PALEONTOLOGICAL ASSESSMENT FOR THE 32864 HILLTOP BOULEVARD PROJECT

ARROWBEAR LAKE, SAN BERNARDINO COUNTY, CALIFORNIA

PROJ-2023-00088; APNs 328-165-16 and-07

Prepared for:

Lilburn Corporation
1905 Business Center Drive
San Bernardino, California 92408

Submitted to:

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

Prepared by:

BFSA Environmental Services,
a Perennial Company
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January 7, 2025

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A Perennial Company

Paleontological Database Information

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Report Date:	January 7, 2025
Report Title:	Paleontological Assessment for the 32864 Hilltop Boulevard Project, Arrowbear, San Bernardino County, California (PROJ-2023-00088; APNs 328-165-16 and -07)
Prepared for:	Lilburn Corporation 1905 Business Center Drive San Bernardino, California 92408
Submitted to:	County of San Bernardino 385 North Arrowhead Avenue San Bernardino, California 92415
USGS Quadrangle:	Section 33, Township 2 North, Range 2 West of the *Keller Peak, California* (7.5-minute) USGS Quadrangle
Assessor's Parcel Numbers:	328-165-16 and -07
Study Area:	Approximately six acres
Key Words:	Paleontological assessment; Cretaceous Monzogranite of Keller Peak; no paleontological resource sensitivity; monitoring is not recommended.

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I. INTRODUCTION AND LOCATION

A paleontological resource assessment has been completed for the 32864 Hilltop Boulevard Project (PROJ-2023-00088) located northwest of Powers Lane and Hilltop Boulevard in the unincorporated community of Arrowbear Lake in San Bernardino County, California (Figures 1 and 2). The project is situated within Section 33, Township 2 North, Range 2 West, on the U.S. Geological Survey (USGS) *Keller Peak, California* (7.5-minute) topographic quadrangle map (see Figure 2). The approximately six-acre project consists of two parcels (Assessor's Parcel Number [APN] 328-165-16 and -07). The project proposes the construction of a recreational boat storage facility.

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. 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 policy 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 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 15060 of State CEQA Guidelines 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.

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Figure 1

General Location Map

The 32864 Hilltop Boulevard Project

Esri World Topographic Map

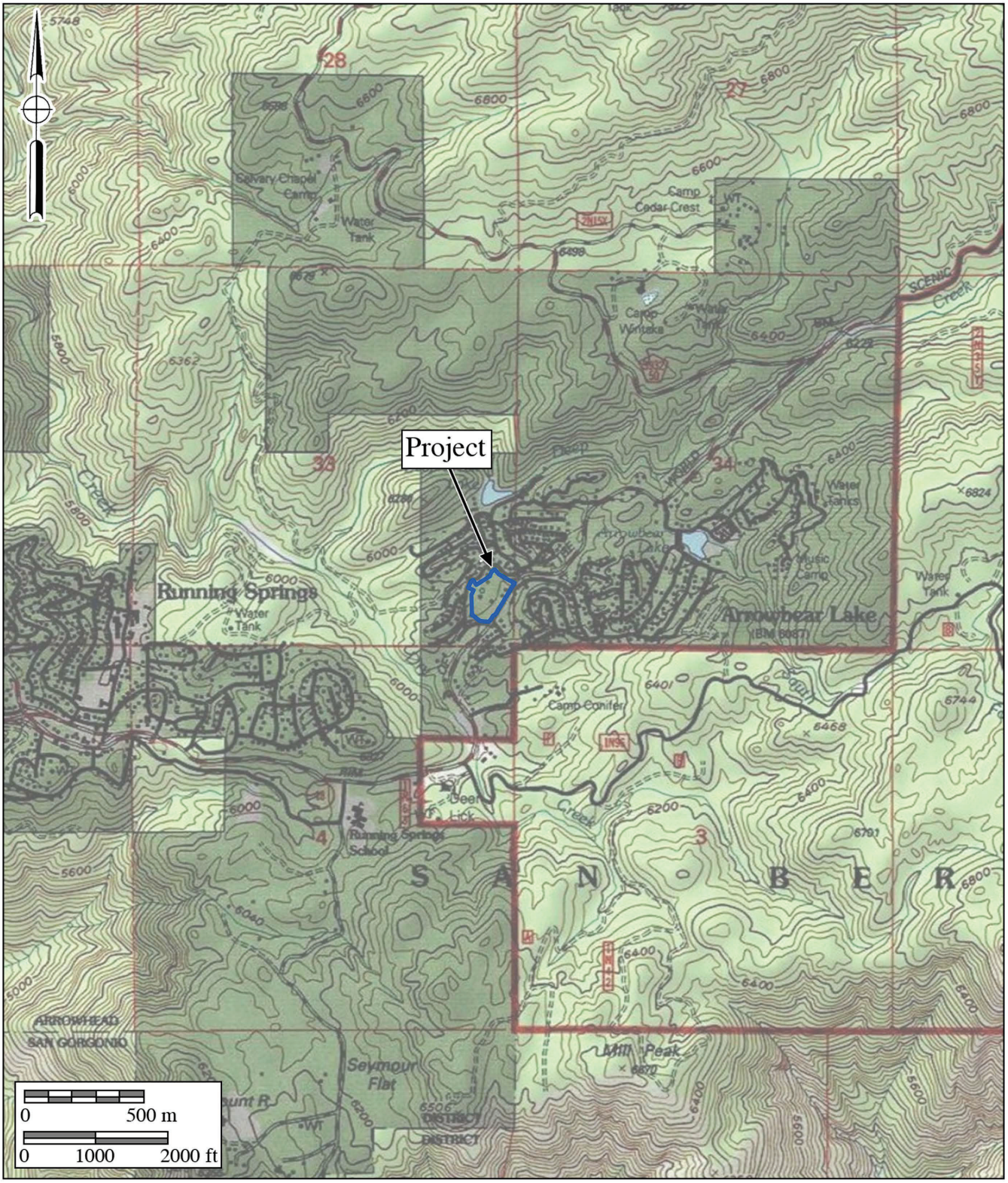

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Figure 2

Project Location Map

The 32864 Hilltop Boulevard Project

USGS *Keller Peak* Quadrangle (7.5-minute series)

In 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 that protects nonrenewable resources, including fossils, which is stated 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, punishable by a fine not exceeding ten thousand dollars ($10,000), or by imprisonment in a county jail not to exceed one year, or by both that fine and imprisonment.

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, the "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(County of San Bernardino 2019).

For this project, the County has requested for submittal a "Paleontological Resources Report" that identifies the presence or absence of paleontological resources on the project property or within the vicinity of the project (PROJ-2023-00088). Submittal of a Paleontological Resources Report (this report) is part of the environmental review process pursuant to the CEQA.

III. GEOLOGY

Regionally, the project lies within the San Bernardino Mountains, the eastern half of the Transverse Ranges geomorphic province of California. Most of the range is composed of Cretaceous-aged quartz monzonite, with a variety of pre-Mesozoic rocks (Norris and Webb 1990). The project is near Deep Creek, within a montane valley in the San Bernardino Mountains. As shown on Figure 3 (after Morton and Miller 2006), the geology mapped at the project consists of the Cretaceous-aged (approximately 70 to 80 million years old) Monzogranite of Keller Peak, a plutonic rock (dark pink areas in Figure 3).

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. Fossils are considered a nonrenewable resource under state guidelines (Section II of this report).

Paleontological Locality Records Search

A paleontological collections and locality records search was conducted for the project using published and unpublished literature, and data from prior projects by BFSA Environmental Services, a Perennial Company. The nearest-known fossil localities are several miles away, west and south of the project, in different geologic settings than that of the project. The closest may be a site in San Bernardino Valley, where mammoth bones were discovered in Pleistocene deposits during freeway construction work (San Bernardino County Museum locality 1.102.1; *The San Bernardino County Sun* 1958).

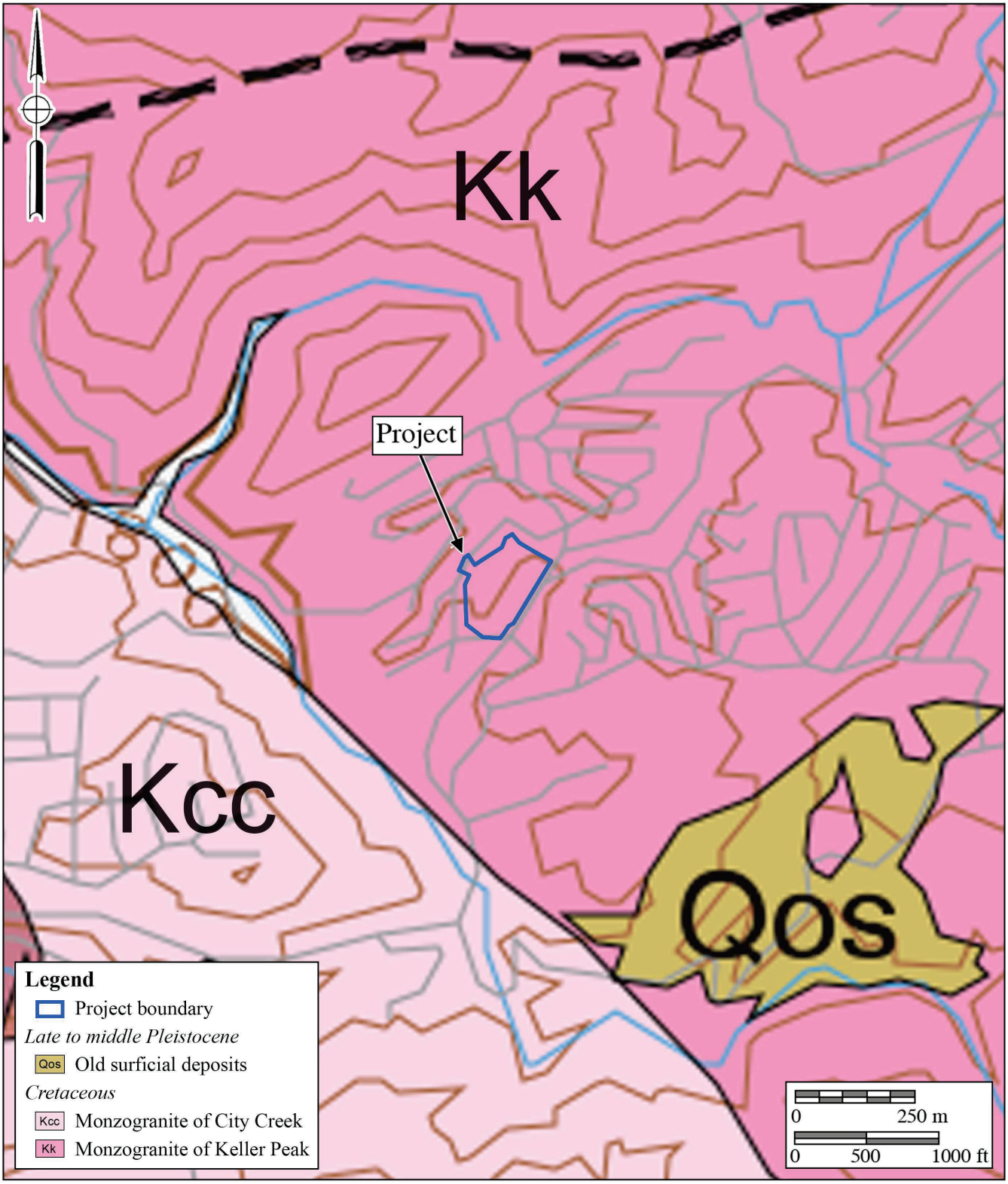

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Figure 3

Geologic Map

The 32864 Hilltop Boulevard Project

Geology after Morton and Miller (2006)

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 thus 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). These Pleistocene sediments are accorded a high paleontological resource sensitivity.

The Monzogranite of Keller Peak is a coarse-grained plutonic rock that crystallized from a molten state several miles beneath the surface during the Cretaceous Period. This rock formation, like other plutonic rocks, does not contain fossils, and, therefore, has no paleontological 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.

Based on these criteria, the coarse-grained plutonic rocks mapped at the project have no potential to yield fossils.

County of San Bernardino Assessment

The County of San Bernardino applies its 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 San Bernardino County Museum, the University of California Museum of Paleontology (Berkeley), the Los Angeles County Natural History Museum, or other institutions (County of San Bernardino 2019, Section 82.20.020). Since a low paleontological resource sensitivity has been, and can be, applied to the geologic strata beneath the project (Society of Vertebrate Paleontology 2010), and no known fossil resources have been found in the area of the project (Section IV, and above), the application of the County's PR Overlay criteria (Section 82.20.030) does not appear necessary (County of San Bernardino 2019).

VI. CONCLUSION AND RECOMMENDATIONS

Geologically, the project alignment occurs in an area mapped as plutonic rocks, which do not yield fossils. These rocks have no paleontological sensitivity. Therefore, there is no potential for the project to adversely impact significant paleontological resources. Therefore, paleontological monitoring is not recommended during earth disturbance activities at the 32864 Hilltop Boulevard Project. A Paleontological Resource Impact Mitigation Program 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.

January 7, 2025

Todd A. Wirths, M.S., P.G. Date
Senior Paleontologist
California Professional Geologist No. 7588

VIII. REFERENCES

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,

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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.