TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

May 8, 2008

TO: Internal File

THRU: Daron R. Haddock, Permit Supervisor
Priscilla Burton, Lead

FROM: Joe Helfrich, Cultural Resources

RE: Coal Hollow, Alton Coal Development LLC, Coal Hollow Mine, C/025/0005
Task # 2910

SUMMARY:

On June 14, 2007 the Division received an application for the Coal Hollow surface mine. The application was determined incomplete on August 27, 2007 and resubmitted on January 24, 2008. On March 19, 2008 the application was determined to be administratively complete. This memo will include a review of the Cultural Resources section of the regulations. This is an expedited review of the Cultural resources portion, (CRMP and Data Recovery Plan), of the applicants proposed Mining and Reclamation Plan. This review and subsequent determination will in turn expedite the required consultation with the SHPO. The applicant, Alton Coal Development LLC, has also provided the Division with an excavation permit application, received 02/28/08, which has been forwarded to The Public Lands Policy Coordination Office, PLPCO, for their review.

TECHNICAL ANALYSIS:

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 for the Coal Hollow Mine includes the following cultural resource information:

- 6/14/07 Cultural Resource Inventory
- 6/14/07 Paleontological Survey
- 6/14/07 Geologic Report of the impacts of Bedrock and Surgical Units on the Distribution of Cultural Resources at the Alton Coal Field
- 6/14/07 Data Recovery Plan for identified Cultural Resources
- 6/25/07 Revised Data Recovery Plan
- 1/9/08 Draft Outline of Cultural Resource Management Plan, CRMP
- 02/28/08 2nd Revision to Data Recovery Plan
- 02/28/08 Excavation Permit Application
- 03/14/08 CRMP

On November 2, 2007 the Division sent a letter to Dr. Matthew Seddon, State Historic Preservation Officer, requesting concurrence with the Division's determination and eligibility effect determination for the proposed Coal Hollow Mine. Dr. Seddon concurred with the Division's determination by way of correspondence dated November 20, 2007. However, because of adverse impacts and cumulative effects associated with the lease application on federal land, a Cultural Resource Management Plan, (CRMP) is being developed in addition to the Data Recovery plan. To date several revisions to the Data Recovery plan and a Cultural Resource Management Plan, (CRMP), have been submitted to the Division for review and comment. The current version of the CRMP dated 03/14/08 and Data Recovery Plan dated 02/28/08 are the documents included in this review.

CRMP

Introduction – Page 1 – Because of the need for the CRMP to fully describe the entire project area and the complexity of the issues, this section needs to be expanded. As it currently stands, the section provides primarily an introduction to the archaeological sites in the project area and a description of the phases of excavation. To fully describe the project area and cover the compliance needs of UDOGM, OSM, BLM, and other involved agencies, this description needs to:

1. ***Describe the entire project area, making clear the distinctions between private, BLM, and transportation routes.***
2. ***Describe all the relevant laws (e.g. NEPA, Section 106, Utah Code 9-8-404, etc.) and how they apply to the project.***
    a. ***It is both acceptable and desirable for this description to make the necessary distinctions between directly and indirectly connected actions. For example, this is the necessary and appropriate place to describe how the private lands/UDOGM action is legally separate from the BLM action.***
    b. ***Indirect effects, such as transportation should be described here.***
    c. ***The involved agencies and their roles should also be described in this section.***
3. ***The section should then conclude with a clear description that all involved agencies are aware that while not directly connected, the actions are related, and that therefore a comprehensive approach to Section 106 and Utah Code 9-8-404 compliance is being undertaken via this document.***
4. ***After that point, summarizing the general cultural resources approach as described would be appropriate.***

Effected (sic) Environment – Pages 1 on – Please note that the correct term is "Affected Environment." This section needs to be revised to:

1. ***Include the entire project area, including potential transportation routes, with maps, rather than focusing solely on the archaeology.***
2. ***Be clear, this is not solely a document describing archaeology, it is a compliance document describing the entire project. It needs to accurately describe the entire compliance project and all the compliance issues.***
3. ***Include in Table 2 other cultural resources such as the National Register of Historic Places Historic District in Panguitch.***

Description of Phases – Page 1 and Page 23-24

Each phase should be used to supply data for the subsequent phases. As these phases are currently described, this is not clear. Phase I is described as "mitigation of immediate impacts," and the descriptions read as if it has minimal relation to the other phases. There is a sentence at

the bottom of page 23 that does relate Phase I to other phases in a minimal manner, but this relationship needs to be more clearly integrated with subsequent phases.

1. In the introduction, these phases need to be more clearly described with the relationships spelled out directly.

2. In the expanded discussion, the exact way the data from Phase I will tie to subsequent phases needs to be made clear. For example, shouldn't the question outlined in Phase II (what is the nature, extent and site integrity of these sites be appropriate here? And if these sites have data that is capable of addressing larger research questions wouldn't they pass into the next phase? How would we expect the Phase I data to inform our research trajectory any more than Phase II? These issues need to be clarified.

3. Either in the CRMP or in the Data Recovery Plan clearly describe how sites x, y, & z (presumably all prehistoric) are expected to relate to the other sites in the BLM area – that is how do the Archaic sites in the private area compare to the Archaic sites in the BLM area and the Proto Historic private to BLM?

Consequences of Project Phases, Phase II, Page 24 – As currently stated this reads "Research would proceed to Phase II, upon Alton Coal Development, LLC's acquisition of federal coal managed by the Bureau of Land Management." Acquisition is not guaranteed and that lack of guarantee is what separates the two actions (private and BLM).

Please clarify what the relationship is.

Notably, this statement also reads as predetermination, which could be problematic in a NEPA setting.

It is recommended that NEPA specialists, the proponent, and other outside parties who have a clear understanding of this document and the overall laws and process read this entire document carefully before it is finalized.

DATA RECOVERY PLAN

Many of the comments on the original data recovery plan have been addressed. The review of the most recent Data Recovery Plan submitted on February 28, 2008 indicates that there are deficiencies that need to be addressed before the plan can be approved. They are outlined as follows:

Research Questions

As currently written, these research questions seem too broad for the collection of sites present. The comments on 12/18/2007 assumed that these questions would actually be for the CRMP where broad over-arching questions forming the context for site-specific research issues should be posed. In the case of these sites, the research questions are so broad that they probably cannot be addressed by the limited range of sites present and the limited work proposed.

The research questions need to be tailored specifically to the sites in question and for what they can address. Clearly describe how sites x, y, & z (presumably all prehistoric) are expected to relate to the other sites in the BLM area – that is how do the Archaic sites in the private area compare to the Archaic sites in the BLM area and the Proto Historic private to BLM.

The geomorphological element is key here especially for informing Phase II and III, but again, the real first or otherwise question here is what data do these sites really offer. Also, there aren't any Fremont/Anasazi sites in this phase – how will that inform later questions? Finally, what if the historic site (or the others for that matter) yield data that goes beyond the scope of your original questions? Will those sites proceed to the next phase?

Goal 2 of the original draft, surface and subsurface

This goal does not appear to be included in the current version of the Data Recovery Plan. It was highly relevant, and was suggested on 12/18/2008 that the question be refined a bit. It was stated that:

In terms of the surface/subsurface question, which we agreed was good and was at least partially met by the excellent random sampling strategy (a provision for expansion would probably cover most other areas), we suggested further clarification of what that question entails. Thus, instead of simply asking "does the surface represent the subsurface," we recommended elaborating into all the related questions like "Do surface diagnostics reflect overall site dating?" "Are the functional interpretations derived from the surface assemblage supported by the subsurface assemblage?" "Does a site that appears to have significant data based on surface information have such data and what, if any, indicators in the surface assemblage suggest the presence of significant subsurface deposits?" "How much excavation is necessary in order to obtain a representative sample of subsurface artifacts?" "Can geomporphological evidence be effectively used to determine if the surface and subsurface assemblages are chronologically and functionally related?" And so on. Refining these questions may require slight refinements in the excavation/analysis approach.

Considering the relevancy in the first draft, it is also relevant for the second draft with some refinement. This question is perhaps the most relevant question that the current collection of the sites can address.

The applicant needs to refine this portion of the Data Recovery Plan.

Curation

MOAC does not have a 2008 Provisional Repository Agreement (although the form has been submitted) with the Utah Museum of Natural History. Has MOAC contacted Kara Hurst, Registrar from the UMNH, and obtained an actual Repository Agreement?

For the phase I data recovery, there will need to be a legally executed, signed, transfer of title for the prehistoric artifact recovered from private land, which will grant title to the UMNH. Finally, an outline for how historic artifacts will be curated needs to be included.

The following comments and suggested changes pertain to the Federal portion or phase II of the CRMP. They need to be addressed prior to entering this phase of the CRMP. The applicant may chose to address these comments and suggested changes during this review process or prior to obtaining a SMCRA permit for additional federal activities.

CRMP

Consequences of Project Phases, Phase I, Page 23 (also, Phase III Page 24)

The description of the public involvement process on the bottom of this page and on the bottom of Page 24 does not meet the previous suggestions. In an email to the entire project team that was sent on 1/22/2008 it was stated that:

> Given the high public interest in this project, and the overall size of the potential effects, I recommend that the public be more involved than is usual (i.e. be more than simply the passive recipients of whatever mitigation project we archaeologists deem they are worthy of receiving). I suggest that planning for public input into the research design and excavation approach be established in the CRMP. Let's define "the public" based on the interested parties (more than just USAS, probably also members of the towns of Alton and the surrounding area, tribes, as well as other citizens of the state). Let's then find out what the public are interested in learning and receiving from this project. It's their heritage, their interests should go right into the research design. The public should also be consulted early and often regarding "public mitigation products." We should not simply decide what they want out of it. The CRMP seems to be a good place for laying out a good process for both identifying the relevant public and defining meaningful consultation with that public.

As currently stated, public involvement has already determined that only USAS chapters are relevant. Furthermore, the public involvement occurs well into mitigation efforts and has

already determined a particular public outcome. This does not meet the comments provided above. The CRMP needs to include a public involvement plan that:

1. ***Makes efforts to fully define and identify stakeholders (beyond USAS) who have interests in the cultural resources in this project area. This needs to start at the beginning of the project, not at Phase III (as suggested on Page 24). As currently stated, the Phase I public outcome has already been determined and the only open-ended input will be taken when Phase III is well underway.***
2. ***Provides a process for incorporating public interests and desired mitigation outcomes into the decision of what public products will be part of the project.***

In other words, we need to find the public, listen to what they want, weigh and consider the input, and then provide public output that meets those interests and not what a bunch of professional archaeologists think that some small segment of the public would want.

The following additional comments excerpted from Christopher Hansen's, SHPO, email to Matt Seddon on 5/7/08 are worth noting. As the project develops they will be given consideration:

> Right now the historic district comes to mind (what does the NR nomination say about Panguitch and particularly Panguitch's Main Street, does it have character defining features that might be impacted by the intrusion of so many new trucks?), what about vibrations from the trucks--does UDOT or FHWA have any concrete studies? From what I recall Panguitch also had a Main Street program at one time too, clearly the historic character of their downtown has been an important asset to the community.

Overarching Research Design (Currently missing from CRMP)

In the email on 12/18/2007, Lori Hunsaker, PLPCO and Matthew Seddon, SHPO communicated that they:

> … were initially confused about the relationship of the treatment plan to the agreed-upon CRMP. We now understand it as something that will be part of the overall CRMP, and the research design specified in the draft document will basically form the nucleus of the sections of the CRMP research design that cover non-diagnostic open-air lithic scatters and the historic research design.

Currently there is only a culture history, no research design in the CRMP. The CRMP will need an overarching research design prior to going into Phase II. Assuming that the research questions posed in the current Phase I treatment plan are the "nucleus" as discussed in the comments above, for the moment these could be inserted into the CRMP. However, prior to ultimate finalization of the CRMP, we have the following comments that we recommend be incorporated into this overarching research design:

Previous comments on a draft of this plan were provided in an email to the authors with copies to other team members on 12/18/2007. Comments are confined to areas where those previous comments appear to have not been addressed.

Research Domains and Questions – Pages 24 on – A reference to one portion of the Kern report (page 28), and a very general question about "how systems compare" to Coral Canyon, Quail Creek, and Sand Hollow sites (page 28) are included in this section of the CRMP. More refined research questions are required in order to make data recovery and subsequent research more efficient. Therefore the following information needs to be incorporated into the Research Domains and Questions section of the CRMP:

Research Domains and Questions

The broader research design needs to incorporate the spate of recent work (e.g. Kern, Sand Hollow, HRA's work near St. George, Joel Janetski's work in Escalante) that provides refined research questions for the broader region and which are applicable to the Alton Amphitheater/Sink Valley area".

Research Domain 1 – Chronology -

Berry, Chapter 27 in Kern Report Vol IV – Page 581 on Virgin Anasazi dating

Reed, Chapter 29 in Kern Report Vol IV, Page 601, summarized projectile point model could potentially be tested or data from project could be evaluated in terms of model.

Revised chronologies have been proposed by Seddon and Reed, Kern Report Vol VI, Chapter 1, as well as for the Archaic period Vol IV, Chapter 10. These models could be proposed as testable or open to refutation or refinement with specific description of how the data from this area can be used for such issues.

Research Domain 2 – Site Function, Use History, and Artifact Distributions –

Chapter 11 of the BYU Sand Hollow report describes specific site functional types and models that could be evaluated. These types appear amenable to investigation or testing with data from the project sites.

Vol IV, Chapter 22 of the Kern report provides a detailed discussion of Southern Paiute site function and settlement organization and provides a limited test of the model. It seems that the large number of Southern Paiute sites in this project area could really help test this model if the research design were to explicitly consider this research.

Research Domain 3 – Subsistence and Environment

The Sand Hollow report Chapter 11, pages 422-426 provides a detailed discussion of Virgin Anasazi subsistence that can be used to provide more specific research questions.

The Sand Hollow report Chapter 11, pages 426-27 proposes that resource stress results in particular patterns of intensification that the large number of sites in the project area appear directly amenable to addressing.

The Sand Hollow report, Chapter 11, pages 428-434 (and referencing a significant body of work) examines questions of Southern Paiute horticulture that the large number of Late Prehistoric sites seem able to address.

The Sand Hollow report, Chapter 11, pages 435-439 proposes a model of post-contact Southern Paiute subsistence that the sites in the project area may be able to address.

The model of diachronic patterns in faunal exploitation in the Kern report, Vol 1V, Chapter 30 and the model of diet breadth through time (Chapter 31) appear to provide fodder for relevant research questions. These questions can be much more refined than the very general questions posed in 3.2 of the draft report.

Research Domain 4 – Technology

The Kern report, Vol IV, Chapter 34 refines and defines a model of technology and mobility that can be used to develop more refined questions, particularly the conclusions on Page 683.

If thermal features are of interest, as suggested by question 4.2, the Kern report, Vol IV Chapter 9 provides a very explicit model of variation in thermal feature types over time that could be tested if features are found in the project area.

Models of pottery manufacture and mobility, such as Simms and Bright and the Kern report, Vol IV, Chapter 17, appear very very relevant to this project area.

The Kern report, Vol IV Chapter 38, provides models of trends in ground stone technology that could be used to refine the ground stone technology issue questions (3.3 and to some degree 4.1)

Research Domain 5 – Settlement Patterns and Mobility

The Sand Hollow report, chapter 11, pages 441-443 provides a number of theoretical models (population packing, hinge points, Virgin Anasazi subsistence, etc.) that while applied in the Sand Hollow report to the St. George Basin do not seem irrelevant here and which could be adapted for this project.

Vol IV, Chapter 14 of the Kern report, while comparing Fremont and Virgin Anasazi settlement patterns does provide new models of Virgin Anasazi settlement type that could be explicitly examined via research questions based on the model.

Vol IV, Chapter 20 of the Kern report provides a model of Late Prehistoric demography that, given the long time span of the sites in the project area and the large number of Late Prehistoric sites, could be tested with data from the project area.

Given the large number of sites and time breadth in the project area, the issues raised in the model of land productivity and hunter gatherer settlement strategies in the Kern Report (Vol IV, Chapter 33) could be adapted or used as the basis for forming more refined questions than the ones currently posed.

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 **R645-301-411;** the applicant needs to address the ***bold italicized*** deficiencies outlined in the above-referenced analysis section of this document.

RECOMMENDATIONS:

This section of the application is not recommended for approval at this time.

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