

# TECHNICAL MEMORANDUM

## Utah Coal Regulatory Program

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January 26, 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 #3646

### 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 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*

**R645-301-411, Volume I, chapter IV, appropriate sections of pages 4-14 and 4-15 of the application need to be revised to reflect the current status of the SHPO consultation. [JCH]**

**R645-301-411, Map 4, the Regional Land Use map needs to include the Carbon County Lakeshore zone (SL). [JCH]**

**R645-301-411; 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 what is defined as the Watershed zone. However the applicant has stated that "There are no planned facilities associated with the Kinney #2 Mine within the WS zone". The applicant needs to provide a rationale that clearly explains and clarifies this information. [JCH]**

*Map #4, the Regional Land Use map does not include the current and post mining land uses for the proposed disturbed area. Since map #4 is actually a land use zoning map it should be renamed to indicate that it is a zoning map, an additional map, perhaps 4A Titled Current and Postmining Land Uses should be included that clearly shows the current and postmining land uses with in the proposed disturbed area. [JCH]*

*R645-301-322, -301-333, -301-342, -301-358; Chapter 3, Page 3-55, Section R645-301.330 ;( Operation Plan) includes a list of mitigation measures. The text at the bottom of page 3-55 needs to include the appropriate section, (s) that describe each of the previously listed mitigation measures looks like there is a typo or omission here and several other places in this section where the word section was just an S, also "Provisions to minimize Total Disturbance" are described before the list of mitigation measures on page 3-55. The applicant may choose to include this measure after the list as referenced on the bottom of page 3-55. These measures are further defined in the text on pages 3-56 through 3-60 some clarification is needed here as there appears to be other topics included in these pages. Perhaps listing them as bullets beginning on page 3-56 would present the information more clearly. [JCH]*

*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 will need to include a commitment 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. 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. [JCH]*

*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 is pending 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, ground surveys 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. [JCH]*

*Page 4.3-5 paragraph two should be deleted as it makes reference to the "Barn Canyon air ventilation shaft" The applicant has noted that the paragraph has been deleted. It would be nice to know what page that was located on for verification purposes. [JCH]*

*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 3-59 of the application needs to be revised to include the figure of 66 acre feet per year, (personal conversation with Greg Hunt 1/5/2011), based on the water rights allotted to Carbon Resources. The figure will then be used by the Division and FWS to determine potential adverse effects to the referenced species and to complete the consultation process with the FWS. [JCH]*

*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. [JCH]*

**R645-301-330, -301-331, -301-332;** *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. In order to verify this it would be nice to know on what page or exhibit these changes have been made. [JCH]*

**R645-301-412, -301-413, -301-414, Chapter 4, Section R645-301-412.100, Page 4-18, Paragraph 1** *needs to be revised to state that "The post mining land use for the reclaimed area is wildlife, grazing and recreation". The terms Mountain Range, Watershed and Commercial are classifications established by Carbon County and the Scofield Town for zoning purposes described in chapter 4 on page 4-4. [JCH]*

**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. See page 7.0-5 of the first submittal. [JCH]*

*The "E" mail also stated that "Vegetation species in the area adjacent to the permit area west of highway 96 (as stated in the original application) include species consistent with AVF's", yet the text in Chapter 9, Page 9-10, Paragraph 3 states that "Although no species identification has been conducted on the 8.69 acres. It is evident from casual observation that grasses make up the predominant vegetative community". The applicant needs to explain this contradiction. [JCH]*

*Map #4, the Regional Land Use map does not include the current and post mining land uses for the proposed disturbed area. Since map #4 is actually a land use zoning map it should be renamed to indicate that it is a zoning map, an additional map, perhaps 4A Titled Current and Postmining Land Uses should be included that clearly show the current and postmining land uses with in the proposed disturbed area. [JCH]*

**R645-302-321.100,** *the application needs to include a vegetation study for the proposed AVF adjacent to the permit area that includes 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. [JCH]*

**R645-301-131,132** *All technical data needs to be accompanied by the name of the persons or organizations that collected and analyzed the data, dates of collection and analysis of the data, and descriptions of the methodology used to collect and analyze the data. The technical*

*analysis needs to be planned by or under the supervision of a professional qualified in the subject to be analyzed. [JCH]*

*R645-302-321.260, the application needs 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. [JCH]*

*R645-302-324, 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 is not included in R645-302.100 as stated in the application. [JCH]*

*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.*

*Page 9-8, paragraph 5, the application needs to include the "Marsh" study, 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. [JCH]*

*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. [JCH]*

*The applicant also needs to demonstrate whether or not the marsh area is a jurisdictional wetland. [JCH]*

TECHNICAL MEMO

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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 to Joe Helfrich dated August 26, 2008). This correspondence was "E" mailed 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.

TECHNICAL MEMO

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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 **R645-301-411, Volume I, chapter IV, appropriate sections of pages 4-14 and 4-15 of the application need to be revised to reflect the current status of the SHPO consultation.**

**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, Scofield Lakeshore and Pleasant Valley zones, the Scofield Town includes the Residential, Commercial and Agricultural zones. With the exception of the Scofield Lakeshore zone, they are identified on map # 4; The Regional Land Use map.

**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, Map 4, the Regional Land Use map needs to include the Carbon County Lakeshore zone (SL).**

**ALLUVIAL VALLEY FLOORS**

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

**Analysis:**

TECHNICAL MEMO

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## 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. The reviewer is referred to chapter 9, pages 9-9-9-11 that do not explain what “Facilities Area Vegetation Map contain resource values consistent with the AVF criteria” means. In an “E” mail to the Division dated 12/21/2010 the applicant has stated that *“Vegetation species in the area adjacent to the permit area west of highway 96 (as stated in the original application) include species consistent with AVF’s”*, yet the text in Chapter 9, Page 9-10, Paragraph 3 states that *“Although no species identification has been conducted on the 8.69 acres. It is evident from casual observation that grasses make up the predominant vegetative community”*. The applicant needs to explain this contradiction.

### Findings:

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## 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. However the applicant has stated that "There are no planned facilities associated with the Kinney #2 Mine within the WS zone". The applicant needs to provide a rationale that clearly explains and clarifies this information.

Map #4, the Regional Land Use map does not include the current and post mining land uses for the proposed disturbed area. Since map #4 is actually a land use zoning map it should be renamed to indicate that it is a zoning map and an additional map, perhaps 4A, Current and Post mining Land Use, should be included that clearly shows the current and post mining land uses within the proposed disturbed area.

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## **FISH AND WILDLIFE INFORMATION**

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

#### **Analysis:**

TECHNICAL MEMO

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### **Protection and Enhancement Plan**

Chapter 3, Page 3-55, Section R645-301.330 ;( Operation Plan) includes a list of mitigation measures. The text at the bottom of page 3-55 needs to include the appropriate section, (s) that describe each of the previously listed mitigation measures looks like there is a typo or omission here and several other places in this section where the word section was just an S, also “Provisions to minimize Total Disturbance” are described before the list of mitigation measures on page 3-55. The applicant may choose to include this measure after the list as referenced on the bottom of page 3-55. These measures are further defined in the text on pages 3-56 through 3-60 some clarification is needed here as there appears to be other topics included in these pages. Perhaps listing them as bullets beginning on page 3-56 would present the information more clearly.

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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.

Page 4.3-5 paragraph two should be deleted as it makes reference to the “Barn Canyon air ventilation shaft” The applicant has noted that the paragraph has been deleted. It would be nice to know what page that was located on for verification purposes.

### **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 3-59 of the application needs to be revised to include the figure of 66 acre feet per year, (personal conversation with Greg Hunt 1/5/2011), 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

TECHNICAL MEMO

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 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;

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*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.*

*Page 4.3-5 paragraph two should be deleted as it makes reference to the "Barn Canyon air ventilation shaft" The applicant has noted that the paragraph has been deleted. It would be nice to know what page that was located on for verification purposes.*

*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*

TECHNICAL MEMO

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***Colorado pike Minnow, Razorback Sucker, Humpbacked Chub and Bonytail. Page 3-59 of the application needs to be revised to include the figure of 66 acre feet per year, (personal conversation with Greg Hunt 1/5/2011), 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.***

***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.***

***The applicant's response needs to include a reference to the appropriate pages and sections of the application that address the Division's deficiency(ies).***

## **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. In order to verify this it would be nice to know on what page or exhibit these changes have been made.***

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;** *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. In order to verify this it would be nice to know on what page or exhibit these changes have been made.*

### **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 needs to be revised to state that "The post mining land use for the reclaimed area is wildlife, grazing and recreation". The terms Mountain Range, Watershed and Commercial are 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 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,**

TECHNICAL MEMO

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*Chapter 4, Section R645-301-412.100, Page 4-18, Paragraph needs to be revised to state that "The post mining land use for the reclaimed area is wildlife, grazing and recreation". The terms Mountain Range, Watershed and Commercial are classifications established by Carbon County and the Scofield Town for zoning purposes described in chapter 4 on page 4-4.*

## **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**

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 is not included in R645-302.100 as stated in the application.

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.

Page 9-8, paragraph 5, the application needs to include the "Marsh" study, including the name(s) of the individual (s) who conducted the study, a description of the vegetative

TECHNICAL MEMO

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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 9-9, Paragraph 2, the application needs 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.***

Page 9-11, typo

**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 ***R645-302-321.100, the application needs to include a vegetation study for the proposed AVF adjacent to the permit area that includes 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. [JCH]***

***R645-301-131,132 All technical data needs to be accompanied by the name of the persons or organizations that collected and analyzed the data, dates of collection and analysis of the data, and descriptions of the methodology used to collect and analyze the data. The technical analysis needs to be planned by or under the supervision of a professional qualified in the subject to be analyzed. [JCH]***

***R645-302-321.260, the application needs 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. [JCH]***

***R645-302-324, 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 is not included in R645-302.100 as stated in the application. [JCH]***

***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. [JCH]***

***Page 9-8, paragraph 5, the application needs to include the “Marsh” study, 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. [JCH]***

***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.***

***The applicant also needs to demonstrate whether or not the marsh area is a jurisdictional wetland. [JCH]***

**RECOMMENDATIONS:**

The application is not recommended for approval at this time.