

# TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

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July 18, 2005

TO: Internal File

THRU: D. Wayne Hedberg, Permit Supervisor

FROM: Wayne H. Western, Environmental Scientist III, Team Lead and Engineering

RE: North Lease Subsidence Mining, Canyon Fuel Company LLC, Skyline Mine, C/007/0005, Task ID #2246

## **SUMMARY:**

The Permittee originally committed to do first mining only in the North Lease area. The Permittee submitted task 1976, which was a proposal to modify the mining plan to allow full extraction mine. The Division found deficiencies in that submittal and the Permittee responded with Task 2246.

This memo covers the engineering and bonding sections.

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TECHNICAL MEMO

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**TECHNICAL ANALYSIS:**

**OPERATION PLAN**

**MINING OPERATIONS AND FACILITIES**

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

**Analysis:**

An original USFS lease stipulation was that no full extraction mining (longwall) would occur under Woods Creek and Winter Quarters Creek. The USFS has since modified the lease to allow full extraction mining under Woods Creek and Winter Quarters Creek. The Permittee updated the MRP by removing the restriction on full extraction mining under Woods Creek and Winter Quarters Creek.

**Findings:**

The information in the application is considered adequate to meet the minimum requirements of the regulations.

**EXISTING STRUCTURES:**

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

**Analysis:**

An "Existing Structure" means a structure or facility used in connection with or to facilitate coal mining and reclamation operations for which construction began prior to January 21, 1981. The Permittee does not use or propose to use any existing structure.

**Findings:**

The information in the amendment is adequate to meet the minimum requirements of this section of the regulations.

## COAL RECOVERY

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

### Analysis:

The Permittee did not meet the requirements of this section of the regulations. The R645-301 Rules require that the Permittee conduct underground mining activities so as to maximize the utilization and conservation of the coal, while utilizing the best technology currently available to maintain environmental integrity, so that re-affecting the land in the future through surface coal mining operations is minimized.

The Division relies upon several factors to determine if the Permittee will maximize coal recovery. A major source of information is the Resource Recovery Protection Plan (R2P2) prepared by the BLM. The BLM has determined that the current R2P2 is inadequate.

### Findings:

The information in the application is not considered adequate to meet the minimum requirements of the regulations. Before approval, the Permittee must provide the following in accordance with:

**R645-301-522**, The plan for maximum economic coal recovery must be updated to include information on the North Lease.

## SUBSIDENCE CONTROL PLAN

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

### Analysis:

#### Renewable Resources Survey

The Permittee met the requirements of this section of the R645-301 Rules. Those rules require the Permittee to conduct a survey, which shall show whether structures or renewable resource lands exist within the proposed permit area and adjacent area and whether subsidence, if it occurred, could cause material damage or diminution of reasonably foreseeable use of such structures or renewable resource lands.

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TECHNICAL MEMO

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The renewable resource subsidence surveys are part of Section 4.17.1 of the MRP. Since the Permittee found renewable resource within the permit boundary, they must submit a subsidence control plan.

### **Subsidence Control Plan**

The subsidence control plan must contain the following information:

- A description of the method of coal removal, such as longwall mining, including the size, sequence, and timing for the development of underground workings. The Permittee met those requirements by showing on Map 3.3-2, Lower O'Conner "A"/Flat Canyon Five Year Projected Mine Plan that they will use longwall in the North Lease. The information is adequate for the Division to use in its analysis.
- A map of underground workings showing the location and extent of areas where planned-subsidence mining methods will be used and including all areas where measures will be taken to prevent or minimize subsidence and subsidence related damage and where appropriate, to correct subsidence-related material damage. Map 4.17.3-1A, North Lease Presubsidence Survey Map, shows the areas where subsidence is anticipated, the amount of subsidence (potential subsidence contours) and those areas where the Permittee believes that subsidence cracks could occur. The information is adequate for the Division to use in its analysis.
- A description of the physical conditions, such as depth of cover, seam thickness, and lithology, which affect the likelihood or extent of subsidence and subsidence-related damage. The Permittee showed the depth of cover and coal isopachs on Map 2.2.7-2, Lower O'Conner "A"/Flat Canyon Overburden Map. The depth of cover ranges from 500 feet to 2,000 feet. The seam thickness is shown on Map 2.2.7-1, Lower O'Conner "A"/Flat Canyon Isopach. The geology report is in Volume A-3 of the MRP. The information is adequate for the Division to use in its analysis.
- A description of monitoring, if any, needed to determine the commencement and degree of subsidence so that, when appropriate, other measures can be taken to prevent, reduce, or correct material damage. The Permittee did not change the monitoring program, which consists of a commitment to conduct annual aerial surveys. In addition, the Permittee committed to conduct infrared aerial photography each year on the North Lease area.

The Division requires the Permittee to commit to conduct on the ground reconnaissance at least six months after a panel has been mined out, but no more than twelve months afterwards.

**TECHNICAL MEMO**

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- Except for those areas where planned subsidence is projected to be used, a detailed description of the subsidence control measures that will be taken to prevent or minimize subsidence and subsidence-related damage, including, but not limited to: backstowing or backfilling of voids; leaving support pillars of coal; leaving areas in which no coal is removed, including a description of the overlying area to be protected by leaving the coal in place; and, taking measures on the surface to prevent material damage or lessening of the value or reasonably foreseeable use of the surface. The Permittee will use longwall mining methods for the North Lease. All mined areas with the exception of mains are scheduled to be subsided. The information is adequate for the Division to use when analyzing when and where subsidence could occur.
- A description of the anticipated effects of planned subsidence, if any. In Section 4.17.1 of the MRP, the Permittee specifically mentions the anticipated subsidence effects in the North Lease area. The Permittee does not anticipate any subsidence related impacts on the pack trail in the bottom of Winter Quarter Canyon.
- A description of the measures to be taken to mitigate or remedy any subsidence-related material damage to, or diminution in value or reasonably foreseeable use of the land, or structures or facilities to the extent required under State law. In Section 4.17.4, Mitigation of Subsidence Effects, of the MRP, the Permittee states, “that mitigation will be contingent upon the findings of the subsidence monitoring program. Surface subsidence experienced to date, as shown in the 1987 and 1988 annual reports, has been less than 50% of the mining height even after 2 years has passed. As data are collected, methods of mitigation will be formulated.”
- Other information specified by the Division as necessary to demonstrate that the operation will be conducted in accordance with the performance standards for subsidence control. The Division does not need any other information at this time.

**Notification**

At least 6 months prior to mining, or within that period if approved by the Division, the underground mine operator shall mail a notification to all owners and occupants of surface property and structures above the underground workings. The notification shall include, at a minimum, identification of specific areas in which mining will take place, dates that specific areas will be undermined, and the location or locations where the operator's subsidence control plan may be examined. As part of the inspection process, the Division will monitor the notification process.

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TECHNICAL MEMO

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**Findings:**

The information in the amendment is adequate to meet the minimum requirements of this section of the regulations.

**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:**

**Mine Workings Maps**

Map 3.3-2, Lower O'Conner "A"/Flat Canyon Five Year Projected Mine Plan, shows the location of the mine workings associated with the North Lease.

**Certification Requirements**

Map 3.3-2, Lower O'Conner "A"/Flat Canyon Five Year Projected Mine Plan, needs to be certified.

**Findings:**

The information in the application is not considered adequate to meet the minimum requirements of the regulations. Before approval, the Permittee must provide the following in accordance with:

**R645-301-512.110**, The Permittee must have Map 3.3-2, Lower O'Conner "A"/Flat Canyon Five Year Projected Mine Plan, certified.

**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 does not plan to disturb the surface for facilities within the North Lease Permit Area. Therefore, there is no information in the submittal for reclamation of a disturbed area.

**Findings:**

The Division considers information in the application adequate to meet the minimum General Requirements section of the Reclamation Plan regulations.

**BONDING AND INSURANCE REQUIREMENTS**

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

**Analysis:**

**Determination of Bond Amount**

The Permittee does not propose to increase the disturbed area or to build additional surface facilities. Therefore, the bond amount will not change.

**Findings:**

The Division considers the information in the application adequate to meet the minimum requirements of this section.

**RECOMMENDATIONS:**

The Division should deny the application until all of the above mentioned deficiencies have been answered.