

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

July 14, 2005

TO: Internal File

THRU: D. Wayne Hedberg, Permit Supervisor

THRU: Steve Fluke, Team Lead

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

RE: SITLA Muddy Lease Amendment, Canyon Fuel Company, LLC., SUFCO Mine, C/041/0002, and Task ID #2157

SUMMARY:

On February 11, 2005, the Division received an amendment to include the SITLA Muddy Tract to the Mining and Reclamation Plan (MRP) for the SUFCO Mine. The SITLA lease will add 2,134.19 acres to the existing approved permit area of 24,632.95 acres. The Permittee will not add any new surface facilities because of the SITLA leases. This memo addresses the engineering and bond issues.

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TECHNICAL ANALYSIS:

ENVIRONMENTAL RESOURCE INFORMATION

PERMIT AREA

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

Analysis:

The Permittee met the requirements for the R645 – Rules by a describing and identifying identify the lands subject to surface coal mining operations over the estimated life of mine. In Section 114 of the MRP, the Permittee lists the legal description for the permit. In Section 116 of the MPR, the Permittee lists the total acreage for the permit and disturbed areas.

Findings

The Permittee met the minimum requirements of this section of the regulations.

MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION

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

Analysis:

Affected Area Boundary Maps

The Permittee met the requirements for showing the affected area boundaries. The Permittee is required to show the boundaries of all areas proposed to be affected over the estimated total life of the underground mining activities, with a description of size, sequence, and timing of the mining of subareas for which it is anticipated that additional permits will be sought. Plate 5-7, Land Ownership and Permit Area Map, shows the permit area.

Mine Workings Maps

The Permittee met the requirements for showing the mine workings. The Permittee is required to show the location and extent of know workings of active, inactive, or abandoned underground mines, including mine openings to the surface within the proposed permit and

adjacent areas. Plate 5-1, Previously Mined Areas, shows the location of the previously mined areas.

Permit Area Boundary Maps

The Permittee met the requirements for showing the permit area boundary. The Permittee is required to show the boundaries of land within the proposed permit area upon which the Permittee has the legal right to enter and begin underground mining activities. Plate 5-7, Land Ownership and Permit Area Map, shows the permit area.

Findings:

The Permittee met the minimum requirements for this section of the R645 – Rules.

OPERATION PLAN

COAL RECOVERY

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

Analysis:

The Permittee did not meet the requirements for the R645 – Rules. The Permittee needs to show how they will conduct underground mining activities to maximize the utilization and conservation of the coal, while utilizing the best technology currently available to maintain environmental integrity.

Findings:

The information provided in the amendment is not considered by the Division to be adequate to meet the requirements of this section. Before approval, the Permittee must provide the following in accordance with:

R645-301-522, The Permittee must show how they will conduct mining in order to maximize the economic recovery of coal. One way that the Permittee could accomplish that task is to have an approved R2P2.

SUBSIDENCE CONTROL PLAN

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

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Analysis:

Renewable Resources Survey

The Permittee did not meet the requirements of the R645 – Rules for this section. Those requirements are that the Permittee 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. As part of the survey, the Permittee must list the quality and quantity of State appropriated water within the permit area in the subsidence section of the MRP or if that information is listed in other sections of the MRP then the Permittee must reference the location in the subsidence section.

The Permittee determined that there are renewable resources within the subsidence zone. Therefore, the Permittee must implement a subsidence control plan.

Subsidence Control Plan

The subsidence control plan shall contain the following information:

- *A description of the method of coal removal, such as longwall mining, room-and-pillar removal, hydraulic mining, or other extraction methods, including the size, sequence, and timing for the development of underground workings.* The Permittee met those requirements by stating in Section 5.2.5.1, Subsection Mining Methods, of the MRP that longwall, and room and pillars are the mining methods.
- *A map of underground workings which describes the location and extent of areas in which planned-subsidence mining methods will be used and which includes 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.* The Permittee met those requirements by showing the subsidence area for the Muddy and Pine Tract on Plate 5-10B.
- *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 met those requirements by providing geological information in Chapter 6 of the MRP.
- *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 meet those requirements. In Section 5.2.5.1, Subsection Monitoring, of the MRP the Permittee states that control points for the aerial subsidence monitoring program are shown on Plate 5-10 and the coordinates are given in Table 5-2. The Permittee states that information was updated in 1991,

although Table 5-2 was updated in 2002. The MRP does not contain Plate 5-10; the MRP does contain Plate 5-10A, Plate 5-10B and Plate 5-10C. The Permittee needs to update the text to show that the subsidence is shown on three maps. The Permittee needs to update the information about the Table 5-2. At a minimum, the Permittee must update the text to show that the table has been updated after 1991. If additional monitoring stations have been added the Permittee must update Table 5-2.

- *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 met those requirements by providing the subsidence control plan. The Permittee will use full extraction methods in the Muddy Tract. The Permittee will protect areas from subsidence by leaving support pillars when needed.
- *A description of the anticipated effects of planned subsidence, if any.* The Permittee met those requirements by describes the anticipated effects of subsidence in Section 5.2.5.1, Anticipated Effects of Subsidence in the MRP.
- *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.* The Permittee did not meet the minimum requirements of the R645 – Rules. The Permittee must include a detailed description of methods that can be used to mitigate the loss of State appropriated water. In Section 5.2.5.1, Correction of Material Damage, the Permittee list the methods that could be used to correct some types of subsidence damage.

The Permittee must include a commitment that they will provide a mitigation plan prior full extraction mining under Cowboy Creek. The mitigate plan must show how the Permittee will remedy any subsidence-related material damage to Cowboy Creek.

- *Other information specified by the Division, as necessary to demonstrate that the Permittee will be conducted in accordance with the performance standards for subsidence control.* The Division does not require other information at this time.

Performance Standards For Subsidence Control

The Permittee shall either adopt measures consistent with known technology which prevent subsidence from causing material damage to the extent technologically and economically feasible, maximize mine stability, and maintain the value and reasonably foreseeable use of surface lands; or, adopt mining technology which provides for planned subsidence in a

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predictable and controlled manner. Nothing in this part shall be construed to prohibit the standard method of room-and-pillar mining.

The Permittee shall comply with all provisions of the approved subsidence control plan.

The Permittee shall correct any material damage resulting from subsidence caused to surface lands, to the extent technologically and economically feasible, by restoring the land to a condition capable of maintaining the value and reasonably foreseeable uses which it was capable of supporting before subsidence, and, to the extent required under applicable provisions of State law, either correct material damage resulting from subsidence caused to any structures or facilities by repairing the damage or compensate the owner of such structures or facilities in the full amount of the diminution in value resulting from the subsidence. Repair of damage includes rehabilitation, restoration, or replacement of damaged structures or facilities. The Permittee may accomplish compensation by purchasing before mining of a non-cancelable premium-prepaid insurance policy.

Underground mining activities shall not be conducted beneath or adjacent to: public buildings and facilities; churches, schools, and hospitals; or, impoundments with a storage capacity of 20 acre-feet or more or bodies of water with a volume of 20 acre-feet or more, unless the subsidence control plan demonstrates that subsidence will not cause material damage to, or reduce the reasonably foreseeable use of, such features or facilities. If the Division determines that it is necessary in order to minimize the potential for material damage to the features or facilities described above or to any aquifer or body of water that serves as a significant water source for any public water supply system, it may limit the percentage of coal extracted under or adjacent thereto.

The Permittee will not subsidize any of the following:

- Public buildings and facilities.
- Churches, schools, and hospitals.
- Impoundments with a storage capacity of 20 acre-feet or more or bodies of water with a volume of 20 acre-feet or more.

The Division has not determined subsidence will damage any aquifer or body of water that serves as a significant water source for any public water supply system.

If subsidence causes material damage to any of the features or facilities, the Division may suspend mining under or adjacent to such features or facilities until the subsidence control plan is modified to ensure prevention of further material damage to such features or facilities.

The Division shall suspend underground mining activities under urbanized areas, cities, towns, and communities, and adjacent to industrial or commercial buildings, major

impoundments, or perennial streams, if imminent danger is found to inhabitants of the urbanized areas, cities, towns, or communities.

Within a schedule approved by the Division, the Permittee shall submit a detailed plan of the underground workings. The Division requires annual mine maps are part of the annual reports.

Notification

At least 6 months before mining, or within that period if approved by the Division, the underground mine the Permittee 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 permittee's subsidence control plan may be examined.

Findings:

The information provided in the amendment is not considered adequate to meet the requirements of this section. Before approval, the Permittee must provide the following in accordance with:

R645-301-525.130, The Permittee must include a water quality and quantity survey for State appropriated water within the Muddy Tract area. If the information is in another section of the MRP, then the Permittee must reference that area in the subsidence section.

R645-301-525.440, The Permittee must update the subsidence monitoring section or the MRP (page 5-30) to show that Table 5-2 has been updated since 1991. In addition, the Permittee must also update Table 5-2 if needed. Also, the MRP does not contain Plate 5-10; the MRP does contain Plate 5-10A, Plate 5-10B and Plate 5-10C. The Permittee needs to update the text to show that the subsidence is shown on three maps.

R645-301-525.480, The Permittee must include a detailed description of the methods that they can use to mitigate and replace any adversely affected State appropriated water supplies. In addition, the Permittee must make a commitment that they will submit a mitigation plan before they do full extraction mining under Cowboy Creek.

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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 met the requirements for showing the affected area boundaries. The Permittee is required to show the boundaries of all areas proposed to be affected over the estimated total life of the underground mining activities, with a description of size, sequence, and timing of the mining of subareas for which it is anticipated that additional permits will be sought. Plate 5-7, Land Ownership and Permit Area Map, shows the permit area.

Mine Workings Maps

The Permittee met the requirements for showing the mine workings. The Permittee is required to show the location and extent of known workings of proposed, active, inactive, or abandoned underground mines, including mine openings to the surface within the proposed permit and adjacent areas. Plate 5-7, Upper Hiawatha Mine Plan 5-Year Projection show the operational and projected mine workings associated with the SITLA Muddy Tract.

Certification Requirements

The Permittee met the requirements for map certification. The Permittee is required to have cross sections, maps, and plans that are required to show the design, location, elevation, or horizontal or vertical extent of the land surface or of a structure or facility used to conduct mining and reclamation operations shall be prepared by, or under the direction of, and certified by a qualified, registered, professional engineer, a professional geologist, or in any State which authorizes land surveyors to prepare and certify such cross sections, maps, and plans, a qualified, registered, professional land surveyor, with assistance from experts in related fields such as landscape architecture. All such maps associated with the SITLA Muddy tract have been certified.

Findings:

The Permittee met the minimum requirements for this section of the R645 – 301 Rules.

RECLAMATION PLAN

BONDING AND INSURANCE REQUIREMENTS

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

Analysis:

Determination of Bond Amount

Since the addition of the SITLA Muddy Tract does not involve any additional surface disturbance or surface facilities, the bond amount will not change. The Division calculated the bond as part of Task 2068, Midterm Review. The current reclamation estimate is for \$2,616,000 and the current bond amount is for \$4,439,000.

Findings:

The Permittee met the minimum requirements for this section of the R645 – 301 Rules.

RECOMMENDATIONS:

The Division should deny the amendment until all of the above mentioned deficiencies have been addressed.