

PALEONTOLOGICAL ASSESSMENT FOR THE 1845 OAK ROAD PROJECT

CITY OF SIMI VALLEY
VENTURA COUNTY, CALIFORNIA

APNs 6370-140-12, -43, -44, and -73

Prepared on Behalf of:

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Prepared for:

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Prepared by:

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September 13, 2022

Paleontological Database Information

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Report Date: September 13, 2022

Report Title: Paleontological Assessment for the 1845 Oak Road Project, City of Simi Valley, Ventura County, California

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Assessor's Parcel Numbers: 6370-140-12, -43, -44, and -73

USGS Quadrangle: Section 8, Township 2 North, Range 18 West of the USGS *Simi Valley East, California* (7.5 minute) Quadrangle.

Study Area: 3.61 acres

Key Words: Paleontological assessment; Pleistocene old alluvial fan deposits; high sensitivity; part-time monitoring below five feet recommended.

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I. INTRODUCTION AND LOCATION

A paleontological resource assessment has been completed for the 1845 Oak Road Project, located at 1845 Oak Road in the city of Simi Valley in Ventura County, California (Figures 1 and 2). The 3.61-acre project occupies Assessor's Parcel Numbers 6370-140-12, -43, -44, and -73. On the United States Geological Survey (7.5-minute), 1:24,000-scale *Simi Valley East, California* topographic quadrangle map, the project is situated in Section 8, Township 2 North, Range 18 West, of the San Bernardino Baseline and Meridian (Figure 2). The project will be cleared for the construction of a new multi-family residential development along with landscaping and infrastructure. Currently, the subject property is occupied by the former campus of the Phoenix Ranch School.

As the lead agency, the City of Simi Valley has required the preparation of a paleontological assessment to evaluate the project's potential to yield paleontological resources. The paleontological assessment of the project included a review of paleontological literature and fossil locality records in the area; a review of the underlying geology; and recommendations to mitigate impacts to potential paleontological resources, if necessary.

II. REGULATORY SETTING

The California Environmental Quality Act (CEQA), which is patterned after the National Environmental Policy Act, is the overriding environmental regulation that sets the requirement for protecting California's paleontological resources. CEQA mandates that governing permitting agencies (lead agencies) set their own guidelines for the protection of nonrenewable paleontological resources under their jurisdiction.

State of California

Under "Guidelines for Implementation of CEQA," as amended in December 2018 (California Code of Regulations [CCR] Title 14, Division 6, Chapter 3, Sections 15000 et seq.), procedures define the types of activities, persons, and public agencies required to comply with CEQA. Section 15063 of the CCR provides a process by which a lead agency may review a project's potential impact to the environment, whether the impacts are significant, and provide recommendations, if necessary.

In CEQA's Environmental Checklist Form, one of the questions to answer is, "Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?" (Appendix G, Section VII, Part f). This is to ensure compliance with California Public Resources Code Section 5097.5, the law that protects nonrenewable resources, including fossils:

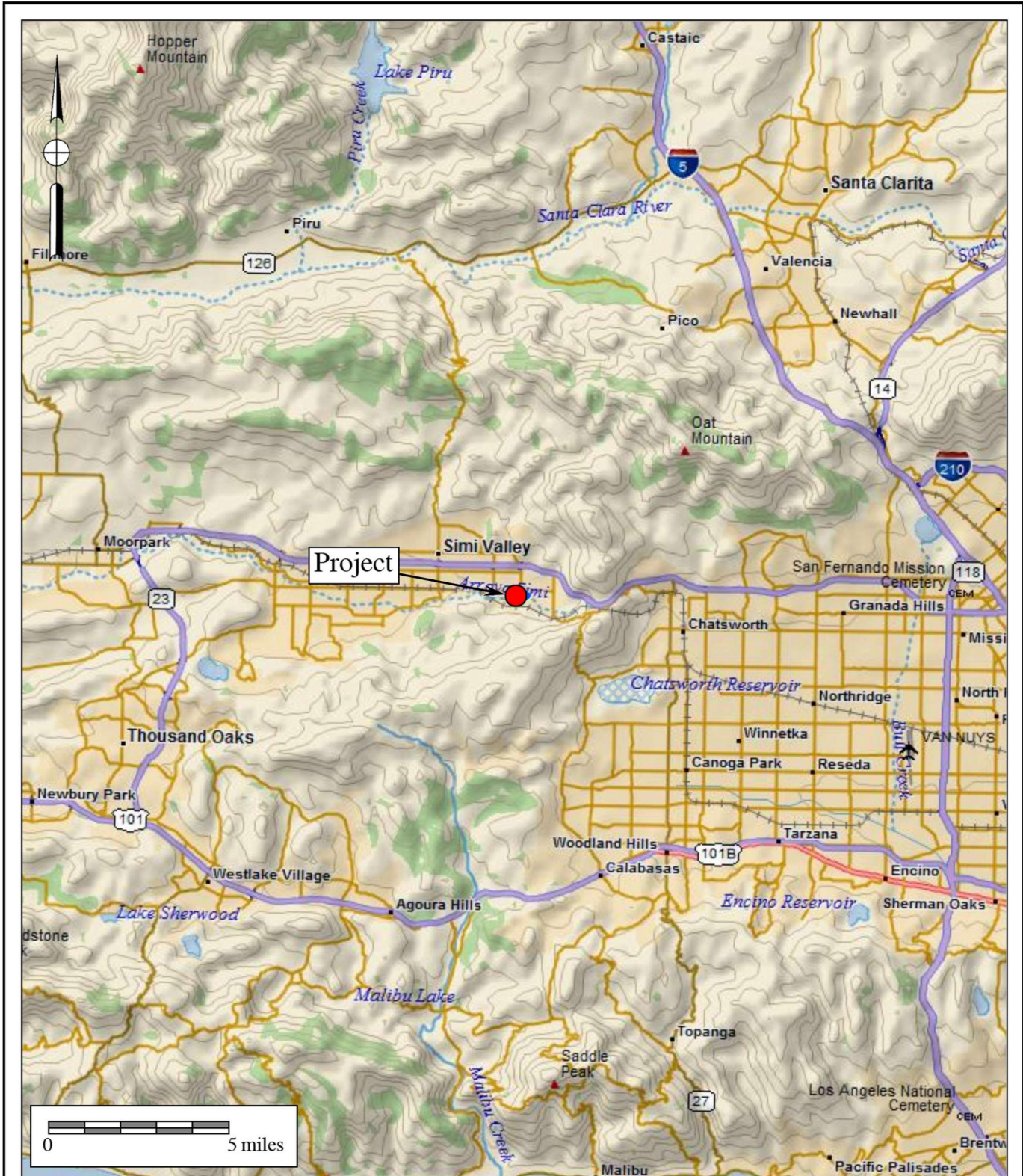


Figure 1
General Location Map
 The 1845 Oak Road Project
 DeLorme World Base Map Service (1:250,000 series)



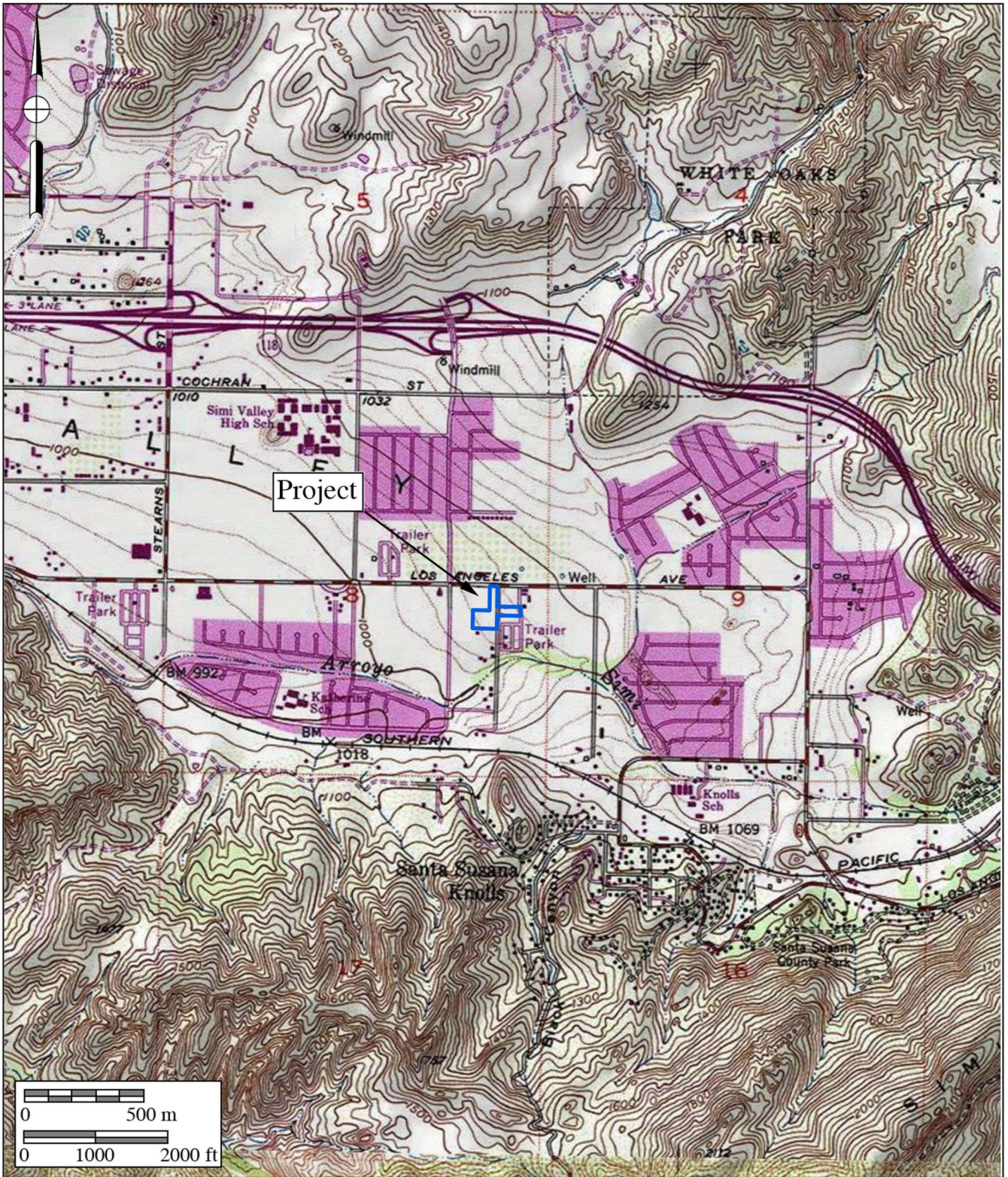


Figure 2

Project Location Map

The 1845 Oak Road Project

USGS *Simi Valley East* Quadrangle (7.5-minute series)



- a) A person shall not knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands.
- b) As used in this section, “public lands” means lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof.
- c) A violation of this section is a misdemeanor.

City of Simi Valley

The current Environmental Impact Report (EIR) for the General Plan of the City of Simi Valley contains policies for paleontological resources (Policies HR-2.1, 2.2, and 2.4; City of Simi Valley 2012). By implementing Impact 4.5-2 of the EIR, impacts to paleontological resources during earth disturbance activities would be less than significant (City of Simi Valley 2012, p. 4.5-25).

III. GEOLOGY

The project is located in the Simi Valley, a part of the Western Transverse Ranges geomorphic province. The Transverse Ranges contain mostly Eocene, Oligocene, Miocene, and Pliocene marine sedimentary rocks. Locally, the Simi Hills are situated south and east of the project, and the Santa Susana Mountains are located to the north. Mapped at the project are late Holocene-aged alluvial fan deposits (labeled as “Qf” on Figure 3, after Bedrossian and Roffers 2012). Late to middle Pleistocene-aged old alluvial fan deposits lie at the southern edge of the project boundary (labeled as “Qof” on Figure 3). The alluvial deposits in Simi Valley, deposited by streams flowing across the valley floor, are several hundred feet thick (Squires 1997).

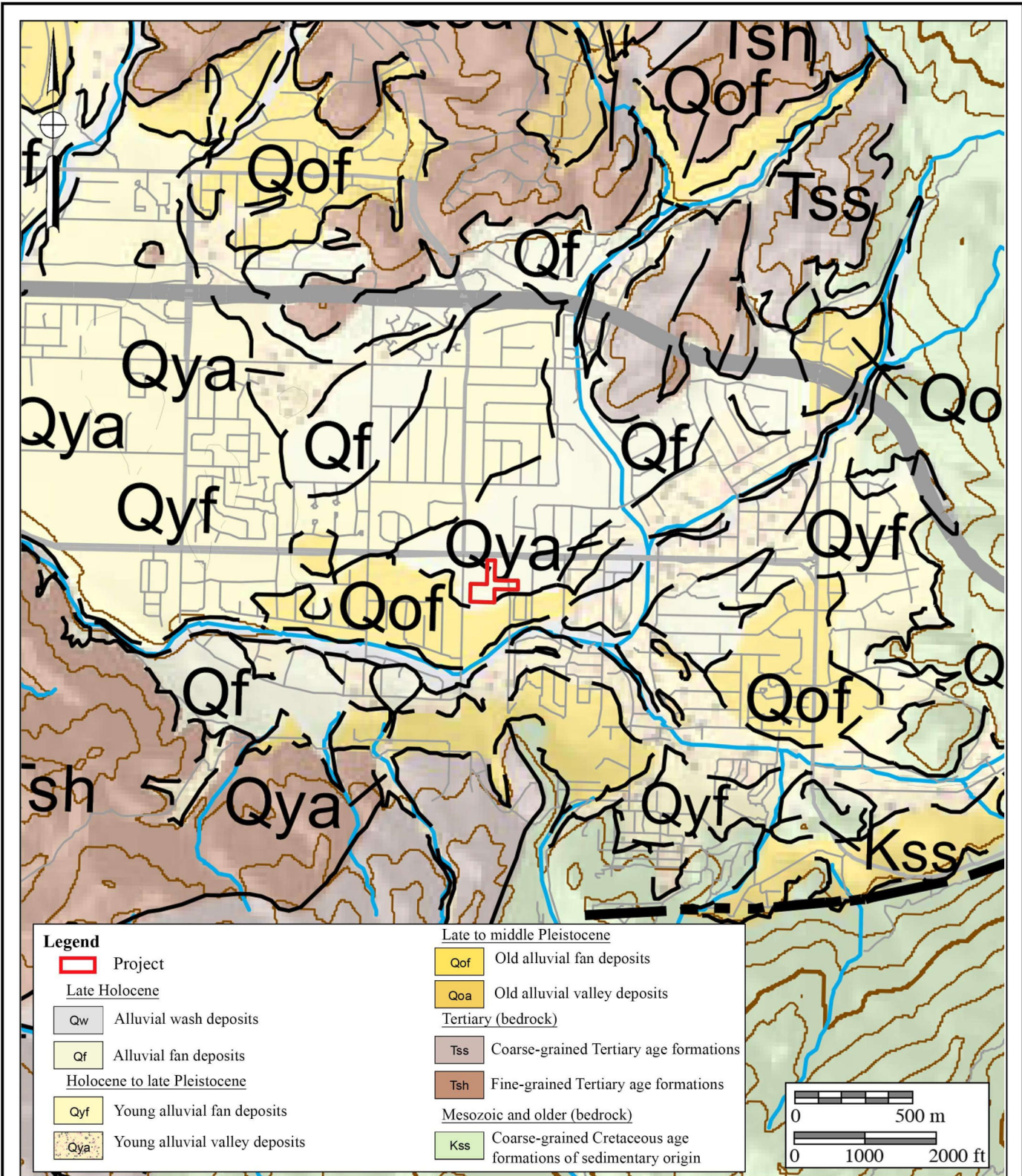


Figure 3
Geologic Map

The 1845 Oak Road Project
Geology after Bedrossian and Roffers (2012)



IV. PALEONTOLOGICAL RESOURCES

Definition

Paleontological resources are the remains of prehistoric life that have been preserved in geologic strata. These remains are called fossils and include bones, shells, teeth, and plant remains (including their impressions, casts, and molds) in the sedimentary matrix, as well as trace fossils such as footprints and burrows. Fossils are considered older than 5,000 years of age (Society of Vertebrate Paleontology 2010) but may include younger remains (subfossils), for example, when viewed in the context of local extinction of the organism or habitat. Fossils are considered a nonrenewable resource under state and local guidelines (see Section II of this report).

Fossil Locality Search

A paleontological literature review and collections and locality records search was conducted for the project using records from prior Brian F. Smith and Associates, Inc. (BFSA) projects, the University of California Museum of Paleontology (UCMP) and the Los Angeles County Museum of Natural History (LACM), as well as data from published and unpublished paleontological literature (Jefferson 1991). The resulting locality records search did not identify any previously recorded fossil localities from within the project boundaries. A record search request was solicited from the LACM at least one month prior to the date of this report, but a response did not arrive in time for this report.

Several significant Pleistocene vertebrate localities have been recovered in the Simi Valley area. The UCMP holds mammoth remains from an unlisted locality in Simi Valley (UCMP loc. V92019). The partial skeleton of the “Simi Valley Mastodon” was unearthed at a development near Erringer Road in 2002, the bones of which are now housed at the Santa Barbara Museum of Natural History. Jefferson (1991) lists giant sloth and horse remains from Brea Canyon (LACM loc. 65114), as well as horse remains from Moorpark (LACM 560). Also, in Moorpark, a partial skeleton of a mammoth was uncovered in another development in 2005.

Field Survey

BFSA staff conducted a pedestrian survey on August 30, 2022, under the direction of Principal Investigator Todd A. Wirths. The field methodology employed for the project included walking evenly spaced survey transects set approximately 10 meters apart. The survey identified the property as a developed school campus formally occupied by the Phoenix Ranch School. Very little of the natural ground surface was visible as the project was covered by buildings, hardscape, or maintained landscaping. No paleontological resources, or evidence of paleontological resources, were identified during the field survey.

V. PALEONTOLOGICAL SENSITIVITY

Overview

The degree of paleontological sensitivity of any particular area is based on a number of factors, including the documented presence of fossiliferous resources on a site or in nearby areas, the presence of documented fossils within a particular geologic formation or lithostratigraphic unit, and whether or not the original depositional environment of the sediments is one that might have been conducive to the accumulation of organic remains that might have become fossilized over time. Holocene alluvium is generally considered to be geologically too young to contain significant nonrenewable paleontological resources (*i.e.*, fossils), and is therefore typically assigned a Low paleontological sensitivity. Pleistocene (more than 11,700 years old) alluvial and alluvial fan deposits in the Ventura Basin, however, often yield important Ice Age terrestrial vertebrate fossils, such as extinct mammoths, mastodons, giant ground sloths, extinct species of horse, bison, and camel, saber-toothed cats, and others (Jefferson 1991). These Pleistocene sediments are accorded a High paleontological resource sensitivity.

Professional Standards

The Society of Vertebrate Paleontology (2010) has drafted guidelines that include four categories of paleontological sensitivity for geologic units (formations) that might be impacted by a proposed project, as listed below:

- High Potential: Rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered.
- Undetermined Potential: Rock units for which little information is available concerning their paleontological content, geologic age, and depositional environment; further study is needed to determine the potential of the rock unit.
- Low Potential: Rock units that are poorly represented by fossil specimens in institutional collections or based on a general scientific consensus that only preserve fossils in rare circumstances.
- No Potential: Rock units that have no potential to contain significant paleontological resources, such as high-grade metamorphic rocks and plutonic igneous rocks.

Using these criteria, based on significant but scattered nearby Pleistocene vertebrate localities and descriptions of the underlying regional and project-specific geology, an undetermined potential may be assigned to the project.

Paleontological Sensitivity in Simi Valley

The City of Simi Valley (2012) regards Pleistocene-aged alluvial fan sediments as having a “high” sensitivity for their potential to yield vertebrate fossil remains.

VI. CONCLUSIONS AND RECOMMENDATIONS

Research has confirmed the existence of Holocene young alluvial deposits mapped at the surface of the project. The occurrence of terrestrial vertebrate fossils during development projects at shallow depths from Pleistocene old alluvial fan sediments in Simi Valley is well documented. The “high” paleontological sensitivity rating typically assigned to Pleistocene alluvial fan sediments for yielding paleontological resources supports the recommendation that paleontological monitoring be implemented during mass grading and excavation activities in undisturbed Pleistocene old alluvial fan sediments to mitigate any adverse impacts (loss or destruction) to potential nonrenewable paleontological resources. However, the depth of Pleistocene old alluvium below the Holocene young alluvium at the project is not precisely known. Part-time monitoring of undisturbed alluvial fan deposits at the project is recommended starting at a depth of five feet below the surface. A suggested monitoring schedule may consist of brief “spot checks” (one to three hours) two to three times per week. The monitoring schedule may be adjusted by the project paleontologist based on observations of the geology and stratigraphy at the project. If significant fossils are found, full-time monitoring for paleontological resources is warranted.

If a fossil(s) is found at shallower depths, earth disturbance activities should be halted within a radius of 50 feet from the location of the fossil, and a qualified, project-level paleontologist shall be consulted to determine the significance of the fossilized remains. If the fossil is deemed significant by the paleontologist, full-time monitoring should be initiated at the project.

A suggested paleontological monitoring and reporting program is proposed for the project, below. The paleontological monitoring and reporting program is based on the conclusions and recommendations outlined above and will reduce impacts to potential paleontological resources to a level below significant.

1. Prior to initiation of any grading, drilling, and/or excavation activities, a preconstruction meeting will be held and attended by the paleontologist of record, representatives of the grading contractor and subcontractors, the project owner or developer, and a representative of the lead agency. The nature of potential paleontological resources shall be discussed, as well as the protocol that is to be implemented following the discovery of any fossiliferous materials.
2. Monitoring of mass grading and excavation activities shall be performed by a qualified paleontologist or paleontological monitor. Starting at a depth of five feet, monitoring will be conducted part-time in areas of grading or excavation in undisturbed sediments of alluvial fan deposits. If a fossil is found and determined by the project-level paleontologist to be significant, full-time monitoring is warranted.
3. If a fossil(s) is found at a shallower depth, earth disturbance activities should be

- halted within a radius of 50 feet from the location of the fossil, and a project-level paleontologist shall be consulted to determine the significance of the fossilized remains. If the fossil is deemed significant by the project-level paleontologist, full-time monitoring should be initiated at the project.
4. Paleontological monitors will be equipped to salvage fossils as they are unearthed to avoid construction delays. The monitor must be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens in a timely manner. Monitoring may be reduced if the potentially fossiliferous units are not present in the subsurface, or, if present, are determined on exposure and examination by qualified paleontological personnel to have low potential to contain fossil resources. The monitor shall notify the project paleontologist, who will then notify the concerned parties of the discovery.
 5. Paleontological salvage during trenching and boring activities is typically from the generated spoils and does not delay the trenching or drilling activities. Fossils are collected and placed in cardboard flats or plastic buckets and identified by field number, collector, and date collected. Notes are taken on the map location and stratigraphy of the site, which is photographed before it is vacated and the fossils are removed to a safe place. On mass grading projects, discovered fossil sites are protected by flagging to prevent them from being overrun by earthmovers (scrapers) before salvage begins. Fossils are collected in a similar manner, with notes and photographs being taken before removing the fossils. Precise location of the site is determined with the use of handheld GPS units. If the site involves remains from a large terrestrial vertebrate, such as large bone(s) or a mammoth tusk, that is/are too large to be easily removed by a single monitor, a fossil recovery crew shall excavate around the find, encase the find within a plaster and burlap jacket, and remove it after the plaster is set. For large fossils, use of the contractor's construction equipment may be solicited to help remove the jacket to a safe location.
 6. Isolated fossils are collected by hand, wrapped in paper, and placed in temporary collecting flats or five-gallon buckets. Notes are taken on the map location and stratigraphy of the site, which is photographed before it is vacated and the fossils are removed to a safe place.
 7. Particularly small invertebrate fossils typically represent multiple specimens of a limited number of organisms, and a scientifically suitable sample can be obtained from one to several five-gallon buckets of fossiliferous sediment. If it is possible to dry screen the sediment in the field, a concentrated sample may consist of one or two buckets of material. For vertebrate fossils, the test is usually the observed presence of small pieces of bones within the sediments. If present, multiple five-gallon buckets of sediment can be collected and returned to a separate facility to wet-screen the sediment.

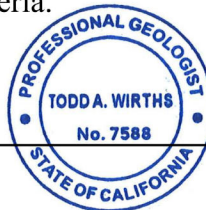
8. In accordance with the “Microfossil Salvage” section of the Society of Vertebrate Paleontology guidelines (2010:7), bulk sampling and screening of fine-grained sedimentary deposits (including carbonate-rich paleosols) must be performed if the deposits are identified to possess indications of producing fossil “microvertebrates” to test the feasibility of the deposit to yield fossil bones and teeth.
9. In the laboratory, individual fossils are cleaned of extraneous matrix, any breaks are repaired, and the specimen, if needed, is stabilized by soaking in an archivally approved acrylic hardener (*e.g.*, a solution of acetone and Paraloid B-72).
10. Recovered specimens are prepared to a point of identification and permanent preservation (not display), including screen-washing sediments to recover small invertebrates and vertebrates. Preparation of individual vertebrate fossils is often more time-consuming than for accumulations of invertebrate fossils.
11. Identification and curation of specimens into a professional, accredited public museum repository with a commitment to archival conservation and permanent retrievable storage (*e.g.*, the LACM) shall be conducted. The paleontological program should include a written repository agreement prior to the initiation of mitigation activities. Prior to curation, the lead agency (*e.g.*, the City of Simi Valley) will be consulted on the repository/museum to receive the fossil material.
12. A final report of findings and significance will be prepared, including lists of all fossils recovered and necessary maps and graphics to accurately record their original location(s). The report, when submitted to, and accepted by, the appropriate lead agency, will signify satisfactory completion of the project program to mitigate impacts to any potential nonrenewable paleontological resources (*i.e.*, fossils) that might have been lost or otherwise adversely affected without such a program in place.

VII. CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this paleontological report, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief, and have been compiled in accordance with CEQA criteria.



Todd A. Wirths
Senior Paleontologist
California Professional Geologist No. 7588



September 13, 2022

Date

VIII. REFERENCES

- Bedrossian, T.L., and Roffers, P.D. 2012. Geologic Compilation of Quaternary surficial deposits in southern California, Los Angeles 30' X 60' Quadrangle. CGS Special Report 217.
- City of Simi Valley. 2012. Simi Valley General Plan Environmental Impact Report, Sch No. 2009121004, Volume I: Final EIR. Chapter 4.5 Cultural Resources: <https://www.simivalley.org/home/showpublisheddocument/6882/637001813371370000>.
- Jefferson, G.T. 1991. A catalogue of late Quaternary vertebrates from California: Part two, mammals. Natural History Museum of Los Angeles County, Technical Reports, no. 7:I–v + 1–129.
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- Squires, R.L. 1997. Geologic Profile of Simi Valley. *Simi Valley, a Journey through Time*. Chapter 9. Simi Valley Historical Society and Museum.

APPENDIX A

Qualifications of Key Personnel

Todd A. Wirths, MS, PG No. 7588

Senior Paleontologist

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Education

Master of Science, Geological Sciences, San Diego State University, California 1995

Bachelor of Arts, Earth Sciences, University of California, Santa Cruz 1992

Professional Certifications

California Professional Geologist #7588, 2003
Riverside County Approved Paleontologist
San Diego County Qualified Paleontologist
Orange County Certified Paleontologist
OSHA HAZWOPER 40-hour trained; current 8-hour annual refresher

Professional Memberships

Board member, San Diego Geological Society
San Diego Association of Geologists; past President (2012) and Vice President (2011)
South Coast Geological Society
Southern California Paleontological Society

Experience

Mr. Wirths has more than a dozen years of professional experience as a senior-level paleontologist throughout southern California. He is also a certified California Professional Geologist. At BFSA, Mr. Wirths conducts on-site paleontological monitoring, trains and supervises junior staff, and performs all research and reporting duties for locations throughout Los Angeles, Ventura, San Bernardino, Riverside, Orange, San Diego, and Imperial Counties. Mr. Wirths was formerly a senior project manager conducting environmental investigations and remediation projects for petroleum hydrocarbon-impacted sites across southern California.

Selected Recent Reports

- 2019 *Paleontological Assessment for the 10575 Foothill Boulevard Project, City of Rancho Cucamonga, San Bernardino County, California.* Prepared for T&B Planning, Inc. Report on file at Brian F. Smith and Associates, Inc., Poway, California.
- 2019 *Paleontological Assessment for the MorningStar Marguerite Project, Mission Viejo, Orange County, California.* Prepared for T&B Planning. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

- 2019 *Paleontological Monitoring Report for the Nimitz Crossing Project, City of San Diego.* Prepared for Voltaire 24, LP. Report on file at Brian F. Smith and Associates, Inc., Poway, California.
- 2019 *Paleontological Resource Impact Mitigation Program (PRIMP) for the Jack Rabbit Trail Logistics Center Project, City of Beaumont, Riverside County, California.* Prepared for JRT BP 1, LLC. Report on file at Brian F. Smith and Associates, Inc., Poway, California.
- 2020 *Paleontological Monitoring Report for the Oceanside Beachfront Resort Project, Oceanside, San California.* Prepared for S.D. Malkin Properties. Report on file at Brian F. Smith and Associates, Inc., Poway, California.
- 2020 *Paleontological Resource Impact Mitigation Program for the Nakase Project, Lake Forest, Orange County, San California.* Prepared for Glenn Lukos Associates, Inc. Report on file at Brian F. Smith and Associates, Inc., Poway, California.
- 2020 *Paleontological Resource Impact Mitigation Program for the Sunset Crossroads Project, Banning, Riverside County.* Prepared for NP Banning Industrial, LLC. Report on file at Brian F. Smith and Associates, Inc., Poway, California.
- 2020 *Paleontological Assessment for the Ortega Plaza Project, Lake Elsinore, Riverside County.* Prepared for Empire Design Group. Report on file at Brian F. Smith and Associates, Inc., Poway, California.
- 2020 *Paleontological Resource Record Search Update for the Green River Ranch III Project, Green River Ranch Specific Plan SP00-001, City of Corona, California.* Prepared for Western Realco. Report on file at Brian F. Smith and Associates, Inc., Poway, California.
- 2020 *Paleontological Assessment for the Cypress/Slover Industrial Center Project, City of Fontana, San Bernardino County, California.* Prepared for T&B Planning, Inc. Report on file at Brian F. Smith and Associates, Inc., Poway, California.
- 2020 *Paleontological Monitoring Report for the Imperial Landfill Expansion Project (Phase VI, Segment C-2), Imperial County, California.* Prepared for Republic Services, Inc. Report on file at Brian F. Smith and Associates, Inc., Poway, California.
- 2021 *Paleontological Assessment for the Manitou Court Logistics Center Project, City of Jurupa Valley, Riverside County, California.* Prepared for Link Industrial. Report on file at Brian F. Smith and Associates, Inc., Poway, California.
- 2021 *Paleontological Resource Impact Mitigation Program for the Del Oro (Tract 36852) Project, Menifee, Riverside County.* Prepared for D.R. Horton. Report on file at Brian F. Smith and Associates, Inc., Poway, California.
- 2021 *Paleontological Assessment for the Alessandro Corporate Center Project (Planning Case PR-2020-000519), City of Riverside, Riverside County, California.* Prepared for OZI Alessandro, LLC. Report on file at Brian F. Smith and Associates, Inc., Poway, California.
- 2021 *Paleontological Monitoring Report for the Boardwalk Project, La Jolla, City of San Diego.* Prepared for Project Management Advisors, Inc. Report on file at Brian F. Smith and Associates, Inc., Poway, California.