

PALEONTOLOGICAL ASSESSMENT FOR THE PEPPER 210 COMMERCE CENTER PROJECT

**PROJ-2022-00182
SAN BERNARDINO COUNTY, CALIFORNIA**

APN 264-431-18

Prepared for:

**Carson Companies
100 Bayview Circle, Suite 3500
Newport Beach, California 92660**

Submitted to:

**County of San Bernardino
385 North Arrowhead Avenue
San Bernardino, California 92415**

Prepared by:

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a Perennial Company
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July 10, 2023; Revised February 6, 2024



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A Perennial Company

Paleontological Database Information

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Report Date: July 10, 2023; Revised February 6, 2024

Report Title: Paleontological Assessment for the Pepper 210 Commerce
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USGS Quadrangle: Township 1 North, Range 5 West, of the *San Bernardino North,*
California (7.5-minute) Quadrangle

Assessor's Parcel Number: 264-431-18

Study Area: 101.6 acres

Key Words: Paleontological assessment; Holocene alluvial wash deposits;
monitoring not recommended.

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I. INTRODUCTION AND LOCATION

A paleontological resource assessment has been completed for the Pepper 210 Commerce Center Project located at 20080 Highland Avenue, west of the intersection of North Pepper Avenue and Interstate 210, in unincorporated San Bernardino County, California (Figures 1 and 2). The project consists of one 101.6-acre parcel (Assessor's Parcel Number [APN] 264-431-18). On the U.S. Geological Survey (USGS) (7.5-minute) 1:24,000-scale *San Bernardino North, California* topographic quadrangle map, the project is located in an unsectioned area of the Muscupiabe Land Grant in Township 1 North, Range 5 West of the San Bernardino Baseline and Meridian (Figure 2). The elevation of the project ranges from approximately 1,300 to 1,360 feet above mean sea level. The project includes the construction of a 1,232,660-square-foot multi-use warehouse, distribution, and logistics center building with associated hardscape, landscaping, parking, and infrastructure, following the removal of the existing structures on the property. The surface of the property is extensively disturbed, having been the site of a sand and gravel materials quarry for nearly a century. Currently, the quarry is operated by the Vulcan Materials Company.

As the Lead Agency, the County of San Bernardino has required the preparation of a paleontological assessment to evaluate the project's potential to yield paleontological resources (PROJ-2022-00182). The paleontological assessment of the project included a review of paleontological literature and fossil locality records for a previous project in the area, a review of the underlying geology, and recommendations to mitigate impacts to potential paleontological resources.

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. For this project, policies governing paleontological resources from County of San Bernardino are reviewed and applied, in accordance with CEQA.

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 CEQA. Section 15063 of the CCR provides a process by which a lead agency may review a project's potential impact to the environment, determine whether the impacts are significant, and provide recommendations, if necessary.

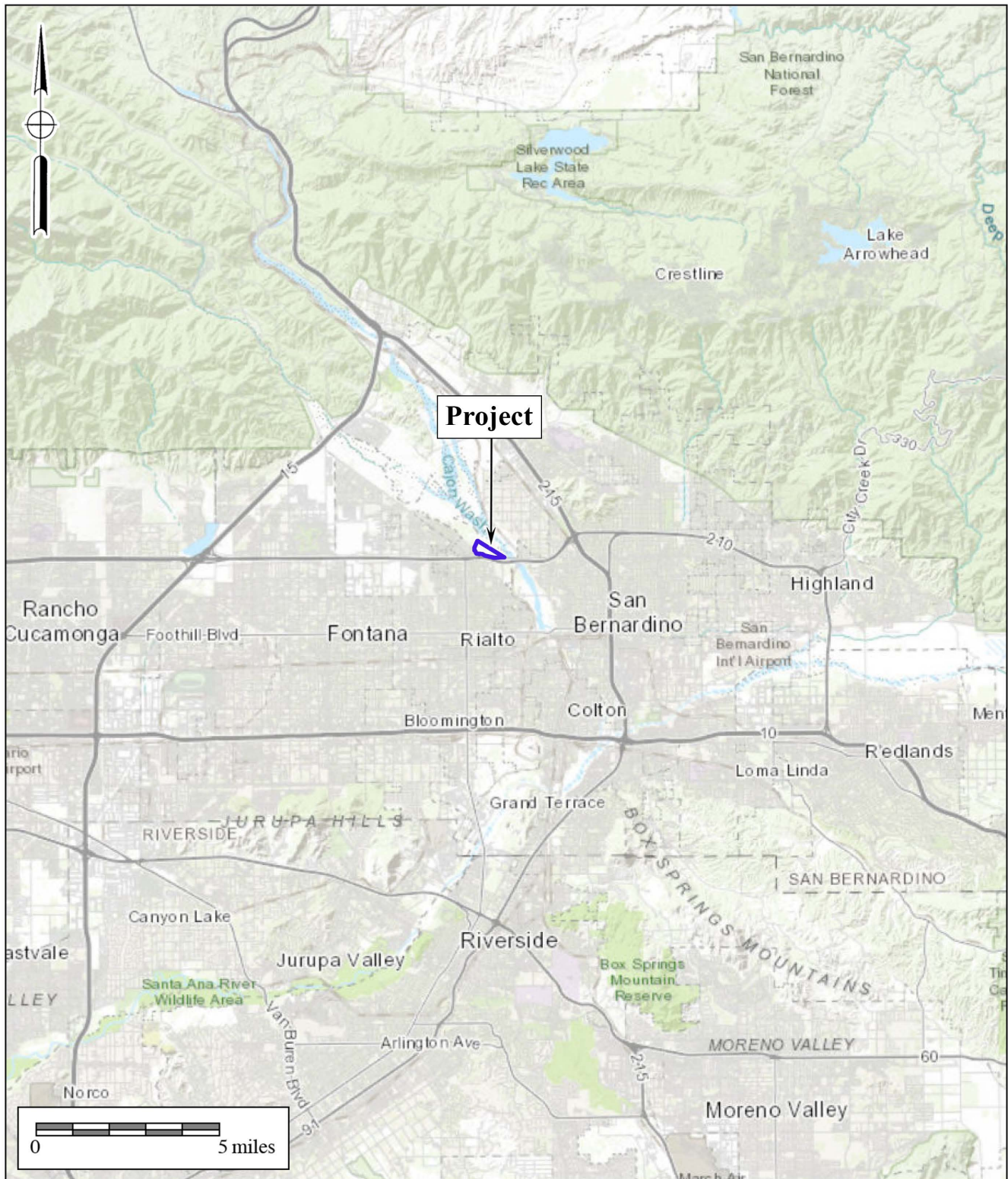


Figure 1
General Location Map
 The Pepper 210 Commerce Center Project
ESRI World Topographic Map

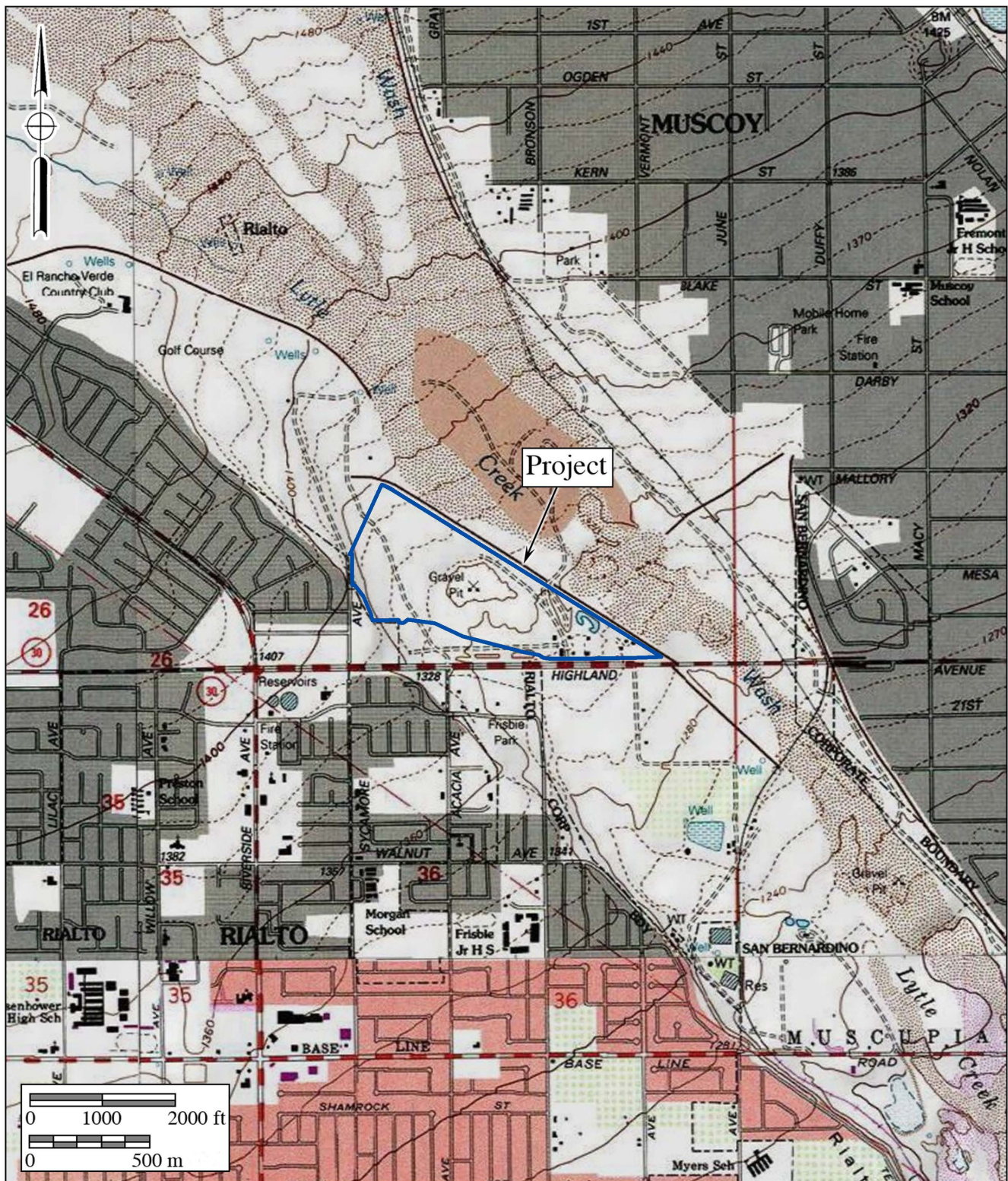


Figure 2

Project Location Map

The Pepper 210 Commerce Center Project

USGS San Bernardino North, San Bernardino South, Devore, and Fontana
Topographic Quadrangles (7.5-minute series)

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, 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.

County of San Bernardino

The County of San Bernardino 2007 Development Code has developed criteria for applying guidelines to preserve and protect nonrenewable paleontological resources (County of San Bernardino 2019). In Chapter 82.20, "Paleontologic Resources (PR) Overlay," of the Development Code, Purpose, Location Requirements, Development Standards, and Paleontologist Qualifications are described in Sections 82.20.010 through 82.20.040, respectively (County of San Bernardino 2019).

III. GEOLOGY

The project is within the modern drainage limits of Lytle Creek Wash and between the seismically active San Andreas and San Jacinto fault zones as mapped by Miller et al. (2001) and Morton and Matti (2001). As shown and defined on Figure 3, sediments mapped at the project consist of Holocene-aged alluvial wash (areas labeled "Qw" and Qw₂) and fan deposits of boulders, gravels, and sands (areas labeled "Qyf₃" and "Qyf₅"). These deposits are mostly composed of unconsolidated silt, sand, gravel, and boulders in active washes. The main sources of these sediments are from the Lytle Creek and Cajon Wash drainages, which are close to the northwest to southeast trending San Andreas fault zone that cuts across and separates the San Gabriel and San Bernardino mountain ranges (Morton and Miller 2006). Older, Pleistocene-aged old alluvial fan deposits are mapped less than a mile to the west and southwest of the project (labeled as "Qof₃" on Figure 3).

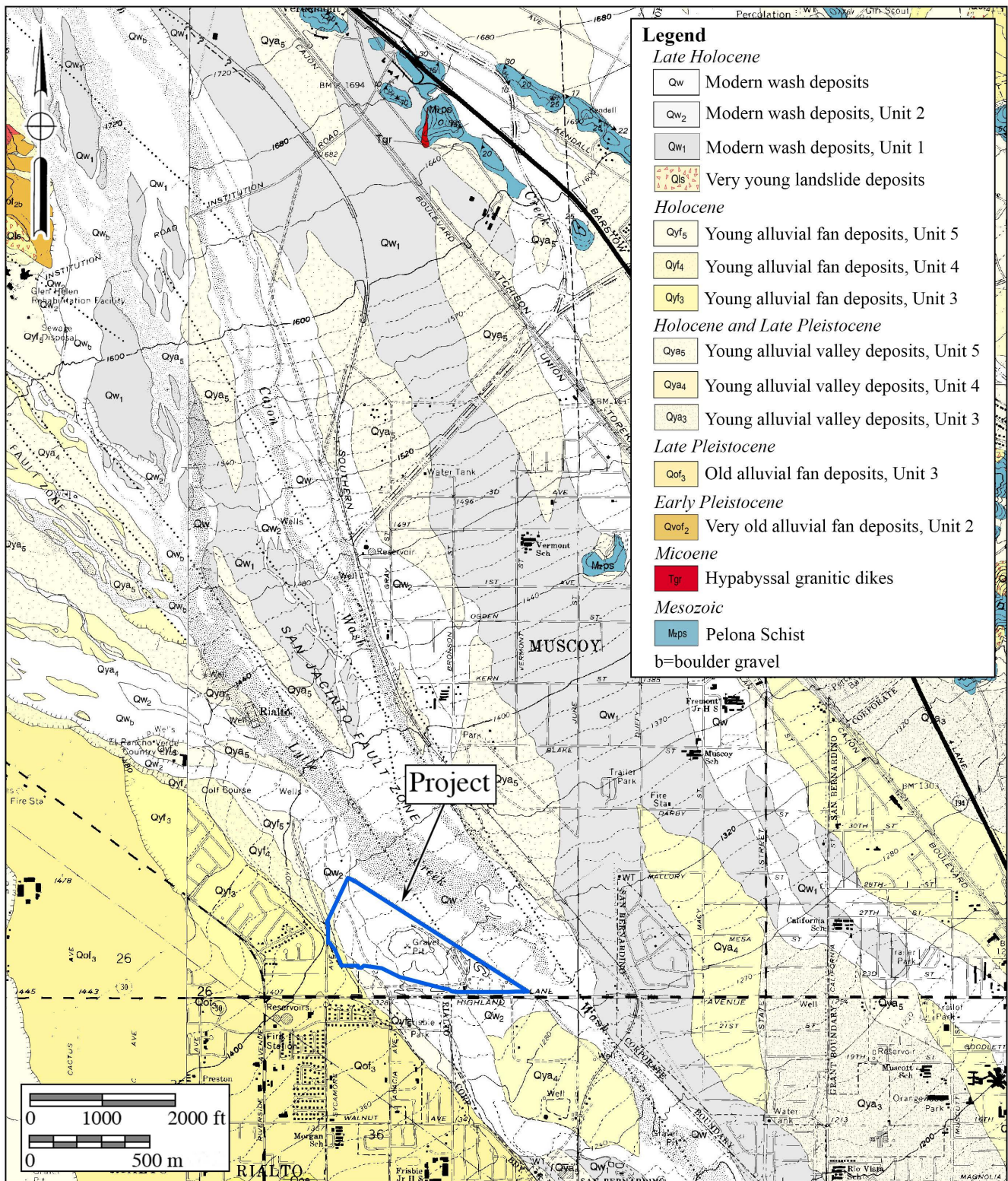


Figure 3
Geologic Map

The Pepper 210 Commerce Center Project
Geology after Morton and Matti (2001) and Miller et al. (2001)

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 [SVP] 2010) but may include younger remains (subfossils) when viewed in the context of local extinction of the organism or habitat, for example. Fossils are considered a nonrenewable resource under state and local guidelines (Section II of this report).

Fossil Locality Search

A project-specific locality search was solicited from the San Bernardino County Museum (SBCM) but could not be completed at the time of the original report in July of 2023. A paleontological collections and locality records search was conducted using prior record searches conducted by the SBCM and the Los Angeles County Museum of Natural History (LACM). Specifically, a record search for the Casmalia and Linden Project was utilized, about two miles west of the current project (Kottkamp 2022), and a record search for the San Bernardino Trailer Facility Project, located about four miles north of the current project was utilized (Bell 2021). The record search areas covered by both former projects encompassed the current project. The closest known fossils are located approximately 2.5 miles east of the current project, consisting of the remains of a mammoth recovered from Pleistocene old alluvial deposits during freeway construction work (SBCM locality [loc.] 1.102.1) (Kottkamp 2022; *The San Bernardino County Sun* 1958). No other localities are held by the SBCM within five miles of the project. Kottkamp (2022) indicated that Pleistocene-aged old alluvial deposits, such as those mapped near the project (see Section III and Figure 3), have been found to be highly fossiliferous in the local area, yielding the remains of mastodons, mammoths, camels, horses, bison, and ground sloths, as well as microfossils including rodents. The nearest-known LACM fossil localities of Pleistocene age are located approximately 16 miles southwest of the project in the city of Eastvale in Riverside County, consisting of snake remains (LACM loc. 7811) and horse and camel remains from English Canyon in Chino Hills, over 20 miles to the southwest (LACM loc. 1728) (Bell 2021).

Project Survey

BFSA staff, under the supervision of Principal Investigator Todd A. Wirths, M.S., Senior Paleontologist, conducted a project survey on June 1, 2023. The field methodology employed for the project included walking evenly spaced survey transects set approximately 10 meters apart while visually inspecting the ground surface. All potentially sensitive areas where paleontological resources might be located were closely inspected. While the entire project was accessible, ground surface visibility was poor since the entire property has been developed as a

mining facility and is being actively utilized for gravel storage. A total of 14 corrugated metal buildings and two plant buildings were observed on the property. The entire surface of the project is disturbed. The northern and western boundaries of the project are defined by a five- to eight-foot-high levee constructed of native materials: sand, gravel, and cobbles. The levee is roughly 12 feet above the surface of Lytle Creek Wash. 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 may 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 typically assigned a low paleontological sensitivity. Pleistocene (over 11,700 years old) alluvial and alluvial fan deposits in the Inland Empire, however, often yield important terrestrial vertebrate fossils, such as extinct mammoths, mastodons, giant ground sloths, extinct species of horse, bison, camel, saber-toothed cats, and others (Jefferson 1991; Kottkamp 2022). These Pleistocene sediments are typically 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, 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 young geologic age of the sediments mapped at the project, their extreme coarseness, and the lack of nearby significant fossil localities, the Holocene wash and alluvial deposits can be considered to have a low potential to yield significant paleontological resources.

County Assessment

The County of San Bernardino applies its “Paleontologic Resources (PR) Overlay” guideline to those areas where paleontological resources are known to occur or are likely to be present, by using fossil location criteria reported by the SBCM, the University of California Museum of Paleontology (Berkeley), the LACM, or other institutions (County of San Bernardino 2018, Section 82.20.020). Since a low paleontological resource sensitivity has been, and can be, applied to the geologic strata beneath the project (SVP 2010), and no known fossil resources have been found in the area of the project (Section IV, above), the application of the County’s PR Overlay criteria (Section 82.20.030) does not appear necessary (County of San Bernardino 2018).

VI. CONCLUSIONS AND RECOMMENDATIONS

In general, very coarse sedimentary deposits, such as those at the project, usually do not have a high potential to yield fossils, since their rapid, catastrophic mode of deposition and destructive nature are usually not favorable conditions for the preservation of animal remains. Furthermore, the geologically very young age of the deposits—as young as historic—precludes the presence of fossilized remains. Therefore, the presence of modern and Holocene-aged alluvial deposits at the project, their coarse consistency, and the lack of any known fossil specimens or fossil localities near the project support the conclusion that paleontological monitoring is *not* recommended during earth disturbance activities at the Pepper 210 Commerce Center Project. A Paleontological Resource Impact Mitigation Program (PRIMP) is not warranted.

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.



February 6, 2024

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

Date

VIII. REFERENCES

- Bell, A. 2021. Paleontological resources for the San Bernardino Trailer Facility Project. Unpublished letter for Brian F. Smith and Associates, Inc., Poway, California, by the Los Angeles County Museum of Natural History, Los Angeles, California.
- County of San Bernardino. 2019. County of San Bernardino 2007 Development Code. Prepared for the County of San Bernardino Land Use Services Division by several consultants. Adopted March 13, 2007; effective April 12, 2007; amended May 2, 2019. Electronic document, <http://www.sbcounty.gov/Uploads/lus/DevelopmentCode/DCWebsite.pdf>.
- 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.
- Kottkamp, S. 2022. Paleontology records review for proposed site of Casmalia and Linden project, Rialto, San Bernardino County, California. Unpublished letter report prepared for Brian F. Smith and Associates, Inc., Poway, California, by the Division of Earth Sciences at the San Bernardino County Museum, Redlands, California.
- Miller, F.K., Matti, J.C., and Carson, S.E. 2001. Geologic map of the San Bernardino North 7.5' quadrangle, San Bernardino County, California: USGS Open-File Report 01-131, v. 1.0.
- Morton, D.M., and Matti, J.C. 2001. Geologic map of the Devore 7.5' quadrangle, San Bernardino County, California: USGS Open-File Report 01-173, v. 1.0.

Morton, D.M. and Miller, F.K. 2006. Geologic map of the San Bernardino and Santa Ana 30' x 60' quadrangles, California: USGS Open-File Report 06-1217, scale 1:100,000.

Society of Vertebrate Paleontology. 2010. Standard procedures for the assessment and mitigation of adverse impacts to paleontological resources; by the SVP Impact Mitigation Guidelines Revision Committee: https://vertpaleo.org/wp-content/uploads/2021/01/SVP_Impact_Mitigation_Guidelines.pdf.

The San Bernardino County Sun. 1958. Workmen unearth relics. Page 11. June 21.

APPENDIX A

Qualifications of Key Personnel

Todd A. Wirths, MS, PG No. 7588

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E ducation

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

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

P rofessional C ertifications

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

P rofessional M emberships

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

E xperience

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 BFSAE nvironmental Services, 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.

S elected R ecent R eports

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.