

EXPLORATION TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

June 14, 2006

TO: Internal File

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

FROM: Joseph C. Helfrich, Environmental Scientist/Biology

RE: Minor Coal Exploration, SITLA Muddy Tract, Canyon Fuel Company, LLC., SUFCO, C/041/002, Task ID #2390

SUMMARY:

On December 15, 2005, the Division received a Notice of Intent to conduct minor coal exploration drilling. The exploration drilling of two holes is proposed for the School and Institutional Trust Lands Administration (SITLA) Muddy Tract during the summer of 2006. The holes were previously approved under Task ID #2134. Attempts to complete the drilling were not successful and the holes had to be abandoned. This exploration application includes additional surface disturbance associated with road improvement and pad and staging area development required to facilitate the use of heavier drilling equipment. Hole A-05 is located on the unleased portion of the Muddy Tract and hole B-05 is located on the leased portion (Utah State Coal Lease ML 49443-OBA). This memo will include a review of the biology and Cultural Resource sections of the regulations for the additional surface disturbance associated with the two exploration holes.

The Permittee submitted an application and received Division approval to use helicopter-assisted wireline core-drilling during 2005. Due to difficult drilling conditions in the Price River formation, neither of the holes could be completed. Thus, the Permittee determined that the utilization of large drill rigs was necessary to obtain the required geologic information. The application shows that both drill holes are located within the proposed SITLA Muddy Coal Tract (SMCT). The operator will use USFS roads 007 and 044 to access the area. There are two other drill holes planned for the overall drilling project – drill holes E and F. These holes are within the BLM Muddy tract lease and require a separate amendment. The elevation of the overall drilling project is above 8,000 feet.

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The SILTA Muddy Coal tract is in Sevier County, Utah. The 7.5 Minute Quadrangle USGS maps that cover the permit area are Heliotrope Mountain and Flagstaff Peak. The proposed area for drill hole A is in Township 20 South and Range 4 East in Section 32.

EXPLORATION TECHNICAL ANALYSIS:

COMPLIANCE DUTIES

Regulatory Reference: 30 CFR 772.13; R645-202.

OPERATIONAL STANDARDS

Regulatory Reference: 30 CFR 772.13; R645-202-100.

Analysis:

Archeology

The applicant plans to construct two drill pads (100' x 120' = 0.275 acres / pad) at sites A-05 and B-05. Forest Trail 025 will be widened to approximately 12 feet and water bars / vehicle barriers will be temporarily removed. The length of the widened Trail 025 will be 11,980 feet or 2.2 acres of disturbance. It will be necessary to construct Temporary Access Routes to exploratory holes A-05 and B-05. The 12' widened distance will be 4705 feet or 1.3 acres of disturbance. The total surface disturbance will be 4.05 acres.

The Notice of Intent originally stated that the area had been evaluated during the EIS process. The study of focus for the EIS (1999) only included sites within the Pines coal lease, Quitcupah 150-acre lease modification, Box Canyon amendment, northern portion of Link canyon, and Muddy Creek Canyon. The Permittee, therefore, submitted cultural/historical resource data (July 2004 submittal) from a survey of the exploration sites (Revised Notice of Intent to Conduct Minor Coal Exploration – SITLA July 2004; Appendix C):

Billat S (July 13, 2004) A Cultural Resource Inventory of Six Drill Locations and Access.

- Utah State Project Authorization No. UO4EP0650f.
- Location: Township 20 South and Range 5 East with Sections 20, 28, 29, 31, 32, and 33.

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- Method: Surveys of drill holes A-F, staging area, and Muddy Creek water pump area.
 - o Class I – Literature search: Six inventories of the vicinity with no cultural resource properties identified within or near the drill hole locations. The report provides a complete list of the inventories.
 - o Class II – Drive-by oversight visit.
 - o Class III – Intensive field survey:
 - Inventoried 100' x 100' areas for each of the drill hole sites and access trails.
 - Identified 42Sp535.
- Recommendations: The area near 42SP535 has been impacted by recreational activities. Cultural deposition is unlikely. It does not meet criterion D, therefore, is ineligible for NRHP.
- Additional correspondence from Scott Billat, Earth Touch Inc., dated March 21, 2006, notes that the archeological survey conducted in June of 2005 by Earth Touch includes a 50 foot wide corridor for the access trails to the proposed drill pad locations.

The Division assesses that the Permittee should receive clearance because there are no known historical resources within the drill hole areas and access trails. The Division supports a finding of “no effect” to cultural or historical properties and that the permit should receive clearance without stipulations.

It is important for the Permittee to understand that all workers must avoid all known historical resources during the exploration program. In the event that exploration uncovers historical resources, all work near the resources must stop and the Permittee must notify the Division. We will then work with appropriate agencies and the Permittee to develop a strategy to avoid or mitigate the effects of continuation of the exploration program.

Biology

The Division has concerns for elk and deer populations. DWR wildlife map shows that the drill hole sites (A-F) are in elk and deer critical ranges. The Permittee plans to drill hole A in September, which is well past the calving exclusionary period (May 15 through July 5). The Division believes that the exploration project will not impact these ungulate populations because of the time schedule. Furthermore, that the project drilling sites (A-F) are small and should not have significant impact to foraging habitat. The USFS predicts that there may be cumulative

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effects because the ungulates may migrate away from drilling projects and increased traffic, but will not prevent the ungulates from using the area ¹.

The Division does not consider that the drill hole A project will affect raptor nests or nesting raptors. DWR conducted a helicopter survey of the canyon and steep tributaries of Muddy Creek (Revised Notice of Intent to Conduct Minor Coal Exploration – SITLA July 2004; Appendix D). The results show there are nests on the Canyon wall, but this type of habitat is a considerable distance from the drill hole A. The application states that the Permittee anticipates initiating exploration and reclamation operations in early June of 2006. However, the NEPA process, which is being conducted by the USFS, has as yet not established the necessary wildlife exclusionary periods for this exploration area.

Drill holes A-F and adjacent areas include habitat requirements for golden eagles. The closest nest is approximately 0.75 mile from one of the proposed drill sites and there are many nests within 2 miles of drill holes A-F. The USFS previously predicted that the 2005 exploration project (Task ID #2134) would have no direct effect to existing nests or nest habitat. The project will most likely not impact individual birds because the project time schedule is after the exclusionary period. The project could impact foraging birds. There may be cumulative effects because they may migrate away from drilling projects and increased traffic. The USFS predicts, however, that the possible cumulative effects will not prevent the birds from using the area or increase mortality or reproductivity. (Refer to footnote¹ above).

Areas around the holes provide habitat for tree-nesting and cliff-nesting raptors. If the Permittee plans to drill during exclusionary periods for drill holes B-F, the Division recommends helicopter and ground raptor surveys for nests near the drill hole sites. Helicopter surveys for tree-nesting species are not an effective means of spotting nests within tree canopies (Tony Wright, DWR, 3/19/04). One important element of tree-nesting habitat is northern slopes. There is a red-tailed hawk nest within the buffer zone of a proposed drill hole near the rim of Cowboy Creek.

There is no formal threatened, endangered, or sensitive (TES) species survey for the disturbed area. The Notice mentions that bald eagles, peregrine falcons (no longer listed), and sage grouse are likely to exist within the exploration area. DWR shows that the area may also have Northern Goshawk and the three-toed woodpecker. The TES information below is from the USFS Biological Evaluation and Assessment [BEBA], 2004, SUFCO Helicopter-Assisted Coal Exploration Drilling Project. The USFS evaluation and review team (Terry Nelson, Pam Jewkes, and Robert Thompson) presents their assessments based on literature search and previous years field and technical visits to the area.

¹ USFS Biological Evaluation and Assessment [BEBA], 2004, SUFCO Helicopter-Assisted Coal Exploration Drilling Project.

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There are four TE and seven sensitive plant species that could occur in Sevier or San Pete Counties or the Manti-La Sal National Forest, but none are expected to occur within the drill hole site A (or B-F). Of the TES species, the USFS considered the heliotrope milkvetch (T), last chance townsendia (T), and Wright fishhook cactus (E). The USFS predicts the project will have no effect to these species because the project sites do not include habitat requirements for the species.

Four TE, ten sensitive, and five USFS 'management indicator' animal species could occur in Sevier County or the Manti-La Sal National Forest. Of these listed species, the USFS considered the species discussed below for the BEBA and Wildlife Resource Report. The USFS prepared the following findings for the TES and sensitive species.

- Bald eagles
 - Areas within and adjacent to drill holes A-F do not provide nesting or foraging habitat.
 - Incidental occurrence is likely.
 - Drill hole A-F project will have no direct/indirect effect or cumulative effects to this species.
- Spotted and Townsend's big-eared bats
 - Areas adjacent to drill holes A-F may have suitable roosting and foraging habitats.
 - Drill hole A-F project will have no effect to roosting habitats because the nearest roosting habitats for the spotted-bat and Townsend's big-eared bat are approximately 0.5 and 2 miles from the project locations, respectively.
 - Drill hole A-F project will have no effect on foraging habitats of these species because the Permittee will conduct the project during the day and drill hole disturbances are small.
 - Drill hole A-F project will not have a cumulative effect because there is no direct effect.
- Sage grouse
 - Areas within and adjacent to drill holes A-F may have suitable nesting and foraging habitat in or near the proposed project area.
 - Drill hole A-F project will have no effect to sage grouse habitat because the project time schedule is after important lekking or brood rearing seasons.
 - Drill hole A-F project will not have a cumulative effect because there is no direct effect.
- Peregrine falcon

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- Areas within and adjacent to drill holes A-F may have suitable nesting and foraging habitat.
- Drill hole A-F project will have no effect to peregrine falcon habitat because the project time schedule is after the nesting season.
- Drill hole A-F sites are small and should not significantly affect foraging habitat.
- Drill hole A-F project will not have a cumulative effect because there is no direct effect.

- Elk and mule deer
 - Areas within and adjacent to drill holes A-F have suitable foraging habitat.
 - Drill hole A-F project will have no direct effect to these ungulates or their habitat because the project time schedule is brief (7 days for each consecutive hole) and is after the calving and fawning season.
 - Drill hole A-F sites are small and should not significantly affect foraging habitat.
 - Drill hole A-F project may have a cumulative effect because the ungulates may migrate away from drilling projects and increased traffic.
 - Cumulative effects from the drill hole A-F project most likely will not prevent the ungulates from using the area.

- Golden eagles
 - Areas within and adjacent to drill holes A-F have suitable foraging and nesting habitat.
 - Drill hole A-F project will have no direct effect to existing nests or nest habitat.
 - Drill hole A-F project most likely will not impact individual birds because the project time schedule is after the exclusionary period.
 - Drill hole A-F project could impact foraging birds.
 - Drill hole A-F project may have a cumulative effect because the eagles may migrate away from drilling projects and increased traffic.
 - Cumulative effects from the drill hole A-F project most likely will not prevent the birds from using the area or increase mortality or reproductivity.

- Virginia's warbler, and Brewer's and sage sparrows
 - Areas within and adjacent to drill holes A-F includes habitat requirements for Virginia's warbler, and Brewer's and sage sparrows.
 - Warbler is not known to nest in the Sevier or San Pete counties.
 - Drill hole A-F sites are small and should not significantly affect foraging or nesting habitat.
 - Drill hole A-F project time schedule is after nesting season, therefore, should not impact the birds.
 - Drill hole A-F project should not cause cumulative effects to these three bird species.

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The Permittee plans to drill hole A after September 1 to avoid Mexican spotted owl (MSO) possibly nesting near the project. The Division considers that because of the size of the sites, the project should not significantly affect the foraging or nesting habitat of this species. The Division recommends that the Permittee either drill holes B-F after September 1 or conduct a ground-truthing survey if models support potential MSO habitat within or adjacent to the area of surface disturbance. The more extensive 'calling survey' is only required if the ground-truthing survey is positive for MSO.

The Permittee mentioned that the drilling of holes A-05 and B-05 will require pumping water from Muddy or Quitchupah Creek. The Permittee shows the anticipated volume of extracted water required for the drilling operations will be approximately two acre feet. **APPENDIX C, BIOLOGICAL EVALUATION AND BIOLOGICAL ASSESSMENT, SUFCO 2004 COAL EXPLORATION DRILLING PROJECT**, as contained within the Task ID #2390 application states on page 18, **V., DETERMINATION OF EFFECTS, A., Threatened and Endangered Species, FISH SPECIES**, that "the U. S. Fish and Wildlife Service does not list any fish species as threatened, endangered, proposed or candidate species for San Pete or Sevier County, Utah. This obviously includes the four Colorado River endangered fish species ((USFWS): the Colorado pikeminnow, the humpback chub, the bonytail chub, and the razorback sucker). The two-acre foot volume is well below the threshold volume (100-acre feet per year) that necessitates mitigation.

The information from the USFS supports the fact that the exploration project is not expected to impact TES or indicator species. No TE animal species are expected to nest or roost near the project (A-F). The application states that the Permittee anticipates initiating exploration and reclamation operations in early June of 2006. However, the NEPA process, which is being conducted by the USFS, has as yet not established the necessary wildlife exclusionary periods for this exploration area.

Findings:

The Division considers the information adequate to meet the minimum requirements of the Biology section of the Operational Standards regulations.

RECLAMATION STANDARDS

Regulatory Reference: 30 CFR 772.13; R645-202-200.

Analysis:

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Revegetation

The Notice mentions that drill hole A is within a mountain brush plant community consisting primarily of oak, service berry, and mountain mahogany. The Division could not find a vegetation survey that specifically lists the species within the SMCT (Notice or SUFCO MRP).

The Permittee plans to immediately recontour and seed each 0.275-acre disturbed site approximately four weeks following the start of the drilling project. The Division recommends that the Permittee recontour the site, and implement the seed mix approved by the USFS. **APPENDIX A**, of the Task ID #2390 application contains the USFS Special Coal Lease Stipulations and all Standardized Stipulations for Coal Drilling Operations from the Manti LaSal National Forest Lands and Resource Management plan. Page 22, stipulation #9 indicates that seeding of the disturbed area must follow topsoiling.

The USFS approved seed mix includes natives to Utah as well as introduced species. The seed mix contains the following:

Species	Pounds PLS/sq.acre
Western wheatgrass	2
Basin wild ryegrass	1
Intermediate wheatgrass	2
Silvery Lupine	1
True Mahogany	1
Blue leaf aster	0.25
Lewis flax	0.5
Small burnet	1
Bitterbrush	1
TOTAL	9.75

Findings:

The Division considers the information adequate to meet the minimum requirements of the Revegetation section of the Reclamation Standards regulations.

RECOMMENDATIONS:

The amendment is recommended for approval pending the determination of wildlife exclusionary periods for this exploration area by the USFS.