

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

September 16, 2005

TO: Internal File

FROM: Peter H. Hess, Environmental Scientist III/Engineering, Team Lead

RE: Incidental Boundary Change, Co-Op Mining Company, Bear Canyon Mine, C/015/025, Task ID #2226

SUMMARY:

The permittee, C.W. Mining Company, is proposing to add 40 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 40 acres to the already permitted acreage (3,336.18) constitutes 1.184% 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).

The Permittee responded to the Division's Task ID #2042 deficiency document (February 4, 2005 forward date) on April 18, 2005 (received in the PFO on April 22, 2005). This technical memorandum will address the adequacy of the Permittee's responses as they relate to the R645-500, Coal Mine Permitting / Engineering coal rules.

TECHNICAL ANALYSIS:

GENERAL CONTENTS

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RIGHT OF ENTRY

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

Analysis:

The addition of the 40 acres associated with this incidental boundary change to the Bear Canyon permit area under Federal coal lease U-38727 was approved under Federal 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.

Analysis:

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 40 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:

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- 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
- 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, indicated that the entire permit area encompassed 10,840.54 acres. This figure did 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 and thus was determined to be a deficiency by the Division. The Permittee submitted a revised page 2-3 and a new PLATE 2-1 as part of the April 22, 2005 **TASK ID #2226** submittal. According to the revised text submitted on page 2-3, three thousand, three hundred and seventy six point one-eight acres (3,376.18 acres) are included in the Bear Canyon permit area. This figure coincides with the Permit Area Acres reported in the **LEGEND** of PLATE 2-1, PERMIT AREA, which was P.E. certified by Mr. Charles Reynolds on April 20, 2005.

Findings:

Plate 2-1 meets the minimum regulatory requirements in that the number of permit acres reported **does coincide** with the number reported on page 2-3 of the Task ID #2226 submittal.

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 #2226 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 Task ID #2226 will incorporate another 40 acres into the already approved 3,336.18 acres (3,376.18 acres total, upon approval) or a 1.184% increase in subsurface disturbance.

Plate 2-1, PERMIT AREA (P.E. certification April 20, 2005 by Mr. Charles Reynolds) meets the minimum regulatory requirements in that the number of permit acres reported coincides with the number reported on page 2-3 of the Task ID #2226 submittal.

Findings:

The minimum regulatory requirements of this section have been met.

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

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Application Task ID #2226 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.

It must be noted that the addition of the 40 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.

The only other text revision included on page 2-3 is the addition of the 40 acres to the Bear Canyon permit area (See the last sentence in section 2.2.2) for the total combined acreage of 3,376.18 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 Task 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 40 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:

Plate 2-1 has been revised and recertified to reflect the number of permitted acres described on page 2-3 of the revised text, (TASK ID #2226 submittal). The minimum regulatory requirements of this section have been met.

OPERATION PLAN

MINING OPERATIONS AND FACILITIES

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

Analysis:

The addition of the NE1/4NE1/4 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 40 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.

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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.

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 contained a revision to Table 3.4-1, Coal Reserves, Bear Canyon Mine, page 3-28. Under Federal lease U-38727, the applicant noted that an additional coal volume of 548,214 tons of coal (in-place) exist within the Blind Canyon seam

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of the 40 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) had 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 had not been adjusted for this incidental boundary change application and no explanation was provided as to why this had not been done.

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.”

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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”.

The Task ID #2042 deficiency document generated by the Division on February 4, 2005 contained a deficiency relative to **R645-300-133.100, Complete and Accurate, and R645-301-522, Coal Recovery**. The submitted information did not meet the minimum regulatory requirements of these sections in that some of the total figures contained in Table 3.4-1 (Received 11/1/2004) were incorrect. The Permittee’s response to the Task ID #2042 deficiency document states that all of the “figures, numbers, and maps were changed to match the current LMU. The subsidence protection area is there due to LMU restrictions. There is currently an amendment to the LMU under review by the BLM.”

The USDOJ/Bureau of Land Management forwarded a letter to the Division relative to Task ID #2042, Incidental Boundary Change, C.W. Mining Company, Bear Canyon Mine, C/015/025 on February 8, 2005. The following comments are contained in that letter:

- 1) “C.W. Mining applied for and was granted a lease modification of 40 acres to Federal coal lease U-38727, effective June 19, 2002, and legally described as NENE of section 24, T16S, R7E, SLM, UT. This 40-acre tract, ... ,was overlooked in the leasing process years ago when the original leases were issued. This tract is now proposed to be added to the existing permit area and qualifies as an incidental boundary change (IBC).”
- 2) “C.W. Mining has submitted an R2P2 in conjunction with a LMU application that covers both the two Federal coal leases for the Wild Horse Ridge area (**U-38727** and U-020668) and the leases... This R2P2 has mining projections through this 40 acre tract and **meets our requirements for recovery under the lease.**” “**We recommend approval of the IBC** within the scope of our authority.”

The BLM’s recommendation for approval indicates that the Permittee has satisfied all of the Federal requirements relative to coal leasing including the correlation of figures, numbers and maps. Therefore, the Division feels that the deficiency that was previously aired has been adequately addressed.

Findings:

The minimum regulatory requirements of this section have been met.

SUBSIDENCE CONTROL PLAN

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

Analysis:

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 40 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 40 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 40 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 of the acreage being added.

The submittal received on April 22, 2005 (Task ID #2226) contains notification letters to the surface landowners and the associations relative to water conservancy districts relative to the potential for subsidence. Copies of the notification letters were sent to the following agencies:

- C.O.P. Coal development Company
- USDOJ/Bureau of Land Management
- Castle Valley Special Service District
- Emery County, Utah

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- Huntington-Cleveland Irrigation District
- Intermountain Power Agency
- Nevada Electric Power Company
- USDA/US Forest Service
- Utah Power and Light Company

Based on the above-determined information, no potential subsidence should occur. The permittee has notified the Manti LaSal National Forest as well as the Huntington-Cleveland Irrigation District in the letters noted as of March 14, 2005. The Permittee initiated mining in the Bear Canyon #3 Mine in February 2003, and in the Bear Canyon #4 Mine in July of 2004 (Federal lease U-38727). As the Permittee did not notify the agencies required under R645-301-525.700 at least six months prior to mining (notifications authored March 14, 2005), the Division would have been justified in issuing a notice of violation. However, this was not done.

The notification letters which the Permittee authored on March 14, 2005 to the respective agencies required under R645-301-525.700 do not include the identification of the specific areas in which mining will take place, the dates that specific areas will be undermined, and the location or locations where the operator's subsidence control plan may be examined. It was recommended by the Division in the Task ID #2042 deficiency document that the permittee should make this notification to the Manti LaSal National Forest on or before November 30, 2004. Same was not done until March 14, 2005.

Although the requirements of this section were not met in the time frame required by R645-301-525.700, it was too late to do so when the initial application was made for this incidental boundary change application relative to Federal lease U-38727. No mining had been initiated in the NE1/4, NE1/4 of Section 24, T16S, R7E, SLBM of the Bear Canyon permit area. Therefore, the Division feels justified in stating that nothing can be done at this time to correct this error. The minimum regulatory requirements of this section have been met.

Findings:

The minimum regulatory requirements of this section have been met.

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 #2226 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 indicates that an additional subsidence monitoring location (monitoring point #51) will be established in that area of the permit. The revised PLATE 3-3 (P.E. certification April 20, 2005) incorporates the 40 acres in the NE1/4, NE1/4 of Section 24, T16S, R7E, SLBM 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:

This incidental boundary change amendment should be approved.