

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

May 12, 2008

TO: Internal File

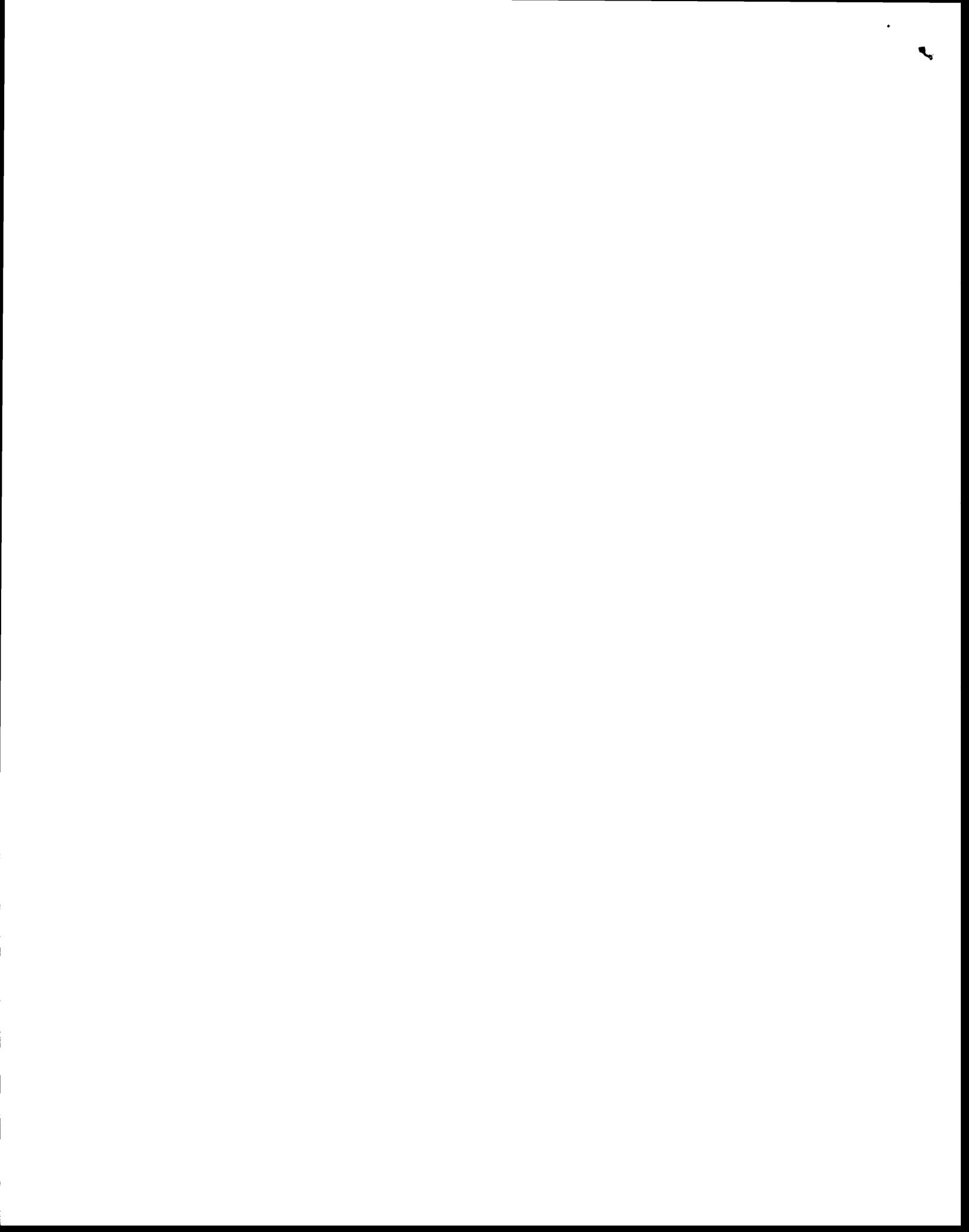
THRU: Daron R. Haddock, Permit Supervisor
Wayne Western, Lead

FROM: Joe Helfrich, Biology

RE: Phase III Bond Release, Utah American Energy Inc., Horse Canyon Mine,
C/007/0013, Task ID #2905

SUMMARY:

On January 23, 2008 the Division received the fourth submittal for phase three bond release at the Horse Canyon Mine. The three previous submittals were dated 9/15/06 task # 2573, 2/1/06 task # 2728 and 1/3/06 task # 2409. This memo will include a review of the Biology and Land Use sections of the regulations for the current task # 2905.



TECHNICAL MEMO

TECHNICAL ANALYSIS:

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:

Postmining Land Use is addressed in Chapter 3, Section 3.2, and Pages III-3 through III-7 of the Application. The Post Mining Land Use is wildlife habitat. Appendix III-1-1 includes the Asset Assignment Agreement – (Post Mining Land Use Change area – CEU donation approximately 16.18 acres). Structures and areas not reclaimed are shown on maps III-2C, D and F. This sentence needs to be revised to include III-2E. The map legend needs to include the Emery County Public Road on maps III-2B, C, D, E and F. Map III-2F shows a water Tank Area that according to the legend is donated to CEU but is not described as such on the map as are the other areas. Facilities within the CEU donation area are identified in Appendix X-4. Appendix III-1-2 includes the letters to the surface and subsurface owners. The letters include a summary of the reclamation efforts to date by entity and acreage.

Emery County Road Agreement

A special warranty deed and dedication agreement between IPA and Emery County was executed on October 4th 1995 giving Emery County rights to the Horse Canyon Range Creek road as noted in Volume 1, Chapter 1, appendix 1-6 of the MRP.

Page 5, paragraph 2, it is unclear how the west bridge abutment meets the post mining land use of wildlife habitat.

Findings:

The information 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, -302-270, -302-271, -302-272, -302-273, -302-274, -302-275.**

Page 3 paragraph one, second sentence needs to be revised to include Map III-2E.

The map legend needs to include the Emery County Public Road on maps III-2B, C, D, E and F.

Map III-2F shows a water Tank Area that according to the legend is donated to CEU but is not described as such on the map as are the other areas.

Page 5, paragraph 2, it is unclear how the west bridge abutment meets the post mining land use of wildlife habitat. The applicant needs to explain this statement and revise the application accordingly.

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:

Vegetation sampling is described on pages 10 and 11 of the application. Vegetation inventories were conducted in 2003 and 2004, years nine and ten as required by the regulations. These sampling reports are included in the application as Exhibits III-1-5 and III-1-6. "*Reclamation treatments, areas and work accomplished*" as noted on page 11 under section IIA.4 are described in chapters three, eight and ten of the approved MRP.

The information in the 2003 and 2004 vegetation surveys includes the following:

2003 Survey

Data were collected for percent cover, percent cover by species, woody plant density, species diversity, and similarity at each of six reclaimed areas and the reference area, *photos of the reference area are not included in the application*. Additional data for the five sloped areas included percent cover by vegetative type, *shrubs, forbs, grasses and total percent cover*. *The sloped areas do not include species composition and are not included in the similarity comparison to the reference area*. The locations of the transects, reference area and reference area transects need to be identified on a map.

Percent cover, percent cover by species and woody plant density, species diversity, and similarity at each of six reclaimed areas exceeded that in the reference area. However the reference area selected is not representative of either the reclaimed area or the intended postmining land use of Wildlife habitat. A mature Pinion Juniper community would be a wildlife cover area. This is further demonstrated in the similarity comparison noting that an average of 1.8 species or 15 % are common to the reference area, *cheat grass has been discounted as it is considered to be an invasive species. Also the purple plant listed in the*

TECHNICAL MEMO

reference area and some of the transects needs to be identified. The similarity comparison, Jaccard's Community Coefficient is represented as a number; it should be displayed as a percentage.

2004 Survey

Data were collected for percent cover, percent cover by species, woody plant density, species diversity, and similarity, an average of 3.1 species or 25.8%, at each of six reclaimed areas and the reference area, ***photos of the reference area are not included in the application. The locations of the transects and reference area need to be identified on a map. The applicant needs to explain this statement. Pages 6 and 7, "Fifteen transects were run in the reference area even though sample adequacy suggested that 16 transects be run to keep consistency with the number of transects run in revegetated areas." The survey does not include cover data for the sloped areas***

Revegetation: General Requirements

Revegetation: Timing, Mulching and Other Soil Stabilizing Practices, and Standards for Success

Revegetation timing, mulching and standards for success are described in Volume 2 of 7, Chapter three, section 3.5.5.2 pages III-64 through III-78. The reference area and supporting data are included in Volume 6 of 7, Chapter IX, Section 9.3.2.8 page 92. ***The MRP states that "Reference areas will not be used for this mine". Baseline data and the condition of the undisturbed areas at the time of bond release will be used to determine revegetation success. However the information in the 2003 and 2004 vegetation surveys includes reference areas. The permittee needs to explain this anomaly and revise the MRP accordingly.***

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 MRP states that ***"Reference areas will not be used for this mine". Baseline data and the condition of the undisturbed areas at the time of bond release will be used to determine revegetation success.*** However the information in the 2003 and 2004 vegetation surveys includes reference areas. The permittee needs to explain this anomaly and revise the MRP accordingly,

The applicant needs to demonstrate that 80% of the trees and shrubs in the reclaimed area have been in place for 60% of the ten-year liability period for reclamation.

2003 Survey

Photos of the reference area need to be included in the application,

The locations of the transects, reference area and transects for the reference area need to be identified on a map.

The sloped areas need to include species composition and be included in the similarity comparison to the reference area,

The reference area is not indicative of the reclaimed area and vice versa. A reference area needs to be selected that is representative of the reclaimed area and the intended postmining land use of Wildlife habitat. This is further demonstrated in the similarity comparison noting that an average of 1.8 species or 15% are common to the existing reference area, 70% is the required similarity,

Cheat grass has been discounted as it is considered to be an invasive species, the permittee is required to implement a weed control program,

The purple plant listed in the reference area and transect areas needs to be identified, and

The similarity comparison, Jaccard's Community Coefficient is represented as a number; it needs to be displayed as a percentage.

2004 Survey

Photos of the reference area and sample areas need to be included in the application,

The locations of the transects, reference area and transects for the reference area need to be identified on a map and included in the application,

The applicant needs to explain this statement. Pages 6 and 7, "Fifteen transects were run in the reference area even though sample adequacy suggested that 16 transects be run to keep consistency with the number of transects run in revegetated areas,"

The survey needs to include cover data for the sloped areas,

The application needs to provide evidence of consultation with the appropriate land management and wildlife agencies for woody stem densities,

TECHNICAL MEMO

The reference area is not indicative of the reclaimed area and vice versa. A reference area needs to be selected that is representative of the reclaimed area and the intended postmining land use of Wildlife habitat. This is further demonstrated in the similarity comparison noting that an average of 3.1 species or 25.8% are common to the existing reference area, 70% is the required similarity, *Cheat grass has been discounted as it is considered to be an invasive species, the permittee is required to implement a weed control program and,*

The shrub Greasewood, *Sarcobatus vermiculatus* was identified in both the reclaimed area and reference area in the 2004 survey but was not identified in either in the 2003 survey. The applicant needs to explain this anomaly.

RECOMMENDATIONS:

The application is not recommended for approval at this time.