

# TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

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August 23, 2006

TO: Internal File

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

FROM: *JH* Joe Helfrich, Team lead, Cultural resources, Biology

RE: Bear Canyon Lease Addition, Task ID #2597, 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. 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. 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 to define the scope of the project, that being approximately 820 acres of Federal and private land to be surveyed. Upon completion the survey will be included in the application. The survey should also include coordination with and evidence of clearances by the SHPO, (State Historic Preservation Office).

### **Findings:**

The information provided is not adequate to meet the requirements of this section of the regulations. Prior to approval the applicant must provide the following in accordance with

**R645-301-411**, The archeological survey as defined by the applicant, Sagebrush Consultants L. L. C. and Bruce Ellis needs to be completed and included in the application for the new lease additions. The survey should also include coordination with and evidence of clearances by the SHPO, (State Historic Preservation Office). [Jch]

## **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 and August 22, 2006. One deficiency was noted:

- The riparian communities associated with the springs and perennial streams need to be 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 not adequate to meet the requirements of this section of the regulations. Prior to approval the applicant must provide the following in accordance with

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**R645-301-320**, The riparian communities associated with the springs and perennial streams need to be documented in the text on page 3-32 section 322.220. [Jch]

**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 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 needs to implement a mitigation plan that will restore the water and vegetation resources in those areas impacted. The applicant is developing mitigation plan for these types of impacts.

**Endangered and Threatened Species**

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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 was the Townsend's Big Eared Bat for which a study was completed for the Wildhorse Ridge area.

As noted in the PHC the mining operations consume approximately 22 acre-feet of water per year. The applicant needs to include 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 need to be revised in the current PHC 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 raptor surveys 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 every five years and one year prior to mining in a new area or under an escarpment and one year following retreat mining. An estimated schedule needs to be included in the application.

The application includes a commitment to develop mitigation plan with the DWR, DOGM and U. S. F. W. S. in the event raptors or nests are impacted. Plate 5-3A does not appear to include all of the nest sites listed in the data. A map of the 2006 DWR raptor survey with the nest site locations needs to be included in the application. Plate 5-3A also shows that nests 902, 903, 904, 907, 920, 921, and 908 are within the limits of predicted subsidence. The applicant needs to explain how these nest sites will be protected from subsidence. Page 3-68 paragraph one of the application states that no mining will occur within 100' of an outcrop. This statement needs to be clarified as the outcrop may be located well below a nest site and the predicted subsidence within the angle of draw may impact a nest site at a higher elevation. Page 3-68 paragraph three states that a prey base study was used to mitigate a possible impact to a red tailed hawk nest. The applicant needs to explain the intended use of these two sentences. It should be noted that this study was conducted as a one-time mitigation effort.

**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 not adequate to meet the requirements of this section of the regulations. Prior to approval the applicant must submit the following information in accordance with: **R645-301-322, -301-333, -301-342, -301-358.**

- The Applicant has committed to conducting Raptor surveys every five years and one year prior to mining in a new area or under an escarpment and one year following retreat mining. An estimated schedule needs to be included in the application.

- A map of the 2006 DWR raptor survey with the nest site locations needs to be included in the application. Plate 5-3A also shows that nests 902, 903, 904, 907, 920, 921, and 908 are within the limits of predicted subsidence. The applicant needs to explain how these nest sites will be protected from subsidence.

- Page 3-68 paragraph one of the application states that no mining will occur within 100' of an outcrop. This statement needs to be clarified as the outcrop may be located well below a nest site and the predicted subsidence within the angle of draw may impact a nest site at a higher elevation.

- Page 3-25, Bird paragraph, the text needs to be changed to agree with the text on page 3-30 Paragraph 3. Page 3-44, Lease Areas paragraph one, delete the text regarding retreat mining.

- As noted in the PHC the mining operations consume approximately 22 acre-feet of water per year. The applicant needs to include 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 need to be revised in the current PHC 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.

Most of these deficiencies were discussed with the applicant on August 31, 2006 at the PFO.

**VEGETATION**

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

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**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 needs to implement a mitigation plan that will restore the water and vegetation resources in those areas impacted. The applicant is developing mitigation plan for these types of impacts.

**Findings:**

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

**RECOMMENDATIONS:**

The application is not recommended for approval at this time.