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United States  
Department of  
Agriculture

Forest  
Service

Manti-La Sal  
National Forest

599 West Price River Dr.  
Price, Utah 84501

Reply to: 2820/2360

Date: December 27, 1996

Mr. Max Evans  
Division of State History  
300 Rio Grande  
Salt Lake City, UT 84101

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RE: Cultural Resource Evaluation of a Potential Subsidence Zone in the Box Canyon Locality of Sevier County, Utah by F.R. Hauck and Glade Hadden, AERC (Manti-La Sal NF CRM Project No. ML-96-815/USHPO Project No. U-96-AF-443f)

Dear Mr. Evans:

The Manti-La Sal National Forest has reviewed the above mentioned cultural resource inventory report for a potential subsidence area within Southern Utah Fuel Company's (SUFCO) permitted underground mine in the southern end of the Ferron/Price Ranger District of the Forest. This report documents a reassessment of potential subsidence effects on cultural and other resources currently being conducted by the Forest and SUFCO. Areas where cultural resources could potentially be affected are located at the head of Box Canyon, a small tributary to Muddy Creek. Archeological-Environmental Research Corp (AERC), contracted to SUFCO, has conducted a cultural resource inventory of the upper Box Canyon area to identify cultural resources, evaluate located sites for their National Register eligibility and assess potential effects from subsidence.

For the sake of discussion, I summarize the report below in tabular form. This is followed by a lengthier discussion of our review of eligibility, Determination of Effects (DOE) and recommendations for further work.

Summary of AERC survey findings

Site No.	Site Type	NRHP Eligible?	Effects	Recommendation
42Sv896	Rockshelter	Yes	Yes	Mitigate-Data Recovery
42Sv1567	Lithic Scatter	Yes	None	None
42Sv1568	Lithic Scatter	Yes	None	None
42Sv2386	Rockshelter	Yes	Yes	Excavate-Data Recovery
42Sv2387	Rockshelter	Yes	Yes	Excavate-Data Recovery

## Summary of AERC survey findings (continued)

Site No.	Site Type	NRHP Eligible?	Effects	Recommendation
42Sv2388	Lithic Scatter	Yes	Yes	Excavate-Data Recovery
42Sv2389	Rockshelter	Unknown	Unknown	Test if to be affected
42Sv2390	Lithic Scatter	No	None	None
42Sv2391	Historic Trash Scatter	No	None	None
42Sv2392	Lithic Scatter	No	None	None
42Sv2393	Rockshelter	Yes	None	None
42Sv2394	Rockshelter	Unknown	None	None
42Sv2395	Lithic/Ceramic Scatter	No	None	None

We have reviewed AERC's findings, National Register evaluations, determinations of effects and recommendations for additional work; our comments are summarized below.

42Sv896. We agree with the National Register of Historic PLaces (NRHP) evaluation and DOE. Site 42Sv896 is a small shelter with evidence of Archaic and Formative occupations/use. The site is situated at the very head of Box Canyon underneath a small rim of Castlegate Sandstone. Archaeological deposits are seasonally wet; however, some small areas within the shelter may contain dry deposits capable of containing perishable materials. The deposits contain abundant rock roof fall and excavation will be complicated by large boulders. Some of these boulders contain prehistoric grinding surfaces.

Our geology and minerals staff have examined the site and the mining plan and have concluded that portions of the ceiling have a high probability of failure/collapse as mining underground commences. We have determined that this would be an adverse effect since future archaeological investigations being logistically and financially prohibitive would result in a loss of all opportunities for future archaeological work. We also believe that the Barrier Canyon rock art panel would also be lost with ceiling failure; this too would be an adverse effect. Ceasing underground mining operations in this area, leaving a considerable amount of coal in place, does not appear feasible for economic reasons.

Sites 42Sv1567 (eligible), 42Sv1568 (eligible), 42Sv2390 (not eligible), 42Sv2391 (not eligible), 42Sv2393 (eligible), 42Sv2394 (eligibility unknown): We concur with the NRHP evaluations and the DOEs for these sites. These sites are all located outside of the potential subsidence zone and our geology/minerals staff have concluded there should be no effect to these sites.

42Sv2392 (not eligible) and 42Sv2395 (not eligible): We also agree with the eligibility evaluations and determinations of effect for these two sites. Site 42Sv2392 contains remnants of a deflated hearth; after consulting with site investigators we have concluded that the site is located almost entirely on bedrock and the hearth feature lacks integrity. Site 42Sv2395 also contains remnants of a hearth, but site recorders determined that erosion had so severely impacted the site's integrity, that it did not meet the criteria for inclusion on the NRHP. We concur with these evaluations. Both sites are located outside of the potential subsidence zone and should not be affected by underground mining and surface subsidence.

42Sv2386 (eligible), 42Sv2387 (eligible), 42Sv2388 (eligible), 42Sv2389 (eligibility unknown): We agree with the NRHP eligibility evaluations. Our geology and heritage staff have reviewed the mine plan, site specific geologic structure at each of these locations and have made the following assessment of potential effects for each. These assessments are as follows:

Site 42Sv2386 and 42Sv2387 are both located within the "angle of draw", meaning that area of the surface which could potentially be affected by subsidence. At Site 42Sv2386, there is the potential for some cracking of the leading edge of the small overhang area (see photographs 5 and 6 of AERC report). There is some midden deposit located directly below the edge. Failure of the leading edge could result in some small boulder size chunks falling on to the midden area. However, these would probably be of a size that they could manually be removed. The site would still be available for future research.

At 42Sv2387, the boulder containing the southernmost rock art panel could fracture and topple. Also the ceiling of the shelter shown in photos 11 and 12 of the AERC report could fail and collapse. The fractured bedrock at the shelter could be large enough that manual removal would not be possible and would thus render archaeological deposits under the overhang unavailable for future research. Accordingly, we recommend that the rock art panel be thoroughly documented which should sufficiently mitigate adverse effect. Secondly, we recommend that the sheltered area under the overhang be tested; if significant deposits are indicated, we recommend salvage excavation be implemented prior to subsidence.

At both sites, the potential exists for some surface cracking; these would probably be minor (3" to 6" wide cracks) and could result in some disturbance to buried features. This disturbance would probably result in horizontal separation of subsurface deposits but little vertical separation. A vertical unconformity would probably result and be detectable in future investigations. We suggest the site be monitored after underground mining has occurred. Surface cracks should be mapped and site records appropriately updated for future work at these sites. If it is found that surface cracking has impacted or has likely impacted subsurface cultural features, we suggest archaeological testing and salvage excavation of within the immediate area of effect be implemented based on an examination and recommendation by a professional archaeologist.