division of Oil, Gas & Mining engineers, and it was concluded that the road should be exempt from a stability analysis for the following reasons:

- (1) It is pre-existing structure.
- (2) It has been in place for nearly 40 years without failure.
- (3) It shows no sign of instability.

3.2.10 Transportation, Roads, Parking Areas, Railroad Spurs

(continued)

There are two types of roads within the permit area:

(1) Coal haul road and (2) mine access road. The coal haul road is approximately 900' inside the permit boundary and connects to the U.S. Forest Service road in Mill Fork Canyon. The mine access road is used for men and material access to the mine site. This road is approximately 4800' long. Road widths, gradients, locations, etc. are shown on Plate 3-2a, Transportation Facilities. Culvert locations are shown on Plate 3-1, the Surface Facilities Map.

The Mill Fork Road is controlled by the U.S. Forest Service and B.C.C.C. operates on this road under a Special Use Permit with U.S.F.S. The design of drainage controls along this road were specified by the U.S. Forest Service engineers in 1976, and this road has been constructed and maintained in accordance with their specifications. Details on the design, maintenance, and use of this road are provided in Appendix 6 - Special Use Permits/Specifications on Mill Fork Road.

The drainage controls along the upper road were then patterned after those placed in the Mill Fork Road; (i.e. If a 36" culvert was required in a particular drainage in the lower road, a 36" culvert was also placed in the upper road. A 30" high berm is placed along the outside edge of the upper road for safety and drainage control, and the road is sloped to a minimum 24" wide x 12" deep ditch along the inside. All ditches lead to the culverts which are fitted with trash racks and erosion controls at the outlets.

3.2.10 Transportation, Roads, Parking Ares, Railroad Spurs  
(continued)

The road is maintained according to Class II road standards. It is gravel surfaced, and regularly maintained by grading, cleaning of ditches and culverts, and adding additional berm material and surface gravel as needed for safe, efficient access to the mine. The road will be removed and reclaimed during final reclamation as per Section 3.5.3 - Backfilling and Grading Plans.

The lower haul road is also sloped to the inside ditch (24" x 12" minimum); however, this road is equipped with a guardrail rather than a berm on the outside, to maintain adequate road width for haul trucks. This road drainage is taken through a culvert and directed to the sedimentation pond. (See Plates 3-2a and 7-5 for road x-section and ditch details).

The road is built and maintained as a Class I Haul Road. It is surfaced with 6" of -3/4" gravel and maintained at a minimum width of 26'. Ditches and culverts are adequately sized and maintained to prevent erosion and damage to the road base. This road will be reclaimed as per Section 3.5.3 Backfilling and Grading Plans.

3.2.10 Transportation, Roads, Parking Areas, Railroad Spurs  
(continued)

Parking Areas

A parking area is established for the workers on the lower pad area near the bath house. This area is graveled and sloped to drain to the sedimentation ponds. Location of the parking area is shown on Plate 3-1, the Surface Facilities Map.

Railroad Spurs

There are no railroads in the Huntington No. 4 Mine area.

As previously stated all facilities described above were constructed before enactment of P.L. 95-87; however, each facility is approved, operated and maintained in accordance with an OSM-approved Mining and Reclamation Plan.

3.2.11 Total Area for Surface Disturbance During Permit Term

Existing surface facility sites and roads have resulted in 12.5 acres of disturbance. However, a larger area of disturbance is illustrated on the soils and vegetation map. This difference is due to the engineers vs. soil scientist interpretation of disturbed land on pre-law road construction. The soil scientists have considered all scree/fill slopes as being disturbed due to undefinable soil units.

3.2.10 Transportation, Roads, Parking Areas, Railroad Spurs  
(continued)

The scree/fill slopes were created by the initial pre-law disturbance of this area, dating back to the 1940's. As a result of this extensive time since initial disturbance, vegetation has naturally become re-established on these slopes. Due to the steep terrain in the #4 Mine area, this scree/fill material is also inaccessible to conventional equipment.

Beaver Creek Coal Co. therefore, intends to perform reclamation only upon the 12.5 acres of disturbed lands used in the operation of the #4 Mine--the additional 65.5 acres of scree-fill slopes are not part of the planned mine reclamation effort for the reasons mentioned above. The 12.5 acres of disturbance to be reclaimed are delineated on Plate 3-8.

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3.2.13 Detailed Construction Schedule

No new surface construction is planned for this term.

3.3 Operation Plan

General

The Huntington No. 4 Mine is located in the Blind Canyon Seam. This is the upper seam in this area, with one lower seam (Hiawatha Seam) some 80' to 100' below. Coal is mined by continuous miners, loaded into shuttle cars and hauled to the feeder breaker. The feeder breaker reduces the coal to an 8" top size and feeds it onto a rope hung conveyor which carries it to the surface. The coal is transferred from the conveyor into a covered chute and dropped to the lower level into the raw coal storage pile. From here, it is loaded into coal trucks with a front-end loader and taken to the preparation plant approximately 35 miles away.

Two mining sections are presently operating at No. 4 Mine, one section in each seam, with a third section used as a spare section. Present production is approximately 1500 tons per day. All development and non-coal waste is disposed of in underground "gob" areas which consist of entries and cross-cuts no longer needed for the operation of the mine.

3.3.1 Mining Plans

Mining plans for the term of this permit are shown on Plates 3-3 and 3-4. These maps show the location and extent of all known workings as well as indicating the projections of active workings. The Mine Operations Map, Plate 3-5, shows all surface facilities related to the underground mining. The cross-sections, drill hole elevations, coal seam, overburden stratigraphy, and other geologic data are addressed in Section 6.5.

3.3.1.1 Orientation and Multiple Seam Considerations

The present orientation of the mine projection is to provide a logical mine plan development and maximize coal recovery. This plan is suited to known geologic conditions (faulting, wants, burning) as well as the property boundary. The projected lower seam mining will be columnized only to the extent practicable (see Mine Development Plans, Plates 3-3 and 3-4). It will be impractical to columnize workings beneath the old Leamaster Mine and within the upper seam "want area"; however, the interburden of 80' to 100' between seams will allow for normal coal recovery in the lower seam.

3.3.1.2 Portals, Shafts and Slopes

There are three portals in the upper seam: one intake, one belt and one return with an exhausting fan. The mine plans show that the lower seam is accessed through rock tunnels and an 8' diameter by 100' + deep return air shaft from the upper seam. This provides for the projected two or three section operation in two seams without the need for additional portals or surface disturbance.

3.3.1.3 Mining Methods, Room & Pillar, Longwall

All mining is done with a continuous miner/shuttle car haulage. Main entries are to be developed to the property boundaries, with sub-mains and panels developed off the mains. In second-mining, a standard room-and-pillar method is used to maximize coal recovery. Recovery within the room-and-pillar panels is approximately 75% to 78% with an overall recovery factor (including barriers) estimated at 50%.

Longwall mining is not a projected mining method at the No. 4 Mine.

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The M.S.H.A. I.D. number for this mine is 42-01270.

3.3.1.4 Projected Mine Development, Mains, Sub-mains, Panels,  
etc.

The main entries consist of a five-entry system on 100' centers to be driven to the property limits. Sub-mains consisting of five-entries on 80' centers are driven off the mains and room-and-pillar panels are developed off the submains. As the panel retreat is completed, the sub-mains will be pulled back to the 200' barrier pillars left along the mains. The mains will be pulled upon final retreat of the mine operation.

3.3.1.5 Retreat Mining

Rooms are to be developed within the panels on 70'- 80' centers. The pillars are then split according to the approved plan, leaving two fenders approximately 20' x 60'. These fenders are then removed one at a time by successive cuts with the miner. Timber is installed to support the roof and provide for breaker control of caving roof. Retreat mining of this type will provide a recovery of 75% to 78% within the panels.

3.3.1.6 Roof Control, Ventilation, Water Systems, Dust  
Suppression, Dewatering, Electrical

A copy of the approved Roof Control, Ventilation Methods and Dust Control Plans are attached (See Appendix 3).

The No. 4 Mine is dewatered, as necessary, by pumping from face areas to a main holding/settling sump. From this point, water will be recirculated to the mining operation or pumped outside into the

3.3.1.6 Roof Control, Ventilation, Water Systems, Dust  
Suppression, Dewatering, Electrical (continued)

sedimentation/filtering ponds and discharged, as per our NPDES Permit. The water thus far encountered underground has been localized and of minor quantity and only minor discharge from the ponds has occurred.

Water is brought into the sump in one entry, and is withdrawn from an adjacent entry. This allows for maximum settling, since incoming water must circulate slowly through approximately 250' of sump area before being withdrawn. Since the water is recirculated through the various spray systems within the mine, it is further cleaned through a cyclone upon discharge. The cyclone removes any remaining solids and deposits the reject in a separate, unused entry. Since the discharge pump is set up to operate on a positive head intake, the water level is always above the intake line to this pump; therefore, any oil or grease contained in the inflow to the sump stays on top of the water and is not drawn into the discharge line.

If water is to be pumped out of the mine, it also goes through the cyclone, and is then carried to the surface via a 4" pipeline and discharged. From here, it enters to ponds where additional settling and filtering takes place prior to discharge. The discharge is monitored for quality and quantity as per the NPDES permit.

Mine water discharges are allowed by 12/1/81 approval from the Division. This approval was for the modification of the Sediment Pond to allow for cleaning and discharge of the mine water, while allowing for storage capacity for storm and snowmelt runoff. A copy of this approval, with stipulations, is included in Appendix 7.

3.3.2 Barrier Pillars

Protective barrier pillars will be utilized where necessary, ranging from 150' to 300' in width, depending on the depth of cover. Barrier pillars will be left on either side of the main entries, from 15' to 300' wide, depending again on the depth of cover. Barrier pillars in the main will be extracted on final retreat. See Plates 3-3 and 3-4 for location and size of barrier pillars.

3.3.2.1 Protection of Oil and Gas Wells

There are no oil or gas wells in this area.

3.3.2.2 Protection of Surface Structures and Streams

There will be no surface structures or streams affected.

3.3.2.3 Property Boundaries

A protective barrier pillar of approximately 100' wide will be left when advancing toward or along an outcrop.

3.3.2.5 Other

In the event that a slide occurs which may have a potential adverse effect on public property, health, safety or the environment, persons conducting the underground coal mining operations will notify the Division. The company will abide by appropriate mitigation as required by the Division.

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3.3.3 Conservation of Coal Resource

It is in the best interest of Beaver Creek Coal Company to extract the coal to the maximum extent possible and all functions of engineering, production and supervision are geared toward this end.

3.3.3.1 Projected Maximum Recovery

In place mineable reserves were calculated by detailed planimetry of Beaver Creek mine maps in conjunction with coal isopach maps. Recoverable reserves were estimated at 50% of in-place reserve. The Blind Canyon seam contains 1.5 million tons of recoverable reserve. The Hiawatha seam, which rests on top of the Star Point sandstone, is estimated to contain another 2.4 million tons.

3.3.3.2 Justification for Non-recovery

All coal that can economically be recovered will be recovered.

3.3.3.3 Access for Future Reserves

At the present stage of the mine plan, development is toward reserves to the northwest. These mains will provide access to these reserves.

3.3.4 Equipment Selection

Equipment (Inside)

Joy Cont. Miner  
L/N Cont. Miner 455  
Conveyor Bridge  
L/N TDI-29 Roof Bolter

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3.3.4 Equipment Selection (continued)

Equipment (Inside) (continued)

L/N TDI-43 Roof Bolter  
4 - Joy Shuttle Car  
Power Center 1000 KVA  
2 - Transformer 167 KVA  
3 - John Deere Tractor  
Eimco 950 Minetender Tractor  
Eimco 9353 Scoop Tram  
2 - L/A Rosco II Feeder Breaker  
4 - L/A Conveyor Drive & Tail 42"  
L/A Conveyor Starter  
MSA Rock Duster  
L/A MD-50 Rock Duster  
Fire Alarm Notifier WPA  
L/A Conveyor Drive & Trail 36"

Equipment (Outside)

988 Cat Loader	Chute Vibrator
16G Cat Grader	Water System
2-12 x 60 Bathhouse	Water Storage Tank
14 x 60 Bathhouse	Sub-station
10 x 48 Bathhouse	Lincoln 300 amp Welder
Strick Van	Miller 300 amp Welder
Chute Enclosure	

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3.3.5 Mine Safety, Fire Protection and Security

Mine Safety

The No. 4 Mine is operated subject to, and in accordance with, Mine Safety and Health Administration (MSHA) regulations. Regular inspections are performed by MSHA personnel to ensure compliance. In addition, Beaver Creek Coal Company conducts safety training using its own safety manual and policies for its operations.

Fire Protection

All surface and underground equipment is provided with MSHA required fire protection. In addition, belt drives are equipped with deluge systems for fire. Water lines are also equipped with required outlets and fire hoses at regular intervals.

To minimize any fire hazards, all combustible materials will be stored away from combustion-prone areas. All garbage and flammable wastes are contained in a fire-proof dumpster and hauled to an approved disposal site. All flammable materials (oil, etc.) are stored in fire-proof containers. There will be no open burning of non-coal wastes on the mine surface unless authorized by local authorities.

Diesel fuel or gasoline, hydraulic fluids and other mine-related lubricants will be stored and/or disposed of at designated storage and disposal sites. In accordance with EPA regulations 40 CFR Part 112, and the Utah Water Pollution Control Act, Section 73-14-9.5, a Spill Prevention, Control and Countermeasure Plan has been developed for use at the mine property to properly handle oil or waste spills.

Mining and Reclamation Plan  
Huntington Canyon No. 4 Mine Permit Application

3.3.5 Mine Safety, Fire Protection and Security (continued)

Security

Locked gates and signs are maintained at both road entrances to the permit area when the mine is idle. In addition, a guard is employed at the mine site to ensure security.

3.3.5.1 Signs

Specifications

All signs will be of a standard design that can be seen and read easily. They will be made of a durable material (treated/painted wood or metal) and be supported by metal posts.

Identification Signs

Signs are placed as required at the mine area. Identification signs are placed at the 2 entrances to the mine area (See Figure 3-1). Signs show name, business address and telephone number of name, business address, and telephone number of Beaver Creek Coal Company and identification numbers of permits or other authorizations to operate. Signs will not be removed until after release of all bonds.

Buffer Zone Markers

Buffer zone signs have been placed as required along the Mill Fork Creek above and below the sedimentation ponds (See Figure 3-2).

**HUNTINGTON CANYON NO. 4 MINE**

**I.D.-42-01270**

**BEAVER CREEK COAL CO.**

**1109 SO. CARBON AVE.**

**PRICE, UTAH 84501**

**(801) 637-5050**

**PERMIT NO. UT-004**

Figure 3.1 Mine Identification Sign

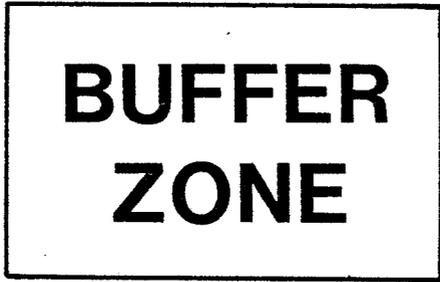


Figure 3-2. Buffer Zone Marker

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Huntington Canyon No. 4 Mine Permit Application

3.3.5.1 Signs (continued)

Topsoil Markers

The topsoil storage area is clearly marked with a sign at its only entrance (See Figure 3-3).

Perimeter Markers

Disturbed area perimeter markers have been placed within the permit area as required.

3.3.5.2 Fences and Gates

The area around the supply water collection basin is fenced off with 6' chain link to discourage human and large animal access. No other areas are fenced at this property.

There are gates at each access road into the permit area, located at the permit boundary. These gates are open during normal work hours and are kept locked otherwise.

3.3.5.3 Fire Protection

Facilities

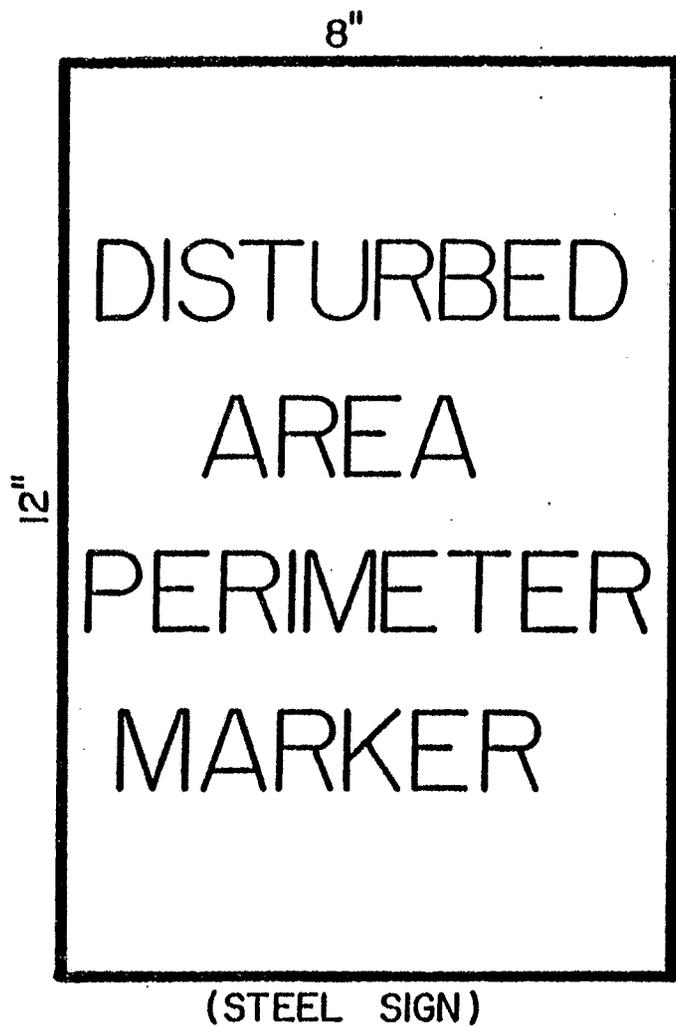
All facilities are equipped with fire extinguishers and water outlets and fire hoses are available at each location.

Coal Stockpiles

The coal stockpile at No. 4 Mine is temporary and is loaded out at frequent intervals, thus reducing the potential for spontaneous combustion. There are no refuse piles or coal processing wastes at this location.

**TOPSOIL  
STORAGE**

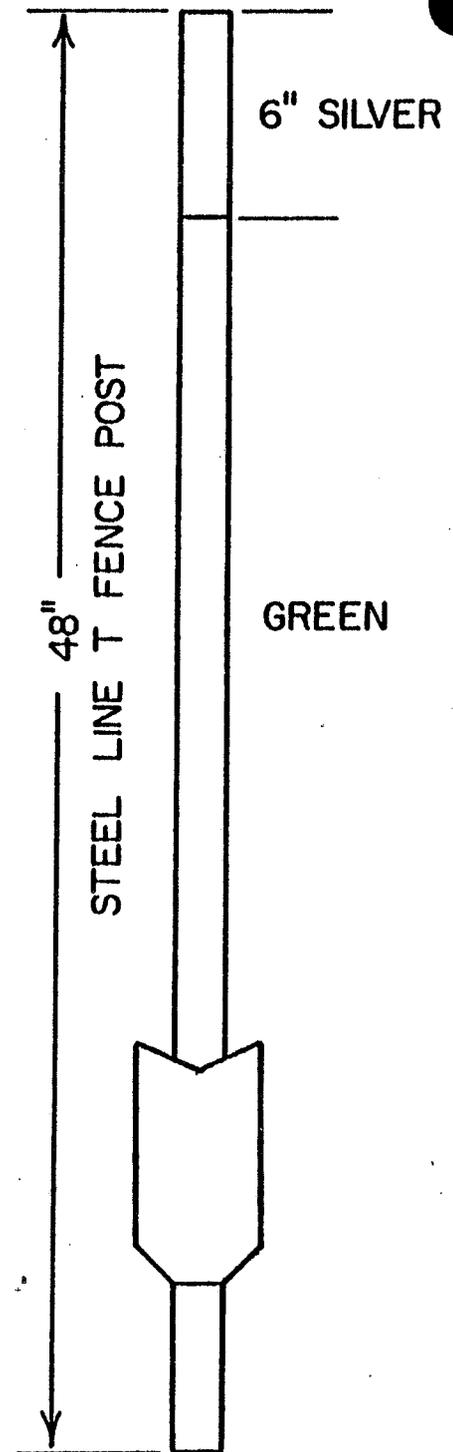
Figure 3-3. Topsoil Storage Marker



PERIMETER MARKERS

FIGURE 3-4

Figure 3-



Mining and Reclamation Plan  
Huntington Canyon No. 4 Mine Permit Application

3.3.5.3 Fire Protection (continued)

Coal Seam

No open burning and minimal exposure of the coal seam to lightning or other fire-causing hazards are the main methods of fire protection. All coal outcrops resulting from this mining will be covered with incombustible material upon cessation of operations, as discussed in the "Reclamation Plan".

3.3.5.4 Explosives

There are no surface blasting activities incident to this underground operation. Any use of explosives in the underground operation is in compliance with all applicable State and Federal laws and is conducted by persons trained, examined and certified as provided by 30 CFR 850 and the Utah State Industrial Commission.

3.3.6 Operations Schedule

The No. 4 Mine is presently operating with two continuous miner sections working two shifts per day on a normal five-day week. Unless coal demand increases, it is not projected that a third section will be added to the mine. The Huntington No. 4 Mine will continue to operate with two miner sections, two shifts, five days per week (normal) for the remainder of the permit term.

3.3.6.1 Annual Production Per Year for Permit Term

The annual production projected for the No. 4 Mine in 1983 is 345,000 raw tons, based on 2 miner sections at two shifts per day. The projected production for the years 1984 throughout life of mine is 365,000 tons per year, based on two miner sections operating two shifts per day. Total projected production for life of mine is 3.9 million tons.

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3.3.6.2 Operating Schedule - Days - Shifts

Production will be on a normal two shift basis, five days per week (approximately 240 days per year). A small crew will perform maintenance work and other non-production jobs on the third shift on the same schedule.

3.3.6.3 Operation Employment

No. 4 Mine presently has 10 salary and 53 hourly people on the payroll. It is projected that this figure will remain the same for the permit term.

3.3.7 Mine Permit Area

3.3.7.1 Acreage and Delineation of Mine Permit Area

The total acreage contained within the Mine Permit Area is 1,320 acres. The area is delineated on Figure 1-2, Permit Area Map.

3.3.7.2 Projected Mining by Year

The projected mining by year is shown on Plates 3-3 and 3-4.

3.3.8 Mine Plan Area

The mine plan area is the same as the mine permit area.

3.3.8.1 Projected Mining by Future Permit Term for the Planned Life of Mine

The projected mining beyond the permit term is shown on the Mine Development Plans, Plates 3-3 and 3-4. This mining is within the present proposed permit area.

3.3.6.2 Operating Schedule - Days - Shifts

Production will be on a normal two shift basis, five days per week (approximately 240 days per year). A small crew will perform maintenance work and other non-production jobs on the third shift on the same schedule.

3.3.6.3 Operation Employment

No. 4 Mine presently has 10 salary and 53 hourly people on the payroll. It is projected that this figure will remain the same for the permit term.

3.3.6.4 Temporary Cessation

Whenever it is known that operations are to be temporarily ceased for more than 30 days, Beaver Creek Coal Company shall submit to the Division a notice of intention to cease or abandon the operations, in accordance with UMC 817.131 and to MSHA standards.

This notice will describe mitigation measures to be employed in accordance with the terms and conditions of the permit approval, such as a statement of the number of surface acres involved in the cessation, extent of sub-surface strata, prior reclamation efforts accomplished on the property, and identification of all backfilling, regrading, revegetation, environmental monitoring, underground opening closures and water treatment activities that will continue during the temporary cessation.

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### 3.4 Environmental Protection

#### 3.4.1 Preservation of Land Use

Upon completion of mining operations at the Huntington Canyon No. 4 Mine final reclamation work will commence. Reclamation efforts will be directed to restoring the pre-mining land use which was wildlife habitat with limited domestic grazing. This will be achieved by use of an acceptable seed mixture of shrubs, forbs, and grasses.

##### 3.4.1.1 Projected Impacts of Mining on Current and Future Land-Use

Surface disturbance is anticipated to be limited to that currently present. Beaver Creek personnel will control impacts to additional areas by maintaining surface disturbance within the present boundaries. Mining operations have not affected public facilities or roads and are not projected to at the present time.

##### 3.4.1.2 Control Measures to Mitigate Impacts

Mining operations to date have disrupted some wildlife habitat but no additional disturbance is anticipated at this time. Based on the boundaries of the present surface disturbance, no public parks or historic places will be impacted by mining operations so mitigation measures are not discussed here. A further discussion of Cultural Resources may be found in Section 5.

3.4.2 Protection of Human Values

3.4.2.1 Projected Impacts of Mining on Human Values

As discussed in Section 5, a check of the Natural Register of Historical Places and known archaeological sites did not uncover any such areas within the permit.

3.4.3 Protection of Hydrologic Balance

Beaver Creek Coal Company has employed various control measures to protect the hydrologic balance of the permit area. An alternative water supply has been proposed to replace water affected by mining. Also, sedimentation control features have been designed to control flow from disturbed areas.

An agreement presently exists between Beaver Creek Coal Company and the City of Huntington in the event that mining operations affect Little Bear Spring, a water supply to the city (see Appendix 1). The agreement states that Beaver Creek Coal will replace water impacted by mining with its alternative water supply. The alternative water supply would come from Beaver Creek's share of water in Huntington Creek. These 800 shares of water represent 264 acre feet of water (.33 ac. ft. per share) in normal water years, and would be used to replace any water rights shown to have been impacted as a result of our mining. (See Table 7-8 for a listing of rights that could possibly be impacted).

3.4.3 Protection of Hydrologic Balance (continued)

If the quality of the water is adversely affected by Beaver Creek Coal Company mining operations, the applicant would pay the City of Huntington to process the water.

Diversions have been established to divert flow from disturbed areas to the sedimentation ponds. Water encountered during mining operations will also flow to the sedimentation ponds. To date, groundwater encountered during mining operations has occasionally been sufficient to warrant a discharge.

3.4.3 Protection of Hydrologic Balance (continued)

One NPDES permit with two outfall numbers exists at the No. 4 Mine. Outfall number 001 pertains to discharge from the cyclone overflow system in Mill Fork Creek which is an approved point of diversion for collection of water for use in mining operations. Outfall number 002 pertains to possible discharge of water from mine workings. Any discharges of water will meet state and federal water quality laws and established numerical effluent limitations.

3.4.3.1 Projected Impacts of Mining on Hydrologic Balance

Mining operations at the No. 4 Mine are not expected to impact the surface or groundwater quality or quantity. The principal source of groundwater is the Star Point sandstone which is below mining.

Mill Fork Creek, Little Bear Creek, and Crandall Creek are the only surface water courses that lie outside of the permit area. Mill Fork Creek which flows intermittently throughout most of the year, is the only one of these streams that lies down gradient from surface disturbance. Flow from disturbed areas is controlled by diversions and sedimentation ponds. A buffer zone has been established between the haul road and the stream. Disturbance in this area is limited to road maintenance and snow removal, which is directed to the north of the haul road to eliminate sediment loading of the stream. By blading the snow to the north of the road (away from the stream) in the buffer zone area, and by conducting all road maintenance activities (grading, graveling,

3.4.3.1 Projected Impacts of Mining on Hydrologic Balance

(continued)

etc.) in a manner that directs material away from the stream side, sediment loading in this area will be minimized. Snow or other accumulations of material shall be removed from this area and placed in an approved storage or disposal site as soon as practicable after the maintenance activity occurs. Therefore, by maintaining sedimentation control facilities over the life of mining operations, impact to surface water is not expected.

The surface water hydrology of the Huntington No. Mine site is not expected to change significantly after final reclamation. Erosion of the reclaimed surface is the area of greatest concern

3.4.3.1 Projected Impacts of Mining on Hydrologic Balance (continued)

with respect to post-mining hydrology. However, due to the methods of backfilling, recontouring, slope and soil stabilization and erosion control measures described in Section 3.5.4, erosion is not expected to be a serious problem.

The recontouring of backfill material and placement of topsoil should increase infiltration and reduce runoff. This will also serve to reduce erosion.

The potential risk to the deterioration of surface water quality is in increased total suspended solids (TSS) caused by erosion. The erosion control measures after reclamation should prevent a significant increase in TSS to the natural streams.

The Star Point Sandstone is assumed to be the only significant regional aquifer. The water in the Star Point Sandstone is the source of the Little Bear Springs. These springs are stratigraphically below mining, thus, water supply is unlikely to be affected by mining. It is also unlikely that water quality will be affected by mining activity. The ongoing surface water monitoring program will provide the long term data needed to assess potential hydrologic impacts. An alternative water supply agreement has been made between Beaver Creek Coal Company and the City of Huntington to replace water from Little Bear Spring, the city's water supply, in the event that it is impacted by the applicant's mining activities.

3.4.3.2 Control Measures to Mitigate Impacts and Monitoring Procedures

Beaver Creek Coal Company will continue to maintain present sedimentation control structures to prevent contamination of the surface waters of Mill Fork Creek. Areas where vegetation was

3.4.3.2 Control Measures to Mitigate Impacts and Monitoring Procedures

(continued)

tion was affected by surface disturbance will be revegetated to minimize erosion from surface run-off. Groundwater encountered during mining operations has been used for abatement of dust generated by operating equipment underground. Whenever an amount of water is encountered during mining which cannot be used for dust abatement, the water has been released into the sedimentation ponds to meet effluent limitations before discharge. Up to the present time, minor amounts of groundwater have been encountered during mining, resulting in an occasional discharge from the ponds.

The on-going, surface water monitoring program is used to determine any changes in water quality that can be attributed to mining operations at the No. 4 Mine.

Should changes in water quality occur, the source of the problem will be identified and measures taken to correct any deficiencies (See Sec. 7.2.5).

3.4.4 Preservation of Soil Resources and Projected Impacts of Mining on Soil Resources

Soils of the Huntington Canyon No. 4 Mine were mapped and analyzed in July 1980. At that time natural occurring soil bodies were distinguished from disturbed land fill (scree material). The purpose of the survey was two-fold; a) to identify soils and their stripped depths for salvaging and suitable natural prior to additional disturbance and b) determine the amount of topsoil available for final reclamation. Soil sampling locations are found on Plate 8-1.

3.4.3.2 Control Measures to Mitigate Impacts and Monitoring Procedures  
(continued)

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3.4.4 Preservation of Soil Resources and Projected Impacts of Mining on Soil Resources (continued)

Most of the disturbance at the No. 4 Mine occurred prior to enactment of P.L. 95-87 or the Utah Interim Program that set forth regulations for salvaging topsoil. This is displayed on the Soils Map, Plate 8-1, where areas mapped as disturbed land fill constitutes roads and pads for which no topsoil was salvaged. However, the original topsoil from the pads and roads was deposited as scree/fill material on the adjacent slope as a result of dozing activities during the original construction activities.

The current mine plan shows no need for additional surface disturbance at this time. Thus, it will not be necessary to remove or store additional soils at the No. 4 Mine.

Due to the fact that salvaged topsoil material exists only for the sedimentation pond and some diversions, it becomes necessary to evaluate a substitute material for final reclamation. The chemical and physical analysis from the disturbed land fill indicate the material has a fair rating as topsoil material (see Section 8, Soil Resources). Disturbed fill sampling locations can be found on Plate 8-1. Since no other topsoil material exist in the immediate vicinity of disturbance, it becomes necessary for Beaver Creek personnel to propose the use of disturbed land fill as a substitute to topsoil in final reclamation.

With special handling, the disturbed land fill should provide a suitable seedbed for revegetation. Special handling will include removal of contaminated material and large coarse rock fragments, (+8" in size). All areas will be ripped to loosen compacted fill and pulverized if a cloddy surface exists. Prior to revegetation efforts, soil analyses will be performed to identify any soil nutrient deficiencies. Soil samples will be analyzed for those parameters tested during baseline studies.

3.4.4.1 Control Measures to Mitigate Impact to Soil Resources

The current mine plan shows no need for additional surface disturbance at the No. 4 Mine. Therefore, surface disturbance is limited to the boundaries established on the Soils Map. Plate 8-1. Mining activities will be limited to those boundaries so that in place soils are not impacted. Disturbed areas have been or will be revegetated to prevent erosion of soils. Unforeseen surface disturbance and accompanying control measures to mitigate impacts will be addressed to the Division in a revision of the M & R Plan.

3.4.5 Protection of Vegetative Resources

A reclamation plan has been designed to establish a diverse and stable vegetative cover capable of supporting pre-mining land uses on all areas disturbed by surface operations and facilities. This plan is fully described in Section 3.5.

The following seeding strategy is to be used at the Huntington No. 4 Mine: (1) Areas to be temporarily reclaimed or reseeded before final reclamation will be planted with grass and forb species at the temporary rates shown in Table 3-1. (2) Areas to be permanently reclaimed and/or revegetated will be planted with grass, forb and shrub species at the permanent rates shown in Table 3-1.

Table 3-2 provides the stocking rates for trees and shrub seedlings during permanent reclamation. These woody species will be clumped over at least 20 percent of the reclaimed areas to provide an "edge effect" for restoration of wildlife habitat.

Table 3-1

SEED MIXES

	Pounds of PLS/ac (Broadcast or Hydroseed)		PLS	Cost
	Temporary	Permanent		
<u>GRASS AND FORB SPECIES</u>				
✓ Fairway crested wheatgrass <u>Apropyron cristatum</u>	1	1	\$ 1.00	\$ 1.00
✓ Bluebunch wheatgrass <u>A. spicatum</u>	3	5	\$ 7.50	\$ 37.50
Streambank wheatgrass <u>A. riparium</u>	3	4		
Slender wheatgrass <u>A. traphycaulum</u>	3	4	\$ 2.55	\$ 10.20
✓ Indian ricegrass <u>Oryzopsis hymenoides</u>	2	2	\$ 8.15	\$ 16.30
✓ Mountain brome <u>Bromus marginatus</u>	1	3	\$ 3.50	\$ 10.50
✓ Cicer Milkvetch <u>Astragalus cicer</u>	2	4	\$ 4.20	\$ 16.80
✓ Palmer penstemon <u>Penstemon palmeri</u>	2	3	\$35.00	\$105.00
✓ Silky lupine <u>Lupinus sericeus</u>	<u>2</u>	<u>2</u>	<u>\$70.00</u>	<u>\$140.00</u>
TOTAL	19	28		\$337.30

Table 3-1 (continued)

SEED MIXES

	Pounds of PLS/ac (Broadcast or Hydroseed)		PLS	Cost
	Temporary	Permanent		
<u>STRATIFIED SHRUBS</u>				
Curl-leaf mountain mahogany <u>Cercocarpus ledifolius</u>		.5	\$40.00	\$ 20.00
Utah serviceberry <u>Amerlanchier utahensis</u>		.5	\$62.85	\$ 31.42
Rubber rabbitbrush <u>Chrysothamnus nauseosus</u> var. <u>albicaulis</u>		.5	\$68.00	\$ 34.00
Oregon grape <u>Mahonia repens</u>		.5	\$78.50	\$ 39.25
TOTAL		2.0		\$124.67
<u>RELATIVELY LOW-GROWING SHRUBS</u>				
Rubber rabbitbrush <u>Chrysothamnus nauseosis</u> var. <u>albicaulis</u>		.5	\$68.00	\$ 34.00
Snowberry <u>Symphoricarpos oreophilus</u>		.5	\$55.00	\$ 27.50
Antelope <u>Purshia tridentata</u>		.5	\$14.00	\$ 7.00
Oregon grape <u>Mahonia repens</u>		.5	\$78.50	\$ 39.25
TOTAL		2.0		\$107.75
<hr/>				
Grasses and Forbs			\$337.30	
Stratified Shrubs			124.67	
Relatively Low Growing Shrubs			<u>107.75</u>	
TOTAL			\$569.72	

Table 3-2

SHRUB SEEDLING STOCKING RATES

<u>Species</u>	<u>Common Name</u>	<u>Stocking Rate (Plants/Ac.)</u>
<u>Cercocarpus ledifolius</u>	Mountain Mahogany	250
<u>Purshia tridentata</u>	Bitterbrush	50
	Total	<hr/> 300

3.4.5 Protection of Vegetative Resources (continued)

On-site personnel will maintain records of actual methodology applied in the field. The species lists and rates given in Table 3-1 may vary as additional knowledge from field implementation becomes available.

Areas to be planted will be "roughened" by raking (or other means) to help hold the seeds in place. The proper seed mixture will then be spread either by hand or machine. Mulch will then be applied as necessary, either by machine or by hand in inaccessible areas. Visual observations of temporary revegetated areas will determine if alterations are warranted. These will be made with concurrence of the landowner until revegetation success is to their satisfaction.

All revegetation will be in compliance with the plan submitted under 30 CFR 784.13 and 784.15, as approved by the regulatory authority in the permit, and carried out in a manner that encourages a prompt vegetative cover and recovery of productivity levels compatible with the approved postmining land use. This plan is outlined in Section 3.5.

All disturbed lands, except water areas and surface areas of roads that are approved as a part of the postmining land use, shall be planted to achieve a stable vegetative cover of the same seasonal variety native to the area of disturbed land. Comparable species will be substituted for those localized species commercially unavailable. The vegetation planted will be capable of self-regeneration and plant succession and, before bond release, will at least equal in extent the cover of the natural vegetation of the area.

3.4.5 Protection of Vegetative Resources (continued)

The native vegetation adjacent to the disturbed area, as represented in the reference area, consists primarily of a sparse pinyon-juniper woodland with sparse shrub cover. Within the Pinyon-Juniper reference area, mean canopy cover for tree layer species was 4.1%. Mean foliar cover for shrub species was 0.4+%. The major grass present in terms of cover and production was Elymus salinus (Salina Wildrye). Refer to Tables 9-2, 9-3, and 9-4.

There is no cropland on the site and none are planned as part of the post-mining land use.

All grading and backfilling will be done as described in the reclamation plan (Section 3.5).

If rills or gullies deeper than 9 inches form in areas that have been graded and topsoiled, those areas will be regraded, reseeded or stabilized by some other means.

3.4.5.1 Projected Impacts of Mining on Vegetative Resources

Current mining activities have already impacted the area to the anticipated extent. A total of approximately 12.5 acres have been disturbed through the construction of haul roads, loading facilities, mine portal development, etc. An additional 65.5 acres constitute areas for which the vegetation was partially destroyed at the time of construction activities due to scree/fill material from the road base. In these areas the topsoil is still in place. Visual observations indicate that the vegetation cover has increased since initial disturbance.

3.4.5.1 Projected Impacts of Mining on Vegetative Resources

All of the disturbance is located within an area previously covered by a sparse pinyon-juniper woodland vegetation type. No further surface disturbance is expected during the period that this mine permit is being applied for.

3.4.5.2 Mitigating Measures to be Employed to Reduce Impacts on Vegetative Resources

No additional impacts to vegetation are expected. All haul roads, mine portals, and other surface facilities are in place. Due to the steep terrain, traffic will not leave established roads. Upon decommissioning, all disturbed areas will be reclaimed as described in Section 3.5.

3.4.5.3 Monitoring Procedures - Reference Areas, and Revegetation

The reference area is 2.5 acres in size. It is located slightly upslope and adjacent to the affected area. It is within the Pinyon-Juniper-Curl leaf Mountain Mahogany vegetation type and represents the pre-disturbance vegetation of the affected area. The location of the reference area is shown on Plate 9-1.

All 1981 measurements of cover and productivity within the reference area have been done according to the latest DOGM guidelines in place at the time of sampling.

The current reference area is in good range condition. If this condition deteriorates to poor prior to comparison with the reclaimed surfaces, the established reference area will be managed in a manner consistent with wildlife and rangeland use until bond release is approved. Proper management practices will be

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3.4.5.3 Monitoring Procedures - Reference Areas, and Revegetation  
(continued)

developed in consultation with the USFS and SCS. Management practices may involve fencing, changes in grazing patterns or intensity, or other methods to attain at least fair range condition.

3.4.6 Protection of Fish and Wildlife

As an initial part of the fish and wildlife study, open file data and wildlife range maps available from the DWR Regional Office in Price, Utah were reviewed. Study methods were discussed informally with Larry Dalton of DWR in Price, Utah, in September, 1980. Utilizing this information and the data obtained during the 1981 field studies, plans were developed to protect fish and wildlife species. A revegetation plant mix was selected in consultation with OSM and USFS and DOGM which includes species that are adapted to onsite conditions and are of known value to wildlife for cover, forage or both.

3.4.6.1 Potential Impacts on Fish and Wildlife

Wildlife impacts typically can be categorized into three groups: loss or modification of habitat, disturbance and mortality.

The limited amount of surface disturbance associated with the Huntington Canyon No. 4 Mine results in a total habitat loss of about 78 acres during the life of the mine. This loss of habitat has already occurred and no additional disturbance is foreseen.

Virtually all of the mine activity is confined to the Pinyon-Juniper-Curl leaf Mountain Mahogany habitat type. It does not appear that this amount of loss within this habitat type has had a significant impact on wildlife within the permit area.

3.4.6.1 Potential Impacts on Fish and Wildlife (continued)

Aquatic habitat loss along Mill Fork apparently has not occurred, even though the stream is adjacent to the mine access road and downhill from the active mining area. However, loss of habitat is a potential impact wherever mining activities are conducted in close proximity to a stream. The most common potential problems are soil erosion and wastewater spillage, both of which can make a stream uninhabitable for fish and macroinvertebrates.

Disturbance of furtive species results from the levels of noise and activity associated with an operational mine. Thus, most larger species of birds and mammals (including deer, carnivores and raptors) tend to avoid the mine site, at least during working hours. Most of these species are likely to move freely around the mine site on weekends and to quickly reinhabit the area after decommissioning.

Three types of mortality potentially could result from the Huntington Canyon No. 4 Mine: raptor electrocutions on unsafe power poles, mammal roadkills, and pollution of Mill Fork. A raptor hazard survey conducted in 1980 suggests that present pole configurations on the site incorporate the latest in protective design features. Mitigation measures for roadkills, stream pollution and other potential impacts are discussed in Section 10.5.

It should be noted that any impacts related to the presence of the Huntington Canyon No. 4 Mine are minor compared to the severe overgrazing by sheep which currently characterizes the area. That is, the overall carrying capacity for both small and large herbivores, and hence for predators that depend on them for food, has been significantly diminished by historic rangeland use practices. The range degradation associated with overgrazing is by far the most severe environmental stress in the area.

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3.4.6.2 Mitigation and Management Plans

As noted in Section 10.4, the Huntington Canyon No. 4 Mine is an existing operation. Therefore, mitigation and wildlife management measures have been designed to prevent additional impacts related to continued mining activities and to facilitate rapid return of the site to wildlife habitat after decommissioning. The relatively small-scale habitat loss associated with the mining operation will be mitigated upon completion of the project by reclaiming the disturbed sites. The revegetation plant mix, selected in consultation with OSM, USFS, and DOGM, does include species that are adapted to on-site conditions and are of known value to wildlife for cover, forage or both. Details of the reclamation plan are provided in Section 3.5 and additional mitigation plans are outlined in Section 10.5.

Habitat loss associated with disruption or pollution of Mill Fork is controlled by; 1) a buffer strip adjacent to the stream to ensure that the stream channel and adjacent riparian vegetation will remain free of disturbance by the operation; 2) a diversion system to keep upslope runoff away from the disturbed area; 3) sediment ponds to prevent disturbed area runoff from increasing the sediment load of the stream. See Sections 3.2.8, 3.2.9 and 7.2.3 for details of the diversion/sediment pond measures which are approved under a discharge permit.

Disturbance-related impacts are mitigated to a significant extent by Beaver Creek Coal Company policies preventing harassment or hunting of wildlife in the study area. These policies will continue throughout the operation of the mine. Further, "employee awareness" programs specifically inform mine personnel of especially sensitive periods (e.g., the nesting season for raptors, fawning season for deer) or habitats (e.g., winter range, snake dens).

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3.4.6.2 Mitigation and Management Plans (continued)

Impacts on deer by roadkills, especially of larger species, are mitigated by installing speed limit and game crossing signs. Coal haulage drivers are required to record any roadkills on a standard form. The Roadkill Report Form includes information such as date, time of day and location. Since this policy was instituted in 1980, no roadkills have been reported for the Huntington Canyon No. 4 Mine access road.

Raptor electrocutions are minimized by using powerpole and line configurations known to avoid most types of conductor-conductor or conductor-ground contacts. Preliminary results of a raptor hazard investigation indicate that the Utah Power and Light lines to the Huntington Canyon No. 4 Mine have incorporated safe design features. The major distribution line uses a double crossbar t-pole with an elevated and wireless top, and access to the crossarms is minimized by the placement of bars from the insulators to the pole, forming a triangular "shield." The second pole type at Huntington Canyon is an armless pole with insulators arranged in a triangular pattern and separated from the pole by short "spacers".

The long-term management plan for the Huntington Canyon No. 4 Mine permit area relies primarily on mitigation measures presently used for the mining operation and on reclamation and rehabilitation of disturbed sites when the project is completed. This approach is expected to keep adverse impact to a minimum and allow eventual return of the area to wildlife use.

### 3.4.6.3 Fish and Wildlife Monitoring

Beaver Creek Coal Company will conduct a wildlife monitoring program throughout the operational life of the Huntington Canyon No. 4 Mine. The monitoring program will utilize the services of an environmental specialist and, as necessary, professional consultants to: 1) evaluate that ongoing success of operational mitigation measures; 2) ensure that threatened or endangered species and sensitive or critical use areas remain undisturbed by future activities; 3) deal with any unforeseen difficulties which might arise; 4) participate in reclamation efforts upon completion of the project.

One aspect of the monitoring program continues to be performed by Beaver Creek Coal Company: (a) monthly inspections of specific stations along Mill Fork to monitor sediment load. Routine reporting by coal haulage personnel of any roadkills along the access corridor was also a part of the monitoring program when the site was active; however, as of April, 1990 no road kills have been reported, nor was any known to have occurred on the Mill Fork road. Since the site is inactive, this program will be discontinued upon approval of this permit.

Observations of any threatened or endangered species, not previously reported on the permit area, will be reported to the proper regulatory authorities.

### 3.4.7 Protection of Air Quality

#### 3.4.7.1 Projected Impacts of Mining Operations on Air Quality

Regional impacts from Huntington Canyon mining operations on air quality are expected to be minimal due to the rapid fallout of particles with distance from the source. Particulate matter is the only air pollutant that has the potential to degrade air quality. The particulate matter is predominately fugitive dust. Increases in concentrations of other pollutants such a sulfur dioxide, nitrogen

3.4.7.1 Projected Impacts of Mining Operations on Air Quality (continued)

oxides, carbon monoxide, and photochemical oxidants are insignificant. The regional annual particulate impact of coal development in the Castle Valley area is expected to be less than the Class I increment standard of  $10 \text{ ug/m}^3$  (see Table 11-3 and 11-4 for regional total suspended particulate data).

3.4.7.2 Mitigating Measures to be Employed to Control Air Pollutants

Due to the moisture content of the coal (4.4%) and the water carryover from dust suppression sprays underground, the potential for fugitive dust emissions from coal is minimized. Water sprays are used on the continuous miner to eliminate coal dust at the underground face. As coal is loaded onto the mine conveyor it is again sprayed with water for additional dust suppression. On the surface, the covered conveyor and chute prevent wind erosion from the conveyor, which is the major cause of fugitive emissions from conveying operations. Whether the coal drops from a chute or from a conveyor to a stockpile area, fugitive emissions are minimized due to the in-mine dust control measures. Limited drop distances from coal loading by frontend loaders to haul trucks will further reduce fugitive emissions during conveying operations.

Coal haulage over unpaved road surfaces have the greatest potential for fugitive dust emissions. However, mitigating measures such as non-overloading of haul trucks, abiding by strict speed limits, watering the road surface on an as needed basis, and application of a chemical dust suppressant and road bed stabilizer have the potential to reduce fugitive emissions by 80% to 85%. Frequency of water and chemical dust suppressant application on the unpaved road surfaces will be determined by visual observation of the degree of road dustiness. Furthermore, watering can be

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3.4.7.2 Mitigating Measures to be Employed to Control Air Pollutants  
(continued)

extended to the loading pad and around the stockpile area as needed. In addition, natural climatic effects such as rain, snow, frozen surface, and damp surface from dew or frost will effectively control fugitive emissions.

As a result of low particulate emissions from mining operations at the Huntington Canyon and Gordon Creek Mines, neither have the Utah Bureau of Air Quality nor the Environmental Protection Agency established any air quality monitoring network requirements. Therefore, no air quality monitoring is planned for any of the mine sites.

3.4.8 Subsidence

3.4.8.1 Inventory of Structures and Renewable Resources

3.4.8.1.1 Surface Rights

There are no man-made structures or improvements, except for certain mine facilities, within the permit area. The surface is owned by a combination of the United States of America and administered by the U.S. Forest Service and various private owners.

There are various oil and gas, coal, and grazing leases in the permit area. These are listed in Table 4-1 of this permit application. Although grazing leases exist on the property, the steep topography, rock outcrops, timber, lack of water, and poor access have caused the Forest Service to classify most of the lease block as non-range.

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3.4.8.1.1 Surface Rights (continued)

Details of the past and current land use are in Section 4.4 of this permit application.

3.4.8.1.2 Groundwater

The Star Point Sandstone is the only significant groundwater resource in the area of the lease block. The Star Point Sandstone is the source for Little Bear Spring — the only perennial spring in the vicinity. The Star Point Sandstone is stratigraphically beneath the Blackhawk Formation which contains the Blind Canyon and Hiawatha coal seams.

The Blackhawk Formation also contains aquifers. However, only perched water has been encountered by the drilling done throughout the lease block. The perched water condition results from the interbedded sandstone and shale units which restrict groundwater movement. There are no active wells within the permit area.

Details of the groundwater resources are contained in Section 7.1 of this permit application.

3.4.8.1.3 Surface Water

Three streams are in the vicinity of the permit area — Crandall Canyon which may be perennial and is just north of the permit boundary, Little Bear Creek, and Mill Fork Creek which is on the southern boundary of the existing permit area. Little Bear and Mill Fork Creeks are intermittent. All three flow easterly into Huntington Creek.

3.4.8.1.3 Surface Water (continued)

Little Bear Creek is the only stream located wholly within the permit area. While Little Bear Spring is perennial, Little Bear Creek is intermittent — deriving its flow from perched groundwater and snowmelt and storm runoff. As noted previously, Little Bear Spring enters Little Bear Creek at a point stratigraphically below the Blind Canyon and Hiawatha coal seams from which the water is diverted through a pipeline by the City of Huntington.

Details of the surface water resources are contained in Section 7.2 of this permit application.

3.4.8.2 Subsidence Estimation

Mining at the Number 4 Mine is conducted by the room and pillar method. Subsidence may occur only after pillars are recovered and the remaining stumps have "crushed out". Secondary recovery will result in approximately 75 to 78 percent recovery. Details of the mining operation are contained in Section 3.3.1 of this permit application.

Generally, subsidence is manifested at the surface by a lowering of the ground surface in response to caving of the overburden into the mined-out area. The magnitude and extent of subsidence will vary with the mechanical properties of the overburden. In areas of competent overburden, such as at Beaver Creek, the angle of draw will be small (i.e., surface effects will be limited to an area directly over the mined-out void). Another potential manifestation of subsidence is the occurrence of tension cracks at the surface. These generally occur in areas of lower overburden. Tension fractures will usually heal by infilling with surficial materials or will close as the adjoining ground subsides relieving the horizontal tensile strains.

3.4.8.2 Subsidence Estimation (continued)

Overburden thicknesses in the permit area range from about 350 to 1,100 feet. At this range of depths, and considering the number of competent sandstones in the overburden, one would not expect a great deal of surface subsidence. In fact, since 1979, when mining commenced, yearly surface inspections have disclosed no surface manifestations of subsidence. A monitoring program, described in Section 3.4.8.4, is being conducted to detect subsidence, should it occur.

3.4.8.3 Subsidence Impacts

The only surface owners that could be impacted by subsidence as a result of our proposed mining are the U.S. Forest Service and Beaver Creek Coal Company. Notification of our proposed mining schedule has been provided to the U.S.F.S. in the form of our M.R.P. which will meet all provisions of U.M.C. 817.122.

There are no structures within the permit area to be affected by subsidence. Further, it is anticipated that subsidence, if it occurred, would not materially damage or lessen the foreseeable use of the renewable resources; however, if such damage should occur, Beaver Creek Coal Company shall mitigate such damage by one of the provisions of U.M.C. 817.124(b). The primary use of the surface is as forest land. It is not anticipated that subsidence would have an adverse effect on this resource. Other beneficial uses of the surface are for grazing and wildlife. Experience at other mines indicates that cattle graze and wildlife feed without concern in areas undergoing active subsidence. Therefore, there will be no adverse impact on grazing or wildlife.

3.4.8.2 Subsidence Estimation (continued)

Overburden thicknesses in the permit area range from about 350 to 1,100 feet. At this range of depths, and considering the number of competent sandstones in the overburden, one would not expect a great deal of surface subsidence. In fact, since 1979, when mining commenced, yearly surface inspections have disclosed no surface manifestations of subsidence. A monitoring program, described in Section 3.4.8.4, is being conducted to detect subsidence, should it occur.

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3.4.8.3 Subsidence Impacts (continued)

The only significant aquifer, the Star Point Sandstone, which feeds Little Bear Spring, is stratigraphically below the two coal seams and, therefore, will not be impacted by subsidence. Subsidence may affect some of the perched aquifers in the overburden but, as these are not put to any beneficial use, no adverse impact is expected.

3.4.8.3 Subsidence Impacts (continued)

Local surface fracturing, should it occur, would increase groundwater recharge. Some springs, therefore, may actually increase in flow during the period that a fracture remains open. Subsidence may also cause some springs to reissue elsewhere, possibly causing some inconvenience without any material damage.

Mitigation measures, should a substantial water inflow occur, may include: attempts to seal off the inflow, increased monitoring efforts, pumping and cleaning of inflow water, replacement of lost water if indicated by monitoring. The first step will be to try and seal off the inflow by grouting, first from the underground and then from the surface. If this is unsuccessful, the other measures mentioned above will be employed.

Mitigation measures, should surface damage occur due to subsidence, may include: filling of fractures, regrading of broken areas, replanting degraded areas, intensified monitoring.

3.4.8.4 Subsidence Monitoring Plan

Beaver Creel Coal Company is presently following a monitoring plan established under an August 27, 1979 Cooperative Agreement with the Manti-LaSal National Forest Service, U.S. Department of Agriculture (see Figure 3-5). The current U.S.F.S. Environmental Assessment on this area has been attached as Appendix 6.

A photogrammetric monitoring program, as opposed to a subsidence monitoring survey net, was initiated at the insistence of the Forest Service to minimize the surface disturbance associated with subsidence monitoring.

3.4.8.4 Subsidence Monitoring Plan (continued)

The subsidence monitoring program was suspended in 1987 after eight years of monitoring showed no effects from subsidence, and the U.S. Forest Service suspended the program.

Accordingly, Beaver Creek Coal Co. will suspend further subsidence monitoring at the Huntington Canyon No. 4 Mine. An annual surface inspection will continue to be conducted to identify material damage, and submitted to the Division with the annual report.

If the U.S.F.S. resolves its problems with the aerial monitoring, any available information on vertical movement from the 1980 - 1986 surveys will be submitted to the Division. If such data shows substantial subsidence, additional data will be acquired under the resumed program. If the program should be reinstated, Beaver Creek Coal Company will acquire at least one additional suite of aerial photography and attendant vertical movement data prior to bond release.

(Note: Delete pages 49 through 54 and Plate 3-7)

**AMENDMENT TO**  
**APPROVED** Mining & Reclamation Plan  
Approved, Division of Oil, Gas & Mining

by J. Whitehead date 7/12/88

3.4.8.4 Subsidence Monitoring Plan (continued)

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(Note: Delete pages 49 throught 54 and Plate 3-7)

*Approved 4/22/88*

*RUS*

*amendment 87A #3*

3.4.8.4 Subsidence Monitoring Plan (continued)

This survey will identify and document the presence of changes in tension cracks, fissures, structural offsets and obvious subsidence damage to any structures or other cultural features. Any subsidence effects noted will be photographed as well as documented. A report of the results of such survey will be sent to the regulatory authority and the U.S. Forest Service annually.

The Cooperative Agreement (Figure 3-5) describes the program now in effect; Plate 3-7 illustrates the ground monuments in place for the aerial monitoring.

An annual subsidence report containing the results of each surface inspection and aerial photographic survey shall be submitted to the regulatory authority by January 31st of each year. This report shall include qualitative information on any specific surface manifestations of subsidence, location of such points on a map which includes dates of associated retreat mining, and original photographs which substantiate the type of subsidence feature.

3.5 Reclamation Plan

3.5.1 Contemporaneous Reclamation

The projected completion of mining operations at No. 4 is 1994. As soon as areas become available, they will be back-filled, graded, retopsoiled and revegetated to acceptable reclamation standards established by environmental baseline studies. Seeding, fertilizing, and mulching will be performed in conjunction with backfilling and grading as access for reclamation equipment will be limited due to the steepness of the recontoured surface. It is anticipated that reclamation will be completed in 100 foot intervals.

The soil survey conducted in July 1980 distinguished disturbed lands from undisturbed soil mapping units (see Plate 8-1, Soils Map). Areas mapped as Disturbed Land were areas where the soils, vegetation, or both were affected by mining operations. Disturbance of the roads and pads occurred prior to passage of the Reclamation Act so no topsoil was salvaged from these areas. However, soils underlying disturbance are considered to be suitable in-place soils aside from the top several inches of coal fines and compaction.

3.5.1 Contemporaneous Reclamation (continued)

The majority of the diversions and the sedimentation ponds were constructed after the acceptance of the 1978 Reclamation Act. Soils from these areas were salvaged based on recommendations from the U.S. Forest Service.

3.5.2 Final Abandonment

Upon permanent cessation of operations, permanent reclamation will be performed in accordance with Chapter UMC 817. All surface equipment structures and facilities (other than sedimentation control) associated with the operation will be removed prior to the reclamation of the affected areas.

3.5.2.1 Sealing of Mine Openings

The first phase of the reclamation activity following final abandonment of the operation will be to permanently seal the mine openings. The final sealing of mine openings will be accomplished by placing a recessed concrete block seal 20 to 50 feet from the mouth of the portal. Since a portion of the mine slopes slightly towards the portals, seals will be constructed to handle a maximum hydrologic pressure of 30 psi. Although, the mine is quite dry, this will allow for the possibility of an unexpected post-mining inflow. Seals will therefore be constructed of a double, solid concrete block wall with a pilaster in the center. The seal will be recessed a minimum of 6" into the floor, roof and ribs and shall be coated with mortar on one side. No pipes or vents shall be placed within the seal, since the portal will be backfilled and pipes can deteriorate over long periods of time, allowing air to enter the mine and increasing the possibility of combustion. The area from the seal to the mouth of the portal will then be backfilled during reclam-

3.5.2.1 Sealing of Mine Openings

ation to minimize any roof breakage in this area. The portal structures will be removed and the exposed coal seam, including portal area, will be covered during the reclamation of the upper pad and high wall areas (Figure 3-6). If a discharge should still occur after sealing and reclamation of the portals and pad area, such water shall be monitored quarterly for compliance with effluent standards of 817.42 and treated (if necessary) during the permit term.

3.5.2.2 Removal of Surface Structures

Upon final cessation of operations and sealing of portals, all surface structures and facilities for the mining operation will be removed. The schedule and cost of removal is detailed in Sec. 3.5.6.1 and 3.5.7.1, respectively.

Concrete foundations will be disposed of within the mine prior to sealing mine or placed against the highwall to be backfilled. Concrete will be broken by dozer or backhoe into chunks not to exceed 3' x 3' x 3' prior to being placed along the highwall and buried.

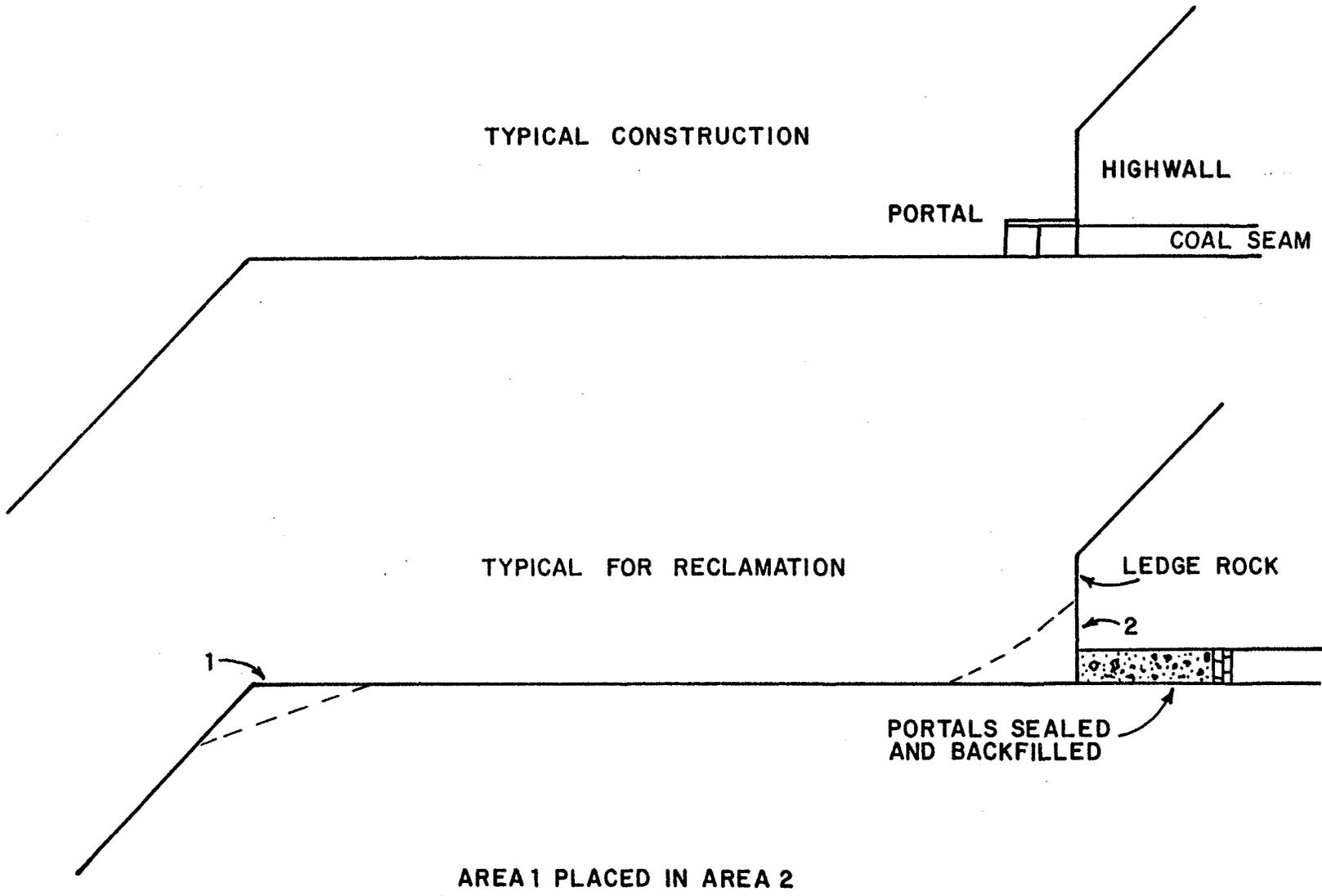


FIGURE 3-6. TYPICAL YARD AND PORTAL REGRADING

3.5.2.3 Disposition of Dams, Ponds and Diversions

The diversions A and B on the upper pad will be removed during the backfilling and regrading of this area. This area will be recontoured to drain to the original natural drainage which will continue to go into the sedimentation ponds. The stream channel below diversions A and B will be restored to carry ephemeral flows now diverted around the mine site. The reclaimed channel is shown in Plate 3-9 with a channel longitudinal profile and cross sections shown on Figure 3-6a. Since the entire drainage area above the reclaimed reach is only 0.122 sq. miles, the channel is designed to accommodate the runoff from a ten (10) year, 24 hour precipitation event as required by U.M.C. (817.43(b)) for permanent diversions.

In the spring of 1985, when the area is accessible, cross-sections will be taken above and below the proposed restored drainage, and in a comparable, adjacent drainage. If these cross-sections indicate the proposed restored drainage is not adequate, the design will be adjusted to a size compatible with these drainages.

An estimate of the peak flow resulting from a ten (10) year, 24 hour precipitation event was derived using the computer model TR-20 with a Farmer-Fletcher rainfall distribution, a curve number of 75 and a time of concentration of 0.07 hours. The resulting peak flow is 5.1 cfs. Since the diversion structures were designed to convey a peak discharge of 8.4 cfs (as determined by Mike Thompson of the Department of Oil, Gas, and Mining for a ten year, 24 hour storm), this larger estimate was used to design a pilot channel for ephemeral flows.

3.5.2.3 Disposition of Dams, Ponds, and Diversions (continued)

The channel will be reclaimed through the disturbed area at locations associated with the upper pad and the lower pad as shown on Plate 3-9. The reach through the upper pad was designed using Manning's Equation for channel slopes at 36% and 46% as shown below:

Bed Slope:	36%	46%
Side Slope:	2:1	2:1
Bottom Width:	3.0	3.0
Manning's n:	0.038	0.038
Normal Depth (ft):	0.27	0.25
Velocity (ft/sec):	8.8	9.5

The channel will be lined with rip-rap having a median diameter (D50) of 9 inches and a maximum diameter of 18 inches. This size should be stable for channel bottom velocities as high as 11 ft/sec according to the Bureau of Reclamation approach (Simons and Sentark (1977), "Sediment Transport Technology").

The lower reach was designed using Manning's Equation for a channel slope of 20 % as shown below:

Bed Slope:	20%
Side Slope:	2:1
Bottom Width (ft)	3.0
Manning's n	0.035
Normal Depth (ft)	0.31
Velocity (ft/sec)	7.6

3.5.2.3 Disposition of Dams, Ponds, and Diversions (continued)

The channel will be lined with rip-rap having a median diameter (D50) of 6 inches and a maximum diameter of 12 inches. This size should be stable for channel bottom velocities as high as 9 feet/second according to the Bureau of Reclamation approach.

Culverts will be salvaged if possible; otherwise, they will be disposed of in an approved landfill.

The sedimentation ponds and dams will be the last structures to be removed at this operation. These will be maintained until revegetation is established on upslope reclaimed lands. When revegetation has been accomplished, the ponds will be emptied and the dams removed. The materials from the dams will be placed within the ponds in compacted lifts. The natural drainage channel will be re-established and rip-rapped, as shown on Plates 3-7 and 3-8 and Figures 3-6 and 3-7, and the regraded area will be reseeded as per the plan. (See Appendix 9 for details.)

It will be impossible to restore the mine yards to the approximate original contour because these yards were dozed out of very steep, rocky canyon walls. Some or all fill material escaped over the edge of the canyon walls and cannot be retrieved. Terracing is impossible due to the steep, rocky nature of the terrain. Instead, the area will be smoothed and contoured to be compatible with post-mining land uses, and available topsoil will be respread over the area to ensure the success of revegetation.

3.5.2.3 Disposition of Dams, Ponds, and Diversions (continued)

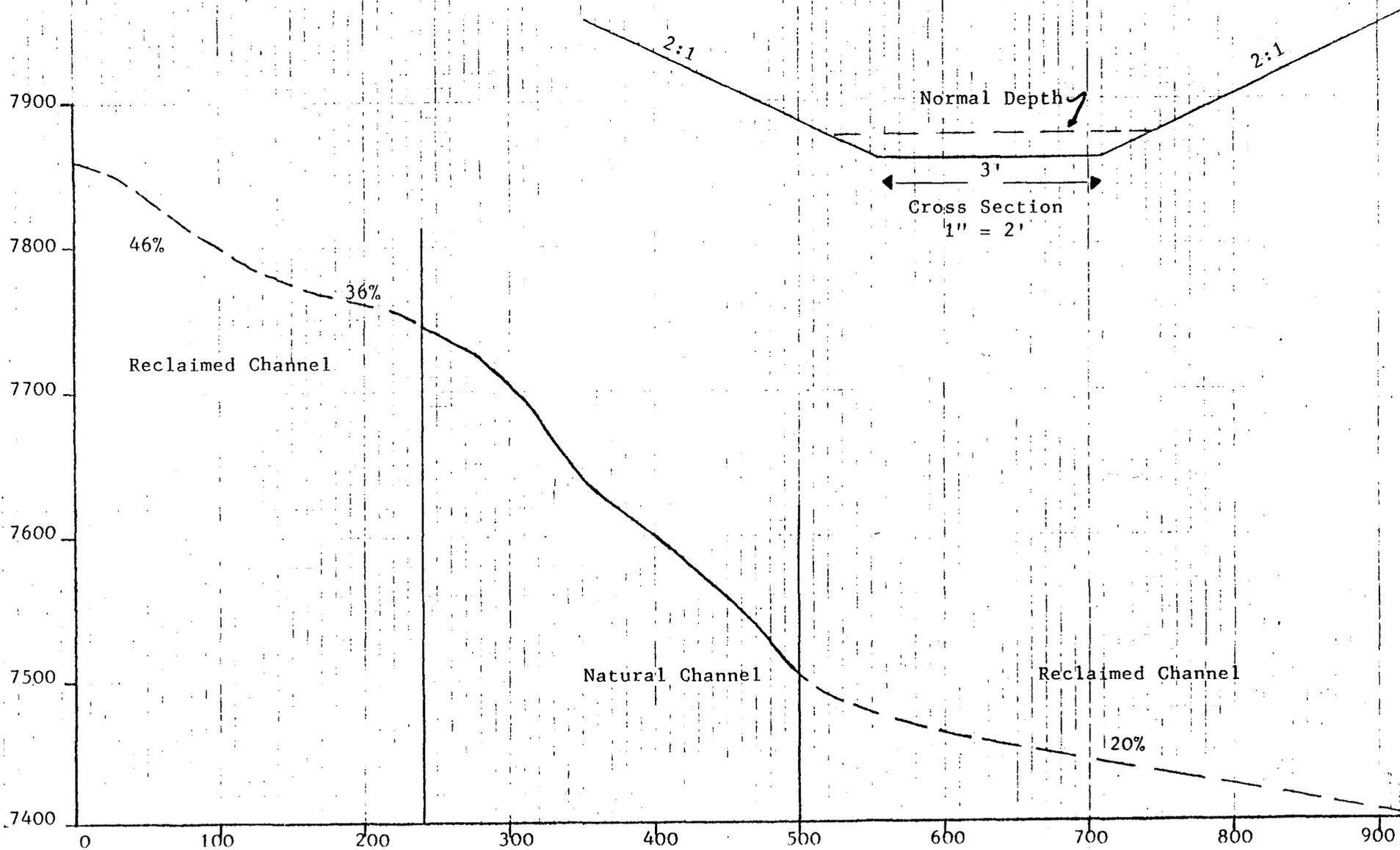
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Culverts will be salvaged if possible; otherwise, they will be disposed of in an approved landfill.

√ The sedimentation ponds and dams will be the last structures to be removed at this operation. These will be maintained until revegetation is established on upslope reclaimed lands. When revegetation has been accomplished, the ponds will be emptied and the dams removed. The materials from the dams will be placed within the ponds in compacted lifts and stored topsoil previously removed from this site will be evenly spread in preparation for planting. The natural drainage channel will be re-established and rip-rapped, as shown on Plates 3-7 and 3-8 and Figures 3-6 and 3-7, and reseeded as per the plan.

It will be impossible to restore the mine yards to the approximate original contour because these yards were dozed out of very steep, rocky canyon walls. Some or all fill material escaped over the edge of the canyon walls and cannot be retrieved. Terracing is impossible due to the steep, rocky nature of the terrain. Instead, the area will be smoothed and contoured to be compatible with post-mining land uses, and available topsoil will be respread over the area to ensure the success of revegetation.

RECLAIMED CHANNEL  
FIGURE 3-6a



PROFILE  
1" = 100'  
(p. 3-58c)

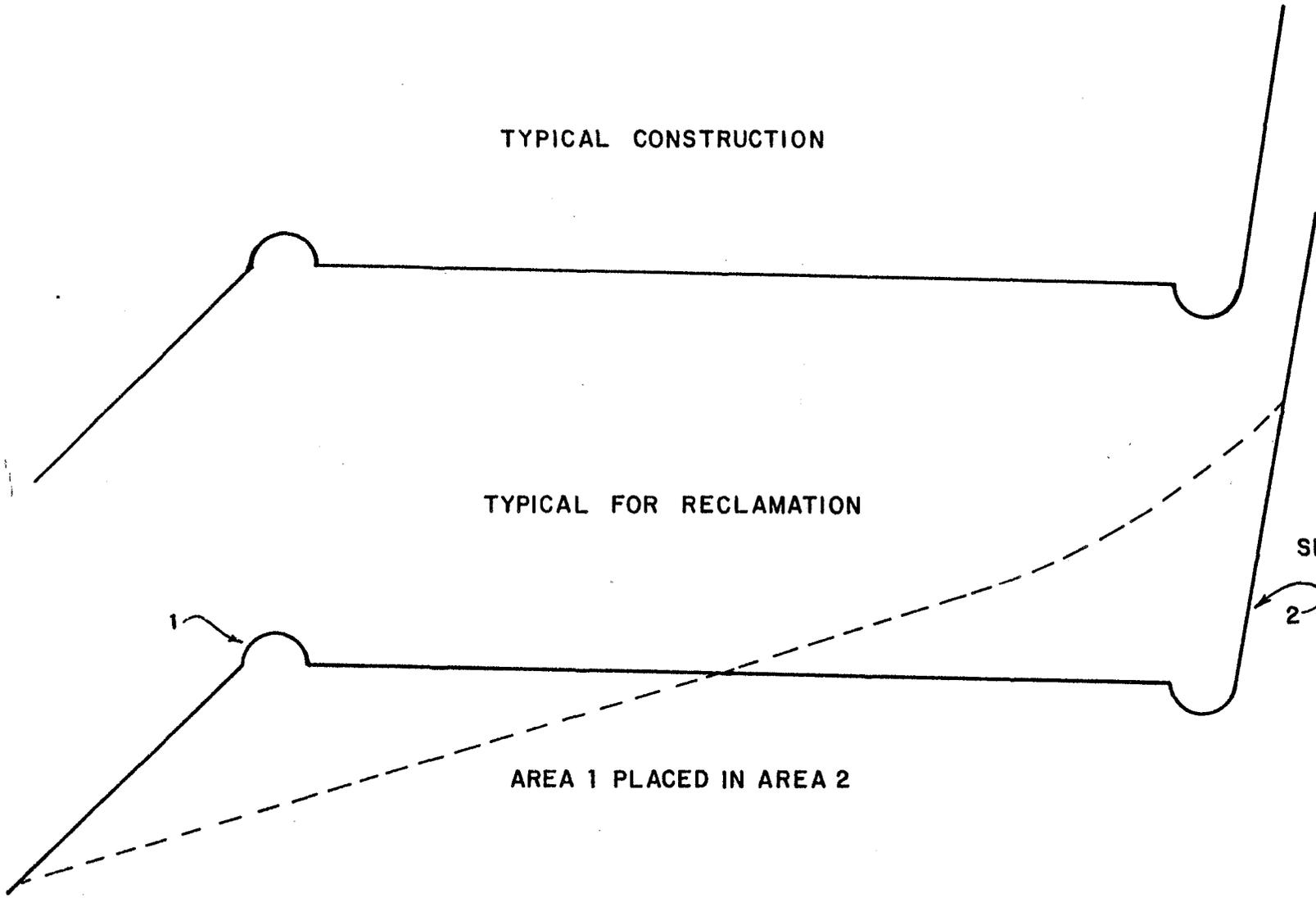
TYPICAL CONSTRUCTION

TYPICAL FOR RECLAMATION

SLOPES APPROX.

AREA 1 PLACED IN AREA 2

FIGURE 3-7. TYPICAL ROAD RECLAMATION



3.5.3 Backfilling and Grading Plans (continued)

the area will be smoothed and contoured to be compatible with post-mining land uses, and available topsoil will be respread over the area to ensure the success of revegetation.

In general, the backfilling and regrading will proceed as follows:

- a) After sealing of the portals and removal of all structures, a backhoe (Cat 235 or larger) will be brought to the upper (portal) terrace.
- b) The backhoe will begin by reaching down over the fill bank and retrieving as much material as can be reached. This material will be placed on the terrace.
- c) A Cat (D-7 or larger) will work with the backhoe, taking the retrieved material and spreading and compacting it from the higwall outward to reach a configuration as shown on Plate 3-8, Post-Mining Topography - Portal and Pad Areas. Compaction of 90% or greater will be accomplished by spreading the material in lifts not to exceed 15" and tracking over it with a dozer - or, if necessary, with a compactor.
- d) The upper pad will be sloped to drain to the center as shown. A rock-lined natural drainage will be restored in this area since all diversions will have been removed during the backfilling and regrading.
- e) The procedure, as noted above, will continue down the upper road with the backhoe and cat operating in conjunction to reclaim this area down to the property line.

3.5.3 Backfilling and Grading Plans (continued)

- f) Similar reclamation techniques will take place on the lower level starting with the coal storage area, lower pad, (including the lower road), and drainfield area. Removal of sedimentation ponds will take place after reclaimed areas are stabilized with vegetation.

3.5.3 Backfilling and Grading Plans (continued)

- g) Upon completion of backfilling and regrading during reclamation, the surface will be scarified to prevent slippage on the surface and promote root penetration.
- h) Upon final shaping and preparation of an area, it will be reseeded as per the plan.

Backfilled material will be placed to minimize adverse effects on ground water, minimize off-site effects and to supported the post-mining land use.

The schedule for backfilling and grading is detailed in Section 3.5.6.1 and the proposed final configuration of the area is shown in Plates 3-8 and 3-9 and on Figures 3-6 and 3-7.

All exposed coal outcrops resulting from this operation will be covered with incombustible materials during the above mentioned procedures.

3.5.3.1 Removal or Reduction of Highwalls

As shown on Plate 3-9, the highwalls will be reduced along the pad and road areas. This will be accomplished by backfilling recovered downslope material with a backhoe and Cat. Erosion controls (straw dikes, etc.) will be placed below these backfill areas to minimize washing of the fill materials and compaction will be employed to promote stabilization of the backfills.

3.5.3.1 Removal or Reduction of Highwalls (continued)

As shown on Plate 3-8, complete rock highwalls will be left in some areas, such as where drainages exist, to lessen the probability of erosion on the backfilled materials. This will be consistent with the surrounding terrain where resistant formations commonly form cliff-units in the coal-bearing Blackhawk Formation.

The "retained" highwalls will be compatible in height and length to existing cliffs in the area. Such cliffs will range from 20' - 200' in height and may extend short distances or run for miles. Locations of proposed "retained" highwalls are shown on Plate 3-8.

The proposed "retained" highwalls are on the south-facing slope of the canyons. Cliffs and rock exposures are common on the south-facing slopes in this area, due to the lesser amount of vegetation and a higher degree of erodability. Thus the proposed highwalls will be consistent with the existing environment.

3.5.3.2 Recontouring

All final grading of overburden and replacement of topsoil (where applicable) will be done along the contour to minimize subsequent erosion and instability.

Rills or gullies deeper than 9 inches in regraded areas will be filled, graded or otherwise stabilized and reseeded as per the plan. Rills and gullies of a lesser size than 9 inches as specified by the regulatory authority will be

3.5.3.2 Recontouring (continued)

stabilized and the area reseeded or replanted if the rills or gullies are disruptive to the approved post mining land use or may result in additional erosion and sedimentation.

The proposed final configuration of this area is shown on Plate 3-8. This final recontouring is compatible with the surrounding terrain and the post-mining land use.

Topsoil Handling Plan

As noted above, no topsoil was saved during the initial disturbance of this property. Since the implementation of this mine plan, topsoil has been saved on all areas of disturbance. Additional surface disturbance is not projected at the present time so no additional topsoil salvage is foreseen.

3.5.3.3 Fencing and Erosion Control

To ensure successful permanent revegetation, fences will be erected around permanent reseeded areas to exclude domestic grazing (e.g. cattle or sheep). To prevent entanglement by wildlife, three-strand, 40-inch barbed wire fences will be constructed. The strand spacing will be 14 inches, 27 inches, and 40 inches above the ground. This form of fence will allow for the passage of wildlife without entanglement or disturbance to migratory patterns.

After final reclamation work begins on the upper pads and haul roads (see Plate 3-9), straw dikes will be established and anchored properly to control possible erosion from

3.5.3.3 Fencing and Erosion Control (continued)

✓ newly graded and seeded areas. Water will be allowed to flow into channels that were formed prior to disturbance. All channels will be riprapped to eliminate erosion and cutting of the side slopes. The sedimentation ponds will be the last control structures to be removed. Upon removal of the ponds, water will flow through existing culverts into Mill Fork Creek. All other areas will be mulched as described in the previous section to minimize erosion as much as possible.

Sediment control measures during backfilling and grading will consist of straw bale dikes placed at the lower edge of the reclaimed pad areas as mentioned above. All drainage from disturbed and reclaimed areas will still go into the sedimentation ponds until revegetation is established. The ponds are equipped with filter dikes to clean sediment-laden water in the event of an event causing an overflow.

3.5.3.4 Soil Redistribution and Stabilization

The actual acreage for which roads and pads were constructed and soils disturbed is 12.5 Ac. An additional 65.5 acres constitute areas for which the vegetation has been partially disturbed due to deposition of scree-fill material from the road base.

As described in Section 8.6, comparison of the three natural soils and the disturbed land fill material revealed similar chemical and physical characteristics. This material was determined to have a fair rating as topsoil material and should provide a suitable seedbed for revegetation. At the present time, Beaver Creek Coal Company proposes to use this existing disturbed land fill as a topsoil substitute.

3.5.3.4 Soil Redistribution and Stabilization (continued)

Soil redistribution and reclamation will be performed on the 12.5 Acres described above. This includes pulling back the side slopes on the road and pad areas, described in this section as well as in Section 8 and 9.

3.5.3.4 Soil Redistribution and Stabilization (continued)

For the purpose of reclamation, roads and pads will be ripped to loosen the compacted base prior to the redistribution of fill material as discussed in Section 3.5.4-3.5.4.2. The scree/fill material then will be redistributed from the road shoulders with the aid of a backhoe to achieve acceptable postmining slope and drainage patterns. Care will be taken to prevent excessive compaction. Topsoil from the existing stockpile will be redistributed to a uniform depth back over the sedimentation pond area where it was originally stripped. After the scree/fill material has been redistributed onto the roads and pads, the disturbance will be seeded, fertilized, and mulched. Soil redistribution is not necessary on the slope since the original soil bodies that occurred on the area are still in-place, i.e. buried beneath the scree/fill material. For a more detailed discussion of revegetation on these areas, see Section 3.5.5.2 Seeding and Transplanting.

3.5.3.5 Stability Analyses

Highwall Stability

Based on an on site investigation, a highwall slope of 1V:.20H (80° DIP) has been used. Highwall faces at the site dip to the southeast, south, and southwest.

A rotational shear analysis using the Hoek method was performed. Compressive strengths in the Blackhawk Formation range from 20,600 PSI for a light sandstone, to 290 PSI for dark soft shale. Based on the relative proportions of rock units, a conservative average value of 5000 PSI was used.

Highwall Stability (continued)

Intact rock shear strength or cohesion can be related to compressive strength by:

$$C_i = \frac{C_o}{2} \tan (45^\circ - \frac{0'}{2})$$

$C_i$  = intact rock shear strength or cohesion

$C_o$  = intact rock compressive strength

$0'$  = internal friction angle.

Using a typical internal friction angle of  $45^\circ$  for Wasatch Plateau sandstones, siltstones, and claystones, and 5000 PSI for compressive strength, an intact rock shear strength or cohesion of approximately 1000 PSI was calculated.

The relationship of fracture intensity and cohesion has been developed by Stimpson and Ross-Brown ("Estimating the Cohesive Strength of Randomly Jointed Rock Masses". Mining Engineering, Vol. 31, No. 2, pp. 182-188.). Using a conservative figure of 4 joints per meter yields a .065 factor relating  $C_i$  and  $C_m$  (rock mass cohesion). With a 1000 psi intact rock cohesion, the rock mass cohesion calculates at 65 psi.

An accepted value (slightly conservative) for rock mass sliding friction angle in western sedimentary deposits of  $31^\circ$  was used in the analysis. Also, a typical value of 155 lbs/ft<sup>3</sup> for rock mass bulk density was used.

In summary, the following parameters were used with the Hoek slope chart (Hoek, E., and J.W. Bray, 1981, Rock Slope Engineering, Revised Third Edition, IMM, London):

Highwall Stability (continued)

Maximum Slope Height = 80'

Slope Angle = 80°

Rock Mass Cohesion = 65 psi

Rock Mass Friction Angle = 31°

Rock Mass Bulk Density = 155 lb/ft<sup>3</sup>

Results show that the 80° angle highwall has a static safety factor of 3.00 for dry conditions, and 2.73 for saturated conditions. This is well within the 1.5 safety factor guideline. From a rotational shear standpoint, highwall angles approaching 90° for dry, and 85° for saturated would be acceptable while still maintaining a safety factor of 1.5.

Embankment Stability

Embankment material will be placed in maximum 36 inch lifts, and shall be compacted to 95% as described for the mine bench. The embankment slope will not exceed 1V:1.5H unless the material contains a minimum of 85% rock, in which case the embankment slope may be increased to 1V: 1.35H.

A rotational shear analysis using the Hoek method was performed to determine embankment stability. The maximum embankment height approaches 30' along the pads and the upper access road. Typical values for cohesion in the expected fill material consisting of previously blasted and excavation sandstones and shale, along with a minor proportion of clayey soils, is 3.5 psi. A conservative 30° friction angle for this material will also be used. An average 115 lb/ft<sup>3</sup> bulk density will be used for fill density value.

Figure 3-8

(DRY CONDITIONS)

### CIRCULAR FAILURE CHART NUMBER 1

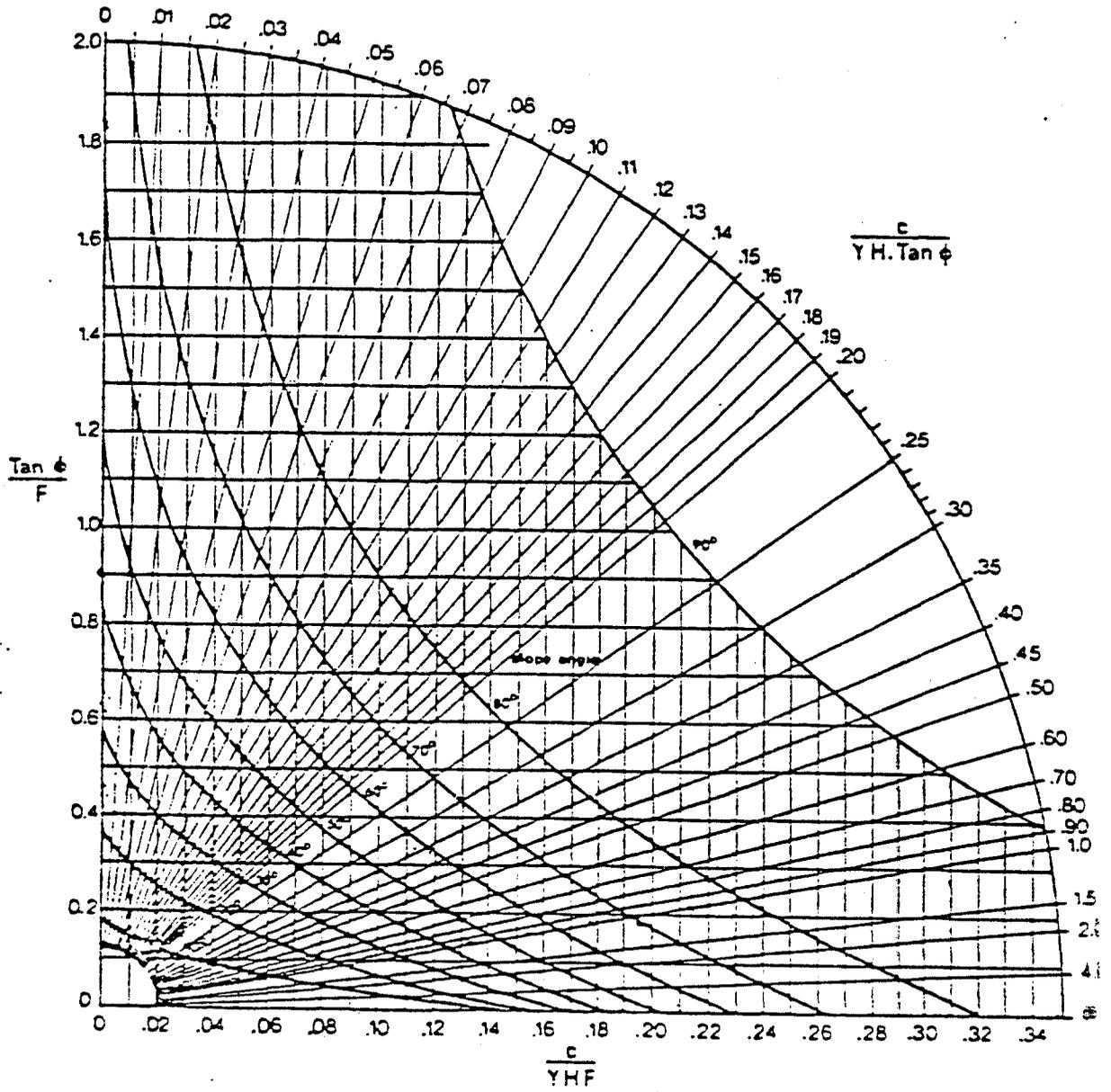
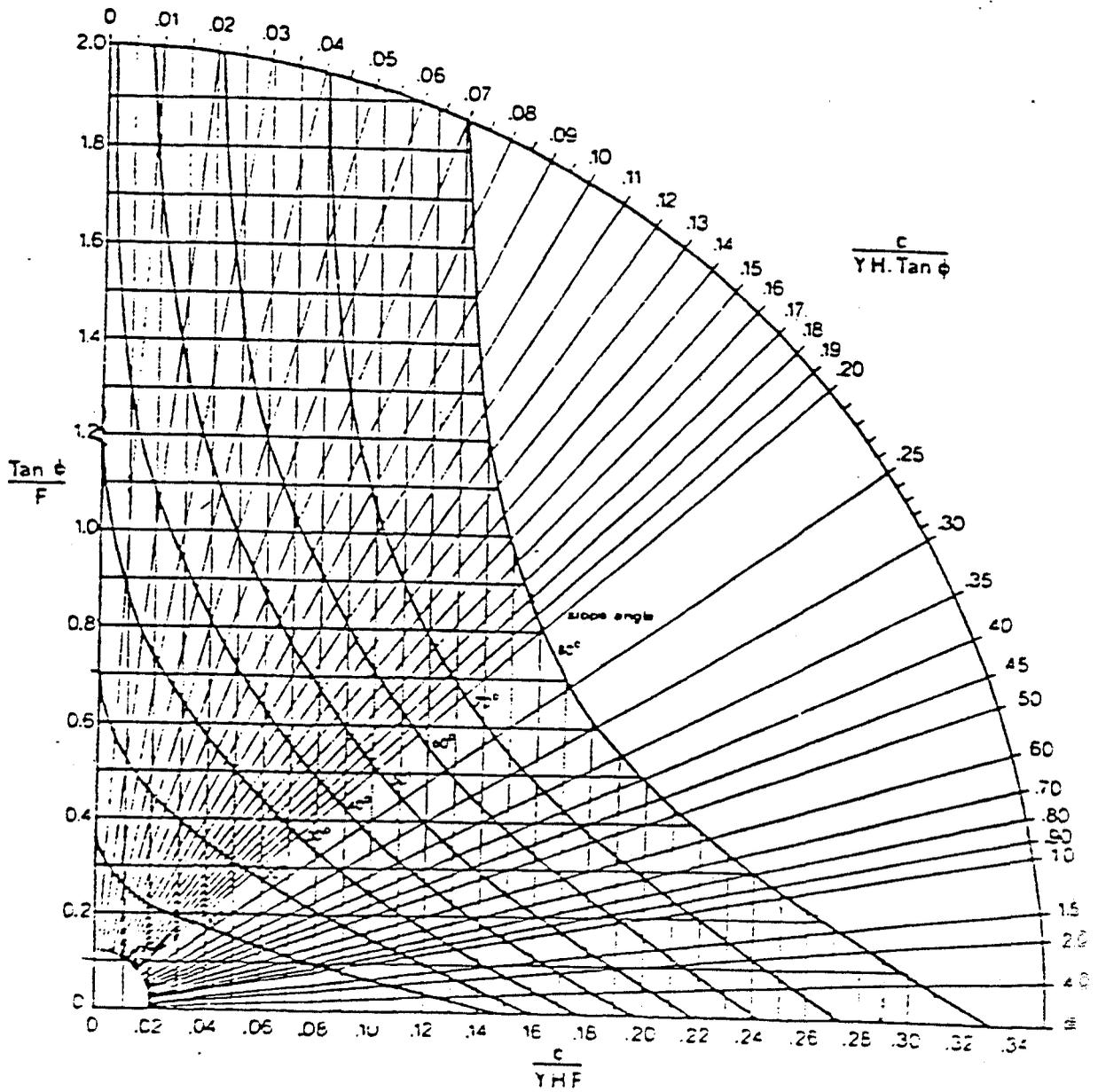


Figure 3-9

(SATURATED CONDITIONS)

### CIRCULAR FAILURE CHART NUMBER 5



Embankment Stability

Summarizing the parameters for input:

Embankment Height = 30'  
Slope angle ( $1_v:1.5_H$ ) = 33.7°  
Soil Cohesion = 3.5 psi  
Friction Angle = 30°  
Rock Mass Bulk Density = 115 lb/ft<sup>3</sup>

Results indicate a safety factor of 2.22 for dry conditions and 1.65 for saturated conditions. This is acceptable and meets the 1.30 safety factor requirement.

3.5.4.2 Seeding

Disturbed areas in or adjacent to the mine site will be temporarily reclaimed in anticipation of final site reclamation. The temporary seed mix will consist of the grass and forb species mentioned in Section 3.4.5. No shrubs will be planted to discourage wildlife utilization of such species in close proximity to the mine site.

Disturbed areas within the permit area, but not adjacent to the mine site, will be revegetated with the grass-forb mix mentioned in Section 3.4.5. In addition, areas requiring future access will be planted with low-growing shrubs. Areas not requiring future access will be planted with the stratified shrubs listed in Section 3.4.5.

This species list and arrangement may be modified as additional knowledge becomes available and on-site experience is gained through temporary reclamation. Practical and effective seeding of shrubs will be determined through on-site experience and related research at comparable minesites. Shrubs will be planted as seeds, bare rootstock and/or containerized shrubs. Options to plant with the initial mix or interseed at a later date will remain open.

3.5.4.2 Seeding (continued)

Seeding of grasses and forbs as well as planting of any shrub seedlings will occur during the first desirable planting season after final grading either during the spring (March 15-June 15) or fall (September 15-November 15). Planting and seedbed preparation will occur only when soils are not frozen or extremely wet or dry. Air temperatures should be above freezing during the night. Soil should be friable and not wet or cloddy.

3.5.4.3 Mulching

Mulch will be used to protect newly reclaimed areas against erosion, excessive drying or frost heaving. The mulch will be mechanically or chemically "anchored" to the soil surface depending upon the type of mulch used. Since most recontoured slopes at the mine are steep and access is limited, mulching will take place through the use of a hydroseeder.

Various stabilizing schemes may be utilized, depending upon site conditions at the time of seeding. Natural fiber mulches such as straw or wood, in addition to various other organic mulches, may be utilized. Other erosion control devices such as excelsior, jute-netting, synthetic netting may be utilized solely or in conjunction with mulching on selected areas.

Where synthetic materials are not used, organic mulches will be applied at a rate ranging from 1500-2500 pounds per acre, dependent upon site conditions. Synthetic devices will be installed according to the manufacturer's recommendations.

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3.5.4.2 Seeding (continued)

Seeding of grasses and forbs as well as planting of any shrub seedlings will occur during the first desirable planting season after final grading either during the spring (March 15-June 15) or fall (September 15-November 15). Planting and seedbed preparation will occur only when soils are not frozen or extremely wet or dry. Air temperatures should be above freezing during the night. Soil should be friable and not wet or cloddy.

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3.5.4.4 Reclamation Management

Observations of the reclaimed areas will determine if maintenance is necessary for areas of soil erosion, weed infestation, pest infestation, and seeding failure.

Soil on eroded areas will be reworked and subsequent soil erosion controlled through the use of mulch, chemical stabilizers, or other appropriate techniques. Gullies will be filled and stabilized. Revegetation activities will be conducted parallel to the contour.

Areas of planting failure will be reworked and replanted. Where there is evidence of nutrient deficiency a maintenance level of fertilizer will be applied. If weeds or pests are found to impact revegetated areas, appropriate herbicides and pesticides will be used to control them.

To ensure successful permanent revegetation, domestic grazing will be excluded for three years. During the third year of exclusion, Beaver Creek Coal Company will consult with the Soil Conservation Service to determine the carrying capacity of the reclaimed area. Carrying capacity will be determined by analyzing topographic and vegetation variables within the reclaimed area. Utilizing this information, a grazing management plan will be developed for the particular reclaimed area use.

3.5.5 Reclamation Monitoring

Observations on temporarily reclaimed surfaces will determine necessary maintenance requirements. No formal quantitative assessments on temporarily reclaimed surfaces will be made. Final revegetated area success will be compared with an established reference area as shown on Plate 9-1 and described in Section 9.3.2.6.

10/27/83  
06/06/83

3.5.4.4 Reclamation Management

Observations of the reclaimed areas will determine if maintenance is necessary for areas of soil erosion, weed infestation, pest infestation, and seeding failure.

Soil on eroded areas will be reworked and subsequent soil erosion controlled through the use of mulch, chemical stabilizers, or other appropriate techniques. Gullies will be filled and stabilized. Revegetation activities will be conducted parallel to the contour.

Areas of planting failure will be reworked and replanted. Where there is evidence of nutrient deficiency a maintenance level of fertilizer will be applied. If weeds or pests are found to impact revegetated areas, appropriate herbicides and pesticides will be used to control them.

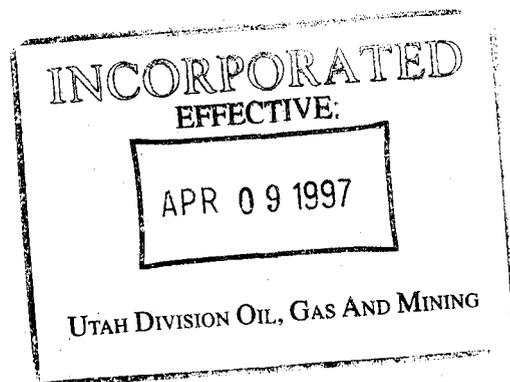
As noted in Chapter 4 (Sec.4.5), the post-mining land uses for this property are deer (wildlife) forage, hunting, sightseeing, watershed and hiking. Livestock grazing is not a projected post-mining land use on the reclaimed (fee land) portion of the site; therefore, no grazing management plan will be developed for this property.

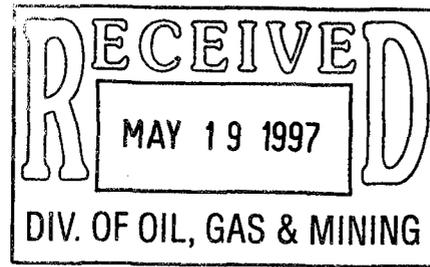
Reclamation is particularly important as a means of controlling erosion and restoring disturbed areas to productive wildlife habitat. Recommended procedures in achieving the reclamation goal include: (1) planting a diverse mixture of native grasses, forbs, and (where appropriate) woody species, (2) using seedling stock rather than relying solely on seeds for trees or shrubs, (3) planting vegetation to create an edge effect by clumping selected shrub or tree species, (4) actually transplanting stock or turf from new disturbed sites to reclaimed sites, and (5) leaving islands of natural vegetation in new disturbed sites. Beaver Creek Coal Co. will perform one or more of the above procedures in its final reclamation of this mine site.

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*3.5.5 Reclamation Monitoring*

*The success of the reclamation effort will be evaluated by detailed quantitative sampling for cover, density, and productivity on the reclaimed pinyon-juniper areas. These data will then be statistically compared with data for the same parameters collected from the pinyon-juniper reference area. The data from the reclaimed areas and the reference area will be collected during the same growing season. When compared statistically, if the living cover, productivity and woody species density of the reclaimed area meets or exceeds that of the reference area with a 90% confidence level (i.e. one-sided t-test at the 10% level), the reclaimed area will be considered adequate to meet the success standards. In other words, for the aforementioned parameters, the reclaimed area will be equal to or greater than the reference area.*

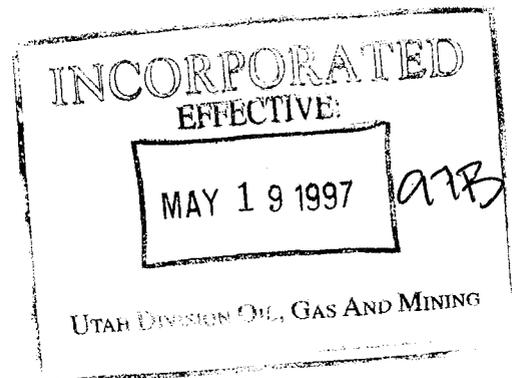




3.5.5 Reclamation Monitoring (continued)

There are several good methods that could assess diversity of plant communities in the reclaimed pinyon-juniper and reference areas. One common and effective diversity measurement is computed using the equation  $1/\sum p_i^2$  (MacArthur and Wilson 1976, The Theory of Island Biogeography, Princeton: Princeton University Press). In this equation  $p_i$  is the proportion of sum frequency contributed by the  $i$ th species in the sample area of concern. The proportional contribution of each species is then squared and the values of all species in the sample areas are summed. This index integrates the number of species and the degree to which frequency of occurrence was equitably distributed among those species.

Due to the extremely small size of the reclaimed riparian area, a statistically adequate number of samples would be difficult, if not, impossible to obtain for most parameters in the reclaimed riparian area. For example, all woody species in the area should be counted for density measurements, instead of a random subset of them. For cover measurements, the area is small enough that a reference area should not be required, but as mentioned earlier, another undisturbed area will be used as a general 'comparison area'. For this reason, a straightforward diversity measurement will be used to provide an idea of similarity between the reclaimed and the riparian 'comparison' areas. This measurement will simply be the average number of species calculated in the meter square quadrants.



3-67b

05/08/97

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3.5.5 Reclamation Monitoring (continued)

Final reclaimed areas will be monitored at least every two years following plant establishment until bond release. Both the final reclaimed area and reference area will be sampled for cover, density (woody plants), species composition, and production during the final 2 monitoring periods. Sampling methodology and sampling adequacy will meet all applicable DOGM guidelines.

3.5.6 Schedule of Reclamation

3.5.6.1 Detailed Timetable for Completion of Major Reclamation Processes

The following schedule of reclamation will be initiated within 90 days (weather permitting) of final abandonment of the mining operation:

	<u>Cumulative Time</u>
1. Seal Portal - 1 week	1 week
2. Remove Structures - 5 week	6 weeks
3. Soil Placement (Backfilling & Grading)	
a. Upper Pad - 2 weeks	8 weeks
b. Upper Road - 4 weeks	12 weeks
c. Coal Storage Pad, Lower Pad & Drainfield - 1 week	13 weeks
4. Seedbed Material Handling - 1 week	14 weeks
5. Reseeding & Fertilizing - 1 week	15 weeks
6. Mulching - 2 weeks	17 weeks
7. Protective Fencing - 2 weeks	19 weeks
8. Restoration of Natural Drainage - 1 week	20 weeks

The above reclamation tasks will therefore be completed within 20 weeks following the start of reclamation activities.

3.5.6.1 Detailed Timetable for Completion of Major Reclamation Processes (continued)

✓ Removal and reclamation of sediment ponds will occur after revegetation is established on the reclaimed lands above. The regrading of the pond areas will take approximately two days.

3.5.7.1 Reclamation Summary

A. Seal Portals	\$10,500.00
B. Remove Structures	33,738.66
C. Soil Placement	98,224.80
D. Seedbed Material Handling	5,642.16
E. Reseeding & Fertilizing (not including containerized stock)	9,250.00
F. Mulching	4,375.00
G. Protective Fencing	6,000.00
H. Restoration of Natural Drainage	12,247.80
I. Sedimentation Pond Site	7,024.20
J. Maintenance & Monitoring	11,840.00
K. Foreman Supervising	25,080.00
SUBTOTAL	\$ 223,922.62
10% Contingency	<u>22,392.26</u>
	\$ 246,314.88
	(1984 dollars)

1985 - \$263,064.29  
1986 - \$280,952.67  
1987 - \$300,057.45  
1988 - \$320,461.35  
1989 - \$342,252.73

3.5.7.1 Reclamation Summary (Continued)

Cost of Equipment

1. Loader - 950B (2 1/2 cy bucket) = \$ 75.50/hr +  
\$15.80 OP cost/hr = \$91.30/hr x 1.1 = \$100.43  
Operator = \$ 28.45/hr  
\$128.88/hr = \$1,031/day
  
2. Crane - Groves RT-580  
20 T = \$69.08/hr + \$13.60 OP  
cost/hr = \$82.68 x 1.1 = \$90.95  
Operator = \$ 29.10/hr  
\$120.88/hr = \$960.40/day
  
3. Truck and Operator - \$66.82 (including OP cost + 1.1  
factor) + \$22.45/hr = \$89.27/hr = \$714/day
  
4. Cat D-7G = \$ 905.00/day + \$170.40 (OP cost) =  
\$1,075.40 x 1.1 = \$1,182.94  
Operator = \$ 227.60/day  
\$1,410.54/day
  
5. Backhoe (Cat 235) + \$1,440.00/day + \$263.60/day (OP  
cost) = \$1,703.60 x 1.1 = \$1,873.96  
Operator = \$ 227.60/day  
\$2,101.56/day
  
6. Operator Equipment (medium) = \$28.45/hr =  
\$227.60/day  
Average Helper = \$21.75/hr = \$174/day  
Foreman = \$31.35/hr = \$250.80/day  
Crane Equipment Operator = \$29.10/hr = \$232.80/day

3.5.7.1 Reclamation Summary (continued)

Reclamation Cost Estimate

A. Seal Portals

3 seals x \$3,500/seal (AMR costs) = \$10,500.00

TOTAL \$10,500

B. Remove Structures

Fan

Labor - 2 men x \$174/day x 2 days = \$ 696.00

Equipment (hauling)-1 truck +  
operator at \$120.05/hr. x 2 hrs = 357.08

Crane - RT-580 20T Crane  
+ operator at \$120.05/hr x 2 hrs = 240.10

SUBTOTAL \$ 1,293.18

Block Mine Building & Upper Water Tank

Labor - 2 men x \$174/day x 3 days = \$ 1,044.00

Equipment (hauling) - 1 truck  
+ operator x 8 hrs x \$89.27/hr = 714.16

Loader + operator @ 4 hrs x  
\$128.88/hr = 515.52

SUBTOTAL \$ 2,273.68

3.5.7.1 Reclamation Summary (Continued)

B. Remove Structures (Continued)

Chute and Conveyor

3 men x \$174/day x 4 days = \$ 2,088.00

Equipment (hauling) - 1 truck  
+ operator x 32 hrs x \$89.27/hr = 2,856.64

1 loader + operator x 16 hrs x  
\$128.88/hr = 2,062.08

SUBTOTAL \$ 7,006.72

Sub-Station

\*(Includes power line removal)

Labor - 2 men x \$174/day x 4 days = \$ 1,392.00

Hauling - 1 truck + operator  
x 16 hrs x 89.27/hr = 1,428.32

Loader + operator x 4 hr x \$128.88 = 515.52

SUBTOTAL \$ 3,335.84

\*Power line consists of 4 poles and wire between  
upper and lower sub-stations. Incoming lines  
and poles belong to U.P. & L. Co.

3.5.7.1 Reclamation Summary (Continued)

Bathhouses

Load - 2 men x \$174/day x 3 days = \$ 1,044.00

Equipment (hauling) - 1 truck  
+ operator x 12 hrs x \$89.27/hr = 1,071.24

Loader - 4 hrs x \$128.88/hr  
+ operator = 515.52

SUBTOTAL \$ 2,630.76

Middle Water Tank & House

Labor - 2 men x \$174/day x 2 days= 696.00

Equipment (hauling) - 1 truck  
+ operator x 8 hrs x 89.27/hr = 714.16

Loader - 4 hrs x \$128.88/hr  
+ operator = 515.52

SUBTOTAL \$ 1,925.68

Creek Water System

(Includes pumphouse removal)

Labor - 2 men x \$174/day x 1 day = \$ 348.00

Equipment (hauling) - 1 truck  
+ operator x 4 hrs x \$89.27/hr = 357.08

SUBTOTAL \$ 705.08

3.5.7.1 Reclamation Summary (Continued)

B.H. Water Tank & Water System

Labor - 2 men x \$174/day x 3 days = \$ 1,044.00

Equipment (hauling) - 1 truck  
+ operator x 16 hrs x \$89.27/hr = 1,428.32

Loader - 4 hrs x \$128.88/hr  
+ operator = 515.52

SUBTOTAL \$ 2,987.84

Upper Pad Bridge

Labor - 2 men x \$174/day x 1 day = \$ 348.00

Equipment (hauling) - 1 truck  
+ operator x 4 hrs x \$89.27/hr = 357.08

Loader - 4 hrs x \$128.88/hr  
+ operator = 515.52

SUBTOTAL \$ 1,220.60

3.5.7.1 Reclamation Summary (Continued)

Sewer System

Labor - 2 men x \$174/day x 2 days = \$ 696.00

Backhoe + operator -  
\$2,101.56/day x 2 days = 4,203.12

Equipment (hauling) - 1 truck  
+ operator x 8 hrs x \$89.27/hr = 714.16

SUBTOTAL \$ 5,613.28

Trailers (2)

Labor - 2 men x \$174/day x 2 days = \$ 696.00

Equipment (hauling) - 1 truck +  
operator x 16 hrs. x \$89.27/hr = 1,428.32

SUBTOTAL \$ 2,124.32

Fuel Tanks

All contract - No charge for  
removal = \$ 00.00

SUBTOTAL \$ 00.00

3.5.7.1 Reclamation Summary (Continued)

Clean-up

(Includes haulage of culverts,  
trash, etc. to landfill)

Labor - 2 men x \$174/day x 4 days = \$ 1,392.00

Equipment (hauling) - 1 truck  
+ operator x 8 hrs x \$89.27/hr = 714.16

Loader - 4 hrs x \$128.88/hr  
+ operator = 515.52

SUBTOTAL \$ 2,621.68

TOTAL

\$33,738.66

3.5.7.1 Reclamation Summary (Continued)

C. Soil Placement (Backfilling & Grading)

Upper Pad & Diversions (5.35 ac)

Backhoe + operator x \$2,101.56/day  
x 10 days = \$21,015.60

Cat + operator x \$1,410.54/days  
x 10 days = 14,105.40

SUBTOTAL \$35,121.00

Upper Road (2.58 ac.)

Backhoe + operator x \$2,101.56/day  
x 20 days = \$42,031.20

Coal Storage Pad (2.47 ac.)

(Includes 900' Coal Haul Road)

Backhoe + operator x \$2,101.56/day  
x 3 days = \$ 6,304.68

Cat + operator x \$1,410.54/days  
x 3 days = 4,231.62

SUBTOTAL \$10,536.30

3.5.7.1 Reclamation Summary (Continued)

C. Soil Placement (Backfilling & Grading) (Continued)

Lower Pad (1.37 ac.)

Backhoe + operator x \$2,101.56/day  
x 2 days = \$ 4,203.12

Cat + operator x \$1,410.54/day  
x 2 days + 2,821.08

SUBTOTAL \$ 7,024.20

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3.5.7.1 Reclamation Summary Continued)

Drainfield Pad (0.52 ac.)

Backhoe + operator x \$2,101.56/day  
x 1 day = \$ 2,101.56

Cat + operator x \$1,410.54/day  
x 1 day = 1,410.54

SUBTOTAL \$ 3,512.10

TOTAL

\$98,224.80

D. Seedbed Material Handling (12.5 ac.)

Cat/Ripper + operator x \$1,410.54/day  
x 2 days = \$ 2,821.08

Cat/Disk + operator x \$1,410.54/day  
x 2 days = 2,821.08

TOTAL

\$ 5,642.16

3.5.7.1 Reclamation Summary Continued

E. Reseeding & Fertilizing (12.5 ac.)

(Includes Creek Pump Area)

Hydroseeder, Operator & Driver -

700/ac x 12.5 ac = \$ 8,750.00

Seed = \$569.75/acre

Labor = 100.00/acre

Fertilizer = 30.00/acre

\$699.75

Riparian - \$500 est.

(Includes willows) = 500.00

TOTAL

\$ 9,250.00

F. Mulching (12.5 ac.)

(Includes Tacifier)

Hydromulcher, Operator & Driver -

\$350/ac x 12.5 ac = \$ 4,375.00

G. Protective Fencing (12.5 ac)

6 feet high x 3,000 linear feet

x \$2.00/linear foot installed = \$ 6,000.00

3.5.7.1 Reclamation Summary (Continued)

H. Restoration of Natural Drainage  
(Includes Creek Pump Area)

Equipment - Backhoe + operator  
x \$2,101.56/day x 5 days = \$10,507.80

Labor - 2 men x \$174/day  
x 5 days = 1,740.00

TOTAL \$12,247.80

I. Sedimentation Pond Site (0.22 ac)

Backhoe + operator x \$2,101.56/day  
x 2 days = \$ 4,203.12

Cat + operator x \$1,410.54/day  
x 2 days = 2,821.08

TOTAL \$ 7,024.20

3.5.7.1 Reclamation Summary Continued

J. Maintenance Monitoring

\$11,840/yr (including vegetative,  
hydrologic, and rills and gullies) \$11,840.00

K. Foreman Supervising

\$1,254/week for 20 weeks \$25,080.00

1. Labor rates are from the 1984 Means Construction Cost Data.
2. Operating cost are from the Rental Rate Bluebook.
3. Seed costs are from Native Plants Incorporated.
4. Inflate at 6.8 percent annually. Used preceding three years of Means Historical Cost Index.
- \* 5. Machine Productivity:
  - a. Backhoe - .75 acres/day on pads.
  - b. Backhoe - 240 ft./day on roads.
  - c. Cat - .75 acres/day on pads.
6. Reclamation costs and 12.4 acre reseeding area includes U.S.F.S. Special Use Permit areas at the Creek Pump and Sediment Ponds.
7. Machine cycle time is not considered since cut/fill work is in same area. (No haulage required).

3.5.7.1 Reclamation Summary Continued

8. Foundations buried against highwalls. Cost included in dozer time.

\*Based on Actual Reclamation Experience at Gordon Creek No. 2 Mine

## Section 4

### LAND STATUS, LAND-USE AND POSTMINING LAND-USE

#### 4.1 Scope

This section details surface and mineral ownership as well as leaseholders or easement holders, or other pending options or interests in lands which are contiguous to or within the area to be covered by the permit pursuant to requirements of UMC 782.13.

The existing regional and site specific land use as well as the possible impacts which may occur during and after mining to the land-use and socioeconomy are considered.

#### 4.2 Methodology

All information documenting land status has been acquired from information on file with Anaconda's Land Department, contacts with various governmental agencies, and also through independent land checks completed by consulting land brokers.

#### 4.3 Land Status

##### 4.3.1 Surface Land Status

Tables 4-1 and 4-2 (numerically cross-referenced) identify the current ownership, rights-of-way, easements, leases, special use permits, water rights, and surface managing authorities for all property in and contiguous to the permit area. Figure 4-1 shows the location of the subject tracts.

TABLE 4-1 Surface and Mineral Land Status

Surface Owner(s)	Mineral Owner(s)	Leasehold Interest	Royalty Interest	ROW-Easement & Miscellaneous
United States of America (81)	United States of America (79)	<p><u>OIL &amp; GAS</u> Superior Oil Co. (S13)</p> <p><u>COAL</u> Beaver Creek Coal Company (4) (Coal Lease Appl.)</p> <p><u>GRAZING PERMITEES</u> Bernice J. Coates (10) Glen V. Johnson (36) Alice Olsen &amp; Dixie Brunger (66) Paul &amp; Louis L. Johansen (37) Charles A. Or Elna J. McKay (60) Bert O. or Betty M. Sorensen (73)</p>	None	<p><u>SPECIAL USE PERMIT</u> City of Huntington (34)</p> <p><u>RIGHT-OF-WAY</u> State Highway Commission (S14) Genwal Coal Co. (S3)</p>

GRID CO-ORD.

Sec. 4 T16S, R7E

Descr. SW $\frac{1}{4}$ SW $\frac{1}{4}$ , W $\frac{1}{2}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ ,

NW $\frac{1}{4}$ SW $\frac{1}{4}$ , S $\frac{1}{2}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$

Within permit boundary

TABLE 4-1 Surface and Mineral Land Status

Surface Owner(s)	Mineral Owner(s)	Leasehold Interest	Royalty Interest	ROW-Easement & Miscellaneous
United States of America (81)  Beaver Creek Coal Company (4)	United States of America (79)  Beaver Creek Coal Company (4)	<u>OIL &amp; GAS</u> Southland Royalty Co. (74) Enterprise Gas Co. (20) El Paso Exploration CO (16)  <u>COAL</u> Beaver Creek Coal Company (4) (Coal Lease Appl.)  <u>GRAZING PERMITEES</u> Bernice J. Coates (10) Glen V. Johnson (36) Alice Olson & Dixie Brunger (66) Paul & Louis L. Johansen (37) Charles A. or Elna J. McKay (60) Bert O. or Betty M. Sorensen (73)	<u>OIL &amp; GAS</u> Draco Oil & Gas Co. (15) J. R. Boshard (S3) Enserch Exploration Co. (19) Cordillera Corp. (14) Snyder Interests (72) William & Julie Dellenback (S5) Neal Neece (S11)  <u>COAL</u> William & Julie Dellenback (S5)	<u>ENCUMBRANCES</u> William H. Dellenback (S5) Bankers Trust Co. (S2) Mellon Bank (S10)  <u>SPECIAL USE PERMIT</u> City of Huntington (34)  <u>RIGHT-OF-WAY</u> Genwal Coal Co. (S8)

GRID CO-ORD.

Sec. 5 T16S, R7E

Descr. SW $\frac{1}{4}$ , SE $\frac{1}{4}$ , S $\frac{1}{2}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ ,

S $\frac{1}{2}$ S $\frac{1}{2}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$

Within permit boundary

TABLE 4-1 Surface and Mineral Land Status

Surface Owner(s)	Mineral Owner(s)	Leasehold Interest	Royalty Interest	ROW-Easement & Miscellaneous
United States of America (81)	United States of America (79)	<p><u>OIL &amp; GAS</u>            Southland Royalty Co. (74)            Enterprise Gas Co. (20)            El Paso Exploration Company (16)            The Anschutz Corp. (1)</p> <p><u>COAL</u>            Atlantic Richfield Company (2)            (Exploration License)            Beaver Creek Coal Company (4)            (Emergency Lease Appl.)</p>	<p><u>OIL &amp; GAS</u>            Draco Oil &amp; Gas Co. (15)            J. R. Boshard (53)            Enserch Exploration Co. (19)            Cordillera Corp. (14)            Snyder Interests (72)            Harp Limited Partnership (S9)            Odessa Natural Gas Corp. (65)</p>	<p><u>SPECIAL USE PERMIT</u>            City of Huntington (34)</p> <p><u>WATER</u>            U. S. Forest Service (80)</p>
		<p><u>GRAZING PERMITEES</u>            Bernice J. Coates (10)            Glen V. Johnson (36)            Alice Olson &amp; Dixie Brunger (66)            Paul &amp; Louis L. Johansen (37)            Charles A. or Elna J. McKay (60)            Bert O. or Betty M. Sorensen (73)</p>		

GRID CO-ORD.

Sec. 8 T16S, R7E

Descr. NW<sup>1</sup>/<sub>4</sub>, NE<sup>1</sup>/<sub>4</sub>, N<sup>1</sup>/<sub>2</sub>SE<sup>1</sup>/<sub>4</sub>

Within permit boundary

TABLE 4-1 Surface and Mineral Land Status

Surface Owner(s)	Mineral Owner(s)	Leasehold Interest	Royalty Interest	ROW-Easement & Miscellaneous
United States of America (81)	United States of America (79)	<p><u>OIL &amp; GAS</u> The Anschutz Corp. (1)</p> <p><u>COAL</u> Beaver Creek Coal Co. (4) (Coal Lease Appln.)</p> <p><u>GRAZING PERMITEES</u> Bernice J. Coates (10) Glen V. Johnson (36) Alice Olson &amp; Dixie Brunger (66) Paul &amp; Louis L. Johansen (37) Charles A. or Elna J. McKay (60) Bert O. or Betty M. Sorensen (73)</p>	<p><u>OIL &amp; GAS</u> Larry E. Clark (S4) Dean W. Rowell (S12) Dennis B. Farrar (S6) David L. Allen (S1)</p>	<p><u>SPECIAL USE PERMIT</u> City of Huntington (34)</p> <p><u>RIGHT-OF-WAY</u> State Highway Commission (S14)</p> <p><u>WATER</u> U.S. Forest Service (81)</p> <p><u>SPECIAL USE PERMIT</u> Atlantic Richfield Company (2) Water Monitoring</p>

GRID CO-ORD.

Sec. 9 T16S, R7E

Descr. NW $\frac{1}{4}$ , N $\frac{1}{2}$ SW $\frac{1}{4}$

Within permit boundary

TABLE 4-1 Surface and Mineral Land Status

Surface Owner(s)	Mineral Owner(s)	Leasehold Interest	Royalty Interest	ROW-Easement & Miscellaneous
<p>United States of America (81)</p>	<p>United States of America (79)</p>	<p><u>OIL &amp; GAS</u> Superior Oil Co. (S13)</p> <p><u>GRAZING PERMITEES</u> Bernice J. Coates (10) Glen V. Johnson (36) Alice Olson &amp; Dixie Brunger (66) Paul &amp; Louis L. Johansen (37) Charles A. or Elna J. McKay (60) Bert O. or Betty M. Sorensen (73)</p>	<p>None</p>	<p><u>SPECIAL USE PERMIT</u> City of Huntington (34)</p> <p><u>RIGHT-OF-WAY</u> Genwal Coal Co. (S8) State Highway Commission (S14)</p>

GRID CO-ORD.

Sec. 4 T16S, T7E

Descr. E $\frac{1}{2}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ , W $\frac{1}{2}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ ,

NE $\frac{1}{4}$ SW $\frac{1}{4}$ , S $\frac{1}{2}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ ,

S $\frac{1}{2}$ N $\frac{1}{2}$ NW $\frac{1}{4}$ , N $\frac{1}{2}$ , S $\frac{1}{2}$ , NW $\frac{1}{4}$

contiguous to permit area

TABLE 4-1 Surface and Mineral Land Status

Surface Owner(s)	Mineral Owner(s)	Leasehold Interest	Royalty Interest	ROW-Easement & Miscellaneous
United States of America (81)	United States of America (79)	<p><u>OIL &amp; GAS</u>            Southland Royalty Co.(74)            Enterprise Gas Co. (20)            El Paso Exploration Company (16)</p> <p><u>COAL</u>            Gent Flying Ent. (S7)</p> <p><u>GRAZING PERMITEES</u>            Bernice J. Coates (10)            Glen V. Johnson (36)            Alice Olson &amp; Dixie Brunger (66)            Paul &amp; Louis L. Johansen (37)            Charles A. or Elna J. McKay (60)            Bert O. or Betty M. Sorensen (73)</p>	<p><u>OIL &amp; GAS</u>            Draco Oil &amp; Gas Co.(15)            J. R. Boshard (S3)            Enserch Expl. Co. (19)            Cordillera Corp. (14)            Snyder Interests (72)</p>	<p><u>SPECIAL USE PERMIT</u>            City of Huntington (34)</p> <p><u>RIGHT-OF-WAY</u>            Genwal Coal.Co. (S8)</p>

GRID CO-ORD.

Sec. 5 T16S, R7E

Descr. N $\frac{1}{2}$ S $\frac{1}{2}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ , N $\frac{1}{2}$ S $\frac{1}{2}$ NE $\frac{1}{4}$ ,

S $\frac{1}{2}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ , S $\frac{1}{2}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ ,

S $\frac{1}{2}$ N $\frac{1}{2}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ , S $\frac{1}{2}$ NW $\frac{1}{4}$

contiguous to permit area

TABLE 4-1 Surface and Mineral Land Status

Surface Owner(s)	Mineral Owner(s)	Leasehold Interest	Royalty Interest	ROW-Easement & Miscellaneous
<p>United States of America (81)</p>	<p>United States of America (79)</p>	<p><u>OIL &amp; GAS</u>            Southland Royalty Co. (74)            Enterprise Gas Co. (20)            El Paso Exploration Company (16)</p> <p><u>COAL</u>            Gent Flying Ent. (S7)</p> <p><u>GRAZING PERMITEES</u>            Bernice J. Coates (10)            Glen V. Johnson (36)            Alice Olson &amp; Dixie Brunger (66)            Paul &amp; Louis L. Johansen (37)            Charles A. or Elna J. McKay (60)            Bert O. or Betty M. Sorensen (73)</p>	<p><u>OIL &amp; GAS</u>            Draco Oil &amp; Gas Co. (15)            J. R. Boshard (S3)            Enserch Expl. Co. (19)            Cordillera Corp. (14)            Snyder Interests (72)</p>	<p><u>RIGHT-OF-WAY</u>            Genwal Coal Co. (S8)</p>

GRID CO-ORD.

Sec. 6 T16S, R7E

Descr. SE $\frac{1}{4}$ NE $\frac{1}{4}$ , E $\frac{1}{2}$ SE $\frac{1}{4}$

contiguous to permit area

Surface Owner(s)	Mineral Owner(s)	Leasehold Interest	Royalty Interests	ROW-Easement & Miscellaneous
United States of America (81)	United States of American (79)	<p><u>Coal</u> Atlantic Richfield Company (Exp. Lic.) (2)</p> <p><u>OIL &amp; GAS</u> El Paso Exploration Company (16) Enterprise Gas Company (20) Southland Royalty Company (74)</p> <p><u>GRAZING PERMITS</u> Bernice Coates (10) Glen Johnson (36) Bert Sorensen (73) Paul Johansen (37) Charles McKay (60) Alice Olsen &amp; Dixie Brunger (66)</p>	<p>United States of American (82)</p> <p><u>ORR-OIL &amp; GAS</u> Snyder Interest (72) Cordillera Corporation (14) Odessa Natural Gas Corporation (65) Enserch Exploration, Inc. (19) Draco Oil &amp; Gas Company (15)</p>	<p>Tract _____ Sec. 7T16SR7E _____ Desc. 7: E<sup>1</sup>/<sub>4</sub>E<sup>1</sup>/<sub>4</sub> contiguous to permit area _____</p>

TABLE 4-1 Surface and Mineral Land Status

Surface Owner(s)	Mineral Owner(s)	Leasehold Interest	Royalty Interest	ROW-Easement & Miscellaneous
United States of America (81)	United States of America (79)	<p><u>OIL &amp; GAS</u> The Anschutz Corp. (1)</p> <p><u>GRAZING PERMITEES</u> Berniece J. Coates (10) Glen V. Johnson (36) Alice Olsen &amp; Dixie Brunger (66) Paul &amp; Louis L. Johansen (37) Charles A. or Elna J. McKay (60) Bert O. or Betty M. Sorensen (73)</p>	<p><u>OIL &amp; GAS</u> Larry E. Clark (S4) Dean W. Rowell (S12) Dennis B. Farrar (S6) David L. Allen (S1)</p>	<p><u>SPECIAL USE PERMIT</u> City of Huntington (34)</p> <p><u>RIGHT-OF-WAY</u> State Highway Commission (S14)</p> <p><u>WATER</u> U.S. Forest Service (80)</p>

GRID CO-ORD.

Sec. 9 T16S, R7E

Descr. W $\frac{1}{2}$ NE $\frac{1}{4}$ , N $\frac{1}{2}$ SE $\frac{1}{4}$ , SE $\frac{1}{4}$ SE $\frac{1}{4}$

contiguous to permit area

TABLE 4-1 Surface and Mineral Land Status

Huntington Canyon #4

Surface Owner (s)	Mineral Owner (s)	Leasehold Interest	Royalty Interests	ROW-Easement & Miscellaneous
United States of America (81)	United States of America (79)	<p><u>COAL</u>                      Atlantic Richfield Company (Expl. Lic)(2)                      Beaver Creek Coal Company (Emerg. Lease Appl.) (4)</p> <p><u>OIL &amp; GAS</u>                      El Paso Exploration Company (16)                      Enterprise Gas Company (20)                      Southland Royalty Company (14)</p> <p><u>GRAZING PERMITS</u>                      Bernice Coates (10)                      Glen Johnson (36)                      Bert Sorensen (73)                      Paul Johansen (37)                      Charles McKay (60)                      Alice Olsen &amp; Dixie Brunger (66)</p>	<p>(Continued)</p> <p>United States of America (80)</p> <p><u>ORR - OIL &amp; GAS</u>                      Snyder Interest (72)</p> <p>Cordillera Corporation (14)</p> <p>Odessa Natural Corporation (65)</p> <p>Enserch Exploration, Inc. (19)</p> <p>Draco Oil &amp; Gas Company (15)</p>	<p><u>SPECIAL USE PERMIT</u>                      Atlantic Richfield Company (2)                      Water Monitoring</p>

GRID CO-ORD.

Sec. 17 T 16S R 7E

Descr. E1/4, NW1/4.

Contiguous to p.

area

TABLE 4-1 Surface Mineral Land State

Huntington Canyon 4

Surface Owner (s)	Mineral Owner (s)	Leasehold Interest	(Continued) Royalty Interests	ROW-Easement & Miscellaneous
United States of America (81)	United States of America (79)	<p><u>OIL &amp; GAS</u> Raymond Chorney (7)</p> <p><u>GRAZING PERMITS</u> Clark Christensen (8) Chall Cook (11) Reeve Cook (12) Willas Cook (13) Earl Gordon (23) Larry Guymon (25) Lynn Guymon (26) Ruth Guymon (27) Larson Brothers (39) Glen Jensen (35) Keith Larson (40) Lee Lemon (41) Wilton Lemon (42) Lee McElprang (57) Milton McElprang (58) Elven McElprang (56) Tom McElprang (59) Jethrow Majors (53) McArthur Ranches (55) John Neilson (61) Don Overson (67) Vernell Rowley (69) Paul Wood (87)</p>	United States of America (82)	<p><u>SPECIAL USE PERMIT FOR ROAD AND MINE FACILITIES</u> Beaver Creek Coal Company (4)</p> <p><u>RIGHT-OF-WAY</u> Utah State Highway Commission (84)</p> <p><u>UTILITY EASEMENTS</u> Emery County Farmers Union Telephone Association (18) North Emery Water Users Association (63) Utah Power &amp; Light Company (83) Huntington City (34)</p> <p><u>SPECIAL USE PERMIT</u> Atlantic Richfield Company (2) Water monitoring</p>

GRID CO-ORD.  
 Sec. 21 & 22 T 16S R 7E  
 Descr. 21: N $\frac{1}{2}$ N $\frac{1}{2}$   
 22: NW $\frac{1}{4}$ NW $\frac{1}{4}$   
 Contiguous to Permit area

Mining and Reclamation Plan  
Huntington Canyon No. 4 Mine Permit Application

Table 4-2

NAMES AND ADDRESSES  
HOLDERS OF LEGAL INTEREST

- |   |   |
|---|---|
| 1. The Anschutz Corporation<br>2400 Anaconda Tower<br>555 17th Street<br>Denver, Colorado 80202                       | 11. Chall Cook<br>Box 94<br>Huntington, Utah 84528  |
| 2. Atlantic Richfield Company<br>P.O. Box 5300 T.A.<br>Denver, Colorado 80217   | 12. Reeve Cook<br>Box 748<br>Huntington, Utah 84528   |
| 3. Dick E. & Jessie M. Bastian<br>963 S. State Street<br>Orem, Utah 84057   | 13. Willas Cook<br>Box 604<br>Huntington, Utah 84528  |
| 4. Beaver Creek Coal Company<br>P.O. Box AU<br>Price, Utah 84501  | 14. Cordillera Corporation<br>2334 East 3rd Avenue<br>Denver, Colorado 80226                                  |
| 5. Alice Madden Bogren<br>c/o Nancy S. Madden<br>2900 Connecticut Avenue, NW<br>Apartment 332<br>Washington, DC 20008 | 15. Draco Oil & Gas Company<br>1776 Lincoln Street<br>Denver, Colorado 80203                                  |
| 6. Robert H. & Diane Burgener<br>c/o Dick E. Bastian<br>963 S. State Street<br>Orem, Utah 84057                       | 16. El Paso Exploration Company<br>Box 1492<br>El Paso, Texas 79978   |
| 7. Raymond Chorney<br>1860 Lincoln Street<br>Suite 101<br>Denver, Colorado 80295                                      | 17. K.B. Elliott<br>Address Unknown   |
| 8. Clark Christensen<br>Box 605<br>Huntington, Utah 84528   | 18. Emery County Farmers Union<br>Telephone Association<br>Keith N. Ware - Manager<br>Orangeville, Utah 84537 |
| 9. Francis W. & Alta Bates Christiansen<br>c/o Dick E. Bastian<br>963 S. State Street<br>Orem, Utah 84057             | 19. Enserch Exploration, Inc.<br>Box 2649<br>Dallas, Texas 75201  |
| 10. Bernice Coates<br>P.O. Box 203<br>Mt. Pleasant, Utah 84647  | 20. Enterprise Gas Company<br>100 Milam Building, Suite 2900<br>Houston, Texas 77002                          |
|   | 21. General Exploration Company<br>4219 Sigma Road<br>Dallas, Texas 75249                                     |

Mining and Reclamation Plan  
Huntington Canyon No. 4 Mine Permit Application

Table 4-2 (continued)

NAMES AND ADDRESSES  
HOLDERS OF LEGAL INTEREST

- |     |  |     |  |
|-----|--|-----|--|
| 22. | Susan Madden Gittings<br>c/o Nancy S. Madden<br>2900 Connecticut Avenue, NW<br>Apartment 332<br>Washington, DC 20008 | 32. | Marena Madden Hiatt<br>687 30th Street<br>Marathon, Florida 33050  |
| 23. | Earl Gordon<br>Box 422<br>Huntington, Utah 84528   | 33. | Thomas Wister Hiatt<br>c/o Nancy S. Madden<br>2900 Connecticut Avenue, NW<br>Apartment 332<br>Washington, DC 20008 |
| 24. | Hal Guymon<br>Huntington, Utah 84528   | 34. | Huntington City<br>Mayor Bob Roberts<br>40 N. Main Street<br>Huntington, Utah 84528                                |
| 25. | Larry Guymon<br>Box 1138<br>Huntington, Utah 84528   | 35. | Glen Jensen<br>Box 454<br>Elmo, Utah 84521   |
| 26. | Lynn Guymon<br>Box 492<br>Huntington, Utah 84528   | 36. | Glen Johansen<br>Mt. Pleasant, Utah 84647  |
| 27. | Ruth Guymon<br>Box 306<br>Huntington, Utah 84528   | 37. | Paul Johansen<br>Box 551<br>Mt. Pleasant, Utah 84647   |
| 28. | Ted L. & Della J. Hanks<br>c/o Dick Bastian<br>963 S. State Street<br>Orem, Utah 84057                               | 38. | Roy N. & Ora Lee Kizerian<br>c/o Dick E. Bastian<br>963 S. State Street<br>Orem, Utah 84507                        |
| 29. | Hardy Coal Company<br>Sugarcreek, Ohio 44681   | 39. | Larson Brothers<br>c/o Lamond Gardner<br>Box 332<br>Cleveland, Utah 84518  |
| 30. | Amy Marina Hiatt<br>c/o Nancy S. Madden<br>2900 Connecticut Avenue, NW<br>Apartment 332<br>Washington, DC 20008      | 40. | Keith Larson<br>Box 336<br>Huntington, Utah 84528  |
| 31. | Eve Sevier Hiatt<br>c/o Nancy S. Madden<br>2900 Connecticut Avenue, NW<br>Apartment 332<br>Washington, DC 20008      | 41. | Lee Lemon<br>Box 193<br>Huntington, Utah 84528   |

Mining and Reclamation Plan  
Huntington Canyon No. 4 Mine Permit Application

Table 4-2 (continued)

NAMES AND ADDRESSES  
HOLDERS OF LEGAL INTEREST

- |   |  |
|---|--|
| 42. Wilton Lemon<br>Box 764<br>Huntington, Utah 84528   | 51. William J. Madden<br>c/o Nancy S. Madden<br>2900 Connecticut Avenue, NW<br>Apartment 332<br>Washington, DC 20008     |
| 43. Edward Andrew Madden<br>c/o Nancy S. Madden<br>2900 Connecticut Avenue, NW<br>Apartment 332<br>Washington, DC 20008 | 52. William Joseph Madden<br>c/o Nancy S. Madden<br>2900 Connecticut Avenue, NW<br>Apartment 332<br>Washington, DC 20008 |
| 44. Edward F. Madden<br>c/o Nancy S. Madden<br>2900 Connecticut Avenue, NW<br>Apartment 332<br>Washington, DC 20008     | 53. Jethrow Majors<br>Huntington, Utah 84528   |
| 45. Madden Family<br>c/o Nancy S. Madden<br>2900 Connecticut Avenue, NW<br>Apartment 332<br>Washington, DC 20008        | 54. Marathon Oil Company<br>Box 120<br>Casper, Wyoming 82602   |
| 46. Marena Sevier Madden<br>c/o Nancy S. Madden<br>2900 Connecticut Avenue, NW<br>Apartment 332<br>Washington, DC 20008 | 55. McArthur Ranches<br>Box 420<br>Huntington, Utah 84528  |
| 47. Mollie Madden<br>c/o Nancy S. Madden<br>2900 Connecticut Avenue, NW<br>Apartment 332<br>Washington, DC 20008        | 56. Elven McElprang<br>Huntington, Utah 84528  |
| 48. Nancy S. Madden<br>2900 Connecticut Avenue, NW<br>Apartment 332<br>Washington, DC 20008                             | 57. Lee McElprang<br>Box 415<br>Huntington, Utah 84528   |
| 49. Patrick A. Madden<br>c/o Nancy S. Madden<br>2900 Connecticut Avenue, NW<br>Apartment 332<br>Washington, DC 20008    | 58. Milton McElprang<br>Huntington, Utah 84528   |
|   | 59. Tom McElprang<br>Box 24<br>Huntington, Utah 84528  |
|   | 60. Charles McKay<br>Box 555<br>Mt. Pleasant, Utah 84627   |
|   | 61. John Neilson<br>Box 620<br>Huntington, Utah 84528  |

Mining and Reclamation Plan  
Huntington Canyon No. 4 Mine Permit Application

Table 4-2 (continued)

NAMES AND ADDRESSES  
HOLDERS OF LEGAL INTEREST

- |  |  |
|--|--|
| 50. Timothy George Madden<br>c/o Nancy S. Madden<br>2900 Connecticut Avenue, NW<br>Apartment 332<br>Washington, DC 20008 | 62. Dick N. & Quinevere A. Neilson<br>686 E. 4119 South<br>Salt Lake City, Utah 84107                          |
| 63. North Emery Water Users' Assc.<br>Robert Allen, Manager<br>Elmo, Utah 84521  | 74. Southland Royalty Company<br>160 First National Bank Bldg.<br>Fort Worth, Texas 76102                      |
| 64. Northwest Carbon Corporation<br>P.O. Box 1526<br>Salt Lake City, Utah 84110  | 75. E.H. Stone Investment Co.<br>Address Unknown   |
| 65. Odessa Natural Corporation<br>Box 3908<br>Odessa, Texas 79760  | 76. Meldon J. & Alice L. Tanner<br>c/o Dick Bastian<br>963 S. State Street<br>Orem, Utah 84057                 |
| 66. Alice Olsen & Dixie Brunger<br>Box 135<br>Mt. Pleasant, Utah 84647   | 77. Noel S. & Verlene W. Tanner<br>c/o Dick Bastian<br>963 S. State Street<br>Orem, Utah 84057                 |
| 67. Don Overson<br>Box 154<br>Huntington, Utah 84528   | 78. Texaco, Inc.<br>Box 2100<br>Denver, Colorado 80201   |
| 68. Peabody Coal Company<br>47. S. Second, East<br>Salt Lake City, Utah 84110  | 79. United States of America<br>Bureau of Land Management<br>136 E. South Temple<br>Salt Lake City, Utah 84111 |
| 69. Vernell Rowley<br>Box 474<br>Huntington, Utah 84528  | 80. United States of America<br>Forest Service<br>Federal Building<br>Ogden, Utah 84404                        |
| 70. Stanley B. Shaffer<br>Address Unknown  |  |
| 71. Adele Madden Shaver<br>c/o Nancy S. Madden<br>2900 Connecticut Avenue, NW<br>Apartment 332<br>Washington, DC 20008   | 81. United States of America<br>Forest Service<br>599 W. Price River Drive<br>Price, Utah 84501                |

Mining and Reclamation Plan  
Huntington Canyon No. 4 Mine Permit Application

Table 4-2 (continued)

NAMES AND ADDRESSES  
HOLDERS OF LEGAL INTEREST

- |     |  |     |   |
|-----|--|-----|---|
| 72. | Snyder Interest<br>c/o Trust Department<br>The Midland National Bank of Billings<br>Midland National Bank Building<br>Billings, Montana 59101                                  | 82. | United States of America<br>United States Geological Survey<br>Department of the Interior<br>2040 Administrative Building<br>1745 W. 1700 South<br>Salt Lake City, Utah 84104 |
| 73. | Bert Sorensen<br>Box 482<br>Mt. Pleasant, Utah 84647   | 83. | Utah Power & Light Company<br>P.O. Box 899<br>Salt Lake City, Utah 84110  |
| 84. | Utah State Highway Commission<br>Right-of-Way Division<br>State Office Building, Room 500<br>Salt Lake City, Utah 84114  |     |   |
| 85. | Utah State Road Commission<br>Right-of-Way Division<br>State Office Building, Room 500<br>Salt Lake City, Utah 84114   |     |   |
| 86. | Leonora W. Wertheimer<br>c/o Edward J. Wynne, Jr., Esq.<br>Cooper, White & Cooper<br>Attorneys At Law<br>44 Montgomery Street<br>Suite 3300<br>San Francisco, California 94104 |     |   |
| 87. | Paul Wood<br>Huntington, Utah 84528  |     |   |

Mining and Reclamation Plan  
Huntington Canyon No. 4 Mine Permit Application

Table 4-2 (continued)

SUPPLEMENT  
Names and Addresses  
Holders of Legal Interest

- |  |   |
|--|---|
| 1. David L. Allen<br>3031 East 7000 South<br>Salt Lake City, Utah 84121            | 11. Neal Neece<br>918 Corrigan Tower<br>Dallas, Texas                                   |
| 2. Bankers Trust Company   | 12. Dean W. Rowell<br>P.O. Box 11206<br>Salt Lake City, Utah 84147                      |
| 3. J.R. Boshard<br>1776 Lincoln<br>Denver, Colorado 80203                          | 13. Superior Oil Company<br>P.O. Box 1521<br>Houston, Texas 77001                       |
| 4. Larry E. Clark<br>1036 Oak Hills Way<br>Salt Lake City, Utah 84108              | 14. Utah State Highway<br>Department<br>District 4 Office<br>South of Price, Utah 84501 |
| 5. William & Julie Dellenback<br>1510 Pickwick Plaza<br>Bloomington, Indiana 47401 |   |
| 6. Dennis B. Farrar<br>2743 East 6200 South<br>Salt Lake City, Utah 84121          |   |
| 7. Gent Flying Enterprises<br>P.O. Box 330<br>Honader, Virginia 24260              |   |
| 8. Genwal Coal Company<br>P.O. Box 38<br>Orangeville, Utah 84537                   |   |
| 9. Harp Limited Partnership<br>375 Park Avenue<br>New York, New York 10017         |   |
| 10. Mellon Bank  |   |

Mining and Reclamation Plan  
Huntington Canyon No. 4 Mine Permit Application

4.3.2 Mineral Status

Tables 4-1 and 4-2 also identify coal, oil and gas, and other mineral leases and ownership for the mine area. Figure 4-2 shows the locations of the subject tracts.

4.3.4 Legal Right to Enter

Figure 4-3 shows the boundaries of land within the proposed permit area upon which the applicant has the legal right to enter and conduct coal mining activities.

The documents which give applicant the legal right to enter and begin mining activities in the permit area are as follows:

1. Special Warranty Deed dated December 31, 1979, from General Exploration Company, Grantor, to Swisher Coal Company (now Beaver Creek Coal Company), Grantee, covering all surface and coal of the following described lands:

Township 16 S, Range 7 East, SLBM

Section 8: SW 1/4;

Section 16: E 1/2 E 1/2, SW 1/4 SW 1/4, SW 1/4 SE 1/4;

Section 17: E 1/2 SE 1/4

2. Warranty Deed dated December 1, 1975, from Hardy Coal Company, Grantor, to Swisher Coal Company (now Beaver Creek Coal Company), Grantee, covering all surface and coal for the following described lands:

Township 16 South, Range 7 East, SLBM

Section 16: SE 1/4 SW 1/4

Mining and Reclamation Plan  
Huntington Canyon No. 4 Mine Permit Application

See new p. 4-20



4.3.4 Legal Right to Enter (continued)

3. Federal Coal Lease #U-33454, with effective date of December 1, 1978, from the United States of America, Lessor, to Swisher Coal Company (now Beaver Creek Coal Company), Lessee, covering coal located in the following described lands:



Township 16 South, Range 7 East, SLBM

Section 8: S 1/4 SE 1/4;

Section 16: NW 1/4 NE 1/4, N 1/2 NW 1/4, SW 1/4 NW 1/4,  
NW 1/4 SW 1/4;

Section 17: NE 1/4

Lessee has the right "to use so much of the surface as may reasonably be required in the exercise of the rights and privileges" granted in the lease.



4. Federal Coal Lease #064903, dated January 24, 1946, from the United States of America, Lessor, to Vernon Leamaster, Lessee, assigned to Swisher Coal Company (now Beaver Creek Coal Company) approved effective June 1, 1976, covering all coal located in the following described lands:

Township 16 South, Range 7 East, SLBM

Section 16: NE 1/4 SW 1/4



Lessee has the right "to use so much of the surface as may reasonably be required in the exercise of the rights and privileges" granted in the lease. This lease was readjusted effective June 1, 1979. The readjustment is being appealed to the Interior Board of Land Appeals, Docket #IBLA 79-519.

4.3.4 Legal Right to Enter (continued)

3. Federal Coal Lease #U-33454, with effective date of December 1, 1978, from the United States of American, Lessor, to Swisher Coal Company (now Beaver Creek Coal Company), Lessee, covering coal located in the following described lands:

Township 16 South, Range 7 East, SLBM

Section 8: S $\frac{1}{2}$  SE $\frac{1}{4}$

Section 16: NW  $\frac{1}{4}$  NE  $\frac{1}{4}$ , N  $\frac{1}{2}$  NW  $\frac{1}{4}$ , SW $\frac{1}{4}$  NW  $\frac{1}{4}$ , NW  $\frac{1}{4}$   
SW $\frac{1}{4}$ ;

Section 17: NE  $\frac{1}{4}$

Lessee has the right "to use so much of the surface as may reasonably be required in the exercise of the rights and privileges" granted in the lease.

4. Federal Coal Lease #064903, dated January 24, 1946, from the United States of America, Lessor, to Vernon Leamaster, Lessee, assigned to Swisher Coal Company (now Beaver Creek Coal Company) approved effective June 1, 1976, covering all coal located in the following described lands:

Township 16 South, Range 7 East, SLBM

Section 16: NE  $\frac{1}{4}$  SW  $\frac{1}{4}$ , NW  $\frac{1}{4}$  SE  $\frac{1}{4}$ , SE  $\frac{1}{4}$  NW  $\frac{1}{4}$ , SW  $\frac{1}{4}$   
NE  $\frac{1}{4}$ .

Lessee has the right " to use so much of the surface as may reasonably be required in the exercise of the rights and priveleges" granted in the lease. This lease was readjusted effective June 1, 1979. The readjustment is being appealed to the Interior Board of Land Appeals, Docket #IBLA 79-519.

Mining and Reclamation Plan  
Huntington Canyon No. 4 Mine Permit Application

4.3.4 Legal Right to Enter (continued)

5. Coal Mining Lease Agreement, dated April 30, 1975, from Estate of Herbert Fleishhacker, Jr., Lessor, to Dick E. Bastian, Noel S. Tanner, Meldon J. Tanner, Ted L. Hanks and Francis W. Christiansen, Lessees, assigned to Swisher Coal Company (now Beaver Creek Coal Company) December 31, 1979, covering all coal located in the following described lands:

Township 16 South, Range 7 East, SLBM

Section 9: SW 1/4 SE 1/4, SE 1/4 SW 1/4, SW 1/4 SW 1/4

Lessees have the right "to use so much of the surface of said property as may be required, necessary or convenient for any and all purposes incident to or connected with prospecting, mining, removal, preparation and selling of said coal, and transportation of coal on, under, to or from said property. . . .". Also, Lessees have the right to mine coal "by strip, surface or open-face mining, quarry, shaft, slope, drift or any other acceptable method of mining the coal. . . .".

6. Coal Mining Lease dated April 1, 1975, from Marena Sevier Madden, Edward F. Madden, Russel H. Gittings, Alice Madden Bogren, Mollie Madden, Marena Madden Hiatt, Nancy S. Madden, William J. Madden and Patrick A Madden, Lessors, to Dick E. Bastian, Noel S. Tanner, Meldon J. Tanner and Ted L. Hanks, Lessees, assigned to Swisher Coal Company (now Beaver Creek Coal Company) December 31, 1979, covering all coal located in the following described lands:

Township 16 South, Range 7 East, SLBM

Section 17: W 1/2 SE 1/4

*See new p 4-22*

Mining and Reclamation Plan  
Huntington Canyon No. 4 Mine Permit Application

4.3.4 Legal Right to Enter (continued)

Lessees have the right "to use so much of the surface of said land as may be required in the mining, preparation, and shipping of coal from said land and from adjoining and adjacent land".

7. Special Use Permit dated March 16, 1977, from the United States Forest Service to Swisher Coal Company (now Beaver Creek Coal Company) granting permission to use 1.15 acres in Section 16, T16S, R7E, SLBM for the purpose of a parking lot and pumping station to secure water from Mill Fork Creek for operation of the Huntington Canyon No. 4 Mine.

8. Special Use Permit dated November 21, 1979, from the United States Forest Service to Swisher Coal Company (now Beaver Creek Coal Company) granting permission to use 0.225 acres in NE 1/4 NW 1/4, Section 21, T16S, R7E, SLBM for the purpose of construction of two sediment ponds for the Huntington Canyon No. 4 Mine.

9. Road Use Permit expiring January 1, 1986, from the United States Forest Service to Swisher Coal Company (now Beaver Creek Coal Company) granting use of that segment of Mill Fork Canyon Road, #50245, from its intersection with State Highway 31 to the Forest Boundary, located between Sections 16 and 21, T16S, R7E, SLBM, a distance of approximately 1.3 miles.

Except as noted in Number 4, none of the above described rights are subject to pending litigation.

4.3.4 Legal Right to Enter (continued)

Lessees have the right "to use so much of the surface of said land as may be required in the mining, preparation, and shipping of coal from said land and from adjoining and adjacent land".

7. Special use Permit dated March 16, 1977, from the United States Forest Service to Swisher Coal Company (now Beaver Creek Coal Company) granting permission to use 1.15 acres in Section 21, T16S, R7E, SLBM for the purpose of a pumping station to secure water from Mill Fork Creek for operation of the Huntington Canyon No. 4 Mine.
8. Special Use Permit dated November 21, 1979, from the United States Forest Service to Swisher Coal Company (now Beaver Creek Coal Company) granting permission to use 0.225 acres in NE  $\frac{1}{4}$  NW  $\frac{1}{4}$ , Section 21 T16S, R7E, SLBM for the purpose of construction of two sediment ponds for the Huntington Canyon No. 4 Mine.
9. Road Use Permit expiring January 1, 1986, from the United States Forest Service to Swisher Coal Company (now Beaver Creek Coal Company) granting use of that segment of Mill Fork Canyon Road, #50245, from its intersection with State Highway 31 to the Forest Boundary, located between Sections 16 and 21, T16S, R7E, SLBM, a distance of approximately 1.3 miles.

Except as noted in Number 4, none of the above described rights are subject to pending litigation.

Mining and Reclamation Plan  
Huntington Canyon No. 4 Mine Permit Application

4.3.4 Legal Right to Enter (continued)

10. Warranty Deed dated March 24, 1976, from William H. Dellenback and Julie Dellenback, Grantors, to Swisher Coal Company (now Beaver Creek Coal Company), Grantee, covering all surface and coal of the following described land:

Township 16 South, Range 7 East, SLBM

Section 5: SW 1/4

4.3.5 Associated Surface Mining

The surface operations associated with underground coal mining activities do not involve the surface mining of coal. The private mineral estate to be mined (coal) has not been severed from the private surface estate.

4.4 Existing Land Use

4.4.1 Regional Land Use

Agriculture

Irrigated lands are common throughout the region. More recently, part of the irrigation water is being consumed by growing communities. This has not affected tillage rotation operations appreciably.

Historically, the livestock industry has played an important part of the region's economy. Early settlers depended on range land for grazing sheep, cattle and horses. Presently, the trend is towards more cattle grazing and fewer sheep. Typically, ranchers conduct their operations adjacent to the grazing area. BLM and USFS lands are used extensively for grazing.

Mining and Reclamation Plan  
Huntington Canyon No. 4 Mine Permit Application

4.4.1 Regional Land Use (continued)

Forestry

Timber operations were once closely tied to ranch operations. Early settlers needed the timber for fences, corrals, mine timber, railroad ties, etc. In more recent years, the majority of the sawmills have closed due to less demand for wood products.

Current uses of forest products have changed somewhat since earlier times. The demand is now for fence-posts, poles, Christmas trees and sawtimber. Present levels of forest products use are on an upswing with population growth.

Recreation

A large variety of wildlife zones are present ranging from cold desert to high mountain forest. Large amounts of data are present for game species due to their economic value.

Mule deer are the most abundant big game in the region. Deer populations are low and rangelands are improving.

Winter range for deer is the most limiting factor for expansion at the present time. Hunting is expected to rise in popularity as population in Carbon and Emery Counties increase. Mule deer and elk are popular big game species that are hunted.

Lakes, streams and rivers of this region provide habitat for 40 varieties of fishes. Rainbow, cutthroat, brown and brook trout are some of the better known game fish pursued by fishermen.

Mining and Reclamation Plan  
Huntington Canyon No. 4 Mine Permit Application

4.4.1 Regional Land Use (continued)

In addition to hunting and fishing, USFS and BLM provide lands for a variety of recreational activities in this region. They include camping, hiking, pioneering, snowmobiling, snow skiing, etc.

4.4.2 Mine Plan Area Land Use

Past and Present Land Use

The land on which No. 4 Mine is located has long been used for coal mining. This canyon has supported three (3) underground operations in the past and the present surface facilities are located in exactly the same area as one of these, the old Leamaster Mine, which operated nearly 25 years ago. Other than coal mining, this area has been used for deer hunting, sightseeing and hiking. There are no developed campgrounds within the area and none planned for the future.

The U.S. Forest Service presently administers the lands in this area for livestock forage, wildlife habitat, watershed, dispersed recreation and coal mining. The Forest Service has, however, determined that the majority of the acreage on the lease tract is classified as non-range and is not used for grazing because of slope, accessibility, rock outcrops, timber, scarcity of grazeable vegetation and lack of water. There are no range improvements within the permit area. Access into the interior portion of the lease tract is limited to a horse trail from the bottom to the top of Mill Fork Canyon and a jeep trail coming from upper Cottonwood Creek to the west, portions of which have been closed. There are no plans to alter this access situation.

Mining and Reclamation Plan  
Huntington Canyon No. 4 Mine Permit Application

4.4.2 Mine Plan Area Land Use (continued)

The above mentioned uses of this land are primarily the same for stream valleys, steep slopes or flats, hilltop areas, with the exception of coal mining, which is located on the slope and beneath the hilltop areas.

4.4.3 Affect of Operation on Land Use and Mitigation Measures

The surface disturbance created by the mining operations at No. 4 Mine are expected to be limited to what is presently disturbed. Therefore, the potential to affect the land use is discussed below.

The surface disturbance at No. 4 Mine consists, for the most part, of access and haul roads that service the mining operation; some wildlife (mainly deer) will be displaced due to coal hauling. There will be no impact on rangeland as the mine plan area is too steep for domestic grazing.

Cultural resource surveys showed that there are no archaeological or historical areas subject to impact from mining operations. In addition, there are no public roads or public parks in or near the mining operations that would suffer adverse impacts from mining operations.

Buffer zones have been established near Mill Fork Creek in order to protect the water quality of the stream. Sedimentation ponds were constructed above the buffer zone to prevent sediment from entering the stream. Snow removal procedures along the access road parallel to Mill Fork Creek are set up to push the snow away, to the north, from the stream area.

## Mining and Reclamation Plan

### Huntington Canyon No. 4 Mine Permit Application

#### 4.4.3 Affect of Operation on Land Use and Mitigation Measures (continued)

It is projected that the mining operations will not affect the land use within and adjacent to the permit boundary. Efforts will be made to minimize the area of disturbance so that environmental impacts remain minimal.

#### 4.5 Post-Mining Land Uses

The post-mining uses of the land will be the same as the pre-mining and present uses described above. Once mining has ceased, the disturbed areas will be reclaimed to a degree acceptable by the U.S. Forest Service and the Utah Division of Oil, Gas & Mining, and the land will once again support its principle pre-mining uses: i.e., deer forage, hunting, sightseeing, watershed and hiking. Note: Livestock grazing is not proposed as a post-mining land use on the reclaimed, fee land.

The restoration of the area will be achieved by regrading the yards, reclaiming the roads and portal areas to a practical degree, planting all disturbed areas and monitoring the revegetation effort to the satisfaction of the U.S. Forest Service, and the Division of Oil, Gas & Mining.

#### 4.6 Socioeconomic Considerations

The coal mining industry within Emery County has shown several erratic periods of renewed growth and sudden decline. During the 1950-1960 census period, the population of Emery County declined 8.79 percent. From 1960-1970, Emery County's population declined .74 percent per year. From 1970 to 1975, the population increased from 5,137 to an estimated 6,700 persons, a 23 percent increase.

Mining and Reclamation Plan  
Huntington Canyon No. 4 Mine Permit Application

4.4.3 Affect of Operation on Land Use and Mitigation Measures (continued)

It is projected that the mining operations will not affect the land use within and adjacent to the permit boundary. Efforts will be made to minimize the area of disturbance so that environmental impacts remain minimal.

4.5 Post-Mining Land Uses

The post-mining uses of the land will be the same as the pre-mining and present uses described above. Once mining has ceased, the disturbed areas will be reclaimed to a degree acceptable by the U.S. Forest Service and the land will once again support its principle pre-mining uses: i.e., deer forage, hunting, sightseeing, watershed and hiking.

The restoration of the area will be achieved by regrading the yards, reclaiming the roads and portal areas to a practical degree, planting all disturbed areas and monitoring the revegetation effort to the satisfaction of the U.S. Forest Service.

4.6 Socioeconomic Considerations

The coal mining industry within Emery County has shown several erratic periods of renewed growth and sudden decline. During the 1950-1960 census period, the population of Emery County declined 8.79 percent. From 1960-1970, Emery County's population declined .74 percent per year. From 1970 to 1975, the population increased from 5,137 to an estimated 6,700 persons, a 23 percent increase.

Carbon and Emery Counties are economically dependent upon conditions in the coal market. This is evident by the slump in the population of these counties that occurred between 1950-1970.

Mining and Reclamation Plan  
Huntington Canyon No. 4 Mine Permit Application

4.6 Socioeconomic Considerations (continued)

The recent increase in coal mining has centered on Emery County where mining employment has increased over 210 percent since 1969. The increase has been more modest in Carbon : 40-50 percent.

Most of the mine personnel reside at Helper, Huntington, Price, or surrounding smaller communities. Of these three communities, Price is recognized as providing a variety of services and has made larger investments in facilities than the other two communities. However, recent economic growth in the area has decreased the potential for many communities to provide services to still more people unless additional investment in expansion and improvement of facilities is undertaken. It appears that these communities are currently improving and expanding their facilities. Obviously, as the economic base of Carbon and Emery Counties continues to expand, private business will encourage the development of more and better community services.

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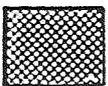
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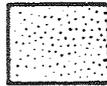
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*Madden*

**EXPLANATION**



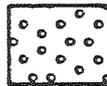
U.S.A.



BEAVER CREEK COAL CO.



WILLIAM J. MADDEN,  
NANCY S. MADDEN &  
MARENA MADDEN  
HIATT.



LEONORA W.  
WERTHEIMER



NORTHWEST  
CARBON CORP.



CONTIGUOUS TO  
PERMIT AREA



UTAH STATE  
ROAD COMMISSION

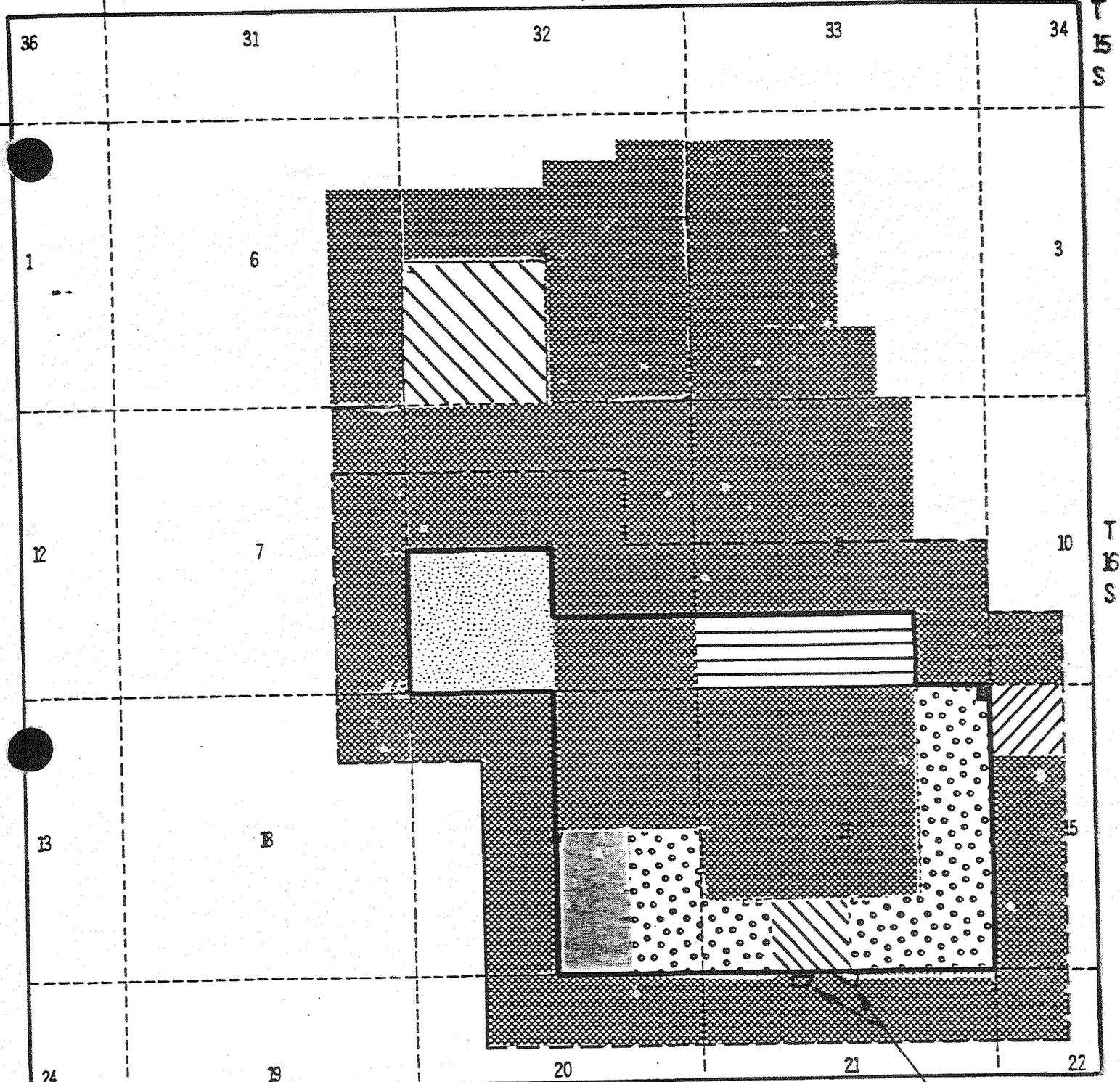


PERMIT AREA

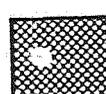
Special Use Permits NORTH



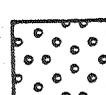
<b>BEAVER CREEK COAL</b>	
Emery County, Utah Huntington Canyon No. 4 Mine	
<b>SURFACE OWNERSHIP</b>	
Prepared: R. HERZFELD	Scale: 1" = 2640'
Department: LAND	Date: 2-24-82
Drawn by: C.J. MATTOX	



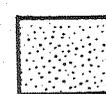
**EXPLANATION**

-  U.S.A.- ALL MINERALS
-  BEAVER CREEK COAL CO.- ALL MINERALS
-  NORTHWEST CARBON CORP.- ALL MINERALS
-  MARENA SEVIER MADDEN ET ALL- ALL MINERALS

 LEONORA W. WERTHEIMER- ALL MINERALS

 BEAVER CREEK COAL CO.- ALL MINERALS EXCEPT O & G (O & G= DICK N. & Q. A. NIELSON)

 UTAH STATE ROAD COMMISSION- ALL MINERALS

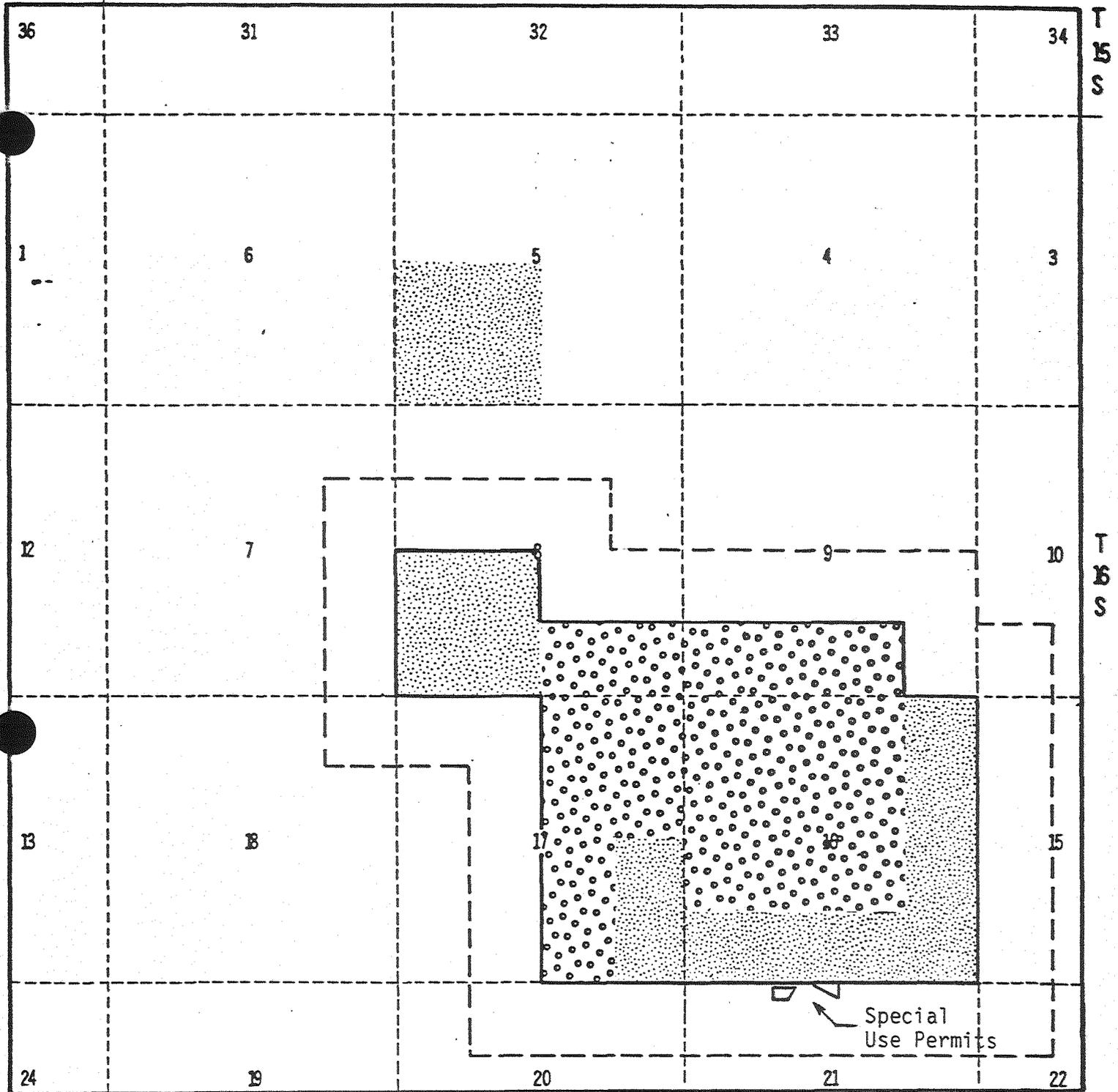
 B.C.C.C.- COAL ELLIOT, SHAEFFER, STONE, INV. CO., ET AL- O & G B.C.C.C. & INV. CO.- OTHER MINERALS

 CONTIGUOUS TO PERMIT AREA 4-30

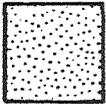
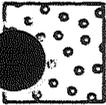
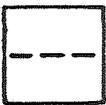
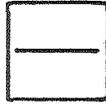
 PERMIT AREA Special Use Permits



<b>BEAVER CREEK COAL</b> ↗	
Emery County, Utah Huntington Canyon No. 4 Mine	
<b>SUB-SURFACE OWNERSHIP</b>	
Prepared: R. HERZFELD	Scale: 1" = 2640'
Department: LAND	Date: 2-24-62
Drawn by: C.J. MATTOX	



**EXPLANATION**

-  COAL & SURFACE OWNED BY BEAVER CREEK COAL CO.
-  COAL LEASED BY BEAVER CREEK COAL CO. (INCLUDING RIGHTS TO USE SURFACE)
-  CONTIGUOUS TO PERMIT AREA
-  PERMIT AREA

NORTH

<b>BEAVER CREEK COAL</b>	
Emery County, Utah Huntington Canyon No. 4 Mine	
<b>LEGAL RIGHTS TO ENTER</b>	
Prepared: R. HERZFELD	Scale: 1" = 2640'
Department: LAND	Date: 2-24-82
Drawn by: C.J. MATTOX	