

# **4112 Del Rey SCEA Project, City of Los Angeles, California**

## Paleontological Resources Assessment Report

Prepared for  
MDR Investments, LLC  
1880 Century Park East, Suite 1017  
Los Angeles, CA 90067

November 2022



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**Prepared for:**

MDR Investments, LLC  
1880 Century Park East, Suite 1017  
Los Angeles, CA 90067

November 2022

**Prepared by:**

ESA  
626 Wilshire Blvd. Suite 1100  
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**Project Director:**

Monica Strauss, M.A., RPA

**Principal Investigator and Author:**

Russell Shapiro, Ph.D.

**Project Manager**

Sara Dietler, B.A.

**Project Location:**

Venice (CA) USGS 7.5-minute Topographic Quad  
Township 2 South, Range 15 West, Unsectioned

**Acreage:** Approx. 2.83 acres

**Assessor Parcel Number:** 4230-005-005, -  
047, and -048

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# EXECUTIVE SUMMARY

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## 4112 Del Rey SCEA Project, City of Los Angeles, California - Paleontological Resources Assessment Report

Environmental Science Associates (ESA) has been retained to conduct a paleontological resources assessment for the 4112 Del Rey Project, City of Los Angeles, California (Project) in support of a Sustainable Communities Environmental Assessment (SCEA) being prepared pursuant to the California Environmental Quality Act (CEQA). The Project would develop a new, six-story (66-foot-tall) high-rise building consisting of 210 residential units. The Project would also include a five-story stand-alone garage that would be wrapped by the residential building. The City of Los Angeles (City) is the lead agency pursuant to the CEQA.

Geologic mapping by Dibblee and Minch (2007), Dibblee and Ehrenspeck (1991), and Castle (1960) shows that the Project Site is located on young, Holocene-age alluvial sediments (Qa) filling a valley between uplifted, Pleistocene age alluvium or marine units. Boring logs taken at the Project Site encountered loose lean clay, silt and poorly sorted sand consistent with Quaternary alluvium throughout the length of the excavation (Twining, 2022).

A database search from the Natural History Museum of Los Angeles County (LACM) for records of fossil localities in and around the Project Site (Bell, 2022) noted that there are no records of fossils previously identified within the Project area. The same search identified six localities in the vicinity of the Project site that yielded Pleistocene fossils from terrestrial and one marine setting. However, these fossil localities are associated with uplifted regions of Pleistocene alluvium and are not directly relevant to the geological setting of the Project area. Based on the museum records search and additional information as well as guidance from the Society for Vertebrate Paleontology (SVP), the Project is considered “low sensitivity.” This recommendation is based on the age of the alluvium (Holocene) and the predicted depth of construction.

Ground disturbing activities associated with the Project should not impact fossil resources as the units at the surface are too young to host fossils. While it is possible that deep excavations may strike older units, the evidence is that fossil bearing units are likely deeper than the maximum excavation. To best mitigate against unanticipated fossils, the following measures are recommended: the retention of a qualified paleontologist, paleontological resources sensitivity training, and inadvertent discovery protocols. Details of these recommendations can be found in the *Conclusions and Recommendation* section at the close of this report.

# 4112 Del Rey SCEA Project, City of Los Angeles, California

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## Paleontological Resources Assessment Report

### Introduction

Environmental Science Associates (ESA) has been retained to conduct a paleontological resources assessment for the 4112 Del Rey Project (Project) in support of a Sustainable Communities Environmental Assessment (SCEA) being prepared pursuant to the California Environmental Quality Act (CEQA). The Project would develop a new, six-story (66-foot-tall) mid-rise building consisting of 210 residential units. The Project would also include a five-story parking structure that would be wrapped by the residential building. The City of Los Angeles (City) is the lead agency pursuant to the CEQA.

ESA personnel involved in the preparation of this report are as follows: Monica Strauss, M.A., RPA., Project Director; Russell Shapiro, Ph.D., Principal Investigator of paleontology and report author; Fatima Clark, B.A., report contributor; Sara Dietler, B.A., project manager; and Jaclyn Anderson, GIS specialist. Resumes of key personnel are included in **Appendix A**.

### Project Location

The Project Site is located at 4112, 4120, 4130, 4132, 4134, and 4136 Del Rey Avenue within the City's limits (**Figure 1**). The Project Site consists of three Assessor Parcel Numbers (APN): 4230-005-005, -047, and -048 and is bound by a multi-family apartment building to the north, commercial uses to the east, a FedEx Ship Center to the south, and Del Rey Avenue to the west. The Project is located within an unsectioned portion of Township 2 South, Range 15 West on the Venice, CA U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (**Figure 2**).

### Project Description

The Project Site is currently occupied by six one-story buildings and associated surface parking. The existing buildings are currently occupied with creative office and warehouse uses. No existing trees are located on the Project Site. Vehicle access to the existing surface parking lots is provided via multiple ingress and egress points along Del Rey Avenue.

The Project would construct a residential development with leasing and amenity spaces as well as common and private open space. Construction activities are anticipated to result in a maximum excavation depth of 7 feet below ground surface (bgs).

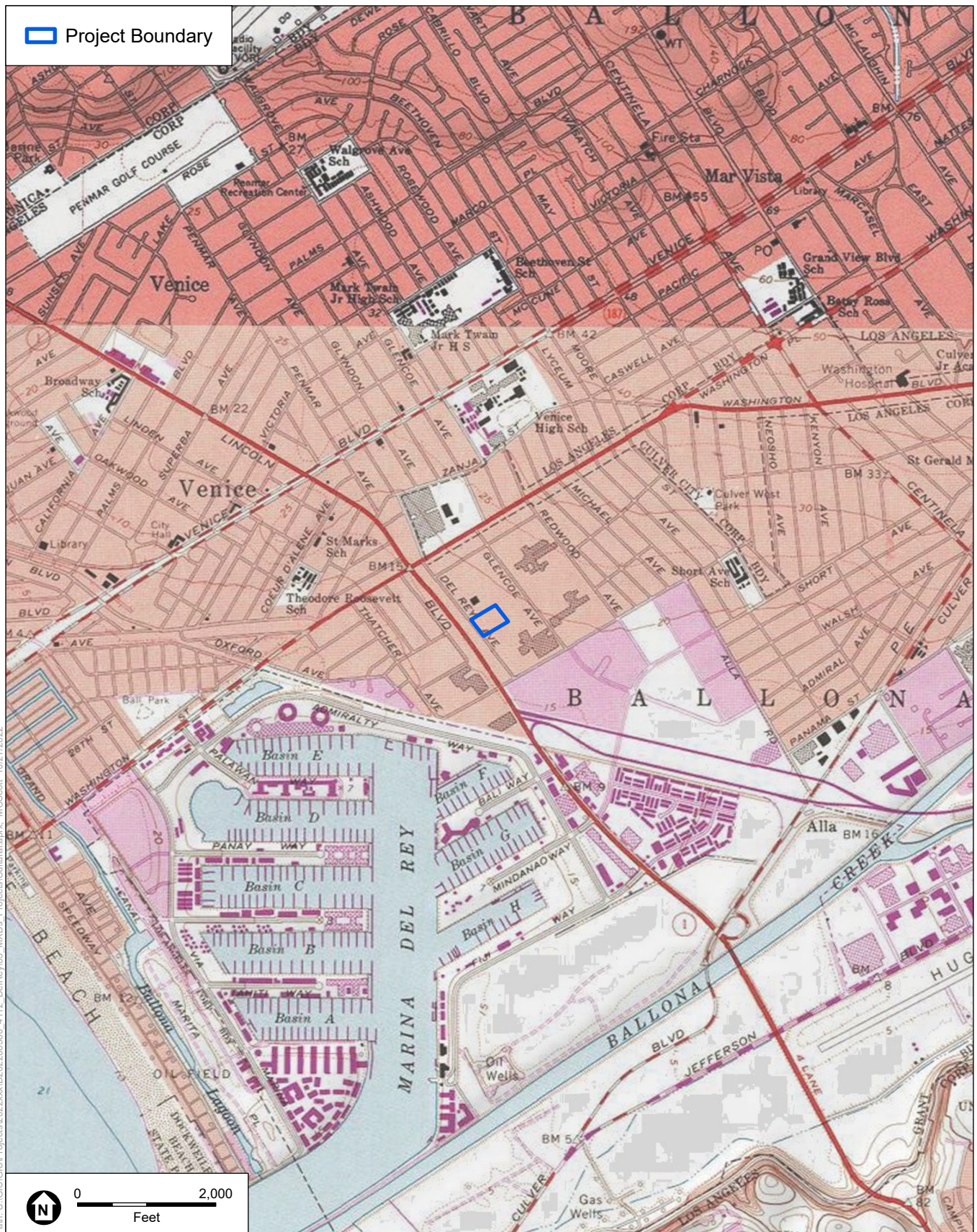


SOURCE: Mapbox, 2021

4112-4236 Del Rey Ave, Los Angeles

**Figure 1**  
Regional and Project Site Location





SOURCE: USGS 7.5" Topoquad: Venice.

4112-4236 Del Rey Ave, Los Angeles

**Figure 2**  
Vicinity Map



# Regulatory Framework

Paleontological resources are limited, nonrenewable resources of scientific, cultural, and educational value that are afforded protection under state laws and regulations. The following section summarizes the applicable state laws and regulations, as well as professional standards provided by the Society of Vertebrate Paleontology (SVP, 2010).

## State Regulations

### California Environmental Quality Act

The CEQA Guidelines (Title 14, Chapter 3 of the California Code of Regulations, Section 15000 *et seq.*), are prescribed by the Secretary of Resources to be followed by state and local agencies in California in their implementation of the CEQA. Appendix G of the CEQA Guidelines includes an Environmental Checklist Form with questions that may be used by public agencies in their assessment of impacts on the environment. The question within Appendix G that relates to paleontological resources states: “Will the proposed project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?” The City of Burbank uses this question as its threshold of significance for determining whether impacts of paleontological resources are significant. CEQA protects paleontological resources by requiring an assessment of a project’s potential paleontological impacts.

### Public Resources Code Section 5097.5 and Section 30244

Other state requirements for paleontological resource management are included in PRC Section 5097.5 and Section 30244. These statutes prohibit the removal of any paleontological site or feature from public lands without permission of the jurisdictional agency, define the removal of paleontological sites or features as a misdemeanor, and require reasonable mitigation of adverse impacts to paleontological resources from developments on public (state, county, city, district) lands.

## Society for Vertebrate Paleontology

The SVP has established standard guidelines (SVP, 2010) that outline professional protocols and practices for conducting paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, and specimen preparation, identification, analysis, and curation. Most practicing professional vertebrate paleontologists adhere closely to the SVP’s assessment, mitigation, and monitoring requirements as specifically provided in its standard guidelines. Most state regulatory agencies with paleontological resource-specific Laws, Ordinances, Regulations, and Standards (LORS) accept and use the professional standards set forth by the SVP.

As defined by the SVP (2010:11), significant nonrenewable paleontological resources are:

*Fossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological*

*resources are considered to be older than recorded human history and/or older than middle Holocene (i. e., older than about 5,000 radiocarbon years).*

Based on the significance definitions of the SVP (2010), all identifiable vertebrate fossils are considered to have significant scientific value. This position is adhered to because vertebrate fossils are relatively uncommon, and only rarely will a fossil locality yield a statistically significant number of specimens of the same genus. Therefore, every vertebrate fossil found has the potential to provide significant new information on the taxon it represents, its paleoenvironment, and/or its distribution. Furthermore, all geologic units in which vertebrate fossils have previously been found are considered to have high sensitivity. Identifiable plant and invertebrate fossils are considered significant if found in association with vertebrate fossils or if defined as significant by project paleontologists, specialists, or local government agencies.

A geologic unit known to contain significant fossils is considered to be “sensitive” to adverse impacts if there is a high probability that earth-moving or ground-disturbing activities in that rock unit will either directly or indirectly disturb or destroy fossil remains. Paleontological sites indicate that the containing sedimentary rock unit or formation is fossiliferous. The limits of the entire rock formation, both areal and stratigraphic, therefore define the scope of the paleontological potential in each case (SVP, 2010).

Fossils are contained within surficial sediments or bedrock, and are therefore not observable or detectable unless exposed by erosion or human activity. Therefore, without natural erosion or human-caused exposure, paleontologists cannot know either the quality or quantity of fossils. As a result, even in the absence of surface fossils, it is necessary to assess the sensitivity of rock units based on their known potential to produce significant fossils elsewhere within the same geologic unit (both within and outside of the study area), a similar geologic unit, or based on whether the unit in question was deposited in a type of environment that is known to be favorable for fossil preservation. Monitoring by experienced paleontologists greatly increases the probability that fossils will be discovered during ground-disturbing activities and that, if the fossils are significant, that successful mitigation and salvage efforts may be undertaken.

## Paleontological Sensitivity

Paleontological sensitivity is defined as the potential for a geologic unit to produce scientifically significant fossils. This is determined by rock type, past history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit. Paleontological sensitivity is derived from the known fossil data collected from the entire geologic unit, not just from a specific survey. In its “Standard Guidelines for the Assessment and Mitigation of Adverse Impacts to Non-renewable Paleontologic Resources,” the SVP (2010:1-2) defines four categories of paleontological sensitivity (potential) for rock units: high, low, undetermined, and no potential:

- **High Potential.** Rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered are considered to have a high potential for containing additional significant paleontological resources. Rocks units classified as having high potential for producing paleontological resources include, but are not limited to, sedimentary formations and some volcanoclastic formations (e. g., ashes or tephtras), and

some low-grade metamorphic rocks which contain significant paleontological resources anywhere within their geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils (e. g., middle Holocene and older, fine-grained fluvial sandstones, argillaceous and carbonate-rich paleosols, cross-bedded point bar sandstones, fine-grained marine sandstones, etc.).

- **Low Potential.** Reports in the paleontological literature or field surveys by a qualified professional paleontologist may allow determination that some rock units have low potential for yielding significant fossils. Such rock units will be poorly represented by fossil specimens in institutional collections, or based on general scientific consensus only preserve fossils in rare circumstances and the presence of fossils is the exception not the rule, e. g. basalt flows or Recent colluvium. Rock units with low potential typically will not require impact mitigation measures to protect fossils.
- **Undetermined Potential.** Rock units for which little information is available concerning their paleontological content, geologic age, and depositional environment are considered to have undetermined potential. Further study is necessary to determine if these rock units have high or low potential to contain significant paleontological resources. A field survey by a qualified professional paleontologist to specifically determine the paleontological resource potential of these rock units is required before a paleontological resource impact mitigation program can be developed. In cases where no subsurface data are available, paleontological potential can sometimes be determined by strategically located excavations into subsurface stratigraphy.
- **No Potential.** Some rock units have no potential to contain significant paleontological resources, for instance high-grade metamorphic rocks (such as gneisses and schists) and plutonic igneous rocks (such as granites and diorites). Rock units with no potential require no protection nor impact mitigation measures relative to paleontological resources.

For geologic units with high potential, full-time monitoring is generally recommended during any Project-related ground disturbance. For geologic units with low potential, protection or salvage efforts will not generally be required. For geologic units with undetermined potential, field surveys by a qualified vertebrate paleontologist should be conducted to specifically determine the paleontologic potential of the rock units present within the study area.

## **Paleontological Resources Significance Criteria**

Numerous paleontological studies have developed criteria for the assessment of significance for fossil discoveries (e.g. Eisentraut and Cooper, 2002; Murphey and Daitch, 2007; Scott and Springer, 2003, etc.). In general, these studies assess fossils as significant if one or more of the following criteria apply:

1. The fossils provide information on the evolutionary relationships and developmental trends among organisms, living or extinct;

2. The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein;
3. The fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas;
4. The fossils demonstrate unusual or spectacular circumstances in the history of life; or
5. The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.

In summary, significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, uncommon, or diagnostically important (Eisentraut and Cooper, 2002; Murphey and Daitch, 2007; Scott and Springer, 2003). Significant fossils can include remains of large to very small aquatic and terrestrial vertebrates or remains of plants and animals previously not represented in certain portions of the stratigraphy. Assemblages of fossils that might aid stratigraphic correlation, particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, and paleoclimatology are also critically important (Scott and Springer, 2003; Scott et al., 2004).

## Methods and Results

The Project Site was the subject of thorough background research and analysis to assess its paleontological sensitivity. The research included a paleontological records search conducted by the Natural History Museum of Los Angeles County (LACM), as well as geologic map and literature reviews conducted by ESA Principal Paleontologist, Russell Shapiro, Ph.D.

## Geologic Setting

The Project Site lies within a broad coastal valley at the northwestern corner of the Los Angeles Basin, just south of the western Transverse Ranges (Yerkes et al., 1965; Sylvester and O-Black Gans, 2016). This region of southern California is physiographically dominated by rugged mountains that are relatively young, having been uplifted in the last six million years. The valley between the mountains have been filled by eroded detritus from the mountains with the rates of erosion and deposition linked to tectonic uplift and changing climate patterns.

Specifically, the Project Site lies upon the flat coastal plain that is dominated by young sediments deposited between uplifted terraces of older, Pleistocene sediments. Active tectonism has led to the uplift of localized hills such as the Inglewood Oil Field to the east (Dibblee and Ehrenspeck, 1991).



## Geologic Map and Literature Review

The Project area is mapped on the Dibblee and Minch (2007) 1:24,000 geological map (Table 1 and **Figure 3**). The entire Project Site is underlain by Quaternary alluvium, composed of mixed sedimentary rocks of clay, sand and gravels. Uplifted areas of older alluvium are found to the southeast, east, and northwest of the project area. More detailed mapping of the Quaternary units by Castle (1960) also shows the project area underlain by young Quaternary alluvium bounded to the south by Quaternary floodplain deposits.

A review of the geotechnical summary confirmed that the borings only encountered young, loose alluvium in their entirety (Twining, 2022). The sediments are composed of lean clay and silt and poorly sorted sands. It is unclear from the report if older alluvium, such as is encountered 1.4 miles north or 3 miles east of the project, is found below the younger alluvium.

In reviewing the 1:24000 scale map coverage of the broad area surrounding the project, it seems the most reasonable model is that the project atop valley fill between uplifted older Pleistocene alluvial anticlines or eroded terraces. Pleistocene deposits likely underly the project area at depth but may be below the depth of all geotechnical augers.

**TABLE 1 SUMMARY OF GEOLOGIC UNITS WITHIN AND IMMEDIATELY ADJACENT TO PROJECT**

Geologic Unit	Map Unit Symbol	Age	Description	Depth	Paleo Sensitivity
Holocene-age Alluvium	Qa	Holocene (1,000-10,000 years ago);	Alluvial gravel, sand, and clay of valley areas.	Est. >25'.	Low

SOURCE: Dibblee and Minch, 2007

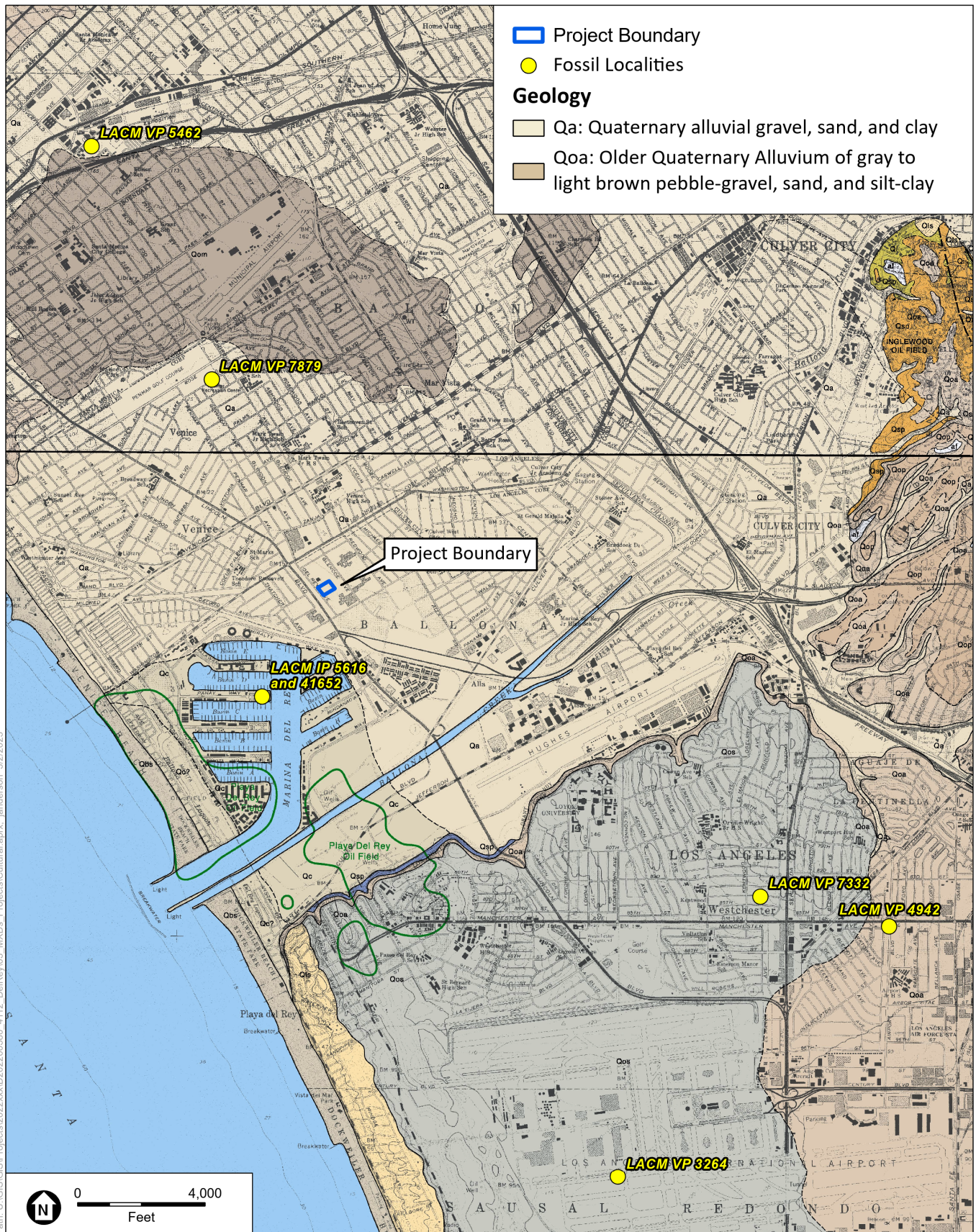
**Quaternary Alluvium (Qa):** The youngest unit in the area is the alluvium filling the valley floors. Dibblee and Minch (2007) do not provide much information but alluvium in the greater Los Angeles area tends to be coarse gravel to sandstone and variable thickness. In many areas, the younger alluvium may overly substantial deposits of older alluvium. However, based on the regional geology of the Project area and the information from the geotechnical reports, it is unlikely that older alluvium exists within the projected excavation depths.

## Paleontological Record

### Museum Searches

A paleontological resources database search was conducted by the Natural History Museum of Los Angeles County (LACM) on July 17, 2022 (**Appendix B**). The search entailed an examination of current geologic maps and known fossil localities within the Project Site and vicinity. The purpose of the records search was to: (1) determine whether any previously recorded fossil localities occur in the Project Site or vicinity; (2) assess the potential for disturbance of these localities during construction; and (3) assist in evaluating the paleontological sensitivity of the Project Site.





SOURCE: USGS 7.5" Topoquad: Venice.

4112-4136 Del Rey

**Figure 3**  
Geologic Map



Results of the paleontological resources records search conducted by the LACM indicated that no fossil localities lie directly within the Project Site; however, seven fossil localities (LACM VP 3264, 4942, 5462; LACM IP 5616, 41562; LACM VP 7332, 7879) were identified nearby from sedimentary deposits (Pleistocene sediments and Palos Verdes Sand) that may be found in the subsurface in the Project Site (**Table 1**) (Bell, 2022).

**TABLE 2**  
**LACM FOSSIL LOCALITIES**

Locality Number	Formation	Taxa	Depth
LACM VP 3264	Unknown formation (Pleistocene sands)	Elephant clade (Proboscidea)	25 feet bgs
LACM VP 4942	Unknown formation (Pleistocene, massive sandy mudstone with scattered pieces of gravel)	Mammoth ( <i>Mammuthus</i> ); bison ( <i>Bison</i> ); hare ( <i>Lepus</i> )	16 feet bgs
LACM VP 5462	Unknown formation (Pleistocene)	American lion ( <i>Felis atrox</i> )	6 feet bgs
LACM IP 5616, 41652	Palos Verdes Sand	Invertebrates (uncatalogued)	Unknown
LACM VP 7332	Unknown formation (Pleistocene; silty sand)	Mammoth ( <i>Mammuthus</i> )	40 feet bgs
LACM VP 7879	Unknown formation (Pleistocene; sandy silty clay)	Rodent (Rodentia); ground sloth ( <i>Paramylodon</i> ); horse ( <i>Equus</i> )	11 - 130 feet bgs

VP: Vertebrate Paleontology

IP: Invertebrate Paleontology

Bgs; below ground surface

LACM VP 3264 is located approximately 3.80 miles southeast of the Project Site and produced fossil specimens of Elephant clade (Proboscidea) at 25 feet below ground surface (bgs). LACM VP 4942 is situated approximately 3.90 miles southeast of the Project Site and yielded specimens of mammoth, bison, and hare at 16 feet bgs. LACM VP 5462 is located approximately 2.90 miles northwest of the Project Site and produced a fossil specimen of American lion at 6 feet bgs. LACM IP 5616 and 41652 are situated approximately 0.35 miles south of the Project Site and yielded unknown invertebrates at unknown depths. LACM VP 7332 is located approximately 4.30 miles southeast of the Project Site and produced a specimen of mammoth at 40 feet bgs.

LACM VP 7879 is situated approximately 1.35 miles northwest of the Project Site and yielded specimens of rodent, ground sloth, and horse at depths between 11 and 130 feet bgs.

Plotting these locations on regional geological maps shows that the fossil localities to the south are found in an uplifted region of older alluvium (Qoa) (LACM VP 4942, 3264, and 7332) near Inglewood. Similarly, to the north, localities LACM VP 7879 and VP 5462 are located in uplifted Pleistocene marine deposits (Qom). Only one locality, LACM IP 5616 was located in a similar geological setting and comprises marine invertebrates of late Pleistocene age.

### ***Literature Review***

The Pleistocene deposits of the greater Los Angeles area host many significant vertebrate fossils. However, the Project should not disturb Pleistocene alluvium, only Holocene. The Holocene is considered too young to host significant fossils (SVP, 2010).

## **Paleontological Sensitivity Analysis**

The literature and geologic mapping review, as well as the LACM records search results, were used to assign paleontological sensitivity to the geologic units at surface and underlying the Project Site, following the guidelines of the SVP (2010):

**Qa:** Holocene alluvium is found throughout the broad coastal valley hosting the Project Site, bounded outside the project area by uplifted regions of older Pleistocene marine and non-marine deposits. While these Pleistocene units likely underly the younger, Holocene alluvium in the Project Site, the depth is unknown but most likely lies deeper than the planned excavation based on the geotechnical reports. The Qa throughout the Project Site is likely less than 5,000 years old and is considered to not contain fossils, if the age is correct. Therefore, this unit is assigned a **Low Potential** to contain paleontological resources.

## **Conclusions and Recommendations**

It is not likely that excavation for the 4112 Del Rey SCEA Project will impact paleontological resources. Because subsurface geology is, by its nature, unknown there may be a potential for the discovery of unanticipated resources if older Pleistocene alluvium is impacted. To reduce the potential impacts, the following mitigation measures are recommended, based on the SVP (2010) procedural guidelines:

GEO-1 Prior to any Project ground disturbance activities, a qualified paleontologist shall be retained by the Applicant to prepare a Worker's Environmental Awareness Program (WEAP) and train all construction personnel prior to the start of any construction activities. The WEAP training shall include, at a minimum, the following information:

- Review of local and State laws and regulations pertaining to paleontological resources;
- Types of fossils that could be encountered during ground disturbing activity;

- Photos of example fossils based on the regional LACM collections that could occur on site for reference; and
- Instructions on the procedures to be implemented should unanticipated fossils be encountered during construction, including stopping work in the vicinity of the find and contacting a qualified professional paleontologist.

GEO-2 In the event an unanticipated fossil discovery is made during ground disturbing activities, construction activities shall halt in the immediate vicinity of the fossil, and the qualified professional paleontologist retained by the Applicant shall be notified to evaluate the discovery, determine its significance, and evaluate whether additional mitigation or treatment is warranted. Work in the area of the discovery shall resume once the find is properly documented and authorization is given by the qualified paleontologist to resume construction work. Any significant paleontological resources found shall be prepared, identified, analyzed, and permanently curated in an approved regional museum repository.

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## **APPENDIX A**

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### Personnel



# Sara Dietler

## Senior Archaeologist

### EDUCATION

BA. Anthropology,  
San Diego State  
University

### 20 YEARS OF EXPERIENCE

### CERTIFICATIONS/ REGISTRATION

California BLM Permit,  
Principal Investigator,  
Statewide

Nevada BLM Permit,  
Paleontology, Field  
Agent, Statewide

### PROFESSIONAL AFFILIATIONS

Society for American  
Archaeology (SAA)

Society for California  
Archaeology (SCA)

Sara is a senior archaeology and paleontology lead with 20 years of experience in cultural resources management in Southern California. As a senior project manager, she manages technical studies including archaeological and paleontological assessments and surveys, as well as monitoring and fossil salvage for many clients, including public agencies and private developers. She is a cross-trained paleontological monitor and supervisor, familiar with regulations and guidelines implementing the National Historic Preservation Act (NHPA), National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), and the Society of Vertebrate Paleontology guidelines. She has extensive experience providing oversight for long-term monitoring projects throughout the Los Angeles Basin for archaeological, Native American, and paleontological monitoring compliance projects and provides streamlined management for these disciplines.

### Relevant Experience

**San Pedro Plaza Park, San Pedro, Los Angeles, CA. Senior Cultural Resources Project Manager.** Provided archaeological and paleontological monitoring support for the San Pedro Plaza Park Project. The project area is located in the City of Los Angeles port district of San Pedro, approximately 26 miles south of downtown Los Angeles for the City of Los Angeles, Bureau of Engineering, Environmental Management Group. Sara provided quality control oversight for the archaeological and paleontological mitigation. During monitoring on the project, archaeological materials were recovered include refuse associated with park use since it opened in 1889, and historic building debris likely associated with the Carnegie Library which formerly stood on site. Provided recommendations for commemoration and protection of the find.

**City of Los Angeles Department of Public Works BOE, Gaffey Street Pool Construction Monitoring, San Pedro, Los Angeles, CA. Project Manager.** Sara oversaw the data recovery of a World War I slit trench discovered during project excavation for an ADA compliant sidewalk. Provided mitigation recommendations and immediate response to the find. Served as project manager and senior archaeologist on the project.

**Warner Grand Theatre, Historic Resources Technical Report and Conditions Assessment, San Pedro, Los Angeles, CA. Project Manager, Report Co-Author.** The City of Los Angeles Bureau of Engineering, Environmental Management Group requested a Cultural Resources Surveys to inform and guide future rehabilitation or redevelopment efforts of the Warner Grand Theatre. The Warner Grand Theatre designed in the Art Deco-Modern style by master architect B. Marcus Priteca in 1931, and is listed on the National Register of Historic Places, and is designated a Los Angeles Historic-Cultural Monument. ESA prepared a historical resources technical report and conditions assessment report, which provided a comprehensive table of character-defining features along with a conditions



assessment of each feature located within the interior and exterior of the Warner Grand Theatre.

**City of Los Angeles Department of Public Works BOE, Alameda Street Widening Between Harry Bridges Boulevard and Anaheim Street Project, Los Angeles, CA. *Project Manager.*** The project included upgrades to Alameda Street and adjoining streets with improved infrastructure to accept increased traffic from existing and proposed projects located primarily within the Port of Los Angeles and the Wilmington Industrial Park and to adequately deal with storm flows. Conducted a CHRIS record search of the project area for archaeological and paleontological resources and produced technical documents regarding the findings and recommendations for construction activities during the proposed project. In addition, provided archaeological/paleontological monitoring for geotechnical testing and further recommendations based on the results of the testing. Sara provided senior oversight of the reporting and survey and served as project manager.

**670 Mesquit Street and Seventh Street Bridge Evaluation, Los Angeles, CA. *Project Manager and Report Co-author.*** ESA prepared an EIR for the 670 Mesquit Street project in Los Angeles. As part of the EIR, a Cultural Resources Technical Report was prepared to determine if the project site was eligible for listing as a historical resource. The project site, originally occupied by the Los Angeles Ice and Cold Storage Company, was determined to lack integrity and therefore, ineligible for listing. Although the core of the building on the project site retained elements of the historic cold storage building, the facility was seismically upgraded resulting in significant alterations to its exterior. In its current condition, the facility does not convey its historical associations. The project was also evaluated to determine if it would result in any potential impacts to nearby historic resources, including the Seventh Street Bridge and adjacent railroad tracts. Located south of the project site is the Seventh Street Bridge, which is listed on the California Register of Historical Resources, and eligible for the National Register of Historic Places. Sara provided oversight and analysis for the preparation of Cultural Resources Technical Report.

**Long Beach Courthouse Project; Long Beach, CA. *Senior Project Archaeologist and Project Manager.*** Under contract to Clark Construction Sara directed the paleontological and archaeological monitoring for the construction of the New Long Beach Courthouse. She supervised monitors inspecting excavations up to 25 feet in depth. Nine archaeological features were recovered. Sara completed an assessment of the artifacts and fossil localities in a technical report at the completion of the project.

**Venice Dual Force Main Project, Venice, CA. *Cultural Resources Lead.*** The Venice Dual Force Main Project is an \$88 million sewer force main construction project spanning 2 miles within Venice, Marina del Rey, and Playa del Rey. Contracted to Vadnais Trenchless Services and reporting to the City of Los Angeles, Bureau of Engineering, Environmental Management Group, ESA is serving as the project's environmental resource manager. Sara provides quality control oversight for the archaeological and paleontological mitigation.

**Advanced Water Treatment Facility Project Groundwater Reliability Improvement Project, Pico Rivera, CA. *Project Manager.*** ESA is providing environmental compliance monitoring for the Water Replenishment District to

ensure compliance with the conditions contained in the Mitigation and Monitoring Reporting Programs associated with three environmental documents, including the Final EIR, a Mitigated Negative Declaration, and a Supplemental EIR, pertaining to three infrastructure components associated with the project. ESA provides general compliance monitoring at varying rates of frequency depending on the nature of the activities and is sometimes on-site for 4-hour spot checks and other times for full 24-hour rotations. The project is located near a residential neighborhood and adjacent the San Gabriel River. Issues of concern include noise, vibration, night lighting, biological resources, cultural resources, and air quality. Sara provides quality assurance and oversight of the field monitoring, and day-to-day response to issues. She oversees archaeological and Native American monitoring for ground disturbance and coordinates all sub-consultants for the project. She provides daily, weekly, and quarterly reporting on project compliance to support permitting and agency oversight.

**Southern California Edison On-Call Master Services Agreement for Natural and Cultural Resources Services; *Cultural Resources Task Manager.*** Sara provides project management and senior archaeological support for an on-call Master Services Agreement with Southern California Edison for cultural and natural resources consulting services. This contract has included numerous surveys and monitoring projects for pole replacements and small- to mid-size reconductoring projects, substation maintenance, and construction projects. Sara has served as project manager for more than 25 projects under this contract. She is the go-to person for all water, gas, and power projects occurring in the city of Avalon on Santa Catalina Island. Sara is responsible for oversight of archaeological and paleontological monitors, serving as report author and report manager.

**Los Angeles Unified School District (LAUSD) Central Los Angeles High School #9; Los Angeles, CA. *Senior Project Archaeologist & Project Manager.*** Sara conducted on-site monitoring and investigation of archaeological sites exposed as a result of construction activities. During the data recovery phase in connection with a 19th century cemetery located on-site, she participated in locating of features, feature excavation, mapping, and client coordination. She organized background research on the cemetery, including genealogical, local libraries, city and county archives, other local cemetery records, internet, and local fraternal organizations. Sara advised on the lab methodology and setup and served as project manager. Sara was a contributing author and editor for the published monograph, which was published as part of a technical series, "Not Dead but Gone Before: The Archaeology of Los Angeles City Cemetery."

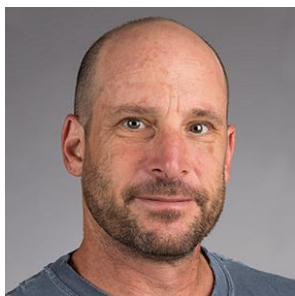
**Scattergood Olympic Transmission Line, Los Angeles, CA. *Report Author.*** The Los Angeles Department of Water and Power is proposing to construct and operate approximately 11.4 miles of new 230 kilovolt (kv) underground transmission line that would connect the Scattergood Generation Station and Olympic Receiving Station. The project includes monitoring of construction activities occurring in street rights-of-way. Sara is providing final reporting for the long-term monitoring and QA/QC of the field data.

**Veterans Administration Long Beach, Long Beach, CA. *Senior Project Manager.*** Sara managed a long term monitoring project which also includes implementation of a Memorandum of Agreement, a Plan of Action, and Historic Properties Treatment plan for the mitigation of disturbance to a prehistoric site on the campus.

**Downtown Cesar Chavez Median Project, City of Los Angeles, CA. *Project Manager.*** Sara assisted the City of Los Angeles Department of Public Works Bureau of Engineering with a Local Assistance Project requiring consultations with Caltrans cultural resources. Sara was responsible for Caltrans coordination, serving as contributing author and report manager for the required Archaeological Survey Report, Historic Properties Survey Report, and Historical Resources Evaluation Report prepared for the project.

**Hellman Ranch Project, Orange County, CA. *Lab Director.*** Sara served as the lab director for the final monitoring phase of the John Laing Homes development project, cataloging and analyzing artifacts recovered from salvage monitoring and test units placed in relation to recovered intact burials. She conducted microscopic analysis of small items such as bone tools and shell and stone beads, directed lab assistants, and oversaw special studies, including the photo-documentation of the entire collection. Sara completed a section reporting on the results of the bead and ornament analysis in the final report, which was published as part of a technical series.

**Hansen Dam Golf Course Water Recycling Project, Los Angeles, CA. *Senior Archaeologist and Project Manager.*** Sara directed a phase I historical assessment for the Hansen Dam Golf Course Water Recycling Project located in the San Fernando Valley, City of Los Angeles, California. The project included the construction of an outdoor pumping station adjacent to the existing Hansen Tank located at the Los Angeles Department of Water and Power's (LADWP's) Valley Generating Station. In addition, a pipeline or distribution line was planned to be installed from the pumping station to the Hansen Dam Golf Course along the Tujunga Wash. The phase I study of this project included mitigation for the effects of the project on the portion of the golf course falling within the area of potential effects, which was potentially sensitive for buried cultural resources as the result of a complex of World War II housing units placed on the site between the 1940s and the 1960s. Sara conducted consultation with the USACE regarding the project.



# Russell S. Shapiro, PhD

## Principal Investigator

### EDUCATION

Ph.D., Geological Sciences, University of California, Santa Barbara, 1998  
B.S., Geology, Humboldt State University, 1992

### 25 YEARS EXPERIENCE

### CERTIFICATIONS/REGISTRATION

U.S. Fish and Wildlife Cultural Resources Use Permit  
U.S. Forest Service Cultural Resources Use Permit  
Bureau of Land Management Cultural Resources Use Permit  
Wilderness and Remote First Aid (Red Cross Certified)

### PROFESSIONAL AFFILIATIONS

Geobiology Society; Treasurer  
Society for Sedimentary Geology (SEPM); Vice-President  
Society for Vertebrate Paleontology

As a Principal Investigator, Dr. Shapiro has been involved in review of paleontological resource reports and evaluating proposed mitigation plans. Dr. Shapiro researches and prepares environmental impact reports regarding cultural resources (fossils), conducts field (geological and paleontological) surveys, and oversees ground disturbance at construction sites for Environmental Quality compliance (CEQA, NEPA, and the Paleontological Resources Preservation Act). As a Qualified Paleontologist, Dr. Shapiro has also reviewed resource planning documents for several counties in California and was the lead on the Bureau of Land Management's assessment of fossil resources of Northern California.

In his academic role as Professor of Geology, Dr. Shapiro teaches several paleontology courses including "Applied Paleontology" which is a modified "Cultural Resources" course, focusing on budgeting, CEQA and NEPA regulations, field surveys, GIS projections, fossil recovery, and curation. He also teaches in the annual Field Camp courses and manages the rock preparation lab and maintains the microscopes.

## Relevant Experience

**ReneSola Gentry Solar Project, Paleontological Resource Assessment Report, Lincoln, California.** *Principal Investigator, Mapping.* Literature, geological map, and museum review for fossil resources. Field mapping of entire property. Final product included a mitigation and monitoring plan.

**Paleontological Sensitivity Analysis Report, Elk Grove, California; Pacific Gas and Electric.** *Principal Investigator.* Literature, geological map, and air photo archival report on the potential fossil yield for a proposed pipeline. Recommendations based on searches of museum collections of relevant geological formations. Deliverables consisted of a sensitivity report and appendix of known fossil occurrences by taxa and location.

**Mojave Solar Project Cultural Services; San Bernardino County, California; CH2M Hill.** *Principal Investigator.* Reviewed technical report; advised on scientific analyses.

**El Camino Real Bridge Replacement Environmental Services; San Luis Obispo County, California, Quincy Engineering.** *Principal Investigator.* Reviewed technical report for CEQA/NEPA documentation, technical studies, and permitting, for the replacement of the El Camino Real bridge over Santa Margarita Creek in Atascadero.

### **San Bernardino County General Plan Update: Paleontological Resources**

**Technical Report.** *Primary Reviewer.* External reviewer for general plan update. Involved assessing all geological formations in San Bernardino County and museum records of significant fossils.

### **Recent Significant Excavations**

**Miocene Vertebrates of the Sheldon Wildlife National Refuge.** Oversaw operations to conduct significant collection of Miocene-age fossils from volcanic sediments for the U.S. Fish and Wildlife Service. Duties included field collection and high-resolution GPS mapping, fossil preparation and identification, curation at the Gateway Science Museum.

**Eocene Horses from Black Butte Lake Reservoir.** Field jacketing and preparation of fossil horse skull material from the reservoir under the direction of the U.S. Army Corps of Engineers. Fossils were prepared, identified, and returned to the Army Corps for public display.

**Pleistocene Camelid from Nevada.** This project grew out of a paleontological resource assessment field survey. During the survey, a semi-articulated rear leg of a late Pleistocene camelid was collected and prepared. A manuscript was published in 2016.

### **Publications and Presentations**

Shapiro, R. S., 2016, Camelid record of Mesquite Lake, California: impact of earliest Holocene climate change in Reynolds, R. E., ed., *Going LOCO* investigations along the Lower Colorado River, 2016 Desert Symposium Field Guide and Proceedings, p 41-47.

Shapiro, R. S. and Konhauser, K. O., 2014, Hematite-coated microfossils: Ecological fingerprint or taphonomic oddity of the Paleoproterozoic? *Geobiology*, v. 13, p. 209-224.

Shapiro, R. S. and Spangler, E., 2009, Bacterial fossil record in whale falls: relation of taphonomy and paleoecology to depositional environment: *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 274, p. 196-203.

Shapiro, R. S., Fricke, H., and Fox, K., 2009, Dinosaur-bearing oncoids from ephemeral lakes of the Lower Cretaceous Cedar Mountain Formation, Utah: *PALAIOS*, v. 24, p. 51-58.

Shapiro, R. S., and Rowland, S. M., 2002, Fossil collecting in southern Nevada in Rowland, S. M. and Orndorff, R. L., eds., *Geology of the Southern Nevada Region: National Association of Geoscience Teachers, Far Western Section Spring Field Conference Guidebook*, p. 96-99.

Shapiro, R. S., 1998, Paleogene-Early Neogene macrofossils of southwestern Santa Cruz Island in Weigand, P. W., ed., *Contributions to the Geology of the Northern Channel Islands, Southern California: Pacific Section, American Association of Petroleum Geologists*, MP-45, p. 123-132.

## **APPENDIX B**

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### **LACM Records Search (Confidential)**