

UTAH DIVISION OF OIL, GAS AND MINING  
STATE DECISION DOCUMENT AND  
TECHNICAL ANALYSIS

Canyon Fuel Company, LLC  
SUFCO Mine  
Pines Tract Revision  
ACT/041/002

June 22, 2000

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- \* Determination of Completeness
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- \* AVS Recommendation
- \* Letters of Concurrence
  - Memorandum of Agreement, dated May 30, 2000
  - Section 7 Consultation, FWS, dated April 25, 2000
  - BLM, R2P2 - Recommendation for Approval, dated June 1, 2000
  - BLM, Lease UTU-76195 Issuance, dated September 1, 1999
  - Pines Tract Projects Record of Decision
  - Forest Service Concurrence, dated June 21, 2000

File in:

Confidential

Shelf

Expandable

Refer to Record No. 0016 Date 06/22/2000

In C10410002 Recd. Outgoing

For additional information

## ADMINISTRATIVE OVERVIEW

Canyon Fuel Company, LLC  
SUFCO Mine  
Pines Tract Revision  
ACT/041/002

June 22, 2000

### PROPOSAL

Canyon Fuel Company, LLC proposes to add additional federal lease acreage to the existing SUFCO Mine permit. This additional area is known as the Pines Tract Lease (UTU-76195) and comprises 7,171.66 acres all of which will be mined using underground mining methods. The Pines Tract is contiguous to, and will be accessed through, the existing SUFCO Mine. No new surface facilities or disturbance is planned with the exception of a ventilation portal in Muddy Canyon which will disturb .017 acres.

### BACKGROUND

The SUFCO Mine, formerly known as the Convulsion Canyon Mine, is located approximately 30 miles east of Salina, Utah, with the surface facilities and access portals on U. S. Forest Service land in East Spring Canyon, within Section 12, Township 22 South, Range 4 East, Salt Lake Baseline and Meridian. The mine commenced operations in 1941, mining federally-owned coal. The original mine plan was submitted to the U. S. Geological Survey (USGS) and the Utah Division of Oil, Gas and Mining (DOG M) in 1977. Additional information was submitted, and the mine plan was approved by DOGM pursuant to the Utah Mined Land Reclamation Act on September 14, 1977. The USGS approved the plan on February 3, 1978.

In October of 1979, SUFCO submitted additional information to comply with the regulation of the newly implemented Surface Mining Control and Reclamation Act of 1977. A joint OSM/DOG M review was conducted and the mine plan application was declared complete on July 18, 1983. A permanent program permit was issued to the Coastal States Energy Company on May 19, 1987, consisting of five federal leases and one fee lease for a total of 7,355 acres. The need for a waste rock disposal site was soon apparent. Coastal States applied for a disposal site located on a 40-acre tract of private land located approximately 6 miles west of the mine portals. This waste rock site was approved on August 26, 1988, bringing the revised permit area to a total of 7395 acres.

On July 3, 1989, application was made to add another federal lease known as the Quitchupah Lease to the permit area. Approval for the new lease was obtained and a revised permit was issued effective December 21, 1989. This new lease brought the total permit area to 17,301 acres. On December 12, 1996 the permit was transferred to Canyon Fuel Company, LLC.

Pines Tract Lease Addition  
ACT/041/002-SR99  
June 22, 2000  
Page 2

A lease modification to the Quitchupah lease (150 acres) was submitted in January 1999. This was approved as an incidental boundary change and added to the existing permit area on October 20, 1999.

Canyon Fuel Company, LLC acquired the Pines Tract lease through a lease by application (LBA) process. An EIS was completed for the Pines Tract lease on January 28, 1999 and the lease was issued to Canyon Fuel Company, LLC on September 1, 1999.

### ANALYSIS

The Canyon Fuel proposal to permit the Pines Tract Lease was submitted on July 16, 1999. After an initial review Canyon Fuel Company submitted additional information that satisfied the Division's completeness requirements. The application was determined to be administratively complete on November 10, 1999. An extensive technical review was initiated which also involved coordination with other state and federal agencies. Due to concern about some archeological sites on the surface of the lease an Memorandum of Agreement (MOA) was developed between the USDA-Manti LaSal National Forest, the Utah State Historic Preservation Officer, the Canyon Fuel Company, LLC, the Utah Division of Oil, Gas and Mining and the Advisory Council on Historic Preservation (signed on May 30, 2000). Compliance with the MOA will ensure that the archeological sites are adequately protected.

Extraction of the coal will primarily be by longwall mining methods with a maximum estimated production of approximately 8.0 million tons per year. The addition of this lease to the permit area will extend the life of the SUFCO Mine approximately 7 years. The entire permit area would be 24,632 acres.

Public notice of this permitting action was published in the Emery County Progress on November 23, 30, December 7, 14, 1999. The thirty day comment period proceeded with no comments received.

### RECOMMENDATION

This recommendation is based on the complete permit application package (PAP), the Technical Analysis (TA) conducted by the Division, the Cumulative Hydrologic Impact Assessment CHIA also prepared by the Division, and the administrative record which includes the archeological MOA. Canyon Fuel Company, LLC has demonstrated that mining within the permit boundary can be done in conformance with the Surface Mining Control and Reclamation Act, and the corresponding Utah Act and performance standards. The 510 (C) report on the Applicant Violator System for this mine has an issue recommendation.

Pines Tract Lease Addition  
ACT/041/002-SR99  
June 22, 2000  
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It is recommended that approval be given for the addition of the Pines Tract to the SUFCO mine with conditions as outlined in Attachment A to the Permit.



State of Utah  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

**COPY**

Michael O. Leavitt  
Governor

Kathleen Clarke  
Executive Director

Lowell P. Braxton  
Division Director

1594 West North Temple, Suite 1210  
PO Box 145801  
Salt Lake City, Utah 84114-5801  
801-538-5340  
801-359-3940 (Fax)  
801-538-7223 (TDD)

June 22, 2000

**Revised Letter**

Ken May, General Manager  
Canyon Fuel Company, LLC  
SUFCO Mine  
397 South 800 West  
Salina, Utah 84654

Re: State Permit for the Pines Tract Lease Addition, Canyon Fuel Company, LLC, SUFCO Mine, ACT/041/002-SR99, Outgoing File

*Ray*  
Dear Mr. May

The Division has found that Canyon Fuel Company, LLC has met all of the requirements for permitting the Pines Tract Lease as part of the SUFCO mine. The Decision Document (including the state permit for the Pines Tract Lease Addition with two conditions) is enclosed.

The two conditions of the permit include:

- 1) Canyon Fuel Company, LLC must submit water quality data electronically to the Division's water quality database by the fourth quarter of 2000 (December 29, 2000) and
- 2) Underground coal mining and reclamation activities in federal coal lease UTU-76195 may not commence until a mining plan approval is authorized by the Secretary of the Interior.

If you have any questions, please call me.

Sincerely,

*Lowell P. Braxton*  
Lowell P. Braxton  
Director

tm  
Enclosure

cc: Joe Wilcox, OSM-WRCC  
Elaine Zieroth, Manti La Sal National Forest  
Richard Manus, Bureau of Land Management, PFO  
Price Field Office

P:\GROUPS\COAL\WP\041002.CON\FINAL\pemritltr.wpd

File in: *0410002 2000 Outgoing*  
Refer to:  
 Confidential  
 Shelf  
 Expandable  
Date *06/22/00* for additional information

## PERMITTING CHRONOLOGY

Canyon Fuel Company, LLC  
SUFCO Mine  
Pines Tract Revision  
ACT/041/002  
SUFCO MINE

June 22, 2000

July 16, 1999	Pines Tract Lease Addition to the SUFCO Mine is submitted by Canyon Fuel Company, LLC.
September 16, 1999	Initial Completeness Review sent to Canyon Fuel Company, LLC.
November 10, 1999	PAP determined administratively complete.
November 23, 1999	Notice of Completeness about the Pines Tract Lease Addition sent to federal, state, and local agencies.
November 23, 30 December 7 and 14, 1999	Public Notice regarding the Pines Tract Lease Addition being added to the current SUFCO permit.
January 14, 2000	No comments received as a result of the public notice.
February 10, 2000	Technical review sent to Canyon Fuel Company, LLC.
April 25, 2000	Section 7 Consultation of the Fish and Wildlife Service completed for the Pines Tract Lease Addition.
May 30, 2000	Memorandum of Agreement with Canyon Fuel Company, LLC, State Historic Preservation Office, Manti La Sal National Forest, and Division of Oil, Gas, and Mining for Historic and Cultural Resources Associated with the Pines Lease Tract and the 150-acre addition to the Quitchupah Lease.
June 1, 2000	Recommendation for Approval of the R2P2 from the Bureau of Land Management.
June 21, 2000	Forest Service Concurrence
June 22, 2000	State permit issued with two conditions.

MINE PLAN INFORMATION

Canyon Fuel Company, LLC  
SUFCO Mine  
Pines Tract Revision  
ACT/041/002

Mine Name: SUFCO Mine State ID: ACT/041/002

Permittee: Canyon Fuel Company, LLC County: Sevier & Emery

Contact Person(s): Ken May, Telephone: (435) 286-4880  
Position: General Manager

New/Existing: Both Mining Method: Longwall with continuous miner development

Federal Lease No(s): U-28297, U-062453, U-0149084, SL-062583, U-47080, U-63214, UTU-76195

State Lease No(s): none

Other Leases (identify): Canyon Fuel Company, LLC Fee

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>16768.26</u>	<u>7171.66</u>	<u>23939.92</u>
State	<u>0</u>	<u>0</u>	<u>680</u>
Private	<u>680</u>	<u>0</u>	<u>13.03 *</u>
Other	<u>13.03*</u>	<u>7171.66</u>	<u>24632.95</u>
TOTAL	<u>17461.29</u>	<u>7171.66</u>	<u>24632.95</u>

\* U. S. Forest Service Special use permit for surface facilities.

Coal Ownership (acres):

Federal	<u>16768.26</u>	<u>7171.66</u>	<u>23939.92</u>
State	<u>0</u>	<u>0</u>	<u>680</u>
Private	<u>680</u>	<u>0</u>	<u>680</u>
Other	<u>13.03*</u>	<u>7171.66</u>	<u>24619.92</u>
TOTAL	<u>17448.26</u>	<u>7171.66</u>	<u>24619.92</u>

Disturbed Acres 70.399 .017 70.416

Minable Coal (tons)  
| 77.3 53.6 130.9

Mine Plan Information  
ACT/041/002  
Page 2

<u>Recoverable Reserve Data</u>	<u>Name</u>	<u>Thickness</u>	<u>Depth</u>
Seam	<u>Upper Hiawatha</u>	<u>9' - 18'</u>	<u>600' - 1800'</u>

Mine Life: 1941-2016

Average Annual Production: 8 Million Tons

Date Projected Annual Rate Reached: 2000

## FINDINGS

Canyon Fuel Company, LLC  
Pine Tract Lease Revision  
SUFCO Mine  
ACT/041/002

June 22, 2000

1. The permit application for the extraction of coal and the associated ventilation portal for the Pines Tract Revision to the SUFCO Mine is accurate and complete and all requirements of the Surface Mining Control and Reclamation Act, and the approved Utah State Program (the "Act") are in compliance. See Technical Analysis dated May 30, 2000 (R645-300-133.100)
2. The applicant proposes acceptable practices for the reclamation of disturbed lands. The Division has determined that reclamation, as required by the Act can be feasibly accomplished following the approved mining and reclamation plan. (R645-300-133.710)
3. An assessment of the probable cumulative impacts of all anticipated coal mining and reclamation activities in the general area on the hydrologic balance has been conducted by the Division and no significant impacts were identified. See CHIA dated June 14, 2000. The Mining and Reclamation Plan (MRP) proposed under the revised application has been designed to prevent damage to the hydrologic balance in the permit area and in associated off-site area (R645-300-133.400 and UCA 40-10-11 (2)(c)).
4. The proposed lands to be included within the permit area are:
  - a. Not included within an area designated unsuitable for underground coal mining operation (R645-300-133.220);
  - b. not within an area under study for designated land unsuitable for underground coal mining operations (R645-300-133.210);
  - c. not on any lands subject to the prohibitions or limitation of 30 CFR 761.11 {a} (national parks, etc), 761.11 {f} (public buildings, etc.) and 761.11 {g} (cemeteries);
  - d. not within 100 feet of a public road except at the location where the public road accesses the property (R645-300-133.220); and
  - e. not within 300 feet of any occupied dwelling (R645-300-133.220).
5. The operation would not affect the continued existence of any threatened or

Findings

ACT/041/002-SR99

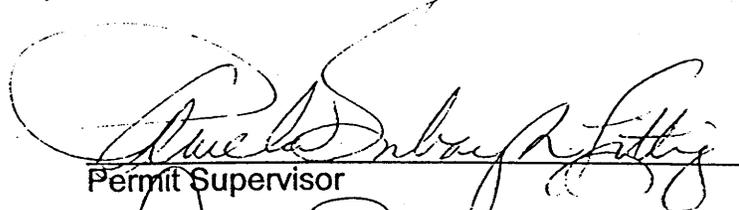
Page 2

endangered species or result in the destruction or adverse modification of their critical habitats as determined under the Endangered Species Act of 1973. See April 25, 2000 Section 7 Consultation letter from U. S. Fish and Wildlife Service. (16 USC 1531 et seq.) (R645-300-133.500)

6. The Division's issuance of a permit is in compliance with the National Historic Preservation Act and implementing regulations (36 CFR 800). See MOA signed by State Historic Preservation Officer, dated May 30, 2000. (R645-300-133.600)
7. The applicant has the legal right to enter and complete mining activities in the Pines Tract area through a coal lease issued by the Bureau of Land Management. See letter from the BLM dated September 1, 1999. (R645-300-133.300)
8. A 510 (c) report has been run on the Applicant Violator System (AVS), which shows that: prior violations of applicable laws and regulations have been corrected; neither Canyon Fuel Company, LLC or any affiliated company, are delinquent in payment of fees for the Abandoned Mine Reclamation Fund; and the applicant does not control and has not controlled mining operations with 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. See attached 510 (c) report dated June 15, 2000). (R645-300-133.730)
9. Underground mining operations to be performed under the permit will not be inconsistent with other operations anticipated to be performed in areas adjacent to the proposed permit area.
10. Canyon Fuel Company, LLC has posted a surety bond for the SUFCO Mine in the amount of \$3,988,000. (R645-300-134)
11. No lands designated as prime farmlands or alluvial valley floors occur on the permit area. (R645-302-313.100 and R645-302-321.100)
12. The proposed postmining land-use of the permit area is the same as the pre-mining land use and has been approved by the Division and the surface land management agency the Forest Service. See Forest Service concurrence letter dated June 22, 2000.
13. The Division has made all specific approvals required by the Act, the Cooperative Agreement, and the Federal Lands Program.
14. All procedures for public participation required by the Act, and the approved Utah State Program are in compliance. The public advertisement was noticed in the

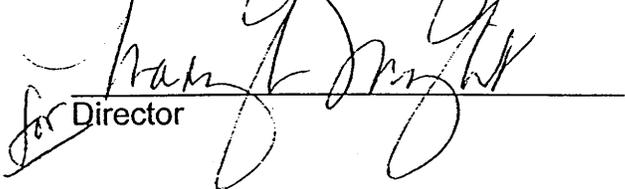
comments were received. (R645-300-120)

- 15. All existing structures that will be used in conjunction with the SUFCO mine are in compliance with the performance standards of R645-301 and R645-302. Addition of the Pines Tract lease will not alter or affect the use of existing structures. (R645-300-133.720)

  
\_\_\_\_\_  
Permit Supervisor

  
\_\_\_\_\_  
Permit Supervisor

  
\_\_\_\_\_  
Associate Director of Mining

  
for Director

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING  
1594 West North Temple  
Box 145801  
Salt Lake City, Utah 84114-5801  
(801) 538-5340

This permit, ACT/041/002, is issued for the state of Utah by the Utah Division of Oil, Gas and Mining (DOGM) to:

**Canyon Fuel Company, LLC**  
**6955 South Union Park Center, Suite 540**  
**Midvale, Utah 84047**  
**(801) 596-7111**

for the SUFCO Mine (previously the Convulsion Canyon Mine.) Canyon Fuel Company, LLC is the lessee of federal, state and fee-owned property. A performance bond is filed with the DOGM in the amount of \$3,988,000.00, payable to the state of Utah, Division of Oil, Gas and Mining and the Office of Surface Mining Reclamation and Enforcement (OSMRE). DOGM must receive a copy of this permit signed and dated by the permittee.

- Sec. 1 STATUTES AND REGULATIONS - This permit is issued pursuant to the Utah Coal Mining and Reclamation Act of 1979, Utah Code Annotated (UCA) 40-10-1 et seq, hereafter referred to as the Act.
- Sec. 2 PERMIT AREA - The permittee is authorized to conduct underground coal mining and reclamation activities on the following described lands within the permit area at the SUFCO Mine situated in the state of Utah, Sevier and Emery Counties, and located:

Township 20 South, Range 5 East, SLBM

Section 35: S1/2NE1/4, SE1/4NW1/4, NE1/4SW1/4, S1/2SW1/4, SE1/4  
Section 36: W1/2SW1/4, SE1/4SW1/4

Township 21 South, Range 4 East, SLBM

Section 12: E1/2SE1/4  
Section 13: E1/2NE1/4, S1/2  
Section 14: E1/2SW1/4, SE1/4  
Section 23: E1/2, E1/2W1/2  
Section 24: All  
Section 25: All  
Section 36: All

Township 21 South, Range 5 East, SLBM

Section 1: lots 3-4, S1/2SW1/4, SW1/4SE1/4  
Section 2: lots 1-4, S1/2S1/2  
Section 10: E1/2, SE1/4NW1/4, E1/2SW1/4, E1/2E1/2SW1/4SW1/4,  
E1/2E1/2NW1/4SW1/4, E1/2 E1/2SW1/4NW1/4  
Section 11  
thru 24: All  
Section 25: N1/2, N1/2S1/2  
Section 26: N1/2, NE1/4SW1/4, E1/2NW1/4SW1/4, SE1/4,  
W1/2NW1/4SW1/4, SW1/4SW1/4  
Section 27  
thru 34: All  
Section 35: Lots 1, 2, W1/2NW1/4, N1/2SW1/4

Township 21 South, Range 6 East, SLBM

Section 19: lots 3-4, E1/2SW1/4  
Section 30: lots 1-3, E1/2NW1/4, NE1/4SW1/4

Township 22 South, Range 4 East, SLBM

Section 1: All  
Section 12: N1/2, N1/2SE1/4, portions of NE1/4SW1/4 and S1/2  
Section 18: NW1/4NE1/4

Township 22 South, Range 5 East, SLBM

- Section 3: Lots 1-4, S1/2N1/2, NE1/4SW1/4, S1/2SW1/4, N1/2SE1/4, SW1/4SE1/4
- Section 4: Lots 1, 2, S1/2NE1/4, SE1/4SE1/4, W1/2W1/2
- Section 5: All
- Section 6: All
- Section 7: All
- Section 8: All
- Section 9: NE1/4NE1/4
- Section 10: W1/2NE1/4, NW1/4, N1/2SW1/4
- Section 17: NE1/4, N1/2NW1/4
- Section 18: N1/2

This legal description is for the permit area of the SUFCO Mine included in the mining and reclamation plan on file at the Division. The permittee is authorized to conduct underground coal mining and reclamation activities on the foregoing described property subject to the conditions of the leases, including all conditions and all other applicable conditions, laws and regulations.

- Sec. 3 COMPLIANCE - The permittee will comply with the terms and conditions of the permit, all applicable performance standards and requirements of the State Program.
- Sec. 4 PERMIT TERM - This permit expires on May 20, 2002.
- Sec. 5 ASSIGNMENT OF PERMIT RIGHTS - The permit rights may not be transferred, assigned or sold without the approval of the Director, DOGM. Transfer, assignment or sale of permit rights must be done in accordance with applicable regulations, including but not limited to 30 CFR 740.13(e) and R645-303.
- Sec. 6 RIGHT OF ENTRY - The permittee shall allow the authorized representative of the DOGM, including but not limited to inspectors, and representatives of OSMRE, without advance notice or a search warrant, upon presentation of appropriate credentials, and without delay to:
  - A. have the rights of entry provided for in 30 CFR 840.12, R645-400-110, 30 CFR 842.13 and R645-400-220; and,
  - B. be accompanied by private persons for the purpose of conducting an inspection in accordance with R645-400-100 and 30 CFR 842, when the inspection is in response to an alleged violation reported by the

private person.

- Sec. 7      SCOPE OF OPERATIONS - The permittee shall conduct underground coal mining and reclamation activities only on those lands specifically designated as within the permit area on the maps submitted in the mining and reclamation plan and permit application and approved for the term of the permit and which are subject to the performance bond.
- Sec. 8      ENVIRONMENTAL IMPACTS - The permittee shall minimize any adverse impact to the environment or public health and safety through but not limited to:
- A.      accelerated monitoring to determine the nature and extent of noncompliance and the results of the noncompliance;
  - B.      immediate implementation of measures necessary to comply; and
  - C.      warning, as soon as possible after learning of such noncompliance, any person whose health and safety is in imminent danger due to the noncompliance.
- Sec. 9      DISPOSAL OF POLLUTANTS - The permittee shall dispose of solids, sludge, filter backwash or pollutants in the course of treatment or control of waters or emissions to the air in the manner required by the approved Utah State Program and the Federal Lands Program which prevents violation of any applicable state or federal law.
- Sec. 10     CONDUCT OF OPERATIONS - The permittee shall conduct its operations:
- A.      in accordance with the terms of the permit to prevent significant, imminent environmental harm to the health and safety of the public; and
  - B.      utilizing methods specified as conditions of the permit by DOGM in approving alternative methods of compliance with the performance standards of the Act, the approved Utah State Program and the Federal Lands Program.
- Sec. 11     EXISTING STRUCTURES - As applicable, the permittee will comply with R645-301 and R645-302 for compliance, modification, or abandonment of existing structures.

- Sec. 12 RECLAMATION FEE PAYMENT - The operator shall pay all reclamation fees required by 30 CFR part 870 for coal produced under the permit, for sale, transfer or use.
- Sec. 13 AUTHORIZED AGENT - The permittee shall provide the names, addresses and telephone numbers of persons responsible for operations under the permit to whom notices and orders are to be delivered.
- Sec. 14 COMPLIANCE WITH OTHER LAWS - The permittee shall comply with the provisions of the Water Pollution Control Act (33 USC 1151 et seq.) and the Clean Air Act (42 USC 7401 et seq), UCA 26-11-1 et seq, and UCA 26-13-1 et seq.
- Sec. 15 PERMIT RENEWAL - Upon expiration, this permit may be renewed for areas within the boundaries of the existing permit in accordance with the Act, the approved Utah State Program and the Federal Lands Program.
- Sec. 16 CULTURAL RESOURCES - If during the course of mining operations, previously unidentified cultural resources are discovered, the permittee shall ensure that the site(s) is not disturbed and shall notify DOGM. DOGM, after coordination with OSMRE, shall inform the permittee of necessary actions required. The permittee shall implement the mitigation measures required by DOGM within the time frame specified by DOGM.
- Sec. 17 APPEALS - The permittee shall have the right to appeal as provided for under R645-300.
- Sec. 18 SPECIAL CONDITIONS - There are special conditions associated with this permitting action as described in Attachment A.

The above conditions (Secs. 1-18) are also imposed upon the permittee's agents and employees. The failure or refusal of any of these persons to comply with these conditions shall be deemed a failure of the permittee to comply with the terms of this permit and the lease. The permittee shall require his agents, contractors and subcontractors involved in activities concerning this permit to include these conditions in the contracts between and among them. These conditions may be revised or amended, in writing, by the mutual consent of DOGM and the permittee at any time to adjust to changed conditions or to correct an oversight. DOGM may amend these conditions at any time without the consent of the permittee in order to make them consistent with any new federal or state statutes and any new regulations.

Permit  
ACT/041/002  
June 22, 2000  
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THE STATE OF UTAH

By: Lawrence P. Brant  
Director, Division of Oil, Gas & Mining

Date: 6-22-00

I certify that I have read, understand and accept the requirements of this permit and any special conditions attached.

\_\_\_\_\_  
Authorized Representative of the Permittee

Date: \_\_\_\_\_

Permit  
ACT/041/002  
June 22, 2000  
Page 7

### ATTACHMENT A

- 1) Canyon Fuel Company, LLC must submit water quality data electronically to the Division's water quality database by the fourth quarter of 2000 (December 29, 2000).
  
- 2) Underground coal mining and reclamation activities in federal coal lease UTU-76195 may not commence until a mining plan approval is authorized by the Secretary of the Interior.



United States  
Department of  
Agriculture

Forest  
Service

Manti-La Sal  
National Forest

Supervisor's Office  
599 West Price River Drive  
Price, UT 84501  
Phone # (435) 637-2817  
Fax # (435) 637-4940

File Code: 2820-4

Date: June 21, 2000

Mary Ann Wright  
Utah Department of Natural Resources  
Division of Oil, Gas and Mining  
1594 West North Temple, Suite 1210  
P.O. Box 145801  
Salt Lake City, Utah 84114-5801

RE: Pines Lease (UTU-76195) Addition, Canyon Fuel Company, LLC, SUFCO Mine,  
ACT/041/002-SR99D

Dear Mary Ann:

We have reviewed Canyon Fuel Company's fourth submittal regarding the subject Mining and Reclamation Plan and Permit Application Package. We have no additional comments. The mine plan is consistent with the Final Environmental Impact Statement for the Pines Tract Project, Forest Service consent decision for leasing the Pines Tract, UTU-76195, and lease stipulations.

The Forest Service hereby consents and concurs to approval of the Mining and Reclamation Plan and modification of the mine permit for the Addition/Modification by the Department of Interior.

If you have any questions or need additional information, contact Carter Reed or Aaron Howe at the Forest Supervisor's Office in Price, Utah.

Sincerely,

For  
ELAINE ZIEROTH  
Forest Supervisor

cc:

D-2/3

Sally Wisely, BLM Utah State Director  
Dick Manus, Field Manager, BLM Price Field Office



CONTENTS

SUFCO Mine  
Federal Lease UTU-76195  
Mining Plan Decision Document

1. Memoranda
  - a. Memorandum from the Acting Director, Office of Surface Mining, to the Assistant Secretary, Land and Minerals Management
  - b. Memorandum from the Regional Director, Western Regional Coordinating Center, to the Acting Director, Office of Surface Mining
2. Location Maps
3. Chronology
4. National Environmental Policy Act Compliance Documents
5. Letters of Concurrence and Consultation:
  - a. Bureau of Land Management
  - b. U.S. Fish and Wildlife Service
  - c. State Historic Preservation Office
  - d. U.S. Forest Service
6. Mining Plan Approval Document
7. State Findings and Decision

State of Utah, Department of Natural Resources,  
Division of Oil, Gas, and Mining (DOGM) Pines Track  
Significant Revision, Permit No. ACT/041/002
8. Notifications



# United States Department of the Interior

OFFICE OF SURFACE MINING  
Reclamation and Enforcement  
1999 Broadway, Suite 3320  
Denver, Colorado 80202-5733

IN REPLY REFER TO:

July 6, 2000

UT-0026

## MEMORANDUM

TO: Acting Director, Office of Surface Mining

FROM: Regional Director, Western Regional Coordinating Center

SUBJECT: Recommendation for Approval Without Special Conditions of the Mining Plan Modification for Federal Lease UTU-76195 at Canyon Fuel Company, LLC's SUFCO Mine located in Sevier County, Utah

### I. Recommendation

I recommend approval without special conditions of a mining plan modification for Federal lease UTU-76195 at the SUFCO Mine. This is a mining plan modification for a underground coal mine being permitted under the Federal lands program, the approved Utah State program, and the cooperative agreement.

My recommendation to approve the mining plan modification is based on:

- (1) Canyon Fuel Company, LLC's (CFC) complete permit application package (PAP),
- (2) compliance with the National Environmental Policy Act of 1969,
- (3) documentation assuring compliance with applicable requirements of other Federal laws, regulations, and executive orders,
- (4) comments and recommendations or concurrence of other Federal agencies, and the public,
- (5) the findings and recommendations of the Bureau of Land Management regarding the resource recovery and protection plan, the Federal lease requirements, and the Mineral Leasing Act, and
- (6) the findings and recommendations of the State of Utah, Department of Natural Resources, Division of

Oil, Gas, and Mining (DOGM) regarding the PAP and the Utah State program.

If you concur with this recommendation, please sign the attached memorandum to the Assistant Secretary, Land and Minerals Management.

## II. Background

The SUFCO underground coal mine is located in Sevier County, Utah. The mine has been in operation since 1941. The life of the currently approved mining operations within the approved permit area is estimated to be 9 years. The mining operations use continuous miner and longwall mining methods. The average annual production rate is 6.5 million tons per year from the Upper Hiawatha coal seam, but the maximum production rate could reach the approved 8.0 million tons per year.

The mining plan for Federal leases U-28297, U-062453, U-47080, U-0149084, SL-062583 at the SUFCO Mine were initially approved on May 19, 1987. Since that approval a subsequent mining plan modification was approved on December 18, 1989, for Federal lease U-63214.

Since the last mining plan modification, 150 acres have been incorporated into the approved mining plan area. This area did not require Secretarial approval because pursuant to 30 CFR 746.18(d)(3) the permit revision did not constitute a mining plan modification. Specifically this area is located at:

T.21.S, R.5E., SLM, Utah, Section  
10:SE1/4NW1/4,E1/2SW1/4,E1/2E1/2SW1/4SW1/4,  
E1/2E1/2NW1/4,E1/2E 1/2SW1/4NW1/4

of the Federal Coal Lease U-63214, and is included within the approved mining plan area depicted on the mining plan area map of this mining plan decision document and Attachment A of the mining plan approval document.

The State's permit area covers 17,461.3 acres.

About 70.4 surface acres are disturbed within the State's permit area.

A total of 16,768.3 acres of Federal coal and Federal surface land exist in the currently approved mining plan area.

A total of 77.3 million tons of Federal coal exist in the currently approved mining plan area.

The postmining land use within the currently approved mining plan area is timber, grazing, and wildlife.

### III. The Proposed Action

This mining plan action consists of a mining plan modification for Federal lease UTU-76195. Specifically, the mining plan action proposed by CFC consists of mining all of the 7,171.7 of the acres Pine Tract Lease (UTU-76195) using longwall mining methods. The Pines Tract is contiguous to, and will be accessed through the existing SUFCO Mine.

The following is the legal description for the Pines Coal Lease Tract (UTU-76195):

Township 20 South, Range 5 East, Salt Lake Baseline and Meridian (SLM)  
Section 35,  
S1/2NE1/4, SE1/4NW1/4, NE1/4SW1/4, S1/2SW1/4, SE1/4  
Section 36, W1/2SW1/4, SE1/4SW1/4  
Township 21 South, Range 5 East, SML  
Section 1, lots 3-4, S1/2SW1/4, SW1/4SE1/4  
Section 2, lots 1-4, S1/2S1/2  
Section 10, E1/2  
Sections 11-14 all  
Section 15, E1/2  
Section 22, E1/2  
Section 23-24 all  
Section 25, N1/2, N1/2S1/2  
Section 26, N1/2, NE1/4SW1/4, E1/2NW1/4SW1/4, SE1/4  
Township 21 South, Range 6 East, SLM  
Section 19, lots 3-4, E1/2SW1/4  
Section 30, lots 1-3, E1/2NW1/4, NE1/4SW1/4.

The life of the mining operation is expected to increase by 7 years for a total of 16 years under Utah Permit No. ACT/041/002 and this proposed mining plan modification.

The proposed average annual production rate would not change.

The approved State permit area would increase by 7,171.7 acres from its present 17,461.3 acres to a new total of 24,633.0 acres.

Surface disturbance within the approved State permit area will increase by 0.02 acres to a total of 70.42 acres.

Approval of this mining plan modification will increase the number of acres of Federal coal and Federal surface lands in the approved mining plan area by 7,171.7 acres

to a new total of 23,939.9 as shown on the map included with this decision document.

Total Federal recoverable coal within the current mining plan approval area would increase by 53.6 million tons in Federal lease UTU-76195 for a new total of 130.9 million tons.

The postmining land use within the permit and mining plan area will not change.

The DOGM has attached two new permit stipulations to this permitting action and has carried-over no other stipulations. These stipulations are described in the State Decision Document section of this decision document.

Canyon Fuel Company, LLC's proposal does not require any special conditions to comply with Federal laws.

#### IV. Review Process

The DOGM reviewed the PAP under the Utah State program, the Federal lands program (30 CFR Chapter VII, Subchapter D), and the Utah cooperative agreement (30 CFR §30 CFR 944.30). Pursuant to the Utah State program and the cooperative agreement, DOGM approved the permit revision on June 22, 2000.

The Office of Surface Mining Reclamation and Enforcement (OSM) has consulted with other Federal agencies for compliance with the requirements of applicable Federal laws. Their comments and/or concurrences are included in the decision document.

The Bureau of Land Management (BLM) indicated in a letter dated June 1, 2000, that the proposal was in compliance with the Mineral Leasing Act of 1920, as amended, and 43 CFR Part 3480.

In accordance with the September 24, 1996, Biological Opinion and Conference Report from the U.S. Fish and Wildlife Service (USFWS) to OSM, the DOGM has sought comments from the USFWS on threatened and endangered species and has incorporated the necessary reporting requirements into the findings. As stated in a letter dated April 25, 2000, the USFWS and the DOGM did not develop or recommend any species-specific protective measures.

OSM concurs with the Memorandum of Agreement (MOU) signed in May 2000, by the State Historic Preservation Officer

(SHPO), DOGM, and United States Forest Service (USFS). The MOU is intended to protect cultural resources specific to the SUFCO mine.

The United States Forest Service (USFS) concurred with the proposed mining plan modification with respect to Federal surface lands within the proposed mining plan area in a letter dated June 21, 2000.

The proposed area of mining plan approval is not unsuitable for mining according to section 522(b) of SMCRA.

The mining plan modification area is located on Federal lands west of the 100th meridian within the boundaries of the Manti-La Sal National Forest. However, the Secretary of Agriculture finds that these lands do not have significant forest cover and that this underground coal mining operation complies with the Multiple-Use Sustained Yield Act of 1960 (16 U.S.C. §§ 528-531), the Federal Coal Leasing Amendments Act of 1976 (Pub. L. 94-377, 30 U.S.C. 201 et seq.), the National Forest Management Act of 1976 (90 Stat. 2949), and the provisions of SMCRA. Based on OSM's analysis and on the concurrence of the USDA Forest Service in its letter dated USFS June 21, 2000, the SUFCO Mine will not be incompatible with significant recreational, timber, economic, or other values of the Manti-La Sal National Forest.

I have determined that approval of this mining plan modification will not have a significant impact on the quality of the human environment. The environmental analysis prepared by BLM and USFS, with OSM as cooperating agency, for the Pines Tract Project Final EIS and other environmental documents referenced in the Finding of No Significant Impact (FONSI), describe the impacts that may result from approval of this mining plan modification and its alternatives. The FONSI and supporting environmental analyses are included in this decision document.

OSM's review of the proposed action did not identify any issues that required resolution via the addition of special conditions to the mining plan approval.

Publication of four consecutive weekly notices in the Emery County Progress, and the Richfield Reaper newspapers notified the public of the availability of the administratively complete PAP for review. The last publication date was December 15, 1999. No public

comments on the PAP were received after the public notice was published.

The DOGM determined that a bond for \$3,988,000 is adequate for the Utah Permit No. ACT/041/002 associated with this mining plan modification. The bond is payable to the State and the United States.

A chronology of events related to the processing of the PAP and this mining plan decision is included with the decision document. The information in the PAP, and other information identified in the decision document, has been reviewed by DOGM staff in coordination with the OSM Federal Lands State Coordinator.

OSM's administrative record of this mining plan modification consists of the following:

- the PAP submitted by CFC and updated through March 6, 2000,
- DOGM's Technical Analysis of the Pines Tract Significant Revision (ACT/041/002-SR99D-4) dated May 30, 2000, provided to OSM under the cooperative agreement,
- the Environmental Assessment entitled Pines Tract Project Final EIS,
- the FONSI of the proposed action and alternatives prepared by OSM,
- other documents prepared by DOGM, and
- correspondence developed during the review of the PAP.

Attachments



# United States Department of the Interior

## OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT

Washington, D.C. 20240

**JUL 18 2000**

### MEMORANDUM

To: Sylvia Baca, Assistant Secretary, Land and Minerals Management

From: *Kathrine L. Henry*  
Kathrine L. Henry, Acting Director, Office of Surface Mining

Subject: Recommendation for Approval of the Mining Plan Modification for Federal Lease UTU-76195 at Canyon Fuel Company, LLC's SUFCO Mine located in Sevier County, Utah

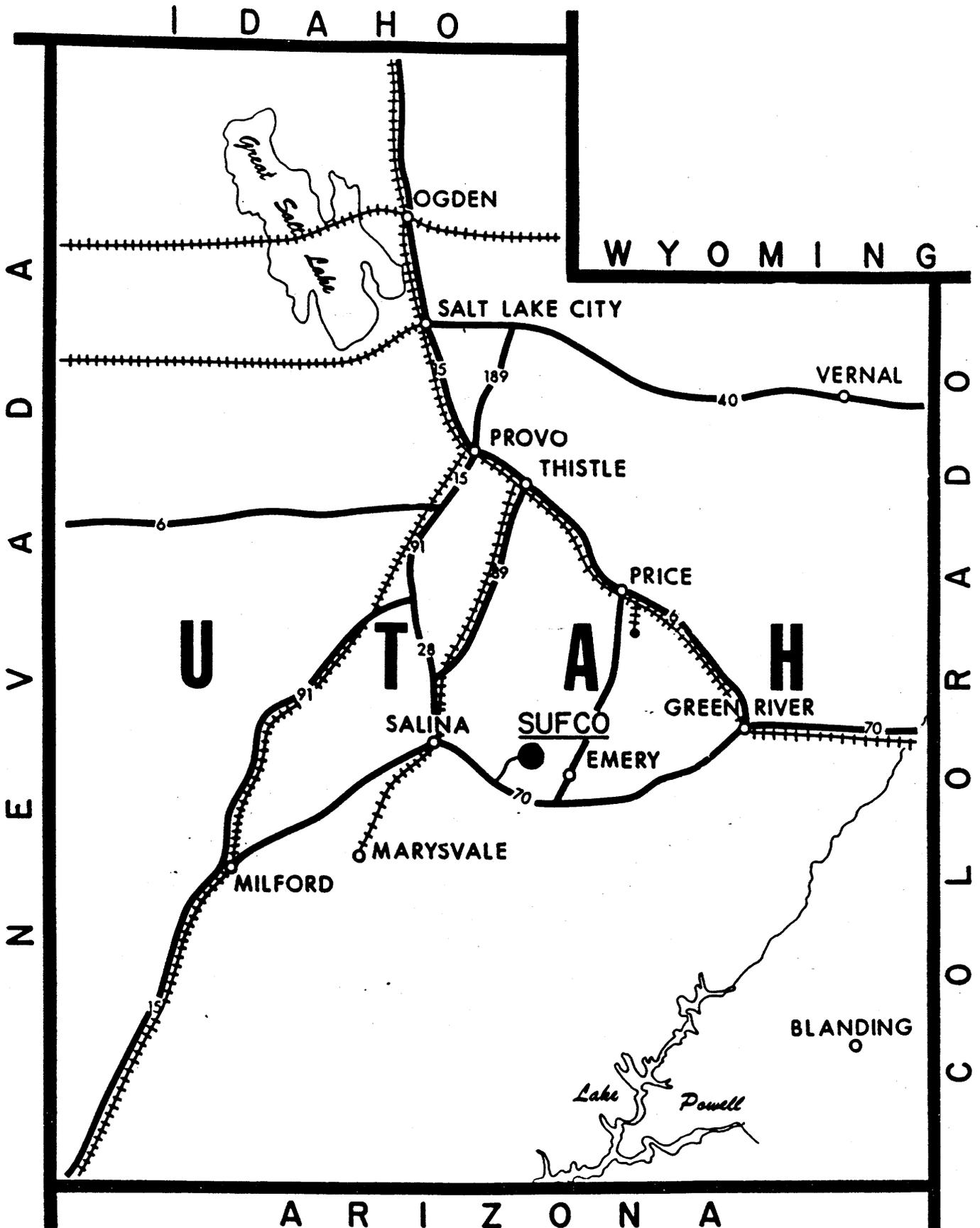
I recommend approval without special conditions of this mining plan modification. My recommendation is based on:

- (1) Canyon Fuel Company, LLC's complete permit application package (PAP),
- (2) compliance with the National Environmental Policy Act of 1969,
- (3) documentation assuring compliance with applicable requirements of other Federal laws, regulations, and executive orders,
- (4) comments and recommendations or concurrence of other Federal agencies, and the public,
- (5) the findings and recommendations of the Bureau of Land Management regarding the resource recovery and protection plan, the Federal lease requirements, and the Mineral Leasing Act, and
- (6) the findings and recommendations of the State of Utah, Department of Natural Resources, Division of Oil, Gas, and Mining regarding the PAP and the Utah State program.

The Secretary may approve a Mining Plan for Federal leases under 30 U.S.C. 207(c) and 1273(c). In accordance with 30 CFR Chapter VII, Subchapter D, I find that the proposed mining plan modification will be in compliance with all applicable laws and regulations. The decision document for the proposed mining plan action is attached.

Attachment

● GENERAL LOCATION MAP ●  
SUFACO MINE AREA



## CHRONOLOGY

SUFCO Mine  
Federal Lease UTU-76195  
Mining Plan Decision Document

<u>DATE</u>	<u>EVENT</u>
July 16, 1999	Canyon Fuel Company, LLC(CFC) submitted the permit application package (PAP) under the approved Utah State Program to the State of Utah, Department of Natural Resources, Division of Oil, Gas, and Mining (DOGM) for a permit revision for the SUFCO Mine.
November 10, 1999	DOGM determined that the PAP was administratively complete for public review and comment.
November 30, 1999	The Office of Surface Mining Reclamation and Enforcement (OSM) received the PAP.
December 15, 1999	CFC published in the Emery County Progress, Richfield Reaper the fourth consecutive weekly notice that its complete PAP was filed with DOGM.
January 28, 1999	Pines Tract Project Final Environmental Impact Statement (FEIS) USDA Forest Service, Region Four Manti-La Sal National Forest and Bureau of Land Management, Utah State Office.
April 25, 2000	The U.S. Fish and Wildlife Service provided its final consultation comments on the mining plan.
May 30, 2000	The State Historic Preservation Office provided its comments on the mining plan(memorandum of agreement).
June 1, 2000	The Bureau of Land Management provided its findings and recommendations on the approval of the mining plan.
June 21, 2000	The Federal land management agency (USFS) provided its final concurrence with the approval of the mining plan.

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DATE

EVENT

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June 22, 2000

DOGM approved the PAP.

July 6, 2000

OSM's Western Regional Coordinating  
Center recommended to the Director, OSM,  
that the mining plan action be approved.

U.S. DEPARTMENT OF THE INTERIOR  
OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT  
FINDING OF NO SIGNIFICANT IMPACT  
FOR  
SUFCO Mine  
Federal Coal Lease UTU-76195  
Mining Plan Decision Document

A. Introduction

Canyon Fuel Company, LLC submitted a permit application package (PAP) for a permit revision for the SUFCO Mine to the State of Utah, Department of Natural Resources, Division of Oil, Gas, and Mining (DOGM). The PAP proposed extending underground mining operations into 7,171.7 acres of Federal lease UTU-76195. Under the Mineral Leasing Act of 1920, the Assistant Secretary, Land and Minerals Management, must approve, approve with conditions, or disapprove the mining plan modification for Federal lease UTU-76195. Pursuant to 30 CFR Part 746, the Office of Surface Mining (OSM) is recommending approval of the mining plan action without special conditions.

B. Statement of Environmental Significance of the Proposed Action

The undersigned person has determined that the above-named proposed action would not have a significant impact on the quality of the human environment under section 102(2)(C) of the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. 4332(2)(C), and therefore, an Environmental Impact Statement is not required.

C. Reasons

This finding of no significant impact is based on the attached Pines Tract Project Final Environmental Impact Statement prepared by the USDA Forest Service and the Bureau of Land Management. OSM was a cooperating agency in the preparation of this EIS. OSM has determined the environmental impacts of the proposed action are adequately and accurately addressed in the EIS to provide sufficient evidence and analysis for this finding of no significant impact. OSM takes full responsibility for the accuracy, scope, and content of the attached environmental analysis.

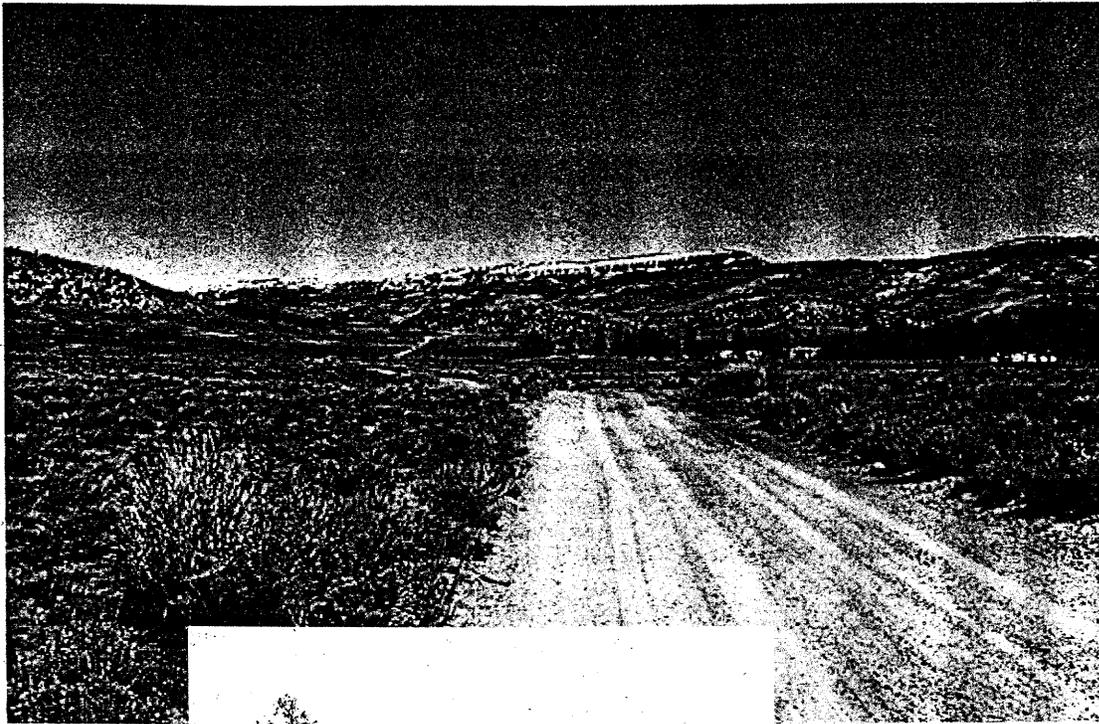
Ramvir Singh

Chief, Northwest Branch

07/06/00

Date

Attachment



# **PINES TRACT PROJECT**

## **Final Environmental Impact Statement**



This is a FEIS conducted through the NEPA process on the Manti-La Sal National Forest by JBR Environmental Consultants, Inc.



# PINES TRACT PROJECT

## PINES FEDERAL COAL LEASE TRACT UTU-76195 MODIFICATION TO FEDERAL COAL LEASE U-63214 PERMIT AMENDMENT APPLICATION TO SUBSIDE BOX CANYON EMERY AND SEVIER COUNTIES, UTAH

### FINAL ENVIRONMENTAL IMPACT STATEMENT

**Responsible Agencies:** **U.S.D.A. FOREST SERVICE (Lead Agency)**  
Manti-La Sal National Forest

**U.S.D.I. BUREAU OF LAND MANAGEMENT**  
Utah State Office

**Responsible Officials:** Janette S. Kaiser - Forest Supervisor      G. William Lamb, State Director  
Manti-La Sal National Forest      Bureau of Land Management  
599 W. Price River Drive      Utah State Office  
Price, Utah 84501      324 South State Street, Suite 301  
Salt Lake City, Utah 84111

**Cooperating Agency:** U.S.D.I. Office of Surface Mining Reclamation and Enforcement  
Western Regional Coordinating Center  
1999 Broadway, Suite 3320  
Denver, Colorado 80202-5733

**For Further Information Contact:** Liane Mattson or Carter Reed  
Manti-La Sal National Forest  
599 W. Price River Drive  
Price, Utah 84501  
(435) 637-2817

### ABSTRACT:

This Final Environmental Impact Statement (FEIS) is written in response to applications submitted by Canyon Fuel Company, LLC to access federal coal reserves on the Manti-La Sal National Forest. The Pines Tract Project FEIS analyzes three Federal actions or components that require decisions by the responsible officials of the USDA-FS and USDI-BLM. The three project components are: 1) Offer the Pines Coal Lease Tract (UTU-76195) for competitive leasing as delineated by the Interagency Tract Delineation Team; 2) Modify the Quitchupah Lease (Federal Coal Lease U-64213) by adding 150 acres of Federal coal lands to provide maximum recovery of the coal reserves in the area; and 3) Amend the Permit Application Package for the SUFCO Mine to allow longwall full-extraction mining and subsidence of Box Canyon and the associated perennial drainage. Four alternatives were considered for analysis: A) No Action Alternative/No Lease Alternative/No Subsidence of Box Canyon, B) Lease the proposed areas with Standard BLM Lease Terms and Conditions, C) Lease the proposed areas with Standard BLM Lease Terms and Conditions, and Special Coal Lease Stipulations for Protection of Non-Coal Resources, and D) Lease the proposed areas with Standard BLM Lease Terms and Conditions, and Special Coal Lease Stipulations for Protection of Non-Coal Resources, allowing subsidence of perennial drainages and escarpments in the analysis area. The responsible officials of the BLM and FS have identified a combination of Alternatives C and D as the preferred alternative.

The FS 45-day appeal period, began on January 28, 1999, and the Notice of Availability appeared in the *Federal Register* on February 5, 1999. Questions or comments during the 45-day appeal period should be directed to Liane Mattson, Project Manager, Pines Tract Project EIS, Manti-La Sal National Forest, 599 West Price River Drive, Price, Utah, 84501, 435-637-2817.

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## EXECUTIVE SUMMARY

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### I. INTRODUCTION

The Pines Tract Project environmental impact statement (EIS) analyzes three Federal actions or components that require decisions by the responsible officials of the United States Department of Agriculture, Forest Service (USDA-FS) and United States Department of the Interior (USDI), Bureau of Land Management (BLM). All three components involve Federal coal lands within the National Forest System administered by the Manti-La Sal National Forest (MLS), Ferron/Price Ranger District. The three actions are as follows:

1. Offer the Pines Coal Lease Tract (UTU-76195) for competitive leasing as delineated by the Interagency Tract Delineation Team.

The tract being considered in the analysis encompasses approximately 7,311 acres. It is located on the MLS in Sevier and Emery Counties, Utah. (Figures 1-1, 1-2, and 1-3).

2. Modify the Quitchupah Lease (Federal Coal Lease U-64213) by adding 150 acres of Federal coal lands to provide maximum recovery of the coal reserves in the area.

The existing Quitchupah Lease lies within the approved permit area for the SUFCO Mine. The existing lease and proposed lease modification are located on the MLS in Sevier County, Utah (Figures 1-1, 1-2, and 1-3).

3. Amend the Permit Application Package (PAP) for the SUFCO Mine to allow longwall full-extraction mining and subsidence of Box Canyon and the associated perennial drainage (currently not allowed by a lease stipulation and the SUFCO Mine permit).

The proposed PAP amendment area is located on the MLS in Sevier County, Utah (Figures 1-1, 1-2, and 1-3).

### II. PURPOSE AND NEED

The following discussions describe the need for the proposed actions and the reasons for the applications that led to the analysis of the proposed actions. Each of the three proposed actions or components are described separately.

### ***Pines Coal Lease Tract***

Canyon Fuel Company, LLC (Canyon Fuel) (then Coastal States Energy Company), owner and operator of the SUFCO Mine, submitted a coal lease application for the Pines Coal Lease Tract (UTU-76195) to the BLM on December 16, 1996. The proposed tract encompassed 5,786.90 acres. The Tract was subsequently enlarged by the Tract Delineation Team for leasing consideration in this analysis. It was proposed by Canyon Fuel to increase annual production and the life of the their adjacent SUFCO Mine. The tract lies directly adjacent to the east boundary of the approved permit area.

Even though the lease application was submitted by Canyon Fuel, it would be analyzed under BLM's Lease-on-Application Process (43 CFR 3425) and, if approved for leasing, would be offered by competitive bid.

The EIS considers the effects of Reasonably Foreseeable Development Scenarios that involve underground mining of the coal in the considered lease areas by either Canyon Fuel from the adjacent workings or by another company through new portal facilities in Link Canyon. The EIS also considers other reasonably foreseeable surface developments such as ventilation breakouts, mine water discharge, and potential coal development drilling.

### ***Modification of Federal Coal Lease U-63214 (Quitcupah Lease)***

Canyon Fuel submitted the 150-acre coal lease modification application to BLM on January 12, 1998. The proposed Lease Modification Area lies along the north boundary of the Quitcupah Lease and the SUFCO Mine Permit Area. The application would be evaluated under the procedures set forth in 43 CFR 3432. The subsequent permitting action (Incidental Boundary Change) to allow mining in the modification area would be evaluated by the Utah Division of Oil, Gas and Mining (UDOGM) under procedures set forth in 30 CFR 700 et. seq., requiring a PAP revision to the SUFCO Mine Permit, and approval by Office of Surface Mining, Reclamation and Enforcement requiring a modification to the approved federal mining plan.

The purpose of the modification is to add 150 acres of unleased Federal coal lands to the existing lease and SUFCO Mine Permit Area to maximize recovery of the reserves. If the modification is not approved, the area could be added to the Pines Coal Lease Tract but would probably yield less coal as it may not be conducive to longwall mining. This is due to the small size and configuration relative to the remainder of the Pines Coal Lease Tract. It would probably be mined using the room-and-pillar method that yields less recovery.

If not mined in association the Quitcupah Lease or Pines Coal Lease Tract, this coal would mostly be bypassed since it is cut-off physiographically from the Muddy Creek Tract by Box and Muddy Canyons.

### ***SUFCO Mine Permit Application Package Amendment to Longwall Mine and Subside Box Canyon***

Canyon Fuel submitted a PAP amendment to UDOGM on January 19, 1998 (revised May 13, 1998) proposing to subside Box Canyon and the associated perennial drainage using the full-extraction longwall mining method. A lease stipulation and the SUFCO Mine Permit currently do not authorize subsidence of Box Canyon and the associated perennial drainage and surface resources.

The PAP amendment area lies at the head of Box Canyon within the existing Quitcupah Lease and SUFCO Mine Permit Area. The purpose of the amendment is to extend an approved longwall panel to the north to maximize coal recovery from the existing lease. It would also allow access to the proposed Lease Modification Area. If not approved, the Lease Modification Area could be accessed by full-support gateroads under Box Canyon (tunnels that would not subside) that would allow longwall mining of the modification area.

### **III. REASONABLY FORESEEABLE DEVELOPMENT**

In order to consider potential effects of implementation, Reasonably Foreseeable Development Scenarios or conceptual mine plans were developed to serve as the basis for the effects analysis. A scenario for each of the three project components is presented below. The scenarios assume that all of the recoverable coal reserves in the tract would be mined by the most efficient method of employing a combination of longwall and room-and-pillar development.

#### ***Pines Coal Lease Tract***

Two potential scenarios are possible since the tract, if approved for leasing, would be offered for competitive bid. Either the proponent, Canyon Fuel or another company, could obtain the tract through the bidding process.

Once the tract is leased, the lessee/operator would submit a PAP to UDOGM proposing to mine the lease. At that time, UDOGM would start the permit evaluation process in accordance with the Utah Coal Rules as provided under Surface Mining and Control and Reclamation Act and implementing rules and regulations.

The Pines Coal Lease Tract, with an estimated 71 million tons of recoverable coal reserves, could support continued mining for 15 years to 20 years. Impacts common to both development scenarios include mining-induced subsidence (estimated to be 4 to 5 feet for most of the tract and associated surface cracking), a breakout (opening at the coal outcrop) in the Box Canyon/Muddy Creek Canyon area, surface disturbance for exploration activities, and mine water discharge to Link Canyon and Box Canyon/Muddy Creek.

Construction of a breakout (opening at the coal outcrop) for ventilation, emergency escape, and mine water discharge may be necessary in the Box Canyon/Muddy Canyon confluence area as mining

develops. The construction of a breakout would take place from inside the mine, eliminating the need for surface access to the site.

In addition to mining, the Reasonably Foreseeable Development Scenarios assumes that the lessee/operator would conduct additional exploration drilling (approximately 10 holes) in the area of the Pines Tract Project Area. Additional exploration would further delineate coal reserves to the northern and eastern portion of the Pines Tract Project Area. Disturbance associated with exploration drilling would encompass less than 40 acres, depending upon the amount of new access roads to be constructed. The roads and pads would be reclaimed as soon as possible after completion and would present only a short-term disturbance. Reclamation and revegetation of disturbed areas in the Quitchupah/Pines area have been very successful. Revegetation of the disturbed areas is generally achieved within 3 years to 5 years of reclamation. The revegetated areas are usually not discernible to the casual visitor beyond this time.

Mine water discharge to Link Canyon would be needed for at least 3 years, or until main entries could be developed to the north to the proposed breakout in the Box Canyon/Muddy Creek Canyon area. Discharge to Box Canyon/Muddy Creek would require specific approval from the State of Utah according to antidegradation rules. Discharge into Link Canyon would be approximately 1,000 gallons per minute. Mine water would be pumped up dip to this discharge point until the Muddy Creek breakout is completed and the proper permits are obtained.

Assuming Canyon Fuel obtains the Pines Coal Lease Tract, the area would be mined using underground mining methods including a combination of the longwall and room-and-pillar methods initiating from underground workings in the existing SUFCO Mine Permit Area. The existing portal facilities in Convulsion Canyon on the Fishlake National Forest would be used. Enlargement of the facilities in Convulsion Canyon is not anticipated. It is assumed that all coal would be hauled along existing haul routes from the SUFCO Mine. Haulage traffic would be increased proportionate to projected production increases. The SUFCO Mine production could increase from 5.9 million tons annually to 6 to 9 million tons annually.

Mine water discharge would be conveyed via a 15-inch Drisco (plastic) pipe from a Link Canyon breakout that would drain to the south, contouring the west slope of Link Canyon (a distance of 1,500 feet), to the FS boundary where it would be discharged into Link Canyon Wash. A trench and bench would be constructed to bury the pipe.

Should another company be the successful bidder for the Pines Coal Lease Tract, it would access the tract from the coal outcrop in Link Canyon, requiring development and construction of new mine facilities in Link Canyon and reconstruction of the Link Canyon road from SR-10 to the mine site in Link Canyon. Including the existing disturbance from the current road and abandoned Link Canyon Mine, approximately 100 acres could be disturbed for this development. The mine would be similar to the adjacent SUFCO Mine, have similar operating costs and would be in competition; however, start up costs for initial construction of mine facilities would be an additional cost incurred.

Mine water discharge to Link Canyon would likely entail placing a plastic discharge pipe under or adjacent to the access road. The pipe would extend approximately 2,500 feet to the Forest Boundary.

***Lease Modification (Add 150 acres to the Quitchupah Lease U-64213)***

If the modification and PAP amendment are both approved, Canyon Fuel would extend an already approved longwall panel further northward into the Lease Modification Area. Subsidence would be similar to that discussed above.

If the PAP amendment (described below) is not approved and Canyon Fuel is unable to extend the panel under Box Canyon, the Lease Modification Area could be mined by extending full-support (no subsidence) longwall development entries (gateroads) under Box Canyon to access the modification area. The modification area could then be mined using longwall extraction.

If the PAP amendment is not approved and/or Canyon Fuel withdraws their lease modification application, the 150-acre modification area could be added to the Pines Coal Lease Tract. Under this scenario, the modification area would most likely be mined using the room-and-pillar method with secondary pillar recovery. The modification area would most likely not be mined using the longwall method because of the small size and orientation.

***Permit Application Package Amendment to Subside Box Canyon***

This action is specific to Canyon Fuel because the area already lies within the SUFCO Mine Permit Area. Canyon Fuel has proposed to extend the already approved longwall panel in the Quitchupah Lease northward under Box Canyon. This would cause subsidence of the associated escarpment and perennial drainage.

**IV. DECISIONS TO BE MADE BY THE RESPONSIBLE OFFICIALS AND AUTHORITY**

***Pines Coal Lease Tract and Modification to U-64213 (Quitchupah Lease)***

The Utah State Director of BLM must decide whether or not to approve the Pines Coal Lease Tract for leasing and whether or not to modify Federal Coal Lease U-63214 as proposed under authority of the Mineral Leasing Act of 1920, as amended, and enacting Federal regulations contained in 43 CFR 3400 et. seq.

The Forest Supervisor, MLS, must decide whether or not to consent to leasing of the Pines Coal Lease Tract and modification U-63214 by BLM and under what conditions are needed to protect non-mineral resources. Consent by the Surface Management Agency (Forest Service in this case) and measures for protection of non-mineral resources are required under authority of the Federal Coal Leasing Amendments Act of 1975 that amended the Mineral Leasing Act of 1920. By virtue of this decision, the Forest Supervisor would also be consenting/concurring to underground mining consistent with the impact analysis for the lease.

### ***Permit Application Package Amendment to Subside Box Canyon***

The BLM State Director must decide whether or not to exercise provisions of the lease stipulation that would authorize subsidence of Box Canyon, and to recommend approval of the corresponding PAP amendment to the Director, UDOGM.

The Forest Supervisor, MLS, must decide whether or not to consent/concur to approval of the PAP amendment by the Director, UDOGM and under what conditions for protection of non-mineral resources.

## **V. ISSUES**

The environmental analysis documented in this EIS is driven by the identified issues. The issues were identified for analysis through the project scoping process that includes extensive public involvement and cooperation from participating agencies. A Notice of Intent (NOI) to prepare the EIS was published in the *Federal Register* January 29, 1998 and an amended NOI was published on April 14, 1998. A public scoping letter requesting comments and issues was sent to 132 individuals and organizations on February 3, 1998. Corresponding public (legal) notices were published in the Sun Advocate newspaper (publication of record) and supplemental publications (Emery County Progress and Richfield Reeper). A discussion of responses and comments received is contained in Chapter 2 of the EIS. The issues identified for analysis are as follows:

### ***Topography, Geology, and Subsidence***

Mining activities associated with the proposed analysis area could result in subsidence-induced ground movements, changes in geology and topography, and escarpment failures.

- Areas of geological interest, such as natural bridges, escarpments, arches, and alcoves could be disturbed from subsidence.

### ***Hydrology - Groundwater***

Mining activities associated with the proposed analysis area and associated subsidence-induced ground movements could interrupt or degrade groundwater within or adjacent to the lease tract. Groundwater quality and quantity, and how these variables affect vegetation, wildlife, livestock, water rights, and future water sources, were underlying themes of many of the comments received.

- Groundwater within the Project Area supports flows to springs, riparian areas, and wetlands. Groundwater may be interrupted due to subsidence-induced ground movements and fracturing of the strata. This interruption of groundwater could result in a reduction in surface acreage of riparian areas and/or wetlands within the Project Area. This interruption could also result in impacts to livestock and wildlife that are seasonally supported by the springs in the area.

- Groundwater and surface water rights could be negatively impacted as a result of interruption of groundwater.
- Mine equipment could be left underground after mining activities have been completed, which could have the potential to degrade groundwater quality.
- Subsidence could alter shallow aquifers which could be used as groundwater sources.

### *Hydrology - Surface Water*

Mining activities associated with the analysis area and associated subsidence-induced ground movements could result in impacts (either reduction in flows or elimination of water source) to surface drainages, riparian areas, wetlands, and springs. Changes in flow could alter the riparian vegetation, available water to livestock and wildlife, and wildlife habitat. Discharges from the mine could degrade water quality and flows of Muddy Creek, Link Canyon, Quitchupah Creek, if discharge continues. If a new mine is developed in Link Canyon, sediment/other contaminants could be introduced to Link Canyon.

- The Project Area contains several perennial streams, springs, riparian areas, and wetlands. These springs, riparian areas, and wetland areas are supported by groundwater sources. Subsidence or other mining operations could divert water supplying these areas.
- The Muddy Creek provides drinking water and secondary irrigation water to the Town of Emery. There is a concern that mining within the Project Area would have an impact upon water quantity and water quality of Muddy Creek. The environmental analysis should review cumulative and incremental mining impacts to water resources.
- Should another company obtain the lease and develop a mining operation at Link Canyon (or another location), increased surface disturbance has the potential to increase erosion, and hence sediments in surface drainages, and other surface related pollutants.
- The proposed project is within the Colorado River Basin. As such, there is the potential that the proposed project could result in impacts to special status species found in the Colorado River and its tributaries. Changes in flow (increase or decrease) and water quality could modify the habitat for these species.
- Escarpment failures and subsidence could alter the course and/or grade of surface drainages within the Project Area.

- Increases or decreases in surface water flows may result in impacts to water rights and water availability for livestock and wildlife uses (stock watering ponds).
- Underground mining may cause transbasinal diversions of intercepted (and then discharged) groundwater within watersheds and subwatersheds. Groundwater intercepted is either used in the mine underground, or discharged from the workings. There was concern that water intercepted underground may be discharged into a watershed other than the watershed for which it was originally destined.

### *Vegetation*

Mining activities associated with the analysis area and associated subsidence-induced ground movements could result in impacts to riparian areas, wetlands, springs, and the unique vegetation of the escarpments. Areas exhibiting subsidence could also result in impacts to timber resources. Surface disturbance could also create direct impacts to vegetation. Construction of a new mine in Link Canyon could remove approximately 100 acres of vegetation.

- Subsidence-induced ground movement could alter groundwater flows to riparian areas, wetlands, and springs. The vegetation associated with these areas could be altered by reduced flows.
- Escarpment failure could result in the loss of the unique vegetation found where groundwater seeps out of the escarpments.
- Timber resources could be impacted through construction of new surface facilities.
- New surface disturbance associated with proposed mining has the potential to encourage the invasion of noxious weeds and/or exotic plants.
- Mining-induced subsidence and surface disturbance associated with mining has the potential to impact threatened and endangered species or their habitat within the analysis area.

### *Wildlife*

Mining activities associated with the analysis area and associated subsidence-induced ground movements could indirectly result in impacts to wildlife. These include loss of riparian habitats, loss of available water, loss of upland/escarpment habitats, changes in wildlife diversity, and alteration of movement patterns. Direct losses due to wildlife-vehicle interactions are also likely to increase. If new surface facilities are developed, habitat losses would occur.

- Mining activities and associated subsidence-induced ground movements could result in impacts to perennial streams, riparian areas, wetlands, and springs (either reduction in flows or elimination of water source). Potential impacts could occur to

vegetation and forage production, sage grouse lek areas, big game winter and transitional ranges, and wildlife migrational routes.

- Coal haulage has the potential to increase deer/elk vehicle-related mortality due to increased coal production and the increased time period over which mining would occur.
- Subsidence-induced ground movements associated with underground mining activities could alter habitat for wildlife. Specifically raptor nesting (e.g., peregrine falcon and goshawk) and bat roosting habitat could be lost due to escarpment failures.
- Mining activities could result in impacts to the Western blue bird through loss of nesting habitat. Subsidence-induced ground movements could disrupt forest habitat, or disruption of flow to riparian habitats could result in a loss of aspen. The Western blue bird may be highly localized to the area and negative impacts could have the potential to significantly impact the whole population.
- Mining-induced subsidence and surface disturbance associated with mining has the potential to impact threatened and endangered species or their habitat within the Pines Tract Project Area.
- Habitat losses would be associated with potential new surface facilities.

#### ***Cultural and Paleontological Resources***

Cultural and paleontological resources could be impacted by mining related activities and subsidence-induced ground movements, and by the construction of a new mine in Link Canyon.

- Construction of surface facilities and subsidence-induced events, such as seismic events, cracks, changes to topography, and escarpment failures, or groundwater discharge could affect significant archaeological, paleontological, and historical resources.

#### ***Land Use***

Approval of the proposed lease actions may result in impacts to land uses within the area (e.g., existing and future surface development and/or other lessees).

- Subsidence-induced ground movements, whether resulting from operations at the SUFCO Mine or Link Canyon Mine, could damage surface structures such as roads, pipelines, power lines, stockponds, developed springs, other facilities, and survey monuments.

- Approval of the Pines Tract Project and associated mining need to be compatible with multiple-use of public lands and should be consistent with Federal, State, and local land use policies.
- Coal leasing could conflict with oil and gas/leasing, exploration, and production.

### ***Recreation***

Approval of the proposed lease actions and proposed subsidence of Box Canyon could result in degradation of the recreation experience.

- Mining related activities and associated subsidence-induced ground movements could result in impacts to the recreational experiences in the Pines Tract Project Area.
- Effects of the proposed action in roadless areas need to be considered.
- Construction of a new mine in Link Canyon and reconstruction of the Link Canyon road could affect recreation access to the Pines Tract Project Area.

### ***Public Safety***

Approval of the proposed lease actions and operations could create potential hazards to public safety.

- Mining-induced subsidence could result in escarpment failures (i.e. falling rocks), which could affect public safety.
- Existing roads could be impacted as a result of escarpment failures and subsidence-induced ground movements.
- Increased production and extension of haul traffic into weekends could increase the potential for traffic accidents. The increased duration of haul traffic could also extend this impact to the end of mine life.
- The operation of a new mine in Link Canyon could result in increased coal hauling on SR-10 and through local communities and an increased amount of accidents.

### ***Range/Livestock***

Livestock distribution is a function of available forage and water distribution. Livestock trailing is also conducted within the proposed Pines Tract Project Area.

- Subsidence-induced ground movements and surface cracks could alter water supplies and distribution of water on the Project Area.

- Subsidence-induced ground movements and surface cracks could damage surface structures such as fences, troughs, pipelines, other range improvements, and interfere with trailing routes.
- Construction of new facilities, especially haul roads, could impact trailing of livestock during specific periods of the year in Link Canyon.

### ***Visual Resources***

Mining activities, including surface facilities, and escarpment failures could impact visual quality of the area.

- Mining-induced subsidence could result in escarpment failures, which may lead to alterations in the natural topography and visual quality.
- Construction of surface facilities could alter the visual aspect of the area.

### ***Noise***

Mining activities include the use of heavy equipment, conveyors, and haul trucks which all generate noise.

- Approval of the proposed lease actions could result in continued and increased amounts of human-generated noise from the breakout in Muddy Creek and/or in Link Canyon if a new mine is developed.

### ***Transportation and Engineering***

Increased coal production could result in increased haulage needs. The extension of mining activities could result in haulage traffic for a longer period of time. A new mine in Link Canyon would result in hauling coal down Link Canyon road to SR-10.

- Increased haulage could increase road damage and maintenance costs.
- Increased haulage could conflict with design traffic levels on haul routes, resulting in additional accidents.
- Subsidence could alter existing roads within the Project Area.
- A new mine in Link Canyon would require reconstruction of the Link Canyon road and potentially interfere with existing access to the Pines Coal Lease Tract.

### *Socioeconomics*

Approval of the proposed lease actions and mining operations has social and economic impacts on the local and regional communities. The different alternatives to be developed for the lease action will have different potential coal recovery amounts.

- Continued coal mining provides economic benefits such as employment, royalties, income, and tax revenues on a local and regional level.
- The approval of the proposed lease actions and mining operations could result in a loss of value for the public as ownership in regard to future types of development opportunities.
- Continued coal mining provides for the increased recoverability of Federal coal reserves.

## **VI. ALTERNATIVES ADDRESSED IN THE EIS**

The formation of alternatives was guided by the issues, purpose and need, postmining land use objectives of the Forest Plan, and the need to comply with Federal, State, and local laws, regulations, and policies. Alternatives were also developed to comply with the requirements of the National Environmental Policy Act (NEPA) to analyze a reasonable range of alternatives. Alternative B was identified and analyzed as a means to display the effects of leasing/mining with no special measures for the protection of non-mineral interests and show the need for such measures to comply with Federal, State, or local laws, regulations, and policies. Consideration was given to avoidance and/or minimization of effects to water (surface and groundwater), special status species, wildlife, unique vegetation or vegetation which exist in limited quantities, public safety, and range/livestock. The steep natural terrain within and surrounding the mine area limits the options available for locating roads and other surface facilities.

Because of the numerous potential combinations of protection measures involved with the required decisions and complexity of displaying effects of each potential combination, the FS decided to display these possibilities by analyzing four alternatives. These alternatives encompass the complete spectrum of possible decisions that range from no leasing/mining through mining all recoverable reserves with no special stipulations for the protection of non-mineral interests. This allows the responsible officials to select portions of the alternatives in their respective decisions as needed to protect specific areas and resources.

### ***Alternative A No Action Alternative/No Lease Alternative/No Subsidence of Box Canyon***

The No Action Alternative is required by CEQ 40 CFR Part 1502.14(d). None of the three proposed actions would be implemented and no mining would take place within the Pines Coal Lease Tract

or Lease Modification Area. Mining would be conducted in a manner to prevent subsidence under Box Canyon as specified in the lease stipulation and previously approved under the mine permit.

None of the environmental and socioeconomic effects or economic benefits identified in the other three action alternatives would occur.

***Alternative B Lease the proposed areas with Standard BLM Lease Terms and Conditions (No special lease stipulations would be attached to the lease)***

This alternative addresses only the leasing proposals for the Pines Coal Lease Tract and Lease Modification Area. The decision regarding the PAP amendment proposing to subside Box Canyon is not addressed since it is already addressed under the Quitchupah Lease. The PAP amendment is covered under the other three alternatives.

The leases would be issued with no Special Coal Lease Stipulations (SCLSs) for protection of non-mineral interests. They would be issued with Standard BLM Lease Terms and Conditions only (Form 3400-12, EIS Appendix C). This alternative is for analysis purposes only and is not consistent with the Forest Plan. This alternative is intended to provide the basis for including the SCLSs for the protection of non-coal resources. The SCLSs would be added to the other alternatives as a means of avoiding or mitigating impacts consistent with the Forest Plan and applicable laws and regulations. The scenario for this alternative assumes that all minable coal would be recovered to the fullest extent using currently accepted industry practices.

***Alternative C Lease the proposed areas with Standard BLM Lease Terms and Conditions, and Special Coal Lease Stipulations for Protection of Non-Coal Resources (which would not allow subsidence of escarpments and perennial drainages in the analysis area)***

This alternative addresses application of the Standard BLM lease terms and conditions, and the application of SCLSs for the protection of non-coal resources. Specifically, this alternative addresses issues identified through the application of the 18 SCLSs presented in the Forest Plan that are designed to mitigate anticipated environmental effects. Additional stipulations regarding maximum recovery of reserves and abandonment of equipment underground would also apply. This alternative applies to the entire analysis area. The proposed PAP amendment to subside Box Canyon would not be approved.

This alternative assumes that the successful applicant would conduct full-extraction longwall mining for the majority of the Pines Coal Lease Tract. However, mining that would cause subsidence would not be allowed under perennial drainages (Box Canyon, East Fork of Box Canyon) or escarpments (Link Canyon, Box Canyon, East Fork of Box Canyon, and Muddy Creek, including Wiley's Fork).

This alternative would involve mining of the 7,311- acre Pines Coal Lease Tract, and within a 150-acre Lease Modification Area to the Quitchupah Lease. It represents an alternative that provides for

mining of the tracts with maximum protection measures to assure consistency with applicable laws and regulations and Forest Plan objectives for protecting ecosystems.

***Alternative D Lease the proposed areas with Standard BLM Lease Terms and Conditions, and Special Coal Lease Stipulations for Protection of Non-Coal Resources, allowing subsidence of perennial drainages and escarpments in the analysis area***

Alternative D includes all considerations of mining as described in Alternative C, but includes mining that would allow subsidence of perennial drainages and escarpments as long as it would be consistent with laws, regulations, and Forest Plan direction. It would involve approval of the PAP amendment to subside Box Canyon. This alternative includes full-extraction longwall mining under perennial drainages and escarpments within the analysis area. Specifically, this alternative allows mining under perennial drainages in Box Canyon, the East Fork of Box Canyon, as well as under escarpments in Box Canyon, East Fork of Box Canyon, Link Canyon, and the Muddy Canyon, including Wiley's Fork. Current SCLS #13 on the Quitchupah Lease states that "except at specifically approved locations, underground mining operations shall be conducted in such a manner so as to prevent surface subsidence that would cause the creation of hazardous conditions such as potential escarpment failures and landslides, ..., and damage or alter the flow of perennial streams".

Other SCLSs would be applied, requiring monitoring and mitigation of impacts.

## **VII. EFFECTS OF IMPLEMENTATION**

The following is a brief summary of the potential effects of each alternative discussed in detail in Chapter 3 of the EIS. Table ES.i shows specific effects by issue/evaluation criteria in a comparison of the alternatives.

***Alternative A No Action Alternative/No Lease Alternative/No Subsidence of Box Canyon***  
This alternative represents the maximum surface resource protection end of the alternative spectrum.

Under this alternative there would be no mining within the tract boundaries and the PAP amendment would not be approved. The associated environmental impacts would not occur. Conversely, there would be no associated energy production and economic benefits. The SUFCO Mine would deplete existing reserves and close down in approximately 10 years to 15 years. The recoverable coal reserves in the proposed lease areas would not be mined from the existing operations at the Quitchupah Lease but could conceivably be mined sometime in the future via access from the coal outcrop in Link Canyon. The coal reserves not recovered due to denial of the PAP amendment would be irreversibly lost due to current technology limitations.

Table ES.i Comparison of Alternatives

Resource Element/Issue	Alternative			
	A	B	C	D
<b>GEOLOGY, TOPOGRAPHY, SUBSIDENCE:</b>	No Effect	Up to 19.8 linear miles of escarpment could be subject to subsidence. Failures would likely occur in <100 feet segments at isolated locations. Approx. 5 feet vertical subsidence. Alcoves could be disturbed from subsidence.	No escarpments would be subsided, therefore no risk for failure or damage to alcoves. Approx. 5 feet vertical subsidence. SCLS implemented.	Same impact as Alternative B; however, up to 22.5 linear miles could be subject to subsidence.
<b>GROUNDWATER HYDROLOGY:</b>	No Effect	Low to moderate potential to alter recharge paths to springs either causing flow increases or decreases. Low potential to affect water quality. Low potential for trans-basin diversion.	Reduced potential to alter springs since no subsidence of Box Canyon or East Fork. All else same as Alt. B. SCLS would require water replacement.	More springs could be subsided with low to moderate potential for altering recharge paths. All else same as Alt. B. SCLS would require water replacement.

Table ES.i Comparison of Alternatives (cont.)

Resource Element/Issue	Alternative			
	A	B	C	D
<b>SURFACE HYDROLOGY:</b>	No Effect	High risk of diverting stream flow underground at Confluence Area - Main Fork in areas of shallow overburden. Moderate to high risk of intercepting flow in Upper East Fork Box Canyon at some locations. Moderate potential to crack and drain some stock ponds. Inconsequential trans-basin diversions. Minimal water quality impacts.	No risk of diverting or intercepting stream flow. All else is same as Alt. B. SCLS would require water replacement.	Impacts to streams would be same as Alt. B if mining occurred in areas of shallow overburden but would include moderate to high risk of interrupting stream flows in Box Canyon at some locations. All else is same as Alt. B. SCLS would require water replacement.
<b>SOILS:</b>	No Effect	40 acres short term disturbance to soils from exploration; if a new mine is developed in Link Cyn, 100 additional acres of long-term disturbance to soils.	Similar impact as Alt. B. SCLS would be implemented, long term disturbance areas would be reclaimed upon cessation of mining to pre-mining land use.	Same impacts as Alternative B and C. SCLS would be implemented.

Table ES.i Comparison of Alternatives (cont.)

Resource Element/Issue	Alternative			
	A	B	C	D
<b>WILDLIFE:</b>	No impacts associated w/ coal mining. Winter range for elk and mule deer could improve. Some species could benefit from vegetation treatments.	Temporary loss of water in streams, springs or ponds, could reduce riparian habitat important for sage grouse and macroinvertebrates, and reduce availability of live water sources for wildlife. Surface disturbance could remove 5 percent big game winter range. Escarpment failure could alter some eagle and falcon nest locations. Up to 40 acres short-term habitat disturbance from exploration drilling.	Reduced potential for altering riparian habitat in perennial drainages. No risk to eagle or falcon nests. All else same as Alt. B.	Increased potential to temporarily lose water supporting riparian habitat in perennial drainages, thus increasing potential to temporarily reduce sage grouse and macroinvertebrate habitat. Increased risk to depleting live water sources.
<b>VEGETATION:</b>	Changes would result from actions taken to meet allotment management goals for livestock and wildlife.	Potential stress of 18.9 acres wetland/riparian vegetation and associated aquatic habitat; 40 acres short-term impact to other vegetation communities from exploration activities. If a new mine is developed in Link Cyn, 100 acres of long-term impact to vegetation.	SCLS would apply and would reduce potential impact to vegetation. Water sources lost would be replaced. Approx. 3 acres wetland/riparian vegetation potentially stressed. Surface disturbance the same as Alt B, but would be reclaimed.	SCLS would apply, providing mechanism to protect wetland resources. Water sources lost would be replaced. Potential to stress 24.16 acres wetland/riparian vegetation. Surface disturbance the same as Alt C.

Table ES.i Comparison of Alternatives (cont.)

Resource Element/Issue	Alternative			
	A	B	C	D
<b>SPECIAL STATUS SPECIES:</b>	No Effect	May affect- NLAA- Peregrine falcon, Colorado River fish species. May impact spotted bat, northern goshawk, flammulated owl, northern three-toed woodpecker. Will impact link trail columbine.	May impact northern three-toed woodpecker, link trail columbine. SCLS implemented, eliminate/reduce potential for impacts to these species.	Same impacts as Alt B. SCLS implemented, eliminate/reduce potential for impacts to these species.
<b>LAND USE AND RECREATION:</b>	Continued operation of SUFCO Mine. No new impacts.	New mine at Link Cyn could hinder recreational access. Low probability of injury to public land users due to escarpment failure. Future oil and gas leases could conflict with existing coal leases.	Reduction in impacts as Alternative B. SCLS applied. New mine at Link Cyn could hinder recreational access. No potential impact to public land users due to escarpment failure. Future oil and gas leases could conflict with existing coal leases.	Same impacts as Alt. B and C; however slightly increased potential for risk to recreationalists from isolated escarpment failure.
<b>CULTURAL RESOURCES:</b>	No Effect resulting from mining related actions; however, potential impacts may occur from recreational and livestock activities.	Six National Register eligible/unevaluated cultural resources could be affected by Level III or greater impacts.	None of the National Register eligible/unevaluated sites will be impacted by Level III or greater impacts.	Nine National Register eligible/unevaluated sites could be affected by Level III or greater impacts.

Table ES.i Comparison of Alternatives (cont.)

Resource Element/Issue	Alternative			
	A	B	C	D
<b>VISUAL RESOURCES:</b>	No Effect	Up to 19.8 linear miles of escarpment would be subject to subsidence at isolated locations. Up to 40 acres surface disturbance resulting from exploration. If a new mine is developed in Link Cyn, up to 100 acres long-term surface disturbance.	No potential for escarpment failure. Up to 40 acres surface disturbance resulting from exploration. If a new mine is developed in Link Cyn, up to 100 acres long-term surface disturbance.	Same impact as Alternative B; however, up to 22.5 linear miles would be subject to subsidence at isolated locations. Up to 40 acres surface disturbance resulting from exploration. If a new mine is developed in Link Cyn, up to 100 acres long-term surface disturbance.
<b>AIR QUALITY:</b>	The rate/impact of pollutants from SUFCO Mine would decrease to zero impacts when recoverable coal supply is depleted, year 2014.	Moderate increase in fugitive dust emissions. Increase in PM-10. Increase in particulate impact from loading.	Air pollution emission impact same as Alternative B, except for fugitive dust mitigative measures (SCLS) apply and impact would for a shorter duration (1 year less for Cyn Fuel/ 2 years for another mine).	Air pollution emission impacts similar as Alternative C.
<b>SOCIOECONOMICS:</b>	\$1.49 billion in coal value not realized. 230 jobs lost when SUFCO Mine closes in 14 years.	74.4 million tons coal recoverable. \$1.49 billion coal value realized. \$119 million government revenues.	62.4 million tons coal recoverable. \$1.2 billion coal value realized. \$100 million revenue.	76.6 million tons coal recoverable. \$1.53 billion recoverable coal, \$122.6 million in govt revenues.

Table ES.i Comparison of Alternatives (cont.)

Resource Element/Issue	Alternative			
	A	B	C	D
<b>TRANSPORTATION:</b>	Haul traffic from SUFCO Mine would continue for 14 years at current rate.	Increase in truck traffic volumes. Surface related impacts to FS roads resulting from exploration activities (40 acres). Improvement of either Convulsion Cyn Road or Link Cyn Road.	Same impacts as Alt B, except truck traffic occurs for shorter duration. (1 year less for Cyn Fuel/ 2 years less for another mine).	Same impacts as Alt B, except truck traffic occurs for longer duration-2 years
<b>RANGE:</b>	Allotment managed according to AMP with emphasis on increasing forage, maintaining wildlife habitat, and implementing approved range improvements. No ponds have potential for impact.	Possible temporary reduction of water available for livestock, possible reduction of AUMs for 1 to 2 years. Low potential to block/restrict access to existing livestock trailing route. 9 ponds have some potential for impact.	Similar impacts as Alt B except SCLS apply. Low potential to block existing livestock routes. Possible small reduction of AUMs from either exploration and/or new mine. 9 ponds have potential to lose water during life of mine, replacement would be required.	Same impact as Alt C. SCLS apply. Potential to block existing livestock routes. Possible reduction of AUMs from either exploration and/or new mine. 9 ponds have potential to lose water during life of mine, replacement would be required.

***Alternative B Lease the proposed areas with Standard BLM Lease Terms and Conditions (No special lease stipulations would be attached to the lease)***

This alternative represents the maximum coal development/greatest environmental impact end of the spectrum of alternatives.

It involves maximum coal production by allowing full-extraction of the reserves using standard industry practices. In addition, no SCLSs would be included on the lease areas for the protection or mitigation of non-coal resources.

Even though the requirements of Surface Mining and Control and Reclamation Act and the coal mine permitting regulations would apply at the time of mine permitting, it is assumed in this alternative that mitigations normally provided by SCLSs would not occur. This alternative and associated assumptions were included for analysis purposes to display the impacts of not applying the SCLSs for comparison with Alternatives C and D which include SCLSs. It would not be consistent with Forest Plan requirements.

***Alternative C Lease the proposed areas with Standard BLM Lease Terms and Conditions, and Special Coal Lease Stipulations for Protection of Non-Coal Resources (which would not allow subsidence of escarpments and perennial drainages in the analysis area)***

This alternative represents a middle-ground situation that would allow leasing of the proposed areas and mining with SCLSs and provides full protection of the sensitive perennial streams and escarpments by not allowing them to be subsided. Under this alternative, the PAP amendment proposing subsidence of Box Canyon would not be approved.

The recoverable coal reserves that could be mined and the associated energy production and economic benefits would be less than Alternatives B and D but would be more than Alternative A (No Action). The sensitive areas would be protected and mitigation of effects that occur would be required. This alternative fully meets Forest Plan objectives and prescriptions with minimal risk to these areas and resources.

***Alternative D Lease the proposed areas with Standard BLM Lease Terms and Conditions, and Special Coal Lease Stipulations for Protection of Non-Coal Resources, allowing subsidence of perennial drainages and escarpments in the analysis area***

This alternative represents another middle-ground scenario that would involve leasing of the proposed areas and approve the PAP amendment that proposes to subside Box Canyon. The recoverable reserves would be mined to the maximum extent using standard industry practices but mitigation of impacts would be required by SCLSs.

Coal recovery and the associated energy production and economic benefits would be similar to Alternative B but additional costs would be incurred by implementation of the mitigations required by the SCLSs. The energy production and economic benefits would be greater than those for

Alternative A and C. The effects to other resources would be greater than Alternatives A and C but less than Alternative B, after mitigation.

### **VIII. PREFERRED ALTERNATIVE**

The responsible agencies have decided that the preferred alternative for the Pines Coal Lease Tract, the proposed Lease Modification, and the Permit Amendment Area is a combination of Alternatives C and D. The preferred alternative would be to lease with special coal lease stipulations derived in part from the Manti-La Sal National Forest Plan. Both alternatives provide for leasing with special coal lease stipulations, but differ in the mining method that would be allowed under escarpments and perennial drainages.

The Records of Decision will be based on balancing the relative risk of the occurrence, magnitude, and duration of impacts as described in this FEIS with the environmental and economic acceptability of such impacts.

Coal recovery under the preferred alternative would range from 62.4 million tons for Alternative C to 76.6 million tons for Alternative D.



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

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125 South 600 West  
Price, Utah 84501

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Mr. Kenneth E. May  
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Canyon Fuel Company, LLC  
SUFSCO Mine  
397 South 800 West  
Salina, Utah 84654

3482  
U-63214  
UTU-76195  
U-062453  
UT-47080  
U-63214  
U-0149084  
SL-062583  
U-28297  
(UT-070)

**JUN 1 2000**

Re: Resource Recovery and Protection Plan (R2P2) SUFSCO Mine, Canyon Fuel Company, *Copy PAM*  
LLC, (CFC), March 2000

*ACT 1041/002*

*Incoming*

Dear Mr. May:

The Bureau of Land Management (BLM) received CFC's revised R2P2 for the SUFSCO Mine. This letter is to notify you that we have completed our review of CFC's R2P2 regarding the SUFSCO Mine (lease modification U-63214 and UTU-76195). The purpose of this review was to determine compliance with The Mineral Leasing Act of 1920, as amended; the regulations at 43CFR 3480; the lease terms and conditions and to ensure that maximum economic recovery (MER) will be achieved.

Our determination of the subject R2P2 is as follows:

- ◆ The reserves as detailed in the R2P2 are noted as CFC mine plan coal reserves and not the official designated BLM recoverable coal reserves. BLM guidelines state that recoverable coal reserves contained within a Federal lease are based upon those recoverable coal reserves which diligence is based. These are those recoverable coal reserves determined to exist on the date the lease becomes subject to diligence. Recoverable coal reserves are not reduced by production after the lease is subject to diligence. The official compilation of the recoverable reserve base within Federal lease UTU-76195 and the 150-acre modification of Federal lease U-63214 of the SUFSCO Mine are those BLM has designated as the recoverable coal reserve base tied to diligence.
- ◆ CFC has submitted a resource and protection plan (R2P2) for the addition of Federal lease UTU-76195 and the 150-acre modification of Federal lease U-63214 to the SUFSCO Mine (see enclosure). The mine plan modification request designates recoverable coal reserves in Area "A" and "B" (see enclosure) as not to be mined. Federal regulations require appropriate justification for all unmined areas of the reserves/coalbed within lease boundaries that are not to be bypassed (43 CFR-3482.1(c)(7) Explanation of how MER of the Federal coal lease will be achieved ... If a coalbed, or portion thereof, is not to be mined or rendered unminable ... lessee shall submit appropriate justification to the authorized officer for approval). Our review of the geologic data does not indicate the preponderance

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of evidence to justify at this time eliminating these coal reserves. The proposed deletion of the recoverable coal reserves without sufficient justification will not be allowed and shall be mined by CFC. The recoverable coal reserves within Area "A", and "B" will remain in the recoverable coal base and be mined. The affected reserves are located in the Upper Hiawatha Seam in Federal coal leases UTU-76195 and U-63214.

Based upon the above-stated requirements, BLM determination is conditioned with the following stipulation:

Stipulation: CFC shall submit the following information (as requested above):

- ◆ Those areas of Federal coal lease UTU-76195 designated as Areas "A" and "B" (Enclosure 1), as shown, will remain in the recoverable coal base and be mined by CFC..

BLM has analyzed the situation and reviewed all supporting documentation. The results of the analysis indicate that this change (the proposed addition of Federal lease UTU-76195 and the 150-acre modification of Federal lease U-63214 to the SUFCO Mine to the mining plan (R2P2), with stipulation, is in compliance with the Mineral Leasing Act of 1920, as amended; the regulations at 43 CFR 3480; the lease terms and stipulations, and will achieve maximum economic recovery (MER) of the Federal coal. Thus, approval for the modification to the mine plan (R2P2) for the SUFCO Mine is granted.

If you have any questions, please contact George Tetreault at the Price Field Office at (435) 636-3604.

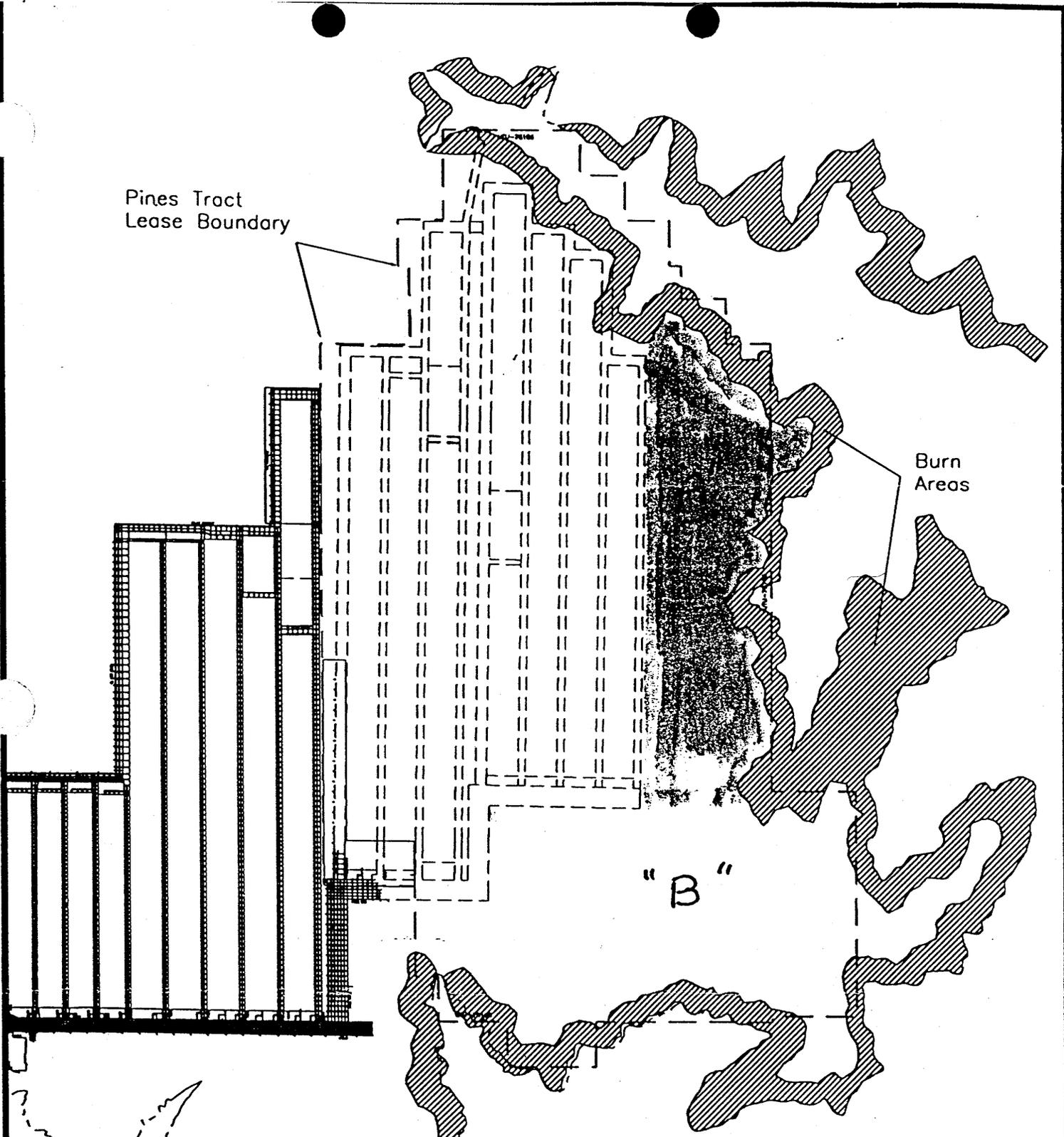
Sincerely,



Richard L. Manus  
Field Manager

Enclosure  
Map 1 (1 pg)

cc: UT-921, SD, Utah  
Utah Division of Oil, Gas and Mining  
355 West North Temple Street  
3 Triad Center Ste.350  
Salt Lake City, Utah 84180-1203  
Joe Wilcox  
Office of Surface Mining  
Reclamation and Enforcement  
1999 Broadway, Suite 3320  
Denver, Colorado 80202-5733



Pines Tract  
Lease Boundary

Burn  
Areas

"B"

Enclosure 1



Canyon Fuel Company, LLC  
SUFCO Mine

PINES TRACT MINING PLAN

DATE: MAY 24, 2000

SCALE: 1" = 4000'

397 SOUTH 800 WEST  
SALINA, UTAH 84654

DRAWN BY: WJN

FILENAME:  
H:\WJNDRAW\JUNK\PINES8x11.DWG



United States Department of the Interior  
FISH AND WILDLIFE SERVICE

UTAH FIELD OFFICE  
LINCOLN PLAZA  
145 EAST 1300 SOUTH, SUITE 404  
SALT LAKE CITY, UTAH 84115

41/002 Incoming  
cc: Paul  
Daron

In Reply Refer To

(CO/KS/NE/UT)

April 25, 2000

**RECEIVED**

APR 26 2000

DIVISION OF  
OIL, GAS AND MINING

Mr. Darron Haddock, Permit Supervisor  
Utah Division Oil, Gas, and Mining  
Box 145801  
Salt Lake City, Utah 84114-5801

RE: Section 7 Consultation on the Pines Tract Revision, Canyon Fuel Company, LLC,  
SUFCO Mine, ACT/041/002-SR99D, Folder #2, Sevier County, Utah

Dear Mr. Haddock:

The U.S. Fish and Wildlife Service (Service) has reviewed your letter of April 3, 2000. Potential impacts to proposed or listed species from mining activities have been previously addressed in the Service's September 24, 1996 Biological Opinion and Conference Report on Surface Coal Mining and Reclamation Operations under the Surface Coal Mining and Reclamation Act of 1977. As part of the terms and conditions of this BO, the regulatory authority must implement and require compliance with any species-specific protective measures developed by the Service field office and the regulatory authority. No species-specific protective measures are considered necessary for the subject project.

We concur with your "not likely to adversely affect" determination for the southwestern willow flycatcher and "no effect" determination for other listed species except for the four Colorado River endangered fish species..

The project proposes continued water use at the current rate. In addition, there could potentially be some disruption of groundwater flows although the amount of loss is expected to be nonexistent or minor. Any water depletions from the Upper Colorado River Basin are considered to jeopardize the continued existence or adversely modify the critical habitat of the four Colorado River endangered fish species: Colorado pikeminnow, razorback sucker, bonytail chub, and humpback chub. However, depletions are addressed by existing inter-agency section 7 agreements. In 1998, the Department of the Interior, the states of Wyoming, Colorado, and Utah, and the Western Area Power Administration established the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin (RIP). The purpose of the RIP is to recover listed species while providing for new water development in the Upper Colorado River Basin. In accordance with the RIP, the Service assesses impacts of projects that require section 7 consultation and determines how the RIP will serve as a reasonable and prudent alternative.

**This is your future. Don't leave it blank. - Support the 2000 Census**



United States  
Department of  
Agriculture

Forest  
Service

Manti-La Sal  
National Forest

Supervisor's Office  
599 West Price River Drive  
Price, UT 84501  
Phone # (435) 637-2817  
Fax # (435) 637-4940

File Code: 2820-4

Date: June 21, 2000

Mary Ann Wright  
Utah Department of Natural Resources  
Division of Oil, Gas and Mining  
1594 West North Temple, Suite 1210  
P.O. Box 145801  
Salt Lake City, Utah 84114-5801

RE: Pines Lease (UTU-76195) Addition, Canyon Fuel Company, LLC, SUFCO Mine,  
ACT/041/002-SR99D

Dear Mary Ann:

We have reviewed Canyon Fuel Company's fourth submittal regarding the subject Mining and Reclamation Plan and Permit Application Package. We have no additional comments. The mine plan is consistent with the Final Environmental Impact Statement for the Pines Tract Project, Forest Service consent decision for leasing the Pines Tract, UTU-76195, and lease stipulations.

The Forest Service hereby consents and concurs to approval of the Mining and Reclamation Plan and modification of the mine permit for the Addition/Modification by the Department of Interior.

If you have any questions or need additional information, contact Carter Reed or Aaron Howe at the Forest Supervisor's Office in Price, Utah.

Sincerely,

For  
ELAINE ZIEROTH  
Forest Supervisor

cc:  
D-2/3  
Sally Wisely, BLM Utah State Director  
Dick Manus, Field Manager, BLM Price Field Office



**MEMORANDUM OF AGREEMENT**  
**BETWEEN**  
**THE USDA- MANTI-LASAL NATIONAL FOREST,**  
**THE UTAH STATE HISTORIC PRESERVATION OFFICER,**  
**CANYON FUEL COMPANY, L.L.C.,**  
**AND**  
**UTAH DIVISION OF OIL, GAS AND MINING**  
**REGARDING THE SUFCO MINE**

Agreement No. 00-MU-11041000-017

WHEREAS, the United States Department of Agriculture-Forest Service, Manti-La Sal National Forest (USDA-FS) as the Federal Agency, charged with administering the surface resources on National Forest System lands for Federal coal leases U-76195 and U-63214 as authorized by the Mineral Leasing Act of 1920, as amended by the Coal Leasing Amendments of 1975 and the Office of Surface Mining (OSM) and the Utah Division of Oil, Gas and Mining (UDOGM) are responsible for administration of the SUFCO mine plan under the Surface Mining Control and Reclamation Act of 1977 and the Utah Coal Rules; and

WHEREAS, it is the statutory responsibility of the USDA-FS to ensure consideration of cultural resources as authorized in 36 CFR 800.2(a) and to ensure that the work conducted under this agreement meets professional standards as required by 36 CFR Part 800.2(a)(1); and

WHEREAS, the USDA-FS has determined that its consent to the SUFCO mine plan permit Incidental Boundary Change (Federal coal lease U-63214) and modification (U-76195) (hereinafter referred to as the Project) may have an effect on properties included in or eligible for inclusion in the National Register of Historic Places (NRHP) and has consulted with the Utah State Historic Preservation Officer (SHPO) pursuant to 36 CFR Part 800.6(b) of the Advisory Council on Historic Preservation (the Council) regulations implementing Section of 106 of the National Historic Preservation Act, as amended, [16 U.S.C. Section 470 (f)] and Section 110(f) of the same Act [16 U.S.C. 470 h-2 (f)]; and

WHEREAS, this Agreement covers permitting and administration of the SUFCO Mine (including underground mining activities such as construction of mine entries, gateroads, mechanical mining of longwall panels and ventilation breakout facilities) and mining-induced subsidence of the ground surface on National Forest System lands; and

WHEREAS, unless otherwise defined differently in this Agreement all terms are used in accordance with 36 CFR Part 800.16; and

WHEREAS, the Canyon Fuel Company, LLC (the Permittee) has been invited to participate in consultation and to concur in this Memorandum of Agreement;

WHEREAS, the USDA-FS has consulted with the appropriate Native American Tribes about the project; and

WHEREAS, the Uintah-Ouray Tribe has expressed an interest in historic properties within the project area and has been invited to comment and participate in this agreement;

NOW THEREFORE, the Permittee agrees that the underground mining operations of the Project shall be administered in accordance with the following stipulations to ensure that historic and prehistoric properties will be treated to avoid or mitigate effects to the extent practicable to satisfy the Forest Service, the Council, UDOGM, OSM and the SHPO and that the proposed project (undertaking) shall be administered in accordance with the following stipulations to satisfy Section 106 responsibilities for all aspects of the undertaking.

**STIPULATIONS**

In accordance with existing Forest Service guidelines for cultural resources (prehistoric and historic) and the Secretary of the Interior's Standards and Guidelines (48 FR 44716-44742) (the Secretary's Standards), the Forest Service will ensure that the following measures will be carried out:

1. The Forest Service will be the lead agency and will be the contact for tribes, U.S. BLM, OSM, the SHPO, and other interested parties for the project. The Permittee's cultural resource consultant may be called upon to facilitate coordination with the SHPO, company and other agencies or to distribute information and/or reports to reviewers.
2. The Council and the SHPO may monitor activities carried out pursuant to this Agreement, and the Council will review such activities if so requested. The Forest Service will cooperate with the Council and the SHPO in carrying out their monitoring and review responsibilities.
3. The USDA-FS will assure that all evaluation and monitoring of subsidence effects on historic properties and treatments will follow the general process outlined in the Cultural Resource Plan of Work prepared by the Permittee's cultural resource consultant which will meet the specifications as outlined.
4. Monitoring Plan. The USDA-FS will ensure that the Permittee's cultural resource consultant submits a Monitoring Plan to monitor sites described in Appendix B. The Monitoring Plan will describe in detail, the methods, procedures, and criteria (following guidelines in Attachment A) and monitoring frequency (following guidelines in Attachment B) to be employed in evaluating subsidence related effects to each of the sites. This will include, but not necessarily be limited to photography, mapping, field measurements, written descriptions and subsidence data (to be provided by Canyon Fuel Company, L.L.C.) The plan will provide the data and information required for the Annual and Final Monitoring Reports as described in Attachments A and B.
5. The USDA-FS will ensure that all work undertaken to satisfy the terms of this Agreement meets the National Historic Preservation Act of 1966 as amended and implemented through 36 CFR 800 as amended 1999, the Secretary's Standards and is consistent with the Council's *Treatment of Archaeological Properties Handbook*, November 1980. The USDA-FS will also ensure that the work is carried out by or under the direct supervision of a person or persons meeting, at a minimum, the applicable professional qualifications standards set forth in the Secretary's Standards.
6. Monitoring Reports. One (1) final cultural resource report, an archaeological monitoring and evaluation of subsidence effects on cultural resources in the Project will be submitted to the Forest Service for initial review. In addition, annual reports of monitoring will also be submitted to the Forest Service for review; this may be included in the Permittee's Annual Subsidence Monitoring. However, any draft recommended determinations of effect, or re-evaluations of National Register eligibility will be submitted to the USDA-FS for review. The USDA-FS will first review these draft reports within 30 calendar days of receipt and request revisions and corrections as necessary. The revised draft report will be subject to USDA-FS review prior to the report being submitted to the SHPO and other agencies for comment. The Forest Service may request the permittee's contractor to submit the revised report to all parties. The SHPO review time will be 30 calendar days from their dated receipt of the document.
7. Assessing Effects. If, after review of the effects findings in the archaeological monitoring reports and/or other relevant data, the USDA-FS determines that underground mining activities has not affected historic properties, and/or if the USDA-FS determines that the effects are not adverse as defined in 36 CFR 800.5(a)(1 and 2), the USDA-FS will forward this determination to the SHPO for review. If, however, after review of these data, the USDA-FS determines and the SHPO concurs that the effects are adverse, the USDA-FS will continue to consult with the SHPO and other consulting parties and tribes to develop and evaluate alternatives, including data recovery measures to mitigate these adverse effects.
8. Treatment Plan. If the USDA-FS and SHPO agree that the underground mining has caused adverse effects, the USDA-FS shall ensure that the Permittee's Cultural Resource Consultant prepares a comprehensive Treatment Plan that will address the effects of the proposed undertaking on all historic properties determined to have been adversely affected. The Permittee will be financially responsible for development of the Treatment Plan and costs associated with data recovery, analysis and reporting to implement the Treatment Plan. The Treatment Plan shall identify the nature of the effects to which each property has been subjected and the treatment strategies proposed to minimize or mitigate the effects of the undertaking. The Treatment Plan shall meet the standards contained in Attachment A, "Standards for the Treatment Plan." The USDA-FS shall submit the Treatment Plan to the SHPO, other parties to this Agreement, and to identified interested parties (pursuant to the 1992 amendments to the Act) for review. The SHPO, and other parties will have 30 calendar days from receipt to comment on the Treatment Plan. If the SHPO, or other parties fail to submit their written comments within 30 calendar days of receipt, the USDA-FS shall implement the Treatment Plan. If the SHPO, or other parties object in writing to the Treatment Plan or any part thereof, within the review period, the USDA-FS will consult with the objecting party to resolve the objection.

If it is determined that more than one site has been adversely affected by underground mining activities and more than one site will require data recovery measures to mitigate adverse effects, a single, comprehensive research design and Treatment Plan is envisioned for this project through coordination by the Permittee's cultural resource consultant. The research design should reflect the site-specific character of the each site (age, cultural affiliation, site function) and the proposed treatment plan should take into account site-specific effects from underground mining. Though general research questions to be addressed through data recovery will be similar for sites in the area, the research design and treatment plan(s) should reflect the unique character and information potential of each affected historic property. Individual treatment plans may be submitted to the USDA-FS and SHPO for review and consideration. However, these site specific treatments, if required by circumstances, will be incorporated into the comprehensive Treatment Plan to follow. Review times for these specific treatments will be the same as the comprehensive Treatment Plan, above, although the USDA-FS may request expedited review.

9. The Permittee shall be responsible for protecting the cultural property during data recovery operations should data recovery actions be implemented. The Permittee shall also set forth written assurances that funding for fieldwork, analyses, and publication of results shall be made available for sites where data recovery and monitoring is enacted.

10. Curation of Specimens and records. The USDA-FS shall ensure that all records and materials resulting from identification and data recovery efforts are maintained and curated in accordance with 36 CFR 79. All costs of curation will be borne by the Permittee. With the exception of materials that may be repatriated in accordance with the provisions of the Native American Graves Protection Act of 1990 (NAGPRA), collections to be curated will be housed at the College of Eastern Utah Prehistoric Museum. The Permittee's cultural resource consultant will be required to acquire a valid curation agreement with the Museum prior to commencing data recovery operations.

11. Discovery Situations. The Permittee or cultural resource consultant employed by the Permittee shall bring to the attention of the Manti-La Sal National Forest Supervisor's Office any and all antiquities, or other objects of historic, paleontological, or scientific interest including, but not limited to, historic or prehistoric ruins or artifacts discovered as a result of this undertaking.

The Permittee's cultural resource consultant shall document the site on appropriate Intermountain Antiquities System Site (IMACS) records, photographs and detailed site maps showing site features, diagnostic artifacts, tools and natural features to facilitate relocating the site. Maps will show these features to within 90% accuracy. A permanent rebar datum (1/2" diameter, 3' length is the desired standard) will be established on the site and indicated on the site map to permit easy relocation of the discovery/feature. This datum point will be left in place.

The Permittee's cultural resource specialist will evaluate the site for its National Register eligibility and assess potential effects from underground mining. These findings shall be submitted to the USDA-FS. The USDA-FS will review these findings and forward its determination of eligibility and effect to the SHPO for review and comment. If the site is evaluated as significant and will be adversely affected by underground mining, a treatment plan will be developed in consultation with the USDA-FS and previously identified interested parties and tribes and the SHPO.

12. Human Remains. If human remains are discovered during monitoring, treatment or any other activities associated with the project, they will be secured and protected until such time as appropriate disposition has been determined, in accordance with applicable Federal statutes. Archaeological excavation in the immediate vicinity of the discovery will cease, but may continue on the remainder of the site.

The Manti-La Sal Forest archaeologist will be notified immediately by phone or in person, followed by written notification, of any discoveries of human remains, funerary objects, sacred objects, or objects of cultural patrimony. These items are subject to the requirements of Native American Graves Protection and Repatriation Act of 1990 (NAGPRA). General policy and direction for treatment of human remains will be addressed further in all Treatment Plans (and/or Data Recovery Plans) prepared for the project. In the absence of a specific plan, developed in consultation with a Tribe or Tribes, the USDA-FS will meet the requirements of NAGPRA for all discoveries of NAGPRA items including human remains, associated and unassociated funerary objects, sacred objects, and objects of cultural patrimony on a case by case basis in accordance with the implementing regulations set forth at 43CFR10.

13. Stipulations 10, 11, and 12 dealing with discoveries of historic properties, discovery and/or treatment of human remains and curation of specimens will be referenced in The Mine Plan of Operations and any approved Treatment Plans.

14. Should any party to this Agreement object, in writing, within 30 days to actions pursuant to this Agreement, the USDA-FS shall consult with the objecting party to resolve the objection. If the USDA-FS determines that the objections cannot be resolved, the USDA-FS shall forward all documentation relevant to the dispute to the Council pursuant to (36CFR800.6(c)(ii)). Within 30 days after receipt of all pertinent documentation, the Council will either:

- a. Provide the USDA-FS with recommendations, which the USDA-FS will take into account in reaching a final decision regarding the dispute; or
- b. Notify the USDA-FS that it will comment pursuant to 36 CFR Part 800.7(c) and proceed to comment. Any Council comment provided in response to such a request will be taken into account by the USDA-FS with reference to the subject of dispute.

Any recommendation or comment provided by the Council will be understood to pertain only to the subject of the dispute; the USDA-FS responsibility to carry out all actions under this Agreement that are not the subject of the dispute will remain unchanged.

15. If it is determined that a historic property is being adversely affected or is likely to be adversely affected by subsidence, the Forest Service should consult with the other parties (as provided in Stipulation 7) and resolve any disputes among the parties following procedures in Stipulation 13.

16. Any party to this Agreement may request that it be amended, whereupon the parties will consult in accordance with 36 CFR Part 800.6(c)(7) to consider such amendment.

17. In the event that the ownership of the Permittee(s) changes, such change will be reflected by adding the new owner/mine operator's name signatory page without modification to this Agreement and without concurrence by other signatories to this Agreement.

18. Any one of the parties to this Agreement may terminate it by providing 30 calendar days notice, in writing, to the other parties, provided that the parties will consult during the period prior to termination to seek agreement on amendments or other actions that would avoid termination. In the event of a termination, the USDA-FS will comply with 36 CFR Part 800.3 through 800.6 with regard to individual actions covered by this Agreement.

19. In the event the Forest Service does not carry out the terms of this Agreement, the USDA-FS will comply with 36 CFR 800.3 through 800.6 with regard to individual actions covered by this Agreement.

20. This instrument in no way restricts the Forest Service or the Cooperators from participating in similar activities with other public or private agencies, organizations, and individuals.

21. Pursuant to Section 22, Title 41, United States Code, no member of, or Delegate to, Congress shall be admitted to any share or part of this instrument, or any benefits that may arise therefrom.

22. This instrument is executed as of the date of last signature and, unless sooner terminated, is effective through April 30, 2005 at which time it will expire unless renewed.

23. The principal contacts for this instrument are:

Paul Baker  
Utah Division of Oil, Gas and Mining  
1594 West North Temple  
Salt Lake City, UT 84114  
(801) 538-5261

Mike Davis  
Canyon Fuel Company, L.L.C.  
397 South 800 West  
Salina, UT 84654  
(435) 286-4421

Stan McDonald  
Manti-La Sal National Forest  
599 West Price River Drive  
Price, UT 84501  
(435) 637-2817

James Dykman  
Utah State Historic Preservation Office  
300 Rio Grande  
Salt Lake City, UT 84101-1182  
(801) 533-3555

23. Principal Contacts (continued)

Carol Gleichman  
Advisory Council on Historic Preservation  
12136 West Bayaud Avenue  
Suite 330  
Lakewood, CO 80228  
(303) 969-5110

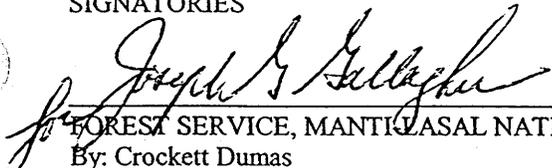
24. This instrument is neither a fiscal nor a funds obligation document. Any endeavor or transfer of anything of value involving reimbursement or contribution of funds between the parties to this instrument will be handled in accordance with applicable laws, regulations, and procedures including those for Government procurement and printing. Such endeavors will be outlined in separate agreements that shall be made in writing by representatives of the parties and shall be independently authorized by appropriate statutory authority. This instrument does not provide such authority. Specifically, this instrument does not establish authority for noncompetitive award to the cooperater of any contract or other agreement. Any contract or agreement for training or other services must fully comply with all applicable requirements for competition.

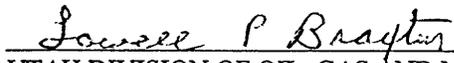
25. Modifications within the scope of this instrument shall be made by the issuance of an executed modification agreed to by all signatories prior to any changes being performed.

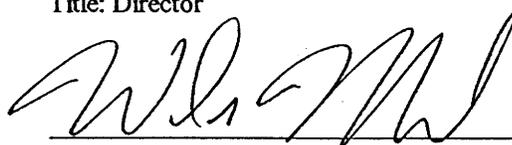
26. Any information furnished to the Forest Service under this instrument is subject to the Freedom of Information Act (5 U.S.C. 552).

Execution and implementation of this Agreement evidences that the USDA-FS has satisfied its Section 106 responsibilities as implemented by 36CFR800 (as amended 1999), for all individual activities on the undertaking and that UDOGM has met their responsibilities to consult with the Utah State Historic Preservation Office regarding the protection of historic properties.

SIGNATORIES

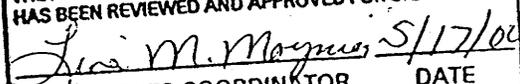
 19 May 2000  
FOREST SERVICE, MANTICASAL NATIONAL FOREST  
By: Crockett Dumas Date:  
Title: Acting Forest Supervisor

 5/25/00  
UTAH DIVISION OF OIL, GAS AND MINING  
By: Lowell P. Braxton Date:  
Title: Director

 5/30/2000  
UTAH STATE HISTORIC PRESERVATION OFFICER  
By: Wilson Martin Date:  
Title: Deputy SHPO

CONCURRENCE:

 5/24/2000  
CANYON FUEL COMPANY, L.L.C.  
By: Richard D. Pick Date:  
Title: President and CEO

THE AUTHORITY AND FORMAT OF THIS INSTRUMENT  
HAS BEEN REVIEWED AND APPROVED FOR SIGNATURE  
 5/17/00  
AGREEMENTS COORDINATOR DATE

ATTACHMENT A  
STANDARDS AND GUIDELINES FOR MONITORING,  
MONITORING REPORTS, TREATMENT AND PERMITS

I. Standards for Monitoring and Monitoring Reports:

Standards for Monitoring

The Permittee's consultant shall submit a plan to monitor sites at the required monitoring frequencies for sites outlined in Attachment B. Monitoring will be implemented at the agreed upon intervals (see Attachment B) and continue through the conclusion of the liability period for the mine plan and/or subsidence is determined by the USDA-FS to be complete. The monitoring plan shall be developed in accordance with the procedures outlined in Item #4 of this agreement, stipulations listed below and the Standard for Monitoring Reports.

Standards for Annual Monitoring Reports.

A. Annual Monitoring Report: The Annual Monitoring Report is to be a brief report displaying:

- 1) Brief Description of the Project and Rationale for Monitoring.
- 2) Brief Description of Sites Monitored.
- 3) Monitoring Methods.
- 4) Monitoring frequency.
- 5) Monitoring observations for each site displaying monitoring criteria and results, photographs of each site.
- 6) Monitoring records will be attached as an Appendix.
- 7) Summary of Monitoring results including observed effects or unchanged situations.
- 8) Conclusions and recommendations, changes to the monitoring plan or for remedial actions.

B. Standards for Final Monitoring Report

At the conclusion of all monitoring (estimated to occur approximately three years subsequent to the completion of all subsidence at all sites, see Attachment B for further discussion on monitoring schedules) the Permittee's consultant shall submit a Final Cultural Resource Monitoring Report. The Cultural Resource Monitoring Report should include the following information:

1) Introduction

a. Description of the Project Area

b. Description of the proposed undertaking, background information on previous environmental analysis, Section 106-NHPA compliance required for the coal leasing project and administration of the Mine Plan, a brief discussion of anticipated effects to cultural resources from underground mining, and the rationale for implementation of the monitoring program.

c. Locational information on 7.5 minute USGS Topographical Quadrangle including name, Section and Township/Range, land status (BLM, Forest Service, etc.), and county.

d. USGS map (1:24000 scale) showing location and boundaries of project area. Map should be clearly labeled and of reproducible quality.

e. Discussion of all sites monitored including site description, location, size, age, function, identified features and artifacts, and middens. A USGS map (1:24000 scale) showing the location of all monitored sites shall be included displaying Forest and Smithsonian Site numbers. Photographs of all monitored sites should be included in this section.

f. Discussion of anticipated site-specific impacts (for each monitored site) posed by underground mining including predicted subsidence effects as displayed in the Pines Environmental Impact Statement, the Mining and Reclamation Plan, pertinent technical reports and other relevant data sources.

## 2) Environment

- a. Brief description of the environmental setting including topography, vegetation, elevation, water sources, ground visibility, and human alteration or disturbance, as appropriate.

## 3) Methodology

- a. Monitoring Information (general overview, purpose and scope of monitoring).
- b. Names and designations of field personnel.
- c. Dates of fieldwork.
- d. Monitoring techniques; types of monitoring employed including measurement of subsidence, standardized photography, field mapping, frequency of field monitoring and measurable criteria for assessing effects to the monitored sites. This will also include discussion of methodology and criteria employed during field monitoring to assess changes to the character of sites caused by impacts other than underground mining.
- e. The means relied upon for identifying the location of any monitoring reference points (e.g. photo reference points, elevational mapping points to measure vertical/horizontal displacement of ground surfaces).
- f. Photographs of fieldwork and monitoring techniques should be included in this section along with any graphic illustrations that will aid in explaining monitoring techniques to readers.
- g. Background data on monitoring techniques elsewhere which are applicable to the employed monitoring plan.

## 4) Monitoring Results

- a. A brief summary of the total number of sites monitored, the period and frequency of monitoring, and an overall assessment of the amount of subsidence that has occurred at each site and the observed impacts.
- b. Site-by-site descriptions of the monitoring results including the types of impacts observed, severity or degree and impacts and a discussion of observed impacts versus predicted impacts.
- c. Site-by-site evaluations of impacts to the qualities of sites that make them eligible for listing in the National Register of Historic Places.

## 5) Conclusions

- a. A brief summary of overall impacts to the monitored sites in the Project.
- b. Discussion and assessment of the effectiveness of monitoring techniques and recommendations for any changes to those techniques.
- c. Conclusions regarding direct, indirect and cumulative impacts to sites observed during monitoring including a summary of effects to the qualities of sites that make them eligible to the National Register.
- d. Recommendations for management including data recovery, further monitoring or other work necessary to mitigate any adverse impacts caused by underground mining activities.

## 6) Appendices

- a. Monitoring records. Copies of monitoring records and data recording sheets, photographs and maps.
- b. Updated site records to document changes to site character observed during monitoring.

C. The time frames for submitting reports are as follows:

1. Annual Report:

Draft Annual report of monitoring results: January 15

Forest Service review comments (and addressing comments of UDOGM): February 15

Revision and Final Annual Report: March 15

2. Final Monitoring Report

Draft of Final Monitoring Report: 6 months following the conclusion of the permit.

Forest Service Review comments: 30 days after receipt of the draft final report.

Revision and submission of final report: 30 days after USDA-FS comments.

D. Number of report copies and submission. Two copies of the annual reports and final report will be submitted to the USDA-Forest Service. Distribution will be coordinated through the USDA-Forest Service and the Permittee's Cultural Resource Consultant. Except as noted below, each party to this agreement will be provided with copies of the draft and final annual report and drafts and final copies of the final comprehensive report. Draft report copies will be submitted to the parties in this agreement by Canyon Fuel Company. Draft copies of reports will not be submitted to SHPO. Final copies will be submitted to SHPO and such submission will be coordinated through the USDA-Forest Service and the Permittee's Cultural Resource Consultant. The report shall meet the Secretary of Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 FR 44728-44738), (Secretary's Standards), and following the aforementioned outline for the Monitoring Reports. The Permittee's consultant will also provide the USDA-Forest Service with one unbound, camera ready, single spaced text with original archivally processed photographic plates of this report.

## II. Guidelines for Treatment

### A. General

1) The Treatment Plan will conform to the Secretary's Standards. Treatment recommendations should be commensurate with the nature and significance of the involved cultural resources. Recommendations should consider a range of alternative treatments including protection measures and data recovery.

### B. Standards for the Treatment Plan.

1) The Data Recovery Plan shall conform to the Secretary's Standards and should provide the context and justification for, and a detailed description of, the proposed data recovery work.

#### 2) Protection Measures

a. Recommendations for physical or administrative protection measures must consider the nature and source of deterioration of the properties.

b. If long term physical or administrative protection measures are recommended, proposals must include justification and undertaking specifications.

#### 3) The Treatment Plan shall include at a minimum:

a. The properties or portions of properties where data recovery is to be carried out;

b. Any property, properties, or portions of properties that will be destroyed, altered, or transferred without data recovery;

c. The research questions to be addressed through the data recovery, with an explanation of their relevance and importance;

d. The methods to be used, with an explanation of their relevance to the research questions;

e. The methods to be used in analysis, data management, and dissemination of data;

f. The proposed disposition of recovered materials and records including the disposition of Native American sacred items, human remains, and grave goods;

- g. Proposed methods for involving the interested public in data recovery;
- h. Proposed methods for disseminating results of the work to the interested public;
- i. Proposed methods by which relevant Native American Tribes and local governments will be kept informed of the work and afforded an opportunity to participate;
- j. A proposed schedule for the submission of progress reports to the USDA-Forest Service and cooperating agencies.
- k. Proposed methods for site rehabilitation/stabilization following excavation activities, and tied to the Permittee's Plan of Development.
- l. Address security measure(s) for site protection during excavation.
- m. Address how cultural artifacts and samples (carbon 14, pollen, etc.) collected will be secured and protected from the time of removal through excavation or sampling to the final curation facility.

#### C. Draft Report

- 1) Preliminary Summary Report of the data recovery will be issued within 60 (sixty) days from completion of the project data recovery.
- 2) The Permittee will submit a data recovery draft report to the USDA-Forest Service following completion of all planned treatment within 18 months after completion of project construction. This report will meet the Secretary's Standards.
- 3) Distribution of the data recovery draft report for review and comment will be coordinated through the USDA-Forest Service and the Permittee's Cultural Resource Consultant. The data recovery draft report will be reviewed by the Forest Service. Copies will also be distributed to each SHPO and agency, with comments made back to the Permittee's Cultural Resource Consultant within 30 calendar days. The Forest Service will then review the corrected draft for completeness and for appropriate incorporation of review comments prior to acceptance of the revised draft. The Forest Service will submit the revised data recovery draft report to all the signatories to the Agreement for their review. There will be a 30 calendar day period for review of the revised draft.

#### D. Final Report

- 1) The Permittee's Cultural Resource Consultant shall submit a data recovery final report based on the review and comments to the Forest Service. The Forest Service will follow the same process and time frames established in Stipulation 5 of this document in review and preparation of the final report.
- 2) Distribution of copies of the data recovery final report will be coordinated through the Forest Service and the Permittee's Cultural Resource Consultant. The number of copies to be produced will be determined by Forest Service in coordination with the Cultural Resource Consultant. At a minimum, copies of the report will be made available to the Council, the SHPO, the Forest Service, the Permittee, reviewing agencies, and all interested parties.
- 3) The Permittee's Cultural Resource Consultant will provide the Forest Service with one unbound, camera ready, single spaced text with archivally processed photographic plates of the final data recovery report.

### III. Standards for Permits

#### A. General Standards

1) Each cultural resource contractor performing work on National Forest System lands must have cultural resources permits issued by the appropriate authority. These include, but may not be limited to, inventory and excavation permits issued by the Forest Service, state and local permits as required.

**ATTACHMENT B:  
LIST OF SITES TO BE MONITORED**

State/Forest Site Numbers	Site Name	Site Type	Anticipated Impacts	Monitoring Frequency *
42SV2492/ML-3582		Prehistoric Rockshelter	Low Risk for roof failure	Monitoring Schedule B
42SV2423/ML-3439	Refugia Shelter	Prehistoric Rockshelter	None. Mine area below will be fully supported	Monitoring Schedule A
42SV2425/ML-3441		Prehistoric Lithic Scatter	Potential surface cracking	Monitoring Schedule A
42SV2430/ML-3446	Elusive Peacock Shelter	Prehistoric Rockshelter	None. Mine area below will not be mined.	Monitoring Schedule A
42SV2432/ML-3448		Prehistoric Rockshelter	Will be fully supported/low risk of structural failure	Monitoring Schedule A
42SV2433/ML-3449	Big Mac Shelter	Prehistoric Rockshelter	Moderate risk of roof failure	Monitoring Schedule B
42SV2434/ML-3450	Little Mac Shelter	Prehistoric Rockshelter	Moderate risk of roof failure	Monitoring Schedule B
42SV896	Crazy Bird Shelter	Prehistoric Rockshelter	Data recovery implemented under previous 106 consultation; only minor spalling outside of shelter has occurred.	Monitoring Schedule C
42SV2386		Prehistoric Lithic/Ceramic Scatter	Potential surface cracking	Monitoring Schedule C
42SV2387		Prehistoric Lithic Scatter/Rock Art	Some potential for surface cracking	Testing, Monitoring Schedule C
42SV2388		Prehistoric Lithic and Groundstone Artifact Scatter	Limited potential for surface cracking	Monitoring Schedule C
42SV2389		Prehistoric Rockshelter	Potential for failure of portion of shelter roof	Testing, Monitoring Schedule C
42SV2341/ML-3335		Prehistoric Rockshelter	Within area of active mining/potential for roof failure	Monitoring Schedule B

**FOOTNOTES:**

***Monitor Schedule A:*** Sites listed in this schedule are located in areas that will be mined using full-support methods (e.g. gateroad entry area where pillars are left in place) or are close to areas to be mined. Monitoring schedule for these sites is as follows: (a) 6 months prior to the mining, the site will be monitored once to provide baseline conditions; (b) After the onset of mining, the site will be monitored once within the following six months (1 to 6 months after the initiation of active subsidence) and once in the following six months (6-12 months after the

ATTACHMENT B, List of Sites to be Monitored, Footnotes-Monitor Schedule A (continued):

initiation of active subsidence); and (c) thereafter, the site will be monitored once per year for two (2) more years at the rate of once per year (when the effects of subsidence are estimated to be complete). If subsidence monitoring data indicates further movement of the ground surface, monitoring will continue at the rate of once per year until such time that subsidence monitoring data indicates no further movement of the ground surface.\*\*

**Monitoring Schedule B:** Sites listed in this schedule are located in areas which will be mined under and subsided. The monitoring schedule for these sites is as follows: (a) 6 months prior to the period of mining (initiated when the site is located within the angle of draw), the site will be monitored once to provide baseline conditions; (b) after the onset of active subsidence, the site will be monitored once per month within the following six months (1 to 6 months after the initiation of active subsidence) and quarterly (once per 3 months) in the following six months (6-12 months after the initiation of active subsidence); (c) thereafter, the site will be monitored once per year for two (2) more years at the rate of once per year (when the effects of subsidence are estimated to be complete). If subsidence monitoring data indicates further movement of the ground surface, monitoring will continue at the rate of once per year until such time that subsidence monitoring data indicates no further movement of the ground surface.\*\*

**Monitoring Schedule C:** Sites listed in this schedule are located in areas currently being undermined and are under approved mine plans. Sites in this schedule will be monitored once per year for at least two (2) years until such time that subsidence monitoring data indicates no further movement of the ground surface and that subsidence is complete.\*\*

Note: Some sites may be located in areas that will be (1) mined first using full support methods and (2) later subjected to subsidence from adjacent mining by full-extraction methods (long-wall panels). Thus, both Monitoring Schedules A and B may apply.

\*Final assignment of sites to either Monitor Schedule A or Monitor Schedule B or both is contingent upon approval of the final mine plan.

\*\*Final Monitoring Report Schedule will commence at the end of the final two year period of monitoring.

UNITED STATES  
DEPARTMENT OF THE INTERIOR

This mining plan approval document is issued by the United States of America to:

Canyon Fuel Company, LLC  
6955 S. Union Park Center  
Suite 540, Midvale, UT 84047

for a mining plan modification for Federal lease UTU-76195 at the SUFCO Mine. The approval is subject to the following conditions. Canyon Fuel Company, LLC is hereinafter referred to as the operator.

1. Statutes and Regulations.--This mining plan approval is issued pursuant to Federal lease UTU-76195; the Mineral Leasing Act of 1920, as amended (30 U.S.C. 181 et seq.); and in the case of acquired lands, the Mineral Leasing Act for Acquired Lands of 1947, as amended (30 U.S.C. 351 et seq.). This mining plan approval is subject to all applicable regulations of the Secretary of the Interior which are now or hereafter in force; and all such regulations are made a part hereof. The operator shall comply with the provisions of the Water Pollution Control Act (33 U.S.C. 1151 et seq.), the Clean Air Act (42 U.S.C. 7401 et seq.), and other applicable Federal laws.

2. This document approves the mining plan modification for Federal lease UTU-76195 at the SUFCO Mine and authorizes coal development or mining operations on the Federal lease within the area of mining plan approval. This authorization is not valid beyond:

Township 20 South, Range 5 East, Salt Lake Baseline and Meridian (SLM)

Section 35, S1/2NE1/4, SE1/4NW1/4, NE1/4SW1/4, S1/2SW1/4, SE1/4

Section 36, W1/2SW1/4, SE1/4SW1/4

Township 21 South, Range 5 East, SML

Section 1, lots 3-4, S1/2SW1/4, SW1/4SE1/4

Section 2, lots 1-4, S1/2s1/2

Section 10, E1/2

Sections 11-14 all

Section 15, E1/2

Section 22, E1/2

Section 23-24 all

Section 25, N1/2, N1/2S1/2

Section 26, N1/2, NE1/4SW1/4, E1/2NW1/4SW1/4, SE1/4

Township 21 South, Range 6 East, SLM

Section 19, lots 3-4, E1/2SW1/4

Section 30, lots 1-3, E1/2NW1/4, NE1/4SW1/4.

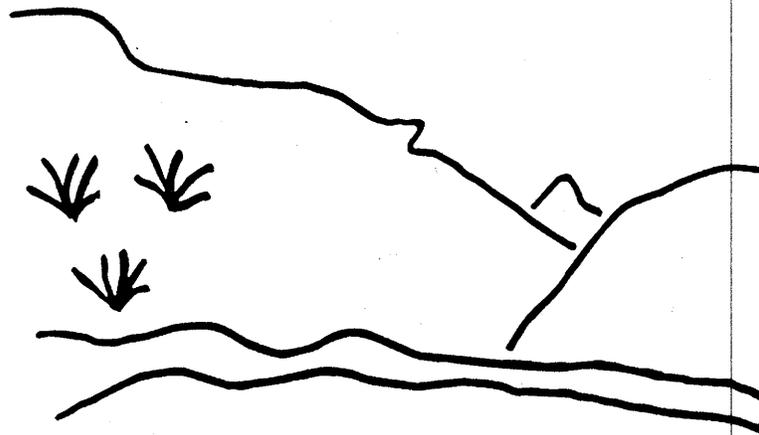
These lands encompass 7,171.7 acres as shown on the map appended hereto as Attachment A.

3. The operator shall conduct coal development and mining operations only as described in the complete permit application package, and approved by the State of Utah, Department of Natural Resources, Division of Oil, Gas, and Mining, except as otherwise directed in the conditions of this mining plan approval.
4. The operator shall comply with the terms and conditions of the lease, this mining plan approval, and the requirements of the Utah Permit No. ACT/041/002 issued under the Utah State program, approved pursuant to the Surface Mining Control and Reclamation Act of 1977 (30 U.S.C. 1201 *et seq.*).
5. This mining plan approval shall be binding on any person conducting coal development or mining operations under the approved mining plan and shall remain in effect until superseded, canceled, or withdrawn.
6. If during mining operations unidentified prehistoric or historic resources are discovered, the operator shall ensure that the resources are not disturbed and shall notify the State of Utah, Department of Natural Resources, Division of Oil, Gas, and Mining and the Office of Surface Mining Reclamation and Enforcement (OSM). The operator shall take such actions as are required by the State of Utah, Department of Natural Resources, Division of Oil, Gas, and Mining in coordination with OSM.
7. The Secretary retains jurisdiction to modify or cancel this approval, as required, on the basis of further consultation with the U.S. Fish and Wildlife Service pursuant to section 7 of the Endangered Species Act, as amended, 16 U.S.C. §§ 1531 *et seq.*

  
Assistant Secretary,  
Land and Minerals Management

JUL 20 2000  
Date

# State of Utah



## Utah Oil Gas and Mining

### Coal Regulatory Program

SUFCO  
Pines Track Significant Revision  
ACT/041/002- SR99D-4  
Technical Analysis  
May 30, 2000

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INTRODUCTION

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## INTRODUCTION

The Division received a significant revision to the SUFCO Mine Mining and Reclamation Plan on July 16, 1999. This revision is for the addition of Federal Leases UTU-76195, Pines Tract Lease (PTL). Division determined the proposal to be administratively incomplete on September 7, 1999. The permittee submitted additional information on October 18, 1999, and the Division determined the new information Administratively Complete and ready for technical review.

Submittal of the PTL follows the permitting of the Box Canyon Amendment, the 150 acre Amendment and the 160 acre Incidental Boundary Change. These mining areas lie west of the proposed Pines Tract Lease. Mining has already taken place adjacent to Box Canyon and will advance through the 150 acre revision by the end of June, 2000. No surface facilities are planned other than a breakout in Muddy Creek Canyon for ventilation.

Canyon Fuel Company, LLC, (Canyon Fuel) owner and operator of the SUFCO Mine submitted a significant revision to their Mining and Reclamation Plan (MRP) on June 8, 1999. The proposed tract encompasses 5,786 acres and contains an estimated 71 million tons of recoverable coal reserves. The tract lies directly east of the existing mine permit area. The addition of the PTL will increase production of the mine and extend operations 15 to 20 years.

This lease addition has been under review by the U.S. Forest Service (USFS) and the U.S. Bureau of Land Management (BLM) through the NEPA process, resulting in development of the Pines Tract Project, Final Environmental Impact Statement (FEIS). On January 28, 1999, the USFS and BLM issued a Record of Decision (ROD) regarding this proposed action. As the Surface Management Agency, the Forest Service has conducted their own review and submitted r comments.

This significant revision has been studied and evaluated along with information drawn from all those known to have been developed. The format presented here will be to first review the mine Operator's Application and then draw from the following:

- Pines Tract Project, Final Environmental Impact Statement, USFS and BLM, (FEIS)
- Evaluation and Prediction of Potential Surface Subsidence Impacts from Longwall Mining under the Box Canyon Area, Sufco Mine, Agapito Associates, Inc.(AGAPITO)
- Hydrology and Effects of Mining in the Quitcupah and Pines Coal-Lease Tracts, Central Utah, U.S.G.S. Report 90-4084, by Thiros & Cordy (USGS)
- Probable Impact From Longwall Coal Mining at the SUFCO Mine to the Hydrologic Balance of Box Canyon Creek, Sevier County, Utah (MAYO)

## SUMMARY OF OUTSTANDING DEFICIENCIES

The Technical Analysis regarding the proposed permit changes is complete at this time, no outstanding deficiencies remain.

ADMINISTRATIVE INFORMATION

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## ADMINISTRATIVE INFORMATION

### OWNERSHIP AND CONTROL

Regulatory Reference: R645-301-112

#### Analysis:

The application includes no changes to this section. All land within and contiguous to the proposed addition to the permit area is owned by the United States, so no updates to the land ownership section are needed.

#### Findings:

Information provided in the application is considered adequate to meet the requirements of this section of the regulations. The Division will need to check ownership and control information currently in the mining and reclamation plan with the applicant violator system.

### VIOLATION INFORMATION

Regulatory Reference: R645-301-113

#### Analysis:

The permittee has proposed to update violation information. Information on violations issued prior to 1993 would be eliminated, and more recent violations would be added. The permittee has proposed no other changes to this section of the mining and reclamation plan.

#### Findings:

Information provided in the proposal is considered adequate to meet the requirements of this section of the regulations. Violation information will need to be checked in the applicant violator system.

### RIGHT OF ENTRY

Regulatory Reference: R645-301-114

#### Analysis:

The application contains a copy of Coal Lease UTU-76195 which was issued by the Bureau of Land Management to Canyon Fuel Company on September 1, 1999. The application text also includes a

new legal description and acreages for the lease. This satisfies the requirements of this section of the regulations.

**Findings:**

Information provided in the proposal is considered adequate to meet the requirements of this section of the regulations. In the lease area, surface and mineral rights are not severed.

**UNSUITABILITY CLAIMS**

Regulatory Reference: R645-301-115

**Analysis:**

The application includes no changes in this section. The Division has no indication the proposed addition to the permit area is within an area designated as unsuitable for coal mining and reclamation operations or under study for such designation.

The application identifies no occupied dwellings within the proposed addition. The surface of the plateau contains unimproved Forest Service roads that could be affected by subsidence, and the Environmental Impact Statement (EIS) considers these effects. The Forest Service did not restrict mining to reduce potential effects on roads, so their decision to allow mining constitutes approval to undermine the roads.

**Findings:**

Information provided in the proposal is considered adequate to meet the requirements of this section of the regulations. The Division is not aware of any petition to designate the area as unsuitable for coal mining and reclamation operations.

**PERMIT TERM, INSURANCE, PROOF OF PUBLICATION, AND FACILITIES OR STRUCTURES USED IN COMMON**

Regulatory Reference: R645-301-116, R645-301-117

**Analysis:**

The proposed revision will not affect the permit term.

The insurance policy currently on file with the Division meets regulatory requirements.

On February 7, 2000, the Division approved an amendment where the Pines Tract public notice was included in the existing mining and reclamation plan.

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ADMINISTRATIVE INFORMATION

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There are no changes to the section dealing with facilities or structures used in common.

**Findings:**

Information provided in the proposal is considered adequate to meet the requirements of this section of the regulations.

## ENVIRONMENTAL RESOURCE INFORMATION

Regulatory Reference: Pub. L 95-87 Sections 507(b), 508(a), and 516(b); 30 CFR Sec. 783., et. al.

### GENERAL

Regulatory Reference: 30 CFR Sec. 783.12; R645-301-411, -301-521, -301-721.

#### Analysis:

PTL is located on the high Wasatch Plateau of the Manti-La Sal National Forest in Sanpete County. The surface rock forms near level outcrops that rims the area around to steep gorges of Box Canyon and Muddy Creek Canyon. At the 8000 to 9000 feet elevation the area usually receive several feet of snow. The hard sandstone cap rock reduces erosion so that the high mountain streams flow clear and product a high quality runoff. The clarity of flow changes as it cuts over the softer clays, muds and shales of the lower formations which form the canyon slopes and bottoms.

The massive Castlegate Sandstone forms the consolidated rim of Box Canyon and Muddy Creek Canyon. The coal bearing units are found in the Blackhawk Formation which underlies the Castlegate Sandstone. The Blackhawk Formation contains interbedded sequences of sandstones, siltstones, shales, mudstones and coal. The Upper Price River Formation overlies the area to the east of the canyon and some knolls of the proposed lease.

#### Findings:

The permittee has submitted sufficient information for this section.

### PERMIT AREA

Regulatory Requirements: 30 CFR Sec. 783.12; R645-301-521.

#### Analysis:

The permit boundaries are shown on Plate 5-6, Land Ownership and Permit Area Map. The plate has a scale of 1" = 2000'. It shows the existing permit boundaries and the proposed Pines Tract expansion.

On Page 1-33 through 1-35 the Permittee lists the legal descriptions for the federal leases and fee ground. The Permittee also states that 13.03 acres under U.S. Forest Service special use permits are included in the permit and disturbed areas.

#### Findings:

The Permittee has met the minimum requirements of this section.

ENVIRONMENTAL RESOURCE INFORMATION

**HISTORIC AND ARCHEOLOGICAL RESOURCE INFORMATION**

Regulatory Reference: 30 CFR Sec. 783.12; R645-301-411.

**Analysis:**

The current mining and reclamation plan, as amended for the recent 150-acre incidental boundary change, contains a report on cultural resources in the Pines Tract. The Pines Tract contains ten previously recorded and twelve newly identified cultural resource sites. Of these, seven sites are considered eligible for nomination to the National Register of Historic Places. Also discovered were eight isolated artifacts.

The sites include a historic sawmill and associated buildings and several lithic scatters and rock shelters. The rock shelters are near canyon rims, and the sawmill is in the upper part of the East Fork of Box Canyon.

The current mining and reclamation plan indicates the permit area contains no cemeteries, public parks, or units of the National System of Trails or the Wild and Scenic Rivers System, and none are identified in the application. Therefore, it can be assumed none are in the proposed addition to the permit area.

**Findings:**

Information provided in the proposal is adequate to meet the requirements of this section of the regulations.

**CLIMATOLOGICAL RESOURCE INFORMATION**

Regulatory Reference: 30 CFR Sec. 783.18; R645-301-724.

**Analysis:**

Climatological information is provided in Chapter 7, page 7-23. Data has been collected at the mine surface facilities since July 1996. Normal annual precipitation at the mine is about 18 inches per year.

**Findings:**

The permittee has submitted sufficient information for this section.

**VEGETATION RESOURCE INFORMATION**

Regulatory Reference: 30 CFR Sec. 783.19; R645-301-320.

**Analysis:**

Appendix 3-9 contains a discussion of plant communities in the lease area, including dominant species and approximate percentage of the area covered by each community. The proposed breakout is in an alderleaf mountain mahogany/Salina wild rye community.

Vegetation communities are mapped on Plate 3-1. This map shows riparian communities along both forks of Box Canyon Creek and next to Muddy Creek.

The Pines Tract portion of Plate 3-1 has vegetation mapping information directly from the Environmental Impact Statement. The vegetation community classification scheme is different in the Pines Tract compared to the rest of the permit area, and boundary lines do not match between the Pines Tract and Quitchupah areas. The map shows the sources for the two different sets of information.

The current mining and reclamation plan contains quantitative vegetation information for several areas within the permit area, not just the surface facilities area. The vegetation communities sampled include at least three that are similar to the mountain mahogany/Salina wild rye community in the breakout area, including ponderosa pine/manzanita/mountain brush, mountain brush, and pinyon/juniper/mountain mahogany.

For the breakout, the permittee only plans to disturb 0.017 acres, an area of about 720 square feet or the equivalent of a square with sides of about 27 feet. Considering the small size of the breakout and considering the current plan contains quantitative vegetation information for communities very similar to what exists at the proposed breakout, the Division does not feel additional quantitative vegetation data is needed for the breakout area.

By lease stipulation, the permittee is required to monitor the effects of underground mining on vegetation, and the current mining and reclamation plan contains a plan to do this with color infrared photography every five years. Color infrared photography can detect water stress, so it is appropriate for monitoring potential effects of mining on riparian vegetation.

The Forest Service commented that the permittee should monitor some hanging garden communities in Box Canyon. The permittee is monitoring Link Trailcumbines and other vegetation in the main fork of Box Canyon using photopoints, and the mine plan contains a commitment to do this monitoring.

Link Canyon contains some segments of riparian and/or wetland vegetation, particularly below the Link Canyon Mine portals. These areas are shown on Plate 3-1. These areas should be specifically included in the color infrared photographs.

**Findings:**

Information provided in the proposal is adequate to meet the requirements of this section of the regulations.

## FISH AND WILDLIFE RESOURCE INFORMATION

Regulatory Reference: 30 CFR Sec. 784.21; R645-301-322.

### Analysis:

#### Wildlife Information

Appendix 3-9 contains a report with a discussion of wildlife use of the area. According to this report, there are about 80 species of mammals, 130 species of birds, eight amphibians, and 17 reptiles that may occur in the Pines Tract area.

Plate 3-2 shows elk ranges, and Plate 3-3 shows deer ranges and raptor nests. Most of the proposed addition to the permit area contains critical elk winter range. Nearly all of the area is high priority deer winter range.

The proposed addition contains six golden eagle nests and one falcon scrape. According to Plate 3-3, four of the eagle nests were inactive and two were tended, but it is not clear how current this data is. The permittee commits in the mining and reclamation plan to monitor any area with suitable habitat where raptor nests could be adversely affected by mining for both known and potential new nests. This will be done annually on a helicopter flight near the end of May.

Muddy Creek and the lower portion of Box Canyon Creek support fish populations. These barely enter parts of the Pines Tract lease but would not be undermined.

#### Threatened and Endangered Species

As part of the 150-acre incidental boundary change, lists of threatened, endangered, and sensitive species have been recently updated. Appendix 3-9 is a report on the vegetation and wildlife of the Pines Tract area, and it discusses threatened, endangered, and sensitive species that might be in the area. All but one of the listed threatened and endangered plant species discussed in the report grow at elevations lower than the mine; they are basically desert species and are adapted to soils derived from geologic formations not found within the Pines Tract area. The only high elevation species is Heliotrope milkvetch (*Astragalus montii*) which is known only from Flagstaff limestone at elevations of 10,990 to 11,320 feet on the Wasatch Plateau. Flagstaff limestone does not outcrop in the current permit area or in the proposed addition, and the highest elevation in the mine area is about 9160 feet on Duncan Mountain, well below the reported lower elevation limit for this species.

Table 2 of the report in Appendix 3-9 lists seven sensitive plant species that were investigated for the EIS. Of these, only one, the Link Trail columbine (*Aquilegia flavescens* Var. *rubicunda*), has been documented to occur in the area. Two other species, the Arizona willow (*Salix arizonica*) and canyon sweetvetch (*Hedysarum occidentale* Var. *canone*) have potential habitat in the proposed addition to the permit area, but they have not been found.

Link Trail columbines have been found in both the main and east forks of Box Canyon, and although they have been found in areas with no obvious subsurface water source, they mostly grow in relatively wet areas, often in cracks in the sandstone. The most likely effects to Link Trail columbine

plants would be from loss of water. Some of the populations in the main fork of Box Canyon are being monitored for possible effects caused by mining. The east fork has not been surveyed as extensively as the main fork, and it is not known if the permittee documented the location(s) of any population(s).

Longwall mining to the east of the main fork of Box Canyon is expected to occur in 2000, so the effects of this mining on groundwater and on the populations of Link Trail columbines in this canyon should be evident before any mining occurs east of the east fork of Box Canyon. The permittee has committed monitor columbines in the east fork if it is determined that mining negatively affects the populations monitored as part of the 150-acre incidental boundary change east of the main fork.

Table 3 in Appendix 3-9 includes ten listed threatened, endangered, and candidate wildlife species that were evaluated for occurrence in the Pines Tract area. These are the same species included in the EIS. Peregrine falcons were included in the analysis, but they are no longer listed as threatened or endangered. They are still protected, however.

Bald eagles could occasionally pass through or roost in the area, but the mine is unlikely to have any negative effects.

According to the EIS, the willow flycatcher has recently been found on the Wasatch Plateau north of the mine area, but it is not known if this was the southwestern willow flycatcher subspecies. The Forest Service reviewed habitats in the project area for the EIS and determined that "... while some habitat does exist in the area, this habitat is not suitable as willow flycatcher nesting habitat."

Except for peregrine falcons which have been documented to nest within about one-half mile of the Pines Tract, none of the other wildlife species in Table 3 is likely to occur in the area. Through water depletions, the mine could potentially adversely affect the four fish species listed, but the increase in the size of the permit area is not expected to increase water consumption.

Spotted bats, northern goshawks, and northern three-toed woodpeckers have been found in the project area, and the Pines Tract contains potential habitat for flammulated owls. All of these are Forest Service Region 4 Sensitive Species.

The Forest Service commented verbally that the sage grouse is a Forest Service Region 4 sensitive species that should be included in the list in Table 3-3; however, the permittee indicated in their cover letter for the March 9, 2000, submittal that the most current list of sensitive species does not include the sage grouse. Once it is officially listed, the plan will be modified accordingly.

#### **Findings:**

Information provided in the proposal is adequate to meet the requirements of this section of the regulations.

## **SOILS RESOURCE INFORMATION**

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ENVIRONMENTAL RESOURCE INFORMATION

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**Analysis:**

Appendix 2.8. briefly describes the soil map units found in the PTL.

The soil survey information for the PTL is found in Appendix 2.7. Attachment A of Appendix 2.7 contains an Order III survey of portions of the PTL. Attachment B and C of Appendix 2.7 contain the Order I survey of the Muddy Canyon breakout location. This survey was conducted in June of 1999 by James Nyenhuis, a Certified Professional Soil Scientist.

The location of the breakout is a steep (70%) slope which is covered with birchleaf mountain mahogany, Salina wild rye and an occasional pinyon pine or Douglas fir. Two soil pits were dug by hand on the northwest facing slope. The soil in both locations was classified as a loamy-skeletal; mixed; Typic Argiboroll and was correlated to map unit 107, the Curecanti soil in the Order III survey.

The soil contains an A horizon which is approximately 4 inches deep and which has a texture of sandy clay loam. The laboratory analysis of the A horizon clearly indicate it to be superior growing medium with N, P, K, and Zn values that are three times more concentrated than in the B and C horizons. Likewise the concentrations of Fe and Mn are twice as great in the A horizon than the lower horizons.

The B and C horizons had a texture of clay loam. All horizons contained 25 to 30% stones and gravels. Map unit 107 soil is described as a deep soil, but the depth of the soil at Muddy Canyon breakout pit locations could not be determined due to the presence of stones, cobbles and boulders which inhibited further digging below 20 inches.

The permeability of this soil is moderately slow. The soil is well drained. The erosion condition of the survey site was slight. The erosion hazard of the bare surface is high, due to the steep 70% slope (1.5h: 1.0v)

**Findings:**

The information provided meets the regulatory requirements of this section.

**LAND-USE RESOURCE INFORMATION**

Regulatory Reference: 30 CFR Sec. 783.22; R645-301-411.

**Analysis:**

Plate 4-1 shows land uses in the area. The land is managed by the Forest Service for multiple uses, including, timber, grazing, wildlife, and mining. These are the same uses identified as occurring in the current permit area.

**Findings:**

Information provided in the proposal is considered adequate to meet the requirements of this section of the regulations.

**ALLUVIAL VALLEY FLOORS**

Regulatory Reference: 30 CFR Sec. 785.19; R645-302-320.

**Analysis:**

The permittee has provided alluvial valley (AVF) floor characterization in Plate 9-1 and described the potential for flood irrigation of lands in the MRP. Hydrologic resource information has been reviewed concerning the potential for AVFs existing within and down stream of the PTL. Alluvial sediments are sparse and the canyons are narrow within Box Canyon. More sediments and riparian areas are present in Muddy Creek Canyon, however the canyon are still constricted and wide alluvial plains do not exist. AVF do not exist in the since of providing suitable flood or subirrigation within the canyons. AVFs potential exists at the mouth of the large canyons, several mines away from the PTL.

**Findings:**

The permittee has provided sufficient information to address this section.

**PRIME FARMLAND**

Regulatory Reference: 30 CFR Sec. 785.16, 823; R645-301-221, -302-270.

**Analysis:**

The NRCS prime farmland determination is found in Appendix 2.1. No prime farmland exists within or adjacent to the PTL.

**Findings:**

The information provided meets the regulatory requirements of this section.

**GEOLOGIC RESOURCE INFORMATION**

Regulatory Reference: 30 CFR Sec. 784.22; R645-301-623, -301-724.

**Analysis:**

Changes to the text have been made on pages 6-iii, 6-2, 6-4, 6-5, 6-7 through 6-10, and 6-12 of Chapter 6. The changes are minor and generally either clarify statements already in the MRP or expand

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**ENVIRONMENTAL RESOURCE INFORMATION**

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statements to include the PTL. Four drill logs have been added to Appendix 6-1 and several analyses of coal and rock have been added to Appendix 6-2; otherwise, there is no new geologic information.

Plates 6-3 and 6-4 (geologic cross-sections B-B' and C-C') have been added to show the nature, depth, and thickness of the coal seam to mined and of overlying and underlying strata. The Upper Hiawatha Seam is the only seam mineable within the permit boundary (p. 6-7). The revised Plate 6-1, Geology and Drillhole Location Map, includes federal lease UTU-76195 within the permit boundary and shows the locations of the two new cross-sections.

There is a plugged and abandoned gas well in the PTL in Sec 23, T. 21 S., R. 5 E.

The permittee states that detailed geologic information is in the R2P2 on file with the BLM. The BLM requested in a letter to UDOGM, dated February 4, 2000 (a similar letter, dated March 13, 2000, was sent to Ken May of SUFCO) that a new R2P2 be prepared for the Pines tract significant revision. SUFCO has prepared a new R2P2 for the Pines Tract Lease.

**Findings:**

Information on geologic resources is considered adequate to meet the requirements of this section.

**HYDROLOGIC RESOURCE INFORMATION**

Regulatory Reference: 30 CFR Sec. 701.5, 784.14; R645-100-200, -301-724.

**Analysis:**

**Sampling and analysis.**

The permittee had conducted surface and groundwater monitoring surveys via Mayo Associates. Baseline hydrologic information is presented in Sections 7.2.4.1 and 7.2.4.2, and in the Probable Hydrologic Consequences Appendix 7-18. Water monitoring has been conducted on streams, springs, ponds and wells. The operator has presented the results in the Significant Revision (SR) submittal.

**Baseline information.**

Based on available scientific information and data collected by the permittee's consultants, the permittee has described the geologic and hydrologic setting on the PTL. Baseline information has been collected that identifies the premining features and characteristics of the site. Maps and cross-sections depict the geologic, hydrologic, mining and archeological resources. Literature and maps describe and identify stratigraphy, formation thickness, structural geologic features, mined areas, proposed mined areas, archeological sites, and surface structures.

### Ground-water information.

The significant revision references the PHC included in the original MRP for a discussion of groundwater occurrence and recharge. There is general agreement among the studies that the recharge to the saturated zones is principally by snowmelt seeping into outcrops. Groundwater movement is controlled mainly by fractures, dip of the beds (dip is approximately 2 degrees to the northeast) and hydraulic conductivity of the strata. the movement of groundwater is regarded as relatively rapid (USGS). More seeps appear along the eastern edge of the walls consistent with the concept of groundwater following the dip slope.

Mayo and Associates have proposed a hydraulic disconnect between in-mine waters and near-surface groundwater. Mayo is considered a leading authority on isotopic dating of groundwater resources by some managing agencies and mining operators. Studies conducted by his firm have identified the groundwater regimes for several mining operations. Analysis of the groundwater for the PTL is substantiated by tritium analysis and carbon dating which shows the mine waters to be very old (greater than 7,000 to 20,000 years) as compared to meteoric waters that replenish the near surface waters (MAYO and FEIS). "The cause of this disconnect is attributed to shale and mudstones in the Blackhawk Formation that hinder the downward migration of water" (FEIS). Mayo has concluded, "groundwater should not be diverted from the Castlegate Sandstone into the Blackhawk Formation" (FEIS)

### Surface-water information.

Surface water sources are identified in the MRP. The permittee has mapped streams, springs and man-made ponds. Most of the stream flow is attributed runoff from snowmelt or rain. Spring flow contributes the most to the baseflow of the streams in later summer and fall months. Streams appear to be unquestionably perennial below the confluence of the tributaries. The low flows that emanate from spring in the upper reaches leave some to question if the streams are not intermittent. The term perennial functioning has been used by the U.S. Forest Service to describe the upper reaches of the East Fork of Box Canyon. The West Fork of the East Fork of Box Canyon is protected from subsidence, however mining has been not been prevented by the U.S. Forest Service on the East Fork of the East Fork.

The permittee has committed to mapping the perennial flows of the Box Canyon Creek in Main Fork, the East Fork of the Main Fork, East Fork and East Fork of the East Fork of Box Canyon. Plate 7-3 identifies the location of monitoring points. The flow data will be compared to local precipitation data to determine what, if any, effects mining has had on the perennial flow. Table 7-2 identifies the water monitoring program and frequency at which monitoring will take place.

The Forest Service submitted comments on March 27, 2000, which identified the need to characterize the functionality of the existing stock watering ponds on the PTL. Pre-mining characterization of the ponds, consisting of drainage area, expected filling frequency and holding capacity, should provide information to determine if impacts occur and to what degree. Also, there are sections of the in Box Canyon drainage which contain flow at different times of the year, but appear to support riparian vegetation. The flow and frequency in these areas should be established to quantify water volumes in the event it should be impacted by subsidence. Specified areas identified on Plate 7-3 will be monitored on or near October 1 of each year to determine any extent of perennial stream flow.

**ENVIRONMENTAL RESOURCE INFORMATION**

Several stock watering ponds are located on the Pines Tract and Quitchupah Lease Tracts. Surface cracking due to mining related subsidence within the Quitchupah Lease has had impacts on some of the ponds. Action has been taken by SUFCO to mitigate the damage including applying bentonitic clay seals to the pond floors and hauling water in for livestock. SUFCO feels that erroneous claims have been made by ranchers, state and federal agencies.

SUFCO has been negotiating with DOGM, the USFS and local rancher's association to create a workable monitoring plan for the ponds, page 7-45b SUFCO commits to visiting the ponds within the Pines Tract and Quitchupah Lease in early summer of 2000 to photograph the conditions of each year and evaluate the condition of each pond and assess any evidence of cracking, estimate water depth, note soil moisture condition and general condition of the ponds. the land management and riparian habitat, but do not exhibit continuous flows should be characterized to identify their source and overall function.

Perennial flows in Link Canyon is related to the Link Canyon Spring, GW-21 and Link Canyon Mine flow only a couple hundred feet. The canyon is naturally dry, and the surrounding Blackhawk Formation assimilates the low volume spring flow depriving the canyon of any identifiable riparian zone. The extent of the riparian vegetation associated with the spring and workings is included in chapter 3 of the MRP. Secondary mining will not take place under the spring either the spring or abandon mine.

**Baseline cumulative impact area information.**

The permittee discusses potential impacts in Chapter 7, Page 7-25. has identified the potential subsidence limits, Plate 5-10. Potential impacts are discussed in Appendix 7-18.

**Modeling.**

Using groundwater chemistry analysis, the recharge to the springs is believed to result primarily from flows in the Castlegate Sandstone as compared to the overlying Price River Formation. This appears to indicate that recharge to the springs in the Box Canyon tributaries is derived primarily from the area 1,000 feet of the canyon rims (FEIS) and (MAYO).

Theoretically, decreased stresses along the canyons allows movement of the blocks in the fractured Castlegate Sandstone to widen creating more storage and conductivity of groundwater. Using Plate 5-2c, the escarpment boundary was used to draw a line 1000 feet in from the canyon rim. This revealed the area of potential recharge. A second chemical analysis suggests that the recharge locations for groundwater in the Castlegate Sandstone are different than the groundwater in the Blackhawk Formation, or that the groundwater recharged under different climatic conditions. This appears to be inconclusive.

**Alternative water source information.**

The permittee describes water resources and identifies the water rights in Appendix 7-1 and their locations on Plate 7-2.

### **Probable hydrologic consequences determination.**

The probable hydrologic consequences are described in Appendix 7-18. There are two mechanisms where ground and surface water can be adversely impacted, the direct interception of groundwater by opening mine workings and interception or rerouting of surface and groundwater by strata deformation.

Mayo addressed these issues on Pages 47 and 48, Appendix 7-18 he states that groundwater in the Blackhawk Formation is discontinuous and horizons of shales and mudstones and shales. Groundwater from three Blackhawk Formation springs ( Pines 204, 206 and 303) were radiocarbon dated between 500 years to 4000 years. The ages of these waters are younger than the water encountered in the mine workings which yield dates between 7500 years to 20,000 years.

As mining progresses toward this area more information pertaining to impacts can be obtained. By extrapolating new information to similar areas on the PTL operational and reclamational predictions can be made. Mining of the upper reach of the West Fork of Box Canyon has revealed how subsidence fractures have developed when mining panels parallel and directly under a canyon. Mapping, measuring and analyzing these fractures over time can provide information on fracture healing, shallow groundwater interception and the effects of subsidence on local vegetation.

### **Findings:**

The permittee has supplied sufficient information to satisfy the requirements of this section.

## **MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION**

Regulatory Reference: 30 CFR Sec. 783.24, 783.25; R645-301-323, -301-411, -301-521, -301-622, -301-722, -301-731.

### **Analysis:**

#### **Affected Area Boundary Maps**

Plate 5-5 shows the affected area boundary. Several other maps have been submitted, such as Plate 7-2, which show the topography, mine plan area, the proposed mine layout, structural features, hydrologic, archeological sites and wildlife habitat. Plate 5-10 identifies the extent of expected subsidence. In recognition of the Record of Decision by the USFS the permittee have identified the West Fork of the East Fork of Box Canyon as a non-subsidence area.

#### **Archeological Site Maps**

The report on the archaeological resources contains maps showing where these sites are located. The information must remain in the confidential file.

#### **Coal Resource and Geologic Information Maps**

Plates 6-3 and 6-4 (geologic cross-sections B-B' and C-C') have been added. The revised Plate 6-1, Geology and Drillhole Location Map, includes federal lease UTU-76195 within the permit boundary

**ENVIRONMENTAL RESOURCE INFORMATION**

and shows the locations of the two new cross-sections. Detailed geologic information is in the R2P2 on file with the BLM

Revised Plate 5-11 shows overburden isopach thickness for the SUFCO mine area, including the Pines tract. Revised Plate 5-10 shows the limits of anticipated subsidence for the same area.

Plate 5-7 the current MRP shows projected mining through the year 2004, plus outlines of additional longwall panels that are apparently projected for recovery at some time after 2004. Plate 5-7 indicates only about half of the Pines Tract Lease will be mined. In Section 5.2.2, Coal Recovery, the permittee states that mining is not planned for the extreme east and southeast portions of the Pines Tract because of poor coal quality and insufficient seam height for the longwall equipment being used. Coal has also been lost to burn under several areas in the tract. The permittee states that the R2P2 on file with the BLM contains detailed mine plan and reserves calculations.

**Existing Structures and Facilities Maps**

Archeological sites, dirt roads, fences and runoff ponds and stock watering troughs are the only manmade structures that exist on the PTL (Plate 5-5). The ponds were developed as a watering source for livestock.

Plate 5-5 shows the existing structures and facilities for the permit area. Plate 5-2A is a detailed map of the surface facilities.

**Existing Surface Configuration Maps**

Plate 5-5 shows the existing surface configuration for the PTL. The Permittee proposes to construct a breakout in the PTL as shown on Plate 5-2C. The drawing does not contain contours or other information about the existing surface configuration. The Permittee must give the Division contour maps of the predisturbed area as outlined in R645-301-521.150.

Plate 5-5 shows the existing surface configuration for the Pines tract. The Permittee shows the Muddy Creek breakout on Page 5-12A of the amendment. The drawing does not show the disturbed area boundaries, or has a scale. The contour map of the Muddy Creek breakout has contour lines at 25 feet intervals. The drawings do not have enough details for the Division to evaluate the proposed breakout. The Permittee must give the Division a map at a scale of 1" = 100' or larger, and contour lines at 5 foot intervals or less. The cross sections must be at the same scales.

**Mine Workings Maps**

Several maps, including Plate 5-7, Upper Hiawatha Mine Plan, 5 Year Projection, have been revised to show the mining sequence in the PTL. Plate 5-7 shows already shows the that operations are already advancing according to previous approved plans incorporated into the MRP on September 2, 1999 as associated with the 160 acre incidental boundary change. Plate 5-1 shows the previous mine workings.

### **Monitoring Sampling Location Maps**

The permittee has supplied surface and groundwater monitoring location maps. Plate 7-3 identifies spring, stream and well monitoring locations. All sites are accompanied with an elevation identification.

### **Permit Area Boundary Maps**

Several maps have been submitted, such as Plate 7-2, which show the topography, mine plan area, the proposed mine layout, structural features, hydrologic, archeological sites and wildlife habitat. Plate 5-10 identifies the extent of expected subsidence.

### **Surface and Subsurface Ownership Maps**

The permittee has identified the surface and subsurface ownership on Plate 5-6. The surface is USFS managed land the subsurface is federal coal reserves. Plate 5-6 shows the surface and subsurface ownership.

### **Subsurface and Subsurface Water Resource Maps**

Surface and groundwater rights are identified on Plate 7-2. Water has been allocated for stock ponds, springs and streams. The perennial flows in the West and East Forks of Box Canyon as well as the main channel are allocated. Water rights have also been issued on Muddy Creek a receiving stream of Box Canyon.

The permittee has provided a hydrologic monitoring stations map on Plate 7-3 of the SR. All spring found during the baseline studies are presented on Plate 7-3 of the MRP. Additionally, all spring identified in the USGS publication by Thiros and Cordy (1991) were included on the map and labeled with the prefix "GW-". Some problems exist in locating or cross-referencing springs monitored by Mayo and Associates, SUFCO and the USGS monitored springs. This mapping matter is discussed on page 7-38 of the permit modification.

### **Vegetation Reference Area Maps**

The reference area is shown on a map in the current mining and reclamation plan.

### **Well Maps**

Water monitoring wells are located on Plate 7-3.

### **Contour Maps**

Several maps such as Plate 7-2 have incorporated contour intervals on the maps.

### **Findings:**

The Permittee met the minimum requirements of this section.

OPERATION PLAN

## OPERATION PLAN

### MINING OPERATIONS AND FACILITIES

Regulatory Reference: 30 CFR Sec. 784.2, 784.11; R645-301-231, -301-526, -301-528.

#### Analysis:

##### General

The permittee has identified probable hydrologic consequences of mining the PTL, which are described in Appendix 7-18, Probable Hydrologic Consequences. The PHC was incorporated as part of the 160 acre Incidental Boundary Change. The geologic setting controls the flow patterns and quality of surface and groundwater as they come in contact with the mineral constituents of the strata. The SR describes the Castlegate Sandstone which forms the rim and plateau of Box Canyon and Muddy Creek Canyon. The Blackhawk Formation, which contains the coal bearing units, underlies the Castlegate Sandstone. The Blackhawk Formation contains interbedded sequences of sandstones, siltstones, shales, mudstones and coal. The Upper Price River Formation overlies the area to the east of the canyon and some portions of the proposed lease. Several Plates submitted by the permittee show the topographic features of the area.

From past mining experience in areas adjacent to Box Canyon, it can be expected that fractures will develop at the surface, even when overburden height is as great as 800 feet. Recent, fractures along the canyon rim of the West Fork of Box Canyon and past mining under stock pond have shown that the natural joint pattern, which occurs in the area, can promote the effects of surface subsidence. The permittee has presented information that minimizes the effects of subsidence and fracturing. Fracture healing and groundwater flow patterns have been described, however conclusive evidence for fracture healing or mitigation has not been proven.

Information is still being collected and assembled from mining the West Fork of Box Canyon and the 150 acre incidental boundary change. Determination of impacts will not be concluded until the area is mined and hydrologic and subsidence data is analyzed.

The best method to obtain information for future impacts is to monitor impacted areas and try to extrapolate the information to future mine areas. Information is needed to determine if fractures close or heal, groundwater in the Castlegate Sandstone is reestablished after a time period, vegetation is sustained by long-term groundwater sources or by short term surface water sources.

##### Type and Method of Mining Operations

The permittee proposed to employ the longwall mining method in the PTL. Overburden ranges between 400 feet to a little over 900 feet. Areas where overburden is less than 400 feet will not be mined by the permittee. The U.S. Forest Service has stipulated in the Record of Decision (ROD) that areas under perennial streams will not be mined. In response the permittee has established barriers under perennial sections of the East Fork of Box Canyon which will protect the stream and adjacent areas of the canyon rim from subsidence.

## Facilities and Structures

Mining is planned under most existing structures which include archeological sites, dirt roads, fences and runoff ponds and stock watering troughs. The permittee discussed potential impacts to surface structures and hydrologic sources and concluded that adverse impacts will not occur.

The U.S. Forest service has designated two archeological shelter and sites for protection against subsidence. One site, the Elusive Peacock is directly above a barrier established to protect a perennial stream and should not be impacted. The Refugia/Grotto site is located near a barrier wall separating the PTL from the Quitchupah Lease. This site contains a perennial pond at the base of the cliff which is the supply source of riparian habitat in the vicinity and downstream of the shelter. The permittee has planned to provide protection to the site from subsidence. The longwall panels in the PTL had to be realigned. The panels have been shifted at an angle to get the Refugia/Grotto area out of the nagle of draw. With the new alignment of the panels the site will not fall within the influence of the 15 degree angle of draw and impact zone.

The Forest Service has indicated that some stock water monitoring ponds in the region have been impacted by surface fracturing when undermined, while others have not. Rock pond and Johnson Pond in the Quitchupah Lease leak as a result of undermining and subsidence. These ponds are supplied by ephemeral runoff. Grouting of the pond has been conducted, however after heavy rainstorms personnel from the USFS witnessed that the ponds were no holding water. The permittee anticipates that eventually sediment will fill any fractures that have developed to drain the pond and their use will be restored. It is not possible to predict the extent or duration of impacts. The permittee has also proposed mitigation plans to repair any damage.

## Findings:

Information provided in the proposal is adequate to meet the requirements of this section of the regulations.

## PROTECTION OF PUBLIC PARKS AND HISTORIC PLACES

Regulatory Reference: R645-301-140

## Analysis:

Three of the significant or potentially significant cultural resource sites are in the subsidence area shown on Plate 5-10A. These are 42SV 2425, 42SV 2433, and 42SV 2434. Site 42SV 2425 is a lithic scatter, and the other sites are rock shelters that could be adversely affected.

The application says the monitoring, treatment plans, and mitigation of the cultural resource sites will be in accordance with the memorandum of agreement (MOA) between the Forest Service, SHPO, the Division, and the permittee. The permittee and the Division have signed this agreement, and the Forest Service and SHPO are expected to sign it. As soon as this agreement is signed, SHPO should be able to give its concurrence to the proposal. The permittee has committed in the application to follow the terms of this agreement.

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**OPERATION PLAN**

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**Findings:**

Information provided in the proposal is considered adequate to meet the requirements of this section of the regulations. The Division has taken into account the effect of the proposed permitting action on properties listed on and eligible for listing in the National Register of Historic Places, and the permittee has committed to adequately mitigate for potential damage to these sites.

**EXISTING STRUCTURES:**

Regulatory Reference: 30 CFR Sec. 784.12; R645-301-526.

**Analysis:**

Mining is planned under most existing structures which include archeological sites, dirt roads, fences and runoff ponds and stock watering troughs. The permittee discussed potential impacts to surface structures and hydrologic sources and concluded that adverse impacts will not occur.

The U.S. Forest service has designated two archeological shelter and sites for protection against subsidence. One site, the Elusive Peacock is directly above a barrier established to protect a perennial stream and should not be impacted. The Refugia/Grotto site is located near a barrier wall separating the PTL from the Quitchupah Lease. This site contains a perennial pond at the base of the cliff which is the supply source of riparian habitat in the vicinity and downstream of the shelter. The site appears to fall within the angle of draw of subsidence.

Some stock water monitoring ponds in the region have been impacted by surface fracturing when undermined, while others have not. Rock pond and Johnson Pond in the Quitchupah Lease leak as a result of undermining and subsidence. These ponds are supplied by ephemeral runoff. Grouting of the pond has been conducted, however after heavy rainstorms personnel from the USFS witnessed that the ponds were not holding water. The permittee anticipates that eventually sediment will fill any fractures that have developed to drain the pond and their use will be restored. It is not possible to predict the extent or duration of impacts. The permittee has also proposed mitigation plans to repair any damage.

**Findings:**

Information provided in the proposal is adequate to meet the requirements of this section of the regulations.

**RELOCATION OR USE OF PUBLIC ROADS**

Regulatory Reference: 30 CFR Sec. 784.18; R645-301-521, -301-526.

**Analysis:**

The Permittee does not propose to relocate or use a public road in connection with the PTL.

**Findings:**

The Permittee met the minimum requirements of this section.

**AIR POLLUTION CONTROL PLAN**

Regulatory Reference: 30 CFR Sec. 784.26, 817.95; R645-301-244.

**Analysis:**

The permittee has proposed no activities that should require changes to the Air Quality Approval Order, so no changes are needed to this section of the mining and reclamation plan.

**Findings:**

Information provided in the proposal is adequate to meet the requirements of this section of the regulations.

**COAL RECOVERY**

Regulatory Reference: 30 CFR Sec. 817.59; R645-301-522.

**Analysis:**

The Division reviewed the R2P2 and found the coal recovery plan to be adequate.

**Findings:**

The Permittee met the minimum requirements of this section.

**SUBSIDENCE CONTROL PLAN**

Regulatory Reference: 30 CFR Sec. 784.20, 817.121, 817.122; R645-301-521, -301-525, -301-724.

**Analysis:**

**Renewable resources survey.**

The Permittee identified the renewable resources on Plate 4-1A and Plate 4-1B. Those plates have scales of 1" = 1,000' (1 to 12,000).

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OPERATION PLAN

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**Subsidence control plan.**

1. The Permittee proposes to use longwall and room-and-pillar mining methods to extract the coal. The Permittee shows the mine layout on Plate 5-2C.
2. Plate 5-10B shows the underground working. The Permittee states on that plate the methods will be used to prevent subsidence. First mining only and no extraction areas are the methods used to control subsidence.
3. The general subsidence control plan in the MRP was determined adequate for the existing permit. The proposed changes to the plan are shown on Plate 5-10B. On that plate the Permittee shows the areas that will be protected from subsidence and the limits of surface disturbance. Table 5-2 has been updated to show the new subsidence monitoring stations.
4. The permittee has committed to protect cultural sites and perennial stream, p 5-21, from the effects of subsidence caused by underground full extraction mining. The width of the corridors will be established multiplying the depth of the the coal seam by tan 15% to obtain the distance underground mining needs to be away from the area. An additional 25 feet will be added to the distance to account for minor irregularities in the course of the stream or cultural resource sites.
5. Two items in the PTL must be protected from subsidence impacts. The first is the Refugia/Grotto, an archeologic site, and the second is the perennial stream, the West Fork of the East Fork of Box Canyon. The Refugia/Grotto consists of a 50-foot cliff with a perennial pond at the bottom, a rock shelter and artifacts.
6. The Permittee states in the MRP that no subsidence damage should occur. If damage occurred, they would mitigate the damage. The Permittee has caused some damage to stock watering ponds and has repaired the damage. The Division anticipates that subsidence damage would be limited to surface cracks.
7. The Permittee committed to repair any subsidence damage that should occur.
8. No significant surface resources are in the area that needs protection.

**Performance standards for subsidence control.**

The Permittee committed to meet all subsidence performance standards.

**Findings:**

The Permittee met the minimum requirements of this section.

**SLIDES AND OTHER DAMAGE**

**Analysis:**

The existing plan is considered adequate.

**Findings:**

The Permittee met the minimum requirements of this section.

**FISH AND WILDLIFE INFORMATION**

Regulatory Reference: 30 CFR Sec. 784.21, 817.97; R645-301-322, -301-333, -301-342, -301-358.

**Analysis:**

**Protection and enhancement plan.**

The existing mining and reclamation plan contains commitments to protect wildlife from the adverse effects associated with mining. Underground mining is likely to have little if any effect on most species on the plateau, including deer, elk, and sage grouse.

**Endangered and Threatened Species and Bald and Golden Eagles**

The Environmental Impact Statement for the Pines Tract lists eighteen threatened and endangered species that could occur in the project area. The only species that might be affected are the southwestern willow flycatcher and the four threatened and endangered fish of the upper Colorado River basin. However, as discussed in the fish and wildlife resource information section of this analysis, there is no suitable habitat for the southwestern willow flycatcher in the area.

The Fish and Wildlife Service has determined that water losses from the upper Colorado River basin jeopardize the continued existence of the four threatened and endangered fish species found there. Mitigation is required when losses exceed 100 acre-feet per year. The mine is not expected to use additional water because of the increase in the size of the permit area, but there could potentially be some disruption of groundwater flows. The amount of loss is expected to be nonexistent or minor, and the environmental impact statement concludes "the effects of the proposed small water withdrawals are so limited in scope and intensity and are so far-removed from the remaining populations of [the listed fish] species that they are negligible." For these reasons, the Division does not expect mitigation to be required.

On April 26, 2000, the Division received a letter from the Fish and Wildlife Service concurring with the Division's findings on threatened and endangered species.

Four eagle nests and one falcon scrape shown on Plate 3-3 are in the subsidence area shown on Plate 5-10. The current mining and reclamation plan says in Section 3.3.3.3 that any raptor nest that might be disturbed by subsidence will be evaluated by Wildlife Resources and the Fish and Wildlife Service. An appropriate plan of action will be developed on a case by case basis, and the permittee will obtain any permits necessary for disturbing the nest if this becomes necessary. The Division of Oil, Gas and Mining will be notified in advance. This plan is acceptable.

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OPERATION PLAN

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A golden eagle nest and a falcon scrape are on the north side of Muddy Canyon apparently in full view of the proposed breakout. They are about 3/4 mile from the breakout, and this is outside the buffer zone normally used for golden eagles. The application says if the scrape is still active at the time of construction, the breakout will be built outside the nesting period. This commitment is acceptable.

The Fish and Wildlife Information section of this analysis discusses potential effects of mining on the Link Trail columbine and monitoring requirements.

Three-toed woodpeckers, goshawks, and flammulated owls use Ponderosa pines and other tree species for roosting and nesting in and near the area; however, it is unlikely trees would be affected by underground mining. The EIS concluded that individuals of these species could possibly be affected but that there would be no significant effects to the populations or to the species.

The mining and reclamation plan contains a survey for bats in the Link Canyon and Muddy Creek areas. The consultants that did this survey suggested that subsidence could affect roosting areas and that some individuals could be lost; however, they felt new cracks would offset the ones destroyed and that there would be little net effect. They believe there could be some impact on local populations of spotted bats. The report says if subsidence occurred in spring and summer it might cause reproductive females to carry young to another less favorable roost site. In the winter, torpid bats might not have time to arouse and escape during subsidence.

Subsidence could occur in these areas as a general lowering of the topography or it could cause sudden failure of some rock features. Bats would likely either be unaffected or would not have time to fly away to escape subsidence.

From the information in the report, the Division draws the following conclusions about bats:

- There are bats, including spotted bats, present in the general area although spotted bats may not be present in the upper part of Box Canyon.
- There are no known hibernacula, maternal roosting sites, or other areas of heavy concentration in the area that would be subsided.
- Cracks in rocks being used by bats could fail and kill or trap any animals using them, but since there are no known concentration areas, it is unlikely this would seriously reduce the local population. Generally, rock crevices and defective trees are used by only a few bats rather than large populations.
- It is possible that new habitat could be created, but this is also unlikely.

For these reasons, there should be no need to mitigate possible effects on bats or to do further monitoring.

**Findings:**

Information provided in the proposal is adequate to meet the requirements of this section of the regulations. The Division finds the proposal will not adversely affect any threatened or endangered species, and the Fish and Wildlife Service has concurred with this conclusion.

## TOPSOIL AND SUBSOIL

Regulatory Reference: 30 CFR Sec. 817.22; R645-301-230.

### Analysis:

The area to be disturbed by the breakout is approximately 20 feet square, less than 0.01 acre. The location is on a very steep slope (70%). The plan for topsoil salvage is to collect what falls into the breakout, separate it from the coal and store it within the mine tunnel. Space will be made for approximately 25 CY of soil (enough to replace 20 inches of soil over the disturbance).

### Findings:

The soil survey indicates that there is a four inch A horizon which is clearly superior in texture and fertility to the soil below. The 400 square foot area would yield about 4 yards of topsoil. However, the logistics of soil salvage from the small area on a steep and remote slope makes the removal of the topsoil impractical. The operation plan is permissible under R645-301-232.710.

## VEGETATION

Regulatory Reference: R645-301-330, -301-331, -301-332.

### Analysis:

Chapter 3 of the current mining and reclamation plan contains a plan for interim revegetation that is adequate for the proposed breakout.

### Findings:

Information provided in the proposal is adequate to meet the requirements of this section of the regulations.

## ROAD SYSTEMS AND OTHER TRANSPORTATION FACILITIES

Regulatory Reference: 30 CFR Sec. 784.24, 817.150, 817.151; R645-301-521, -301-527, -301-534, -301-732.

### Analysis:

#### Road Systems

The Permittee does not propose any changes to the road systems

#### Other Transportation Facilities

The Permittee does not propose any changes to the other transportation facilities.

**OPERATION PLAN**

**Findings:**

The Permittee met the minimum requirements of this section.

**HYDROLOGIC INFORMATION**

Regulatory Reference: 30 CFR Sec. 773.17, 774.13, 784.14, 784.16, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-300-140, -300-141, -300-142, -300-143, -300-144, -300-145, -300-146, -300-147, -300-147, -300-148, -301-512, -301-514, -301-521, -301-531, -301-532, -301-533, -301-536, -301-542, -301-720, -301-731, -301-732, -301-733, -301-742, -301-743, -301-750, -301-761, -301-764.

**Analysis:**

**Ground-water monitoring.**

Longwall mining is planned for the Pines Tract Lease. The panel alignment trends north-south. Subsidence is expected in the PTL from 1 to 8 feet along the midline of the panels, and subsidence cracks are expected to occur. AGAPITO estimates that fractures of 1 to 4 inches can occur in the canyons and fractures up to 2 feet can take place on the canyon rim where panels are parallel the canyon.

Several springs are located in the canyon and at its confluence with the West Fork of Box Canyon. There are also several springs in the main channel of Box Canyon, which eventually drain into Muddy Creek. The upper reaches of the East Fork of Box Canyon are what the USFS term a perennially functioning stream, Page 3-61, FEIS, Page 7, ROD. Carter Reed, USFS, Geologist defined the upper reaches as flows on the surface and in the alluvial system, which contributes to the base flow of the down-stream system and supports riparian vegetation, Personal Communication, January 13, 2000. The canyons exhibit perennial flows near the confluence of the East Fork tributaries, shown on Figures 3, 7, 8 and 9 of the PTL P.C., Appendix 7-18. The permittee proposes a groundwater monitoring program which includes springs and wells. The groundwater monitoring plan is identified in Table 7-2 of the SR.

An area has been identified during the review that has a potential being impacted during mining. The information presented by the permittee and research reports presents a scenario where subsidence fractures could develop along canyon rims, and in one canyon, the East Fork of the East Fork of Box Canyon, which is planned to be undermined. This canyon is also considered perennially functioning. The propagation of cracks may influence the flow pattern within the recharge zone (1000 feet in from the rim of the canyons) identified by Mayo. The seep and spring flow in this canyon is minor in comparison to the watershed, but significant to the riparian resource. It has been proposed that flows will be reestablish in time as the voids fill with groundwater or sediment to reach the original levels. The permittee plans to monitor point GW-20 the flume in the main fork of Box Canyon The stream becomes perennial at this point.

The permittee has committed to conduct bi-annual (operational) fracture monitoring study to analyze the fractures that have developed in the upper reaches of the West Fork of Box Canyon. The permittee shall develop a monitoring plan to survey perennial flows in the channel of the East Fork of the East Fork of Box Canyon. This should be conducted on an annual basis during the months of September or October.

### **Surface-water monitoring.**

The upper reaches of the tributaries contain springs of low flow which are perennial, but do not supply continuous flow to the stream channels. The upper reaches of the East Fork are shown be lined with riparian habitat in the PHC, Figure 3 and the FEIS, Figure 3-11. This area is identified as perennially functioning according the Page 7, of the PTL Record of Decision. Although identified as containing riparian habitat, the East Fork of the East Fork of Box Canyon does not have the same designation of protection as the West Fork of the East Fork of Box Canyon. The perennial springs in the upper reaches of the canyon do not sustain a constant or perennial flow in the channel. The Record of Decision for the FEIS allows the development and longwall panels under the channel.

The permittee has submitted information to address surface water monitoring sites in the text of the MRP and on Plate 7-3. The permittee recommends monitoring seven stream locations in Table 5 of the P.C. These locations include Pines 106, Pines 108, Pines 403, Pines 405, 406, Pines 407, Pines 408 and USFS-109.

Although identified as containing riparian habitat, the East Fork of the East Fork of Box Canyon does not have the same designation of protection as the West Fork of the East Fork of Box Canyon in the FEIS. The perennial springs in the upper reaches of the canyon do not sustain a constant or perennial flow in the channel. The USFS allowed the development and longwall panels under the channel. The USFS has asked the permittee to quantify the riparian and spring resources to determine the extent of any impacts.

In a meeting between the Division and SUFCO on February 25, 2000, SUFCO personnel reaffirmed their position that the East Fork of the East Fork of Box Canyon is not a perennial stream, that it flows during spring runoff and after periods of substantial rainfall. SUFCO contests the Division's claim that the channel should be monitored during September or October to determine if the upper stream channels in the East Fork of the East Fork of Box Canyon contain base streamflows. SUFCO contends that no studies show the stream to be perennial, supply contrasting information from the FEIS, January 1999; a report by Mayo and associates, July 12, 1999; Ayres Associate Report, November 1998 and from SUFCO, observation descriptions while collecting baseline information during quarterly surveys.

### **Acid and toxic-forming materials.**

Information on acid and toxic forming materials is presented in Chapter 6 of the MRP and on page 53 of the P.C. Sulfide mineral pyrite has been identified in SUFCO Mine. Although pyrite oxidation does occur acid mine drainage does not. Alkalinity of mine drainage water typically exceeds acidity by a factor of 20. The permittee claims that no acid-forming materials or any toxic forming materials have been identified or are suspected to exist in materials disturbed in the PTL.

### **Transfer of wells.**

Transfer of wells is not currently considered. Any future transfers will be in accordance with DOGM approval.

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**Discharges into an underground mine.**

There are no planned discharges into underground mines for the PTL. Only on breakout is planned for the PTL which is down-dip in Muddy Creek Canyon.

**Gravity discharges.**

It is anticipated that in-mine water will be generated from mining the PTL. There are no gravity discharges currently planned from the PTL. Intercepted groundwater will be used in the mining process and excess water will be pumped from the mine to the Quitchupah Creek UPDES mine discharge site. The mine is currently discharging approximately 1500 gallons per minute from the Quitchupah Lease into Quitchupah Creek.

**Water quality standards and effluent limitations.**

The permittee plans to maintain water quality standards by employing sediment control structures on disturbed areas and settling in-mine waters prior to their discharge.

**Stream buffer zones.**

The permittee has implemented stream buffer zones along perennial reaches that have been designated perennial or have an overburden height of less than 400 feet.

**Sediment control measures.**

The permittee proposes to construct a breakout for mine ventilation. The disturbed will be small, approximately .01 acres. The area is very steep and no major hydrologic structures will be needed. The permittee plans to handle runoff control by placing silt fences below the disturbed area to trap and contain sediments.

**Impoundments.**

The Permittee does not propose any changes to the existing impoundments or construction of a new one. The Forest Service has identified a need to evaluate the stock water ponds for functionality, that is to identify the current physical characteristics of the ponds to determine holding capacity.

**Casing and sealing of wells.**

The permittee has submitted plans in the approved MRP to case and seal all monitoring wells in accordance with their reclamation timetable. The Permittee does not propose any changes in way wells are sealed.

**Findings:**

The permittee has submitted sufficient information to address this section.

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## SUPPORT FACILITIES AND UTILITY INSTALLATIONS

Regulatory Reference: 30 CFR Sec. 784.30, 817.180, 817.181; R645-301-526.

### Analysis:

The Permittee does not propose any changes.

### Findings:

The Permittee met the minimum requirements of this section.

## MAPS, PLANS, AND CROSS SECTIONS OF MINING OPERATIONS

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-512, -301-521, -301-542, -301-632, -301-731, -302-323.

### Analysis:

#### Affected area maps.

The Permittee did not provide affected area map. However, the mine map shows the extent of mining operations and the permit boundaries. The Division considers that map sufficient.

#### Mining facilities maps.

Plate 5-12B shows the operational contours of the Muddy Creek portal area.

#### Mine workings maps.

In a meeting with the BLM on January 22, 2000, Stan Perks mentioned that the new R2P2 showing the mine working has changed from the copy submitted with the SR. Mike Davis also mentioned changes in panel widths that are planned for the Pines Tract panels during a Link Canyon meeting on January 27, 2000.

Plate 5-10A and Plate 5-10B show the mine workings, including updates for the Pines Track lease.

Plate 5-10A and Plate 5-10B show the mine workings, including updates for the Pines Track lease.

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**OPERATION PLAN**

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**Monitoring and sample location maps.**

The permittee has submitted Plate 7-3 identifying the location of surface and groundwater monitoring locations.

**Findings:**

The permittee has submitted sufficient information to address this section

## RECLAMATION PLAN

### GENERAL REQUIREMENTS

Regulatory Reference: PL 95-87 Sec. 515 and 516; 30 CFR Sec. 784.13, 784.14, 784.15, 784.16, 784.17, 784.18, 784.19, 784.20, 784.21, 784.22, 784.23, 784.24, 784.25, 784.26; R645-301-231, -301-233, -301-322, -301-323, -301-331, -301-333, -301-341, -301-342, -301-411, -301-412, -301-422, -301-512, -301-513, -301-521, -301-522, -301-525, -301-526, -301-527, -301-528, -301-529, -301-531, -301-533, -301-534, -301-536, -301-537, -301-542, -301-623, -301-624, -301-625, -301-626, -301-631, -301-632, -301-731, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-732, -301-733, -301-746, -301-764, -301-830.

#### Analysis:

The permittee has provided a reclamation plan in the MRP, page 7-48. Since only a the breakout is proposed for surface disturbance, surface reclamation of the PTL is relatively small. Any surface disturbance from subsidence or affects to the hydrologic system on the PTL would be covered in mitigation during the operation phase.

#### Findings:

The permittee has submitted sufficient information for this section

### POSTMINING LAND USES

Regulatory Reference: 30 CFR Sec. 784.15, 784.200, 785.16, 817.133; R645-301-412, -301-413, -301-414, -302-270, -302-271, -302-272, -302-273, -302-274, -302-275.

#### Analysis:

The permittee has proposed no changes to the postmining land uses of wildlife habitat and grazing.

#### Findings:

Information provided in the proposal is adequate to meet the requirements of this section of the regulations.

### PROTECTION OF FISH, WILDLIFE, AND RELATED ENVIRONMENTAL VALUES

Regulatory Reference: 30 CFR Sec. 817.97; R645-301-333, -301-342, -301-358.

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RECLAMATION PLAN

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**Analysis:**

The revegetation plan in the current mining and reclamation plan is designed for the wildlife and grazing postmining land uses. It complies with regulatory requirements.

**Findings:**

Information provided in the proposal is adequate to meet the requirements of this section of the regulations.

**APPROXIMATE ORIGINAL CONTOUR RESTORATION**

Regulatory Reference: 30 CFR Sec. 784.15, 785.16, 817.102, 817.107, 817.133; R645-301-234, -301-270, -301-271, -301-412, -301-413, -301-512, -301-531, -301-533, -301-553, -301-536, -301-542, -301-731, -301-732, -301-733, -301-764.

**Analysis:**

The Permittee stated that the information on AOC for the Muddy Creek breakout is on Figure 5-0.

**Findings:**

The Permittee met the minimum requirements of this section.

**BACKFILLING AND GRADING**

Regulatory Reference: 30 CFR Sec. 785.15, 817.102, 817.107; R645-301-233, -301-537, -301-552, -301-553, -302-230, -302-231, -302-232, -302-233.

**Analysis:**

Plate 5-12C show the reclaimed contours for the Muddy Creek portal area.

**Findings:**

The Permittee met the minimum requirements of this section.

**MINE OPENINGS**

Regulatory Reference: 30 CFR Sec. 817.13, 817.14, 817.15; R645-301-513, -301-529, -301-551, -301-631, -301-748, -301-765, -301-748.

**Analysis:**

The Permittee designed the seal for the Muddy Creek portal to with stand the water pressure that will develop as the mine fills with water

**Findings:**

The Permittee met the minimum requirements of this section.

**TOPSOIL AND SUBSOIL**

Regulatory Reference: 30 CFR Sec. 817.22; R645-301-240.

**Analysis:**

Stored soil from within the mine will be brought to the surface and temporarily stored on the slope while the portal is backfilled from within the mine. Then, the soil will be spread over the surface. This will be accomplished using mining equipment and hand labor. The surface will be left roughened and gouged by hand using rakes and shovels.

**Findings:**

The information provided meets the regulatory requirements of this section.

**ROAD SYSTEMS AND OTHER TRANSPORTATION FACILITIES**

Regulatory Reference: 30 CFR Sec. 701.5, 784.24, 817.150, 817.151; R645-100-200, -301-513, -301-521, -301-527, -301-534, -301-537, -301-732.

**Analysis:**

There are no rads associated with the PTL.

**Findings:**

The Permittee met the minimum requirements of this section.

**HYDROLOGIC INFORMATION**

Regulatory Reference: 30 CFR Sec. 784.14, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-301-512, -301-513, -301-514, -301-515, -301-532, -301-533, -301-542, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-733, -301-742, -301-743, -301-750, -301-751, -301-760, -301-761.

**Analysis:**

**Surface and Groundwater monitoring.**

The permittee has identified a surface and ground water monitoring plan outlined in Tables 7-2 and 7-3. Additional sites have been requested to be monitored by the U. S. Forest Service. Although a monitoring plan has been established and the permittee should identify the period of monitoring which includes a time table when monitoring will cease.

**RECLAMATION PLAN**

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**Acid and toxic-forming materials.**

Iron-sulfide is present in the mine capable of forming acids. The buffering capacity of carbonates in surrounding rock and continuous flow of groundwater flow prevent concentrated acid build-up.

**Discharges into an underground mine.**

The permittee plans no discharge of fluids or materials into the mine.

**Gravity discharges.**

The permittee describes the process for discharging intercepted groundwater. Currently all intercepted in the mine is discharged to Quitchupah Creek via a UPDES permit. The mine currently discharges approximately 1000 gpm or 2.25 cfs from the Quitchupah portal. As mining progresses into the PTL the intercepted groundwater will also be discharged to Quitchupah Creek. The Muddy Creek portal proposed in the mine plan is downdip of the mine. Sealing the portal will cause groundwater to back up behind the seals and could seep from the mine.

Current plans are to seal the breakout, this will cause groundwater to back up behind the seals and could seep from the mine. SUFCO has submitted plans which show the designs for a cast in place, MSHA approved seal. The seal could be subjected to a maximum hydrostatic pressure of 69 psi if the mine were completely filled up with water to the highest elevation point in the mine. This hydrostatic pressure will be designed into the seal design when constructed.. The MSHA seal will be installed with a minimum thickness of 3 feet and with a minimum compressive strength of 200 psi.

**Sedimentation ponds.**

There are no sediment ponds associated with the PTL.

**Impoundments.**

There are no impoundments associated with the PTL.

**Casing and sealing of wells.**

When no longer needed for monitoring or other use designated by UDOGM and upon a finding of no adverse environmental or health and safety effects, or unless approved for transfer as a water well, each well will be capped, sealed, backfilled. Wells will be sealed and backfilled by placing a concrete plug from TD to surface.

**Findings:**

The permittee has submitted sufficient information to address this section.

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## CONTEMPORANEOUS RECLAMATION

Regulatory Reference: 30 CFR Sec. 785.18, 817.100; R645-301-352, -301-553, -302-280, -302-281, -302-282, -302-283, -302-284.

### Analysis:

No contemporaneous reclamation is schedule to take place on the PTL. The breakout portal will be recovered after the mine shuts down.

### Findings:

The Permittee met the minimum requirements of this section.

## REVEGETATION

Regulatory Reference: 30 CFR Sec. 785.18, 817.111, 817.113, 817.114, 817.116; R645-301-244, -301-353, -301-354, -301-355, -301-356, -302-280, -302-281, -302-282, -302-283, -302-284.

### Analysis:

The revegetation plan includes specific mention of the remote portals. These portals would be broadcast seeded with the standard seed mix. Reclaimed slopes in the area of the Muddy Creek Breakout will be protected from erosion by the application of an erosion mat stapled in place. This plan is acceptable.

### Findings:

Information provided in the proposal is adequate to meet the requirements of this section of the regulations.

## STABILIZATION OF SURFACE AREAS

Regulatory Reference: 30 CFR Sec. 817.95; R645-301-244.

### Analysis:

During operations, soil will be stored within the mine where it will be sheltered from wind and water.

During reclamation, the soil surface will be left rough. The breakout will be hand seeded with the seed mix listed in section 3.4.1.2 of the MRP. Section 3.4.1.2 further indicates that mulch will be applied at 2000 lbs/acre along with 100 lbs of N/ac and 100 lbs of P/ac. Section 2.4.2.1. indicates that organic matting may be used if the slope is thought to be unstable.

**RECLAMATION PLAN**

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The information provided meets the regulatory requirements of this section.

## **CESSATION OF OPERATIONS**

Regulatory Reference: 30 CFR Sec. 817.131, 817.132; R645-301-515, -301-541.

### **Analysis:**

The Permittee addressed this in the MRP. If the Permittee were to cease operations, they would notify the Division within 30 days. The Permittee would report the number of surface and underground acres disturbed and the monitoring procedures during temporary cessation.

### **Findings:**

The Permittee met the minimum requirements of this section.

## **MAPS, PLANS, AND CROSS SECTIONS OF RECLAMATION OPERATIONS**

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-323, -301-512, -301-521, -301-542, -301-632, -301-731.

### **Analysis:**

The surface disturbance should be limited to reclamation of the breakout area which covers an area of 0.01 acres.

#### **Affected area boundary maps.**

The permit area maps and the mine maps show the affected area boundaries.

#### **Bonded area map.**

The bonded area is the permit area and is shown on several maps.

#### **Reclamation backfilling and grading maps.**

The Permittee did not provide the Division with backfilling and grading maps for the portal breakout areas.

#### **Reclamation facilities maps.**

The Permittee does not propose to leave any facilities associated with the PTL.

#### **Final surface configuration maps.**

The Permittee did give the Division the final surface configuration maps for the breakout portal

**Findings:**

The Permittee met the minimum requirements of this section.

**BONDING AND INSURANCE REQUIREMENTS**

Regulatory Reference: 30 CFR Sec. 800; R645-301-800, et seq.

**Analysis:**

**Determination of bond amount.**

The Permittee provided detailed information for the reclamation costs of the breakout portal. The Divisions reviewed the bond calculation and determined that an adjustment was not needed at this time. The Division included the cost to reclaim the Muddy Creek portal area into the bond calculations. When the reclamation costs exceed the bond by 5%, the Division will adjust the bond amount.

**Findings:**

The Permittee met the minimum requirements of this section.

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IN REPLY REFER TO:

# United States Department of the Interior

OFFICE OF SURFACE MINING  
Reclamation and Enforcement  
1999 Broadway, Suite 3320  
Denver, Colorado 80202-5733

July 6, 2000

UT-0026

## Memorandum

To: Richard Bryson, Chief  
Division of Regulatory Support, HQ

From: Joseph O. Wilcox, *Joseph O. Wilcox*  
Federal Lands State Coordinator  
WRCC, Program Support Division

Subject: Mining Plan Decision Document for SUFCO Mine

Enclosed is your copy of a mining plan decision document for the SUFCO Mine. Please review it and have the Director and the Assistant Secretary, Land and Minerals Management sign the tagged signature pages. After the document is signed by the Assistant Secretary, please:

- **make copies** of the signed and dated pages for your copy of the document;
- **fax me a copy** of the signed and dated pages so that I can notify the operator of the Secretary's decision; and,
- **return the original** signed and dated pages to this office **via FEDEX** so that we may insert them into the original decision document which is kept on file here.

Please note that there is no permitting action currently pending before the State of Utah regarding this lease area because it was included in the major permitting action completed by the State in January of 1989. Federal lease UTU-76195 was issued on September 1, 1999.

There are no major interagency issues involved with this mining plan decision.

Thank you for your assistance in this matter.

RECEIVED  
JUN 29 2000

OFFICE OF THE REGIONAL SOLICITOR  
DENVER, COLORADO  
UT-0026

June 29, 2000

MEMORANDUM

TO: Lowell Madsen, Assistant Regional Solicitor  
FROM: Joseph O. Wilcox, Federal Lands State Coordinator  
SUBJECT: Mining Plan Decision Document for SUFCO Mine

I have attached the draft mining plan decision document for Federal lease UTU-76195 at the SUFCO Mine. Please review the document and provide me your comments on or before July 6, 2000.

If you have any questions, please contact me at (303) 844-1400 ext. 1465.

*Call for pickup.*

Attachment



# United States Department of the Interior

OFFICE OF SURFACE MINING  
Reclamation and Enforcement  
1999 Broadway, Suite 3320  
Denver, Colorado 80202-5733

IN REPLY REFER TO:

August 14, 2000

UT-0026

Mr. Richard Pick, President  
Canyon Fuel Company, LLC  
6955 S. Union Park Cntr, Suite 540  
Midvale, UT 84047

Dear Mr. Pick:

On July 20, 2000, the Department of the Interior approved a mining plan modification for Federal lease UTU-76195 at Canyon Fuel Company, LLC's SUFCO Mine. Approval of this mining plan modification supplements the mining plan for Federal leases U-28297, U-062453, U-47080, U-0149084, SL-062583, U-63214 at your SUFCO Mine. This mining plan action relates to Federal lands associated with State of Utah, Department of Natural Resources, Division of Oil, Gas, and Mining, Canyon Fuel Company, SUFCO Mine, ACT/041/002-SR99, for your mine and approved on June 22, 2000.

I have enclosed a copy of the mining plan approval document and associated map for this mining plan modification. Please read the terms and conditions of the mining plan approval document carefully. Mining and reclamation operations must be conducted in accordance with both the Utah state permit and the approved mining plan.

The July 20, 2000, approval allows you to mine an additional 53.6 million tons of Federal coal from 7,171.7 acres of Federal lease UTU-76195. The approval brings the number of acres in the approved mining plan area to 23,939.9 acres.

If you have any questions, please contact me at (303) 844-1400 ext 1465.

Sincerely,

Joseph O. Wilcox  
Federal Lands State Coordinator

Enclosure

cc: BLM - Price Field Office  
Utah, Department of Natural Resources, Division of Oil,  
Gas, and Mining  
USFS - Manti-La Sal National Forest, Price, UT