

Appendix H

Paleo Resources

PALEONTOLOGICAL ASSESSMENT FOR THE WEST CAMPUS UPPER PLATEAU PROJECT

MARCH AIR RESERVE BASE RIVERSIDE COUNTY, CALIFORNIA

Prepared for:

Meridian Park LLC
c/o Lewis Retail Centers
1156 N. Mountain Avenue
Upland, California 91785

Submitted to:

March Joint Powers Authority
14205 Meridian Parkway, Suite 140
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Prepared by:

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December 15, 2021

Paleontological Database Information

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- Report Date:*** December 15, 2021
- Report Title:*** Paleontological Assessment for the West Campus Upper Plateau Project, March Air Reserve Base, Riverside County, California
- Prepared for:*** Meridian Park LLC
c/o Lewis Retail Centers
1156 N. Mountain Avenue
Upland, California 91785
- Submitted to:*** March Joint Powers Authority
14205 Meridian Parkway, Suite 140
Riverside, California 92518
- USGS Quadrangle:*** Portions of Sections 15, 16, 17, and 21, Township 3 South, Range 4 West, of the San Bernardino Baseline and Meridian on the USGS *Riverside East, California* (7.5-minute) topographic quadrangle.
- Study Area:*** Approximately 400 acres
- Key Words:*** “High B” paleontological resource sensitivity; Riverside County; Pleistocene very old alluvial fan deposits; full time monitoring below four feet.

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I. INTRODUCTION AND LOCATION

This paleontological assessment report has been completed for the West Campus Upper Plateau Project (Assessor’s Parcel Numbers 276-120-001, 276-120-007, 294-020-001, 297-080-001 through -004, 297-080-013, 297-080-015, 297-080-016, 297-090-001 through -004, 297-090-006 through -009, 297-100-084 and -85, 297-090-093, and 297-110-036), located generally between Interstate 215 (I-215) and Trautwein Road, situated southwest of the intersection of Meridian Parkway and East Alessandro Boulevard within an unincorporated portion of Riverside County, California (Figures 1 and 2). The project comprises the northwestern part of the March Air Reserve Base. The project is situated within portions of Sections 15, 16, 17, and 21, Township 3 South, Range 4 West, of the San Bernardino Baseline and Meridian, in the U. S. Geological Survey 7.5-minute *Riverside East, California* topographic quadrangle map (Figure 2). The total area to be studied is approximately 360 acres of proposed commercial, industrial, and park development areas, and approximately 40 acres of proposed off-site road improvements and buffer areas.

As the lead agency, the March Joint Powers Authority (“March JPA”) 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 for a previous project in the area; a review of the underlying geology; and recommendations to mitigate impacts to potential paleontological resources. A paleontological field survey was not conducted since almost all of the project property is geologically mapped as granitic rocks, while areas mapped as sedimentary rocks (westward extension of Cactus Avenue) are flat lying and disturbed.

II. REGULATORY SETTING

The California Environmental Quality Act (CEQA), which is patterned after the National Environmental Policy Act, is the overriding environmental document 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 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.

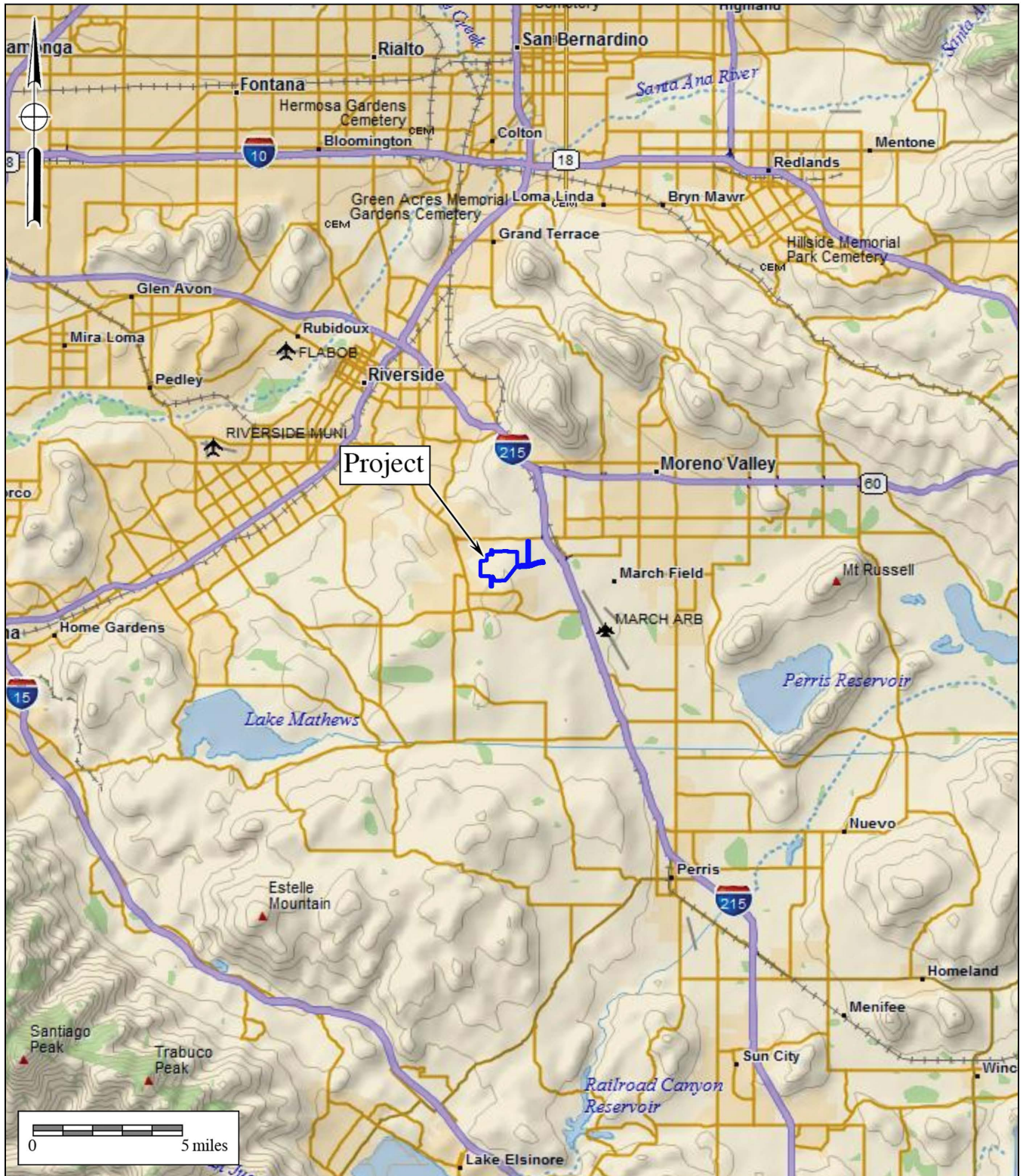


Figure 1
General Location Map

The West Campus Upper Plateau Project

DeLorme (1:250,000)



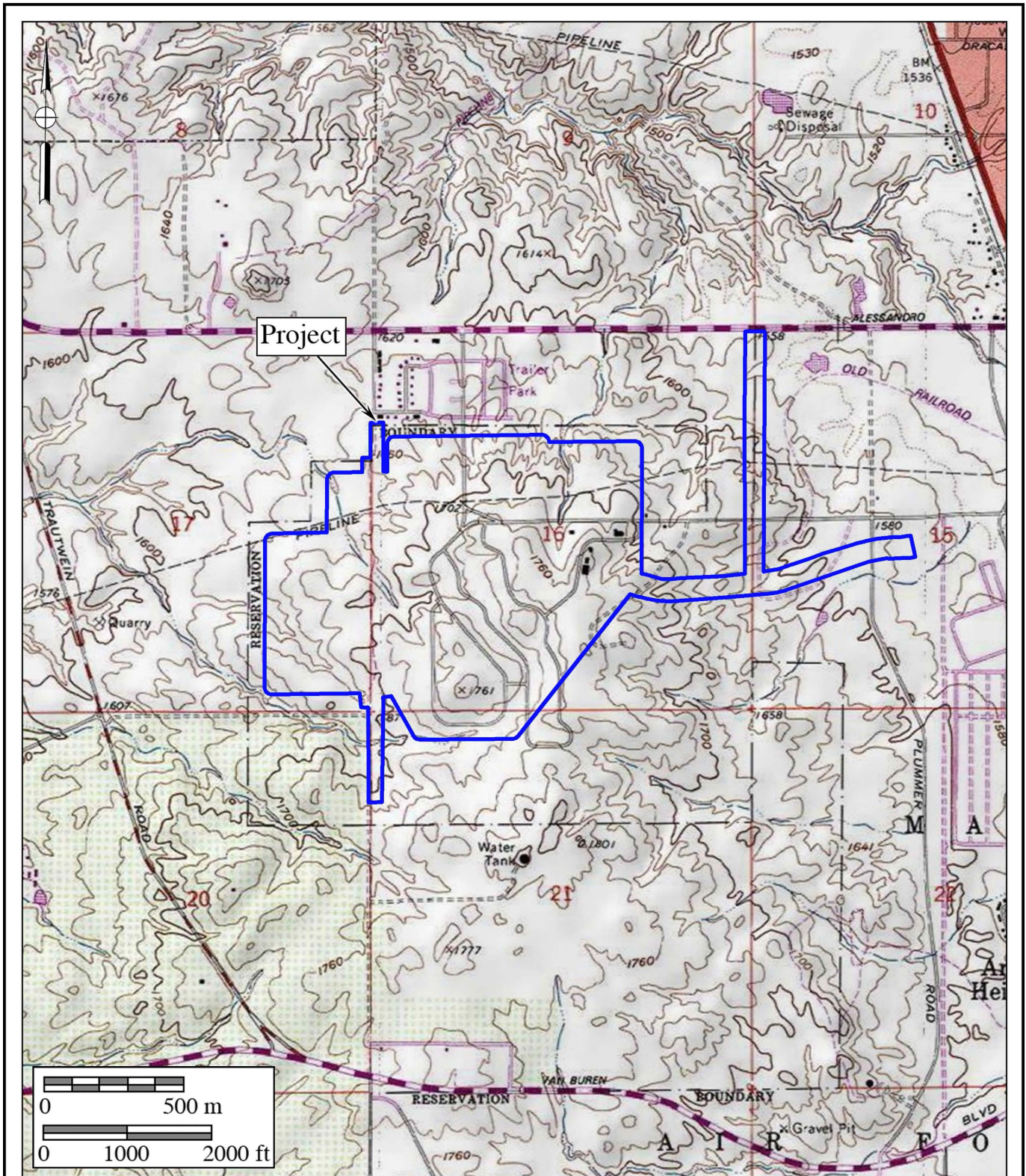


Figure 2
Project Location Map
 The West Campus Upper Plateau Project
 USGS Riverside East Quadrangle (7.5-minute series)



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 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.

County of Riverside Guidelines

For Riverside County, policies concerning paleontological resources are addressed under the 2015 Multipurpose Open Space Element of the Riverside County General Plan, and are as follows:

- OS 19.6 Whenever existing information indicates that a site proposed for development has high paleontological sensitivity as shown on Figure OS-8, a paleontological resource impact mitigation program (PRIMP) shall be filed with the County Geologist prior to site grading. The PRIMP shall specify the steps to be taken to mitigate impacts to paleontological resources.
- OS 19.7 Whenever existing information indicates that a site proposed for development has low paleontological sensitivity as shown on Figure OS-8, no direct mitigation is required unless a fossil is encountered during site development. Should a fossil be encountered, the County Geologist shall be notified and a paleontologist shall be retained by the project proponent. The paleontologist shall document the extent and potential significance of the paleontological resources on the site and establish appropriate mitigation measures for further site development.
- OS 19.8 Whenever existing information indicates that a site proposed for

development has undetermined paleontological sensitivity as shown on Figure OS-8, a report shall be filed with the County Geologist documenting the extent and potential significance of the paleontological resources on site and identifying mitigation measures for the fossil and for impacts to significant paleontological resources prior to approval of that department.

- OS 19.9 Whenever paleontological resources are found, the County Geologist shall direct them to a facility within Riverside County for their curation, including the Western Science Center in the City of Hemet. (County of Riverside 2015a)

A comprehensive review of paleontological resources, including regulatory background, permitting conditions, significance thresholds, and procedures for the treatment of discovered resources, can be found in the County’s Draft Environmental Impact Report (EIR) (County of Riverside 2015b).

March Joint Powers Authority MEIR for the General Plan

In the Mitigation Monitoring Master Checklist within the Master Environmental Impact Report (MEIR) of the March JPA’s General Plan (March JPA 1999, Appendix G), environmental regulatory jurisdiction of the March JPA is outlined in “Resource Management Element Programs,” which states:

Environmental Review – March JPA shall comply with the requirements of CEQA and locally adopted guidelines for implementing CEQA. March JPA shall conduct an environmental assessment of all projects prior to any development approval. March JPA shall ensure that upon environmental review, any identified mitigation measures shall be made conditions of approval for the project and the responsibilities of monitoring shall be assigned.

Paleontological resources are addressed within Section 3.14, “Cultural Resources,” of the MEIR (March JPA 1999). The MEIR acknowledged the known presence of fossils yielded by Quaternary deposits near the project but indicated “very few” of these resources as having “significant scientific quality.” The EIR concluded that there are “no significant paleontological resources to be within the [greater March Air Reserve Base] planning area” (March JPA 1999, p. 3-164). Nevertheless, the West March Planning Subarea, which includes the project area, “may be sensitive for paleontological resources” (March JPA 1999, p. 3-167). Furthermore, potential impacts to any unknown resources are indicated in the MEIR to be addressed “when development is proposed or resources are discovered” (March JPA 1999, p. 3-168).

III. GEOLOGY

Regionally, the project area lies within the Perris Block, a fault-bounded crustal block bounded on the west by the Elsinore fault zone and on the east by the San Jacinto fault zone (Morton and Cox 2001). The geology mapped at the project is mostly underlain by the Cretaceous-aged Val Verde tonalite, a type of crystalline plutonic rock related to granite (areas labeled “Kvt” and shown in light gray on Figure 3, after Morton and Cox 2001). Scattered, linear outcrops of Cretaceous granitic dikes (“Kg”), Paleozoic biotite schist (“Pzs”), and mixed-provenance crystalline rocks of pre-Cenozoic age (“KgPZ”) are mapped as surrounded by the Val Verde tonalite within the project area. At the far eastern portion of the project, lower Pleistocene (approximately 1.8 million- to perhaps 200,000- to 300,000-year-old), sandy, very old alluvial fan deposits are mapped (areas labeled “Qvof_a” and shown in brown on Figure 3). These sedimentary deposits are described as:

... mostly well dissected, well-indurated, reddish-brown sand deposits. Commonly contains duripans and locally silcretes. Forms widespread deposits north and south of Moreno Valley, flanking bedrock areas. Forms large area in southeastern part of quadrangle in area of March Air Force Base, and numerous smaller areas in northern part of quadrangle. Derived chiefly from rocks of southern California batholith. (Morton and Cox 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 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 city guidelines (see Section II of this report). Fossils are not found in crystalline plutonic and metamorphic rocks such as those mapped at the majority of the project.

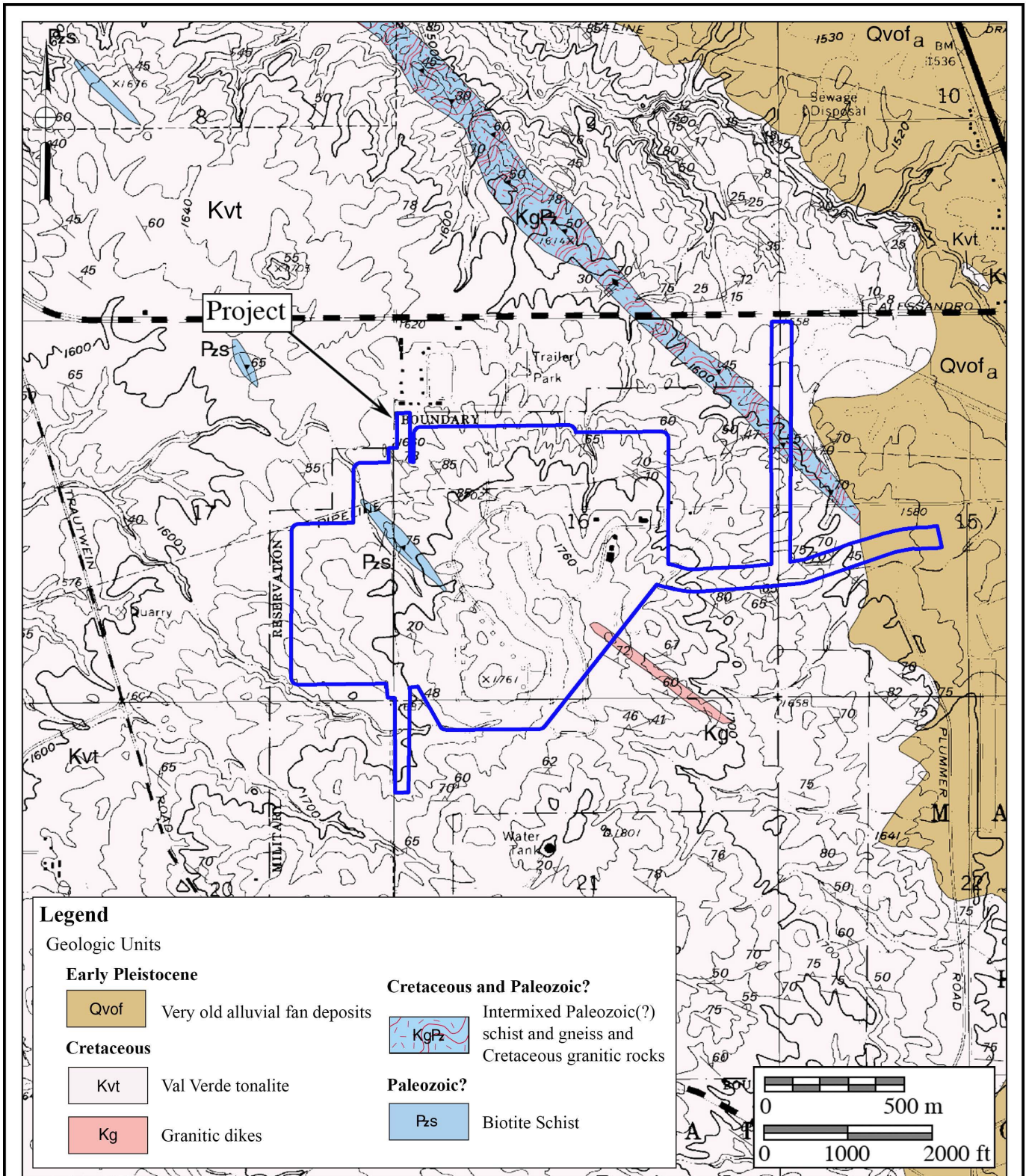


Figure 3
Geologic Map

The West Campus Upper Plateau Project

Geology after Morton and Cox (2001)



Fossil Locality Search

Three paleontological locality records searches were conducted for the project, by the Western Science Center (WSC; Radford 2021), the Los Angeles County Museum of Natural History (LACM; Bell 2021), and the San Bernardino County Museum (SBCM; Cortez 2021 [see Appendix B]). All three records searches indicated that there are no known records of fossil localities at or within one mile of the project, but that Pleistocene-aged fossil vertebrates have been found throughout the region from sedimentary deposits similar to those found at the project.

The closest reported fossil locality to the project is located approximately 11 miles to the east, consisting of the bones of horse (*Equus* sp.), camel (Camelidae), and possible artiodactyl (even-toed ungulate) (Cortez 2021). Bell (2021) indicated nearby Pleistocene-aged vertebrate fossils were yielded in Corona (an unidentified bovid [artiodactyl]), Chino Valley (whipsnake), and east of Lake Elsinore (camel). From LACM records, the closest invertebrate fossils are located southeast of the project in Castile Canyon, east of Hemet. Radford (2021) indicated the WSC does not have fossil localities near the project, although previous paleontological record searches performed by the WSC for Brian F. Smith and Associates (BFSA) indicate their closest fossil locality is about eight miles east of the project in Moreno Valley (loc. nos. 192, 193, and 194), consisting of the late Pleistocene remains of a horse (*Equus* sp.), a giant ground sloth (*Megalonyx jeffersonii*), and a llama (*Hemiauchenia* sp.), animals that became extinct in North America at or soon after the end of the Pleistocene epoch, about 11,700 years ago.

In their record search reports for the project, Cortez (2021), Bell (2021), and Radford (2021) concluded that the Pleistocene alluvial deposits mapped at the far eastern portion of the project at Cactus Avenue (Figure 3) have the potential to yield the remains of fossil vertebrates.

V. PALEONTOLOGICAL SENSITIVITY

Professional Standards

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.

Riverside County Sensitivity

A paleontological sensitivity map generated by the County of Riverside Land Information System ranks the subject property as having a “Low” paleontological potential (shown in green tint on Figure 4). Riverside County defines geologic formations with a “Low” potential to yield paleontological resources as:

Following a literature search, records check and a field survey, areas may be determined by a qualified vertebrate paleontologist as having low potential for containing significant paleontological resources subject to adverse impacts. (County of Riverside Land Information System 2021)

The assignment of a “Low” sensitivity reflects rocks that generally do not contain fossils, such as Holocene sedimentary deposits, and igneous and metamorphic rocks. Since a “Low” assignment has been applied to a wide spectrum of rock units, the County of Riverside Land Information System has suggested that a qualified professional conduct an inspection and/or assessment of the site for its suitability to yield fossils.

Typically, the Pleistocene very old alluvial fan deposits composing the eastern end of the project are ranked as having a “High B” paleontological sensitivity by the County of Riverside Land Information System (yellow areas on Figure 4). A “High B” ranking is defined as:

[E]quivalent to High A, but is based on the occurrence of fossils at a specified depth below the surface. The category High B indicates that fossils are likely to be encountered at or below four feet of depth, and may be impacted during excavation by construction activities. (County of Riverside Land Information System 2021)

The category “High B” indicates that fossils are likely to be encountered four feet below the surface and may be impacted during excavation by construction activities. It should be noted that the division between the “High B” and “Low” paleontological sensitivities within the project boundaries is not accurate in Figure 4; the geologic contact between the high-sensitivity very old alluvial fan deposits (“Qvof_a”) and the low-sensitivity tonalite (“Kvt”), as shown in Figure 3, more accurately reflects these ratings.

Sedimentary rock units mapped as Pleistocene-aged alluvial fan deposits in western Riverside County are typically assigned a high (“High A” or “High B”) paleontological sensitivity, based on the well-documented record of yielding important Pleistocene-age fossils, such as bison, mammoth, mastodon, horse, camel, giant ground sloth, short-faced bear, saber-toothed cat, and others (Jefferson 1991).

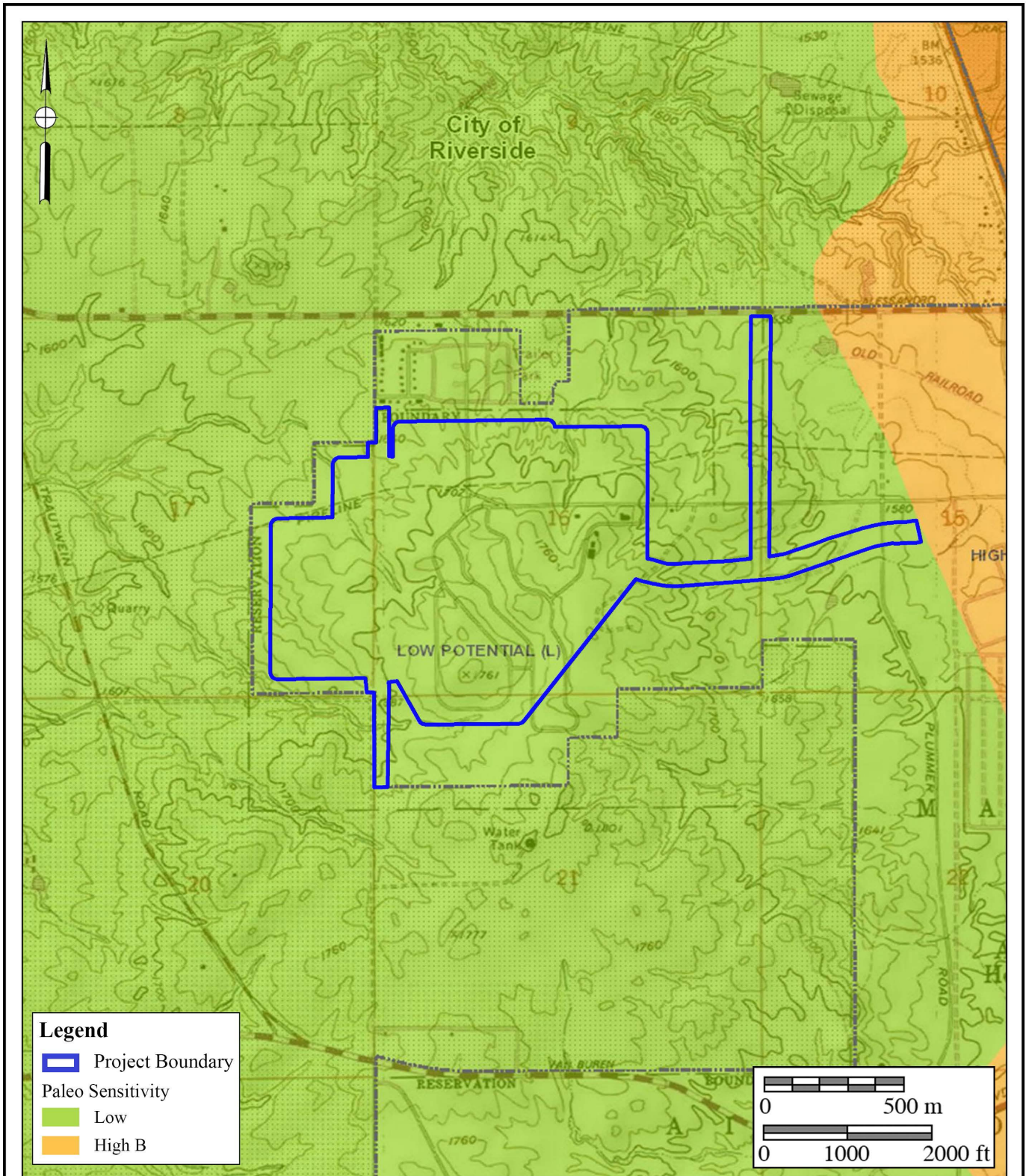


Figure 4

Paleontological Sensitivity Map

The West Campus Upper Plateau Project

After Riverside County Land Information System (2020)



The WSC regards Pleistocene old alluvial fan sediments, such as those that underlie the far eastern end of the project, as having a high potential to contain significant paleontological resources, and therefore, typically recommend that a monitoring program be implemented to mitigate impacts to potential nonrenewable paleontological resources.

VI. CONCLUSION AND RECOMMENDATIONS

Research has confirmed the existence of potentially fossiliferous Pleistocene very old alluvial fan deposits mapped at the eastern end of the project (“Qvof_a” on Figure 3). Although the paleontological locality search did not indicate the presence of any known fossil localities within the project, the occurrence of terrestrial vertebrate fossils at shallow depths from Pleistocene older alluvial fan sediments across the Inland Empire of western Riverside County is well-documented. These Pleistocene older alluvial fan sediments are typically assigned a “High” paleontological sensitivity rating for yielding paleontological resources. Full-time monitoring of undisturbed Pleistocene old alluvial fan deposits at the project is recommended starting at four feet below the surface (County of Riverside 2015b). Monitoring is not warranted for outcrops or exposures of tonalite and other crystalline rocks composing the majority of the project.

Monitoring during ground-disturbing activities, such as grading or trenching, by a qualified paleontologist is recommended to ensure that if paleontological resources (*i.e.*, fossils) are present, they will be handled in a timely and proper manner. A Mitigation Monitoring and Reporting Program (MMRP) is proposed below. This MMRP will ensure that any paleontological resources discovered during the construction grading are treated in accordance with county guidelines and CEQA requirements.

Mitigation Monitoring and Reporting Program (MMRP)

The following MMRP guidelines are based on the findings stated above. The specific guidelines are consistent with the provisions of CEQA, the County of Riverside, and the guidelines of the Society of Vertebrate Paleontology (2010) for any mass grading and excavation-related activities, including utility trenching, during construction within the project. Paleontological monitoring may be reduced on the observations and recommendations of the professional-level project paleontologist. The following MMRP will reduce potential impacts of paleontological resources to a level below significant:

- 1) Monitoring of mass grading and excavation activities in areas identified as likely to contain paleontological resources by a qualified paleontologist or paleontological monitor. Full-time monitoring of grading or excavation activities should be performed starting at a depth of four feet below the surface in undisturbed areas of Pleistocene sedimentary deposits within the project boundaries. Paleontological monitors will be equipped to salvage fossils as they are unearthed to avoid construction delays and to remove samples of sediments 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. Monitoring may be reduced if the potentially fossiliferous units are not present in the subsurface or, if present, are determined by qualified paleontological personnel upon exposure and examination to have a low potential to contain or yield fossil resources.
- 2) Paleontological salvage during trenching and boring activities is typically from the generated spoils and does not delay the trenching or drilling activities. Fossils are collected and placed in cardboard flats or plastic buckets and identified by field number, collector, and date collected. Notes are taken on the map location and stratigraphy of the site, and the site is photographed before it is vacated and the fossils are removed to a safe place. On mass grading projects, any discovered fossil site is protected by flagging to prevent it from being overrun by earthmovers (scrapers) before salvage begins. Fossils are collected in a similar manner, with notes and photographs being taken before removing the fossils. Precise location of the site is determined with the use of handheld Global Positioning System units. If the site involves a large terrestrial vertebrate, such as large bone(s) or a mammoth tusk, that is/are too large to be easily removed by a single monitor, BFSFA will send a fossil recovery crew in to excavate around the find, encase the find within a plaster jacket, and remove it after the plaster is set. For large fossils, use of the contractor's construction equipment is solicited to help remove the jacket to a safe location before it is returned to the BFSFA laboratory for preparation.
 - 3) Particularly small invertebrate fossils typically represent multiple specimens of a limited number of organisms, and a scientifically suitable sample can be obtained from one to several five-gallon buckets of fossiliferous sediment. If it is possible to dry screen the sediment in the field, a concentrated sample may consist of one or two buckets of material. For vertebrate fossils, the test is usually the observed presence of small pieces of bones within the sediments. If present, as many as 20 to 40 five-gallon buckets of sediment can be collected and returned to a separate facility to wet-screen the sediment. In the laboratory, individual fossils are cleaned of extraneous matrix, any breaks are repaired, and the specimen, if needed, is stabilized by soaking in an archivally approved acrylic hardener (*e.g.*, a solution of acetone and Paraloid B-72).
 - 4) Preparation of recovered specimens to a point of identification and permanent preservation, including screen washing sediments to recover small invertebrates and vertebrates, if necessary. Preparation of individual vertebrate fossils is often more time-consuming than for accumulations of invertebrate fossils.
 - 5) Identification and curation of specimens into a professional, accredited public museum repository with a commitment to archival conservation and permanent retrievable storage (*e.g.*, the Western Science Center Museum, 2345 Searl Parkway,

Hemet, California 92543). The paleontological program should include a written repository agreement prior to the initiation of mitigation activities.

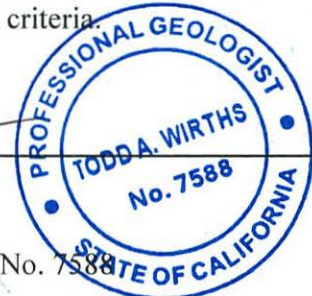
- 6) Preparation of a final monitoring and mitigation report of findings and significance, including lists of all fossils recovered and necessary maps and graphics to accurately record their original location(s). The report, when submitted to the appropriate lead agency (County of Riverside), will signify satisfactory completion of the project program to mitigate impacts to any 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.



Todd A. Wirths
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California Professional Geologist No. 7588

 December 15, 2021

Date

VIII. REFERENCES CITED

Bell, A. 2021. Paleontological resources for the West Campus Upper Plateau Project. Letter regarding paleontological resources near the West Campus Upper Plateau Project, for Brian F. Smith and Associates, Inc., Poway, California, by the Natural History Museum of Los Angeles County, Los Angeles, California. (attached)

Cortez, C. 2021. Paleontology records review for proposed West Campus Upper Plateau project (no. 21-154) in Riverside County, California. Letter regarding paleontological resources near the West Campus Upper Plateau Project, for Brian F. Smith and Associates, Inc., Poway, California, by the San Bernardino County Museum, Redlands, California. (attached)

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Morton, D.M., and Cox, B. 2001. Geologic map of the Riverside East 7.5' quadrangle, Riverside County, California: U.S. Geological Survey Open-File Report 01-452, scale 1:24,000.

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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.

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.

APPENDIX B

Paleontological Records Searches

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tel 213.763.DINO
www.nhm.org

Research & Collections

e-mail: paleorecords@nhm.org

July 3, 2021

Brian F. Smith and Associates, Inc.

Attn: Todd Wirths

re: Paleontological resources for the West Campus Upper Plateau Project

Dear Todd:

I have conducted a thorough search of our paleontology collection records for the locality and specimen data for proposed development at the West Campus Upper Plateau project area as outlined on the portion of the Riverside USGS topographic quadrangle map that you sent to me via e-mail on June 29, 2021. We do not have any fossil localities that lie directly within the proposed project area, but we do have fossil localities nearby from the same sedimentary deposits that occur in a small portion of the proposed project area, either at the surface or at depth.

The following table shows the closest known localities in the collection of the Natural History Museum of Los Angeles County.

Locality Number	Location	Formation	Taxa	Depth
LACM VP 1207	Hill on east side of sewage disposal plant; 1 mile N-NW of Corona	Unknown formation (Pleistocene)	Bovidae	Unknown
LACM VP 7811	W of Orchard Park, Chino Valley	Unknown formation (eolian, tan silt; Pleistocene)	Whip snake (<i>Masticophis</i>)	9-11 feet bgs
LACM VP 6059	Overflow area just east-southeast of Lake Elsinore	Unknown formation (Pleistocene)	Camel family (Camelidae)	Unknown
LACM IP 437	West side of Castile Canyon, north of the Soboba Indian Reservation	Unknown formation (Pleistocene)	Invertebrates – insect (<i>Sobobapteron kirkbayeri</i>), brachiopod (<i>Terebratalia hemphilli</i>)	Unknown

VP, Vertebrate Paleontology; IP, Invertebrate Paleontology; bgs, below ground surface

This records search covers only the records of the Natural History Museum of Los Angeles County (“NHMLA”). It is not intended as a paleontological assessment of the project area for the purposes of CEQA or NEPA. Potentially fossil-bearing units are present in the

project area, either at the surface or in the subsurface. As such, NHMLA recommends that a full paleontological assessment of the project area be conducted by a paleontologist meeting Bureau of Land Management or Society of Vertebrate Paleontology standards.

Sincerely,

A handwritten signature in black ink that reads "Alyssa Bell". The signature is written in a cursive style and is centered within a light gray rectangular box.

Alyssa Bell, Ph.D.
Natural History Museum of Los Angeles County

enclosure: invoice



Brian F. Smith & Associates
Todd Wirths
14010 Poway Road
Poway, CA 92064

July 12, 2021

Dear Mr. Wirths,

This letter presents the results of a record search conducted for the Upper Campus Upper Plateau Project (21-154) on March Air Force Base, Riverside County, California. The project site is located on approximately 356.62 acres southwest of Meridian Parkway and Allesando Boulevard in Township 3 South, Range 4 West in Section 15, 16, 17 and 21 on the *Riverside East*, CA USGS 7.5 minute quadrangle.

The geologic units underlying this project are mapped primarily as Cretaceous quartz diorite deposits with small segments of severely metamorphosed biotite schist dating to the Paleozoic and a small segment of alluvial fan deposits along the eastern project border dating to the Pleistocene (Dibblee & Minch, 2003). A map showing geologic mapping for the area has been included for your reference. Quartz diorite and biotite schist units are considered to be of low paleontological sensitivity and are not known to produce fossil material within the region. The alluvial fan deposits along the eastern edge of the project boundary however are considered to be paleontologically sensitive and are known to produce ample fossil materials within Southern California. The Western Science Center does not have localities within the project area or within a one mile radius.

Given the geologic makeup of the units below, it is unlikely that fossil material will be present in the majority of the project area, however there is increased likelihood of fossil materials in the small segment of alluvial along the eastern border and caution within this area should be observed. If you have any questions or would like further information, please feel free to contact me at dradford@westerncentermuseum.org

Sincerely,

A handwritten signature in black ink, appearing to read 'Darla Radford', written in a cursive style.

Darla Radford
Collections Manager



San Bernardino County Museum

Division of Earth Sciences

www.SBCounty.gov

Crystal Cortez

Curator of Earth Sciences

email: Crystal.cortez@sbcm.sbcounty.gov

29 July, 2021

Brian F. Smith and Associates, Inc.

Attn: Todd Wirths

14010 Poway Rd.,

Poway CA 92064

**PALEONTOLOGY RECORDS REVIEW for proposed West Campus Upper Plateau
project (no. 21-154) in Riverside County, California**

Dear Mr. Wirths,

The Division of Earth Sciences of the San Bernardino County Museum (SBCM) has completed a records search for the above-named project in Riverside County, California. The proposed West Campus Upper Plateau project is located near in the City of Riverside, California as shown on the United States Geological Survey (USGS) 7.5 minute Riverside east, California quadrangle.

Geologic mapping of that region indicates that the proposed development is generally located on plutonic rocks (qdi) of peninsular ranges (Dibble and Minch, 2003). These sediments have particularly low potential to contain significant paleontological resources. However, the eastern most region of the proposed project area, near Plummer Street, crosses into deposits of older Quaternary alluvium. These potentially-fossiliferous sediments were deposited between ~1.8 million years ago to ~11,000 years ago. Older Pleistocene deposits in the area have been found to be highly fossiliferous yielding the remains of ground sloths, bison and horse.

For this review, I conducted a search of the Regional Paleontological Locality Inventory (RPLI) at the SBCM. The results of this search indicate that no paleontological resources have been discovered within the proposed project site nor within a 10 mile boundary. The nearest fossil locality to this project is 11 miles east in the San Jacinto Valley (SBCM 5.3.56). SBCM

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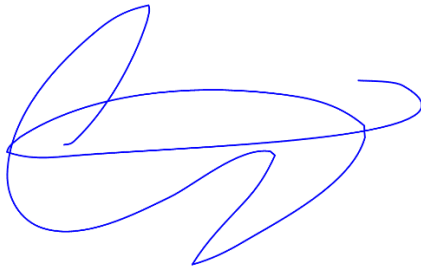
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locality 5.3.56 uncovered fossil remains belonging to *Equus* sp., Camelidae, and a possible Artiodactyl.

This records search covers only the paleontological records of the San Bernardino County Museum. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Please do not hesitate to contact us with any further questions that you may have.

Sincerely,

A handwritten signature in blue ink, consisting of several overlapping loops and a long horizontal stroke, likely representing the name Crystal Cortez.

Crystal Cortez, Curator of Earth Sciences
Division of Earth Sciences
San Bernardino County Museum