

A PALEONTOLOGICAL ASSESSMENT FOR THE 6401 33RD STREET PROJECT

JURUPA VALLEY RIVERSIDE COUNTY, CALIFORNIA

Portions of APNs 177-020-084 and -085

Submitted to:

**City of Jurupa Valley
8930 Limonite Avenue
Jurupa Valley, California 92509**

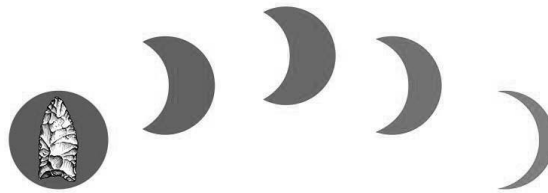
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November 11, 2024



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Paleontological Database Information

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Report Date: November 11, 2024

Report Title: Paleontological Assessment for the 6401 33rd Street Project,
Jurupa Valley, Riverside County, California

Prepared for: EPD Solutions
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Assessor's Parcel Numbers: Portions of 177-020-084 and -085

USGS Quadrangle: Township 2 South, Range 5 West on the USGS 7.5-minute
Fontana, California

Study Area: 5.57 acres

Key Words: Paleontological assessment; City of Jurupa Valley; Pleistocene
old alluvial fan deposits; High paleontological sensitivity;
monitoring recommended.

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I. INTRODUCTION AND LOCATION

A paleontological resource assessment has been completed for the 6401 33rd Street Project, located east of the intersection of 33rd Street and Apple Avenue in the Ormand neighborhood of the city of Jurupa Valley, Riverside County, California (Figures 1 and 2). The 5.57-acre project consist of portions of two parcels (Assessor's Parcel Numbers [APNs] 177-020-084 and -085) situated within Township 2 South, Range 5 West, of the San Bernardino Baseline and Meridian, as shown on the United States Geological Survey (USGS) (7.5-minute) 1:24,000-scale *Fontana, California* topographic quadrangle map (Figure 2). Plans for the project include the development of the property for two medical facility buildings. The project property is currently undeveloped.

As the lead agency, the City of Jurupa 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 regulation that sets the requirement for protecting California's cultural and paleontological resources. CEQA does not establish specific rules that must be followed, but 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 the California Environmental Quality Act," 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 the 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, if necessary, provide recommendations.

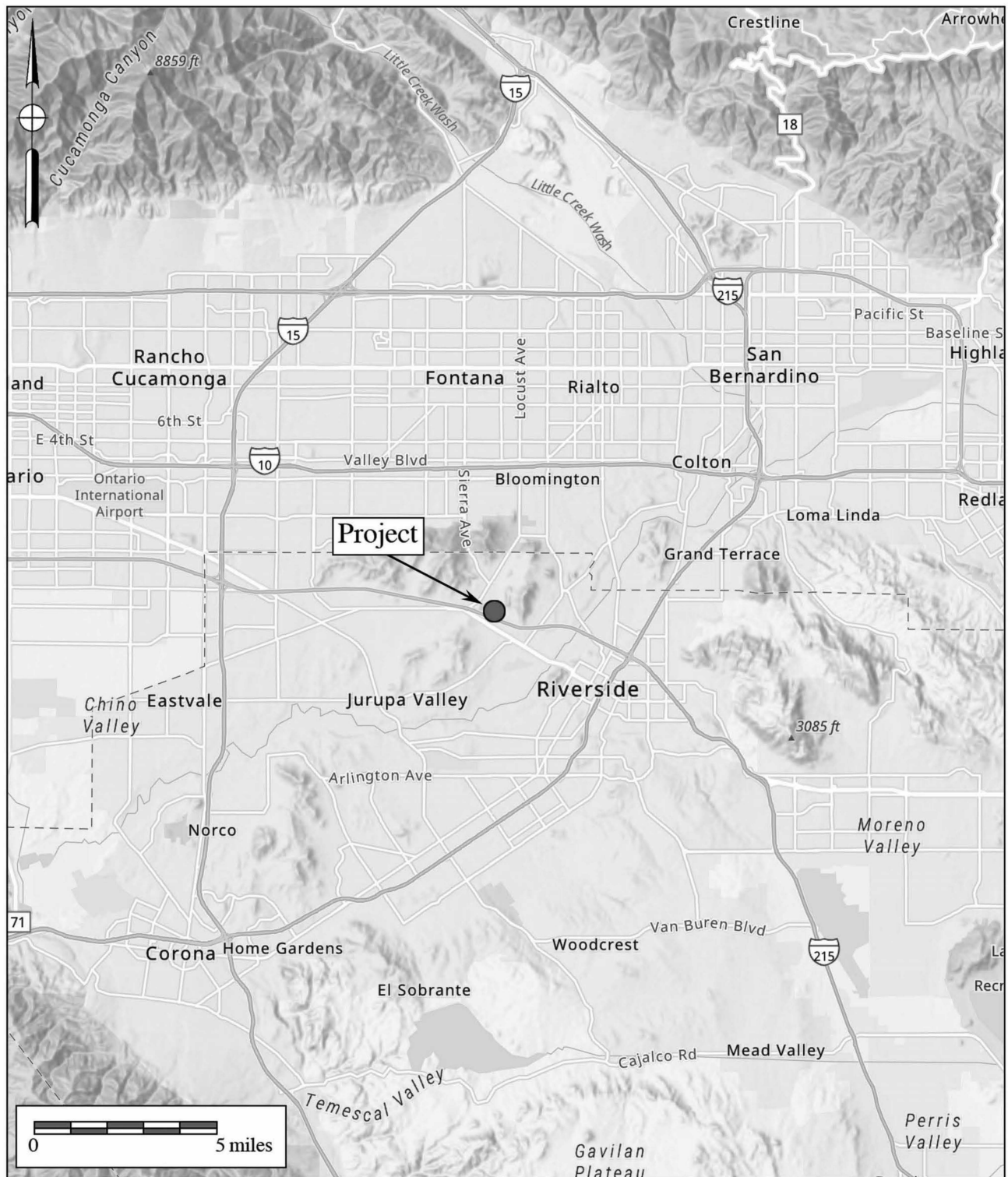


Figure 1
General Location Map
 The 6401 33rd Street Project
 Esri World Topographic Map



Figure 2
Project Location Map
 The 6401 33rd Street Project

USGS Fontana and Riverside West Quadrangles (7.5-minute series)

In the CEQA's Environmental Checklist Form, a question to respond to 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 by which protects nonrenewable resources including fossils, which is paraphrased below:

- 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 Jurupa Valley

The 2017 City of Jurupa Valley General Plan (City of Jurupa Valley 2017a) presents general, non-specific policies for preserving cultural and paleontological resources. The General Plan includes a map that delineates the levels of paleontological sensitivity assigned to the geologic formations within the city limits, given as Low, High B, or High A (City of Jurupa Valley 2017a:4–36). The General Plan explains that the paleontological sensitivity "map is used in the environmental assessment of development proposals and the determination of required impact mitigation" (City of Jurupa Valley 2017a). The degree of paleontological sensitivity for the project is outlined in Section V.

The appendices to the 2017 City of Jurupa Valley General Plan provide mitigation and monitoring guidelines for paleontological resources. Mitigation Measure 4.5.5.3A states:

Prior to issuance of a grading permit, a project applicant must demonstrate if the proposed project grading will impact underlying soil units or geologic formations that have a moderate to high potential to yield fossiliferous materials. If the potential for fossil discovery is low, no pre-grading monitoring needs to be established. If the potential for fossil discovery is moderate to high, the applicant must provide a paleontological monitor during rough grading of the project. If a paleontologist is not onsite and possible fossil materials are found, work shall be halted in that area until the material can be assessed by a qualified professional. If materials are found onsite during grading, a qualified professional shall evaluate

the find and determine if it represents a significant paleontological resource. If the resource is determined to be significant, the paleontologist shall supervise removal of the material and determine the most appropriate archival storage of the material. This measure shall be implemented to the satisfaction of the City Planning Department. (City of Jurupa Valley 2017b:115)

III. GEOLOGY

Geologic maps of the Jurupa Valley area (Figure 3, after Morton 2003; Morton and Cox 2001) show the project is mapped on surface exposures of middle to late Pleistocene-aged old alluvial fan sediments (areas colored mustard and labeled “Qof1” on Figure 3). According to Morton (2003), these deposits consist mainly of indurated, sandy to pebbly and cobbly, clay-bearing older alluvium that form extensive deposits along the south side of the Jurupa Mountains. The alluvial fan deposits lap around and onto hills composed of various Cretaceous crystalline rocks (colored pink and purple on Figure 3) of the Jurupa Mountains, west and east of the project. Artificial fill deposits are shown in brown (“Qaf”) on Figure 3, north, west, and east of the project. The area is the location of several active and former sand and gravel quarries.

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, above).

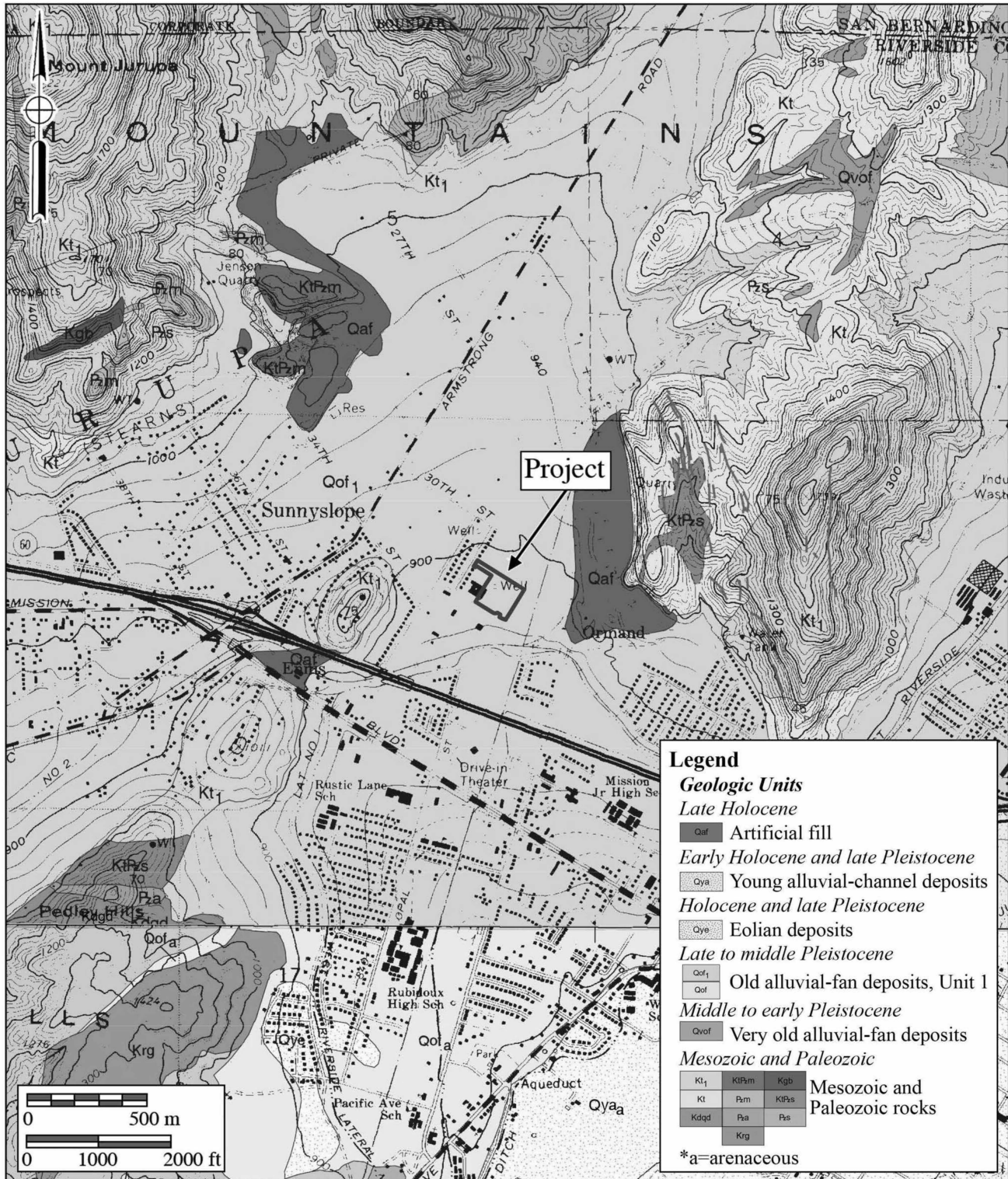


Figure 3
Geologic Map

The 6401 33rd Street Project

Geology after Morton (2003) and Morton and Cox (2001)

Fossil Locality Search

A paleontological collections and locality records search was conducted using prior record searches conducted by the San Bernardino County Museum (SBCM), the Los Angeles County Museum of Natural History (LACM), publications, and literature. The nearest known fossil locality is held by the SBCM and is located in the Belltown neighborhood of Jurupa Valley, about a mile and a half east of the project (Kottkamp 2022). This locality (SBCM locality no. 5.1.22) consists of mastodon bones from late Pleistocene-aged sandy, old alluvial fan deposits from approximately 25 feet below the surface. From literature and online sources, another fossil locality is the “Mira Loma Mammoth.” A pair of mammoth tusks were unearthed during a construction project in the Mira Loma neighborhood of Jurupa Valley in the early 2000s, roughly seven to nine miles west-southwest of the project. The tusks are on display at the Jurupa Mountains Discovery Center in Jurupa Valley (Awad 2019). The nearest fossil locality held by the LACM is in Corona, consisting of bones from a Pleistocene deer.

Project Survey

BFSA staff, under the supervision of Principal Investigator Todd A. Wirths, M.S., Senior Paleontologist, conducted a project survey on October 28, 2024. The field methodology employed for the project included walking evenly spaced survey transects set approximately 20 meters apart while visually inspecting the ground surface. All potentially sensitive areas where paleontological resources might be located were closely inspected. The entire property was accessible with ground visibility characterized as moderate to poor. Visibility was obscured at times by non-native grasses and weeds that covered the majority of the project. Modern trash was observed on the parcel near the property’s access from 33rd Street. No bedrock outcrops were exposed that might indicate the presence of fossils. No paleontological resources, or evidence indicating the presence of paleontological resources, were identified as a result of the 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. However, Pleistocene (greater than 11,700 years old) alluvial and alluvial fan deposits in western Riverside County and the Inland Empire can 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). Therefore, these Pleistocene sediments are accorded a high paleontological resource sensitivity.

Professional Standard

The Society of Vertebrate Paleontology 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, and that 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 the age of the alluvial fan deposits mapped at the project and the fossil record of the formation, the old alluvial fan deposits at the project may be assigned a high potential to yield significant paleontological resources.

City of Jurupa Valley Paleontological Sensitivity Assessment

The regulatory agency reviewing this document is the City of Jurupa Valley; however, the City's paleontological sensitivity criteria (City of Jurupa Valley 2017a) is based on the County of Riverside Land Information System interactive online database (County of Riverside 2024). The City of Jurupa Valley maps degrees of paleontological sensitivity assigned to the geologic formations within the city limits (Low, High B, or High A) (City of Jurupa Valley 2017a:4–36), but this discussion will reference the sensitivity value definitions provided by the County of Riverside (2024).

The City (City of Jurupa Valley 2017a) and the County of Riverside (2024) apply a “High A” paleontological sensitivity to the Pleistocene old alluvial fan deposits. The County of Riverside (2024) identifies a “High A” ranking as “Based on geologic formations or mappable rock units that are rocks that contain fossilized body elements, and trace fossils such as tracks, nests and eggs. These fossils occur on or below the surface.”

VI. CONCLUSIONS AND RECOMMENDATIONS

Research has confirmed the existence of potentially fossiliferous Pleistocene old alluvial fan deposits occurring at the 6401 33rd Street Project (Qof_a on Figure 3). Terrestrial vertebrate fossils from Pleistocene older alluvial fan sediments have been documented across the Inland Empire and western Riverside County. The high paleontological sensitivity typically assigned to Pleistocene alluvial fan sediments for yielding paleontological resources supports the recommendation that paleontological monitoring be required during mass grading, trenching, and excavation activities in undisturbed Pleistocene alluvial fan sediments to mitigate any adverse impacts (loss or destruction) to potential nonrenewable paleontological resources. Paleontological monitoring in artificial fill or disturbed soils is not warranted.

Full-time monitoring is recommended starting at the surface (when not covered by artificial fill) during earth disturbance activities, in accordance with City of Jurupa Valley guidelines (City of Jurupa Valley 2017a) and Mitigation Measure 4.5.5.3A (City of Jurupa Valley 2017b). A Paleontological Resource Impact Mitigation Program (PRIMP) should be implemented prior to the approval of the project's grading permits by the City of Jurupa Valley, which would describe monitoring and fossil collection procedures. When implemented with the provisions of CEQA and the guidelines of the Society of Vertebrate Paleontology (2010), an approved PRIMP would mitigate any adverse impacts (loss or destruction) to potential nonrenewable paleontological resources (fossils), if present, to a level below significant. A PRIMP for the project is suggested below:

1. All mitigation programs should be performed by a qualified professional (project) paleontologist, defined as an individual with a master's or doctorate degree in paleontology or geology who has proven experience in paleontology and who is knowledgeable in professional paleontological procedures and techniques. Fieldwork may be conducted by a qualified paleontological monitor, defined as an individual who has experience in the collection and salvage of fossil materials. The paleontological monitor shall always work under the direction of a qualified paleontologist.
2. Monitoring of mass grading and excavation activities shall be performed by a qualified paleontologist or paleontological monitor. Full-time monitoring for paleontological resources will be conducted in areas where grading, excavation, or drilling activities occur in Pleistocene old alluvial fan deposits to mitigate any adverse impacts (loss or destruction) to potential nonrenewable paleontological resources. Monitoring of artificial fill and disturbed soils, if present, is not warranted.
3. Paleontological monitors will be equipped to salvage fossils as they are unearthed to avoid construction delays and to remove samples of sediment that are likely to contain the remains of small fossil invertebrates and vertebrates. The monitor must

be empowered to temporarily halt or divert equipment to allow for the removal of abundant or large specimens in a timely manner. The monitor shall notify the project paleontologist, who will then notify the concerned parties of the discovery. Monitoring may be reduced if the potentially fossiliferous units are not present in the subsurface, or if they are present, are determined upon exposure and examination by qualified paleontological personnel to have low potential to contain fossil resources.

4. Preparation of recovered specimens to a point of identification and permanent preservation will be conducted, including screen-washing sediments to recover small vertebrates and invertebrates if indicated by the results of test sampling. Preparation of any individual vertebrate fossils is often more time-consuming than for accumulations of invertebrate fossils.
5. All fossils must be deposited in an accredited institution (university or museum) that maintains collections of paleontological materials. The Western Science Center in Hemet, California, is the preferred institution by the County of Riverside. All costs of the paleontological monitoring and mitigation program, including any one-time charges by the receiving institution, are the responsibility of the developer.
6. Preparation of a final monitoring and mitigation report of findings and significance will be completed, including lists of all fossils recovered and necessary maps and graphics to accurately record their original location(s). A letter documenting receipt and acceptance of all fossil collections by the receiving institution must be included in the final report. The report, when submitted to and accepted by the appropriate lead agency (*e.g.*, the City of Jurupa Valley), will signify satisfactory completion of the project program to mitigate impacts to any nonrenewable paleontological resources.

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.



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California Professional Geologist No. 7588

November 11, 2024

Date

VIII. REFERENCES

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APPENDIX A

Qualifications of Key Personnel

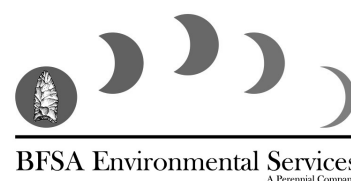
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Education

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.