



0009

STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Dianne R. Nielson, Ph.D., Division Director

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

August 27, 1984

Office of Surface Mining
Western Technical Center
Brooks Towers
1020 Fifteenth Street
Denver, Colorado 80202

Attention: Mr. Steve Manger

Gentlemen:

RE: Draft Final Technical Analysis and Decision Package,
Beaver Creek Coal Company, Huntington #4 Mine,
ACT/015/004, #2, Emery County, Utah

The Division has completed its draft Final Technical Analysis (FTA) and Decision Package for Beaver Creek Coal Company's Huntington #4 Mine. A copy of the document is enclosed for your records.

As you will note, several stipulations are not dated (e.g., within 30 days of permit approval). The Division expects that the deficiencies enumerated in these stipulations will be addressed by Beaver Creek Coal Company prior to preparation of the Final TA and Decision Package.

Should you or your staff have any comments regarding the draft FTA and Decision Package, please contact me or Mary Boucek at your earliest possible convenience.

Sincerely,

James W. Smith, Jr.
Administrator
Mineral Resource Development
and Reclamation Program

MMB:btb
Enclosure
cc: Dan Guy
Ron Daniels
Mary Boucek
Tom Munson

86740



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

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August 27, 1984

Mr. Dan Guy, Manager
Permitting and Compliance
Beaver Creek Coal Company
P. O. Box 1378
Price, Utah 84501

Dear Mr. Guy:

RE: Draft Final Technical Analysis and Decision Package,
Huntington #4 Mine, ACT/015/004, #2, Emery County, Utah

Enclosed please find a copy of the Division's draft Final Technical Analysis (TA) and Decision Package for Beaver Creek Coal Company's Huntington #4 Mine. As you will note in your review of the TA, there are several items which will require your company's submission of additional technical information, as have been outlined in the Stipulations. Most of these stipulations must be satisfied before the Division can proceed into the final phase of the review process. The Division therefore requests that Beaver Creek Coal Company promptly review this documents and respond to all stipulations which do not designate a time frame (e.g., within 30 days of permit approval), within two weeks of receipt of this document.

Should you have any questions regarding this document, please contact Mary Boucek or Tom Munson of my staff.

Sincerely,

A handwritten signature in black ink, appearing to read "James W. Smith, Jr." with a stylized flourish at the end.

James W. Smith, Jr.
Administrator,
Mineral Resource Development
and Reclamation Program

MMB:btb

cc: Allen Klein
Steve Manger
Ron Daniels
Mary Boucek
Tom Munson

86720

MINE PLAN INFORMATION

Mine Name: Huntington Canyon #4 State ID: ACT/015/004

Operator: Beaver Creek Coal Company County: Emery

Controlled By: J. Herickhoff, President

Contact Person: Dan Guy Position: Permits Manager

Contact Person: Scott Raymond Position: Envir. Coordinator

Telephone:: (801) 637-5050

New/Existing: Existing Mining Method: U.G. - Continuous Miner

Federal Lease No(s):: See attached sheets.

Legal Description(s): _____

State Lease No(s):: N/A

Legal Description(s): _____

Other Leases (identify): See attached sheets.

Legal Description(s): _____

Ownership Data:

<u>Surface Resources (acres)</u>	<u>Existing Permit Area</u>	<u>Proposed Permit Area</u>	<u>Total Life Of Mine Area</u>
Federal	<u>600.0</u>	<u>600.0</u>	<u>600.0</u>
State	<u>2.5</u>	<u>2.5</u>	<u>2.5</u>
Private	<u>717.5</u>	<u>717.5</u>	<u>717.5</u>
Other	<u>--</u>	<u>--</u>	<u>--</u>
TOTAL	<u>1,320.0</u>	<u>1,320.0</u>	<u>1,320.0</u>

Coal Ownership (acres):

Federal	<u>600.0</u>	<u>600.0</u>	<u>600.0</u>
State	<u>2.5</u>	<u>2.5</u>	<u>2.5</u>
Private	<u>717.5</u>	<u>717.5</u>	<u>717.5</u>
Other	<u>--</u>	<u>--</u>	<u>--</u>
TOTAL	<u>1,320.0</u>	<u>1,320.0</u>	<u>1,320.0</u>

Huntington Canyon #4 Mine - Lease Descriptions

Federal Leases

1. Federal Coal Lease #U-33454

Township 16 South, Range 7 East, SLBM

Section 8: S1/4 SE1/4

Section 16: NW1/4 NE1/4, N1/2 NW1/4, SW1/4, NW1/4, SW1/4

Section 17: NE1/4

2. Federal Coal Lease #064903

Township 16 South, Range 7 East, SLBM

Section 16: NE1/4 SW1/4, NW1/4 SE1/4, SE1/4 NW1/4, SW1/4 NE1/4

Other Leases

1. 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: SW1/4 SE1/4, SE1/4 SW1/4, SW1/4 SW1/4

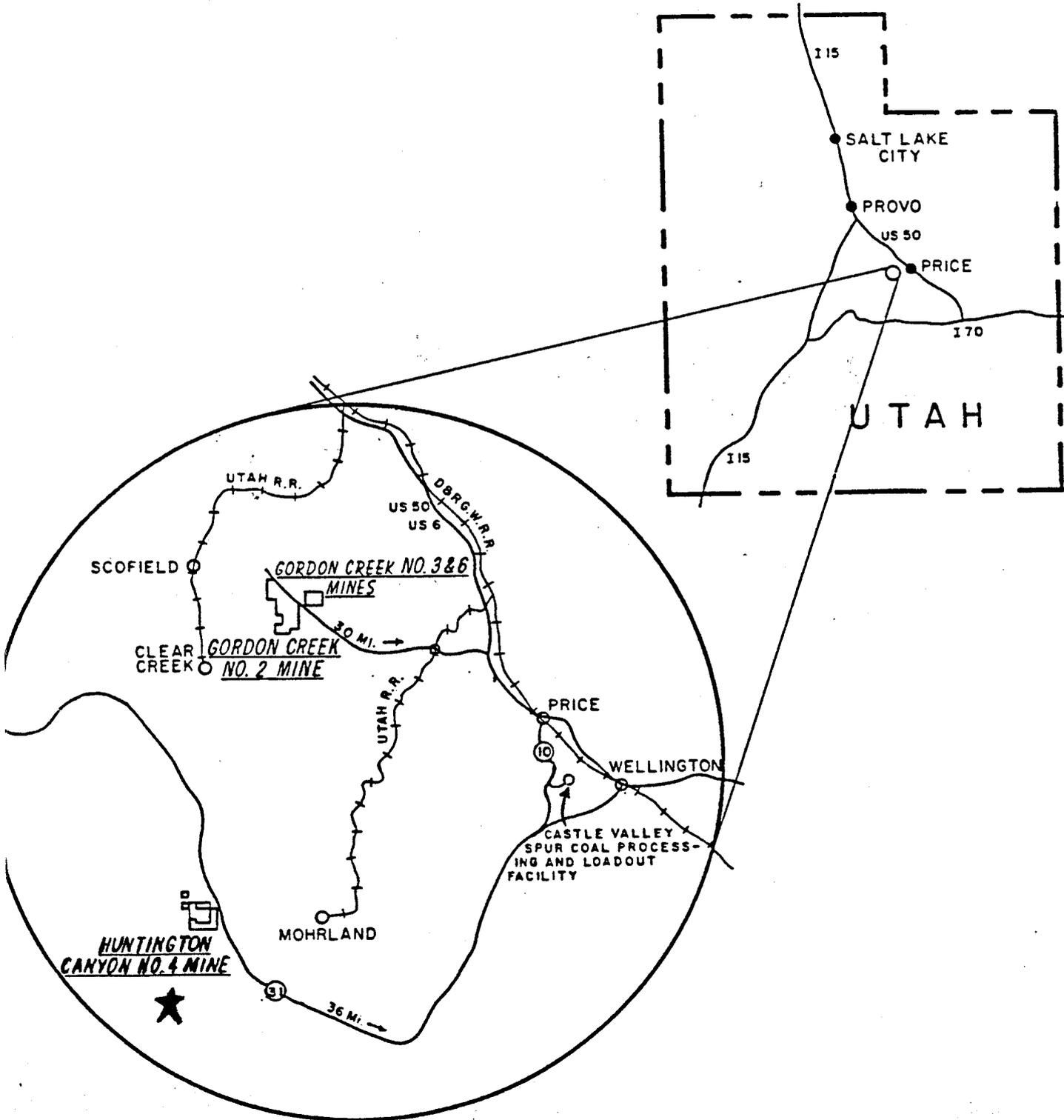
2. Coal Mining Lease dated April 1, 1975 from Marena Sevier Madden, Edward F. Madden, Russel H. Gittings, Alice Madden Bogren, Millie Madden, Marena Madden Hiatt, Nancy S. Madden, William J. Madden and Patrick A. Madden, Lessors, to Dick E. Bastian, Noel S. Tanner, Meldon J. Tanner and Ted L. Hanks, 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: W1/2 SE1/4

BEAVER CREEK COAL COMPANY

AREA OF OPERATIONS



FINDINGS DOCUMENT

Beaver Creek Coal Company
Huntington #4 Mine
ACT/015/004, Emery County, Utah

August 27, 1984

1. The plan and the permit application are accurate and complete and all requirements of the Surface Mining Control and Reclamation Act (the "Act"), and the approved Utah State Program have been complied with (786.19[a]).
2. The applicant proposes acceptable practices for the reclamation of disturbed lands. These practices have been shown to be effective in the short-term; there are no long-term reclamation records utilizing native species in the western United States. Nevertheless, the regulatory authority has determined that reclamation, as required by the Act, can be feasibly accomplished under the Mining and Reclamation Plan (MRP). Yards, roads and portal areas were dozed out of very steep rock and will be backfilled and compacted prior to redistribution of topsoil substitute material (see Technical Analysis [TA], Section UMC 817.101). After backfilled areas are compacted, topsoil substitute material will be applied and these areas will be deeply scarified to reduce compaction in the rooting zone to assist revegetation efforts (UMC 786.19[b]). (See TA, Section UMC 817.21-.25 and 817.111-.117.)
3. The assessment of the probable cumulative impacts of all anticipated coal mining in the general area to the hydrologic balance has been made by the regulatory authority. The mining operation proposed under the application has been designed to prevent damage to the hydrologic balance outside the permit area for the anticipated life of the mine (UMC 786.19[c] and UCA 40-10-11[2][c]). (See Cumulative Hydrologic Impact Analysis [CHIA] Section, attached to this Findings Document.)
4. The proposed permit area is:
 - A. Not included within an area designated unsuitable for underground coal mining operations. (See letter from Bureau of Land Management [BLM] to the Office of Surface Mining [OSM] dated October 25, 1983.)
 - B. Not within an area under study for designated lands unsuitable for underground coal mining operations. (See letter from BLM to OSM dated October 25, 1983.)

- C. Not on any lands subject to the prohibitions or limitations of 30 CFR 761.11(a) (national parks, etc.), 761.11(f) (public buildings, etc.) and 761.11(g) (cemeteries). (See MRP, Section 4.4.2, pages 4-25, 26.)
 - D. Within 100 feet of the outside right-of-way line of a public road, however, the mine was in operation prior to August 3, 1977 (UMC 761.11). (See MRP, Section 3.2, page 3-1.)
 - E. Not within 300 feet of any occupied dwelling (UMC 786.19[d]). (See MRP, page 3-44.)
5. The regulatory authority's issuance of a permit is in compliance with the National Historic Preservation Act and implementing regulations (36 CFR 800) (UMC 786.19[e]). (See attached letter from SHPO dated July 15, 1983.)
 6. The applicant has the legal right to enter and begin underground activities in the permit area through one Special Warranty Deed, two Warranty Deeds, two Federal Coal Leases, two Fee leases, two Special Use Permits and one Road Use Permit (UMC 786.19[f]). (See MRP, Section 4.3.4.)
 7. The applicant has shown that prior violations of applicable law and regulations have been corrected (UMC 786.19[g]). (See MRP, Section 2.3.3, Table 2-3.)
 8. Neither Beaver Creek Coal Company nor its parent company, Atlantic Richfield Company, are delinquent in payment of fees for the Abandoned Mine Reclamation Fund for its active mining operations (UMC 786.19[h]). (Personal communication, John Sender, OSM, Albuquerque, January 12, 1984 and April 19, 1984.)
 9. The applicant does not control and has not controlled mining operations with a demonstrated pattern of willful violations of the Act of such nature, duration and with such resulting irreparable damage to the environment as to indicate an intent not to comply with the provisions of the Act (UMC 786.19[i]) (See MRP, Section 2.3.)
 10. Underground coal mining and reclamation operations to be performed under the permit will not be inconsistent with other such operations anticipated to be performed in areas adjacent to the proposed permit area (UMC 786.19[j]). (See MRP, Section 4, Volume 1.) The Crandall Canyon Mine lies immediately north of the Huntington #4 leases, and Utah Power & Light Company's Federal Leases (U-02437 and U-06039) lie immediately south. The latter are not being mined, nor are they within a distinct mine plan area to date.

11. A detailed analysis of the proposed bond has been made. The bond estimate is \$246,695.26 in 1984 dollars. The regulatory authority has made appropriate adjustments to reflect costs which would be incurred by the State, if it was required to contract the final reclamation activities for the minesite, and is deemed adequate by the regulatory authority. The bond shall be posted (UMC 786.19[k]) with the regulatory authority prior to final permit issuance. An interim bond in the amount of \$154,275.00 is currently on file.
12. No lands designated as prime farmlands or alluvial valley floor occur on the permit area (UMC 786.19[l]). (See MRP, Section 8.4, Figure 8-1; Section 7.27.)
13. The proposed postmining land-use of the permit area has been approved by the regulatory authority (UMC 786.19[n]). (See TA, Section UMC 817.133.)
14. The regulatory authority has made all specific approvals required by the Act, and the approved State Program (UMC 786.19[n]).
15. The proposed operation will not affect the continued existence of any threatened or endangered species or result in the destruction or adverse modification of their critical habitats (UMC 786.19[o]). (See MRP, Section 9.4, Section 10.3.3.1; see attached U. S. Fish & Wildlife Service [USFWS] letter dated September 30, 1983.)
16. All procedures for public participation required by the Act, and the approved Utah State Program have been complied with (UMC 741.21[a][2][ii]).

Prior to the permit taking effect, the applicant must forward a letter stating its compliance with the special stipulations in the permit and post the performance bond for reclamation activities.

Permit Supervisor

Administrator, Mineral Resource
Development and Reclamation Program

Associate Director, Mining

Director



United States Department of the Interior
OSM-WTC

IN REPLY REFER TO

3400
(U-066)

BUREAU OF LAND MANAGEMENT

Moab District

P. O. Box 970

Moab, Utah 84532 WESTERN TECHNICAL CENTER

1983 OCT 31 PM 2:47

OCT 29 1983

Memorandum

To: Center Administrator, Office of Surface Mining, Denver, Colorado

Attention: Mr. Louis Hamm

From: ^{ACTING} District Manager, Moab

Subject: U. S. Steel's Geneva Mine and Beaver Creek's Huntington Canyon
No. 4 Mine

In accordance with your letters dated August 5, 1983 and September 15, 1983 we have reviewed the mine plan for the Geneva Mine dated March 3, 1981 and the "Determination of Completeness and Technical Adequacy" dated August 24, 1983.

Our response to the original mine plan dated May 15, 1981 pointed out several deficiencies to be considered in your review of the mine plan which have since been addressed. We have not identified any of the impacted public lands as unsuitable under Section 522 of SMCRA. We recommend that the plan be approved as amended insofar as protection of resources and post-mining use are concerned.

Beaver Creek's Huntington Canyon No. 4 mine is within the Manti-LaSal National Forest which is outside our area of authority as to surface protection. Review of the mine plan in regards to coal recovery is currently processed through our State Office (U-920).



Save Energy and You Serve America!



STATE OF UTAH
DEPARTMENT OF COMMUNITY AND ECONOMIC DEVELOPMENT

STATE OF UTAH
DEPARTMENT OF COMMUNITY AND ECONOMIC DEVELOPMENT

Division of
State History
(UTAH STATE HISTORICAL SOCIETY)

MELVIN T. SMITH, DIRECTOR
300 RIO GRANDE
SALT LAKE CITY, UTAH 84101-1182
TELEPHONE 801/533-5755

July 15, 1983

James W. Smith, Jr.
Coordinator
Mined Land Development
Division of Oil, Gas & Mining
4241 State Office Building
Salt Lake City, Utah 84114

File 7-15/004
Folder No. 2
copy to Tom U.

Attn: Tom Munson

JUL 20 1983

RE: Apparent Completeness Review Response, Huntington #4 Mine,
ACT/015/004, Folder No. 2, Emery County, Utah

Dear Mr. Munson:

The Utah Preservation staff has received for consideration your letter of June 22, 1983, transmitting the apparent completeness review response on the Huntington #4 Mine.

After review of the material concerning cultural resources, our office would advise the Division of Oil, Gas & Mining that the material is adequate to submit to the Office of Surface Mining. No structures were identified in the project survey areas.

Since no formal consultation request concerning eligibility, effect or mitigation as outlined by 36 CFR 800 was indicated by you, this letter represents a response for information concerning location of cultural resources. If you have any questions or concerns, please contact me at 533-7039.

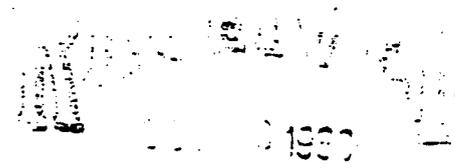
Sincerely,

James L. Dykman
Cultural Resource Advisor

JLD:jrc:E410/6612c

FILE
ACT/015/004 SLC
Folder No. 2

COPY
Tam
Steve;
JIM
OCT 0 4 1



(ES) September 30, 1993

DIVISION OF
GAS & MINING

MEMORANDUM

TO: Acting Deputy Administrator
Office of Surface Mining
Denver, Colorado
ATTN: Lou Hamm

FROM: Acting Field Supervisor
Ecological Services
Salt Lake City, Utah

SUBJECT: Completeness Review of Mining and Reclamation Plan -
Huntington Canyon No. 4 Mine, Beaver Creek Coal Company,
Utah 0004

This response constitutes the results of our review of the Mining and Reclamation Plan (MRP) for the Huntington Canyon No. 4 Mine, Beaver Creek Coal Company.

The Fish and Wildlife Service (FWS) was unable to survey the golden eagle nests that occur on the tract or immediately adjacent to the tract during the 1983 field season. We cannot predict with certainty when or if we will have the funding to complete breeding surveys in the future. In consideration of the above statements, the MRP should be changed at 10.3.2.4, 10.7 and 3.4.5.3 to reflect the survey data (attachment) and that the FWS will not be responsible for completing future raptor surveys unless funding for helicopter surveys is provided.

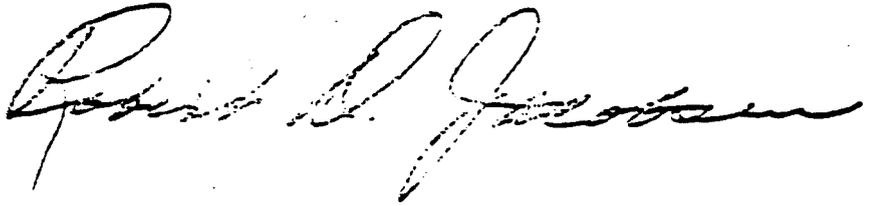
The MRP should show how these cliffs, specifically where golden eagle nests occur, are protected from subsidence.

The MRP should be modified at 10.5.1.2. The last sentence should be modified by adding, "as long as raptor mortality continues to not occur".

The Company should commit to replacement of springs and seeps interrupted due to mining of the tract at 10.5.1.1 and 7.2.5 and indicate at 3.4.3.3 (last paragraph, last sentence) that wildlife use is a beneficial use.

This completes our review of the MRP for completeness. Please don't hesitate to contact us if clarification is required or changes in the MRP require additional review. When the Company has appropriately addressed these issues, we would recommend issuance of the mining permit.

Attachment

A handwritten signature in black ink, appearing to read "Paul D. Jensen". The signature is written in a cursive style with a large, prominent initial "P".

cc: DWR, Price, Utah
DWR, Salt Lake City, Utah
RO (HR), Denver, Colorado
DOGM, Salt Lake City, Utah

STIPULATIONS

Beaver Creek Coal Company
Huntington #4 Mine
ACT/015/004, Emery County, Utah

August 27, 1984

Stipulation 817.13-.15-(1)-RS

1. DH boreholes must be excavated, as necessary, and five foot cement plugs are to be installed by October 31, 1984.

Stipulation 817.41-(1)-JW

1. The applicant shall commit in writing that no mining will be undertaken in the Hiawatha Seam on the northwest side of the first fault mapped on Plate 6-6 (MRP), which is northwest of a line drawn between drill holes DH-9 and MC-4-3, until a ground water study is completed. The study design shall be approved by the regulatory authority prior to undertaking the study. The study shall be designed to determine the depth of water in the Starpoint-Blackhawk aquifer northwest of the line between drill holes DH-9 and MC-4-3. Moreover, the applicant shall initiate as a part of the study, a field investigation to ascertain whether faults and/or fractures occur in close proximity to Little Bear Spring. The location and trend(s) of faults and/or fractures identified in the field shall be plotted on a geologic map of Little Bear Canyon such that potential relationships between Little Bear Spring and geologic structures may be evaluated. Upon a positive determination by the regulatory authority that no impacts will occur based on results from the ground water study, mining will be allowed to proceed towards the northwest in the Hiawatha Seam.

Stipulation 817.42-(1)-JW

1. The applicant must provide, within 30 days of permit approval, the additional measures which will be taken in the event that effluent limitations are not met. The applicant must commit to implement these additional measures within 90 days of observations showing that present pond configurations are not adequate.

Stipulation 817.43-(1-2)-TM

1. The applicant must submit a drawing which is of sufficient scale and clarity to use as a drainage area location map showing ditches and culverts and their contributing drainage area.

2. The applicant must show the size and type of construction for any alternative energy dissipator (rock gabion, straw bales, detention basins or roughness structures) within the entire disturbed area. This can be included as a cross-sectional drawing on a separate figure or be included on one of the existing plates. The applicant must commit to maintenance of these structures at regular specified intervals in the Permit Application.

Stipulation 817.44-(1)-TM

1. The applicant shall commit to the requirements listed under UMC 817.44(d)(1), (2) and (3). An interpretation of these subsections of UMC 817.44 by the regulatory authority has been made in the Compliance section of this regulation. This stipulation requires that the applicant submit a detailed cross-section of all proposed reclaimed stream channel in the lower or upper pad areas showing channel length, slope, expected peak flow from the 100-year, 24-hour precipitation event and riprap sizing calculations.

Stipulation 817.45-(1)-TM

1. See stipulation under UMC 817.43.

Stipulation 817.46-(1)-TM

1. The applicant must submit a clear, detailed map showing all ditches and culverts and their contributing drainage areas with an adequate scale. This map must support the calculations in Table 7-16, Sediment Pond Drainage Characteristics.

Stipulation 817.47-(1)-TM

1. The applicant has shown six-inch diameter riprap on Plate 3-1, in conflict with the 15-inch median diameter riprap stated to provide adequate protection in the text. The applicant must clarify this discrepancy.

Stipulations 817.52-(1-2)-JW

1. The applicant shall include field and chemical water quality parameters to be sampled for the in-mine water quality monitoring proposed on page 7-23. The parameters shall include at a minimum; pH, total dissolved solids, sodium, potassium, calcium, magnesium, iron, chloride, bicarbonate, sulfate and carbonate.

2. The applicant shall include Little Bear Spring in a sampling point for the ground water monitoring plan. Monthly sampling frequency, at a minimum, with field and chemical parameters equal to those in the previous stipulation, must be committed to.

Stipulation 817.54-(1)-JW

1. The applicant shall provide, within 60 days of permit approval, documentation of assignment or transfer of 800 shares in the Huntington-Cleveland Irrigation Company from the Hardy Coal Company to Beaver Creek Coal Company.

Stipulation 817.56-(1)-TM

1. The applicant must submit a timetable for removal of all sediment ponds, dams and diversions.

Stipulation 817.57-(1)-JW

1. If upon monthly evaluation of the applicant's data for total suspended solids (TSS) levels at sampling stations 4-4-W and 4-5-W (see Plate 7-3), the regulatory authority notes increases of 200 mg/l or greater between the two stations on three or more occasions within any two calendar-year spans, then the regulatory authority shall notify the applicant of such. The applicant shall, within 30 days of notice, provide acceptable measures in writing with appropriate maps, figures or cross-sections to assure that water quality and quantity within 100 feet of Mill Fork Creek will not be adversely affected during and after mining. If the regulatory authority notifies the applicant that the measures proposed are not adequate, the applicant shall submit revised plans within 30 days of notification, and within 90 days of such notification shall achieve compliance with applicable standards.

Stipulation 817.97-(1)-SC

1. The applicant must incorporate the USFWS information on golden eagle nests into the MRP and discuss mitigation and protection of these nests, including protection of cliff escarpments from subsidence effects, e.g. barrier pillars.

Stipulation 817.99-(1)-PGL

1. The applicant shall commit to the necessary mitigation measures of the coal slide from the upper bench to the loadout area. This information must be included in the MRP.

Stipulation 817.121-.126-[784.20]-(1)-TNT-(2-3)-RVS

1. An annual subsidence report containing the results of each surface inspection and aerial photographic survey must be submitted to the regulatory authority. Specific concentration should be on areas near outcrops and along the faulted areas which may affect the Little Bear Spring. Qualitative information on any specific surface manifestations of subsidence should be documented. Locations of these points should be placed on a map of the permit area, including dates of associated retreat mining. Original photographs which substantiate the type of subsidence feature should accompany the report and be numbered on the map accordingly.

A commitment must be made, within 30 days of permit approval, to supply the regulatory authority with the annual subsidence report, commencing in January 1985, by January 31 of each year, until such time as the regulatory authority, in conjunction with the applicant, deems that it is no longer necessary to supply this information.

2. The applicant shall address the provisions under UMC 817.122 and submit, within 30 days of permit approval, this information to the Division.
3. The applicant shall address the provisions under UMC 817.124(b) and submit, within 30 days of permit approval, this information to the Division.

Stipulation 817.181-(1)-PGL

1. The applicant shall commit to the removal of power lines in the permit area. This removal must be included in the narrative of the MRP, the reclamation schedule and the bond estimate.

TECHNICAL ANALYSIS

Beaver Creek Coal Company
Huntington #4 Mine
ACT/015/004, Emery County, Utah

August 27, 1984

Introduction

The Huntington Canyon #4 Mine, also called the Huntington #4 Mine, is owned and operated by Beaver Creek Coal Company, a wholly owned subsidiary of the Atlantic Richfield Company of Los Angeles, California. The operation is located in Mill Fork Canyon, approximately 12 road miles northwest of Huntington, Emery County, Utah, Township 16 South, Range 7 East. The mine began production in early 1977 on areas disturbed by mining operations in the 1940's. The mine started production in early 1977, was temporarily inactive in October 1978 and resumed full-time operation in March 1980.

An application for a mining permit was received by the regulatory authority March 20, 1981. An Apparent Completeness Review (ACR) was prepared and sent to the applicant on June 9, 1982. Beaver Creek Coal Company submitted their response to the ACR on June 20, 1983. The regulatory authority then prepared a Determination of Completeness and Technical Deficiency Document which was sent to the applicant August 1, 1983. Beaver Creek Coal Company responded to the latter on November 2, 1983 thus enabling the regulatory authority to determine the plan complete on December 20, 1983.

Existing surface facility sites and roads have resulted in 12.5 acres of disturbance. Surface disturbance is located on a steep slope of primarily southerly exposure. This disturbance is interspersed among a total area of 78 acres, including scree/fill slopes and actual surface disturbance (surface facility sites and roads). Beaver Creek Coal Company intends to perform reclamation upon the 12.5 acres of disturbed lands used in the operation of the #4 Mine.

The Huntington #4 Mine is located in the Blind Canyon Seam. This is the upper coal seam in this area, with one lower seam (Hiawatha Seam) 80 to 100 feet below. All mining will be done by the room and pillar method. Present production is approximately 1,500 tons per day.

The surface is 46 percent federal and 54 percent fee. Mineral leases (coal ownership) are also 46 percent federal and 54 percent fee. Total acreage is 1,320 acres. The Huntington #4 Mine, at full operation, will employ about 53 people. Currently, the mine employs approximately 30-35 persons.

Description of Existing Environment

The Huntington #4 Minesite is located in Mill Fork Canyon, a small side canyon in the lower Huntington Canyon drainage. This portion of the Huntington Canyon watershed area is characterized by steep, relatively narrow canyons which typically dissect the eastern edge of the Wasatch Plateau. Huntington Creek is tributary to the Colorado River via the San Rafael and Green rivers.

Vegetation in the vicinity of the mine consists primarily of pinyon-juniper associations on south-facing exposures and mixed conifer stands on northerly exposures, comprised of Douglas fir, spruce and white fir. Limited riparian areas occur along stream channels in canyon bottoms and locally in association with springs and seeps. At upper elevations of the Wasatch Plateau, predominant vegetation consists of aspen and Douglas fir forests interspersed among areas dominated by montane big sagebrush.

Economically and aesthetically important wildlife inhabiting the environs of the mine are mule deer, elk, cougar, black bear, coyote, snowshoe hare, golden eagle and a variety of raptors, gamebirds and songbirds. Huntington Creek is classified by the State as a Class III fishery, providing habitat for salmonid species, primarily brown and rainbow trout.

Predominant land-uses in the general area of the minesite are wildlife habitat, limited grazing land and recreation. From an industrial aspect, the historic use of the land has been and continues to be coal mining.

Stream flow in the Huntington Canyon drainage is characterized by snowmelt which constitutes about 65 percent of the annual discharge (Danielson et al., 1981). The snowmelt season typically occurs from April through July.

Mill Fork Canyon is oriented in primarily an east-west direction, with the stream running in an easterly direction into Huntington Creek. The stream in Mill Fork Canyon is intermittent; it was dry during the summer of 1977, but flowed at the mouth of Mill Fork Creek during the summers of 1978 and 1979, both years of above-normal precipitation (Danielson et al. 1981). The canyon is paralleled on the north by Little Bear and Crandall canyons and on the south by Rilda Canyon. The mine facilities are located at an elevation of approximately 7,400 to 7,800 feet and are on the south facing slope of the canyon.

The ground water system in the general area of the Huntington #4 Mine is characterized by what appears to be perched conditions in the Blackhawk Formation (the coal bearing formation), with an extensive regional aquifer occurring in the Star Point Sandstone. The Star Point Sandstone lies just below the Blackhawk Formation. Danielson, et al., 1981 note that this aquifer extends up into the lower sections of the Blackhawk Formation and refer to it as the Star Point-Blackhawk Aquifer (page 22, U. S. Geological Survey Open File Report 81-539). The ground water system is somewhat complicated by the presence of discontinuous sandstone channels which may act as conduits or provide localized storage. Further, the occurrence of less permeable shale strata in the Blackhawk and Star Point formations probably inhibits downward movement of water.

Ground water recharge appears to be associated with snowmelt rather than rainfall, based on deuterium studies performed by the U. S. Geological Survey (USGS) and Beaver Creek Coal Company. Recharge of the Star Point-Blackhawk aquifer, to a large degree, most likely occurs through fractures and faults. These zones of fracturing and faulting allow water to pass through less permeable beds that normally would impede vertical flow (page 25, U. S. Geological Survey Open File Report 81-539).

Ground water is discharged by springs and seeps, a few of which occur near the Huntington #4 lease area. In addition, base flow of perennial creeks is thought to be sustained via gaining reaches, most likely fed from the Star Point-Blackhawk Aquifer.

Reference

Hydrology of the Coal Resource Areas in the Upper Drainages of Huntington and Cottonwood Creeks, Central Utah by Terrence W. Danielson, Michael D. ReMillond and Richard H. Fuller. USGS Open File Report 81-539 - 1981.

UMC 785.19 Alluvial Valley Floors

Existing Environment and Applicant's Proposal

The applicant has not identified any alluvial valley floors (AVF) that are either on or adjacent to the lease area for the Huntington #4 Mine.

Compliance

Based on the information supplied by the applicant (MRP, Section 7.3, pages 7-94 and 7-95) and an on-site review performed by representatives of the regulatory authority, the regulatory authority has determined, pursuant to UMC 785.19(c)(3)(ii), that no AVF's exist. The rugged mountainous terrain of the mine permit site

has resulted in drainages still in a youthful stage of development. The streams are confined in narrow, steep-sided, V-shaped valleys with generally steep channel gradients. Meanders and terraces normally associated with AVF development are absent. The valleys are too steep and narrow along their entire reach to support agricultural development. Thus, pursuant to UMC 785.19(c)(3)(ii), requirements of paragraph (d) and (e) of UMC 785.19 and Section 822 are hereby waived. The applicant complies with this section.

Stipulations

None.

UMC 817.11 Signs and Markers

Existing Environment and Applicant's Proposal

The applicant has placed identification signs at the entrance to the mine area. Perimeter markers have been placed around the perimeter of the disturbed area and buffer zone signs have been placed along Mill Fork Creek to prevent disturbance to this perennial drainage (MRP, Section 3.3.5.1). The one existing topsoil stockpile has been adequately marked. No explosives are used incident to surface activities; underground blasting is in compliance with appropriate State and Federal regulations (MRP Section 3.3.5.4).

Compliance

The applicant complies with this section.

Stipulations

None.

UMC 817.13-.15 Casing and Sealing of Underground Openings

Existing Environment and Applicant's Proposal

All exploration holes within the permit boundary have been identified as to location, elevation at the collar, extent of casing, if any, and type of plug. All boreholes designated by the code MC and HCD (MRP, Table 2, page 6-13) have either been cemented entirely or cased and plugged with cement at the surface. Boreholes completed during 1974-1976 and assigned the code DH were inspected by the applicant in 1981 and found to have been covered or naturally plugged.

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 (MRP, page 3-56). 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 postmining 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 six inches 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 reclamation 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 highwall areas (Figure 3-6, MRP, page 3-57). 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 UMC 817.42 and treated (if necessary) during the permit term.

Figure 3-6, page 3-57 of the MRP, shows cross-sectional views of typical portal seals to be used at the time of final abandonment.

Compliance

Inspection of old boreholes by the applicant in 1981 indicated that these holes had been naturally plugged, not plugged with cement. All boreholes drilled after passage of the Utah Mineral Reclamation Act of 1975 must be plugged with cement. Natural plugging of boreholes designated by the code DH is inadequate and cement plugs need to be installed to comply with Rule M-5(c)(2), Utah Mineral Reclamation Act of 1975. The applicant complies with this section when the terms of the following stipulation are met:

Stipulation 817.13-.15-(1)-RS

1. DH boreholes must be excavated, as necessary, and five foot cement plugs are to be installed by October 31, 1984.

UMC 817.21-.25 Topsoil

Existing Environment and Applicant's Proposal

Huntington #4 Minesite is located at an elevation of between 7,400 and 7,800 feet on a southern exposure. The annual precipitation ranges from 12 to 20 inches and the frost free days range from 60 to 120. Mean annual temperature is 38° to 45° F.

Soil Resource Information is discussed in Volume 2, Section 8.3 of the MRP.

Soils in the area have evolved from the weathering of sandstone and shale on slopes ranging from nearly level to as steep as 90 percent. Three soil series were found to exist in the area; Patmos, Quigley and Podo. The Patmos and Podo series are Ustorthents and the Quigley is a Haploboroll. The A horizons range from as thin as two inches in the Podo to as thick as seven inches in the Quigley. Soil permeability is moderate to moderately rapid and the erosion hazard due to water is slight to high. The native vegetation is Salina wildrye, juniper, big sagebrush, rabbitbrush and pine.

Approximately 12.5 acres of land have been disturbed, the majority of which occurred prior to the enactment of Public Law 95-87. Therefore, except in the area of the sediment pond, no topsoil was removed and placed in storage for final reclamation. To alleviate the topsoil shortage the applicant has proposed to use the soil material that was sidecast during the construction of the mine as a plant growth medium for final reclamation. Samples of the sidecast soil material were taken and chemical and physical analyses conducted. Based on these results (Tables 8-2 and 8-3 of the MRP), the soil material was found to be suitable as a plant growth medium. During reclamation, the topsoil substitute will be retrieved by a backhoe and placed on the road and pad areas. A dozer (D-7 or equivalent) will be used to spread the soil material. The topsoil removed and saved during the construction of the sediment pond will be placed back on the sediment pond after it has been removed and graded. After redistribution of the soil, material will be deeply scarified to reduce compaction and additional soil samples will be taken to evaluate the need for N, P, K in preparation for reseeding, as per the revegetation plan (Section 3.5.4 of the MRP).

Compliance

The applicant is in compliance with this section.

Stipulations

None.

UMC 817.41 Hydrologic Balance: General Requirements

Existing Environment and Applicant's Proposal

Volume 2, pages 7-1 through 7-96, of the MRP contains the hydrologic information for the permit and surrounding areas.

Surface Waters. The applicant proposes to route disturbed area runoff into sedimentation ponds via a series of structures including ditches and culverts. The sedimentation pond system includes two

ponds in series with the lower pond having a gravel dike for filtering pond effluent. The effectiveness of the ponds is assessed by a monitoring program of effluent from the lower pond (MRP, Sections 3.4.3 and 7.2.3.1).

Undisturbed drainage is routed around the minesite by a series of ditches and culverts to prevent mixing of undisturbed and disturbed drainage (MRP, page 3-7a).

Mine water is occasionally discharged from underground workings and is routed into the sedimentation pond system before entering Mill Fork Creek (MRP, page 3-30).

The applicant has established a buffer zone between Mill Fork Creek and the northern portion of the haul road. The Mining and Reclamation Plan (MRP) notes on page 3-28 that snow removal is directed to the north side of the haul road to eliminate sediment loading of Mill Fork Creek.

The applicant also commits to temporary revegetation of areas on the minesite to reduce erosion and subsequent contribution of suspended solids to runoff (MRP, page 7-66).

Ground Water. The applicant proposes to mine two coal seams in the lease area. The Blind Canyon Seam, the upper seam, is currently being mined. The MRP states on page 7-5 that only perched water zones have been noted in the Blackhawk Formation. Water encountered while mining the Blind Canyon Seam will be utilized in the mine for dust suppression. Only occasional mine water discharges are anticipated by the applicant. These discharges are routed to the sedimentation ponds (MRP, page 3-8a).

The Hiawatha Seam is the lower coal seam to be mined. The Star Point Sandstone, an important regional aquifer, is directly overlain by the Hiawatha Coal Seam. Page 7-6 and Plate 6-8 of the MRP indicate that the Star Point Sandstone is not a single massive sandstone unit, but consists of sandstone interbedded with low permeability siltstones and shales. Little Bear Spring, an important municipal water supply for the City of Huntington occurs in the Star Point Sandstone Aquifer and lies directly north of the lease area, discharging from the Panther Sandstone Member (lowermost) of the Star Point Sandstone approximately 346 feet below the Hiawatha coal seam (see Plate 6-8 of the MRP).

The Hydrologic Impacts Section of the MRP (page 7-21) includes information on a drill hole (MC-4-1) that penetrated 100 feet into the upper part of the Star Point Sandstone. The applicant utilizes water level data from the above drill hole to assert, on page 7-22 of the MRP, that mining of the Hiawatha coal seam should not dewater the Star Point Sandstone Aquifer.

Compliance

The applicant's proposal for surface water meets the general requirements for this section with the exception of the buffer zone area established adjacent to the lower sedimentation pond, haul road and Mill Fork Creek. Water quality data above and below the buffer zone indicate a sedimentation problem exists. Discussion under UMC 817.57 (Stream Buffer Zones) addresses this concern.

The applicant's assessment of the ground water system in and adjacent to the mine plan area raises several concerns about the impact of mining the Hiawatha Seam on the Star Point Sandstone Aquifer.

The static water level in the Star Point Sandstone Aquifer is of crucial importance in determining if mining will impact the ground water system. To characterize static water levels in the Star Point Sandstone Aquifer system on the basis of data from a single borehole (MC-4-1) is tenuous. Conflicting statements about the depth to the top of the Star Point Sandstone occur on page 7-21 of the MRP. The hole is stated to be 151 feet in total depth as well as 100 feet into the Star Point Sandstone. However, the depth to the top of the Star Point Sandstone from the drill hole location is also given as 99.5 feet. The correct depth to the top of the Star Point Sandstone is required to accurately interpret water levels in the Star Point Sandstone Aquifer.

Additionally, if the drill hole was completed 100 feet into the Star Point Sandstone, the water levels monitored may be reflective of the less permeable interbed between the upper and middle sandstone members of the Star Point (the Spring Canyon and Star Point members). Damp and wet floor conditions have been occasionally encountered (page 7-21, MRP), suggesting that the Spring Canyon Member of the Star Point has a high enough head to flow or seep into the mine. Water level monitoring should include measurements of the Spring Canyon member to be of significance in assessing the impacts of mining to the ground water system.

Available literature on the ground water system in the mine plan area indicate that faults and fractures significantly affect the recharge and discharge of ground water. Danielson, et al., (U. S. Geological Survey Open File Report 81-539, 1981) noted that most springs in the study area discharging more than 50 gpm are associated with faulting and folding. Faults mapped in the Little Bear Canyon area by Beaver Creek Coal Company suggest Little Bear Spring discharge is controlled in a similar fashion (see Plate 6-6 of the MRP). Inasmuch as no water level data have been obtained on any of the lease area west of borehole MC-4-1, the affects of mining within the fault zone on the ground water system, and particularly Little Bear Spring, cannot be accurately known. For example, the

easterly dip of the Star Point Sandstone suggests that ground water movement within the aquifer system is from areas of recharge in the west towards the east. As ground water flows down-dip, or east, it encounters the northeast-southwest trending fault zone. Faults and associated fractures of this zone may be more permeable than the original reservoir rock and effectively, divert a portion of the ground water flow into a system of conduits that trend northeast-southwest. Little Bear Spring may be the surface expression of such a conduit.

In conclusion, based on the limited data and information provided by the applicant, it is not possible to concur with the applicant's conclusion that mining will not impact the ground water system. It is the Division's opinion that there is a reasonably good chance that mining of the Hiawatha coal seam, particularly in the fault zone, will affect flow to Little Bear Spring. It is only in light of the applicant's proposal on page 7-23 of the MRP that this application can be approved. Beaver Creek Coal Company commits that prior to mining northwest of the fault graben in the Hiawatha Seam, a ground water study will be completed to assess the static water level in the aquifer supplying Little Bear Spring.

The wording of this commitment requires clarification to specifically define the limit of permitted mining activity which may occur before the ground water study must be completed. Prior to completion and approval of results by the regulatory authority of the ground water study, Hiawatha Seam mining will be confined to the area east of a straight line derived by connecting boreholes DH-9 and MC-4-3 as located on Plate 6-6 of the MRP.

The specifics of the ground water study are not completely finalized in the MRP. It is, therefore, important that the study design be approved by the regulatory authority. The depth to ground water in the lease area northwest of the straight line connecting drill holes DH-9 and MC-4-3 and the occurrence of faulting and/or fractures in close proximity to Little Bear Spring appear to be the most important elements that the study must address.

The applicant will be in compliance with this section when the terms of the following stipulation are met.

Stipulation 817.41-(1)-JW

1. The applicant shall commit in writing that no mining will be undertaken in the Hiawatha Seam on the northwest side of the first fault mapped on Plate 6-6 (MRP), which is northwest of a line drawn between drill holes DH-9 and MC-4-3, until a ground water study is completed. The study design shall be approved by the regulatory authority prior to undertaking the study. The study shall be designed to

determine the depth of water in the Starpoint-Blackhawk aquifer northwest of the line between drill holes DH-9 and MC-4-3. Moreover, the applicant shall initiate as a part of the study, a field investigation to ascertain whether faults and/or fractures occur in close proximity to Little Bear Spring. The location and trend(s) of faults and/or fractures identified in the field shall be plotted on a geologic map of Little Bear Canyon such that potential relationships between Little Bear Spring and geologic structures may be evaluated. Upon a positive determination by the regulatory authority that no impacts will occur based on results from the ground water study, mining will be allowed to proceed towards the northwest in the Hiawatha Seam.

UMC 817.42 Hydrologic Balance: Water Quality Standards and Effluent Limitations

Existing Environment and Applicant's Proposal

The discussion of Water Quality Standards and Effluent Limitations can be found in Volume 2, Section 7 (pages 7-1 through 7-96) of the MRP. Other references addressed in this discussion are from Volume 1, Section 3 (pages 3-30, 3-58) of the MRP.

The applicant proposes to meet water quality effluent standards by routing all surface drainage from the disturbed area into a series of two sedimentation ponds. Mine water discharges are also to be routed into the sedimentation ponds (MRP, Section 3.4.3).

A NPDES permit has been obtained by the applicant for two discharge points at the minesite. Outfall 001 pertains to discharges from the cyclone overflow used as an intake for the water supply system for the mine. Outfall 002 pertains to the discharges from the lower sedimentation ponds (MRP, Section 3.4.3).

The applicant notes on page 3-58 of the MRP that the ponds will be the last structures removed at the minesite. Removal of the ponds will take place after revegetation of all other disturbed areas has been accomplished.

On page 3-30 of the MRP, the applicant notes that, pursuant to the on-going water quality monitoring program, should changes in water quality occur, the source of the problem will be identified and measures taken to correct any deficiencies.

Compliance

A mine water sump system to recirculate water encountered in the mine to the working face for dust suppression was installed in the summer of 1983 (MRP, page 3-8a). As a result, the volume of mine water discharged has been reduced significantly. Previous discharge volumes were approximately 0.125 acre feet per year (personal conversation with Dan Guy, Beaver Creek Coal Company, March 27, 1984). The mine water sump system addresses previous concerns about the volume of mine water which was occupying the sediment pond system.

The information presented in the MRP cannot conclusively demonstrate that the sedimentation pond system will produce effluent which meets the water quality limitations imposed by the regulations.

The applicant's commitment (page 3-30, 7-85, MRP) to undertaking additional measures to assure that effluent limits are met if monitoring data and other observations indicate the present pond configuration produces discharges that do not meet effluent requirements lacks specifics. The additional measures which will be undertaken to bring effluent within state and federal effluent limitations must be included. The time frames within which additional measures will be implemented must be no more than 90 days and committed to in writing.

The applicant will be in compliance when the terms of the following stipulations are met.

Stipulation 817.42-(1)-JW

1. The applicant must provide, within 30 days of permit approval, the additional measures which will be taken in the event that effluent limitations are not met. The applicant must commit to implement these additional measures within 90 days of observations showing that present pond configurations are not adequate.

UMC 817.43 Hydrologic Balance: Diversions and Conveyance of Overland Flow, Shallow Ground Water Flow and Ephemeral Streams

Existing Environment and Applicant's Proposal

The discussion of Diversions and Conveyance of Overland Flow, Shallow Ground Water Flow and Ephemeral Streams can be found in Volume 2, Section 7 (pages 7-1 through 7-96) of the MRP.

Diversion structures are located at the base of the highwall at the portal area. There are two separate structures, each diverting natural runoff to either side of the drainage in which the disturbed area is located. The diversions are temporary. They have been constructed by digging a trench along the base of the highwall and depositing the material in a compacted berm to the outside (MRP, Section 702.3.1, page 7-78).

The construction of the diversion ditches was under the direction of a certified engineer. Any fill placed was in lifts of not greater than 12 inches and compaction was at least 95 percent. Outlets from the structures were riprapped in such a manner as to act as energy dissipators (MRP, page 7-79).

The structures have the combined capacity to divert the runoff from a 10-year, 24-hour precipitation event.

The diversion structures are maintained and cleaned as needed. Any sediment removed from the structures is stored with that from the sedimentation ponds and disposed of in the same manner.

The diversion structures will be removed during final reclamation of the mine site. This will be accomplished by grading of the berm back into the trench. The entire yard will be reclaimed to the extent feasible and revegetated. Natural drainage will be restored to the extent practical.

The diversions were designed to convey the peak discharge resulting from the 10-year, 24-hour storm. Mike Thompson, an engineering geologist employed by the Utah Division of Oil, Gas and Mining, determined a peak discharge of 8.4 cfs for the watershed above the diversions. Thompson used a computer program developed by the Utah State University Foundation. The program uses the Soil Conservation Service (SCS) Triangular Unit Hydrograph method and the Farmer-Fletcher storm distribution to compute a composite hydrograph.

Approximately one half of the total discharge is intercepted and diverted by each of the diversion channels, and therefore, each channel must be capable of handling 4.2 cfs. To be conservative, a peak discharge of 5.0 cfs per channel was used in this analysis. The actual channels are not perfectly symmetrical; the highwall side is about 1:1 (H:V) and the berm side is about 2:1. For computation purposes, an average side slope of 1.5:1 was assumed. The channel bottom width is about 1.0 foot and the channel depth is about 1.5 feet and these values were, therefore, used in the analysis. The average slope of diversion A is 2.7 percent and that of diversion B is 1.7 percent. The channels are riprapped and the roughness coefficient was assumed to be 0.035 (MRP, page 7-80).

Energy dissipators are located at all discharge points from the diversion structures and sedimentation ponds. In addition, energy dissipators are placed in the diversions at intervals of not less than 200 feet. These are in the form of small rock dikes or straw bales for sediment and erosion control. The discharges from the diversion structures are onto a protective surface (i.e., conveyor belting or equivalent), and then into an area of rocks (or riprap) to dissipate the energy prior to allowing the drainage to run naturally. At the sedimentation ponds, overflows and channels are lined with riprap (see typical) to the point of final discharge into the ditch above the road (MRP, page 7-81).

Culverts. Drainage within the permit area is directed by diversions, open ditches and culverts. Undisturbed drainage areas are routed around the minesite by temporary diversions. Road drainage flows through culverts located and designed by the U. S. Forest Service. Disturbed area drainage is directed to the sedimentation ponds by various culverts and ditches. These design characteristics and peak discharges are presented in Tables 7-16 and 7-19 on pages 7-68 and 7-83a of the Permit Application.

Compliance

The applicant has presented a feasible plan of diverting surface overland flow away from disturbed areas into Mill Fork Creek. The applicant also has presented calculations for certain diversion ditches and culverts within the disturbed area.

Based on the Sedimot model used by the regulatory authority, all diversion ditches and culverts prior to the March 16, 1984 submittal were deemed adequate to handle the peak flows from the 10-year, 24-hour peak flow. Following the March 16, 1984 submission, the applicant has recalculated peak flows for all the disturbed areas using a new rainfall value of 2.3 inches for the 10-year, 24-hour storm and included additional areas shown on the sketch of Surface Disturbed Area Drainage (Figure 7-7).

Figure 7-7 is not of adequate detail or professional quality to use as a cross check against resubmitted mine plan calculations (drainage areas, etc.). Therefore, the applicant must submit a revised figure before the remainder of the ditches and culverts are deemed adequate.

The diversion ditch starting at the outlet to the 36 inch culvert east of the fuel tank (Plate 3-1) to the point where it empties into the sediment pond has several straw bale dikes in place. Maintenance of this portion of the diversion ditches is important to allow the function of these alternate sediment controls to remain intact.

The applicant will be in compliance with this section when the following stipulations are met.

Stipulation 817.43-(1-2)-TM

1. The applicant must submit a drawing which is of sufficient scale and clarity to use as a drainage area location map showing ditches and culverts and their contributing drainage area.
2. The applicant must show the size and type of construction for any alternative energy dissipator (rock gabion, straw bales, detention basins or roughness structures) within the entire disturbed area. This can be included as a cross-sectional drawing on a separate figure or be included on one of the existing plates. The applicant must commit to maintenance of these structures at regular specified intervals in the Permit Application.

UMC 817.44 Hydrologic Balance: Stream Channel Diversions

Existing Environment and Applicant's Proposal

The discussion of Stream Channel Diversions can be found in Volume 1, Section 3.2.3(k) (pages 3-5) and are depicted on Plate 3-1a.

Beaver Creek Coal Company obtains their water supply from Mill Fork Creek. A concrete cutoff wall across the creek forces subsurface flow to the surface. The water is then diverted to a pumping cistern for distribution. This system is somewhat susceptible to flood flows from Mill Fork Canyon. The risk posed to this system by flooding is, however, very low because of the existing good watershed conditions in Mill Fork Canyon. The only depleted watershed units are located at the head of Mill Fork Canyon and thus peak flows are attenuated before they reach the mine vicinity. This stable condition is borne out by the good to excellent channel conditions in lower Mill Fork Creek. Furthermore, the wide range of slopes, aspects and elevations also help attenuate peak discharges from rainfall and snowmelt events.

The following discussion encompasses the applicant's attempt to address the requirements of UMC 817.44(c) and (d)(1)(2)(3) in the MRP. Reclamation of diversion structures is discussed on page 7-79 of the MRP and states that diversions will be removed during final reclamation. This will be accomplished by grading the berm back into the trench. The entire yard will be reclaimed to the extent feasible and planted. Natural drainage will be restored to the extent practical as described in Section 3.5.4 of the MRP.

In Section 3.5.3, Backfilling and Grading Plans, page 60 of the MRP, the applicant states that 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 backfilling and grading operations.

In Section 7.2.4 of the MRP, Effects of Mining on Surface Water, page 7-84, the applicant states that the surface water hydrology of the Huntington #4 Mine site is not expected to change significantly after final reclamation. The effects of erosion will be mitigated by backfilling, recontouring, slope and soil stabilization and erosion control measures.

Compliance

The applicant has agreed that the original stream channel will be reclaimed by removing all structures, including the concrete retaining wall. The stream will be riprapped through the modification area with 12-inch median material to a depth of 18 inches. A map showing the details of this system as well as a plan and sectional view of the channel modification is included as Plate 3-1b, Mill Fork Pump House area (MRP, Section 3.2.3, page 3-5a).

The regulatory authority has made the findings called for in Section UMC 817.57 and the applicant is in compliance with this section. The applicant is also in compliance with provisions of UMC 817.44(b)(1) and (2) (MRP, Section 3.2.3, page 3-5a).

It should be noted that when stream channels are restored after temporary diversions are removed, the operator shall commit to the requirements listed under UMC 817.44(d)(1), (2) and (3). The applicant has not done this.

Specifically, the applicant has not addressed what will be done with any of the diversions found within the disturbed area below the upper pad other than the generalizations quoted in the Existing Environment and the Applicant's Proposal section. According to UMC 817.44(d)(2) and (3), the applicant must establish or restore the stream to a natural meandering shape of an environmentally acceptable gradient as determined by the Division, and establish or restore the stream to a longitudinal profile and cross-section. . . . The regulatory authority interpretation of this language is as follows: the applicant must submit a detailed cross-section of the reclaimed stream channel running through the lower pad area showing channel length, slope, expected peak flow from the 100-year, 24-hour precipitation event and riprap sizing calculations. Any other reclaimed stream channels created during reclamation must deal with the same design considerations.

The applicant will be in compliance with this section when the following stipulation is met.

Stipulation 817.44-(1)-TM

1. The applicant shall commit to the requirements listed under UMC 817.44(d)(1), (2) and (3). An interpretation of these subsections of UMC 817.44 by the regulatory authority has been made in the Compliance section of this regulation. This stipulation requires that the applicant submit a detailed cross-section of all proposed reclaimed stream channel in the lower or upper pad areas showing channel length, slope, expected peak flow from the 100-year, 24-hour precipitation event and riprap sizing calculations.

UMC 817.45 Hydrologic Balance: Sediment Control Measures

Existing Environment and Applicant's Proposal

The discussion of Sediment Control Measures can be found in Volume 2, Section 7 (pages 7-1 through 7-96) of the MRP.

Energy dissipators are located at all discharge points from the diversion structures and sedimentation ponds. In addition, energy dissipators are placed in the diversions at intervals of not less than 200 feet. These are in the form of small rock dikes or straw bales for sediment and erosion control. The discharges from the diversion structures are onto a protective surface (i.e., conveyor belting or equivalent) and then into an area of rocks (or riprap) to dissipate the energy prior to allowing the drainage to run naturally. At the sedimentation ponds, overflows and channels are lined with riprap (see typical) to the point of final discharge into the ditch above the road (MRP, Section 7.2.3.1, pages 7-81 and 7-83).

Snow removal storage areas have been identified on Plate 3-1A in the MRP. Additionally, on page 3-28 of the MRP, the applicant notes that snow removal operations are directed to the north of the haul road to eliminate sediment loading of the stream.

Compliance

The snow removal operations at the Huntington #4 Minesite and access/haul road appear to be a likely source of additional sediment contributions to Mill Fork Creek (see discussion under UMC 817.57). A review of the file shows that a Notice of Area of Concern was forwarded to Beaver Creek Coal Company on May 24, 1983 requesting that snow removal storage locations and sediment control measures for those locations be incorporated into the MRP. The applicant's proposal adequately addresses this concern pending ongoing evaluation of the total suspended solids data from Stations 4-4-W and 4-5-W.

The construction, size and maintenance of the straw bale dikes must be included within the MRP (see UMC 817.43).

The applicant will be in compliance with this section when the following stipulation is met.

Stipulation 817.45-(1)-TM

1. See stipulation under UMC 817.43.

UMC 817.46 Hydrologic Balance: Sedimentation Ponds

Existing Environment and Applicant's Proposal

The discussion of Sediment Ponds can be found in Volume 2, Section 7 (pages 7-1 through 7-96) of the MRP.

The undisturbed area of the #4 Mine is contained within a large, single drainage area which collects immediately below the lower facility yard and flows into Mill Fork Creek (Plate 7-6). In order to minimize additional sediment loading to the stream from this disturbed area, a major portion of this drainage is diverted before it reaches the disturbed area. The runoff from the disturbed area is routed into sedimentation structures located in the canyon bottom above Mill Fork Creek (MRP, Section 7.2.3.1, page 7-62).

The overall drainage of the area, including locations of the sediment structures, is depicted on Plate 7-6. Listed below are specifications.

The pond locations are in the existing drainage directly below the coal stockpile loading area (see Plate 7-6). The applicant states (page 7-63 of the MRP) that this site offers the most effective sedimentation control with the least amount of environmental disturbance.

In an effort to minimize environmental degradation and still obtain adequate storage, the applicant has built two smaller ponds in a series. The upper pond functions as a holding and settling facility for disturbed area runoff. The lower pond filters, cleans and discharges underground mine water, as well as any overflow from the upper pond in the event a storm exceeds the design. Mine water passes into the upper pond and through a 12-inch culvert with an inverted inlet into the lower pond. Here, it is filtered through a dike of coke breeze and slag and discharged to Mill Fork Creek as required by the NPDES permit (MRP, page 7-63).

To comply with requirements of the regulatory authority for the control of sedimentation as listed in the Underground Mining General Performance Standards, the ponds are constructed in a manner to facilitate the holding and settling of contaminated water from the minesite, as well as filtering and discharge of underground mine

water. An overflow is provided in the event of a massive inflow of surface water exceeding the capacity of the ponds. The ponds are cleaned as necessary and the waste material placed in an approved disposal site (MRP, pages 7-63, 7-63a).

The construction of the ponds is per specifications of the State Engineer, U. S. Forest Service, Office of Surface Mining and the DOGM.

The following construction specifications (page 7-64 of the MRP) were followed:

1. In areas where any fill material was placed, the natural ground was removed for at least 12 inches below the base of the structure.
2. Compaction of all fill materials was at least 95 percent. Native material was used wherever practical. Fill was placed in lifts not exceeding 12 inches and was compacted prior to placement of the subsequent lift.
3. Riprap was placed on the water side of all outlets to prevent scouring. Inside slopes are 3:1 minimum.
4. Dams were constructed to overflow at least one foot below the top.
5. Overflows have a minimum depth of one foot and a minimum width of three feet. These are constructed (or lined) with at least one foot of riprap on all surfaces and discharge into an energy dissipator to prevent scouring.
6. A filter dike, composed of coke breeze and slag, is provided in the lower pond as a final filter for water prior to discharge.
7. All construction of sediment ponds was performed under the direction of a qualified professional.

Design rainfall of 2.3 inches for the 10-year, 24-hour event was determined from the "Precipitation Frequency Atlas of the Western United States" (NOAA Atlas 2, Volume IV - Utah, 1973) for the location of the Huntington #4 Mine. The corresponding rainfall depth for the 25-year, 24-hour event was estimated to be 2.9 inches. The Fletcher-Farmer rainfall distribution was used to determine the rainfall distribution. Total runoff from the 10-year, 24-hour rainfall is estimated as 1.23 ac-ft. An additional 0.18 ac-ft is regained to provide at least one year sediment storage for sediment yield from disturbed areas as estimated below (MRP, page 7-67).

The sedimentation ponds are inspected after each storm and the sediment is cleaned out as necessary. In no case is sediment allowed to build beyond the point of reducing the pond capacity below 1.23 ac-ft. Removed sediment is disposed of in the C. V. Spur refuse pile or other locations as approved by the regulatory authority (MRP, page 7-66).

The Universal Soil Loss Equation (USLE) was used to estimate sediment yield from disturbed areas. Sediment yield was calculated by estimating the erosion rate from disturbed subdrainage areas. All erosion was assumed to be delivered to and deposited in the pond (MRP, page 7-69).

Total sediment yield from disturbed areas is estimated to be 0.172 ac-ft per year (MRP, Section 7.2.3.2, page 7-72).

The ponds have a capacity of 1.45 ac-ft, sufficient to store the runoff from a 10-year, 24-hour event of 1.23 ac-ft plus one year sediment loss of 0.17 ac-ft. Since the excess capacity is only 0.05 ac-ft, the pond will require annual maintenance to maintain sediment storage. Little excess capacity is available for both mine water and storm water. The applicant will not discharge mine water during storm runoff events. Furthermore, during discharge of mine water, the drain in the upper pond will be opened so that most of the capacity of the upper pond is available should storm runoff occur following discharge of mine water (MRP, page 7-72).

The spillways from both ponds are designed to pass the runoff from a 25-year, 24-hour precipitation event. Peak discharge from a 25-year, 24-hour precipitation event from the drainage to the ponds was determined using Sedimot II and the input parameters in Table 7-16. The peak discharge was determined to be 3.11 cfs (MRP, page 7-72).

A cross-section and profile of upper and lower pond spillways is provided in Plate 7-6 (MRP, page 7-73).

Design specifications are provided in Table 7-18. Velocities in both spillways exceed five ft/sec and would be erosive. Median riprap diameter of 15 inches is used to maintain stable spillways. Riprap of this size would have a Manning's roughness coefficient of 0.04 and would provide adequate protection for velocities in excess of 10 ft/sec (MRP, page 7-73).

Two water monitoring stations have been established at the inlet and outlet of the ponds (see water monitoring program for details) (MRP, Section 7.2.6, page 7-89).

Compliance

After reviewing the resubmittal of requested information in the draft Technical Analysis, it was determined by the regulatory authority that the revised drainage map was not of adequate detail. Therefore, the applicant needs to provide a revised drainage map so that the newly submitted runoff calculations can be cross-checked for drainage areas, slope lengths, etc. Figure 7-7 is not of adequate detail or professional quality to allow this.

The applicant will be in compliance when the following stipulation is met.

Stipulation 817.46-(1)-TM

1. The applicant must submit a clear, detailed map showing all ditches and culverts and their contributing drainage areas with an adequate scale. This map must support the calculations in Table 7-16, Sediment Pond Drainage Characteristics.

UMC 817.47 Hydrologic Balance: Discharge Structures

Existing Environment and Applicant's Proposal

The discussion on Discharge Structures can be found in Volume 2, Section 7 (pages 7-1 through 7-96) of the MRP.

The discharges from the diversion structures are onto a protective surface (i.e., conveyor belting or equivalent) and then into an area of rocks (or riprap) to dissipate the energy prior to allowing the drainage to run naturally. At the sedimentation ponds, overflows and channels are lined with riprap (see typical) to the point of final discharge into the ditch above the road (MRP, Section 7.2.3.1, pages 7-81 and 7-83).

Overflows have a minimum depth of one foot and a minimum width of three feet. They are constructed (or lined) with at least one foot of riprap on all surfaces and discharge into an energy dissipator to prevent scouring (MRP, Section 7.2.3.1, page 7-64).

Compliance

The applicant has stated that a median riprap diameter of 15 inches is used to maintain stable spillways. Riprap of this size would provide adequate protection for velocities in excess of 10 ft/sec. However, the applicant has depicted six-inch diameter riprap on Plate 3-1 of the MRP, which is in conflict with the 15-inch diameter riprap required to provide adequate protection and which was committed to in the text of the MRP on page 7-73. Therefore, the applicant will be in compliance with this section when the following stipulation is met.

Stipulation 817.47-(1)-TM

1. The applicant has shown six-inch diameter riprap on Plate 3-1, in conflict with the 15-inch median diameter riprap stated to provide adequate protection in the text. The applicant must clarify this discrepancy.

UMC 817.49 Hydrologic Balance: Permanent and Temporary Impoundments

Existing Environment and Applicant's Proposal

Temporary impoundments on the Huntington #4 Mine site include the two sediment ponds. These are covered in Section UMC 817.46 of this document.

Compliance

The applicant complies with this section.

Stipulations

None.

UMC 817.50 Hydrologic Balance: Underground Mine Entry and Access Discharges

Existing Environment and Applicant's Proposal

The applicant notes on page 7-16 of the MRP regarding the Blind Canyon Seam that the mine has encountered "small amounts of water from sandstones in the roof" and that "occasionally, damp to wet floor conditions exist."

The Hiawatha Seam (the second seam scheduled to be mined in the 1990's) lies approximately 100 feet below the elevation of the portals (MRP, Section 7.1.5) and will be accessed via rock slopes (Plate 3-6 of the MRP).

Page 3-56 of the MRP contains the details of the permanent portal seals to be installed upon final reclamation. The seals are proposed to withstand up to 30 psi of pressure to contain any in-mine water build-up after reclamation.

Page 3-56a contains a commitment to monitor any discharge (if it should occur) and provide treatment, if necessary, to satisfy the applicable state and federal effluent limitations during the permit term.

Compliance

Based on the structure contour map (Plate 6-5), it appears that a portion of the workings in the Blind Canyon Seam would naturally drain from the existing portals. Upon reclamation, portal seals cannot guarantee that gravity discharges from the mine will not flow from other areas of the coal outcrop.

The applicant's proposal for portal seals, which are hydraulically capable of withstanding 30 psi of pressure, and the applicant's commitment to monitor discharges and provide treatment, if needed, adequately address this section. The applicant complies with this section.

Stipulations

None.

UMC 817.52 Hydrologic Balance: Surface and Ground Water Monitoring

Existing Environment and Applicant's Proposal

The proposed surface water monitoring program includes sampling sites above and below the minesite in the Mill Fork Canyon drainage, at the inflow and outflow of the sedimentation pond, and one seep and one spring site in the Little Bear Canyon drainage north of the Huntington #4 lease area (Plate 7-3 of the MRP).

Figure 7-9 (page 7-86) and Figure 7-10 (page 7-90) of the mine plan show the frequency of sampling for all proposed surface sampling sites. Page 7-91 shows the water quality parameters to be analyzed and field measurements to be taken for surface water monitoring.

The applicant's ground water monitoring proposal involves sampling the previously noted seep and spring in Little Bear Canyon which resides north of the Huntington #4 lease area. Additionally, the applicant notes on page 7-21 of the MRP that one exploration drill hole has been drilled into the Star Point Sandstone which lies immediately below the Hiawatha Coal Seam. The Star Point Sandstone along with the lower portion of the Blackhawk Formation is the only significant regional aquifer in the area. Water level data from this exploration hole over an eight month period were obtained. The applicant has committed to a depth of water study on this aquifer prior to mining the Hiawatha Seam northwest of the fault graben (page 7-23 of the MRP).

The applicant has proposed an in-mine monitoring program on page 7-23 of the MRP. Inflows of one gpm or greater, if sustained for over a 30 day period, will be included in the monitoring program. Monitoring is proposed to be on a monthly basis for flow and water quality. A quarterly report including a map of underground workings, sample locations, source, quantity and quality data and a table or discussion of the mine water balance is proposed.

Compliance

The revised page 7-23 contains the in-mine monitoring program. The chemical and field parameters to be sampled are not included and must be. The previous page 7-23, which was replaced with the 3-15-84 revised page, contained sampling parameters, but these have been omitted from the revised page 7-23.

Further, the earlier version of page 7-23 contained commitments to monitor flows from the Little Bear Spring. The revised page 7-23 omits this commitment to monitor Little Bear Spring. A commitment to monitor Little Bear Spring with the appropriate sampling frequency and chemical and field parameters to be sampled must be reinstated in the MRP.

The applicant has committed to undertake a depth of water study on the aquifer supplying Little Bear Spring prior to mining the Hiawatha Seam northwest of the fault graben (page 7-23 of the MRP). The wording of this commitment needs to be modified slightly as noted in the UMC 817.41 compliance section.

The applicant will be in compliance with this section when the following stipulations are met.

Stipulations 817.52-(1-2)-JW

1. The applicant shall include field and chemical water quality parameters to be sampled for the in-mine water quality monitoring proposed on page 7-23. The parameters shall include at a minimum; pH, total dissolved solids, sodium, potassium, calcium, magnesium, iron, chloride, bicarbonate, sulfate and carbonate.
2. The applicant shall include Little Bear Spring in a sampling point for the ground water monitoring plan. Monthly sampling frequency, at a minimum, with field and chemical parameters equal to those in the previous stipulation, must be committed to.

UMC 817.53 Hydrologic Balance: Transfer of Wells

Existing Environment and Applicant's Proposal

A listing of all drill holes on the Huntington #4 lease area is contained in Table 6-2, page 6-13 of the MRP. Drill hole MC-4-1 appears to be the only hole presently open. It is utilized for water level measurements and was drilled from within the Blind Canyon Seam workings.

Compliance

Because the only open drill hole will be inaccessible after retreat mining of the Blind Canyon Seam, the applicant could not transfer drill hole MC-4-1 for use as a water well. The applicant complies with this section.

Stipulations

None.

UMC 817.54 Hydrologic Balance: (UCA 40-10-29[2]) Water Rights Replacement

Existing Environment and Applicant's Proposal

Appendix I of the MRP contains an agreement between Huntington City and Swisher Coal Company, Beaver Creek Coal Company's predecessor. The agreement outlines the conditions under which the coal company will replace the water supply from Little Bear Spring if mining activities impact the spring. Little Bear Spring is an important municipal water supply.

Page 3-27 of the mine plan notes that the coal company would replace water impacted by mining with its shares of water in Huntington Creek.

Appendix 4 contains a stock certificate for 800 shares of water in the Huntington Cleveland Irrigation Company. The certificate is issued to Hardy Coal Company. Table 7-8 of the MRP lists filed water rights in the area in and around the Huntington #4 Minesite. Plate 7-7 shows the locations of the water rights listed in Table 7-8.

Compliance

The applicant's proposal raises several questions which must be addressed before a determination can be made that compliance will be achieved.

The North Emery Water Users Association has expressed concern that mining activities at the Huntington #4 Mine may impact one of three springs located in Rilda Canyon, due south of the Huntington #4 lease area. These springs are an important culinary water supply for North Emery County. The West Appa Rilda Canyon Mine Permit Application contains information using Very Low Frequency Electromagnetic Analysis (VLFEM) which was used to identify a north-south trending lineament intersecting the North Spring area. This is thought to be a fracture system acting as a supply conduit for the North Spring in Rilda Canyon. The VLFEM analysis is limited in that only two transects were run in Rilda Canyon. Further, the Hiawatha Seam outcrops in Mill Fork Canyon. If the north-south trending lineament was hydrologically active directly under the Hiawatha Seam, the effects of the lineament in acting as a flow conduit would be apparent in Mill Fork Canyon. No effects of the north-south trending lineament are apparent in Mill Fork Canyon. Therefore, until further data reveals more conclusively that the north-south lineament in Rilda Canyon is hydrologically active up into the Huntington #4 lease area, no mitigation measures will be recommended.

The applicant must show that the 800 shares of Huntington-Cleveland Irrigation Company issued to Hardy Coal Company have been legally transferred or assigned to Beaver Creek Coal Company.

The applicant has provided a list of filed water rights which are in the Huntington #4 Mine area. Those rights which may be potentially impacted by mining are shown on Table 7-8 (page 7-20 of the MRP) with the acre-foot allotment. Using the information from Table 7-8, the 800 shares of Huntington-Cleveland Irrigation Company owned by Beaver Creek Coal Company and the average discharge rate for Little Bear Spring shown on page 7-34 of the MRP, the following analysis can be generated:

Total water rights which could be impacted:

12.99 ac-ft (Table 7-8 of the MRP)
<u>477.82 ac-ft (Little Bear Spring)</u>
490.81 ac-ft

Less water rights held by Beaver Creek Coal Company for replacement:

<u>264.00 ac-ft</u>
226.81 ac-ft = Net Deficit

The applicant's proposal to replace water rights impacted by mining with 800 shares of Huntington-Cleveland Irrigation Company water rights will address approximately 54 percent of the total existing rights which could be impacted. It is unlikely that 100 percent of the existing water rights would be impacted. The majority of the existing water rights are composed of the flow from Little Bear Spring (477.8 ac-ft of 490.8 ac-ft total). Should Little Bear Spring be totally diminished by mining activities, the existing 800 shares of Huntington-Cleveland Irrigation Company water would not be enough to replace the flow from Little Bear Spring. Additional replacement water rights would have to be purchased in this event.

The applicant has committed to replace diminished flows from Little Bear Spring (see Appendix 4) and has committed to undertake a water level study of the Star Point Sandstone Aquifer before mining the majority of the Hiawatha Seam (page 7-23 of the MRP). The applicant will be in compliance with this section when the following stipulation is met.

Stipulation 817.54-(1)-JW

1. The applicant shall provide, within 60 days of permit approval, documentation of assignment or transfer of 800 shares in the Huntington-Cleveland Irrigation Company from the Hardy Coal Company to Beaver Creek Coal Company.

UMC 817.55 Hydrologic Balance: Discharge of Water into an Underground Mine

Existing Environment and Applicant's Proposal

The applicant does not propose to route drainage into any of the portal entries. The drainage control plan for the upper pad shown on Plate 7-4 of the MRP shows that surface drainage will be conveyed away from portal entries.

Compliance

The applicant complies with this section.

Stipulations

None.

UMC 817.56 Hydrologic Balance: Postmining Rehabilitation of Sedimentation Ponds, Diversions, Impoundments and Treatment Facilities

Existing Environment and Applicant's Proposal

The applicant notes (MRP, Section 3.5.2.3, page 3-58) that sedimentation ponds, dams and diversions will be disposed of during reclamation. No permanent hydrologic structures are planned for the Huntington #4 Mine.

Compliance

The applicant has not provided a timetable for removal of these temporary structures during reclamation.

The applicant will be in compliance with this section when the following stipulation is met.

Stipulation 817.56-(1)-TM

1. The applicant must submit a timetable for removal of all sediment ponds, dams and diversions.

UMC 817.57 Hydrologic Balance: Stream Buffer Zones

Existing Environment and Applicant's Proposal

Page 3-28 of the MRP notes that a buffer zone is established between the northern portion of the haul road near the sediment ponds and the Mill Fork stream channel. Road maintenance and snow removal operations are the primary activities which occur within this zone. The applicant commits to blading snow to the north of the road (away from the stream) and to conducting all road maintenance activities in a manner that directs material away from the stream side. On page 3-28a (MRP), the applicant commits to remove snow or other accumulations of material bladed to the north of the road in the buffer zone to an approved storage or disposal area as soon as practicable.

Compliance

The applicant's establishment of a buffer zone is somewhat confusing in that a 100 foot zone is not actually in place. The mining activities are within 100 feet of Mill Fork Creek.

Based on benthic invertebrate study results contained in the U. S. Geological Survey Open File Report 81-539, it is apparent that a biological community as defined in UMC 817.57(c) is present in Mill Fork Creek.

The sediment contributions from the access road to the Mill Fork stream are a significant environmental concern. Site visits in the early spring of 1983 showed that snow removal operations generate large amounts of earth material which is frequently placed in or just adjacent to the stream channel.

An analysis of total suspended solids (TSS) for the period March 1982 through July 1983 shows a pattern of significantly sharp increases in total suspended sediments between Stations 4-4-W and 4-5-W (both on Mill Fork Creek). This concurs with on-site observations of sediment loading from snow removal operations.

The applicant's proposal for snow removal and road maintenance activities within the stream buffer zone appears to adequately address this concern. An on-going evaluation of the total suspended solids levels at Stations 4-4-W and 4-5-W will be made by the regulatory authority on a monthly basis to determine if the applicant's proposal is, in fact, working adequately. If TSS levels between Stations 4-4-W and 4-5-W show increases of greater than 200 mg/l which can most likely be attributed to mining activities, then additional sediment control measures must be proposed, approved and implemented by the applicant.

The Division, pursuant to UMC 817.57(a)(1) and (2) approves the applicant's proposal to conduct underground coal mining activities within 100 feet of Mill Fork Creek.

The applicant will be in compliance with this section when the terms of the following stipulation is met.

Stipulation 817.57-(1)-JW

1. If upon monthly evaluation of the applicant's data for total suspended solids (TSS) levels at sampling stations 4-4-W and 4-5-W (see Plate 7-3), the regulatory authority notes increases of 200 mg/l or greater between the two stations on three or more occasions within any two calendar-year spans, then the regulatory authority shall notify the applicant of such. The applicant shall, within 30 days of notice, provide acceptable measures in writing with appropriate maps, figures or cross-sections to assure that water quality and quantity within 100 feet of Mill Fork Creek will not be adversely affected during and after mining. If the regulatory authority notifies the applicant that the measures proposed are not adequate, the applicant shall submit revised plans within 30 days of notification, and within 90 days of such notification shall achieve compliance with applicable standards.

UMC 817.59 Coal Recovery

Existing Environment and Applicant's Proposal

The Huntington #4 Mine produces coal from the Blind Canyon Seam and the Hiawatha Seam using room and pillar methods that are consistent with the best technology currently available. Recovery within the room-and-pillar panels is approximately 75 percent to 78 percent, with an overall recovery factor (including barriers) estimated at 50 percent, (page 3-15 of the MRP). The recovery of coal resources has been authorized in a memorandum dated January 10, 1984 from the Chief, Mining Law and Solid Minerals, Bureau of Land Management, Salt Lake City, Utah.

Compliance

The applicant complies with this section.

Stipulations

None.

UMC 817.61-.68 Use of Explosives

Existing Environment and Applicant's Proposal

No surface blasting is employed at this site as outlined in Section 3.3.5.4 of the MRP.

Compliance

The applicant complies with this section.

Stipulations

None.

UMC 817.71-.74 Disposal of Excess Spoil and Underground Development Waste: General Requirements; Valley Fills; Head-of-Hollow Fills; Durable Rock Fills

Existing Environment and Applicant's Proposal

All development waste is disposed of in underground "gob" areas which consist of entries and cross-cuts no longer needed for the operation of the mine. No development waste is stored on the surface at this operation as stated in Section 3.3 of the MRP.

Compliance

The applicant complies with this section.

Stipulations

None.

UMC 817.81-.88 Coal Processing Waste: Banks

Existing Environment and Applicant's Proposal

There are no coal processing facilities planned for use at the Huntington #4 Mine. All raw coal will be hauled from the site as stated in Section 3.3 of the MRP.

Compliance

The applicant complies with this section.

Stipulations

None.

UMC 817.89 Disposal of Noncoal Waste

Existing Environment and Applicant's Proposal

Noncoal waste is temporarily stored in steel dumpsters and hauled, by contractor, to the approved Carbon County Landfill on an as-needed basis (MRP Section 3.3).

Compliance

The applicant complies with this section.

Stipulations

None.

UMC 817.91-.93 Coal Processing Waste: Dams and Embankments

Existing Environment and Applicant's Proposal

The applicant does not propose any dams or embankments constructed of coal processing waste or to impound coal processing waste. The coal is transported to Beaver Creek Coal Company's C. V. Spur Preparation Plant 35 miles away. This is stated in Section 3.3 of the MRP.

Compliance

The applicant complies with this section.

Stipulations

None.

UMC 817.95 Air Resources Protection

Existing Environment and Applicant's Proposal

Due to coal moisture content, dust suppression sprays utilized underground, covered conveyors and chutes, and limited drop distances to haul trucks, fugitive emissions are minimized. Fugitive dust emissions from coal haulage over unpaved road surfaces are controlled through water sprays, chemical suppressants and reduced vehicular speed (25 mph in Mill Creek Canyon). Neither the Utah Bureau of Air Quality nor the Environmental Protection Agency have established any air quality monitoring requirements for the area of the Huntington #4 Mine and no air quality monitoring by the applicant is planned (MRP Sections 3.4.7.2 and 11.2.2).

Compliance

The applicant complies with this section.

Stipulations

None.

UMC 817.97 Fish, Wildlife and Other Related Environmental Values

Existing Environment and Applicant's Proposal

The Fish and Wildlife Resource Information for the Huntington #4 Mine area is discussed in Chapter 10 of the MRP.

A wide variety of wildlife species utilize the highly variable habitats within and adjacent to the permit area. Economically important and high interest species include mule deer, elk, moose, beaver, bobcat, coyote, mountain lion, snowshoe hare, fox and flying squirrel. Twenty-nine species of birds, including gamebirds and raptors, are listed as being of high State interest. Seven species of raptors have been observed on the permit area and nesting areas for red-tailed hawks, sharp-shinned hawks, American kestrels and great horned owls and golden eagles have been located on-site (MRP, Section 10-3-2-4). Gamebirds include blue grouse, ruffed grouse and mourning doves.

Of the 22 species of migratory birds of high Federal interest listed by the U. S. Fish & Wildlife Service (USFWS) for the Uintah-Southwestern Utah Coal Production Region, nine are actually or potentially present on the permit area. These are the bald eagle, golden eagle, peregrine falcon, band-tailed pigeon, Cooper's hawk, flammulated owl, prairie falcon, Williamson's sapsucker, black swift and western bluebird. One active golden eagle nest has been found on the permit area (letter from USFWS to OSM dated September 30, 1983).

The major aquatic habitats within the permit area are Mill Fork and Little Bear Creeks. All surface facilities are within Mill Fork Canyon. Based on benthic macroinvertebrate and aquatic habitat surveys conducted by the operator as well as data provided by the Utah Division of Wildlife Resources (UDWR), neither creek supports game or nongame fish and both lack sufficient flow in most years to provide spawning sites (MRP, Section 10.3.2.1). However, these streams probably contribute some invertebrate food items and a small amount of surface flow to Huntington Creek, an important fishery in the region.

The most important aspects of these streams is their contribution to riparian habitat for wildlife. Approximately 1.4 acres of riparian vegetation exists on the lease area (MRP, Table 9-1). This habitat type is listed by UDWR as high priority due to availability of water and compositional diversity of the plant community. Other high priority areas include seeps and springs, as well as cliffs which afford nesting sites for many species of raptorial birds.

Habitats in and around the Huntington #4 permit area include areas of high priority summer range and crucial-critical winter range for both deer and elk (MRP, Figure 10-6, 10-7). No specific elk calving or deer fawning areas have been identified in the study area. A portion of the study area provides moose winter range, but field studies indicate that preferred habitat is quite limited (MRP, Section 10.3.3.1).

Listed threatened and endangered species potentially present in the study area are the American peregrine falcon, arctic peregrine falcon and the bald eagle. None of these species are likely to occur because habitats in the area are marginal (MRP, Section 10.3.3.1).

No additional surface disturbances are presently planned. Therefore, mitigation and management plans focus on minimizing impacts related to continued mining activities and facilitating rapid return of the site to suitable habitat after decommissioning (MRP, Section 10.5).

Beaver Creek Coal Company has committed to avoiding important habitats such as riparian areas, and has committed to not using persistent pesticides and to preventing fires (MRP, Sections 10.5.1 and 3.3.5). Also, employee awareness programs inform mine personnel of sensitive periods or habitats, such as deer fawning seasons and areas, critical winter ranges, etc., to minimize impacts to wildlife (MRP, Section 10.5.5.1).

Powerlines are designed to be raptor protected, fencing will be designed to allow passage of wildlife without entanglement or disturbance to migratory patterns, and mule deer roadkills along the Mill Creek access road and the Huntington Canyon road are monitored by Beaver Creek personnel (MRP, Section 10.5.5.1).

The operator has committed to reporting any observations of threatened and endangered species not previously reported on the permit area to the regulatory authority, UDWR and the USFWS. Active nests and nest trees, if located, will not be disturbed (MRP, Sections 10.5.1.2 and 10.7).

Habitat loss or deterioration of the Mill Fork aquatic ecosystem has been limited by the establishment of a 100 foot buffer zone adjacent to the stream where possible (see TA, Section UMC 817.57) and constructing sediment ponds to protect the stream from an increased sediment load from the mine-affected areas. In addition, monthly inspections of sediment load in Mill Fork are conducted (MRP, Section 10.7).

During the first suitable planting season following mining, the applicant will implement permanent revegetation methods designed to restore and enhance wildlife habitat on disturbed areas. The revegetation planting mixture includes herbaceous and woody species that are adapted to on-site conditions and are of known value to wildlife for cover, forage or both (MRP, Section 3.5).

Beaver Creek Coal Company will conduct a wildlife monitoring program throughout the operational life of the Huntington Canyon #4 Mine. The monitoring program will utilize the services of a full-time environmental specialist and, as necessary, professional consultants to evaluate the ongoing success of operational mitigation measures, ensure that threatened or endangered species and sensitive or critical use areas remain undisturbed by future activities, deal with any unforeseen difficulties which might arise, and participate in reclamation efforts upon completion of the project (MRP, Section 10.7).

Compliance

The Huntington #4 Mine has been in continuous operation since 1977. The surface disturbance and associated loss of wildlife habitat has already occurred. No additional surface disturbances are planned. Therefore, the mitigation and management plans focus on minimizing impacts related to continued mining activities and returning the site to suitable habitat after decommissioning.

In an effort to characterize the fish and wildlife resources and assess potential impacts, the applicant has conducted numerous surveys on the permit area as well as a thorough literature search of the UDWR files and other publications on the distribution and status of vertebrates in the study region.

Surveys to determine the presence of any critical habitat of a threatened or endangered species, any plant or animal listed as threatened or endangered or any bald or golden eagle have been conducted. Three golden eagle nests have been located on the permit area (letter from USFWS to OSM dated September 30, 1983). Two nests are old and one was active in 1982. The applicant has not addressed mitigative measures for protection of these nests. A commitment to report any threatened and endangered species observed on the permit area during operations has been made.

Any future powerlines will be designed and constructed to be "raptor-protected." The potential raptor electrocution hazard posed by existing powerline pole configurations on-site has been determined by USFWS to not require corrective modification as long as raptor mortality continues not to occur (letter from USFWS to DOGM dated October 9, 1981).

The applicant has committed to protect and avoid habitats of high value for fish and wildlife including riparian areas, seeps and springs, fawning areas, critical winter areas, etc. (MRP, Section 3.4.6.2).

Adequate plans for permanent revegetation of the site have been provided (Section 3.5 of the MRP) and determined adequate (see TA, Section UMC 817.111-.117). Species to be used for revegetation have been selected based on nutritional value and cover for fish and wildlife and ability to support and enhance fish and wildlife habitat after bond release. Plants will be grouped in a manner which optimizes edge effect.

Stipulation 817.97-(1)-SC

1. The applicant must incorporate the USFWS information on golden eagle nests into the MRP and discuss mitigation and protection of these nests, including protection of cliff escarpments from subsidence effects, e.g. barrier pillars.

UMC 817.99 Slides and Other Damage

Existing Environment and Applicant's Proposal

The applicant has committed to notify the Division at any time a slide occurs which may have a potential adverse affect on public property, health, safety and environment in Section 3.3.2.5 of the MRP.

Compliance

A coal slide is indicated on Plate 3-1 of the MRP from the upper bench to the loadout area. The applicant will comply with this section when the following stipulation is met.

Stipulation 817.99-(1)-PGL

1. The applicant shall commit to the necessary mitigation measures of the coal slide from the upper bench to the loadout area. This information must be included in the MRP.

UMC 817.100 Contemporaneous Reclamation

Existing Environment and Applicant's Proposal

The applicant has committed to contemporaneous reclamation of disturbed areas as they become available (MRP, Section 3.5.1). Areas will be backfilled, graded and topsoiled. Seeding will occur during the first desirable planting season after final grading (MRP, Section 3.5.4.2).

Compliance

The applicant complies with this section.

Stipulations

None.

UMC 817.101 Backfilling and Grading: General Requirements

Existing Environment and Applicant's Proposal

The yards, roads, and portal areas were dozed out of very steep rocky canyon walls in the 1940's. The area will be smoothed and contoured to be compatible with postmining land uses (as described in UMC 817.133 of the TA), and available topsoil will be respread over the area to ensure the success of the revegetation. This is outlined in Section 3.5.3 of the MRP, with the time schedule found in Section 3.5.6.1.

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.
- b. The backhoe will reach down over the fill bank, retrieve material, and place it 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 highwall outward to reach the configuration as shown on Plate 3-8, Postmining Topography. Compaction of 90 percent or greater will be accomplished by spreading the material in lifts not to exceed 15 inches and tracking over it with a dozer.
- d. The upper pad will be sloped to drain to the center. 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 will continue down the upper road with the backhoe and cat operation in conjunction to reclaim this area down to the property line.
- f. On the lower level, from the coal storage area to the lower pad (including the lower road) and drainfield area, the same reclamation techniques will take place.

As shown on Plate 3-9 of the MRP, the highwalls will be reduced along the pad and road areas, where feasible. Those that are retained will blend into the natural terrain and have proven stability. Their structural composition is similar to pre-existing cliffs in the surrounding area and compatible with geomorphic processes in the area. The highwalls have a static safety factor of 3.00 for dry conditions and 2.73 for static conditions (page 3-64b of the MRP).

The final graded areas will have a safety factor of 2.20 for dry conditions and 1.65 for saturated conditions (page 3-64e of the MRP). This embankment material will be placed in maximum 36-inch lifts and compacted to 90 percent.

Compliance

The applicant complies with this section.

Stipulations

None.

UMC 817.103 Backfilling and Grading: Covering Coal and Acid and Toxic-Forming Materials.

Existing Environment and Applicant's Proposal

All exposed coal outcrops will be covered with incombustible material during the backfilling and grading operation as outlined in Section 3.5.3 of the MRP.

This is not a processing facility and, therefore, there are no toxic-forming materials or acid-producing materials to be covered. All clean-up will be done before soil placement as stated in Section 3.5.6.1 (time schedule for reclamation).

Compliance

The applicant complies with this section.

Stipulations

None.

UMC 817.106 Regrading and Stabilizing of Rills and Gullies

Existing Environment and Applicant's Proposal

Rills or gullies deeper than nine inches in regraded areas will be filled, graded or otherwise stabilized and reseeded. Rills and gullies of a lesser size than nine inches as specified by the regulatory authority will be stabilized and the area reseeded and replanted if the rills or gullies are disruptive to the approved postmining land-use. This final configuration is shown on Plate 3-8 of the MRP. Rills and gullies are described in Section 3.5.3.2 of the MRP.

Compliance

The applicant complies with this section.

Stipulations

None.

UMC 817.111-.117 Revegetation

Existing Environment and Applicant's Proposal

The Huntington Canyon #4 Mine lease area is generally located within the pinyon-juniper vegetation zone as described by Cronquist, et al (1972). The elevation ranges from approximately 7,200 feet to

9,580 feet. Precipitation varies with elevation and ranges from approximately 15 to 20 inches annually, with 60 to 70 percent occurring as snow during the months of October through May.

Eight vegetation types are delineated on the permit area (MRP, Plate 9-1). These include aspen woodland, mixed coniferous forest, burned mixed coniferous forest, pinyon-juniper-curleef mountain mahogany woodland, manzanita shrubland, big sagebrush shrubland, riparian and mountain grassland. Only the pinyon-juniper-curleef mountain mahogany woodland community occurs in the area of disturbance.

As described in Section 9.2.3 of the MRP, one reference area was selected and permanently marked. It was selected as representative of the topography, soils, aspect and species composition of the disturbed area. The reference area is one hectare in area and is located within the permit area on a site which will not be disturbed during the life of the mine. The Soil Conservation Service (SCS) has determined that the established reference area is in good condition. If this condition deteriorates to a poor classification, the applicant will implement management techniques to attain at least fair conditions. Management plans will be developed in consultation with the U. S. Forest Service (USFS) and SCS.

The reference area was sampled for total vegetation cover, cover by bare soil, cover by litter and rock, cover by species, productivity and tree and shrub density. Sample adequacy or minimum sample size was attained for all parameters (Table 9-6, page 9-22 of the MRP).

No threatened or endangered plant species were encountered during floristic surveys of the permit area. According to the USFWS, only one species of concern (Hedysarum occidentale var. canone) may occur on the permit area (USFWS memorandum to OSM, Denver, October 21, 1983). It is under review for possible listing in the future.

The applicant has presented a revegetation plan in Section 9.7 of the MRP which describes procedures and planting mixtures for reclamation of temporarily disturbed areas and those disturbed for the life of the mine. Seeding of grasses and forbs as well as planting of 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).

The planting mixture for final revegetation consists primarily of native grasses, forbs and shrubs (Tables 3-1 and 3-2 of the MRP). Fairway crested wheatgrass and cicer milkvetch are the only introduced species included. The suitability of these species will be assessed as part of the temporary reclamation on the minesite. The seed mixtures will be spread either by hand or machine, depending on site conditions.

A variety of synthetic and organic mulches will be used, dependent on site conditions. Organic mulches will be applied at a rate ranging from 1,500 - 2,500 pounds per acre. Synthetic devices will be installed according to the manufacturer's recommendations (Section 3.5.4.3 of the MRP).

Final reclaimed areas will be monitored at least every two years following plant establishment until bond release. A detailed monitoring plan which includes revegetation success standards is presented in Section 3.5.5 of the MRP.

Both the final reclaimed area and reference area will be sampled for cover, woody plant density, species composition and production during each monitoring period. Sampling techniques are discussed in Section 3.5.5 of the MRP.

Compliance

The Huntington #4 Minesite receives approximately 15 to 20 inches of precipitation annually. This amount is sufficient for the establishment of many of the species native to the area. The applicant has committed to using areas temporarily planted with native and introduced species to evaluate the suitability of each species for final reclamation. The introduced species, Fairway crested wheatgrass and cicer milkvetch, applied in the rates provided, are valuable to control erosion, and as wildlife forage. One plant species, Hedysarum occidentale var. canone, under review for possible listing as threatened or endangered, may be present on the permit area according to USFWS. However, no populations have been identified (MRP, Table 9-7).

The applicant complies with this section.

Stipulations

None.

UMC 817.121-.126 Subsidence Control

Existing Environment and Applicant's Proposal

As discussed on page 3-44 of the MRP, there are no man-made structures above the mine, either currently in use or of historical significance and, therefore, in need of protection from subsidence. Due to the steep topography, lack of water and poor access, the U. S. Forest Service (USFS) has classified most of the land under their jurisdiction above the mine as nonrange. The only significant ground water resource, the Star Point Sandstone, is located stratigraphically below the coal seams being mined. Yearly surface inspections since 1979, when mining commenced, have disclosed no surface manifestations of subsidence.

Beaver Creek Coal Company is presently following a monitoring plan established under an August 27, 1979 Cooperative Agreement with the Manti-LaSal National Forest, USFS, U. S. Department of Agriculture (see MRP, Figure 3-5). A photogrammetric monitoring program, as opposed to a subsidence monitoring survey net, was initiated at the insistence of the USFS to minimize the surface disturbance associated with subsidence monitoring. This includes an on-the-ground visual inspection which will be performed twice each year and will assess the condition of the surface above all underground mine workings and areas that may be affected by subsidence.

Compliance

The extraction technologies described in Sections 3.3.1 and 3.4.8.2 of the MRP adequately comply with UMC 817.121(a). Further, the operator has complied with certain provisions of UMC 817.121(b) by including a survey of renewable resource lands (Section 3.4.8.1 of the MRP) and discussing estimated subsidence impacts and a subsidence monitoring plan (Sections 3.4.8.2 - 3.4.8.4 of the MRP).

The Huntington #4 MRP does not address a public notice of the mining schedule (UMC 817.122) or surface owner protection (UMC 817.124[b]).

The specific content and temporal framework for submittal of the annual subsidence report requires further clarification (UMC 817.121[b]).

The applicant will be in compliance with this section when the following stipulations are met.

Stipulation 817.121-.126-[784.20]-(1)-TNT-(2-3)-RVS

1. An annual subsidence report containing the results of each surface inspection and aerial photographic survey must be submitted to the regulatory authority. Specific concentration should be on areas near outcrops and along the faulted areas which may affect the Little Bear Spring. Qualitative information on any specific surface manifestations of subsidence should be documented. Locations of these points should be placed on a map of the permit area, including dates of associated retreat mining. Original photographs which substantiate the type of subsidence feature should accompany the report and be numbered on the map accordingly.

A commitment must be made, within 30 days of permit approval, to supply the regulatory authority with the annual subsidence report, commencing in January 1985, by January 31 of each year, until such time as the regulatory authority, in conjunction with the applicant, deems that it is no longer necessary to supply this information.

2. The applicant shall address the provisions under UMC 817.122 and submit, within 30 days of permit approval, this information to the Division.
3. The applicant shall address the provisions under UMC 817.124(b) and submit, within 30 days of permit approval, this information to the Division.

UMC 817.131 Cessation of Operations: Temporary

Existing Environment and Applicant's Proposal

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 (MRP, page 3-25).

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 subsurface strata, prior reclamation efforts accomplished on the property and identification of all backfilling, regrading, revegetation, environmental monitoring, underground opening closures and water treatment facilities that will continue during the temporary cessation.

Compliance

The applicant is in compliance with this section.

Stipulations

None.

UMC 817.132 Cessation of Operations: Permanent

Existing Environment and Applicant's Proposal

Upon permanent cessation of operations, permanent reclamation will commence. Mine openings will be sealed, all surface equipment, structures and facilities associated with the operation will be removed, and all affected lands reclaimed (MRP, Section 3.5.2). The schedule for permanent reclamation can be found in Section 3.5.6.1.

Compliance

The applicant complies with this section.

Stipulations

None.

UMC 817.133 Postmining Land Use

Existing Environment and Applicant's Proposal

The land on which the #4 Mine is located has long been used for coal mining. This canyon has supported three (3) underground operations in the past with the present surface facilities 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 (Section 4.4.2 of the MRP).

The USFS presently administers the lands in this area for livestock forage, wildlife habitat, watershed, dispersed recreation and coal mining. The USFS 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 (Section 4.4.2 of the MRP).

The postmining uses of the land will be the same as the premining and present uses described above (Section 4.5 of the MRP). Once mining has ceased, the disturbed areas will be reclaimed and the land will once again support its principle premining uses (i.e., deer habitat, hunting, sightseeing, watershed and hiking).

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 achieve success standards, as discussed under UMC 817.111-.117 of this document.

Compliance

The applicant complies with this section.

Stipulations

None.

UMC 817.150-.157 Roads: Class I

Existing Environment and Applicant's Proposal

The coal haul road is approximately 900 feet inside the permit boundary and connects to the U. S. Forest Service (USFS) road in Mill Fork Canyon. The Mill Fork Road is controlled by the USFS and Beaver Creek Coal operates on this road under a Special Use Permit with the USFS. This lower haul road is sloped to the inside ditch (24" X 12" minimum) and is equipped with a guardrail, rather than a berm, on the outside to maintain adequate road width for haul trucks. The road drainage is passed through a culvert and directed to the sedimentation pond. (See MRP Plates 3-2a and 7-5 for the road cross-section and ditch details.)

The design of drainage controls along this road were specified by the USFS 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 the MRP, Appendix 6 - Special Use Permits/ Specifications on Mill Fork Road. The road is gravel surfaced and watered as necessary for dust control.

Compliance

The Division concurs that this is a public road as outlined in "The Public Roads Criteria for Coal Haulage and Access Roads" memorandum as approved February 24, 1984 by Division Director, Dianne R. Nielson. The applicant complies with this section.

Stipulations

None.

UMC 817.160 Roads: Class II

Applicant's Proposal and Existing Environment

The mine access road is used for men and materials access to the mine site. The road is approximately 4,800 feet long. This road was built in the 1940's and upgraded in 1976-1977 to bring it to its present grade and alignment. The majority of the road lies above the massive Star Point Sandstone, and ongoing inspections of the road fill slopes have indicated no instability. There has been no evidence of creep, slippage or other failures due to instability. This road is gravel-surfaced and maintained regularly to provide safe access of men and materials to the minesite. This road has restricted access due to a gate. Plate 3-2A of the MRP outlines the typical road width and gradient.

Compliance

The applicant complies with this section.

Stipulations

None.

UMC 817.180 Other Transportation Facilities

Existing Environment and Applicant's Proposal

Transportation facilities at the Huntington #4 Mine include a covered surface conveyor (page 3-9 of the MRP). The coal is transported from the mine via the covered conveyor where it is transferred into a chute and dropped into the coal storage area. From there, it is loaded by a front-end loader into trucks and hauled to the preparation plant at C. V. Spur. The conveyor profiles are shown on Plate 3-2b and chute profiles are shown on Plate 3-2a of the MRP.

The maintenance of the chute and conveyor, as outlined in Section 3.2.3.1 of the MRP, includes keeping the covers intact, cleaning up spills and build-up beneath return idlers, drainage controls to sediment ponds and normal lubrication, cleaning and replacement of parts.

Compliance

The maintenance and reclamation procedures utilize the best available technology and are designed to control and minimize diminution or degradation of the environment, damage to fish and wildlife and to prevent additional contributions of suspended solids to stream flow or runoff outside the permit area. The applicant complies with this section.

Stipulations

None.

UMC 817.181 Support Facilities and Utility Installations

Existing Environment and Applicant's Proposal

The applicant's existing facilities are shown on Plate 3-1 of the MRP, Surface Facilities Map. There are no plans for additional structures or facilities. The major facilities associated with this operation are: three portals; a fan; the conveyor/chute; the mine

building; supply trailer; substation; water tank; culinary water treatment plant; four bathhouses; and a guard trailer. The substation supplies power to the mine operation and is fenced and maintained per MSHA regulations.

As stated in Section 3.2.3.1 of the MRP, 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 as 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.

Compliance

The regulatory authority concurs that support facilities and utility installations are properly maintained to ensure adequate environmental protection. However, power line removal is not addressed in the MRP. The applicant will comply with this section when the following stipulation is met.

Stipulation 817.181-(1)-PGL

1. The applicant shall commit to the removal of power lines in the permit area. This removal must be included in the narrative of the MRP, the reclamation schedule and the bond estimate.

71190

BOND

Beaver Creek Coal Company
Huntington #4 Mine
ACT/015/004, Emery County, Utah

August 27, 1984

Reclamation Summary

A. Seal Portals	\$ 10,500.00
B. Remove Structures	24,084.46
C. Soil Placement	98,224.80
D. Seedbed Material Handling	5,642.16
E. Reseeding & Fertilizing (not including containerized stock)	8,750.00
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	\$213,768.42
10% Contingency	21,376.84
	<u>\$235,145.26</u>
	(1984 dollars)

1985 - \$251,088
1986 - \$268,112
1987 - \$286,290
1988 - \$305,700
1989 - \$326,427

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
\$120.05/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

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 Portals - 1 week	1 week
2. Remove Structures - 5 weeks	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.

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

Reclamation Cost Estimate

A. Seal Portals

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

TOTAL \$10,500.00

B. Remove Structures

Fan

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

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

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

SUBTOTAL \$1,293.18

Block Building & 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

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

Labor - 2 men x \$174/day x 2 days =	\$ 696.00
Hauling - 1 truck + operator x 16 hrs x \$89.27/hr =	1,428.32
Loader + operator x 4 hr x \$128.88 =	<u>515.52</u>
SUBTOTAL	\$2,639.84

Bathhouses

Labor - 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 =	<u>515.52</u>
SUB TOTAL	\$2,630.76

Lower 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 =	<u>515.52</u>
SUBTOTAL	\$1,925.68

Creek Water System

Labor - 2 men x \$174/day x 1 day =	\$348.00
Equipment (Hauling) - 1 truck + operator x 4 hrs x \$89.27/hr =	<u>357.08</u>
SUBTOTAL	\$705.08

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 =	<u>515.52</u>
SUBTOTAL	\$2,987.84

Clean-up

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 =	<u>515.52</u>
SUBTOTAL	\$2,621.68

TOTAL

\$24,084.46

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 =	<u>14,105.40</u>
SUBTOTAL	\$35,121.00

Upper Road (2.58 ac.)

Backhoe + operator x \$2,101.56/day x 20 days =	\$42,031.20
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Coal Storage Pad (2.47 ac)

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

Lower Pad (1.37 ac)

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

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

SUBTOTAL \$7,024.20

Drainfield Pad (.052 ac)

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

Cat + operator x \$1,410.54/days
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

E. Reseeding & Fertilizing (12.5 ac)

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

F. Mulching (12.5 ac)

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

H. Restoration of Natural Drainage

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

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 costs 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.

	<u>Pounds of PLS/ac</u> <u>(Broadcast or Hydroseed)</u> Permanent	Cost/lb PLS	Cost
<u>Grass and Forb Species</u>			
Fairway crested wheatgrass (<u>Agropyron cristatum</u>)	1	\$ 1.00	\$ 1.00
Bluebunch wheatgrass (<u>A. spicatum</u>)	5	\$ 7.50	\$ 37.50
Streambank wheatgrass (<u>A. riparium</u>)	4		
Slender wheatgrass (<u>A. trachycaulum</u>)	4	\$ 2.55	\$ 10.20
Indian ricegrass (<u>Oryzopsis hymenoides</u>)	2	\$ 8.15	\$ 16.30
Mountain brome (<u>Bromus marginatus</u>)	3	\$ 3.50	\$ 10.50
Cicer Milkvetch (<u>Astragalus cicer</u>)	4	\$ 4.20	\$ 16.80
Palmer penstemon (<u>Penstemon palmerii</u>)	3	\$35.00	\$105.00
Silky lupine (<u>Lupinus sericeus</u>)	<u>2</u>	<u>\$70.00</u>	<u>\$140.00</u>
TOTAL	28		\$337.30

<u>STRATIFIED SHRUBS</u>	<u>Pounds of PLS/ac</u> <u>(Broadcast or Hydroseed)</u>		<u>Cost/lb</u> <u>PLS</u>	<u>Cost</u>
	<u>Permanent</u>			
Curl-leaf mountain mahogany (<u>Cercocarpus ledifolius</u>)	.5		\$40.00	\$ 20.00
Utah serviceberry (<u>Amelanchier [utahensis]</u> <u>alnifolia</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 nauseosus</u> var. <u>albicaulis</u>)	.5		\$68.00	\$ 34.00
Snowberry (<u>Symphoricarpos oreophilus</u>)	.5		\$55.00	\$ 27.50
Antelope bitterbrush (<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
Grasses and Forbs		\$337.30		
Stratified Shrubs		\$124.67		
Relatively Low Growing Shrubs		\$107.75		
TOTAL		\$569.72		