SAN DIEGO NATURAL HISTORY MUSEUM
BALBOA PARK - SAN DIEGO SOCIETY OF NATURAL HISTORY - ESTABLISHED 1874

27 March 2012

Dr. Susan M. Hector
Cultural Resources SDG&E Environmental Programs
8315 Century Park Court CP21E
San Diego, CA 92123

RE: Paleontological record search – SDG&E Transmission Line 637 Pole Replacement Project

Dear Dr. Hector:

This letter summarizes the results of a review of the paleontological locality and specimen records held in the Department of Paleontology at the San Diego Natural History Museum (SDNHM) that may be relevant to the proposed SDG&E Transmission Line 637 Pole Replacement Project. The project right-of-way (ROW) is approximately 13.5 miles long and extends from the central portion of the community of Ramona in the unincorporated area of San Diego County northeastward into the northwestern portion of the community of Central Mountain in the unincorporated area of San Diego County. The alignment terminates in the southern-central portion of the North Mountain Community Plan Area of the County of San Diego. The project area occurs within portions of the Ramona and Santa Ysabel, CA 7.5 minute USGS topographic quadrangles.

Existing Conditions—Published geological reports (Rogers, 1965 and Todd et al., 2006) that cover portions of the project ROW reveal that the majority of the proposed pole replacement sites are located in areas underlain by plutonic igneous rocks of the Cretaceous-age (~120 to 90 million years old) Peninsular Ranges Batholith. These crystalline rocks vary in composition and include granite, tonalite, and granodiorite. Sedimentary rocks exposed along the project ROW are deposits of the Middle to Late Eocene-age (~36 to 38 million years old) Pomerado Conglomerate and of Late Pleistocene to Holocene-age (~500,000 years old to present) channel deposits.

Paleontological Resources—Paleontological locality and specimen records at SDNHM reveal that there are no known fossil discovery sites within one mile of the SDG&E Transmission Line 637 Pole Replacement Project ROW. This lack of recorded paleontological sites is largely due to the widespread occurrence of plutonic igneous rocks of the Peninsular Ranges Batholith. The high temperature and pressure conditions associated with the origin of these plutonic rocks are responsible for the absence of fossils. In contrast, the sedimentary origin of the Pomerado Conglomerate and of the Late Pleistocene to Holocene aged channel deposits suggests the potential for contained paleontological resources (e.g., fossil material). Deméré and Walsh (1993) have assigned the Pomerado Conglomerate a high paleontological sensitivity due to known occurrences of scientifically important fossil specimens found within the unit in other regions of San Diego County. Furthermore, Deméré and Walsh (1993) describe the

paleontological resource sensitivity of the Pleistocene alluvial deposits in mountain valleys of the Peninsular ranges as being of low to moderate sensitivity.

Impacts— Given the occurrence of non-fossiliferous plutonic igneous rocks along the project ROW, negative impacts to significant paleontological resources during installation of the new transmission poles are unlikely in those areas. However, negative impacts to significant paleontological resources could occur in those portions of the ROW underlain by sedimentary rocks. These areas include those mapped as the Middle to Late Eocene-age Pomerado Conglomerate and the Late Pleistocene to Holocene-age channel deposits. Some pole locations are within sedimentary rocks that would potentially require paleontological monitoring (see attached table). The type of proposed impacts for the pole replacements will be an important factor as well. A small borehole diameter (<12") for installation of single utility poles typically will pulverize subsurface deposits and any contained fossil remains. In contrast, larger pole diameters, excavations for deep utility trenches or for vaults and/or substations often result in opportunities for the discovery and recovery of buried fossil remains.

Recommendations — Some of the proposed pole replacement sites do occur in areas underlain by sedimentary units with a high to moderate sensitivity potential for containing paleontological resources and it is possible the proposed small diameter utility pole replacement boreholes and trenching will result in significant impacts. Assuming the new poles will be installed in freshly drilled boreholes, a standard paleontological avoidance program should be implemented for the affected segments described above. However, micropile poles, if installed, will not require paleontological monitoring. In addition, the high sensitivity rating for the Pomerado Conglomerate and the low to moderate sensitivity rating for the Late Pleistocene to Holocene-age channel deposits would suggest the implementation of a standard paleontological avoidance program consisting of excavation monitoring, fossil recovery, specimen preparation and curation, and production of a final report. Implementation of the paleontological recovery program will avoid impacts of the project on paleontological resources. Determination of the need for avoidance is dependent on the impact thresholds of the proposed installation excavations.

If you have any questions concerning these findings please feel free to contact me at 619-255-0320 or jeladli@sdnhm.org.

Sincerely,

Joseph J. El Adli
Fossil Preparations Lab Manager
Department of PaleoServices

References Cited:

Deméré, T.A. and S.L. Walsh. 1993. Paleontological Resources, County of San Diego. Prepared for the San Diego Planning Commission 1-68.

Rodgers, T.H. 1965. Santa Ana Sheet. California Division of Mines and Geology, Geologic Map of California, Scale 1:250,000.

Todd, V.R.; Busch, L.L; Foster, B.D., Hernandez, J.L.; Tan, S.S. 2006. Geologic Map of the Ramona 7.5 Minute Quadrangle, San Diego County, California: A Digital Database. California Geological Survery.

POLE NUMBERS WITH MODERATE TO HIGH PALEONTOLOGICAL SENSITIVITY

Pole Number	Formation	Sensitivity
D26	Pomerado Conglomerate	High
D28	Pomerado Conglomerate	High
D31	Pomerado Conglomerate	High
P25	Pomerado Conglomerate	High
D33	Pomerado Conglomerate	High
D34	Pomerado Conglomerate	High
P62	Late Pleistocene to Holocene-age channel deposits	Moderate/Low
P63	Late Pleistocene to Holocene-age channel deposits	Moderate/Low