

# TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

---

gR

December 9, 2006

TO: Internal File

THRU: Wayne Western, Environmental Scientist/Engineering, Team Lead *W/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 #2646

**SUMMARY:**

On September 13, 2006 the Division received an application from Consolidation Coal Company to add 160 acres to the existing permit boundary. 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 and Cultural Resource and Land use sections of the regulations.

TECHNICAL MEMO

---

**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.*

**Findings:**

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

**R645-301-411**, the application needs to include a ground or class three survey for those areas where full extraction will occur.

## 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 and 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 needs to be updated to include the vegetative communities and permit boundary changes.

### Findings:

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

**R645-301-320**, plate VIII-1 needs to be updated to include the vegetative communities and permit boundary changes.

## 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. 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 needs to be updated to include the IBC boundary, the high value winter elk habitat, substantial value moose year long S-m-yl needs to be deleted from the legend, high priority deer winter, H-e-wt and substantial value elk year long, S-e-yl, need to be correctly identified on Plate 10-1.

**TECHNICAL MEMO**

---

**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**, plate 10-1 needs to be updated to include the IBC boundary, the high value winter elk habitat, substantial value moose year long S-m-yl needs to be deleted from the legend, high priority deer winter, H-e-wt and substantial value elk year long, S-e-yl, need to be correctly identified on Plate 10-1.

**LAND-USE RESOURCE INFORMATION**

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

**Analysis:**

The applicant has not addressed this section of the regulations.

**Findings:**

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

**R645-301-411**, the applicant needs to address this section of the regulations.

**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 must be updated to include the proposed IBC.

### **Archeological Site Maps**

Archaeological site maps for the proposed IBC must be included in the application.

### **Cultural Resource Maps**

Plate X.A-1, Permit Area Cultural Resources needs to be updated to include the proposed IBC area. Cultural Resource maps for the proposed IBC must be included in the application.

### **Surface and Subsurface Ownership Maps**

Surface and subsurface maps need to be included in the IBC application.

### **Findings:**

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

**R645-301-323, 301-411, -301-521, -301-622, -301-722, -301-731**, All maps in the MRP that reflect the current permit boundary must be updated to include the proposed IBC. Archaeological site maps for the proposed IBC must be included in the application. Plate X.A-1, Permit Area Cultural Resources needs to be updated to include the proposed IBC area. Cultural Resource maps for the proposed IBC must be included in the application. Surface and subsurface ownership maps need to be included in the IBC application.

## **OPERATION PLAN**

### **PROTECTION OF PUBLIC PARKS AND HISTORIC PLACES**

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

### **Analysis:**

The applicant has not addressed this section of the regulations. Upon completion of a ground or class three survey the applicant needs to address this section of the regulations.

**TECHNICAL MEMO**

---

**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:

**R645-301-411.142, 143,144;** the applicant needs to address these sections 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.*

**Endangered and Threatened Species**

Threatened and Endangered plant species for Emery County are listed on page 4 of the application. 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 needs to be included in the application.

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% 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.

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 cucularia*

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. The underground mining activities in this application will be limited to development mining only with little or no subsidence anticipated. As such impacts from development mining would be

**TECHNICAL MEMO**

---

negligible. 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. Prior to full extraction or second mining, the MRP must be updated to include a current Raptor Survey of the proposed permit area expansion.

**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.*

**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 the following information; • A narrative and/or plan that describes how wildlife will be protected and enhanced as a result of the potential impacts from subsidence. • Calculations and criteria that reflect the mine water consumption in acre feet per year for the current and proposed mining operations. • A current Raptor Survey of the proposed permit area expansion. • A mitigation plan for wetlands from potential impacts due to subsidence and a burrowing owl survey for the permit area expansion.

**RECLAMATION PLAN**

**REVEGETATION**

**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.

**Findings:**

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

**R645-301-244, -301-353, -301-354, -301-355, -301-356, -302-280, -302-281, -302-282, -302-283, -302-284,** the application needs to include a time line for the implementation of the remaining phases of the evaluation of final revegetation plans.

**RECOMMENDATIONS:**

The application is not recommended for approval at this time.