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# TECHNICAL MEMORANDUM

## Utah Coal Regulatory Program

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May 31, 2011

TO: Internal File

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

RE: Kinney #2 Application, Carbon Resources LLC, Kinney #2 Mine, C/007/0047, Task ID #3823, Internal File

### 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 technical review noting deficiencies was provided to the applicant on September 24, 2008. After two years of retooling, the application was resubmitted on October 4, 2010. The application was determined to be deficient on January 27<sup>th</sup> 2011. The Division received a response to the noted deficiencies on March 21<sup>st</sup> 2011. The application was determined to be deficient on May 2, 2011. On May 16<sup>th</sup> the Division received a response to the deficiencies. 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.

### *Summary of Deficiencies:*

### **BIOLOGY**

***R645-301-322, -301-333, -301-342, -301-358, The application needs to include a revision to the text that describes the results of the habitat field survey dated 6/1/2011. The FWS is also requesting that mitigation for raptor nest 1541 be implemented prior to permit approval. The applicant is working on a draft mitigation plan that includes a payment of 3,000 dollars to DWR, sage grouse habitat improvement, and nesting structures for purple martins and osprey.***

### **ALLUVIAL VALLEY FLOORS**

***R645-302-320 ,Page 9-5, the bulleted topics are not included in nor do they appear to be a part of R645-100 as stated in the bold text on the lower portion of the page. The text change is incorrect and should be R645-302-320. [JCH]***

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**TECHNICAL ANALYSIS:**

**GENERAL CONTENTS**

**PERMIT APPLICATION FORMAT AND CONTENTS**

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

**Analysis:**

The application has been formatted in accordance with the R 645 Coal rules.

**Findings:**

The information in the application is adequate to meet the requirements of this section of the 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 were 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 had 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

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to Joe Helfrich dated August 26, 2008). This correspondence was emailed to the applicant and Jody Patterson on September 11, 2008.

Additional file searches include:

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.

After a telephone conference held on September 14, 2010, the Division revised it's determination of Archeological clearance for the Kinney #2 mine. A letter and map from Montgomery Archaeological Consultants, (MOAC), prepared by Jody Patterson provided additional information and clarification about the three eligible sites, (42cb477, 42cb479 and 42cb1032), at the proposed Kinney #2 mine location. Previously a file search was conducted on May 15, 2007 and a class three pedestrian survey identifying these eligible sites was conducted by MOAC between May 16 and 25, 2007.

According to the additional information, **Site 42cb477** will be avoided although fencing is recommended. **Site 42cb479**, the original Kinney mine opened in 1920, contained 12 features. All but one of these features could be avoided. Only feature 12, thought to be a tipple area, would be potentially affected by the footprint of the disturbed area. The feature was 7 to 10 feet away from the disturbance area and only 4% of the site might be encroached upon by the proposed mine. **Site 42cb1032** was a minor spur of the Utah and Pleasant Valley Railway. In as much as the adjoining rail system had been continually upgraded and maintained into the 1970's, two minor impacts to the spur would not have an adverse impact on the railroad grade.

MOAC had recommended a "no historic properties adversely affected" determination for the three sites as discussed in the additional information and site map provided.

The Division agreed with MOAC's recommendation and made a determination of no adverse effect to historic properties. Concurrence from the SHPO was received by the Division on October 13, 2010. Volume I, chapter IV, page 4-16 has been revised to reflect the current status of the SHPO consultation. Exhibit 21 includes a copy of the SHPO clearance.

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**Findings:**

The information in the application is adequate to meet the requirements of this section of the regulations. Volume I, chapter IV, page 4-16 has been revised to reflect the current status of the SHPO consultation. The applicant however referred the reviewer to page 4-14 where there were no text updates or changes. Exhibit 21 includes a copy of the SHPO clearance.

**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 is included in the application and can be located in Volume 1, chapter 3, Section 301-322.210, Table1, Pages 3-7,8, 9 and 10. The list of maps section in volume 1 page LOM-I identifies map 1-A as "Facilities Area Vegetation". The TE&S list also includes a description and rationale of their presence or absence.

**Findings:**

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

**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. A current list of the TE&S plant, animal and fish species for Carbon County is included in the application and can be located in Volume 1, chapter 3, Section 301-322.210, Table1, Pages 3-7,8, 9 and 10. The TE&S list also includes a description and rationale of their presence or absence. 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 has been field verified by a qualified professional in the identification of TE&S species. Dr. Patrick Collins prepared the site specific comments for each species listed.

**Findings:**

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

**LAND-USE RESOURCE INFORMATION**

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

**Analysis:**

The land use classifications begin on page 4-3 of chapter four and are identified as "Legislated Zones" that include Carbon County and Scofield Town zones. Within Carbon County are the Watershed, Mountain Range, the Scofield Town includes the Residential, Commercial and Agricultural zones. They are identified on map # 4; The Regional Land Use map. The Lakeshore and Pleasant Valley zones are located to the north of map 4 and have been removed from the text in chapter 4, page 4-5.

The text of the "*Watershed Zone all of map except as shown below*" in the legislated zones and legend has been revised as follows: Watershed Zone all of map except as shown in the legislated zones, Land Designations and legend.

**Findings:**

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

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## 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 has deleted this statement from the text. The applicant needs to define the boundaries of the AVF in relation to the proposed mining operations. The applicant has explained how the eight reasons stated on page 7.0-5 do not meet the criteria for an AVF. The reviewer is referred to chapter 9, pages 9-3-9-10 and 9-13. "Facilities Area Vegetation Map contains resource values consistent with the AVF criteria" has been deleted. The applicant has committed to a veg survey in the summer of 2011.

The applicant has deleted this statement from the text. The applicant's response also indicated that "a commitment had been added to chapter 3, page 3-68 stating Patrick Collins (Mount Nebo Scientific) will conduct a vegetation field study during the 2011 field season".

### Findings:

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

## OPERATION PLAN

## PROTECTION OF PUBLIC PARKS AND HISTORIC PLACES

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

### Analysis:

The Land Use information is included in chapter 4 and map #4 (Regional Land Use) of the application. The proposed disturbed area includes two zoning classifications for the proposed disturbed area, Scofield Commercial and Carbon County Mountain Range. A portion of the area is a reclaimed abandoned mine site and the remaining is an undisturbed grass, shrub aspen community both of which are used primarily for wildlife, grazing and outdoor recreation according to the text on page 4-9. These current land uses as described by the applicant are

clearly components of the Watershed zone by definition. Page 4-3 has been revised to include a narrative and Table 3 that delineates the the land uses and zones.

Map #4, the Regional Land Use map includes the current and post mining land uses of wildlife and grazing for the proposed disturbed area in the legend of the legislated zones, (Mountain Range and Commercial).

### **Findings:**

The information 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**

Chapter 3, Page 3-57 through 3-62, Section R645-301.330 ;( Operation Plan) includes a list of mitigation measures. "Provisions to minimize Total Disturbance" are included in the list of mitigation measures beginning on page 3-67. Listing them as bullets beginning presents the information more clearly.

Chapter 3, Pages 3-11 through 3-13 Section R645-301.220 include a description of high value or crucial habitats for several species of animals within the permit and disturbed areas. These habitats are clearly defined on maps 2A through 2G. The maps and associated legends also define the range of these habitats. Pages 3-64 through 3-69 Section R645-301.330 include a description of "some of the conservation and mitigation plans for the wildlife species that have been described as occupying crucial or substantial habitat within and adjacent to the Kinney #2 permit area". They include: Black Bear, Blue Grouse, Moose, Mule Deer, Elk, Sage Grouse and snowshoe Hare. Preliminary site visits, (Dr. Collins 2009), indicate little evidence of long term occupancy. More so along the lines of occasional, passing through or avoidance due to the close proximity to highway 96 and the presence of human activity. During the life of the mine said species of wildlife will be displaced from the 27 acre area of disturbance. The displacement of these species to areas of as good or better habitat should not result in a negative impact to their respective life cycles or populations. The application includes a commitment, (page 3-68), from Carbon Resources to participate in a site visit that includes representatives from the FWS, DWR and DOGM in the spring of 2011 to verify this assumption. ***The application needs to include a revision to the text that describes the results of the habitat field survey dated 6/1/2011. The FWS is requesting that mitigation for raptor nest 1541 be implemented prior to permit***

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**approval. The applicant is working on a draft mitigation plan that includes a payment of 3,000 dollars to DWR. The funds may be used for sage grouse habitat improvement, and nesting structures for purple martins and osprey.** ..Personal observations from site visits several years ago and from driving by the area indicate that there are most likely areas of this type adjacent to the proposed 27 acre disturbed area.

The Raptor Map, map #2, includes the location of the raptor nests and the species and status associated with each nest. According to the information in chapter 3, Section R645-301.330, page 3-57 there is presumably a Red Tailed hawk nest # 1541 approximately 650 feet from the south east corner of the proposed disturbed area. Spatial buffers for this species are ½ mile temporal buffers run from March 15th through August 15th according to information published by The U S Fish and Wildlife Service.

Consultation with representatives from the FWS, (Nathan Darnall), Carbon Resources' consultant, (Dr. Pat Collins) and DOGM, (Joe Helfrich) was initiated on Wednesday, January 5th and Thursday January 6<sup>th</sup>, 2011 with DWR, (Leroy Mead).

The results of the consultation included the following recommendations for protection measures for nest #1541;

A commitment to conduct 2 raptor surveys, (ground surveys in mid March and mid April of 2011 would be adequate), of nest, #1541, prior to the initiation of mining activities to determine occupancy;

A commitment to limit any mining activities to within ½ mile of the nest from March 15<sup>th</sup> through August 15<sup>th</sup> if the nest is occupied, and

A commitment to consult with the FWS, DWR and DOGM biologists if the nest is not occupied and the applicant wishes to commence mining activities within the spatial and temporal buffers.

Additional consultation in March of 2011 with the applicant, FWS, DWR and DOGM changed the complexion of the raptor nest protection commitments to a monitoring and mitigation plan with appropriate revisions to the text in chapter three. Paragraph 2 on page 3-41b has been revised to include the Division of Oil, Gas and Mining as a consulting agency and a commitment to obtain approval from DOGM for any mitigation plans that may be required.

The application includes approval from the USFWS as noted in exhibit 4 for the proposed deterrents for nest # 1541.

Page 4.3-5 paragraph two has been deleted as it made reference to the "Barn Canyon air ventilation shaft" The applicant has noted that the paragraph has been deleted. The applicant has referred the reviewer to chapter three page 3-1.

### **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 R645-301-322.201 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. Page 3-62 of the application has been revised to include the figure of 61.4 acre feet per year based on the water rights allotted to Carbon Resources. The figure will then be used to determine potential adverse effects to the referenced species and to complete the consultation process with the FWS.

### **Bald and Golden Eagles**

According to the information provided from the Utah Natural Heritage program there are records of bald eagles within the proposed permit area. Eagles typically migrate through the area during the winter taking advantage of the food supply at or near the near-by Scofield Reservoir. There are no bald or golden eagle nests within ½ mile of the proposed permit area due in part to a lack of adequate nesting habitat. Protection measures are described on pages 3-52, 3-56, 3-60, 3-62 and 3-63 and include the construction of raptor proof power poles.

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

Chapter 3, Section R645-301.330, Page 3-56, Paragraph 1 needs to include the names of the individual(s) and the data collected during the baseline field surveys used to determine that there were no jurisdictional wetlands located within the proposed disturbed area.

Other habitats of high value for fish and wildlife within the proposed disturbed area include Black Bear, Moose, Blue Grouse, Elk, Mule Deer, Sage Grouse and Snowshoe hare. Chapter 3, Pages 3-11 through 3-13 Section R645-301.220 include descriptions of the high value or crucial habitats for these species of animals within the permit and disturbed areas. These habitats are clearly defined on maps 2A through 2G. The maps and associated legends also define the range of these habitats. Pages 3-64 through 3-69 Section R645-301.330 include a description of "some of the conservation and mitigation plans for the wildlife species that have

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been described as occupying crucial or substantial habitat within and adjacent to the Kinney #2 permit area”.

**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,

*The application needs to include a revision to the text that describes the results of the habitat field survey dated 6/1/2011. The FWS is requesting that mitigation for raptor nest 1541 be implemented prior to permit approval. The applicant is working on a draft mitigation plan that includes a payment of 3,000 dollars to DWR. The funds may be used for sage grouse habitat improvement, and nesting structures for purple martins and osprey.*

**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 . The vegetation survey references the compilation of a list of threatened, endangered and sensitive plant species for the area. They are included in chapter three pages 3-7 through 3-10.

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 adequate to meet the requirements of this section of the regulations.

**Stream Buffer Zones**

**Analysis:**

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:**

Chapter 4, Section R645-301-412.100, Page 4-18, Paragraph 3 has been revised to include wildlife, grazing and recreation and Mountain Range, Watershed and Commercial as zoning classifications established by Carbon County and the Scofield Town for zoning purposes described in chapter 4 on page 4-4.

**Findings:**

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

## **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:**

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**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**

Page 3-81, Section R645-301-341.230 describes the mulching techniques to be used during reclamation, including rates, crimping, plowing and or disking. Additionally tackifier will be incorporated on slopes steeper than 3:1.

**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 adequate to meet the requirements of this section of the regulations. .

**OPERATIONS IN ALLUVIAL VALLEY FLOORS**

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

**Analysis:**

Chapter 9, Section R645-302-320 pages 9-3 through 9-14 include a discussion and information about Alluvial Valley Floors. The text in paragraph 1 on page 9-4 of the application has been corrected.

Page 9-5, the bulleted topics are not included in nor do they appear to be a part of R645-100 as stated in the bold text on the lower portion of the page. The text change is incorrect.

Page 9-8, paragraphs 6 and 7, of the application include a commitment to conduct a field study of the "Marsh", including the name(s) of the individual (s) who conducted the study, a description of the vegetative communities including dominate species and a map to appropriate scale showing the location of the marsh area.

The applicant also needs to demonstrate whether or not the marsh area is a jurisdictional wetland

Page 9-8, Paragraphs 6 and 7 also include a commitment to include the vegetation survey data, including the name(s) of the individual (s) who conducted the study, a description of the vegetative communities including dominate species and a map to appropriate scale showing the location of the vegetative communities in the referenced 8.69 acre area.

Page 9-10, typo

Page 9-10, Paragraph 5, states that "the present vegetation in most areas is mainly Kentucky blue grass, wire grass, carex and arrow grass", the application needs to include the vegetation survey data, including the name(s) of the individual (s) who conducted the survey, their qualifications, a description of the vegetative communities including dominate species and a map to appropriate scale showing the location of the vegetative communities in the area referenced. See also 301.330. The applicant's commitment to conduct a vegetation survey as noted in Chapter 9 page 9-8 will include vegetation analysis performed by Mount Nebo Scientific.

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Page 9-11, typo

R645-302-321.260, the application includes a commitment to include the analysis of a series of aerial photographs including color infrared imagery flown at a time of year to show any late summer and fall differences between upland and valley floor vegetative growth and of a scale adequate for reconnaissance identification of areas that may be alluvial valley floors as noted in chapter 9 page 9-13.

**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**

Page 9-5, the bulleted topics are not included in nor do they appear to be a part of R645-100 as stated in the bold text on the lower portion of the page. The text change is incorrect and should be R645-302-320. [JCH]

**RECOMMENDATIONS:**

The application is not recommended for approval at this time.