

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

January 24, 2007

OK

TO: Internal File

THRU: D. Wayne Hedberg, Permit Supervisor *DWH*

FROM: Joe Helfrich, Team Lead, Cultural Resources, Biology *JH*

RE: Bear Canyon Lease Addition, Task ID #2734, Co-Op Mining Company, Bear Canyon Mine, C/015/0025

SUMMARY:

On July 22, 2005 Co-op Mining Company submitted an amendment to add 60 acres to lease U-024316, 2,196 acres to lease U-61049, 1400 acres to lease U 46484, 1,108.27 acres to lease 61048 and 2,740 acres of private property to the current permit area. On May 21, 2006 Co-op Mining Company submitted a response to the deficiencies enumerated in the Divisions first technical review. On August 9, 2006 Co-op Mining Company hand delivered a response to the deficiencies enumerated in the Divisions second technical review. On October 30, 2006 Co-op Mining Company hand delivered a response to the deficiencies enumerated in the Divisions third technical review. On January 22, 2007 Co-op Mining Company hand delivered a response to the deficiencies enumerated in the Divisions fourth technical review. The lease additions are extensions of existing leases for the Bear Canyon mine located in Huntington Canyon. This memo will include a review of the Cultural Resources and Biology sections of the regulations.

TECHNICAL ANALYSIS:

ENVIRONMENTAL RESOURCE INFORMATION

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

HISTORIC AND ARCHEOLOGICAL RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.12; R645-301-411.

Analysis:

A cultural resource survey of the proposed lease addition area is provided for in the application as appendix 4F. This survey basically included the cliff faces and escarpments in

sections 19 and 30 for the Wildhorse Ridge addition. Sagebrush Consultants LLC conducted a literature search for the Bear Canyon Lease addition areas, Appendix 4H and 4I. The search identified a number of eligible sites located in the escarpment areas of the Castle Gate sandstone formation. According to Bruce Ellis, (FS Archaeologist) and Matt Seddon, (SHPO), the results of the literature search indicate the need to conduct a ground survey of the escarpment and high probability areas. The applicant and representatives from Sagebrush Consultants L. L. C. met with Bruce Ellis and defined the scope of the project, that being approximately 820 acres of Federal and private land to be surveyed. Mr. Ellis reviewed the survey including the private land portions. A copy of the final survey prepared by Sagebrush Consultants L. L. C. has been included in the application. The survey along with Mr. Ellis's analysis and request for concurrence have been sent to Matt Seddon, at the State Historic Preservation Office, requesting concurrence with his findings. The completed archeological survey as defined by the applicant, Sagebrush Consultants L. L. C. and Bruce Ellis has been completed and included in the application for the new lease additions.

Findings:

The information provided is adequate to meet the requirements of this section of the regulations.

VEGETATION RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.19; R645-301-320.

Analysis:

Vegetation resource information is included in chapter three of the approved Mining and Reclamation Plan, (MRP). Additional information regarding the Bear Canyon Lease Addition includes the redline strike out of page 3-2 and paragraphs one, two and three on page 3-3, 05/15/2006 of the submittal received on August 9, 2006. Plate 3-1 does include the reference areas and the text referring to the reference areas is described on page 3-1. The blue dashed boundary lines on plate 3-1 have been identified in the legend. The black jagged line has been removed. Plate 3-1 was ground truthed with the applicant on June 13, 14, 27, August 22, and September 20, 2006. The riparian communities associated with the springs and perennial streams have been documented in the text on page 3-32 section 322.220. A consensus of the locations of riparian areas within the proposed lease additions was determined after consulting with Pat Collins from Mt. Nebo Scientific and Mark Reynolds from Co-op Mining Company.

Findings:

The information provided is adequate to meet the requirements of this section of the regulations.

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FISH AND WILDLIFE RESOURCE INFORMATION

Regulatory Reference: 30 CFR 784.21; R645-301-322.

Analysis:

The application includes Appendix 3M-1, (Bat and Owl survey), Plate 3-2, (Deer habitat), Plate 3-3, (Elk habitat), Plate 3-4, (Black Bear habitat), Plate 3-5, (Bobcat habitat) and text revisions to pages 3-IV, 3-2, 3-14, and 3-28 and 3-29. Plates 3-2 and 3-3 were ground truthed with the applicant on June 13, 14 and 27, 2006. Mountain Lion habitat parallels that of the Mule Deer as described in Appendix 3-I. Since Mountain Lion habitat is wide spread no specific mapping is available through the DWR.

Findings:

The information submitted in the application is adequate to meet the 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:

Archeological Site Maps

The applicant has submitted a map based on the literature search that is being reviewed by the FS and SHPO. The map has identified approximately 820 acres of Federal And Private land to be surveyed.

Cultural Resource Maps

The applicant has submitted a map based on the literature search that is being reviewed by the FS and SHPO. The map has identified approximately 820 acres of Federal And Private land to be surveyed.

Findings:

The information submitted in the application is adequate to meet the requirements of this section of the regulations.

PROTECTION OF PUBLIC PARKS AND HISTORIC PLACES

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

Analysis:

The applicant has submitted a map based on the literature search that is being reviewed by the FS and SHPO. The map has identified approximately 820 acres of Federal And Private land to be surveyed.

Findings:

The information submitted in the application is adequate to meet the requirements of this section of the regulations.

FISH AND WILDLIFE INFORMATION

Regulatory Reference: 30 CFR Sec. 784.21, 817.97; R645-301-322, -301-333, -301-342, -301-358.

Analysis:

Protection and Enhancement Plan

Page 3-38 describes the protection of vegetative resources. The applicant has committed to developing a mitigation plan with the Division and surface owner in the event vegetation is impacted by subsidence. The application includes subsidence and water monitoring plans that would reveal any substantial changes to vegetation or habitats of high value to Wildlife. The overburden for the Tank Seam mining ranges from 400'-1400'. The lower overburden areas near the outcrops are also designated as buffer zones that will not be mined under. Subsidence is typically minimal with longwall mining in this amount of cover. Wildlife populations are typically not affected unless their habitat is impacted by subsidence in which case the applicant is monitoring the spring, pond and stream locations in areas of high value habitat. If monitoring of these areas indicates a loss in flow or change in the vegetative communities the applicant has committed to implementing a mitigation plan that will restore the water and vegetation resources in those areas impacted.

Endangered and Threatened Species

The application includes a current list of Threatened and Endangered plant and wildlife species for the proposed lease addition areas as noted in paragraph two on page 3-28 05/15/2006 of the submittal received on May 22, 2006, and includes a narrative about the existence of those species listed for the county, (Emery), where the lease additions are located. According to the DWR the only species of concern because of the relatively high elevation were the Townsend's

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Big Eared Bat and the Flamulated Owl for which a study was completed. The results of the study revealed that neither of the species occurred in the area.

As noted in Chapter 7 page 7-45 and 46 the mining operations consume approximately 69 acre-feet of water per year. According to the U. S. F. W. S. this constitutes an adverse effect to the endangered fish species identified in the Colorado Fish Recovery Program. The applicant has included the criteria and calculations used to calculate this figure as well as calculations for mine water consumption in the proposed lease area additions. The figures have been revised in the current MRP to reflect projected mine water consumption in the longwall areas to be mined. These figures should be checked again when longwall mining operations commence in the new lease areas.

Bald and Golden Eagles

According to the 2006 raptor survey and data with the DWR Bald Eagles are not known to nest in the proposed lease area but may pass through the area during the winter months or periods of migration. The Applicant has committed to conducting Raptor surveys yearly during the life of the mine.

Chapter three page 3-68 of the application includes a commitment to develop a raptor mitigation plan by July 1, 2007 in consultation with the DWR, DOGM, U. S. F. W. S., U. S. F. S. and BLM to mitigate impacts to nests and or raptors from potential escarpment failure caused by subsidence. A map of the 2006 DWR raptor survey with the nest site locations is included in the application as plate 5-3A. Plate 5-3A also shows that nests 902, 903, 904, 907, 908, 920 and 921, are within the limits of predicted subsidence. The mitigation plan needs to include site-specific analysis of these nest sites and possibly others for potential loss due to escarpment failure. It should also be noted that C. W. Mining Company would need authorization from the Forest Service to mine under escarpment areas, (Federal Lease Stipulation #13). The applicant has also proposed to avoid mining activities in the panels during nesting periods. If unavoidable obstructions such as fencing will be placed over the nest sites to prevent nesting. Additional alternatives will be included in the mitigation plan.

Wetlands and Habitats of Unusually High Value for Fish and Wildlife

Page 3-32 paragraph two section 322.220 of the application includes information that addresses this section of the regulations. The application includes an evaluation of the status of Habitats of high value for Fish and Wildlife for the lease addition areas and a discussion about the potential impacts from subsidence. They include springs, ponds and riparian areas as shown on plate 3-1. Due to the depth of cover no impacts are anticipated. However the applicant has included these areas in their water-monitoring program and mitigation plan that addresses the replacement of water and vegetation resources should it be demonstrated that they have been impacted by subsidence activities.

Findings:

The information submitted in the application is adequate to meet the requirements of this section of the regulations.

It should also be noted that C. W. Mining Company would need authorization from the Forest Service to mine under escarpment areas, (Federal Lease Stipulation #13).

VEGETATION

Regulatory Reference: R645-301-330, -301-331, -301-332.

Analysis:

Page 3-38 describes the protection of vegetative resources. The applicant has committed to developing a mitigation plan with the Division and surface owner in the event vegetation is impacted by subsidence. The application includes a subsidence and water monitoring plans that would reveal any substantial changes to vegetation or habitats of high value to Wildlife. The overburden for the Tank Seam mining ranges from 400'-1400'. The lower overburden areas near the outcrops are also designated as buffer zones. Subsidence is typically minimal with longwall mining in this amount of cover. Wildlife populations are typically not affected unless their habitat is impacted by subsidence in which case the applicant is monitoring the spring, pond and stream locations in areas of high value habitat. If monitoring of these areas indicates a loss in flow or change in the vegetative community the applicant has committed to implement a mitigation plan that will restore the water and vegetation resources in those areas impacted. The mitigation plan for these types of impacts is described in appendix 5C and chapter 7 .

Findings:

The information submitted in the application is adequate to meet the requirements of this section of the regulations.

RECOMMENDATIONS:

The application is recommended for approval.