

# TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

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March 13, 2007

TO: Internal File

THRU: Wayne Western, Environmental Scientist/Engineering, Team Lead *W H W*

FROM: *JCH* Joseph C. Helfrich, Environmental Scientist/Biology, Cultural Resources and Land Use

RE: 1st North Federal Lease Boundary Addition, Consolidation Coal Company, Emery Deep Mine, C/015/0015, Task ID #2761

## SUMMARY:

On September 13, 2006 the Division received an application from Consolidation Coal Company to add 160 acres to the existing permit boundary. During the week of February 5, 2007 this reviewer received several responses to the deficiencies enumerated in the Divisions letter to John Gefferth on January 17, 2007. On February 13, 2007 the Division received a formal written response to the deficiencies enumerated in the Divisions letter to John Gefferth on January 17, 2007. On March 6, 2007 the Division received a formal response to the deficiencies enumerated in the Divisions March 6, 2007 deficiency document. The additional permit acreage can be located on the Walker Flat 7.5 minuet quadrangle map, in SW1/4NW1/4, NW1/4SW1/4, NE1/4SW1/4, and SE1/4SW1/4 of Section 22, T. 22 S., R6E, SLBM. The project is intended to facilitate the uninterrupted mining and maximum recovery of the coal. There is no surface disturbance associated with this IBC. This memo will address the Biology, Cultural Resource and Land use sections of the regulations.

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TECHNICAL ANALYSIS:

## GENERAL CONTENTS

## 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:

The application includes a reference to Appendix XII-3 of the approved MRP, a class one survey conducted in May 2005. In areas where full extraction mining will occur a ground or class three survey is required. With approval of the First North IBC the master TA was updated and a CD copy was sent to the permittee. The following information is excerpted from page 19; *The application includes an order one Archeological survey for the permit area expansion prepared by Montgomery Archaeological Consultants. Order one surveys are typically conducted for permit boundary expansions that do not include surface disturbances. Their review resulted in the identification of four cultural resource inventories and eleven previously documented sites most of which will be eligible under the (NRHP). None of the sites were located within Consol's permit boundary expansion area. According to the conclusion in the survey "it is predicted that similar site densities and site types would be found in the proposed IBC". Since the application is for development or first mining only and there is no surface disturbance, the order one survey is adequate to meet the requirements of this section of the regulations. However, prior to full extraction or second mining an order three or on the ground archaeological survey must be completed for the IBC and submitted to the Division. Concurrence from the State Historic Preservation Office is also required.*

The information submitted on February 13, 2007, (second round of review), includes a class three survey completed by Montgomery Archaeological Consultants as Appendix XIII-3 to Chapter XIII. The introduction and description of the project area on page one of the inventory include a reference to *Consol Energy's three Emery Mine exploration parcels (Panel # 4 East, Panel #14 West, and Panel # 15 West)*. The text has been revised to correctly identify these as full extraction parcels. However revisions to the maps revealed that the 4<sup>th</sup> East panel was located in a stream buffer zone and only be subject to first mining. See chapter V page 27

paragraph two and plate V-5. Plate X.A-1 and Figure 1 of the survey in combination show the location of the panels in relation to the survey areas.

The ground or pedestrian survey included archaeologists walking parallel transects 10 meters apart. The survey encompassed approximately 407.1 acres on privately owned land. The inventory resulted in the location of eight new sights, (42Em3833, through 42Em3840). There are four historic trash scatters (42Em3836, 42Em3837, 42Em3839 and 42Em3840); two corral complexes (42Em383833 and 42Em3838 which is located within the proposed IBC boundary), a wooden shed and house foundation (42Em3834) and a historic road segment with an associated fence (42Em3835). According to the survey none of the sites were recommended as eligible to the National Register of Historic Places (NRHP) as they represented common site types that were not associated with a particular settlement or historically significant property. Since none of the sites are recommended eligible to the NRHP a recommendation of "No Historic Properties" is proposed by the applicant. Concurrence with the Divisions findings by the SHPO was provided in writing to the division on March 15, 2007.

According to the geologic information in the application the overburden in the proposed IBC area averages approximately 300-500 feet and the mineable coal seam thickness is approximately 10 feet. The general formula used to predict subsidence is 60 times the height of the mineable coal seam or approximately 600 feet. As such subsidence would most likely reach the surface. As to whether the corral complex, (site # Em3838), would be affected is not known at this time.

#### **Findings:**

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

## **VEGETATION RESOURCE INFORMATION**

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

#### **Analysis:**

A discussion of the vegetation resources within the IBC area is provided in Appendix XIII-2. Vegetative communities include greasewood, shadscale/winterfat dry pasture and irrigated pasture. A current list of threatened and endangered species is also included in the appendix along with a vegetation map of the proposed lease addition. Plate VIII-1 has been updated to include the vegetative communities and permit boundary changes.

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**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:**

A discussion of the wildlife resources within the IBC area is provided in Appendix XIII-2. Page 6 of the appendix has been revised to include a reference to the species listed in chapter IX, plate 10-1 in addition to the high value winter habitat for Elk. A current list of threatened and endangered species is also included in the appendix, (table2). The appendix includes a wildlife map delineating high value winter habitat for elk in the proposed lease addition area. Plate 10-1 of the approved MRP depicts an active prairie dog town, crucial / critical ring necked pheasant year long and substantial value deer year long habitats in the area where the proposed IBC is located. Plate 10-1 has been updated to include the IBC boundary, the high value winter elk habitat, substantial value moose year long S-m-yl has been deleted from the legend, high priority deer winter, H-e-wt and substantial value elk year long, S-e-yl, have been correctly identified on Plate 10-1.

**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 applicant has combined this section of the regulations with the Vegetation Resource Information in chapter XIII appendix XIII-2 and section XIII.C.3 of the application. At this time, the information in the application is considered adequate to meet the requirements of this section of the regulations. However, the permittee maintains that wildlife habitat is not a land use in the proposed IBC area. It is the Division's opinion that wildlife habitat should be considered a land

use in the proposed IBC area. Because the Division and the permittee maintain differing opinions regarding the level of detail specified under this section of the regulations, Division staff will continue consulting with the permittee to clarify the application and scope of these regulations.

**Findings:**

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

**MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION**

Regulatory Reference: 30 CFR 783.24, 783.25; R645-301-323, -301-411, -301-521, -301-622, -301-722, -301-731.

**Analysis:**

**Affected Area Boundary Maps**

All maps in the MRP that reflect the current permit boundary have been updated to include the proposed IBC. The maps submitted on the CD illustrate the addition of the IBC to the permit boundary. The final version of all the maps reflecting the new permit boundary will be provided to the Division on March 19, 2007. The legends coincide with the permit boundary delineation and are consistent throughout the map section. The lease number for the IBC area has been corrected on all maps. Plate VI-6A has been revised to eliminate those portions of the panels that extend beyond the permit boundary. Plate V-5 has been revised to eliminate those portions of the projected subsidence areas that extend beyond the permit boundary. Other inconsistencies with plate V-5 include:

- The delineation of full extraction as compared to plate X.A-1. These two plates have been revised to show the current and proposed full extraction areas.

**Archeological Site Maps**

Plate X.A-1, Permit Area Cultural Resources has been updated to include the location and identification of the eight sites identified in the cultural resources inventory dated February 14, 2007.

**Cultural Resource Maps**

Plate X.A-1, Permit Area Cultural Resources has been updated to include the proposed IBC area. The Plate has also been updated to include the location and identification of the eight sites identified in the cultural resources inventory dated February 14, 2007, (same requirement

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for Archaeological site maps). Other inconsistencies with plate X.A-1 that have been corrected include:

- The delineation of full extraction in a “*Buffer Zone*” under Christiansen Wash see chapter V page 27 paragraph two and plate V-5.

**Surface and Subsurface Ownership Maps**

Surface and subsurface maps have been included in the IBC application.

**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:**

According to the information in the Archaeological survey performed by Montgomery Archaeological Consultants, the applicant has stated in section XIII.C.1 of the application “there are no cemeteries within 100 feet of the IBC boundary. There are no public parks located within the IBC area. There are no lands within the boundaries of the National system of Trails or Wild and Scenic Rivers System within the IBC.

**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**

The application does not include a protection and enhancement plan for the proposed IBC. With approval of the First North IBC the master TA was updated and a CD copy was sent to the permittee. The following information is excerpted from page 39; *the only potential impacts to wildlife species would be from subsidence. As there is no subsidence anticipated with first or development mining in this case, the applicant would not need to address this section of the regulations at this time. However, prior to extraction or second mining the permittee will need to revise chapter nine of the Mining and Reclamation plan. That revision will need to include a narrative and/or plan that describes how wildlife will be protected and enhanced as a result of the potential impacts from subsidence. The information required to update the MRP must be submitted to the Division prior to extraction or second mining.*

According to the U. S. Court of appeals decision No. 02-5136 Citizens Coal Council et al vs. Gale A. Norton, Secretary of the Interior and the National Mining Association the applicant may not be required to address this regulation. The applicant has stated that the IBC currently under review, (full extraction of coal), does not meet the definition of mining and reclamation activities as defined in section R645-100.200 of the Utah Coal rules. Attorneys for the Division and Consol are scheduled to discuss the applicability of the referenced court case. In the interim the Division is not requiring the applicant to address this section of the regulations.

### **Endangered and Threatened Species**

Threatened and Endangered plant species for Emery County are listed on page 4 of Appendix XIII-2. No T&E plant species were found within the study area. As well the habitat assessment suggested almost no chance of species occurrence at the sites. The location of the study area is included on page one of appendix XIII-2.

Threatened and Endangered animal species for Emery County are listed on page 7 of Appendix XIII-2 of the application. Calculations for mine water discharge are provided for in chapter VI.A.7, PHC and appendix VI-9 of the application. Additional information as noted in the approval of the First North IBC will be required to determine the mine water consumption for this IBC. With approval of the First North IBC the master TA was updated and a CD copy was sent to the permittee. The following information is excerpted from page 39; *Potential water depletions from mining operations may have an affect on endangered fish species identified in pertinent fish recovery programs. Volumes of water consumed in mining processes in excess of 100-acre feet/year require mitigation with the U. S. Fish and Wildlife Service. Calculations for water depletions and gains from mining activities are provided for in the 2003 Midterm Review correspondence for the Emery Deep Mine. The correspondence from John Gefferth to Lowell Braxton dated November 26, 2003 describes the water consumed from mining consumption, (roof bolters, continuous miners, belt sprayers, and miscellaneous dust suppression) as received coal moisture at 6%. This is compared to the inherent coal moisture at 4% and the 2%*

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*difference is calculated in ac-ft per year, that is approximately 3.6 ac-ft per year. Water consumed from ventilation is approximately 25 ac-ft per year and mine water discharge is 420 ac-ft per year of water. Evaporation from the sediment pond would be negligible as there is a continuous inflow and discharge or outflow from the pond. The result is a net gain of 391.4 ac-ft per year of water. The information in the correspondence and explanation by way of personal communication are adequate for the proposed IBC. However, the Mining and Reclamation plan needs to be updated to include these figures. The information required to update the MRP must be submitted to the Division prior to full extraction or second mining.*

Chapter II, page25a of the application includes criterion for estimating mine water consumption for present and future mining operations. Calculations and numbers and references have been included with the criteria that are used in determining the mine water consumption value in acre-feet per year. According to the figures in table VI-23B page 169 the predicted discharge of 1.5 cfs would be approximately 1,086 acre feet per year minus the consumptive losses of 48.5 acre feet per year equal a net gain of 1037.5 acre feet per year net gain to the Colorado watershed. According to the USFWS protocol this net gain would constitute a "No Effect" determination

Additional species in Utah's Sensitive species list include the following;

**Conservation Agreement Species**

Northern Goshawk

*Accipiter gentilis*

**Wildlife Species of Concern**

Grasshopper Sparrow

*Ammodramus savannarum*

Short-eared Owl

*Asio flammeus*

Burrowing Owl

*Athene cunicularia*

Ferruginous Hawk

*Buteo regalis*

Greater Sage-grouse

*Centrocercus urophasianus*

Black Swift

*Cypseloides niger*

Bobolink

*Dolichonyx oryzivorus*

Lewis's Woodpecker

*Melanerpes lewis*

Long-billed Curlew

*Numenius americanus*

American White Pelican

*Pelecanus erythrorhynchos*

Three-toed Woodpecker

*Picoides tridactylus*

Sharp-tailed Grouse

*Tympanuchus phasianellus*

**Bald and Golden Eagles**

Bald Eagles do not nest in the area but are typically inhabitants during migration. A raptor survey for the 4th East portal area was conducted in May of 2002. Survey results showed

that there were one active, two inactive, and one dilapidated Golden Eagle nests on the cliffs in the canyons to the East and Southwest of the proposed permit area expansion. There were no nests within ½ mile of the proposed permit area expansion. The IBC application includes a reference to the results of the 2006 survey as Appendix D of the August 2006 exploration application. The application includes the results or data from the survey. According to the information "E" mailed to the division on March 6, and hand delivered on March 15, 2007 there are no nests or nesting raptors within ½ mile of the proposed IBC.

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

There are wetland areas within the proposed permit area expansion. There are also prairie dogs in the area that may provide nesting habitat for Burrowing owls. The prairie dog colonies are located on plate 10-1, appendix A of chapter 9 of the approved MRP. The overburden in the proposed IBC ranges from approximately 300'-500'. With approval of the First North IBC the master TA was updated and a CD copy was sent to the permittee. The following information is excerpted from page 40; *prior to full extraction or second mining, the MRP must be updated to include a protection plan for wetlands from potential impacts due to subsidence and a burrowing owl survey for the permit area expansion.*

Chapter V, page 41 includes a commitment to develop a mitigation plan but does not specify when the plan will be developed, "*prior to subsidence*" could be any time or it may never occur. In terms of wetlands there are wetland areas within the proposed IBC and permit area that have not been delineated as "*jurisdictional wetlands*" but would still be considered high value habitat for wildlife. The following language is suggested to establish a conceptual mitigation plan and provide for appropriate implementation if it has been determined that the plan needs to be implemented. *A wetland mitigation plan, for the wildlife species and their habitats that are identified in the MRP, Appendix XIII-2 and plates VIII-1 and 10-1, will be implemented in areas where impacts from subsidence have occurred. Consol will repair disturbed surface areas and restore vegetation and wildlife habitats using the approved or subsequently agreed upon seed mix and or reclamation techniques. Prior to implementation Consol will consult with representatives from, DOGM, DWR, and other biologists to assess the possible impacts to the biological resources as a result of the subsidence. This team will then formulate a wildlife enhancement plan to mitigate for the impacts on a species-by-species approach. Consol will provide the results of the subsidence monitoring to the Division within 30 days of the monitoring.* The text in chapter V page 41 paragraphs three and four needs to specify when the plan will be implemented and not be limited to jurisdictional wetlands.

Chapter V, page 41 includes a wetland mitigation plan for jurisdictional wetlands. The Division maintains that the plan could be broader in scope to also include areas of high value habitat for wildlife. At this time, the information in the application is considered adequate to meet the requirements of this section of the regulations. However, because the Division and the permittee maintain differing opinions on the level of detail specified under this section of the

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regulations, Division staff will continue to consult with the permittee and other appropriate representatives to evaluate the scope of the wetland delineation during the forthcoming wetland survey as outlined in the application.

Chapter VIII Page 17a includes a proposal to conduct a Burrowing Owl survey. The survey is scheduled for the most suitable time of the year, or between April 15 and July 15 and prior to full extraction.

**Findings:**

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

## RECLAMATION PLAN

### 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:**

Page 4a of Chapter III of the approved MRP describes an investigative study into past reclamation practices. According to the text, "*The permittee shall develop and submit for consultation to DOGM, a detailed plan for the scope of the study and methods to be used to conduct the investigation. The completed scope of the study shall be submitted to DOGM by the end of March 2003.*" That has been provided for in the 2003 annual report. However the MRP and the Master TA describe a four-step process to evaluate the final revegetation plans. The following information is excerpted from page 43 of the MTA, *As described on page 4a of Chapter III, the Permittee has agreed to follow a four-phase evaluation of final revegetation plans. In phase 1, the Permittee will investigate and summarize past reclamation sites and practices at the Emery Deep and Hidden Valley Mines. In phase 2, based on those investigations, and in consultation with the Division, the permittee will implement the best techniques demonstrated to be successful. In phase 3, the applied techniques will be evaluated qualitatively annually and quantitatively between the 4<sup>th</sup> and 6<sup>th</sup> year. These evaluations will be correlated to precipitation data results obtained from an on-site weather station and incorporated into the annual report. In Phase 4, the Permittee will revise the MRP to include the best technology for final revegetation. A full scope of work for this four-phased evaluation will be submitted to the Division by the end of March 2003 (Chapter III, Page 4a).* According to the information in the Division files for the Emery Deep mine the remaining three phases have

not been addressed. A time line for implementation for the four-phase revegetation plans is included in Chapter III page 4-a of the MRP.

**Findings:**

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

**RECOMMENDATIONS:**

The application is recommended for approval.