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*Incoming  
C/015/0015*

**From:** "Gefferth, John" <JohnGefferth@consolenergy.com>  
**To:** "Steve Christensen" <stevechristensen@utah.gov>, "Ingrid Wieser" <INGRID...>  
**Date:** 1/18/2009 10:23 AM  
**Subject:** RE: Emery Deep Full Extraction Amendment (#3086)  
**Attachments:** CHVpgXX.fullextrac.tot.d2990.addinfo.doc; CHXpglndx.fullextrac.tot.d2990.doc; Consol08.EM.FullExtract.rpt.rev.p7&8.pdf; PASTURE ACRES.pdf

*R*

Per our phone conversation last week attached please find draft responses.  
 I will be available to discuss on my cell phone on Tuesday as I will be traveling.

Priscilla  
 I have added the total cropland acres in the legend of the veg map....I did not break it down by panel yet...Hopefully I can have it done on Monday morning.

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From: Steve Christensen [mailto:stevechristensen@utah.gov]  
 Sent: Wednesday, January 14, 2009 4:41 PM  
 To: Gefferth, John; Ingrid Wieser; Joe Helfrich; OGMCOAL@utah.gov; Priscilla Burton  
 Subject: Emery Deep Full Extraction Amendment (#3086)

Emery Folks,

I wanted to send a quick e-mail and attempt to summarize what we discussed earlier in regard to what's needed to get the full-extraction amendment to the finish line. The following is what I understand John will do to address the remaining deficiencies.

Priscilla's Issues:

- 1) John will revise Plate VIII-1 to reflect the acreage of the agricultural lands that could be impacted by the proposed full extraction/subsidence for the life of the mine.
- 2) An 11 x 17 figure will be drafted that shows the acreage of the agricultural lands that lie directly over the proposed full extraction panels.
- 3) John will provide a commitment to perform acid/toxic sampling within the new panels to be fully extracted per DOGM acid/toxic guidelines.

Ingrid/Joe Issues:

- 1) John will provide a commitment outlining when the mitigation/inspections will be performed on the eligible archaeological site identified in the recently submitted cultural resources report.
- 2) John will provide a commitment that discusses what will be done in the event that threatened and endangered species are identified in the spring when Patrick Collins completes his inventory work in the proposed full extraction areas (i.e. appropriate text sections and maps will be updated in the MRP in addition to supplying the "appropriate" mitigation efforts that will be undertaken if such T/E species are identified).

That's all I got. Did I miss anything? If so, please respond to this e-mail and CC everybody so we can all stay on the same page. .  
..literally.

Thanks for everybody's help on this.  
Steve

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### **Strata Below the A Seam**

The A seam is the lowest mineable seam in the Emery protect. Therefore, very few drill holes have penetrated more than 15-20 feet below this seam. The available information indicates that the interval between the base of the A seam and the bottom of the Ferron is about 60-70 feet thick and is composed mainly of sandstone and sandy siltstone.

### **V.A.4 I-ZONE ROOF AND FLOOR CHARACTERISTICS**

Roof and floor materials of the I zone mine are interbedded sandstones and shales. The 10 feet of section immediately above the I zone coal generally contains several feet of irregularly laminated, light gray, fine-grained quartz sandstone. Dark gray shale is usually in contact with the coal. Pyrite is present occasionally in minor amounts. The floor material is generally dark olive gray, coaly, silty shale. Several feet of light gray fine-grained quartz sandstone with irregular shale laming, burrow structures and coal fragments are typically present within the first 10 feet of section below the coal.

Values of pH in the roof and floor horizons range from 5.0 to 9.1. The acid materials have a net base potential. Most of the strata have alkaline pH. Floor pH is generally higher than that of the roof, with many values greater than 9.0. The high pH values indicate that elements mobile at high pH may be in solution.

Electrical conductivity values are typically below 4.0 mmhos/cm, except in holes nearest the outcrop. Roof materials are more generally sodic. Sodium adsorption ratios range from 1.8 to 28.0. Values exceed 10 in several holes, in both roof and floor intervals. Many ESP (exchangeable sodium percentage) values are above 15. Mine water might have sodium concentrates unsuitable for irrigation use.

Trace element analysis for boron, selenium, fluoride, arsenic, molybdenum, Iron, manganese, lead, zinc and nickel were conducted. Boron (hot-water extractable) concentrations are generally less than 1.0 ppm: but the salty strata have higher boron levels (1.6 to 4.6 ppm). These are near the outcrop of the Ferron and could produce boron in the mine discharge unsuitable for irrigation use. Selenium concentrations are low. Fluoride is present in most holes, and therefore mine water might contain levels unsuitable for irrigation or for livestock. Arsenic (acid-soluble) concentrations exceed 0.1 ppm in all intervals and range to 1.59 ppm. Molybdenum is not a potential problem. Iron (DTPA extractable) concentrations range from 12 to 65 ppm.

Manganese (plant extractable) concentrations are below suspect levels for overburden. Lead is below the suspect level for overburden with pH greater than 6. Zinc (DTPA-extractable) is below the drinking water standards. Nickel (DTPA-extractable) concentrations are less than 0.1 ppm no water standards for nickel have been established.

Additional roof and floor sampling will be taken in the Zero North area of the mine. The analysis will consist of the following.  
pH, pyritic sulfur, sulfate, organic sulfur, total sulfur, total iron, sodium absorption ratio (SAR), acid/base potential, electrical conductivity (EC), total calcium, total magnesium, total potassium, total sodium, total boron, total selenium, total arsenic, total cadmium, total chromium, total lead, total zinc

Table V-I contains chemical analyses for I-Zone strata and adjacent units.

Revised 1/09

**CHAPTER X**

**PART A: CULTURAL RESOURCES**

NARRATIVE FOR UMC 783.12(b), 783.24(i),(j)&(k), AND 784.17 ..... 1-3

**APPENDICES**

- 5.0 ARCHEOLOGICAL EVALUATION - AERC, 1980 SEE CONFIDENTIAL BINDER
- 5-1 ARCHEOLOGICAL EVALUATION - AERC, 1981 SEE CONFIDENTIAL BINDER
- 5-2 ARCHEOLOGICAL EVALUATION - M.S. BERRY, 1975 SEE CONFIDENTIAL BINDER
- 5-3 ARCHEOLOGICAL EVALUATION - AERC, 1988 SEE CONFIDENTIAL BINDER
- 5-4 ARCHEOLOGICAL SITE FORMS SEE CONFIDENTIAL BINDER
- 5-5 ARCHEOLOGICAL EVALUATION - MONTGOMERY ARCHAEOLOGICAL CONSULTANTS, 4th EAST PORTAL SITE, MAY 2002 SEE CONFIDENTIAL BINDER
- 5-6 ARCHEOLOGICAL EVALUATION - MONTGOMERY ARCHAEOLOGICAL CONSULTANTS, 4th EAST POWERLINE, AUGUST 2002 SEE CONFIDENTIAL BINDER
- 5-7 ARCHEOLOGICAL EVALUATION - MONTGOMERY ARCHAEOLOGICAL CONSULTANTS, 4th EAST EXTENSION AREA, MARCH 2003 SEE CONFIDENTIAL BINDER

See: Chapter XII, Appendix XII-3, Cultural Resource Report (MOAC Report No. 05-177, May 23, 2005), for 1<sup>st</sup> North IBC Archeology SEE CONFIDENTIAL BINDER

See: Chapter XIII, Appendix XIII-3, Class 3 Cultural Resource Report (MOAC Report 07-33, February 13, 2007) for First Federal Lease IBC Archeology. SEE CONFIDENTIAL BINDER

5-8 ARCHEOLOGICAL EVALUATION- MONTGOMERY ARCHAEOLOGY CONSULTANTS, Zero North (MOAC 07-323) SEE CONFIDENTIAL BINDER

5-9 ARCHEOLOGICAL EVALUATION- MONTGOMERY ARCHAEOLOGY CONSULTANTS, Life of Mine Panels (MOAC 08-135) spring 2008, site treatment plan. The treatment plan for eligible site 42Em3924 will be completed at least 6 months prior to subsidence, with a follow up visit only to the site within 12 months after subsidence. SEE CONFIDENTIAL BINDER

**FIGURES**

X-1 1<sup>st</sup> SOUTH FULL EXTRACTION ARCHEOLOGY SITES SEE CONFIDENTIAL BINDER

**PLATES**

X.A-1 PERMIT AREA CULTURAL RESOURCES SEE CONFIDENTIAL BINDER MAP POCKET

Revised 10/2003  
Revised 9/2005  
Revised 5/2007  
Revised 12/07  
Revised 10/098

## Threatened and Endangered Plant Species

There are several federally listed plant species that are known to occur in Emery County, Utah (Table 1). It is unlikely but possible, that some of these species may occur in the study areas. The most likely plant communities for such occurrences would be the aforementioned shadscale communities. A sensitive species field survey will be conducted in the full extraction pillar splitting areas in the growing season of 2009. The time period when these species will be surveyed will be chosen according to the individual species and according to the plant's phenology to insure that, if present, observation and identification of the species will be enhanced. Timing for the surveys should be in the spring ranging from April through June. If any federally listed threatened, endangered or otherwise sensitive plant species are found, notification

will be made to DOGM so that appropriate avoidance or mitigation measures can be formulated.

**Table 1: Federally Listed Threatened or Endangered Plant Species in Emery County, Utah**

Scientific Name	Common Name	Status
<i>Cycladenia humilis var. jonesii</i>	Jones Cycladenia	T
<i>Erigeron maguirei</i>	Maguire Daisy	T
<i>Pediocactus despainii</i>	Despain Footcactus	E
<i>Pediocactus winkleri</i>	Winkler Footcactus	T
<i>Schoenocrambe barnebyi</i>	Barneby's schoenocrambe	E
<i>Sclerocactus wrightiae</i>	Wright Fishhook Cactus	E
<i>Townsendia aprica</i>	Last Chance Townsendia	T

*E = Endangered*  
*T = Threatened*

## WILDLIFE

Wildlife habitat information has been compiled previously for the Emery Mine area.

Moreover, DWR GIS information databases have been consulted. A wildlife map for the entire permit area has been prepared previously and has been included in Emery Mine's Mining & Reclamation Plan (MRP). A map called Selected Wildlife Information (Plate 10-1) shows this information. This map includes the full extraction pillar splitting area.

Federally listed threatened, endangered and candidate species for Emery County are shown on Table 2. Of these species, little or no habitat is present within the mine's permit area.

Table 2 also briefly describes the habitat for each of these species and the potential impacts, if any, as a result of the full extraction pillar splitting mining planned by the Emery Mine.

Although federally listed threatened, endangered and candidate wildlife species are probably not present within the permit boundaries of the Emery Mine, two sensitive species may be present including burrowing owls (*Athene cunicularia*) and white-tailed prairie-dogs (*Cynomys leucurus*). Habitat for these species will be surveyed in the full extraction areas. If prairie dog burrows are present, surveys will be conducted to determine whether or not the burrows are active. This field work will be conducted in 2009 during the animals most active periods from late spring to early summer. If any federally listed threatened, endangered or otherwise sensitive species are found, notification will be made to DOGM so that appropriate avoidance or mitigation measures can be formulated.

