Appendix 5.8A
SBCM Records Search Results

20 July 2009

CH2MHill
attn: W. Geof Spaulding, Ph.D.
Senior Scientist, Environmental Compliance
2285 Corporate Circle, Suite #200
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re: **PALEONTOLOGY LITERATURE AND RECORDS REVIEW, RICE VALLEY TRANSMISSION PROJECT, EASTERN RIVERSIDE COUNTY, CALIFORNIA**

Dear Dr. Spaulding,

The Division of Geological Sciences of the San Bernardino County Museum (SBCM) has completed a literature review and records search for the above-named study area in the Rice Valley region of Riverside County, California. The study area is located in portions of the following survey sections: sections 24 and 25, Township 1 South, Range 20 East, San Bernardino Base and Meridian; sections 19, 20, 29, 30, 33, 34, and 35, T 1S, R 21E, SBB&M; sections 1 and 2, T 2S, R 21E, SBB&M; and sections 6 (projected), 7, 8, 16, 17, 21, and 22, T 2S, R 22E, SBB&M. The study area covers portions of the following 7.5' United States Geological Survey topographic quadrangle maps: Big Maria Mtns NW, California (1971 edition); Grommet, California (1971 edition); and Rice, California (1983 provisional edition).

Previous geologic mapping (Bishop, 1963; Jennings, 1967) indicates that the proposed Rice Valley property is situated entirely upon surface sediments of undifferentiated Holocene or recent alluvium (= unit **Qal**). These sediments have low potential to contain significant nonrenewable paleontologic resources, and so are assigned low paleontologic sensitivity. However, these Holocene sediments may overlie older Pleistocene alluvium present in the subsurface. If present, such older Pleistocene sediments would potentially have high paleontologic sensitivity; similar sediments elsewhere throughout the western Mojave Desert have previously yielded significant paleontologic resources (Jefferson, 1991; Scott and Cox, 2008). For example, Pleistocene sediments from the Cadiz Lake area to the west have yielded fossil remains of possible extinct camel (cf. *Camelops*) and pronghorn (*?Tetrameryx*), as well as molluscs, toads, tortoises, lizards, snakes, birds, rabbits, and rodents (Reynolds and Reynolds, 1992). The Pleistocene age of the assemblage is confirmed by the presence of remains of extinct pronghorn and large camel, as well as the presence of fossils of extinct giant tortoise (*Hesperotestudo*). These finds, among others, demonstrate the potential high paleontologic sensitivity of Pleistocene alluvium in the eastern Mojave Desert.

For this review, I conducted a search of the Regional Paleontologic Locality Inventory (RPLI) at the SBCM. The results of this search indicate that no previously-recorded paleontologic resource localities are present within the boundaries of the study area, nor for several miles in any direction.

Recommendations

The results of the literature review and the search of the RPLI at the SBCM demonstrate that the proposed Rice Valley power project has undetermined potential to impact paleontologic resources. If excavation for this project is restricted to surface sediments of Holocene (recent) age, the project is unlikely to impact fossil resources. If Pleistocene sediments are present in the subsurface, and are determined upon exposure to have potential to contain significant fossil resources, or if such resources are encountered at any time during excavation, the project would have high potential to adversely impact such resources. In this case, a qualified vertebrate paleontologist would need to develop a program to mitigate impacts to nonrenewable paleontologic resources. This mitigation program would need to be consistent with the provisions of the California Environmental Quality Act (Scott and Springer, 2003), as well as with regulations implemented by the County of Riverside and with the proposed guidelines of the Society of Vertebrate Paleontology. This program should include, but not be limited to:

1. Monitoring of excavation into rock units having high potential to contain significant nonrenewable paleontologic resources. Based upon the results of this review, areas of concern would include any and all previously-undisturbed sediments of Pleistocene age present in the subsurface within the boundaries of the property. Paleontologic monitors would need to be equipped to salvage fossils as they are unearthed, to avoid construction delays, and to remove samples of sediments likely to contain the remains of small fossil invertebrates and vertebrates. Monitors must be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. As noted above, *no mitigation program is necessary for excavation in surface Holocene alluvium.*

2. Preparation of all recovered specimens to a point of identification and permanent preservation, including washing of sediments to recover small invertebrates and vertebrates. Preparation and stabilization of all recovered fossils are essential in order to fully mitigate adverse impacts to the resources (Scott and others, 2004).

3. Identification and curation of specimens into an established, accredited museum repository with permanent retrievable paleontologic storage (e.g., SBCM). These procedures are also essential steps in effective paleontologic mitigation (Scott and others, 2004) and CEQA compliance (Scott and Springer, 2003). The paleontologist must have a written repository agreement in hand prior to the initiation of mitigation activities. Mitigation of adverse impacts to significant paleontologic resources is not considered complete until such curation into an established museum repository has been fully completed and documented.

4. Preparation of a report of findings with an appended itemized inventory of specimens. The report and inventory, when submitted to the appropriate Lead Agency along with confirmation of the curation of recovered specimens into an established, accredited museum repository, would signify completion of the program to mitigate impacts to paleontologic resources.

References

Bishop, C.C., 1963. Geologic map of California, Needles sheet, scale 1:250,000. California Division of Mines and Geology Regional Geologic Map Series.

Jennings, C.W., 1967. Geologic map of California, Salton Sea sheet, 1:250,000. Division of Mines and Geology.

Reynolds, S.F.B. and R.L. Reynolds, 1992. Pleistocene faunas in the Bristol-Danby trough. *In* S.F.B. and J. Reynolds (eds.), Old Routes to the Colorado. SBCM Association Special Publication 92-2: 83-86.

Scott, E. and S.M. Cox, 2008. Late Pleistocene distribution of *Bison* (Mammalia; Artiodactyla) in the Mojave Desert of southern California and Nevada. *In* X. Wang and L.G. Barnes (eds.) Geology and vertebrate paleontology of western and southern North America: contributions in honor of David P. Whistler. Natural History Museum of Los Angeles County Science Series No. 41, p. 359 - 382.

Scott, E. and K. Springer, 2003. CEQA and fossil preservation in southern California. The Environmental Monitor, Fall 2003, p. 4-10, 17.

Scott, E., K. Springer and J.C. Sagebiel, 2004. Vertebrate paleontology in the Mojave Desert: the continuing importance of "follow-through" in preserving paleontologic resources. *In* M.W. Allen and J. Reed (eds.) The human journey and ancient life in California's deserts: Proceedings from the 2001 Millennium Conference. Ridgecrest: Maturango Museum Publication No. 15, p. 65-70.

Please do not hesitate to contact us with any further questions you may have.

Sincerely,

Eric Scott, Curator of Paleontology
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