

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

October 27, 2009

TO: Internal File

THRU: Daron R. Haddock, Permit Supervisor
Dave Darby, Lead 

FROM: Joe Helfrich, Biology *all by SES*

RE: Phase III Bond Release, Utah American Energy Inc., Horse Canyon Mine, C/007/0013, Task ID #3406

SUMMARY:

On September 16, 2009 the Division received the seventh submittal for phase III bond release at the Horse Canyon mine. The six previous submittals were dated 1/3/06 task # 2409, 2/1/06 task # 2728, 9/15/06 task # 2573, 1/23/08 task # 2905, 11/10/08 task #3080 and 4/ 20/09 task 3268; this memo will include a review of the Biology and Land Use sections of the regulations for the current task # 3406.

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 has been revised to include III-2E. The map legend includes the Emery

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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 and is 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, has been revised to indicate that the west bridge abutment will be left in place to support the bridge.

Findings:

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

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

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

Map III-2F shows a water tank area that was donated to CEU and is described as such on the map as are the other areas.

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. 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 include 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, good quality discernable photographs of the reclaimed areas and the reference areas taken in 2009 are included in the application as Appendix 4. Appendix III-1-5 page 6 of the November 2008 submittal includes a reference to Appendix 3 that is 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 percent cover, percent cover by species and woody plant density. Page 13 of the application provides the rationale for not including these areas in the vegetation sampling regimen. These areas were sampled in addition to the reclaimed areas for precipitation run-off estimates as an indication of erosion. The locations of the transects, reference area and reference area transects have been identified on a map.

Percent cover, percent cover by species, woody plant density and species diversity 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 annual exotic species. The applicant has recalculated the data without cheat grass in both the reference and r reclaimed areas. Page 13 of the application has been revised to include Small Fendler's Sandmat as the purple plant listed in the 2003 survey data.

The similarity comparison, Jaccard's Community Coefficient is represented as a number; it should be displayed as a percentage I may delete this statement.

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, good quality discernable photographs of the reclaimed areas and the reference areas taken in 2009 are included in the application as Appendix 4. The locations of the transects and reference area have been identified on a map Pages 6 and 7, state that "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". Therefore the sampling adequacy is consistently inadequate. 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 application includes supportive data that demonstrates sample adequacy with 15 transects as noted on pages 18-20 of the application. These areas were sampled in addition to the reclaimed areas for precipitation run-off estimates as an indication of erosion.

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Revegetation: General Requirements

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

During the summer of 2008 the Rails to Trails group caused a third party encroachment (TPE) by blading a 10 foot wide access road through the reclaimed area. It runs from the old rail road grade northeast across the reclaimed No.1 sedimentation pond, then down to the main Horse Canyon road. This area will be reclaimed immediately, spring 2009. Access to the road will be blocked and the area will be reseeded. The area is 0.3 acres of surface disturbance and represents only 0.4% of the total reclaimed area. The acreage still has some viable vegetation, however, it is a small area compared to the whole reclaimed site, which has been previously sampled. Vegetation cover for the site without the TPE area is adequate to insure that 90 % of the success standard, (including sloped areas), is met. Therefore, it is not necessary to include the area in the vegetation sampling.

Page 11 of the application includes quoting from the 2003 and 2004 vegetation studies stating that the requirements for percent cover, percent cover by species and woody plant density exceed those of the reference area. The application needs to include a summary and analysis of the data to support the quoting statements and demonstrate how the success standards have been met. Pages 11-14 of Appendix III-1 have been revised to include a summary and analysis of the data from the 2003 and 2004 vegetation surveys that summarizes how the success standards have been met.

The application includes a summarization of the vegetation data that demonstrates that the revegetated sites meet the goal of 2,000 stems /acre at a 90% statistical confidence. This information along with the data on pages 15-18 has been used to support this statement.

Photos of the reference and sampling locations taken in 2009 are included in Appendix 4 of the application.

The sloped areas need to include vegetative sampling data for percent cover, percent cover by species and woody plant density species composition and be included in a detailed summary and analysis of the data to support the quoting statements and demonstrate how the success standards have been met. Page 13 of the application provides the rationale for not including these areas in the vegetation sampling regimen. These areas were sampled in addition to the reclaimed areas for precipitation run-off estimates as an indication of erosion.

Cheat grass has been discounted as it is considered to be an invasive annual exotic species. The applicant needs to recalculate the data without cheat grass in either the reference or reclaimed areas. The tables on pages 14 and 15 of the application include data used to meet the 90 % cover requirement that does not include cheat grass. The data demonstrates that the cover requirement has been met.

The Woody plant density averages table on page 12 indicate that the density value for the reference area nearly doubled from 2003 to 2004. The information at best does not appear to be statistically valid. Since the Division in consultation with DWR approved a woody stem density of 2000 stems per acre in 2005 the validity of the data is no longer an issue.

The Permittee was required to implement a weed control program. However a site visit was conducted on August 3, 2009 by a qualified botanist. The results of the ocular vegetation survey indicated that there was no evidence of noxious weeds in the reclaimed areas.

Pages VIII-42-45 contain commitments and methodologies to be employed to demonstrate that revegetation success has been achieved. Pages 15-20 of the application demonstrate that these commitments have been fulfilled.

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.