PALEONTOLOGICAL RESOURCES ASSESSMENT REPORT

TEMECULA VALLEY (KELLER ROAD) SELF-STORAGE PROJECT

Assessor's Parcel No. 476-010-060, French Valley Area
Riverside County, California

For Submittal to:

Riverside County Planning Department
County Administrative Center
4080 Lemon Street, 12th Floor
Riverside, CA 92501

Prepared for:

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Prepared by:

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

October 5, 2020

Riverside County Case No. CUP 190012
CRM TECH Contract No. 3625P
Approximately 4.6 Acres
USGS Winchester, Calif., 7.5' (1:24,000) Quadrangle
Section 28, Township 6 South Range 2 West, San Bernardino Baseline and Meridian

EXECUTIVE SUMMARY

Between May and October 2020, at the request of Dr. Milan S. Chakrabarty, CRM TECH performed a paleontological resource assessment on approximately 4.6 acres of vacant land in the unincorporated French Valley area of Riverside County, California. The subject property of the study, Assessor's Parcel Number 476-010-060, is located at the southwest corner of Winchester Road (State Route 79) and Keller Road, in the northwest quarter of Section 28, T6S R2W, San Bernardino Baseline and Meridian. The study is part of the environmental review process for the proposed construction of a self-storage and recreational vehicle parking facility on the property. 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 adversely affect any significant nonrenewable paleontological resources, as required by CEQA, and to design a paleontological mitigation program, if necessary. In order to identify any paleontological resource localities that may exist in or near the project area and to assess the probability for such resources to be encountered during the project, CRM TECH initiated a paleontological resources records search, conducted a literature review, and carried out a systematic field survey of the project area. The results of these research procedures indicate that the proposed project's potential to impact significant, nonrenewable paleontological resources appears to be low in the central portion of the project area, which lies upon surface exposures of metamorphic rocks of Mesozoic age, but high in the northeastern and southwestern portions where subsurface deposits of mid-Pleistocene sediments are present.

Based on these findings, CRM TECH recommends to the County of Riverside that a paleontological resource impact mitigation program be developed and implemented for this project to prevent potential impacts on paleontological resources or reduce such impacts to a level less than significant. As the primary component of the mitigation program, paleontological monitoring should be required during all earth-moving operations in the northeastern and southwestern portions of the project area that reach beyond the top two feet of disturbed soils and potentially into mid-Pleistocene sediments. Under this condition, CRM TECH further recommends that the project may be cleared to proceed in compliance with CEQA provisions on paleontological resources.

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INTRODUCTION

Between May and October 2020, at the request of Dr. Milan S. Chakrabarty, CRM TECH performed a paleontological resource assessment on approximately 4.6 acres of vacant land in the unincorporated French Valley area of Riverside County, California (Fig. 1). The subject property of the study, Assessor's Parcel Number 476-010-060, is located at the southwest corner of Winchester Road (State Route 79) and Keller Road, in the northwest quarter of Section 28, T6S R2W, San Bernardino Baseline and Meridian (Figs. 2, 3).

The study is part of the environmental review process for the proposed construction of a self-storage and recreational vehicle parking facility on the property. The County of Riverside, as the lead agency for the project, required the study in compliance with the California Environmental Quality Act (CEQA; PRC §21000, et seq.). The purpose of the study is to provide the County with the necessary information and analysis to determine whether the proposed project would adversely affect any significant nonrenewable paleontological resources, as required by CEQA, and to design a paleontological mitigation program, if necessary.

In order to identify any paleontological resource localities that may exist in or near the project area and to assess the probability for such resources to be encountered during the project, CRM TECH initiated a paleontological resource records search, conducted a literature review, and carried out a systematic field survey of the project area. The following report is a complete account of the methods, results, and final conclusion of this study. Personnel who participated in the study are named in the appropriate sections below, and their qualifications are provided in Appendix 1.

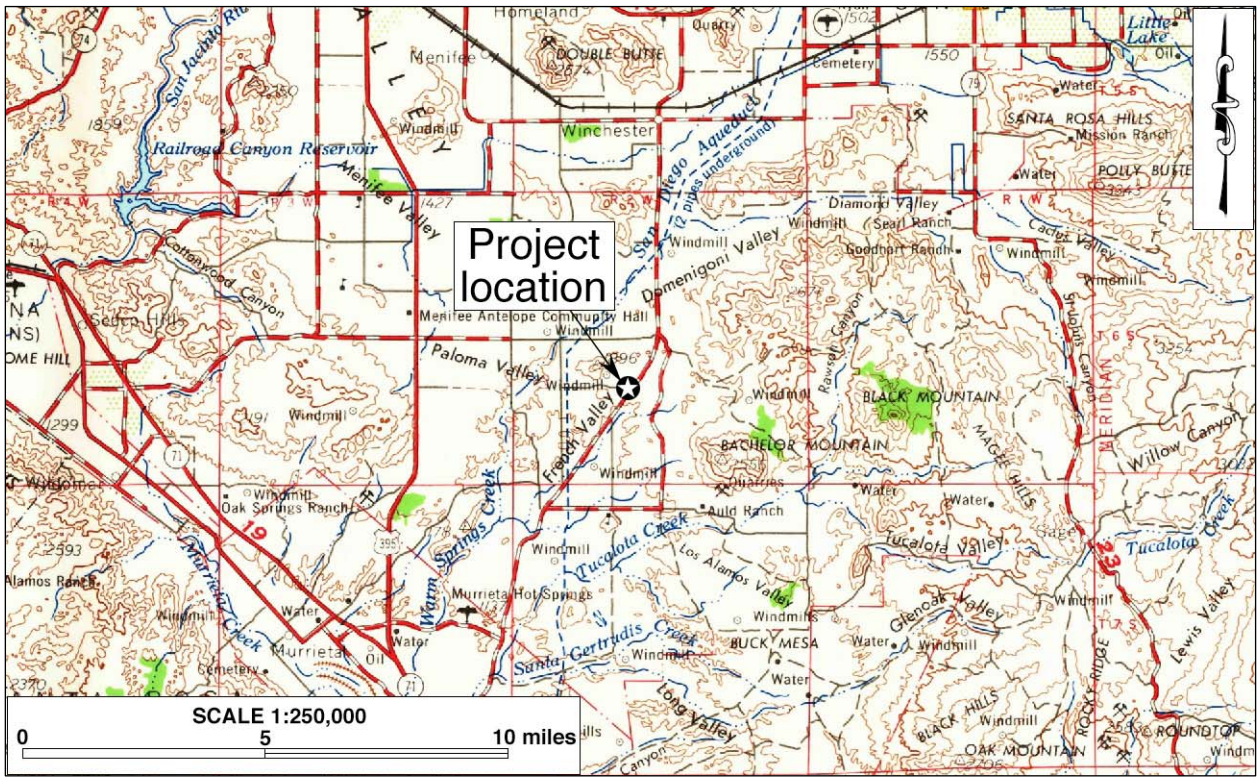

Figure 1. Project vicinity. (Based on USGS Santa Ana, Calif., 30'x60' quadrangle, 1979 edition)

Figure 2. Project location. (Based on USGS Bachelor Mtn. and Winchester, Calif., 7.5' quadrangles, 1978/1979 edition)

Figure 3. Aerial image of the project area.

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 Eric Scott and Kathleen Springer (2003) of the San Bernardino County Museum, paleontological resources can be considered to be 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 biota;
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 particular 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

The project vicinity is situated in the northern portion of the Peninsular Ranges Province, near where it adjoins the Transverse Ranges Province (Jenkins 1980:40-41; Harms 1996:131). This geomorphic province is made up of a series of northwest-southeast trending structural blocks featuring uplifted mountains separated by valley basins that have developed along the intervening fault zones. The mountains are composed primarily of igneous intrusive rocks, metasedimentary rocks, and some metavolcanic rocks (Harden 2004:466-468). The non-crystalline rocks in the western portion of the mountains consist of both metavolcanic and metasedimentary rocks that are mainly of Mesozoic age, while the eastern portion contains metasedimentary rocks of Paleozoic age or older (*ibid*.:471-472). The crystalline basement rocks are present in both the western and the eastern portions and consist mainly of Mesozoic-age granitic rocks with some scattered gabbroic intrusions (*ibid*.:466-468).

More specifically, the project area lies in the French Valley, one of the many tectonically controlled valleys within the valley-and-ridge systems in the Perris Block, between the San Jacinto and Elsinore-Chino fault zones. The Perris Block bounded on the north by the Cucamonga (San Gabriel) Fault and on the south by a vaguely delineated boundary near the southern end of the Temecula Valley (English 1926). It is considered to have been active since Pliocene time (Woodford et al. 1971:3421). Colluvial/alluvial sediments of varying thickness derived from the erosion of the elevated portions of the region fill the low-lying areas of the Perris Block. These structurally depressed troughs are filled with nonmarine sediments of upper Pliocene through Recent ages, and the ridges are composed of plutonic igneous rocks, metasedimentary rocks, and late-stage intrusive dikes (Mann 1955:Plate 1; Kennedy 1977:5).

The project area encompasses a roughly triangular-shaped parcel of former agricultural land. It is bound by Keller Road on the north, a rural residential property and agricultural land on the west, and Winchester Road on the southeast (Fig. 3). The terrain is relatively level with a slight incline to the north, and the elevations within the project boundaries range approximately from 1,415 feet to 1,430 feet above mean sea level. Soils are of fine- to medium-grained sands mixed with silt and small to medium-sized rocks. The land along and near the perimeters of the parcel has been disked recently and largely clear of vegetation, while the central portion of the property is covered by a thick growth of grass (Figs. 3, 4). Other vegetation observed within the project area includes wild mustard, tumbleweed, datura, foxtail, and other small grasses and shrubs.

METHODS AND PROCEDURES

RECORDS SEARCH

The records search service for this study was provided by the Western Science Center (WSC) in Hemet. WSC maintains files of regional paleontological localities as well as supporting maps and documents. The records search results were used to identify previously completed paleontological resource studies as well as known paleontological localities within a one-mile radius of the project area. A copy of the records search results is attached to this report in Appendix 2.

Figure 4. Current natural setting of the project area. (Photograph taken on August 5, 2020; view to the north)

LITERATURE REVIEW

In conjunction with the records searches, CRM TECH report writer Deirdre Encarnación pursued a literature review on the project vicinity under the direction of project geologist/archaeologist Harry M. Quinn, California Professional Geologist #3477. Sources consulted during the review include primarily topographic, geologic, soil maps of the region, published geologic literature pertaining to the project location, past geotechnical studies conducted in the vicinity, County of Riverside GIS database on paleontological sensitivity, and other materials in the CRM TECH library, including unpublished reports produced during similar surveys on nearby properties.

FIELD SURVEY

On August 5, 2020, CRM TECH paleontological surveyor Daniel Ballester carried out the systematic field survey of the project area. The survey was completed by walking a series of parallel north-south transects spaced 20 meters (approximately 65 feet) apart. In this way, the ground surface in the entire project area was systematically examined to determine soil types, verify the geological formations, and search for indications of paleontological remains. Ground visibility at the time ranged from poor (30%) in areas of dense grasses to excellent (100%) where the surface had been cleared.

RESULTS AND FINDINGS

RECORDS SEARCH

According to WSC records, no paleontological localities have been identified within the project area or within the one-mile radius (Radford 2020; see App. 2). However, WSC reports "numerous fossil localities in similarly mapped Pleistocene units," many of them associated with the Diamond Valley Lake Project roughly 3.5 miles to the northeast in Hemet and others with the Principe Collection 5-10 miles to the southwest in Murrieta and Temecula (*ibid*.).

WSC identifies the soils in the project area as mainly phyllite dating to the Mesozoic Epoch, with small areas of very old alluvial channel deposits dating to the early to mid-Pleistocene Epoch at the northeastern and southwestern corners (Radford 2020; see map in App. 2). The Mesozoic phyllite units underlying most of the project area are considered by WSC to be of low paleontological sensitivity, but the Pleistocene alluvial units are considered to be highly sensitive (*ibid*.).

Based on this information, WSC concludes that most of the project area is unlikely to produce fossil material but that excavations in the areas of Pleistocene alluvium could encounter fossil resources (Radford 2020). Additionally, WSC considers any fossil specimen recovered from the project area to be potentially significant and recommends that a paleontological resource mitigation program be developed to monitor, salvage, and curate any fossil remains recovered during the project (*ibid*.).

LITERATURE REVIEW

Recent geologic maps consulted during the literature review confirm the presence of the Mesozic and Pleistocene sediments in the project area. According to Morton (2003), the central portion of the project area lies upon end rocks of Peninsular Ranges batholith, specifically *Mzp*, or fissile black phyllite of Mesozic age (Fig. 5). This geologic unit commonly has "sheen produced by very fine-grained white mica on s-surfaces; locally contains small, elongate, multigrain prism-like aggregates of fine-grained white mica, which may be pseudomorphs after chiastolite" (*ibid.*).

Morton (2003) shows somewhat larger areas of Pleistocene sediments in the northeastern and southwestern portions of the project area, which he identifies as *Qvoa*, or very old alluvial channel deposits of middle to early Pleistocene age (Fig. 5). This geologic unit contains fluvial sediments deposited on valley floors, consisting of moderately to well-indurated, reddish-brown, mostly very dissected gravel, sand, silt, and clay-bearing alluvium (*ibid.*). It is classified alternatively but similarly as *Qvov*, or very old alluvial valley deposits of middle to early Pleistocene age, by Morton and Kennedy (2003) on an adjacent map (Fig. 5). These sediments are known to include the fossiliferous Pauba Formation units at times (*ibid*.).

Riverside County's geographic information system indicates the paleontological sensitivity of the project location as "undetermined" (RCIT n.d.). According to the County's General Plan, an area of undetermined potential needs to be inspected by a qualified vertebrate paleontologist before a specific determination of high potential or low potential can be assigned (County of Riverside 2015:4.9-11).

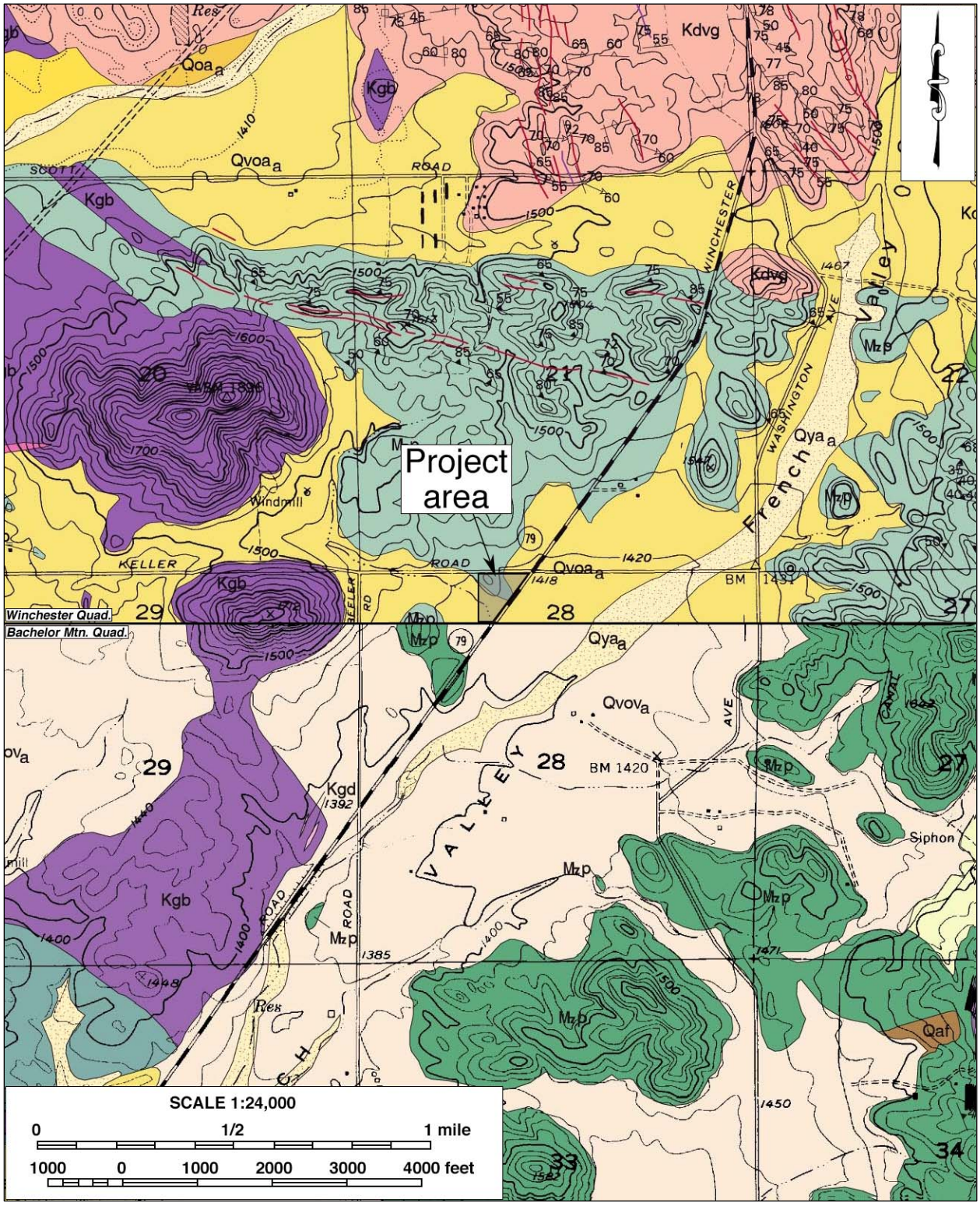

Figure 5. Geologic map of the project vicinity. (Source: Morton 2003; Morton and Kennedy 2003)

FIELD SURVEY

No surface manifestation of any paleontological remains was observed within the project area during the field survey. The property was previously used for agricultural purposes at least from the 1930s and likely much earlier (NETR Online 1938), given the French Valley area's rich history in farming since the late 19th century, and the field survey confirmed that at least the upper two feet of the surface soils have been disturbed by these activities (Fig. 4).

DISCUSSION

In summary, sources indicate that the central portion of the project area is situated upon Mesozoic-age phyllite while the northeastern and southwestern portions contain exposures of Pleistocene-age alluvium. The phyllite is considered to have a low paleontological sensitivity, but the Pleistocene-age alluvium has a high potential to contain significant nonrenewable paleontological resources and is known to have yielded significant fossil remains elsewhere in Riverside County. While no fossil localities were found within the project area, WSC identified many vertebrate fossil localities in the surrounding area from similar alluvial soil units. Any earth-moving activities in the northeastern and southwestern portions of the project area, therefore, may potentially disrupt or adversely affect paleontological resources.

CONCLUSION AND RECOMMENDATIONS

CEQA guidelines (Title 14 CCR App. G, Sec. V(c)) require that public agencies in the State of California determine whether a proposed project would "directly or indirectly destroy a unique paleontological resource" during the environmental review process. The present study, conducted in compliance with this provision, is designed to identify any significant non-renewable paleontological resources that may exist within or adjacent to the project area, and to assess the possibility for such resources to be encountered in future excavation and construction activities.

Based on the research results presented above, the proposed project's potential to impact significant, nonrenewable paleontological resources appears to be low in the central portion of the project area, which lies upon surface exposures of metamorphic rocks of Mesozoic age, but high in the northeastern and southwestern portions where subsurface deposits of mid-Pleistocene sediments are present. Therefore, CRM TECH recommends to the County of Riverside that a paleontological resource impact mitigation program be developed and implemented for this project to prevent potential impacts on paleontological resources or reduce such impacts to a level less than significant. The mitigation program should be developed in accordance with the provisions of CEQA (Scott and Springer 2003) as well as the proposed guidelines of the Society of Vertebrate Paleontology (2010), and should include but not be limited to the following components:

- All earth-moving operations impacting the undisturbed alluvium beyond the depth of two feet in the northeastern and southwestern portions of the project area should be monitored by a qualified paleontological monitor. The monitor should be prepared to quickly salvage fossils as they are unearthed to avoid construction delays and should collect samples of sediments that are likely to contain fossil remains of small vertebrates or in vertebrates. However, the monitor must have

the power to temporarily halt or divert grading equipment to allow for the removal of abundant or large specimens.

- Collected samples of sediment should be processed to recover small fossils, and all recovered specimens should be identified and curated at a repository with permanent retrievable storage.
- A report of findings, including an itemized inventory of recovered specimens, should be prepared upon completion of the procedures outlined above. The report should include a discussion of the significance of the paleontological findings, if any. The report and the inventory, when approved by the County of Riverside, would signify completion of the mitigation program.

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

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APPENDIX 1

PERSONNEL QUALIFICATIONS

PROJECT GEOLOGIST/PALEONTOLOGIST
Harry M. Quinn, M.S., California Professional Geologist #3477

Education

1968 M.S., Geology, University of Southern California, Los Angeles, California.
1964 B.S, Geology, Long Beach State College, Long Beach.
1962 A.A., Los Angeles Harbor College, Wilmington, California.

- Graduate work oriented toward invertebrate paleontology; M.S. thesis completed as a stratigraphic paleontology project on the Precambrian and Lower Cambrian rocks of Eastern California.

Professional Experience

2000- Project Paleontologist, CRM TECH, Riverside/Colton, California.
1998- Project Archaeologist, CRM TECH, Riverside/Colton, California.
1992-1998 Independent Geological/Geoarchaeological/Environmental Consultant, Pinyon Pines, California.
1994-1996 Environmental Geologist, E.C E.S., Inc, Redlands, California.
1988-1992 Project Geologist/Director of Environmental Services, STE, San Bernardino, California.
1987-1988 Senior Geologist, Jirsa Environmental Services, Norco, California.
1986 Consulting Petroleum Geologist, LOCO Exploration, Inc. Aurora, Colorado.
1978-1986 Senior Exploration Geologist, Tenneco Oil E & P, Englewood, Colorado.
1965-1978 Exploration and Development Geologist, Texaco, Inc., Los Angeles, California.

Previous Work Experience in Paleontology

1969-1973 Attended Texaco company-wide seminars designed to acquaint all paleontological laboratories with the capability of one another and the procedures of mutual assistance in solving correlation and paleo-environmental reconstruction problems.
1967-1968 Attended Texaco seminars on Carboniferous coral zonation techniques and Carboniferous smaller foraminifera zonation techniques for Alaska and Nevada.
1966-1972, 1974, 1975 Conducted stratigraphic section measuring and field paleontological identification in Alaska for stratigraphic controls. Pursued more detailed fossil identification in the paleontological laboratory to establish closer stratigraphic controls, mainly with Paleozoic and Mesozoic rocks and some Tertiary rocks, including both megafossil and microfossil identification, as well as fossil plant identification.
1965 Conducted stratigraphic section measuring and field paleontological identification in Nevada for stratigraphic controls. Pursued more detailed fossil identification in the paleontological laboratory to establish closer stratigraphic controls, mainly with Paleozoic rocks and some Mesozoic and Tertiary rocks. The Tertiary work included identification of ostracods from the Humboldt and Sheep Pass Formations and vertebrate and plant remains from Miocene alluvial sediments.

Memberships

Society of Vertebrate Paleontology; American Association of Petroleum Geologists; Association of Environmental Professionals; Rocky Mountain Association of Geologists, Pacific Section; Society of Economic Paleontologists and Mineralogists; San Bernardino County Museum.

Publications in Geology

Five publications in Geology concerning an oil field study, a ground water and earthquake study, a report on the geology of the Santa Rosa Mountain area, and papers on vertebrate and invertebrate Holocene Lake Cahuilla faunas.

REPORT WRITER
Deirdre Encarnación, M.A.

Education

2003	M.A., Anthropology, San Diego State University, California.
2000	B.A., Anthropology, minor in Biology, with honors; San Diego State University, California.
1993	A.A., Communications, Nassau Community College, Garden City, N.Y.
2020	Certificate of Achievement, Kumeyaay Studies, Cuyamaca College.
2001	Archaeological Field School, San Diego State University.
2000	Archaeological Field School, San Diego State University.

Professional Experience

2004-	Project Archaeologist/Report Writer, CRM TECH, Riverside/Colton, California.
2001-2003	Part-time Lecturer, San Diego State University, California.
2001	Research Assistant for Dr. Lynn Gamble, San Diego State University.
2001	Archaeological Collection Catalog, SDSU Foundation.

Memberships

Society for California Archaeology; Society for Hawaiian Archaeology; California Native Plant Society; Journal of California and Great Basin Anthropology.

PALEONTOLOGICAL SURVEYOR/FIELD DIRECTOR
Daniel Ballester, M.S., RPA

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.

- 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 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.

APPENDIX 2

RECORDS SEARCH RESULTS

WESTERN SCIENCE CENTER

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

May 26, 2020

Dear Ms. Gallardo,

This letter presents the results of a record search conducted for the Proposed Temecula Self-Storage Project (CRM TECH # 3625P) in Riverside County, California. The project site is located at the southwest intersection of Highway 79/Winchester Road and Keller Road.

The geologic unit underlying the majority of the project area is mapped as phyllite dating to the Mesozoic, with small segments at the northeast and southwest corners of the project area mapped as very old alluvial channel deposits dating to the early to middle Pleistocene epoch (Morton, 2001). Mesozoic phyllite units are considered to be of low paleontological sensitivity, however, Pleistocene alluvial units are considered to be of high paleontological sensitivity.

The Western Science Center does not have localities within the project area or within a 1 mile radius, but does have numerous fossil localities in similarly mapped Pleistocene units roughly 3.5 miles to the northeast that are associated with the Diamond Valley Lake Project in Hemet, and known fossil localities associated with the Principe Collection in Murrieta and Temecula between 5 and 10 miles to the southwest. The Diamond Valley Lake Project resulted in over 250,000 Pleistocene fossil specimens and hundreds of fossil localities.

While the majority of the project are is unlikely to produce fossil material, any work conducted in the areas marked as Pleistocene alluvial units could produce fossil resources. Any finds from these sediments would be scientifically significant. It is the recommendation of the Western Science Center that a plan for paleontological resource mitigation be put in place to monitor, salvage, and potentially curate any recovered fossils associated with Pleistocene units of the current study area.

If you have any questions, or would like further information about the Diamond Valley Lake Project or the Principe Collection, please feel free to contact me at dradford@westerncentermuseum.org

Sincerely,

Darla Radford
Collections Manager

Keller Storage PA Project

Project area, one mile radius, geologic mapping, and any WSC fossil localities.