

0014

United States
Department of
Agriculture

Forest
Service

Manti-LaSal
National Forest

599 West Price River Dr.
Price, Utah 84501

Reply to: 2820/2360

Date: April 23, 1997

Dr. F.R. Hauck
Archaeological-Environmental Research Corporation (AERC)
181 North 200 West
Suite 5
Bountiful, UT 84011-0853

*Route to Paul,
New file #
ACT1041/002 2*

Dear Dr. Hauck

Our staff has completed a review of AERC's January 1997 data recovery proposal for archaeological sites in the Box Canyon vicinity within Southern Utah Fuel Company's (SUFCo) Quitcupah Canyon underground coal lease area. After reviewing the data recovery report, there are some aspects of the data recovery program needing further clarification and discussion. These are summarized below.

AERC evaluated 13 sites in the Box Canyon locality and made recommendations based on an evaluation of potential effects. After further analyzing potential effects from subsidence, our geology and minerals staff concluded there were five sites which could potentially be affected; the severity of effects at each site differed, however. In correspondence with the Utah State Historic Preservation Office (SHPO) on 12/27/97 (copies of correspondence forwarded to AERC), we presented our evaluation of effects and made recommendations for mitigative actions at four sites. These evaluations of effect and recommendations to mitigate were subsequently concurred upon by the Utah SHPO on January 2, 1997 (copies sent to AERC).

Below, I summarize the Forest recommendations (which have received SHPO concurrence) along with recommendations presented by AERC in "Archaeological Data Recovery Program for the Upper Box Canyon Site Complex including Crazy Bird Shelter (42Sv896) and Associated Sites (42Sv2386, 42Sv2387 and 42Sv2388)" report of January, 1997. Please note that mitigation recommendations for some sites which were presented by the Forest and concurred upon by the Utah SHPO differ from the mitigative actions recommended by AERC. In addition, new developments for site protection for Site 42Sv896 which have been proposed by SUFCo are also discussed.

Site 42Sv896, Crazy Bird Shelter: This is a large shelter with apparently intact, but untested archaeological deposits and a small Barrier Canyon Style pictograph on the shelter roof. The Forest, SHPO and AERC agree that the site is eligible for the National Register and that the roof of this shelter is likely to collapse if no action is taken to support the roof. Data recovery would therefore, be necessary. In recent discussions with SUFCo, the Forest has agreed to allow SUFCo to install a system to support the shelter roof and protect the site; this will affect data recovery plans. After discussing other sites, I will return to a fuller discussion of protection and mitigation plans for Site 42Sv896.

are:

1. The rock art panels need to be thoroughly documented prior to the initiation of underground mining. It is our understanding that AERC intends to use digital photography to record these panels. A description of the finished photographic products to be provided by AERC should be provided in your response.
2. Test excavation of a 1m x 1m unit to assess the significance of subsurface deposits directly underneath the overhang area should be conducted.
3. If significant deposits are indicated by the test, then additional plans for salvaging materials directly below the overhang can be coordinated during on-site visits by the Forest archaeologist.
4. If significant deposits are not indicated by the test, then no further work should be necessary.
5. The site should be monitored by AERC in the post-mining phase. If surface cracking has affected or is believed to have affected significant subsurface features (e.g. firehearths), the Forest archaeologist should be notified and plans to test and salvage the feature(s) should be developed in consultation with the Forest.
6. Appropriate samples (macrofloral, pollen and C-14) samples as well as artifacts and other ecofacts would be collected and analyzed.
7. If no surface cracking has developed or if it has, but has not impacted subsurface features, then no further work should be necessary.

Site 42Sv2388. This site consists of a flaked lithic and groundstone artifact scatter. Three firehearth features were noted on the surface. The Forest, SHPO and AERC agree that this site is eligible for the NRHP. Our geology/minerals staff believe there is limited potential for subsidence related surface-cracking to develop at this site. Consequently, the Forest recommended that the site be monitored for surface cracking and that these cracks be mapped; SHPO concurred with this recommendation. In the data recovery report, AERC recommended that a "data recovery program consisting of resource documentation and materials recovery be initiated through detailed stratigraphic excavation of this site" (page 15).

Comments: The site should be monitored during the post-mining subsidence phase to determine if surface cracking has affected features. Surface cracks should be plotted on the existing scaled maps already prepared by AERC. If subsurface features have been impacted, then these should be tested and salvaged according to the excavation guidelines presented above for Site 42Sv2387.

Site 42Sv2389. This site consists of a small shelter located under a small overhang. The site may be eligible for the National Register; SHPO, the Forest and AERC agree on this determination. The Forest recommended to SHPO that the site be tested. AERC omitted this site from discussion in the data recovery plan. We suggest that the site be tested initially with a 1m x 1m or a 2m x 1m unit if needed and if significant archaeological deposits are indicated by the test, then at-risk archaeological deposits (e.g. those directly underneath the overhang) should be salvaged. Plans for salvage should employ the general research design as developed by AERC. However, we do request that AERC provide more specific data on field

collection techniques and suggested sample sizes for particular laboratory analyses. We recognize that some of this information will not be known with sufficient specificity until field excavation is underway/complete. However, some general parameters to actual analyses which will be conducted would be useful (please see our comments on 42Sv896, below for guidance).

Continuation of Discussion, Site 42Sv896. The Forest and SUFCo agree that without artificial support, the roof of this shelter is likely to collapse. Archaeological deposits would essentially be rendered inaccessible and the rock art panel would be adversely affected. Through further consultation, SUFCo has agreed to install a structural system to support the roof of the shelter and then fence the site to restrict access to the site. We believe this has a reasonable potential to prevent the shelter roof or at least, portions of it from collapsing. This presents a changed situation for necessary mitigation from that envisioned by AERC when data recovery plans were developed. The Forest has verbally consulted with the Utah SHPO and agreed on the following general mitigative actions:

1. Prior to installation of the roof support system, those areas of the shelter floor which will be directly impacted by installation of the support system should be subjected to controlled archaeological excavations per the research design and agreed upon methods between the Forest, SHPO and AERC. However, if initial excavations in these areas strongly indicate that significant deposits are not likely to exist, no further excavation will be necessary.
2. In addition to the excavation of those areas in #1, a reasonable sample of remaining areas outside the support system to recover significant data should be conducted. We suggest that testing be conducted in those areas deemed likely to contain significant deposits at a level of approximately 20-30% of the remaining shelter floor. However, should the initial testing yield results indicating that significant deposits are not present, additional excavation up to the 20-30% level need not be conducted. Sampling could be designed so as to include areas which will be used for installation of the protective fencing as well. We believe that sampling should be designed to provide sufficient detail on the deposits should the structural support not be successful.
3. The results of initial excavation and testing need to be carefully communicated between AERC and the Forest prior to conducting additional excavations. Should testing indicate that significant subsurface features extend beyond the limits of full mitigation for the roof support system or beyond the limits of initial sampling, plans for additional excavation will need to be coordinated between AERC and the Forest archaeologist.

The research questions and the working hypotheses posed by AERC are appropriate for investigation of Site 42Sv896 and other sites to mitigate adverse effects. However, we would like clarification on the precise methods and level of excavation/analyses which will be used to address these questions. While the data recovery plan illustrates the types of field excavation procedures and laboratory analyses which could be used during mitigation, the scope and extent of these are not specifically detailed. We would like to see additional detail for this work developed within the guidelines for required mitigation which we have presented above in our "Comments" section on each site.

There are some areas of the data recovery program we would like to comment on or request additional clarification:

1. Page 69--Excavation Strategies, Phase I Zone Selection and Preparation:

We are unclear to the size of the excavation units being proposed and the methods being used to select units for excavation.

2. Page 71--It is stated that the data program will be expanded "across the entire length of Crazy Bird Shelter." In light of SUFCo's plan to install a structural roof support system, excavation of the entire shelter will not be necessary as discussed above. We suggest that AERC provide recommendations to sample areas within the shelter that are located outside of the impact zone for the structural support system that SUFCo will install. We suggest that the sample excavation units be designed to provide a reasonable sample to better understand the prehistoric occupations and activities that are contained in the shelter deposits.
3. Page 72--Mapping. Our reading of this suggests that provenience for excavation controls will be established using X, Y and Z coordinates oriented along a Cartesian grid. We assume this is being used to first establish the control for an excavation grid. However, it is unclear if the system is being proposed to map every cultural item such as flaked lithic debris. We do not find it necessary to piece-plot every cultural item according to X, Y and Z coordinates. We suggest that certain materials (e.g. groundstone, tools, and features) will need this sort of provenience control, but not all items. We suspect you can easily clarify this issue.
4. Pages 76-77. Stratigraphic Excavation. We concur that stratigraphic excavation procedures should be used where possible. In response to AERC's comment that the "authors advocate an open-area, single context strategy..." we are unclear how this strategy will be implemented. This would seem to require a large enough exposed profile (e.g. exposed via trenching) to work off of to adequately excavate or peel stratigraphic levels. Is this what AERC proposes? We assume that all excavation will be conducted using hand-tools. Also, the screen size for sieving cultural fill is not discussed. Please elaborate.
5. Page 81. Flotation. While the methodological techniques proposed to collect and analyze pollen are appropriate, the proposal does not address what types of samples will be collected and analyzed. In other words, does AERC intend to collect pollen from representative profiles within excavation units and/or from cultural features? At what types of intervals along excavation profiles, features and artifact types would these be collected? How many and what types of samples are needed to address the research questions?
6. Page 83. Food/Medicine analysis. Similar to our comments above, it would be useful if you could address the sample size which will be necessary to collect and analyze to address the posed research questions.
7. Page 84. Faunal Analyses. The plan to subject all recovered bone to taphonomic analyses appears appropriate.
8. Page 89, Food Processing Implements. In this section, it is stated that "all hearth contents will be extracted ...and marked for flotation analysis." Will a sample from hearths suffice? Will groundstone artifacts be subjected to pollen-wash analyses? Do all groundstone items need to be subjected to pollen washes? Is it possible to conduct pollen washes on bedrock grinding surfaces, especially those that might be buried? Are these planned?

9. Page 90, Storage Structures. "The entire contents of storage structures will be collected for processing and laboratory analyses." Will a sample suffice?

10. Page 94. Obsidian trace-element analyses. What type of a sample is recommended to analyze obsidian artifacts? Or, does AERC propose conducting XRF analyses on all recovered obsidian?

Chert sourcing. It is stated that "what needs to be determined is whether there is an actual difference in chemical constitution among [five chert sources occurring in northeastern Utah, southwest Wyoming and northwest Colorado]...and to determine a definitive classification procedure which can be used to separate these cherts relative to their source areas. The AERC/ARI material coding program is the beginning phase...." Is use of the coding system what is being proposed for this or are chemical sourcing analyses being proposed to resolve chert sourcing issues? If the latter is being proposed, this appears to be beyond the scope of required mitigation for this project. We suspect use of the coding system is being proposed and this appears appropriate.

Page 95, Organic residue analysis. It is not clear if AERC proposes to subject 100% of the butchering and hunting related tools to blood serum and DNA testing. What types of analyses will be performed and how large of a sample is needed to address the research questions?

Pages 97-98, Organic artifacts. What types of analyses are being proposed for these classes of artifacts? We assume analysis will be primarily descriptive.

While we do not fully understand how the Hauck Indices for site/context interpretation will be used, we ask only that interpretations in the final report clearly address the research question being addressed and that the results of excavation and interpretations be presented descriptively and clearly.

Other items which we would like to see addressed are curation, compliance with NAGPRA and final reporting. It is our intention that artifacts and other materials to be curated will be repositied at the College of Eastern Utah (CEU) Prehistoric Museum. AERC will need to enter into a curation agreement with CEU for these purposes. Upon the conclusion of analysis and reporting, these items should be submitted to CEU for curation. Copies of artifact catalogs will need to be provided to the Forest. We also ask that AERC provide time estimates for the completion of a final report and transferring curated materials to CEU. For final reporting, we anticipate that AERC will provide the Forest and SHPO with a final report within a reasonable time frame (say approximately 18-24 months). Results of monitoring or additional work that may be necessary in 1998 could potentially be submitted at a later time.

We believe that AERC can address our concerns and request for additional information and for clarification in a short addendum report that provides more specific details on the data recovery program.

Once this has been completed, we can issue a special use permit whereby the data recovery plan and your short follow-up addendum will serve as the plan of work for this project. Once we approve the research plan, we can issue the excavation permit. Thank you for your proposal and your cooperation with this project. Please contact Forest archaeologist Stan McDonald if you have questions or concerns. We look forward to hearing from you.

Sincerely,


for JANETTE S. KAISER
Forest Supervisor

cc:

J.Reddan, D3

J.DeFreest, D3

C.Reed

J.Dykman, SHPO

W.Sorenson, SUFCo