

PALEONTOLOGICAL ASSESSMENT FOR THE DISCOVERY VILLAGE PROJECT

MURRIETA, RIVERSIDE COUNTY, CALIFORNIA

APN 392-290-049

Submitted to:

City of Murrieta
1 Town Square
Murrieta, California 92562

Prepared for:

Discovery Village, LLC
2646 Dupont Drive, Suite 60 #520
Irvine, California 92612

Prepared by:

Brian F. Smith and Associates, Inc.
14010 Poway Road, Suite A
Poway, California 92064



February 4, 2022

Paleontological Database Information

Author: Todd A. Wirths, M.S., Senior Paleontologist, California
Professional Geologist No. 7588

Consulting Firm: Brian F. Smith and Associates, Inc.
14010 Poway Road, Suite A
Poway, California 92064
(858) 679-8218

Report Date: February 4, 2022

Report Title: Paleontological Assessment for the Discovery Village Project,
Murrieta, Riverside County, California

Prepared for: Discovery Village, LLC
2646 Dupont Drive, Suite 60 #520
Irvine, California 92612

Submitted to: City of Murrieta
1 Town Square
135 North D Street
Murrieta, California 92562

Assessor's Parcel Number: 392-290-049

USGS Quadrangle: Section 35, Township 6 South, Range 3 West of the *Murrieta*,
California USGS quadrangles (7.5-minute)

Study Area: Approximately 56 acres

Key Words: Paleontological assessment; Cretaceous plutonic bedrock; city of
Murrieta; monitoring not recommended.

Table of Contents

<u>Section</u>	<u>Page</u>
I. INTRODUCTION AND LOCATION.....	1
II. REGULATORY SETTING	1
<i>State of California</i>	1
<i>City of Murrieta</i>	4
III. GEOLOGY	4
IV. PALEONTOLOGICAL RESOURCES	6
<i>Definition</i>	6
<i>Fossil Records Search</i>	6
V. PALEONTOLOGICAL SENSITIVITY	6
<i>Overview</i>	6
<i>Professional Standard</i>	7
VI. RECOMMENDATIONS	7
VII. CERTIFICATION	7
VIII. REFERENCES CITED	8

Appendices

Appendix A – Qualifications of Key Personnel

List of Figures

<u>Figure</u>	<u>Page</u>
Figure 1 General Location Map	2
Figure 2 Project Location Map.....	3
Figure 3 Geologic Map.....	5

I. INTRODUCTION AND LOCATION

A paleontological resource assessment has been completed for the Discovery Village Project (Assessor's Parcel Number 392-290-049) located west of Whitewood Road, south of Baxter Road, east of Interstate 215, and north of Running Rabbit Road, in the city of Murrieta, Riverside County, California (Figures 1 and 2). On the U.S. Geological Survey, 7.5-minute, 1:24,000-scale *Murrieta, California* topographic quadrangle map, the project is located in Section 35, Township 6 South, Range 3 West, San Bernardino Baseline and Meridian (see Figure 2). The approximately 56-acre project proposes the creation of large pads designed for the anticipated future development of commercial, business park, and residential uses as allowed by the City's General Plan and zoning designations.

As the lead agency, the City of Murrieta 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. A paleontological field survey was not conducted since the geology of the project property is composed of weathered granitic bedrock.

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 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 by which protects nonrenewable resources including fossils, which is paraphrased below:

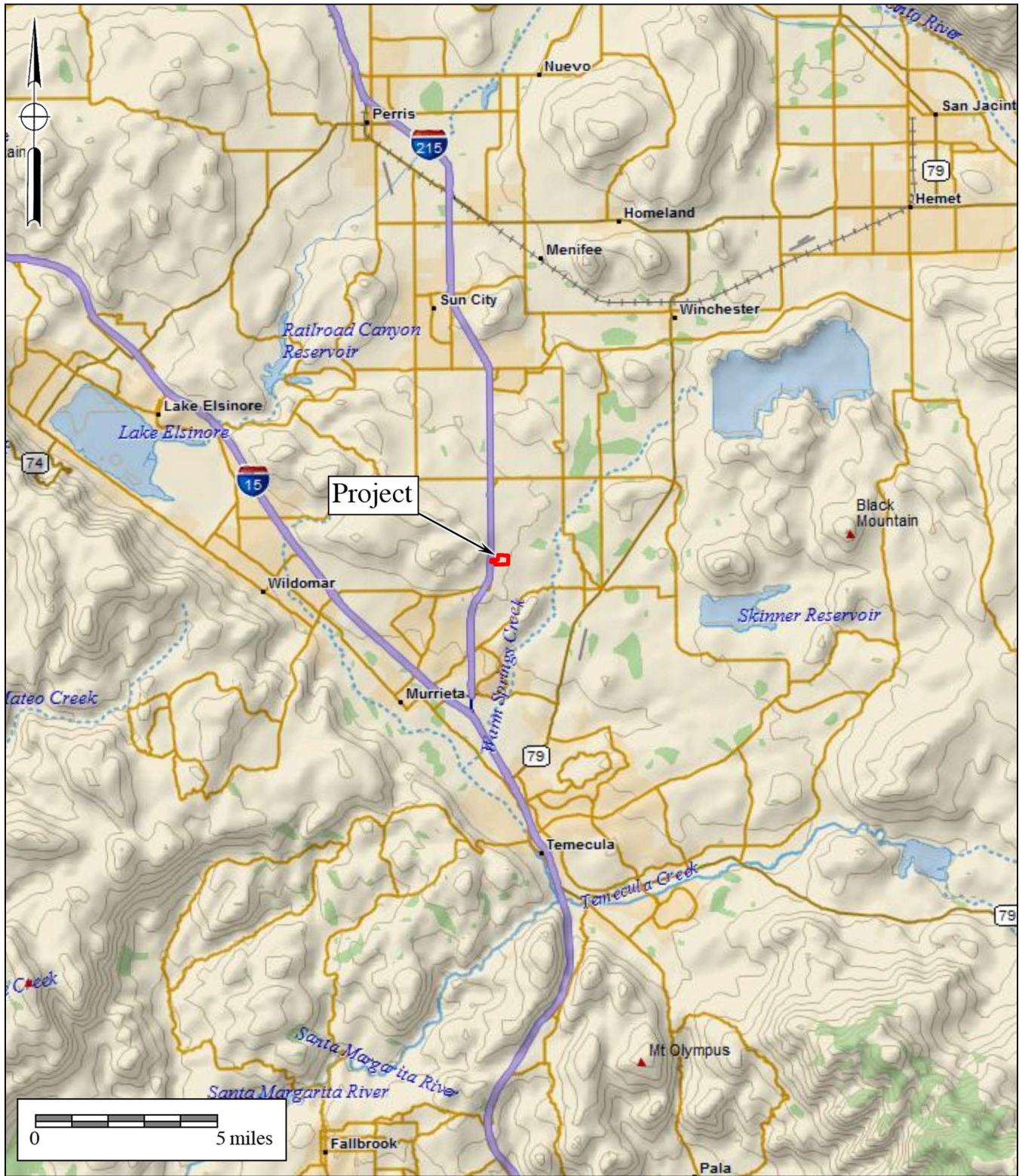


Figure 1

General Location Map

The Discovery Village Project

DeLorme (1:250,000)



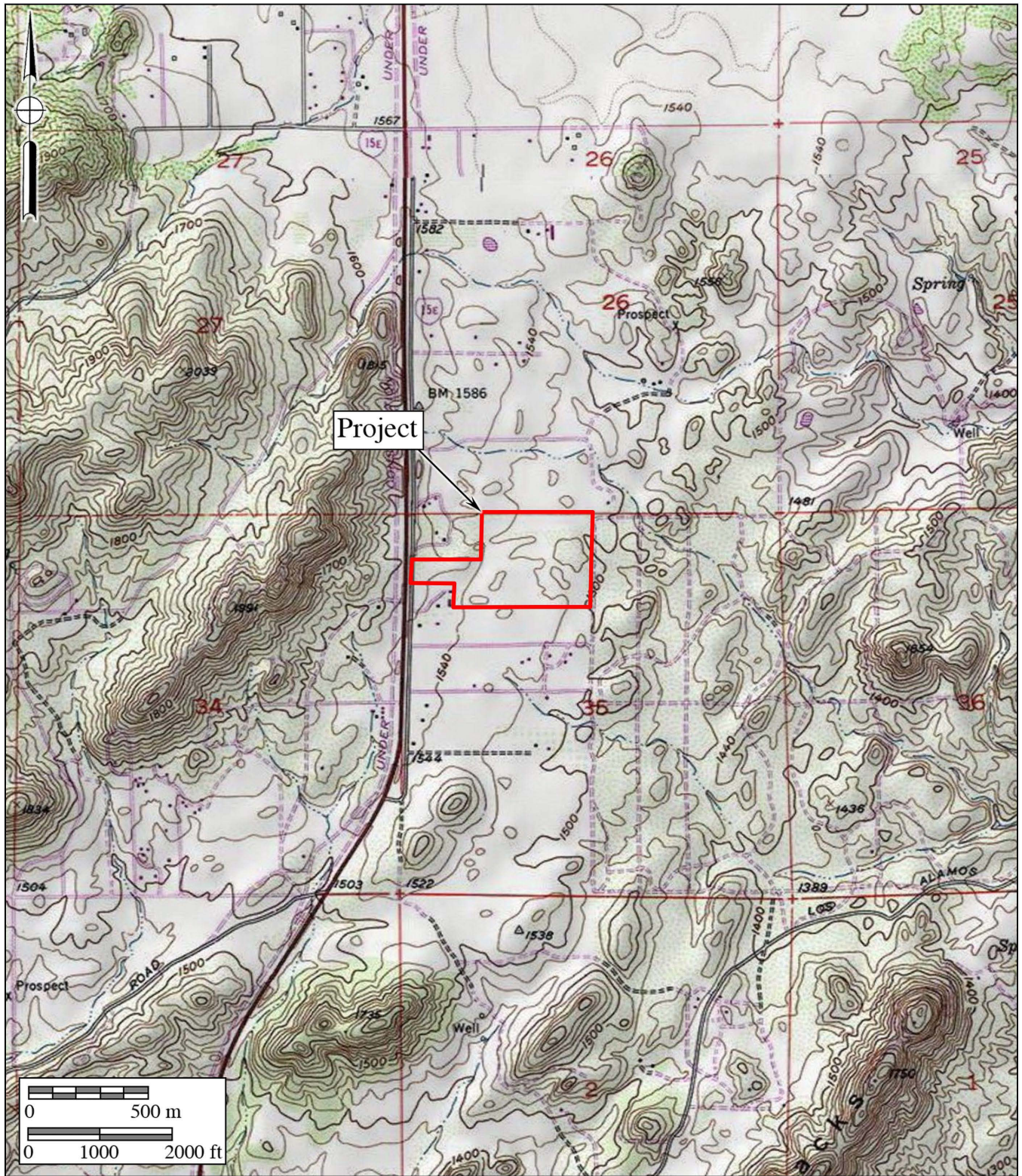


Figure 2

Project Location Map

The Discovery Village Project

USGS Romoland and Murrieta Quadrangles (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 Murrieta

In Chapter 8 of the Conservation Element of the City’s General Plan, goals and policies concerning paleontological resources are outlined in general terms (City of Murrieta 2011a). The goals and policies are repeated in Section 5.9 of the City’s Environmental Impact Report (EIR) (City of Murrieta 2011b). Within Section 5.9 the EIR, potential impacts to paleontological resources are identified and evaluated. Mitigation measure CR-2 provides mitigation procedures in the event of an inadvertent discovery of paleontological resources. By adhering to the General Plan’s Conservation Element Goal CSV-7 and its associated policies, and mitigation measure CR-2, potential impacts to paleontological resources would be reduced to a level below significant, according to the EIR (City of Murrieta 2011b).

III. GEOLOGY

Regionally, the project lies within the Elsinore Fault zone, which divides the Perris Block, on the northeast side of the fault zone, from the Santa Ana Block on the southwest. The project lies within Cretaceous-aged gabbro and granodiorite of the Paloma Valley Ring Complex (purple and pink-colored areas on Figure 3, respectively, after Kennedy and Morton 2003; Morton 2003). These rocks originated several miles below the surface as magma, having crystalized approximately 118 to 121 million years ago (Kennedy and Morton 2003).

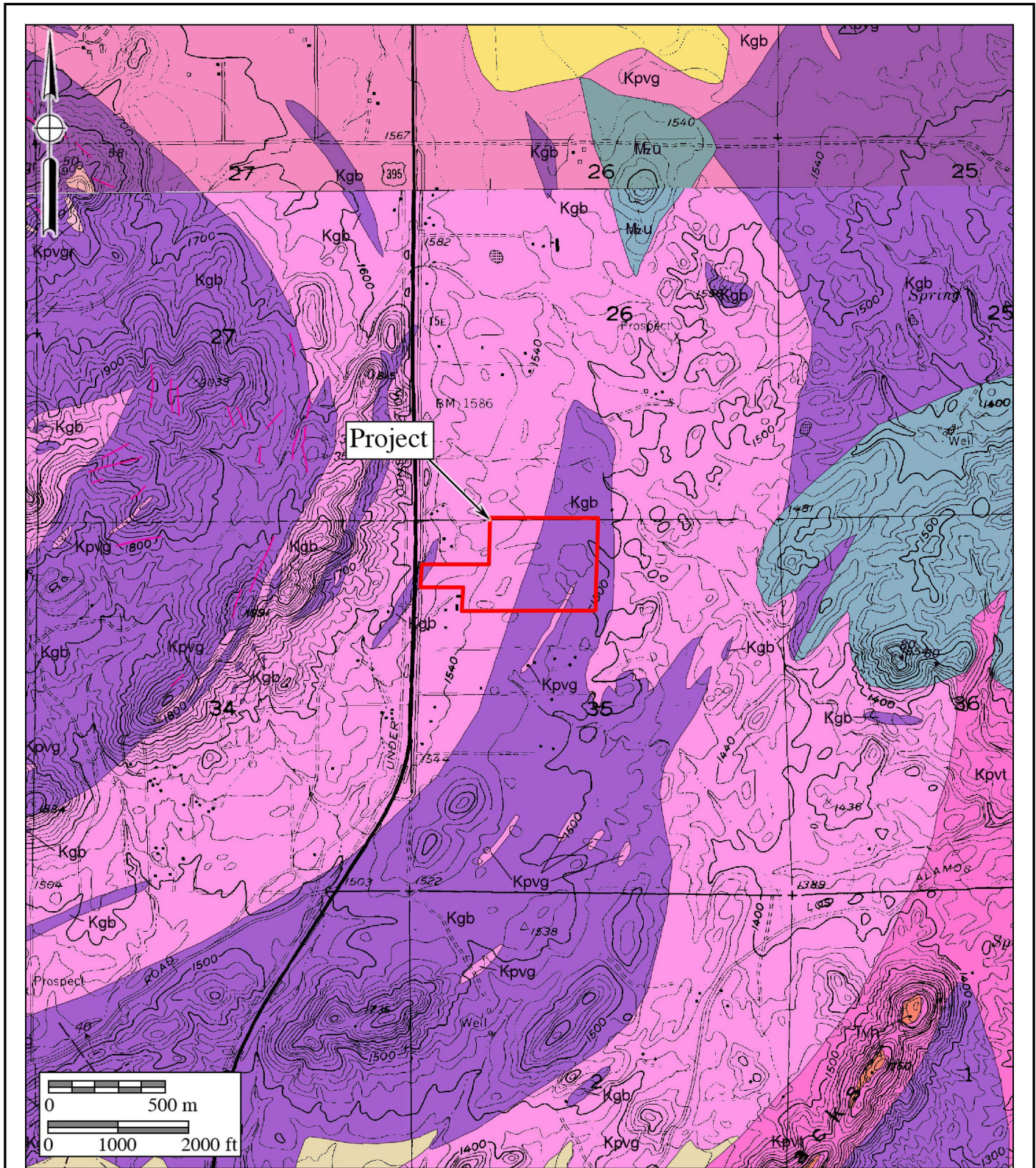


Figure 3
Geologic Map

The Discovery Village Project

Geology after Kennedy and Morton (2003) and Morton (2003)



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 Records Search

The nearest fossil localities are located in the western, middle, and southern areas of Murrieta, in areas geologically mapped as the Pleistocene-aged Pauba Formation and Pleistocene to Pliocene-aged unnamed sandstone formation (Kennedy and Morton 2003). In the Wildomar, Murrieta, and Temecula areas, the Pauba Formation and the unnamed formation have yielded many fossil bones of large and small mammals, such as extinct mastodons, giant ground sloths, horses, camels, bison, mammoths, and carnivores such as dire wolves and saber-tooth cats (Reynolds and Reynolds 1990a, 1990b; Reynolds et al. 1990; Scott and Cox 1993; Pajak et al. 1996).

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. Older Pleistocene (greater than 11,700 years old) alluvial and alluvial fan deposits in the Inland Empire, however, often yield important Ice Age terrestrial vertebrate fossils, such as extinct mammoths, mastodons, giant ground sloths, extinct species of horse, bison, camel, saber-toothed cats, and others (Jefferson 1991). These Pleistocene sediments are therefore accorded a High paleontological resource sensitivity.

Professional Standard

The Society of Vertebrate Paleontology 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.

Since the project is situated in an area mapped as Cretaceous plutonic rocks, there is no potential for fossils to occur at the project. Therefore, the project has no paleontological sensitivity.

VI. RECOMMENDATIONS

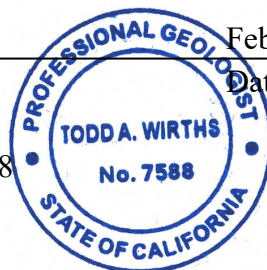
Research has confirmed the existence of Cretaceous plutonic bedrock at the project. Since paleontological resources do not occur in this type of rock, monitoring is not warranted during earth disturbance activities. Therefore, a paleontological mitigation monitoring and reporting program is not recommended for the project.

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



February 4, 2022

Date

VIII. REFERENCES CITED

- City of Murrieta. 2011a. Chapter 8, Conservation Element, Murrieta General Plan 2035. <https://www.murrietaca.gov/DocumentCenter/View/4362/08---Conservation-Elementpdf>.
- City of Murrieta. 2011b. Section 5.9: Cultural Resources, Final Environmental Impact Report, Murrieta General Plan 2035, SCH NO. 2010111084. <https://www.murrietaca.gov/DocumentCenter/View/754/05-09---Cultural-Resources-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.
- Kennedy, M.P., and Morton, D.M. 2003. Preliminary geologic map of the Murrieta 7.5' quadrangle, Riverside County, California: U. S. Geological Survey Open-File Report 03-189, version 1.0, scale 1:24,000.
- Morton, D.M. 2003. Geologic Map of the Romoland 7.5' Quadrangle, Riverside County, California: U.S. Geological Survey Open-File Report 03-102, scale 1:24,000.
- Pajak, A.F., III, Scott, E., and Bell, C.J. 1996. A review of the biostratigraphy of Pliocene and Pleistocene sediments in the Elsinore Fault zone, Riverside County, California. *Paleobios*, v. 17, No. 2-4, p. 28-49.
- Reynolds, R.E., and Reynolds, R.L. 1990a. A new, late Blancan faunal assemblage from Murrieta, Riverside County, California. *In*, J. Reynolds, compiler, Abstracts of proceedings, 1990 Mojave Desert Quaternary Research Symposium, San Bernardino County Museum, Redlands, California. San Bernardino County Museum Association Quarterly, v. XXXVII, no. 2, p. 34.
- Reynolds, R.E., and Reynolds, R.L. 1990b. Irvingtonian? faunas from the Pauba Formation, Temecula, Riverside County, California. *In*, J. Reynolds, compiler, Abstracts of proceedings, 1990 Mojave Desert Quaternary Research Symposium, San Bernardino County Museum, Redlands, California. San Bernardino County Museum Association Quarterly, v. XXXVII, no. 2, p. 37.
- Reynolds, R.E., Fay, L.P., and Reynolds, R.L. 1990. California Oaks Road: An early-late Irvingtonian land mammal fauna from Murrieta, Riverside County, California. *In*, J. Reynolds, compiler, Abstracts of proceedings, 1990 Mojave Desert Quaternary Research Symposium, San Bernardino County Museum, Redlands, California. San Bernardino County Museum Association Quarterly, v. XXXVII, no. 2, p. 35-36.
- Scott, E., and Cox, S.M. 1993. *Arctodus simus* (Cope, 1879) from Riverside County, California. *Paleobios*, v. 15, No. 2, p. 27-36.

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. Electronic document, http://vertpaleo.org/Membership/Member-Ethics/SVP_Impact_Mitigation_Guidelines.aspx.

APPENDIX A

Qualifications of Key Personnel

Todd A. Wirths, MS, PG No. 7588

Senior Paleontologist

Brian F. Smith and Associates, Inc.

14010 Poway Road • Suite A •

Phone: (858) 679-8218 • Fax: (858) 679-9896 • E-Mail: twirths@bfsa-ca.com



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.