

**From:** Caryn Holmes  
**To:** Felicia Miller  
**CC:** Beverly Bastian; Michael Carroll  
**Date:** 1/15/2009 12:14 PM  
**Subject:** Clarification of Cultural Data Requests for Palmdale AFC  
**Attachments:** Palmdale geotech SOW costs timeframe 1\_12\_09.doc

<b>DOCKET</b> 08-AFC-9	
<b>DATE</b>	JAN 15 2009
<b>RECD.</b>	JAN 15 2009

Hi Felicia - pursuant to our conversation with Palmdale attorney Mike Carroll this morning, please docket this e-mail and the attached clarification of the Cultural Data Requests for the Palmdale Project. Based on our conversation with Mr. Carroll, I believe that the clarifications provided in the attachment may resolve some or all of the applicant's concerns about these data requests.

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Palmdale Hybrid Power Project (08-AFC-9)  
Clarification of Parameters of Geoarchaeological Investigations Requested in Data  
Requests 22-25

**Scope**—The applicant's objections seem primarily to be addressed to doing Option 2. Please point out that if the results from doing Option 1 are satisfactory, there would be no need to do Option 2. If they agreed to do Option 1 now, and we asked them later to do Option 2, they could object to it then, also.

**Cost**—Rough estimate only, actual could be  $\pm 25\%$ .

Option 1—Research and summarize current state of knowledge of the geoarchaeology of the Antelope Valley, estimate of cost: \$6,000.

Scope of Work

Access the literatures of archaeology, geoarchaeology, and Quaternary science pertinent to the southern Antelope Valley and write up a summary

Budget for Work:

Archaeologist, research and writing, 40 hours @ \$150.00/hr	\$6,000.00
<b>Option 1, estimated total</b>	<b>\$6,000.00</b>

Option 2—Geoarchaeological investigation of the project site, with Option 1 folded in, estimate of total cost: \$50,500.

Scope of Work:

Complete Option 1, if not already done

Map landforms in project vicinity

Sample the landform(s) by excavation, recordation of stratigraphy, and acquisition of soil samples for dating

Excavate 9-12 trenches with a backhoe to a depth one foot deeper than the deepest project-planned excavation at the trench location

trenches would probably be located in power block area and in the southwest part of solar field, where about 10 meters of soil will be cut and graded from there to the northwest part of the site to reach a finish grade of 2,500 feet above mean sea level

Draw to scale, photograph, and describe the exposed sedimentary layers and soil horizons in each trench

Take samples of any humate layers from sedimentary layers and buried, inactive soil horizons, or paleosols for radiocarbon dating

Have humate samples dated

Write a report reconstructing the historical geomorphology of the project area, assessing the likelihood of buried archaeological deposits, and identifying the probable archaeological site types that could be present and their age

Budget for Work:

Geoarchaeologist, research, field work, and write-up 100 hours @ \$200.00/hour	\$20,000.00
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Two assistants 160 hours @ \$100.00/hour	\$16,000.00
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Machine rental, with operator,

5 days @ \$500/day	\$2,500.00
delivery, set up, and fuel fees	\$1,000.00
Dating humate samples	
12 samples maximum, @ \$1000.00/sample	<u>\$12,000.00</u>
<b>Option 2, estimated total</b>	<b>\$50,500.00</b>

**Time Line**—Effect on project's certification process of answering staff's Data Requests

Option 1—Staff estimates that completing the literature summary would take a week of full-time work. Even if this were stretched out as part-time work over two weeks, staff sees no problem with incorporating the results into the PSA in the normal time frame.

Option 2—Staff believes that doing the geoarchaeological field study would not delay the certification of the project due to any of the following:

Time needed to get required permits: none known at this time

No streams to be affected, so no Corps of Engineers or California Department of Fish and Game concerns; access via public highways, so no permit needed to transport the backhoe into the site

Scheduling a qualified geoarchaeologist

Putting a geoarchaeological team (\$100,000 contract) into the field on January 9, 2009, took about two weeks once the Beacon project agreed to answer the CEC's Data Requests. The contracting firm is based in California, but is bringing in a geoarchaeologist from out of state. The Beacon study, about twice the scope of what has been requested for Palmdale, is expected to take about 90 days to produce a preliminary report for input into the FSA (The PSA is nearing publication at this time).

At this stage in the Palmdale certification process, if the geoarchaeology field study were undertaken soon and the results were provided to staff in 45-60 days, the results would probably be included in the PSA.

**Extent of Area of Site Affected**—Estimate only—trench lengths and depths would be determined by the geoarchaeologist.

For safety accommodation, "stepping" the sides of a trench 20' (l) x 3' (w) x 15' (d) would affect 360 sq. ft. of area; therefore, assuming 12 trenches of the same size, the area affected would be 4,320 sq. ft., which would not be contiguous.

**Monitoring Relief**—Results of the geoarchaeological field study could reduce the need for monitoring and focus any required monitoring more efficiently and to the benefit of any buried cultural resources discovered during construction

Palmdale's geologist/paleontologist indicates

top six feet of site soils represent the past 10,000 years

so geoarchaeological study cannot eliminate the possibility of the presence of buried archaeological deposits in the top six feet of site soils or deeper

but if the geoarchaeological field study indicates the presence of paleosols, the CEC might require monitoring only on the paleosols and those layers above and below the paleosols, which would reduce the monitoring overall

At an estimated cost of \$50,500, if the geoarchaeological field study of the Palmdale site could reduce the number of person-days for an archaeological monitor by 63, it would pay for itself (assuming billed monitor rate = \$100/hour).