

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

November 12, 2004

OK

TO: Internal File

FROM: Peter H. Hess, Environmental Scientist III/Engineering, Team Lead *PHH by ar*

RE: Incidental Boundary Change, Co-Op Mining Company, Bear Canyon Mine, C/015/025, Task ID #2042

SUMMARY:

The permittee, C.W. Mining Company, is proposing to add 39.44 acres of additional coal reserves to the current permit area of the Bear Canyon operation, (3,336.18 acres). The additional acreage is included in Federal lease U-38727, which was approved for mining by the U.S. Department of the Interior, Bureau of Land Management, Utah State Office on June 19, 2002 via lease modification UTU-38727. The additional acreage is located in T16S, R7E, SLBM, Section 24, NE1/4, NE1/4. Surface ownership is held by the U.S. D.A. / United States Forest Service, Manti-La Sal National Forest.

The addition of the 39.44 acres to the already permitted acreage (3,336.18) constitutes 1.168 % of the total subsurface disturbance. This calculation assumes that all of the reserves in the NE1/4 of the NE1/4 are mineable with the equipment currently in operation at Bear Canyon. The addition of the acreage therefore qualifies as an Incidental Boundary Change for the Bear Canyon permit area (See R645-303-223, and 224.100).

TECHNICAL ANALYSIS:

GENERAL CONTENTS

RIGHT OF ENTRY

Regulatory Reference: 30 CFR 778.15; R645-301-114

Analysis:

The addition of the 39.44 acres associated with this incidental boundary change to the Bear Canyon permit area under Federal coal lease U-38727 was approved under Federal

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permitting action (Coal Lease modification UTU-38727) on June 19, 2002. The submittal designated as Task ID #2042 is necessary to update the permit boundary information contained within the Bear Canyon mining and reclamation plan, which is part of the State of Utah permit to conduct underground mining activities.

Federal lease U-38727 was transferred to C.O.P. Coal Development Company from Nevada Electric Investment Company via Bureau of Land Management Utah State Office permitting action on February 1, 1992. This approval date also concurs with the effective date of cash lease bonds for U-38727, as well as U-020668, (See Bear Canyon MRP, Chapter 2, appendix/page 2B-21).

Findings

The requirements of this section have been adequately addressed.

PERMIT TERM

Regulatory References: 30 CFR 778.17; R645-301-116.

The current State permit issued by the Utah Division of Oil, Gas and Mining for the Bear Canyon permit area remains in effect until November 2, 2005. This proposal is being submitted during the current permit term.

Findings:

The minimum requirements of this section have been met.

PUBLIC NOTICE AND COMMENT

Regulatory References: 30 CFR 778.21; 30 CFR 773.13; R645-300-120; R645-301-117.200.

Analysis:

The surface area involved with this addition of 39.44 acres is located within the jurisdiction of the Manti La Sal National Forest (NE1/4NE1/4 of Section 24, T16S, R7E, SLBM). The Federal coal reserves are leased to C.O.P. Coal Development Company via Federal lease U-38727; same are in turn leased to C.W. Mining Company. All leasing processes have been completed and agreed to by the respective government agencies. There is no need for a public notice and comment period; this regulation is not applicable to this amendment.

Findings

The requirements of this regulation are not applicable to this incidental boundary change application.

FILING FEE

Regulatory Reference: 30 CFR 777.17; R645-301-118.

Analysis:

Task ID#2042 has been classified as an incidental boundary change to the permit area of the Bear Canyon / C.W. Mining operation. As this amendment is not a permit application, but is an amendment to the current permit area, a filing fee is not applicable.

Findings

The requirements of this regulation are not applicable to this submittal.

MAPS AND PLANS

Regulatory Reference: 30 CFR 777.14; R645-301-140.

Analysis:

The submittal contains the following revised Plates:

- 1) Plate 2-1, Permit Area
- 2) Plate 2-2, Surface Ownership
- 3) Plate 2-3, Sub-surface Ownership
- 4) Plate 3-3, Subsidence Map
- 5) Plate 3-4A, Blind Canyon Seam (#3 Mine Workings/Wild Horse Ridge Addition)
- 6) Plate 3-4C, Tank Seam (#4 Mine Workings / Wild Horse Ridge Addition)
- 7) Plate 6-1, Geologic Map
- 8) Plate 6-2, Overburden Map, Blind Canyon Seam
- 9) Plate 6-3, Isopach Map, Blind Canyon Seam
- 10) Plate 6-4, Structure Contour Map, Blind Canyon Seam
- 11) Plate 6-5, Interburden Isopach, Blind Canyon – Hiawatha Seam
- 12) Plate 6-6, Overburden Map, Hiawatha Seam
- 13) Plate 6-7, Isopach Map, Hiawatha Seam

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- 14) Plate 6-8, Structure Contour Map, Hiawatha Seam
- 15) Plate 6-9, Interburden Isopach Map, Blind Canyon-Tank Seam
- 16) Plate 6-10, Overburden Map, Tank Seam
- 17) Plate 6-11, Isopach Map, Tank Seam
- 18) Plate 6-12, Structure Contour Map, Tank Seam
- 19) Plate 9-1, Vegetation Map

All of the revised Plates have been certified by Mr. Charles Reynolds, General Manager of C.W. Mining Company, and a Utah registered professional engineer.

A note included on Plate 2-1, PERMIT AREA, indicates that the entire permit area encompasses 10,840.54 acres. **This figure does not correlate with the 3,375.62 acres reported in the closing paragraph of Section 2.2.2, page 2-3A of the Task ID #2042 submittal.**

Findings:

R645-300-133.100; Plate 2-1 does not meet the minimum regulatory requirements in that the number of permit acres reported does not coincide with the number reported on page 2-3A of the Task ID #2042 submittal.

The remaining submitted Plates appear to meet the minimum regulatory requirements of this section.

ENVIRONMENTAL RESOURCE INFORMATION

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

PERMIT AREA

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

Analysis:

The Task ID #2042 submittal contains a revised Plate 2-1, PERMIT AREA map. The only revision to the Plate is the addition of the NE1/4, NE1/4 of Section 24, T16S, R7E, SLBM to the permit area already approved by the Utah Division of Oil, Gas and Mining. The approval of ID #2042 will incorporate another 39.44 acres into the already approved 3,336.18 acres (3,375.62 acres total, upon approval) or a 1.168 % increase in subsurface disturbance.

Plate 2-1 does not meet the minimum regulatory requirements in that the number of permit acres reported does not coincide with the number reported on page 2-3A of the Task ID #2042 submittal.

Findings:

The minimum regulatory requirements of this section have not been met.

R645-300-133.100; Plate 2-1 does not meet the minimum regulatory requirements in that the number of permit acres reported does not coincide with the number reported on page 2-3A of the Task ID #2042 submittal.

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:

Mine Workings Maps

Plates 3-4A, Blind Canyon Seam and 3-4C, Tank Seam, depict the mine workings in the #3 Mine and #4 Mines respectively, to the extent known, as they existed on or about the date of the professional engineer's certification, September 16, 2004.

Permit Area Boundary Maps

Application Task ID #2042 contains a revised Plate 2-1, PERMIT AREA, which depicts the revised Federal Lease boundary that incorporates the NE1/4, NE1/4 of Section 24, T16S, R7E, SLBM into the Bear Canyon permit area. Plate 2-1, PERMIT AREA, is P.E. certified by Mr. Charles Reynolds, General Manager of C.W. Mining Company.

Plate 2-1 does not meet the minimum regulatory requirements in that the number of permit acres reported does not coincide with the number reported on page 2-3A of the Task ID #2042 submittal.

It must be noted that the addition of the 39.44 acres which constitutes the NE1/4, NE1/4 of Section 24, T16S, R7E, SLBM is the northern most quarter of the legal description revision included on page 2-3A, Permit Area, B., T16S, R7E, SLBM, Sec.24, E1/2,E1/2.

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The only other text revision included on page 2-3A is the addition of the 39.44 acres to the Bear Canyon permit area (See the last sentence in section 2.2.2) for the total combined acreage of 3,375.62 acres.

Surface and Subsurface Ownership Maps

The application, designated as Task ID #2042, contains revised Plates 2-2, SURFACE OWNERSHIP, and 2-3, SUB-SURFACE OWNERSHIP for the acreage of coal reserves which have been added to Federal lease U-38727, via Federal lease modification UTU-38727. Plate 2-2 indicates that the surface ownership of the acreage involved is held by the U.S.D.A. / U.S.F.S. / Manti LaSal National Forest. Plate 2-3, SUBSURFACE OWNERSHIP indicates that the coal reserves are held by the C.O.P. Coal Development Company. Page 2-2A, which has been submitted as a revision with the ID #2042 submittal, states that all Federal Coal Rights are leased by Co-Op Mining Company from C.O.P. Coal Development Company (See letter from C.O.P. Coal Development Company, Appendix 2-B).

Both Plates have been revised to reflect the addition of the 39.44 acres to the Bear Canyon permit area. Both Plates have been certified by a Utah registered professional engineer, Mr. Charles Reynolds, Certificate # 179670.

Vegetation Reference Area Maps

Revised Plate 9-1, Vegetation Map, indicates that the NE1/4NE1/4 of Section 24 exists in an area of the Bear Canyon permit that is classified as conifer vegetative cover. The map is P.E. certified by a Utah registered professional engineer.

Findings:

R645-300-133.100; Plate 2-1 must be revised and recertified to reflect the number of permitted acres described on page 2-3A of the revised text, or a more detailed explanation of the note contained on Plate 2-1 must be given explaining the acreage figures shown within the engineering note. That explanation must correlate with the number of acres described on page 2-3A of the revised text submitted as part of Task ID #2042.

OPERATION PLAN

MINING OPERATIONS AND FACILITIES

Analysis:

The addition of the NE1/4 of the NE1/4 of Section 24, T16S, R9E, SLBM will have no affect on the Bear Canyon mining operations relative to the method of coal extraction. There will not be any new facilities constructed to extract the additional coals associated with the added reserves.

Findings:

The addition of the 39.44 acres associated with this submittal will have no affect on the current Bear Canyon mining facilities. The minimum regulatory requirements of this section have been met.

PROTECTION OF PUBLIC PARKS AND HISTORIC PLACES

Regulatory Reference: 30 CFR784.17; R645-301-411.

Analysis:

There are no public parks or historic places located in NE1/4NE1/4 of Section 24, T16S, R7E, SLBM. This regulation is not applicable to this incidental boundary change.

Findings:

This section is not applicable to this incidental boundary change application.

RELOCATION OR USE OF PUBLIC ROADS

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

Analysis:

There are no public roads within the NE1/4NE1/4 of Section 24, T16S, R7E, SLBM. All surface is owned and managed by the U.S. Department of Agriculture, United States Forest Service, Manti La Sal National Forest. As such, any roads within that area would belong to that agency.

Findings:

This regulation is not applicable to this incidental boundary change application.

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AIR POLLUTION CONTROL PLAN

Regulatory Reference: 30 CFR 784.26, 817.95; R645-301-244, -301-420.

Analysis:

The currently approved air quality order for the Bear Canyon Mines facilities is adequate for this incidental boundary change. There will not be any new facilities constructed on the surface of NE1/4NE1/4 of Section 24, T16S, R7E, SLBM.

Findings:

The currently approved air quality order is adequate to cover any requirements for this incidental boundary change.

COAL RECOVERY

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

Analysis:

The application identified as Task ID #2042 contains a revision to Table 3.4-1, Coal Reserves, Bear Canyon Mine, page 3-28. Under Federal lease U-38727, the applicant notes that an additional coal volume of 548,214 tons of coal (in-place) exist within the Blind Canyon seam of the 39.44 acres added to the permit area, (T16S, R7E, SLBM, Section 24, NE1/4, NE1/4). The revised "recoverable tons" from the Blind Canyon seam (Federal lease U-38727) has been adjusted to reflect an additional 186,563 tons (1,779,413 total recoverable tons).

The tonnage reflected as existing within the Tank seam of Federal lease U-38727 have not been adjusted for this incidental boundary change application.

Plate 3-4A, which is P.E. certified by Mr. Charles Reynolds, depicts the mining projections for the Blind Canyon seam or #3 Mine. The mineable reserves are depleted by a geologic anomaly depicted as running from NW to SE, indicating "low coal area". This line indicates that at least fifty percent or more of the reserves in the NE1/4, NE1/4 of Section 24, T16S, R7E, SLBM may not be recoverable.

Plate 3-4C, (P.E. certified by Mr. Charles Reynolds) depicts a "pillar panel" crossing the SW corner of the NE1/4, NE1/4 of Section 24. It is known that the permittee is in the process of implementing longwall secondary extraction methods in the #4 Mine (Tank seam). Therefore, this "panel" may be extracted with that type of mining. However, Plate 3-4C indicates that the

panel will be mined between June of 2005 and October of 2005, and the likelihood that the permittee will obtain all of the required government clearances to implement longwall prior to June of 2005 is dubious.

Volume 1, Chapter 3, Appendix 3C, page 11, (3C-11), discusses protection of escarpments while coal extraction is ongoing in the Tank seam (Federal lease U-38727). "As with Federal lease U-024316, lease stipulation 12 requires mining to be conducted in a manner to prevent escarpment failure. The uppermost escarpment in the Wild Horse Ridge area is the Castle Gate sandstone, located approximately 800 feet above the Tank seam, and 950 feet above the Blind Canyon seam. To prevent subsidence to these escarpments a barrier zone will be left in which no retreat mining will take place. The width of this barrier was determined using an angle of draw of 22.5 degrees, (See Figure 3C-2). For the Tank seam a minimum barrier of 300 feet will be maintained in which no retreat mining will take place. For the Blind Canyon seam, a minimum barrier of 370 feet will be maintained. Plate 3-3, (Subsidence Map, revised for the Task ID # 2042 submittal) shows the anticipated zone that will be affected by subsidence, and the Castle Gate Sandstone, located outside of this area. This zone is also shown on Plates 3-4A and 3-4C to show the relationship between the development and retreat panels. Where panels are shown encroaching on the barrier zone, pillars will be developed and left in place to prevent subsidence. The pillars will be developed on 80-foot centers minimum. Using the ARMPS software, (NIOSH), a minimum pillar stability factor of 1.58 was determined. Therefore, this pillar size will be adequate to prevent subsidence and escarpment failure. Mining on Federal lease U-024316 has also confirmed that this size is adequate in the Bear Canyon Mine area."

Examination of Plate 3-3 reveals that there are no escarpments or barrier zones with the NE1/4NE1/4 of Section 24, T16S, R7E, SLBM. Therefore, the item that limits maximum coal recovery in this area of the U38727 lease is the "low coal area".

Findings:

R645-300-133.100, Complete and Accurate; R645-301-522, Coal Recovery; The information provided does not meet the minimum regulatory requirements of this section in that some of the total figures contained in Table 3.4-1 (Received 11/1/2004) are incorrect.

SUBSIDENCE CONTROL PLAN

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

Analysis:

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Notification

Plate 3-4A, Blind Canyon Seam Mine Workings (#3 Mine), depicts the anticipated mining projections within the Blind Canyon seam. There is no mining being projected in the 39.44 acres that are being added to the Bear Canyon permit area for the Blind Canyon seam, (NE1/4NE1/4, Section 24). According to Plate 3-4A, at least fifty percent of the reserves in this seam are lost due to same being designated as a "low coal area". Plate 3-4A also indicates that the 39.44 acres associated with the NE1/4NE1/4 of Section 24 is not within any "potential subsidence zone". Plate 3-4A contains a note relative to this area that states the following: "All pillars will be left in place in this area within 200 feet of the property boundary. Pillars will be developed a minimum of 80' X 80' o.c. (on centers) for subsidence protection as described in Appendix 3-C". According to Mr. Mark Reynolds, permitting coordinator for the Permittee, through telephone communication on October 27, 2004, core hole data taken in the NE1/4NE1/4 of Section 24, T16S, R7E, SLBM shows that there are no recoverable reserves in the Blind Canyon seam in that area. Therefore Plate 3-4A appears to be reasonably correct.

Plate 3-4C, Tank Seam (mine workings for the #4 Mine, Wild Horse Ridge addition) shows the anticipated mining projections for the #4 Mine development and retreat of three pillar panels. The pillar panel that will be mined from June 2005 through October 2005 shows two entries on the right side of the panel which course from NW to SE. These entries will cross the SW corner of the 39.44 acres being added by this incidental boundary change. Plate 3-4C also indicates that this added acreage is outside of the potential subsidence zone. Page 3C-11, (Volume 1, Chapter 3, Appendix 3-C, Subsidence Control and Monitoring, Federal coal leases U-38727 and U-020668 states requirements relative to the subsidence of areas including escarpments. Escarpments are located approximately 800 feet above the Tank seam in the Wild Horse Ridge addition. However, Plate 3-3, Subsidence Map indicates that the closest escarpment buffer zone is 650 feet south the acreage being added.

The submittal does not contain a notification letter to the surface landowner relative to the potential for subsidence. Although based on the above determined information, no potential subsidence should occur, the permittee must notify the Manti LaSal National Forest as well as the Huntington-Cleveland Irrigation District at least six months prior to mining the projected pillar panel described above in order to meet the requirements of R645-301-525.700. The notification must include the 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. It is recommended that the permittee make this notification to the Manti LaSal National Forest on or before November 30, 2004.

Findings:

The minimum regulatory requirements of this section have not been met.

R645-301-525.700, Public Notice of Proposed Mining; In accordance with 525.700, the permittee must either notify the water conservancy district and the USFS Manti LaSal now, or produce the letter which was sent to those agencies when coal extraction was initiated in lease U-38727.

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:

Monitoring and Sampling Location Maps

The Task ID #2042 submittal contains a revised Plate 3-3, SUBSIDENCE MAP, for the Bear Canyon Mines permit area. The added acreage in T16S, R7E, SLBM, Section 24, NE1/4, NE1/4 is relative to Federal lease U-38727, which is relative to the #3 Mine located in the Wild Horse Ridge addition of the operation. The revised Plate 3-3 does not indicate that there will be additional subsidence monitoring locations established in that area of the permit. The only revision is that needed to incorporate the 39.44 acres into the depicted permit boundary.

Certification Requirements

Plate 3-3 is P.E. certified by Mr. Charles Reynolds, General Manager for C.W. Mining Company.

Findings:

The minimum regulatory requirements of this section have been met.

RECOMMENDATIONS:

The permittee must address the aforementioned deficiencies prior to receiving a recommendation for approval.