

PALEONTOLOGICAL RESOURCE ASSESSMENT FOR THE QUESTHAVEN 64 PROJECT

PDS2020-TM-5643

APNs 223-070-007, 223-070-008, and 223-080-046

Lead Agency:

County of San Diego
Planning & Development Services
5510 Overland Avenue, Suite 310
San Diego, California 92123
(858) 694-3656

Preparer:

Brian F. Smith and Associates, Inc.
14010 Poway Road, Suite A
Poway, California 92064
(858) 484-0915



Signature

Project Proponent:

T&B Planning, Inc.
3200 El Camino Real, Suite 100
Irvine, California 92602
Contact: Emilie Colwell (619) 501-6041

July 15, 2020; Revised November 3, 2020; Revised February 18, 2021

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) 484-0915

Client/Project Proponent: T&B Planning, Inc.
3200 El Camino Real, Suite 100
Irvine, California 92602
Contact: Emilie Colwell (619) 501-6041

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2021

Report Title: Paleontological Resource Assessment for the Questhaven 64
Project, San Diego County (PDS2020-TM-5643; APNs 223-070-
007, 223-070-008, and 223-080-046)

Type of Study: Paleontological Resource Assessment

USGS Quadrangle: *Rancho Santa Fe, California (7.5 minute)*

Study Area: 89.23 acres

Key Words: Low and marginal paleontological resource sensitivities; San
Diego County; Quaternary alluvium; Santiago Peak Volcanics.

Table of Contents

<u>Section</u>	<u>Description</u>	<u>Page</u>
	LIST OF ACRONYMS	<i>iii</i>
I	INTRODUCTION	1
II	REGULATORY SETTING.....	1
	<u>State of California</u>	1
	<u>County of San Diego</u>	4
III	GEOLOGY AND PALEONTOLOGY	4
IV	PALEONTOLOGICAL RESOURCES.....	6
	<u>Definition</u>	6
	<u>Professional Standard</u>	6
	<u>Fossil Records Search</u>	6
V	CONCLUSIONS AND RECOMMENDATIONS	7
VI	CERTIFICATION	7
VII	REFERENCES	8

List of Appendices

Appendix A – Qualifications of Key Personnel

List of Figures

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

List of Acronyms

BFSA	Brian F. Smith and Associates, Inc.
CEQA	California Environmental Quality Act
NEPA	National Environmental Policy Act
PRC	Public Resources Code
USGS	United States Geological Survey

I. INTRODUCTION AND LOCATION

In response to a requirement by the County of San Diego, Brian F. Smith and Associates, Inc. (BFSA) conducted a paleontological resource assessment for the Questhaven 64 Project, located south of the intersection of San Elijo Road and Fallsview Road in unincorporated San Diego County, near the city of San Marcos (Figures 1 and 2). The project is located in the U.S. Geological Survey (USGS) 7.5-minute, 1:24,000-scale *Rancho Santa Fe, California* Quadrangle within Sections 32 and 33, Township 12 South, Range 3 West, San Bernardino Base and Meridian (see Figure 2). The project consists of a tentative tract map proposal to subdivide 89.23 acres within Assessor's Parcel Numbers (APNs) 223-070-007, 223-070-008, and 223-080-046 into 76 residential lots with an associated park, private roads, water quality areas, and open space. Portions of the proposed grading area will be required on small portions of the open space lots.

II. REGULATORY SETTING

The California Environmental Quality Act (CEQA), patterned after the National Environmental Policy Act (NEPA), is the overriding environmental document that sets the requirement for protecting California's cultural and paleontological resources. The document 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 the Implementation of CEQA, as amended March 29, 1999 (Title 1, Chapter 3, California Code of Regulations: 15000 et seq.), procedures define the type of activities, persons, and public agencies required to comply with CEQA. In the Environmental Checklist, one of the questions to answer is, "Will the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?" (Section 15023, Appendix G, Section XIV, Part a). The California Public Resources Code (PRC) Section 5097.5 states:

- a) No person shall 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. Violation of this section is a misdemeanor.

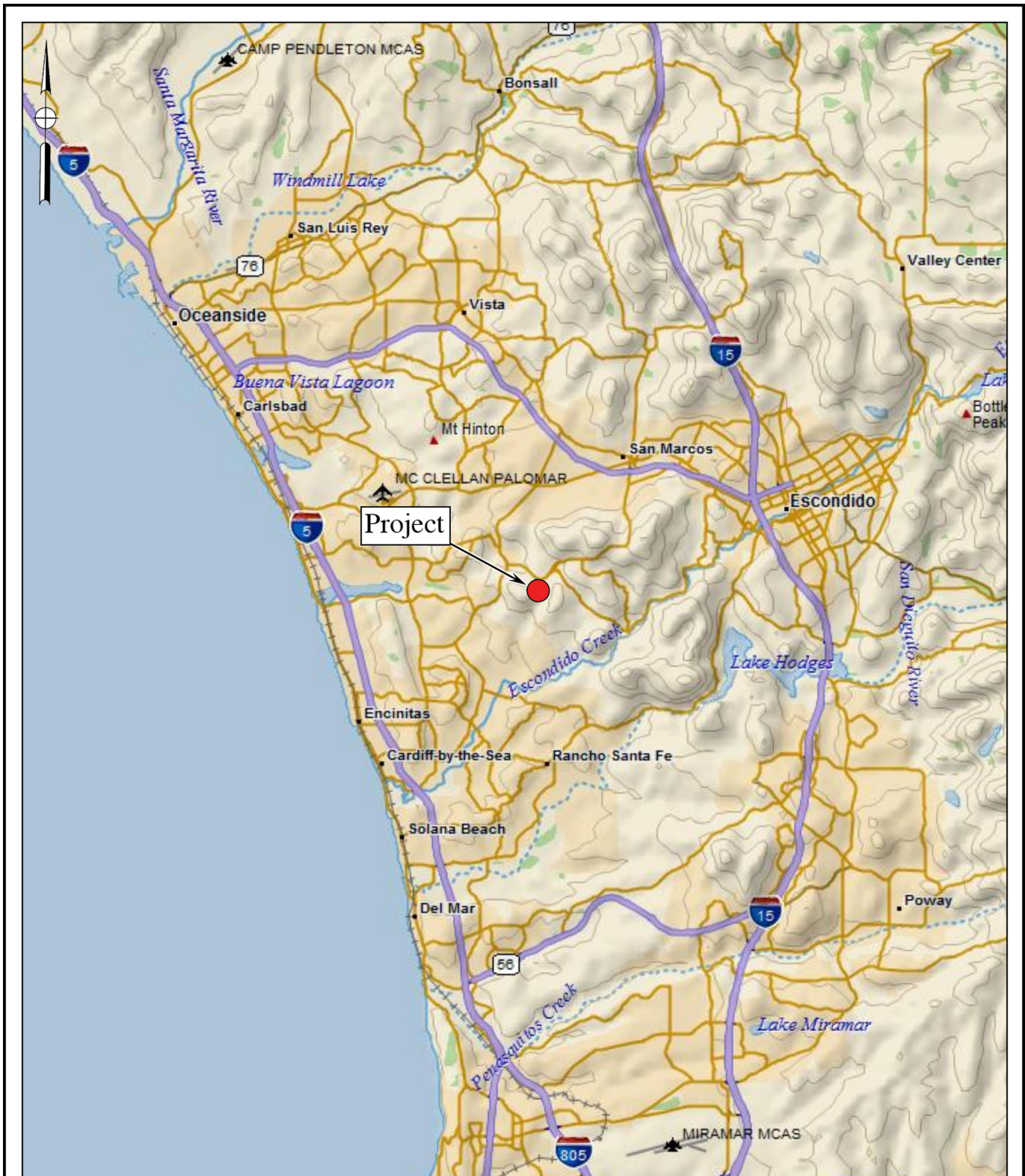


Figure 1
General Location Map
 The Questhaven 64 Project

DeLorme (1:250,000)



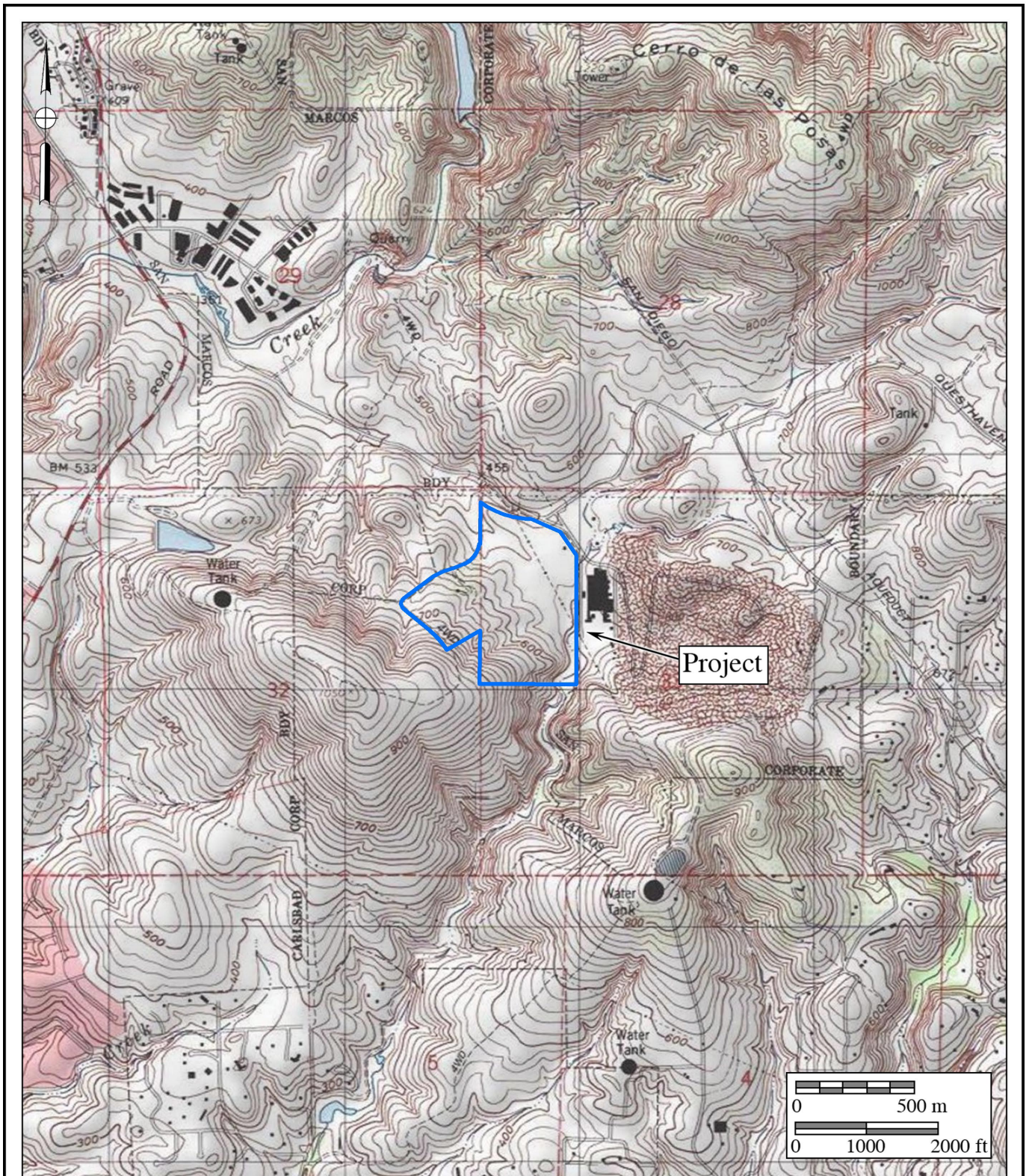


Figure 2
Project Location Map
 The Questhaven 64 Project

USGS Rancho Santa Fe Quadrangle (7.5-minute series)



- 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.

County of San Diego

The County of San Diego has published guidelines for paleontological resources, their identification, handling, and timing for treatment (Stephenson et al. 2009). This is a comprehensive 47-page document, and includes explanations as to where and when to conduct paleontological resource monitoring.

III. GEOLOGY AND PALEONTOLOGY

Geologic mapping of the region by Kennedy and Tan (2007) indicates the majority of the project is mapped as being underlain by undifferentiated Mesozoic-aged volcanic and metamorphic rocks (“Mzu,” shown in dark green on Figure 3). These Mesozoic outcrops have been designated by the County of San Diego (Stephenson et al. 2009) as having a “Marginal” paleontological sensitivity. However, in their earlier mapping, Tan and Kennedy (1996) separated the Mesozoic units and indicate that lower Cretaceous basaltic lavas of the Santiago Peak Volcanics underlie the project. In Section 5 of the County’s guidelines for paleontology, igneous rocks, which, by definition, include volcanic rocks, are indicated as having “no potential” for significant fossils (Stephenson et al. 2009). Indeed, County guidelines additionally note that “only the metasedimentary portion of the Santiago Peak Volcanics contains fossils” (p. 26, Stephenson et al. 2009). Specifically, isolated outcrops of the Jurassic-aged Peñasquitos Formation, previously attached to the Santiago Peak Volcanics as the fossiliferous part of the unit, have been recently differentiated and are now separated from the younger Santiago Peak Volcanics that underlie the project (Kimbrough et al. 2014). The nearest outcrop of the Peñasquitos Formation is below Lake Hodges Dam, about five miles southwest of the project.

Also mapped underlying the project are Quaternary (Holocene and late Pleistocene-aged) young alluvial deposits (“Qya” on Figure 3). These deposits have been assigned a “Low” paleontological sensitivity by the County of San Diego (Stephenson et al. 2009).

The County requires that a “Standard Monitor” be retained to monitor areas of Low or Marginal paleontological potential. A “Standard Monitor” is defined by the County as “any one person who is on the project site during all the original cutting of undisturbed substratum” (p. 16, in Stephenson et al. 2009).

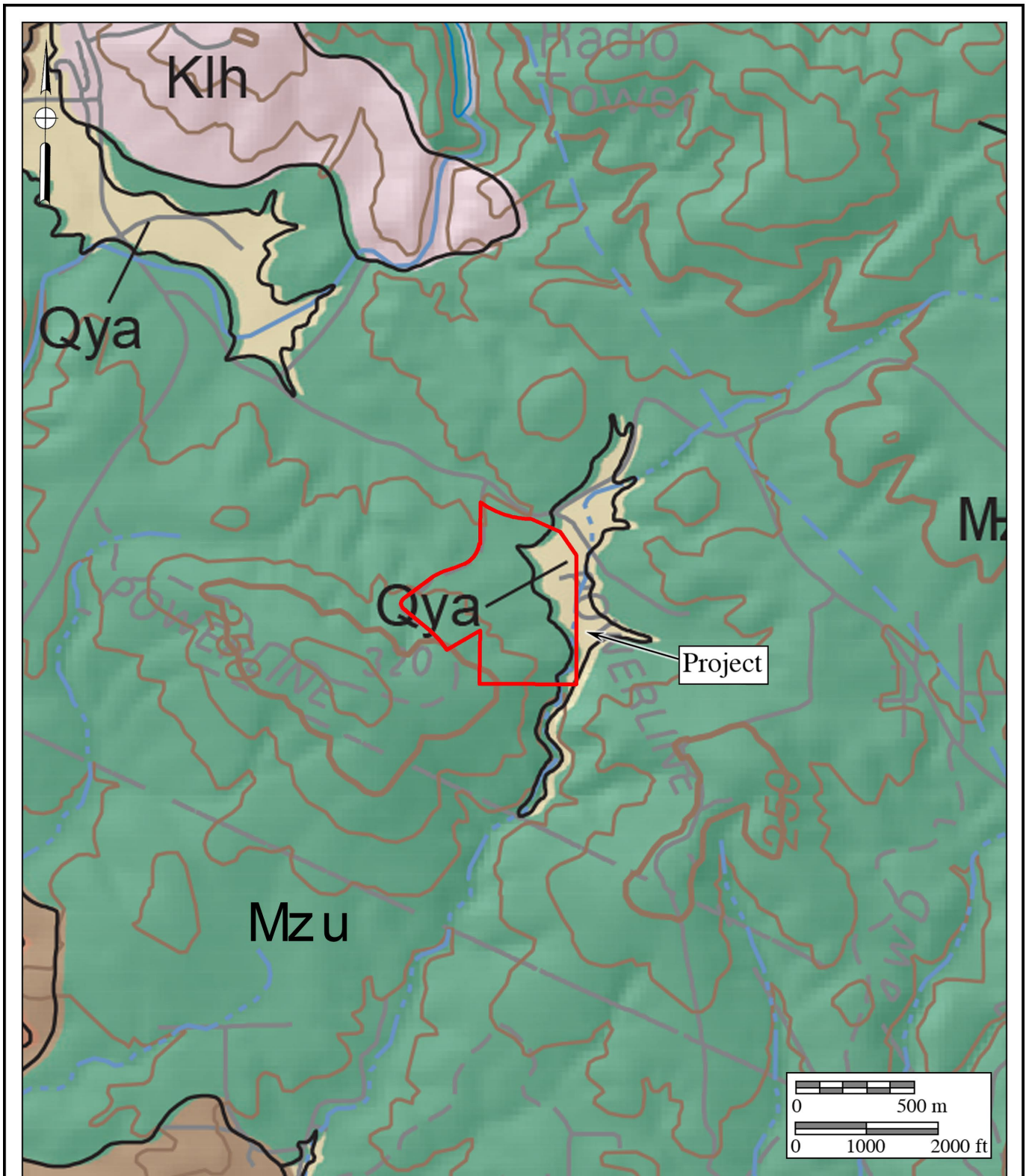


Figure 3
Geologic Map

The Questhaven 64 Project
 Geology after Kennedy and Tan (2007)



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) when viewed in the context of local extinction of the organism or habitat, for example. Fossils are considered a non-renewable resource under state and county guidelines (Section II of this report).

Professional Standard

The Society of Vertebrate Paleontology drafted guidelines outlining procedures that include:

[E]valuating the potential for impacts of a proposed action on paleontological resources and for mitigating those impacts. Impact mitigation includes pre-project survey and salvage, monitoring and screen washing during excavation to salvage fossils, conservation and inventory, and final reports and specimen curation. The objective of these procedures is to offer standard methods for assessing potential impacts to fossils and mitigating these impacts. (Society of Vertebrate Paleontology 2010)

The guidelines 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 upon 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.

Fossil Records Search

The nearest known fossil localities are found at least two to three miles northwest of the

project in the Leo Carrillo Ranch Historic Park and Bressi Ranch neighborhood, according to records held by the San Diego Natural History Museum. Outcrops of the fossiliferous, Eocene-aged Santiago Formation occur in this area of San Diego County. Fossils yielded by the Santiago Formation include marine invertebrates such as bivalve and gastropod mollusks, and terrestrial vertebrates such as turtles and small mammals.

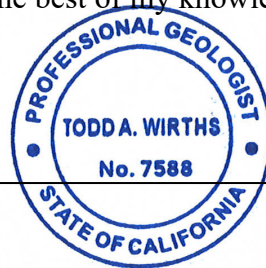
V. CONCLUSIONS AND RECOMMENDATIONS

The County of San Diego’s paleontological mitigation guidelines require paleontological monitoring of geologic units assigned with “Low” and “Marginal” paleontological sensitivity, and include the undifferentiated Mesozoic rocks mapped by Kennedy and Tan (2007) below the project. However, older maps by the same authors (Tan and Kennedy 1996) indicate the same areas of the project mapped as “Mzu” in the newer map are more precisely assigned to volcanic rocks of the Santiago Peak Volcanics, a rock type that has no paleontological sensitivity. County guidelines indicate that monitoring of the Santiago Peak Volcanics is restricted to the fossiliferous, metasedimentary outcrops. These fossiliferous outcrops exist elsewhere and are now mapped as the Peñasquitos Formation. Therefore, based on specific mapping and County guidelines, monitoring of paleontological resources within areas labeled as “Mzu” on Figure 3 is not recommended.

The County of San Diego’s paleontological mitigation guidelines require paleontological monitoring of geologic units with a low paleontological sensitivity, and include the young alluvial deposits mapped by Kennedy and Tan (2007) below the project. Therefore, paleontological monitoring of this geologic stratum, as shown in yellow on Figure 3 and labeled as “Qya,” appears warranted. According to Figure 9 in the County guidelines (p. 35, Stephenson et al. 2009), although blurry, paleontological monitoring in this area may be conducted by the “Grading/Excavation Contractor”

VI. 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 18, 2021

Date

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

VII. REFERENCES

- Kennedy, Michael P., and Tan, Siang S. 2007. Geologic map of the Oceanside 30' x 60' quadrangle, California. California Geological Survey, Regional Geologic Map Series, 1:100,000 scale, Map No. 2: sheets 1-2.
- Kimbrough, D.L., P.L. Abbott, D.C. Balch, S. Hosken Bartling, M. Grove, J.B. Mahoney, and R.F. Donohue. 2014. Upper Jurassic Peñasquitos Formation – Forearc basin western wall rock of the Peninsular Ranges batholith, *in* Morton, D.M., and Miller, F.K., eds., Peninsular Ranges Batholith, Baja California and Southern California: Geological Society of America Memoir 211.
- 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: http://vertpaleo.org/Membership/Member-Ethics/SVP_Impact_Mitigation_Guidelines.aspx.
- Stephenson, R.A., Giffen, J.H., and Gibson, E.E. 2009. County of San Diego guidelines for determining significance [for] paleontological resources. Unpublished report (2007, revised in 2009) prepared for internal use by the San Diego County Land Use and Environment Group, Department of Planning and Land Use and Department of Public Works, San Diego. Pp. i-vi + 1-47, figs. 1-10, table 1.
- Tan, Siang S., and Michael P. Kennedy. 1996. Geologic maps of the northwestern part of San Diego County, California: California Division of Mines and Geology open-file report 96-02.

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 Eastvale Self Storage Project, City of Eastvale, Riverside County, California.* Prepared for Gossett Development, Inc. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2019 *Paleontological Resource Impact Mitigation Monitoring Program for the IPT Perris DC III Western/Nandina Project, Perris, Riverside County, California.* Prepared for IPT/Black Creek Group. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

- 2019 *Paleontological Assessment for the 10407 Elm Avenue Project, City of Fontana, San Bernardino County, California.* Prepared for Advantage Environmental Consultants, Inc. Report on file at Brian F. Smith and Associates, Inc., Poway, California.
- 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 Resource Impact Mitigation Program (PRIMP) for the Speedway TPM 37676 Project, Temescal Valley, Riverside County, California.* Prepared for Speedway Development. Report on file at Brian F. Smith and Associates, Inc., Poway, California.
- 2019 *Paleontological Assessment for the Natwar Project, Perris, Riverside County, California.* Prepared for Advantage Environmental Consultants, LLC. Report on file at Brian F. Smith and Associates, Inc., Poway, California.
- 2019 *Paleontological Resource and Mitigation Monitoring Assessment, Beyond Food Mart, City of Perris, Riverside 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 West Markham Project (TR 33587), City of Perris, Riverside County, California.* Prepared for Markham JP/ARA, LLC. Report on file at Brian F. Smith and Associates, Inc., Poway, California.
- 2019 *Paleontological Monitoring and Mitigation Report for the Artesa at Menifee Town Center Project Site, Sherman Road and La Piedra Road, Menifee, Riverside County, California.* Prepared for MBK Real Estate. Report on file at Brian F. Smith and Associates, Inc., Poway, California.
- 2019 *Paleontological Monitoring Report, Diarq Residence, La Jolla, City of San Diego, San Diego County, California.* Prepared for West Way Drive, LLC. 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.