PALEONTOLOGICAL RESOURCES ASSESSMENT REPORT

PARADISE VALLEY RANCH PROJECT

Near the City of Hemet
Riverside County, California

For Submittal to:

County of Riverside Planning Department
4080 Lemon Street
Riverside, CA 92502

Prepared for:

PVR Management, LLC
8895 Research Drive, Suite 200
Irvine, CA 92618

Prepared by:

John J. Eddy, Report Writer
Charley Shelton, Paleontologist
CRM TECH
1016 East Cooley Drive, Suite A/B
Colton, CA 92324

Bai "Tom" Tang, Principal Investigator
Michael Hogan, Principal Investigator

July 22, 2021

CRM TECH Project No. 3684P
County of Riverside Project Nos. CUP210005 and CZ2100006
Section 8, T6S R1E, San Bernardino Baseline and Meridian; USGS Hemet, Calif., 7.5' (1:24,000) quadrangle

EXECUTIVE SUMMARY

Between November 2020 and July 2021, at the request of PVR Management, LLC, CRM TECH performed a paleontological resource assessment on approximately 288 acres of partially developed rural land in an unincorporated area near the City of Hemet, Riverside County, California. The study area consists of Assessor's Parcel Nos. 569-020-010, -013, -024, -025, and -026, encompassing the Paradise Valley Ranch retreat and guest lodge in the southwestern portion of the property. It is situated near the eastern terminus of Cactus Valley Road, approximately six miles southeast of the Hemet city center, within Section 8 of Township 6 South Range 1 East, San Bernardino Baseline and Meridian.

The study is a part of the environmental review process for the proposed expansion and improvement of the existing Paradise Valley Ranch facility, including the construction of a field station for the Wildfire Conservancy, a Center of Excellence for firefighter mental and behavioral health, and a photovoltaic solar field. As part of the project, the main lodge, garage, and pool house will be converted for use by the Center of Excellence, and two bunkhouse/camp lodges will be demolished and replaced with new facilities. The direct impact of the project will be limited to an approximately 50-acre portion of the study area around the Paradise Valley Ranch retreat and guest lodge, which is referred hereafter as the project area in this report.

The County of Riverside, as the lead agency for the project, required the study in compliance with the California Environmental Quality Act (CEQA). The purpose of the study is to provide the County with the necessary information and analysis to determine whether the proposed project would result in a significant impact to any significant, nonrenewable paleontological resources and to develop a paleontological mitigation program, if necessary. To identify any paleontological localities that may exist in or near the study area and to assess the possibility that such resources may be encountered during construction, CRM TECH initiated records searches at the appropriate repository, reviewed available literature, and performed a systematic field survey of the entire study area.

The findings of this study indicate the central portion of the project area, lying on the relatively level terrain of the valley floor, contains Pleistocene-aged alluvial deposits (*Qof*), which is considered to have a high potential for paleontological resources, to a maximum depth of 34 feet below the ground surface. The small portions of the project area that extend to the surrounding hillside, especially at the western, northern, and eastern tips and in the southernmost portion, features Cretaceous pluton outcroppings and Holocene alluvial/residual deposits of weathered bedrock, as does most of the rest of the study area. These geologic units are not conducive to the preservation of paleontological remains, and these areas are therefore low in sensitivity for paleontological resources.

Based on these findings, CRM TECH recommends that a mitigation program be developed and implemented to prevent project impacts on significant, nonrenewable paleontological resources or to reduce such impacts to a level less than significant. As the primary component of the mitigation program, all earth-moving operations that occur on the relatively level terrain of the valley floor should be monitored to identify and recovery paleontological remains. Under this condition, CRM TECH further recommends that the proposed project may be cleared to proceed in compliance with CEQA provisions on paleontological resources.

TABLE OF CONTENTS

LIST OF FIGURES

INTRODUCTION

Between November 2020 and July 2021, at the request of PVR Management, LLC, CRM TECH performed a paleontological resource assessment on approximately 288 acres of partially developed rural land in an unincorporated area near the City of Hemet, Riverside County, California (Fig. 1). The study area consists of Assessor's Parcel Nos. 569-020-010, -013, -024, -025, and -026, encompassing the Paradise Valley Ranch retreat and guest lodge in the southwestern portion of the property. It is situated near the eastern terminus of Cactus Valley Road, approximately six miles southeast of the Hemet city center, within Section 8 of Township 6 South Range 1 East, San Bernardino Baseline and Meridian (Figs. 2, 3).

The study is a part of the environmental review process for the proposed expansion and improvement of the existing Paradise Valley Ranch facility, including the construction of a field station for the Wildfire Conservancy, a Center of Excellence for firefighter mental and behavioral health, and a photovoltaic solar field. As part of the project, the main lodge, garage, and pool house will be converted for use by the Center of Excellence, and two bunkhouse/camp lodges will be demolished and replaced with new facilities. The direct impact of the project will be limited to an approximately 50-acre portion of the study area around the Paradise Valley Ranch retreat and guest lodge, which is referred hereafter as the project area in this report (Figs. 2, 3).

The County of Riverside, as the lead agency for the project, required the study in compliance with the California Environmental Quality Act (CEQA). The purpose of the study is to provide the County with the necessary information and analysis to determine whether the proposed project

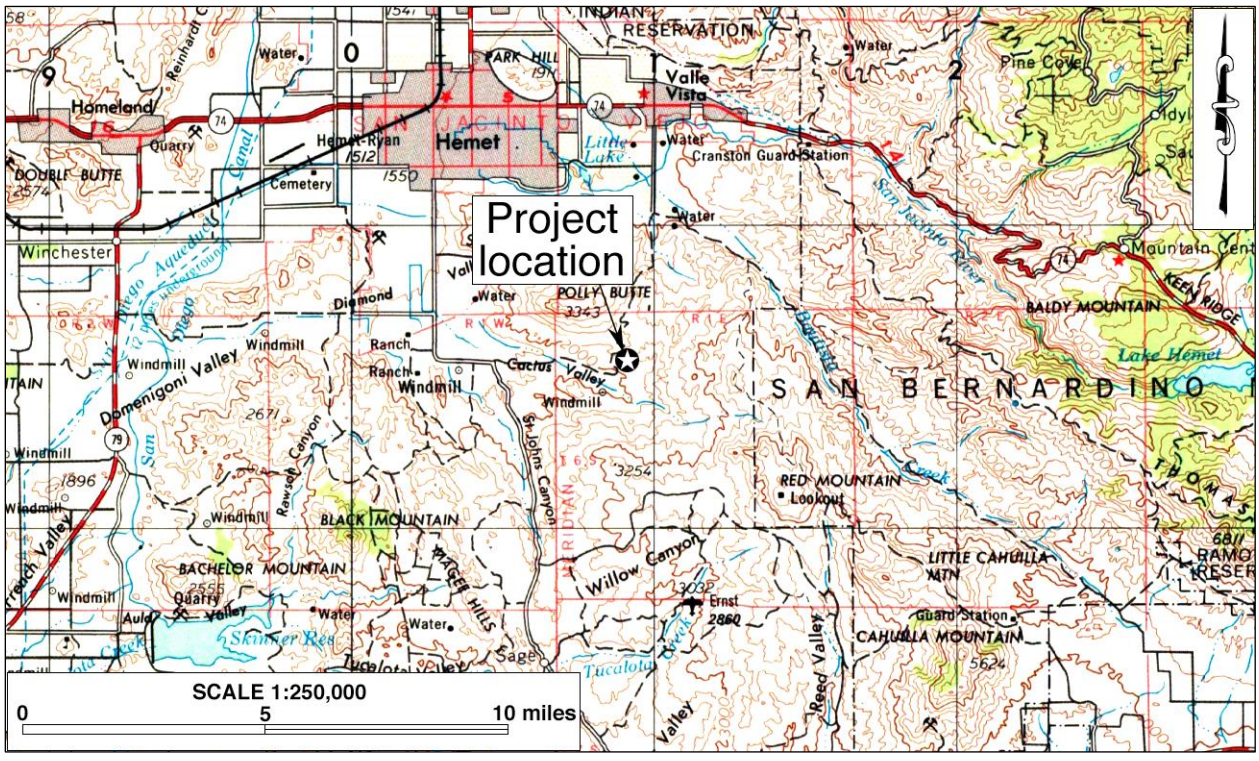


Figure 1. Project vicinity. (Based on USGS Santa Ana, Calif., 120'x60'quadrangle, 1979 edition)

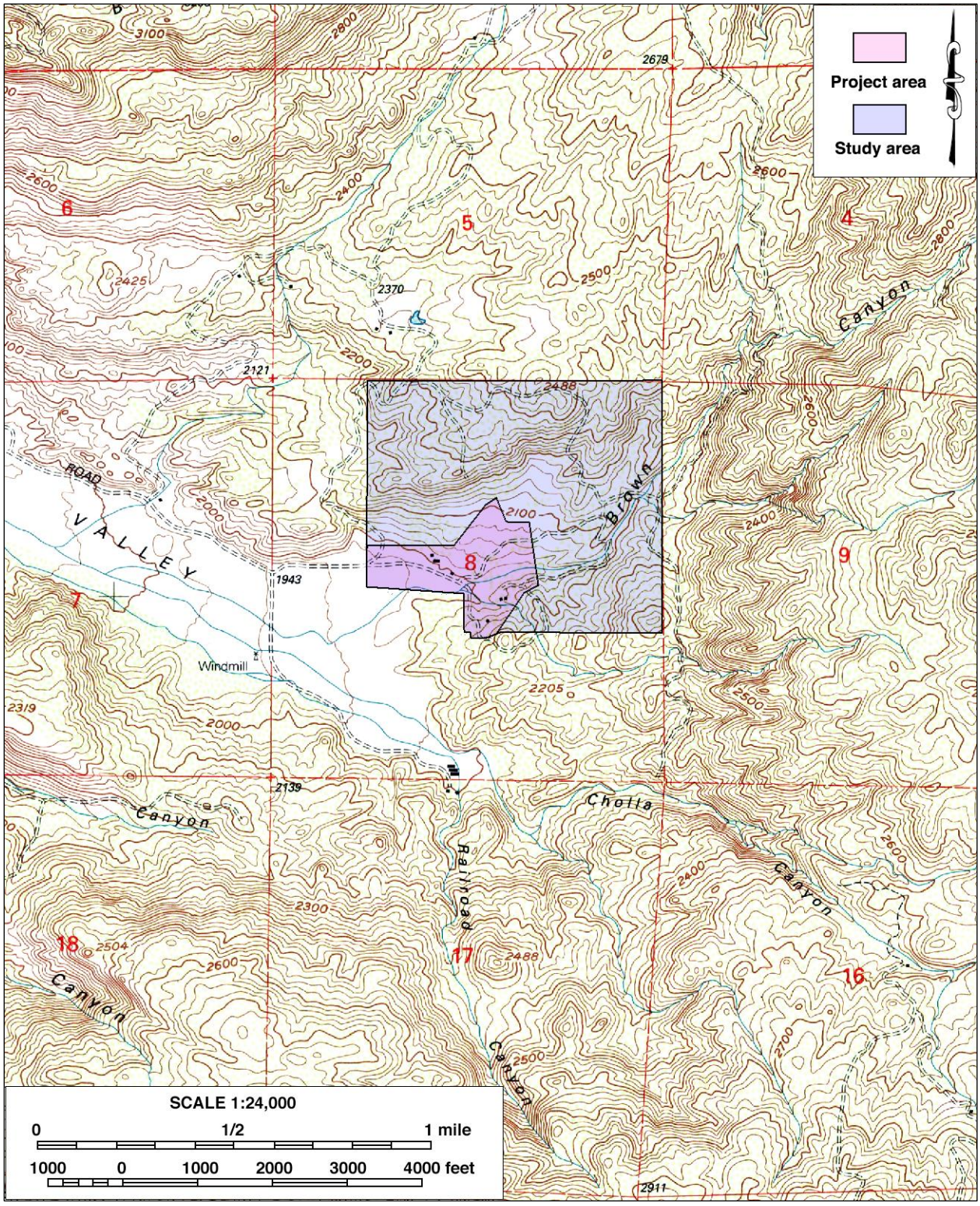


Figure 2. The project area and the study area. (Based on USGS Hemet, Calif., 7.5' quadrangle, 1996 edition)

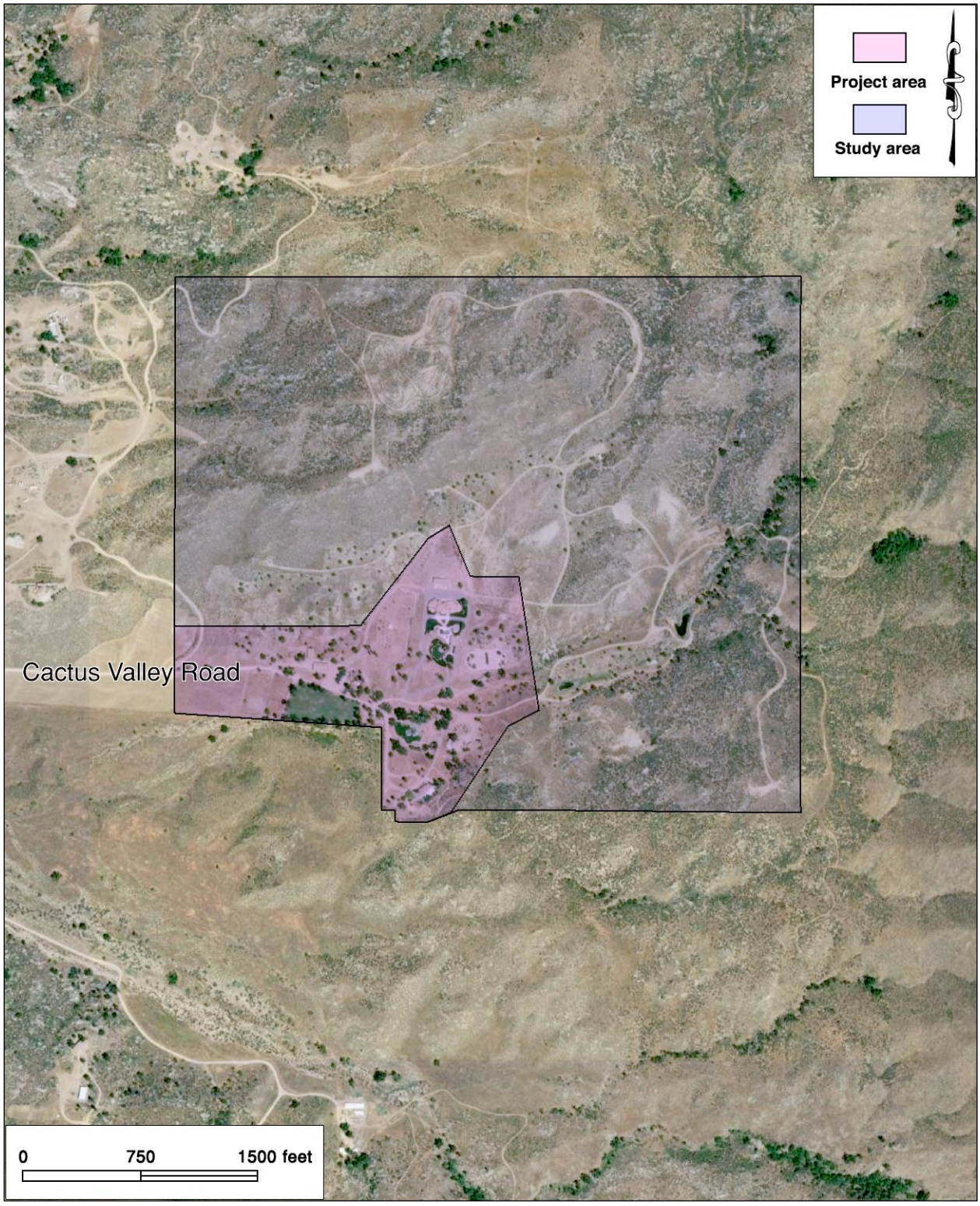


Figure 3. Aerial image of the study area.

would result in a significant impact to any significant, nonrenewable paleontological resources and to develop a paleontological mitigation program, if necessary. To identify any paleontological localities that may exist in or near the study area and to assess the possibility that such resources may be encountered during construction, CRM TECH initiated records searches at the appropriate repository, reviewed available literature, and performed a systematic field survey of the entire study area. This technical report is a complete account of the methods and results of the study. Personnel who participated in the study are named in the appropriate sections below, and their qualifications are provided in Appendix 1.

PALEONTOLOGICAL RESOURCES

DEFINITION

Paleontological resources represent the remains of prehistoric life, exclusive of any human remains, and include the localities where fossils were collected as well as the sedimentary rock formations in which they were found. The defining character of fossils or fossil deposits is their geologic age, which is typically regarded as older than approximately 12,000 years, the generally accepted temporal boundary marking the end of the last late Pleistocene (circa 2.6 million to 12,000 years B.P.) glaciation and the beginning of the current Holocene epoch (circa 12,000 years B.P. to the present).

Common fossil remains include marine shells; the bones and teeth of fish, amphibians, reptiles, and mammals; leaf assemblages; and petrified wood. Fossil traces, another type of paleontological resource, include internal and external molds (impressions) and casts created by these organisms. These items can serve as important guides to the age of the rocks and sediments in which they are contained and may prove useful in determining the temporal relationships between rock deposits from one area and those from another as well as the timing of geologic events. They can also provide information regarding evolutionary relationships, development trends, and environmental conditions.

Fossil resources generally occur only in areas of sedimentary rock (e.g., sandstone, siltstone, mudstone, claystone, or shale). Because of the infrequency of fossil preservation, fossils, particularly vertebrate fossils, are considered nonrenewable paleontological resources. Occasionally fossils may be exposed at the surface through the process of natural erosion or because of human disturbances; however, they generally lay buried beneath the surficial soils. Thus, the absence of fossils on the surface does not preclude the possibility of their being present within subsurface deposits, while the presence of fossils at the surface is often a good indication that more remains may be found in the subsurface.

SIGNIFICANCE CRITERIA

According to guidelines proposed by Scott and Springer (2003) of the San Bernardino County Museum, paleontological resources are of significant scientific interest if they meet one or more of the following criteria:

1. The fossils provide information on the evolutionary relationships and developmental trends exhibited among organisms, living or extinct;
2. The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein;
3. The fossils provide data regarding the development of biological communities or the interactions between paleobotanical and paleozoological biotas;
4. The fossils demonstrate unusual or spectacular circumstances in the history of life; and/or
5. The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.

PALEONTOLOGICAL SENSITIVITY

The fossil record is unpredictable, and the preservation of organic remains is rare, requiring a particular sequence of events involving physical and biological factors. Skeletal tissue with a high percentage of mineral matter is the most readily preserved within the fossil record; soft tissues not intimately connected with the skeletal parts, however, are the least likely to be preserved (Raup and Stanley 1978). For this reason, the fossil record contains a biased selection not only of the types of organisms preserved but also of certain parts of the organisms themselves. As a consequence, paleontologists are unable to know with certainty, the quantity of fossils or the quality of their preservation that might be present within any given geologic unit.

Sedimentary units that are paleontologically sensitive are those geologic units (mappable rock formations) with a high potential to contain significant nonrenewable paleontological resources. More specifically, these are geologic units within which vertebrate fossils or significant invertebrate fossils have been determined by previous studies to be present or are likely to be present. These units include, but are not limited to, sedimentary formations that contain significant paleontological resources anywhere within their geographical extent as well as sedimentary rock units temporally or lithologically amenable to the preservation of fossils.

A geologic formation is defined as a stratigraphic unit identified by its lithic characteristics (e.g., grain size, texture, color, and mineral content) and stratigraphic position. There is a direct relationship between fossils and the geologic formations within which they are enclosed, and, with sufficient knowledge of the geology and stratigraphy of a particular area, it is possible for paleontologists to reasonably determine the formation's potential to contain significant nonrenewable vertebrate, invertebrate, marine, or plant fossil remains.

The paleontological sensitivity for a geologic formation is determined by the potential for that formation to produce significant nonrenewable fossils. This determination is based on what fossil resources the geologic formation has produced in the past at other nearby locations. Determinations of paleontologic sensitivity must consider not only the potential for yielding vertebrate fossils but also the potential of yielding a few significant fossils that may provide new and significant taxonomic, phylogenetic, and/or stratigraphic data.

The Society of Vertebrate Paleontology issued a set of standard guidelines intended to assist paleontologists to assess and mitigate any adverse effects/impacts to nonrenewable paleontological

resources. The guidelines defined four categories of paleontological sensitivity for geologic units that might be impacted by a proposed project, as listed below (Society of Vertebrate Paleontology 2010:1-2):

- **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.
- **Low Potential**: Rock units that are poorly represented by fossil specimens in institutional collections, or based on general scientific consensus 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.

SETTING

Cactus Valley lies at the base of the western facing slopes of the San Jacinto Mountains within the Peninsular Ranges Geomorphic Province, which borders the Transverse Ranges Province to the north, the Colorado Desert Province on the southeast, and the Pacific Ocean to the west (Jenkins 1980; Harms 1996:150). The Peninsular Ranges encompasses the southwest portion of the State of California and extends south to the tip of Baja California (Jahns 1954:29; Harms 1996:130). They include the Santa Ana, San Jacinto, Santa Rosa, Agua Tibia and Laguna Mountains in southern California and the Sierra Juarez, Sierra San Pedro Mártir, and other ranges in Baja California. The ranges are separated by northwest trending valleys and subparallel faults (e.g., the San Jacinto Fault) that extend from the San Andreas Fault.

Topographically, the Peninsular Ranges resemble the Coastal Ranges to the north but are more like the Sierra Nevada Ranges in terms of geology, with two major divisions of rock (older metamorphic and intrusive plutonic). Sedimentary strata and volcanic rocks mildly to severely metamorphosed represent some of the oldest exposed rocks within the province and are found over large areas of the San Jacinto, Santa Rosa, and Coyote Mountains and include quartzite, crystalline limestone, phyllite, hornblende and mica schists, quartz-feldspar schists, and gneiss. Fossil material obtained from such deposits was reported by Miller (1944:21-25) a few miles southeast of Palm Springs and Webb (1939) in nearby Winchester.

Cactus Valley is a part of the San Jacinto Fault Zone, which branches off the San Andreas Fault in the San Gabriel Mountains to the northwest and extends southeast through San Bernardino, Moreno Valley, Perris, San Jacinto, Hemet, Anza and beyond the Borrego Valley. The San Jacinto Fault Zone runs along the eastern end of the Perris Block, which is an eroded mass of Cretaceous and older crystalline rock sculptured by two narrow valley systems and four nearly horizontal planes (Woodford et al. 1971:3421). The Perris Block is a large mass between the San Jacinto and Elsinore-Chino fault zones, with the Cucamonga (San Gabriel) Fault to the north and a vaguely delineated southern boundary in the Temecula Valley. It is underlain by metamorphosed silicious sedimentary rocks, metavolcanic rocks, and intrusive mid-Cretaceous plutons (Woodford et al. 1971). Valley filling sediments derived from fluvial and alluvial deposits that overlie Perris Block

Figure 4. Typical landscapes in the study area. *Clockwise from upper left*: tonalite boulders in drainage; entrance to Cactus Valley; tonalite outcrops; a sandstone cobble float. (Photographs taken April 8 through 12, 2021)

bedrock are in part lower Pliocene and in part Pleistocene in age and have produced vertebrate fossil localities including one discovery at the southeast end of the San Jacinto Trough (Bautista beds).

More specifically, the study area lies at the eastern end of Cactus Valley and sprawls along the valley floor toward the east into Brown Canyon and extending into the neighboring hillside slopes of the San Jacinto Mountains to the north and south. The property is currently home to the Paradise Ranch, a Christian retreat and conference center that includes several facilities, an outdoor amphitheater, garage, pool house, lake, dirt racetrack, livestock corrals, and camp sites among other amenities. An intermittent drainage flows into a small lake in the southern portion of the study area. Elevations range from 1,980 to 2,490 feet above mean sea level and slopes steadily to the north and east into the foothills, sloping at a much steeper grade into the moderately undulating hilltop and ridge topography. In the southern portion of the study area, the slope trends to the south and southeast into the neighboring foothills. Vegetation observed in the study area is a mix of Chaparral and Riversidean Sage Scrub vegetation communities, and includes sage, chaparral, creosote, brittlebrush, chia, blue dick, pencil cholla, buckwheat, foxtail, as well as small grasses and brush (Fig. 4).

METHODS AND PROCEDURES

RECORDS SEARCHES

The records search service for this study was provided by the San Bernardino County Museum (SBCM) in Redlands and the Western Science Center (WSC) in Hemet. The two museums maintain files of regional paleontological localities as well as supporting maps and documents. The records search results were used to identify previously performed paleontological resource assessments as well as known paleontological localities within a one-mile radius of the APE. Copies of the records search results is attached to this report in Appendix 2.

LITERATURE REVIEW

In conjunction with the records searches, CRM TECH report writer John J. Eddy pursued a literature review on the project vicinity. Sources consulted during the review include primarily topographic, geologic, and soil maps of the Hemet area, published geologic literature pertaining to the study area, and other materials in the CRM TECH library, including unpublished reports produced during similar surveys in the vicinity.

FIELD SURVEY

Between April 8 and April 13, 2021, CRM TECH conducted a systematic field survey of the entire study area. The survey was carried out by field director Daniel Ballester, project paleontologist Charley Shelton, and field crew members Hunter O'Donnell, John D. Goodman II, Deirdre Encarnacion, and Rebecca Brierty. The survey was completed by walking a series of parallel 15-meter (approximately 50-foot) transects alternating in orientation between east-west and north-south, as the terrain dictated. In areas where the terrain was excessively steep or overgrown with dense vegetation, only those areas with high potential for containing cultural resources were selectively surveyed to ensure the safety of the field crew.

In this way, the ground surface within the study area was systematically and carefully examined for any indications of paleontological remains. During the survey, efforts were made to verify the geological formations, lithology, and surface soil classifications identified through the literature review. Areas with potential fossil bearing deposits, when observed, were noted inspected with particular intensity. Ground visibility ranged from poor (10-15%) in areas with very dense vegetation (e.g., most hillside slopes and drainages) to excellent (90-100%) in the well-manicured and cleared southern portions of the study area.

RESULTS AND FINDINGS

RECORDS SEARCHES

According to records on file at the SBCM and the WSC, there are no known fossil localities within the study area (see App. 2). Outside the study area, the SBCM reported several fossil localities within a five-mile radius (SBCM 5.6.853, 5.6.854, and 5.6.855), including the remains of *Thomomys*

sp. (rodent), micro fossils belonging to mammals), *Succinea* sp. (mollusks), Aves, and Chordata fragments. Similarly, the WSC reported various fossil localities in Diamond Valley, approximately four miles to the west, that included large mammal (e.g., ground sloth, dire wolf, mammoth, mastodon, and long-horned bison). Fossils were recovered from Pleistocene-age alluvial deposits, which are present within the study area, and considered to be of high paleontological sensitivity in southern California (see App. 2). According to the records searches, fossil-bearing units are present in the study area at the surface or at depth.

LITERATURE REVIEW

The study area consists of three distinct geological units: old alluvial fan deposits (*Qof*), Hemet Pluton (*Kh*), and Tonalite of the Coahuila Valley (*Kcv*) (see Fig. 5). The following description of these units is summarized from Morton and Matti (2005).

- *Qof*: Old alluvial fan deposits geologically dated to the late to middle Pleistocene are sedimentary, moderately consolidated, indurated slightly dissected and consist of reddish brown, gravel, and sand. Thin alluvial-fan deposits of Holocene age may overlie *Qof* deposits in places.
- *Kh*: Hemet pluton geologically dated to the Cretaceous and consisting mainly of biotite-hornblende and biotite tonalite.
- *Kcv*: Tonalite of the Coahuila Valley pluton recorded by Sharp (1967) is relatively homogenous grey, medium grained hornblende-biotite tonalite and minor granodiorite. Weathers to form large boulder outcrops.

As Figure 5 illustrates, the central portion of the 50-acre project area, lying on the relatively level terrain of the valley floor, contains the Pleistocene-aged alluvial deposits, which is considered to have a high potential for paleontological resources. The western, northern, and eastern tips of the project area and the southernmost portion extend to the surrounding hillside, where the Cretaceous pluton outcroppings and Holocene alluvial/residual deposits of weathered bedrock cover most of the rest of the study area.

Percolation testing of proposed building sites within the study area was completed by Sladden Engineering in March 2021. Fourteen exploratory test holes, three test pits, and six boreholes were excavated to depths between five and 34 feet below ground surface. Alluvial deposits were encountered to a maximum depth of 34 feet and were underlain by intrusive bedrock. Alluvium was described as dark grayish brown to yellowish brown sand and silty sand.

FIELD SURVEY

No paleontological remains were observed on the ground surface of the study area during the field survey. Rocks and outcroppings included tonalite and granodiorite with some quartz monozonite and were consistent with previous geologic observations. Rocks were severely weathered and decomposing into gravel sands, which were the major contributor to sediments observed on the ground among outcrops. Along the northern border of the study area, a discrete outcrop of weathered sedimentary rocks (banded sandstone, or possibly breccia) was identified. Sandstone cobbles were observed as float downslope and into the adjacent valley (Fig. 4).

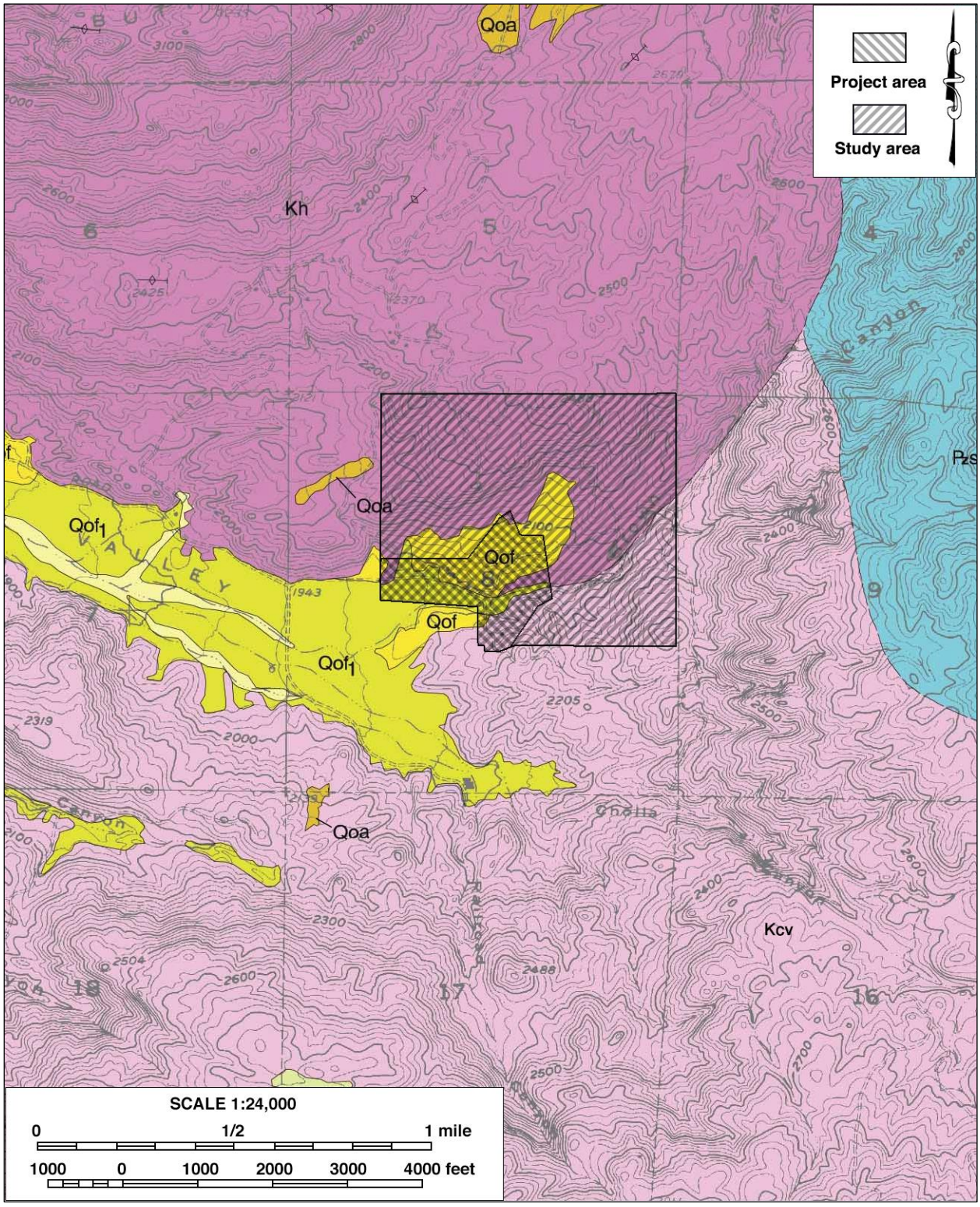


Figure 5. Geologic map of the project vicinity. (Based on Morton and Matti 2005)

CONCLUSION AND RECOMMENDATIONS

In summary of the research results presented above, the central portion of the project area, lying on the relatively level terrain of the valley floor, contains Pleistocene-aged alluvial deposits (*Qof*), which is considered to have a high potential for paleontological resources, to a maximum depth of 34 feet below the ground surface. The small portions of the project area that extend to the surrounding hillside, especially at the western, northern, and eastern tips and in the southernmost portion, features Cretaceous pluton outcroppings and Holocene alluvial/residual deposits of weathered bedrock, as does most of the rest of the study area. These geologic units are not conducive to the preservation of paleontological remains, and these areas are therefore low in sensitivity for paleontological resources.

Based on these findings, CRM TECH recommends that a mitigation program be developed and implemented to prevent project impacts on significant, nonrenewable paleontological resources or to reduce such impacts to a level less than significant. The mitigation program should be developed in accordance with the provisions of CEQA as well as the proposed guidelines of the Society of Vertebrate Paleontology (2010), and should include but not be limited to the following:

- Preparation of a Paleontological Resources Impact Mitigation Plan prior to the issuance of a grading permit.
- Monitoring all earth-moving operations during project construction in areas mapped as *Qof*. The monitor should be prepared to quickly salvage fossils, if they are unearthed, to avoid construction delays, but must have the power to temporarily halt or divert construction equipment to allow for removal of abundant or large specimens.
- Collection and processing of sediment samples for the recovery of micro fossil remains.
- Identification and analysis of all recovered specimens and curation of specimens at a repository with permanent retrievable storage that would allow for further research in the future.
- Preparation of a report of findings, including an itemized inventory of recovered specimens and a discussion of their significance when appropriate, upon completion of the research procedures outlined above. The approval of the report and the inventory by the County of Riverside would signify completion of the mitigation program.

Under this condition, CRM TECH further recommends that the proposed project may be cleared to proceed in compliance with CEQA provisions on paleontological resources.

REFERENCES

Frick, Childs

1921 *Extinct Vertebrate Faunas of the Badlands of Bautista Creek and San Timeteo Canyon, Southern California.* University of California Publications, Department of Geological Science Bulletin 12:277-409.

Harms, Nancy S.

1996 *A Precollegiate Teachers Guide to California Geomorphic/Physiographic Provinces*. National Association of Geoscience Teachers, Far West Section, Concord, California.

Jahns, R.H.

1954 Geology of the Peninsular Range Province, Southern California and Baja California. In R.H. Jahns (ed.): *Geology of Southern California*; Chapter II. California Division of Mines Bulletin 170, Part 3. San Francisco.

Jenkins, Olaf P.

1980 Geomorphic Provinces Map of California. *California Geology* 32(2):40-41.

Miller, W.J.

1944 Geology of the Palm Springs-Blythe Strip, Riverside County, California. *California Journal of Mines and Geology* 10:11-72.

Morton, Douglas M., and Jonathan C. Matti

2005 Geologic Map of the Hemet 7.5' Quadrangle, Riverside County, California. Digital preparation by Kelly R. Bovard and Jennifer N. Lesser. U.S. Geological Survey Open-File Report 2005-1455.

Raup, David M., and Steven M. Stanley

1978 *Principle of Paleontology*. W.H. Freeman and Company, San Francisco.

Scott, Eric, and Kathleen Springer

2003 CEQA and Fossil Preservation in California. *Environmental Monitor* Fall:4-10. Association of Environmental Professionals, Sacramento, California.

Sharp, R.V.

1967 San Jacinto Fault Zone in the Peninsular Ranges of Southern California. *Geological Society of America Bulletin* 78:705-730.

Society of Vertebrate Paleontology

2010 Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. http://vertpaleo.org/Membership/Member-Resources/SVP_ Impact_Mitigation_Guidelines.aspx.

Webb, R.W.

1939 Evidence of the Age of a Crystalline Limestone in Southern California. *Journal of Geology* 42:198-201.

Woodford, Alfred O., John S. Shelton, Donald O. Doehring, and Richard K. Morton

1971 Pliocene-Pleistocene History of the Perris Block, Southern California. *Geological Society of America Bulletin* 82(12):3421-3448.

APPENDIX 1:
PERSONNEL QUALIFICATIONS

PROJECT PALEONTOLOGIST
Charly O'Keefe Shelton, B.A.

Education

2017	B.A., Anthropology, California State University, Los Angeles.
2016	Archaeological Field School, Department of Anthropology, California State University, Los Angeles.
2012	Geology and Anthropology Studies, Pasadena City College, Pasadena.

Professional Experience

2019-	Project Archaeologist/Paleontologist, CRM TECH, Colton, California.
2014	Paleontological Consultant, Los Angeles County Sherriff 's Department, Montrose Search and Rescue Team.
2012-	Filmmaker, Cinematic Choice/Fulcrum, La Crescenta, California
2009-	Reporter/Editor/Tech Officer, *Crescenta Valley Weekly*, La Crescenta, California.
2005-2008	Field Excavation Crew Member, Department of Paleontology, Natural History Museum, Los Angeles.
2005	Lecturer, various venues in the Los Angeles area. • Paleontology/Geology lectures for all ages, specializing in interactive teaching displays for elementary school children.
2003-2009	Reporter, *Crescenta Valley Sun* (*Los Angeles Times* insert), La Cañada.

Publications

2009-	Weekly publication in Travel and Leisure Section, *Crescenta Valley Weekly*.

Memberships

The Archaeological Conservancy; American Association for the Advancement of Science; Crescenta Valley Town Council (former member).

PALEONTOLOGICAL SURVEYOR/FIELD DIRECTOR
Daniel Ballester, M.S., RPA (Registered Professional Archaeologist)

Education

2013	M.S., Geographic Information System (GIS), University of Redlands, California.
1998	B.A., Anthropology, California State University, San Bernardino.
1997	Archaeological Field School, University of Las Vegas and University of California, Riverside.
1994	University of Puerto Rico, Rio Piedras, Puerto Rico.
2007	Certificate in Geographic Information Systems (GIS), California State University, San Bernardino.

- Cross-trained in paleontological field procedures and identifications by CRM TECH Geologist/Paleontologist Harry M. Quinn.

Professional Experience

2002-	Field Director/GIS Specialist, CRM TECH, Riverside/Colton, California.
2011-2012	GIS Specialist for Caltrans District 8 Project, Garcia and Associates, San Anselmo, California.
2009-2010	Field Crew Chief, Garcia and Associates, San Anselmo, California.
2009-2010	Field Crew, ECorp, Redlands.
1999-2002	Project Paleontologist/Archaeologist, CRM TECH, Riverside, California.
1998-1999	Field Crew, K.E.A. Environmental, San Diego, California.
1998	Field Crew, A.S.M. Affiliates, Encinitas, California.
1998	Field Crew, Archaeological Research Unit, University of California, Riverside.

Cultural Resources Management Reports

Co-author and contributor to numerous cultural and paleontological resources management reports since 2002.

REPORT WRITER
John J. Eddy, M.A., RPA (Registered Professional Archaeologist)

Education

2013	M.A., Anthropology (Public Archaeology), California State University, Northridge.
2003	B.A., Anthropology/History, California State University, San Bernardino.

Specialized Training and Certificates

2014	National Preservation Institute, Landscape Preservation: Advanced Tools for Managing Change, San Francisco.
2014	National Preservation Institute, Landscape Preservation: An Introduction, San Francisco.
2012	National Preservation Institute, Section 4(f) Compliance for Historic Properties, San Francisco.
2010	Riverside County Cultural Sensitivity Training.
2010	Caltrans Environmental Academy, Caltrans Environmental Staff Development, Irvine.
2010	ESRI ArcGIS II, Caltrans District 8, San Bernardino.
2009	Categorical Exclusions (NEPA) and Categorical Exemptions (CEQA), Caltrans Environmental Staff Development, Los Angeles.
2008	Caltrans Cultural Resource Procedures and Use of the Programmatic Agreement, Caltrans Cultural Studies Office (CSO), Sacramento.
2008	Advanced GIS Applications, California State University, Northridge.

Professional Experience

2019-	Project Archaeologist, CRM TECH, Colton, California.
2017-2018	Lecturer, Department of Anthropology, California State University, San Bernardino.
2014-2017	Senior Archaeologist, Applied Earthworks, Hemet, California.
2010-2014	Associate Archaeologist, Applied Earthworks, Hemet, California.
2009-2010	Associate Environmental Planner (Archaeologist), Caltrans District 8, San Bernardino, California.
2009-2010	Environmental Planner (Archaeologist), Caltrans District 8, San Bernardino, California.
2007-2008	Project Archaeologist, CRM TECH, Riverside/Colton, California.
2007	Archaeologist, Inyo National Forest, Bishop, California.
2003-2007	Project Archaeologist/Native American Liaison, CRM TECH, Riverside, California.
2000	Intern cultural anthropologist, California State University, San Bernardino; Genealogy of Gabrielino Band of Mission Indians; Dr. Alan Turner, Director.

APPENDIX 2

RECORDS SEARCH RESULTS

WESTERN SCIENCE CENTER

CRM TECH
Nina Gallardo
1016 E. Cooley Drive, Suite A/B
Colton, CA 92324

December 3, 2020

Dear Ms. Gallardo,

This letter presents the results of a record search conducted for the 3684P Hemet Ranch Project in the city of Hemet, Riverside County, California. The project site is located on Cactus Valley Road in Section 8, Township 6 South and Range 1 East on the Hemet CA USGS topographic quadrangles.

The geologic units underlying the norther project area are mapped as granitic deposits dating to the Cretaceous, while the southern half of the project area is mapped as alluvial deposits dating to Pleistocene epoch (Dibblee, 2008). While Cretaceous granitic deposits are not considered to be paleontologically sensitive, Pleistocene alluvial units are considered to be of high paleontological sensitivity. The Western Science Center does not have localities within the project area, but does have numerous localities within similarly mapped alluvial sediments throughout the region, including those associated with the Diamond Valley Lake Project roughly 4 miles to the west. Pleistocene alluvial deposits in southern California are well documented and known to contain abundant fossil resources including those associated with Columbian mammoth (*Mammuthus columbi*), Pacific mastodon (*Mammut pacificus*), Sabertooth cat (*Smilodon fatalis*), Ancient horse (*Equus sp*.) and many other Pleistocene megafauna.

Any fossils recovered from the 3684P Hemet Ranch Project area would be scientifically significant. Excavation activity associated with development of the area has the potential to impact the paleontologically sensitive Pleistocene alluvial units and it is the recommendation of the Western Science Center that a paleontological resource mitigation plan be put in place to monitor, salvage, and curate any recovered fossils associated with the current study area.

If you have any questions, or would like further information, please feel free to contact me at dradford@westerncentermuseum.org

Sincerely,

Darla Radford
Collections Manager

2024 Orange Tree Lane, Redlands, CA 92374 | Phone: 909.798.8616 Fax: 909.307.0539

San Bernardino County Museum
Division of Earth Sciences

Crystal Cortez
Curator of Earth Sciences

email: Crystal.cortez@sbcm.sbcounty.org

16 December, 2020

CRM Tech
Attn: Nina Gallardo
1016 E. Cooley Drive, Suite B
Colton, CA 92324

PALEONTOLOGY RECORDS REVIEW Paradise Valley Ranch Project; 43700 Cactus Valley Road (CRM TECH Contract No. 3684P) in the City of San Bernardino, San Bernardino County, California

Dear Nina,

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 Paradise Valley Ranch Project; 43700 Cactus Valley Road (CRM TECH Contract No. 3684P) in the County of Riverside, California located in the City of Hemet, as shown on the United States Geological Survey (USGS) 7.5 minute Hemet, California quadrangle.

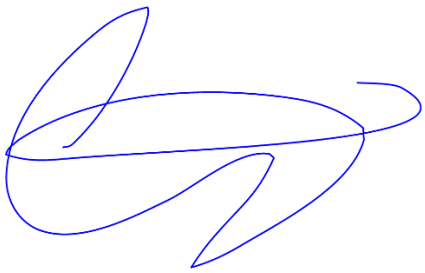
Geologic mapping of that region indicates that the proposed development is located on Quaternary younger alluvial fan deposits of Holocene (recent) age. These sediments have low potential to contain significant paleontological resources. However, these sediments may overlay older Pleistocene fan deposits or Pleistocene 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.

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 recorded paleontological resource localities are present within the proposed project. The nearest SBCM localities are SBCM 5.6.853, 5.6.854, and 5.6.855 located within a 3 radius with remains of *Thomomys* sp., mirco fossils belonging to mammals, *Succinea* sp., Aves, and Chordata fragments.

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,



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