

# TECHNICAL MEMORANDUM

## Utah Coal Regulatory Program

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August 18, 2008

TO: Internal File

FROM: Joe Helfrich, Lead, Biology, Land-Use, Cultural Resources 

RE: Kinney #2 Application, Carbon Resources LLC, Kinney #2 Mine, C/007/0047,  
Task ID #2989

### SUMMARY:

On February 21, 2008 the Division received an application from Carbon Resources LLC to open a coal mine near the town of Scofield, Utah. The application was determined to be administratively complete on June 25, 2008. The proposed coal mine can be located on the Scofield 7.5 minuet quadrangle map in Section 32, Township 12 South, and Range 7 East. This memo will include a review of the Biology, Cultural Resources and Land-Use sections of the application.

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**TECHNICAL ANALYSIS:**

**GENERAL CONTENTS**

**PERMIT APPLICATION FORMAT AND CONTENTS**

Regulatory Reference: 30 CFR 777.11; R645-301-120.

**Analysis:**

The applicant has agreed to format the application in accordance with the coal regulations consistent with the Divisions first review of the application.

**Findings:**

The information in the application is not adequate to meet the requirements of this section of the regulations. Prior to approval the following information must be provided in accordance with **R645-301-120**, *the applicant needs to complete the formatting of the application in accordance with the coal regulations.*

**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:**

In the application for the proposed coal mine, exhibit 2.1.2.2-1 includes a cultural resource inventory, pedestrian survey of 394.7 acres, for the areas to be disturbed in (T12S, R7E, Sections 32 and 33), in Carbon County Utah. The field work was conducted between May 16 and 25, 2007 by Keith Montgomery, Patricia Stavish and Adam Thomas. The inventory resulted in the location of one previously located site (42 cb2436), the documentation of three previously recorded sites (42cb477, 42cb479 and 42cb1032) and the documentation of five new sites (42cb2622 through 42cb 2626). Five of these sites are located within the proposed mine facilities disturbed area (42cb477, two locations, 42cb479, 42cb2622 and 42cb1032). *Of these five, three are eligible (42cb477, 42cb479 and 42cb1032), under Criterion A for the NRHP and*

*would be eliminated by the development of the surface facilities for the proposed mine. The SHPO has requested that the applicant develop a mitigation plan for the eligible sites that would be eliminated by the development of the mining operations (correspondence from Jim Dykman to Joe Helfrich dated August 26, 2008). This correspondence was "E" mailed to the applicant and Jody Patterson on September 11, 2008.*

A file search was also completed by Marty Thomas at the Division of State History in Salt Lake City on May 15, 2007 to identify previous cultural resource inventories. According to the information in the application the following surveys had been conducted in the area where the mining activities are proposed:

1981 class II survey identified 166 new sites and 17 previously recorded, none of which were located in the proposed location of the mine facilities.

1985 Desert West completed an archaeological evaluation of several historic coal mining sites including the Scofield area. Sites 42cb477, 78 and 79 are located in the project area. Site 42cb477, the Jones Mine, was determined to be eligible to the NRHP.

#### **Findings:**

The information in the application is not adequate to meet the requirements of this section of the regulations. Prior to approval the following information must be provided in accordance with **R645-301-411**, *the SHPO has requested that the applicant develop a mitigation plan for the eligible sites that would be eliminated by the development of the mining operations (correspondence from Jim Dykman to Joe Helfrich dated August 26, 2008). This correspondence was "E" mailed to the applicant and Jody Patterson on September 11, 2008.*

## **VEGETATION RESOURCE INFORMATION**

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

#### **Analysis:**

Section 3.2.1.2 of the application includes a description of the vegetation information. Exhibit 3.2 includes a vegetation survey, (TE&S species included), for the proposed disturbed area prepared by Mount Nebo Scientific. Vegetative communities, reference areas and TE&S plant species surveys are included in the exhibit. *A current list of the TE&S plant, animal and fish species for Carbon County needs to be included in the application. The list of maps section in volume 1 page LOM-I needs to identify map 3.2.1.2-1 as "Facilities Area Vegetation".*

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**Findings:**

The information in the application is not adequate to meet the requirements of this section of the regulations. Prior to approval the following information must be provided in accordance with **R645-301-320**; *a current list of the TE&S plant, animal and fish species for Carbon County needs to be included in the application.*

*The list of maps section in volume 1 page LOM-I needs to identify map 3.2.1.2-1 as "Facilities Area Vegetation".*

**FISH AND WILDLIFE RESOURCE INFORMATION**

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

**Analysis:**

Sections 3.3, 4.3 and 5.3 of the application include a description of the fish and wildlife information. Section 3.3.4.2 includes a list of the TE&S animal species for Carbon County. The list is dated October 17, 2006. *The application needs to include a current list of the TE&S animal species for Carbon County.* The lists are usually updated every six months. Mapping of wildlife information on map 3.3.1.4 and includes Mule Deer, Moose, Elk, Sage Grouse, Bald Eagle and Wetland areas.

According to the information in the Utah Natural Heritage Program database species of concern listed in the project area include the bald eagle and sandhill crane and river otter in the vicinity of the project area (*letter from Sara Lindsey to Ben Grimes dated August 13, 2007*). Additional information from the database indicates that there are no records of occurrence for any threatened, endangered or sensitive species in the project area. *The TE&S information provided by the Utah Natural Heritage Program needs to be field verified by a qualified professional in the identification of TE&S species.*

**Findings:**

The information in the application is not adequate to meet the requirements of this section of the regulations. Prior to approval the following information must be provided in accordance with **R645-301-320**; *a current list of the TE&S animal and fish species for Carbon County needs to be included in the application.*

*The TE&S information provided by the Utah Natural Heritage Program needs to be field verified by a qualified professional in the identification of TE&S species.*

**LAND-USE RESOURCE INFORMATION**

Regulatory Reference: 30 CFR 783.22; R645-301-411.

**Analysis:**

Section 3.4 includes information that describes existing land uses, land use classifications, land use condition and capabilities within the permit and adjacent areas. *The land use classifications on page 3.4-4 do not coincide with those noted on map 3.4.1.4-1. The legend on the map does not show hash marks running from left to right as noted in the upper portion of the disturbed area. These inconsistencies need to be clarified.*

**Findings:**

The information in the application is not adequate to meet the requirements of this section of the regulations. Prior to approval the following information must be provided in accordance with R645-301-411, *The land use classifications on page 3.4-4 do not coincide with those noted on map 3.4.1.4-1. The legend on the map does not show hash marks running from left to right as noted in the upper portion of the disturbed area. These inconsistencies need to be clarified.*

**ALLUVIAL VALLEY FLOORS**

Regulatory Reference: 30 CFR 785.19; 30 CFR 822; R645-302-320.

**Analysis:**

**Alluvial Valley Floor Determination**

According to the information in the application section 3.2.1.2-1 "Facilities Area Vegetation Map contain resource values consistent with the AVF criteria" the applicant needs to explain what that means and define the boundaries of the AVF in relation to the proposed mining operations. The application also needs to address the requirements of this section of the regulations and explain how the eight reasons stated on page 7.0-5 do not meet the criteria for an AVF.

**Findings:**

The information in the application is not adequate to meet the requirements of this section of the regulations. Prior to approval the following information must be provided in accordance with ; R645-302-320; According to the information in the application section 3.2.1.2-1 "Facilities Area Vegetation Map contain resource values consistent with the AVF criteria" the applicant needs to explain what that means and define the boundaries of the AVF in relation to the proposed mining operations. The application also needs to address the requirements of this

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section of the regulations and explain how the eight reasons stated on page 7.0-5 do not meet the criteria for an AVF.

## OPERATION PLAN

### PROTECTION OF PUBLIC PARKS AND HISTORIC PLACES

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

#### Analysis:

The applicant needs to address this section of the regulations.

#### Findings:

The information in the application is not adequate to meet the requirements of this section of the regulations. Prior to approval the following information must be provided in accordance with; **R645-301-411**; *the applicant needs to address 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 4.3-2 section 4.3.1.2 includes a list of mitigation measures. The applicant needs to explain what these measures mean and how each of these measures will be implemented to ensure disturbance to the smallest practicable area and protect and enhance wildlife during the operational phase of the mining operation.

Page 4.3-2 section 4.3.1.3 includes a description of animals and habitats within the permit area. These habitats need to be clearly defined on map 3.3.1.4. The map lists habitat acronyms for various species in certain sections but does not define the range of these habitats. The habitats for all species listed on the map must be clearly defined on perhaps several maps and described in a clear and concise manner in this section of the text. Section 4.3.1.3 also needs to be revised to include a clear and concise protection and enhancement plan for these species. Any assumptions need to be supported by accurate reliable data and the names of the individuals who collected the data and or made the assumptions or statements.

Page 4.3-2 section 4.3.1.4, Section 2.1.2, page 2.1-2 of the application states that “27.3 acres are planned to be disturbed by mining operations. Within this acreage there are a several high value wildlife species habitats some of which the applicant needs to further define as previously noted in section 4.3.1.3. The 27.3 acres of disturbance will eliminate these habitats until final reclamation is achieved after the conclusion of mining activities. Therefore this section of the application needs to be revised to include a clear and concise protection and enhancement plan for the vegetation and wildlife species that are displaced as a result of the proposed mining disturbance. Any assumptions need to be supported by accurate reliable data and the names of the individuals who collected the data and or made the assumptions or statements.

The regional wildlife map 3.3.1.4 includes the location of stick nests. The application needs to include the species of raptor associated with each nest and the status of the nest. This data is available through the DWR.

Page 4.3-3, section 4.3.2.1 includes a list of impacts to vegetation and wildlife. Once again this section of the application needs to be revised to include a clear and concise protection and enhancement plan for the vegetation and wildlife species that are displaced as a result of the proposed mining disturbance. The plan should include how these impacts listed on page 4.3-2 will be mitigated during active mining operations. Any assumptions need to be supported by accurate reliable data and the names of the individuals who collected the data and or made the assumptions or statements.

Page 4.3-5 paragraph two should be deleted as it makes reference to the “Barn Canyon air ventilation shaft”.

### **Endangered and Threatened Species**

The results of the vegetation survey, *exhibit 3.2*, indicate that there are no threatened, endangered or sensitive plant species within the permit or proposed disturbed areas as noted by Dr. Pat Collins. Section 3.3.4.2 of the application includes a current list of the sensitive animal species for Carbon County.

### **Colorado Fish Recovery Program**

The proposed mining activities are located in a watershed that contributes water to the upper Colorado River. Within that section of the river are four endangered fish species, the Colorado pike Minnow, Razorback Sucker, Humpbacked Chub and Bonytail. The application needs to include calculations for mine water consumption for the mining activities. Criteria used to determine an estimate of the consumption can be obtained from the Division.

### **Bald and Golden Eagles**

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Page 3.3-28 paragraph 3 describes the habitat for the Bald Eagle but does not include protection and enhancement measures for this species or Golden Eagles.

**Wetlands and Habitats of Unusually High Value for Fish and Wildlife**

The application needs to include information about these habitat types if they are present in the proposed permit and adjacent areas. The information needs to include how they will be protected and enhanced during the life of the mine and throughout reclamation.

**Findings:**

The information in the application is not adequate to meet the requirements of this section of the regulations. Prior to approval the following information must be provided in accordance with R645-301-322, -301-333, -301-342, -301-358;

*Page 4.3-2 section 4.3.1.2 includes a list of mitigation measures. The applicant needs to explain what these measures mean and how each of these measures will be implemented to ensure disturbance to the smallest practicable area and protect and enhance wildlife during the operational phase of the mining operation.*

*Page 4.3-2 section 4.3.1.3 includes a description of animals and habitats within the permit area. These habitats need to be clearly defined on map 3.3.1.4. The map lists habitat acronyms for various species in certain sections but does not define the range of these habitats. The habitats for all species listed on the map must be clearly defined on perhaps several maps and described in a clear and concise manner in this section of the text. Section 4.3.1.3 also needs to be revised to include a clear and concise protection and enhancement plan for these species. Any assumptions need to be supported by accurate reliable data and the names of the individuals who collected the data and or made the assumptions or statements.*

*Page 4.3-2 section 4.3.1.4, Section 2.1.2, page 2.1-2 of the application states that "27.3 acres are planned to be disturbed by mining operations. Within this acreage there are a several high value wildlife species habitats some of which the applicant needs to further define as previously noted in section 4.3.1.3. The 27.3 acres of disturbance will eliminate these habitats until final reclamation is achieved after the conclusion of mining activities. Therefore this section of the application needs to be revised to include a clear and concise protection and enhancement plan for the vegetation and wildlife species that are displaced as a result of the proposed mining disturbance. Any assumptions need to be supported by accurate reliable data and the names of the individuals who collected the data and or made the assumptions or statements.*

*The regional wildlife map 3.3.1.4 includes the location of stick nests. The application needs to include the species of raptor associated with each nest and the status of the nest. This data is available through the DWR.*

*Page 4.3-3, section 4.3.2.1 includes a list of impacts to vegetation and wildlife. Once again this section of the application needs to be revised to include a clear and concise protection and enhancement plan for the vegetation and wildlife species that are displaced as a result of the proposed mining disturbance. The plan should include how these impacts listed on page 4.3-2 will be mitigated during active mining operations. Any assumptions need to be supported by accurate reliable data and the names of the individuals who collected the data and or made the assumptions or statements.*

*Page 4.3-5 paragraph two should be deleted as it makes reference to the "Barn Canyon air ventilation shaft".*

*The proposed mining activities are located in a watershed that contributes water to the upper Colorado River. Within that section of the river are four endangered fish species, the Colorado pike Minnow, Razorback Sucker, Humpbacked Chub and Bonytail Chub. The USFWS considers water depletion to the Colorado River drainage as a potential jeopardy to these endangered fish. Water users may be required to mitigate if the overall water consumption is greater than 100 acre-feet per year. Currently, the mitigation fee is approximately 16.00 per acre-foot of depletion, but may change marginally from year to year.*

*The Permittee is required to address possible adverse affects to these four fish species by first calculating the amount of water used by all mining operations and explorations. The "Windy Gap Process" provides a guideline of parameters necessary to calculate overall water consumption for coal mines.*

*The application needs to include calculations for an estimate of mine water consumption for the mining activities. Criteria used to determine an estimate of the consumption can be obtained from the Division (801 538-5290).*

*Page 3.3-28 paragraph 3 describes the habitat for the Bald Eagle but does not include protection and enhancement measures for this species or Golden Eagles.*

#### **Wetlands and Habitats of Unusually High Value for Fish and Wildlife**

*The application needs to include information about these habitat types if they are present in the proposed permit and adjacent areas. The information needs to include how they will be protected and enhanced during the life of the mine and throughout reclamation.*

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## VEGETATION

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

### Analysis:

Exhibit 3.2 includes a description of the vegetative communities within the disturbed, permit and reference areas. The disturbed area will affect the rabbitbrush/grass community that has been impacted by previous mining activities and a native sagebrush/grass community and a small portion the aspen community that extends into the pre disturbed and proposed disturbed north east end of the disturbed area . According to the text on page 1 of exhibit 3.2 Map 5 shows the location of these vegetative communities and the reference area as related to previous and proposed mining activities. There are two vegetation maps in the application that show these features, Map 3.2.1.2-1 and Figure 1 but *no Map 5. There are several other references to map 5 in exhibit 3.2 that need to be corrected. The study also references the compilation of a list of threatened, endangered and sensitive plant species for the area. The list should be included in the application.*

The vegetation survey results indicate that there are no threatened, endangered or sensitive plant species within the permit or proposed disturbed areas.

### Findings:

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

R645-301-330, -301-331, -301-332,

There are two vegetation maps in the application that show these features, Map 3.2.1.2-1 and Figure 1 but no Map 5. There are several other references to map 5 in exhibit 3.2 that need to be corrected.

Page 5 of Exhibit 3.2 references the compilation of a list of threatened, endangered and sensitive plant species for the area. The list should be included in the application.

Page 4.3-2 section 4.3.1.4, Section 2.1.2, page 2.1-2 of the application states that "27.3 acres are planned to be disturbed by mining operations. Within this acreage there are a several high value wildlife species habitats some of which the applicant needs to further define as previously noted in section 4.3.1.3. The 27.3 acres of disturbance will eliminate these habitats until final reclamation is achieved after the conclusion of mining activities. Therefore this section of the application needs to be revised to include a clear and concise protection and enhancement plan for the vegetation and wildlife species that are displaced as a result of the proposed mining

disturbance. Any assumptions need to be supported by accurate reliable data and the names of the individuals who collected the data and or made the assumptions or statements.

Page 4.3-3, section 4.3.2.1 includes a list of impacts to vegetation and wildlife. Once again this section of the application needs to be revised to include a clear and concise protection and enhancement plan for the vegetation and wildlife species that are displaced as a result of the proposed mining disturbance. The plan should include how these impacts listed on page 4.3-2 will be mitigated during active mining operations. Any assumptions need to be supported by accurate reliable data and the names of the individuals who collected the data and or made the assumptions or statements.

### **Stream Buffer Zones**

There are no streams within the proposed disturbed area.

### **Findings:**

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

## **RECLAMATION PLAN**

### **POSTMINING LAND USES**

Regulatory Reference: 30 CFR Sec. 784.15, 784.200, 785.16, 817.133; R645-301-412, -301-413, -301-414, -302-270, -302-271, -302-272, -302-273, -302-274, -302-275.

### **Analysis:**

The application needs to include information that addresses this section of the regulations. There is one reference to "a post mining land use of wildlife habitat and watershed" noted on page 5.0-1, paragraph one. The wildlife habitat needs to be defined by species occupancy and their type of habitat (example deer critical winter range). What is a watershed land use?

### **Findings:**

The information in the application is not adequate to meet the requirements of this section of the regulations. Prior to approval the following information must be provided in accordance with **R645-301-412, -301-413, -301-414,**

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The application needs to include information that addresses the post mining land-use section of the regulations.

There is one reference to "a post mining land use of wildlife habitat and watershed" noted on page 5.0-1, paragraph one. The wildlife habitat needs to be defined by species occupancy and their type of habitat (example deer critical winter range). What is a watershed land use?

## **PROTECTION OF FISH, WILDLIFE, AND RELATED ENVIRONMENTAL VALUES**

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

This review of the information required by this section of the regulations is covered in detail in the operation plan section of this document.

## **CONTEMPORANEOUS RECLAMATION**

Regulatory Reference: 30 CFR Sec. 785.18, 817.100; R645-301-352, -301-553, -302-280, -302-281, -302-282, -302-283, -302-284.

### **Analysis:**

#### **General**

Page 5.3-3, Section 5.3.2.1 includes timing of revegetation activities for revegetation of areas that could be reclaimed during the active life of the mine. This would be either in the fall or as needed to promote seed germination as soon after the seed bed is prepared to prevent soil crusting.

### **Findings:**

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

## **REVEGETATION**

Regulatory Reference: 30 CFR Sec. 785.18, 817.111, 817.113, 817.114, 817.116; R645-301-244, -301-353, -301-354, -301-355, -301-356, -302-280, -302-281, -302-282, -302-283, -302-284.

### **Analysis:**

#### **Revegetation: General Requirements**

Revegetation is described in section 5.3.2 of the application. Implementation includes seedbed preparation, seeding, woody species transplanting, mulching and monitoring.

**Revegetation: Timing**

Page 5.3-3, Section 5.3.2.1 includes timing of revegetation activities for revegetation of areas that could be reclaimed during the active life of the mine and post mining. This would be either in the fall or as needed to promote seed germination as soon after the seed bed is prepared to prevent soil crusting.

**Revegetation: Mulching and Other Soil Stabilizing Practices**

Section 5.3.2.4 includes a description of the mulching and stabilization practices for the reclaimed area. This section needs to include a method for incorporating the mulch into the soil.

**Revegetation: Standards for Success**

Section 5.3.2.6 includes a commitment to sample the revegetated areas during years 4, 8, 9 and 10 in accordance with the DOGM vegetation guidelines.

**Findings:**

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

R645-301-244, -301-353, -301-354, -301-355, -301-356, -302-280 Section 5.3.2.4 includes a description of the mulching and stabilization practices for the reclaimed area. This section needs to include a method for incorporating the mulch into the soil.

**OPERATIONS IN ALLUVIAL VALLEY FLOORS**

Regulatory Reference: 30 CFR Sec. 822; R645-302-324.

**Analysis:**

Before the Division can make a finding on this section of the regulations the applicant needs to address the requirements of R645-302-320

**Findings:**

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The information in the application is not adequate to meet the requirements of this section of the regulations. Prior to approval the following information must be provided in accordance with R645-302-324 before the Division can make a finding on this section of the regulations the applicant needs to address the requirements of R645-302-320.

**RECOMMENDATIONS:**

The application is not recommended for approval at this time.