APPENDIX D
Paleontological Report (September 27, 2021)

PALEONTOLOGICAL RESOURCES ASSESSMENT REPORT

HEACOCK LOGISTICS TRACTOR/TRAILER PARKING PROJECT

Assessor's Parcel Number 316-211-014
City of Moreno Valley, Riverside County, California

For Submittal to:

City of Moreno Valley
Community Development Department, Planning Division
14177 Frederick Street
P.O. Box 88005
Moreno Valley, CA 92552

Prepared for:

CASC Engineering and Consulting
1470 East Cooley Drive
Colton, CA 92324

Prepared by:

Ron C. Schmidtling, Principal Paleontologist
Ben Kerridge, Paleontologist/Report Writer
CRM TECH
1016 East Cooley Drive, Suite A/B
Colton, CA 92324

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

September 27, 2021

CRM TECH Contract No. 3740P
Approximately 9.14 acres
USGS Perris, Calif., 7.5' (1:24,000) quadrangle
Section 31, T3S R3W, San Bernardino Baseline and Meridian

EXECUTIVE SUMMARY

Between May and September 2021, at the request of CASC Engineering and Consulting, CRM TECH performed a paleontological resources assessment on approximately 9.14 acres of vacant land in the City of Moreno Valley, Riverside County, California. The subject property of the study, Assessor's Parcel Number 316-211-014, is located northeast of the intersection of Heacock Street Lateral B-Oleander Channel of the Perris Valley Storm Drain, in the southwest quarter of Section 31, Township 3 South, Range 3 West, San Bernardino Baseline and Meridian, as depicted in the United States Geological Survey Perris, California, 7.5' quadrangle.

The study is part of the environmental review process for the proposed Heacock Logistics Tractor/Trailer Parking project, which entails the creation of 255 semi-truck stalls on the property. The City of Moreno Valley, 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 City 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 records search at the appropriate repository, conducted a literature review, and carried out a systematic field survey. The background research indicate that no paleontological localities were previously found in the project area, and no surface manifestation of any fossil remains were observed during the field survey. However, geological sources consulted during this study recognize the presence of Pleistocene-age alluvium in the vicinity, which generally has a high potential to contain significant, nonrenewable fossil remains, and the field survey confirmed the presence of these soil types in the project area.

Based on these findings, CRM TECH concludes that the proposed project's potential to impact significant, nonrenewable paleontological resources appears to be high and recommends that a paleontological resource impact mitigation program be developed and implemented during the project to prevent such impacts or reduce them to a level less than significant. As the primary component of the mitigation program, all earth-moving operations should be monitored by a qualified paleontological monitor. Under this condition, the proposed project may be cleared to proceed in compliance with CEQA provisions on paleontological resources.

TABLE OF CONTENTS

LIST OF FIGURES

INTRODUCTION

Between May and September 2021, at the request of CASC Engineering and Consulting, CRM TECH performed a paleontological resources assessment on approximately 9.14 acres of vacant land in the City of Moreno Valley, Riverside County, California (Figure 1). The subject property of the study, Assessor's Parcel Number 316-211-014, is located northeast of the intersection of Heacock Street and Lateral B-Oleander Channel of the Perris Valley Storm Drain, in the southwest quarter of Section 31, Township 3 South, Range 3 West, San Bernardino Baseline and Meridian as depicted in the United States Geological Survey (USGS) Perris, California, 7.5' quadrangle (Figures 2, 3).

The study is part of the environmental review process for the proposed Heacock Logistics Tractor/Trailer Parking project, which entails the creation of 255 semi-truck stalls on the property. The City of Moreno Valley, 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 City 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 records search at the appropriate repository, conducted a literature review, and carried out a systematic field survey. 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.

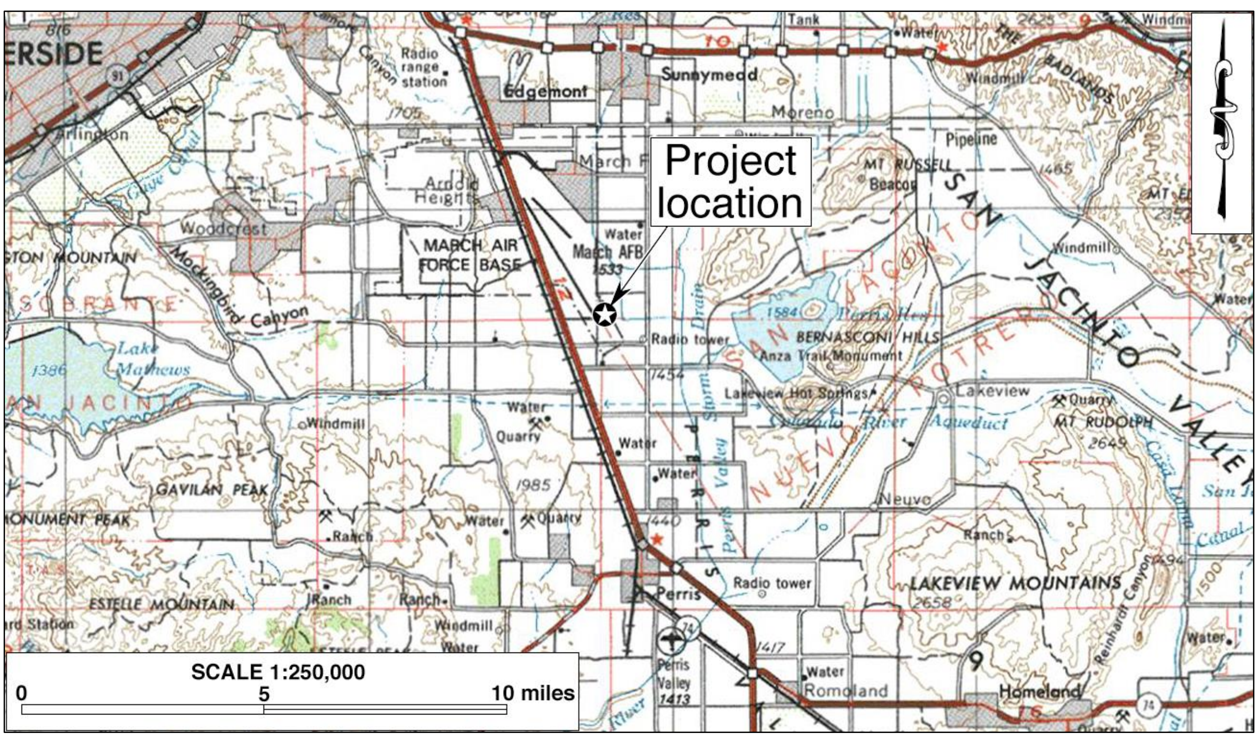

Figure 1. Project vicinity. (Based on USGS Santa Ana, Calif., 120'x60' quadrangle, 1979 edition)

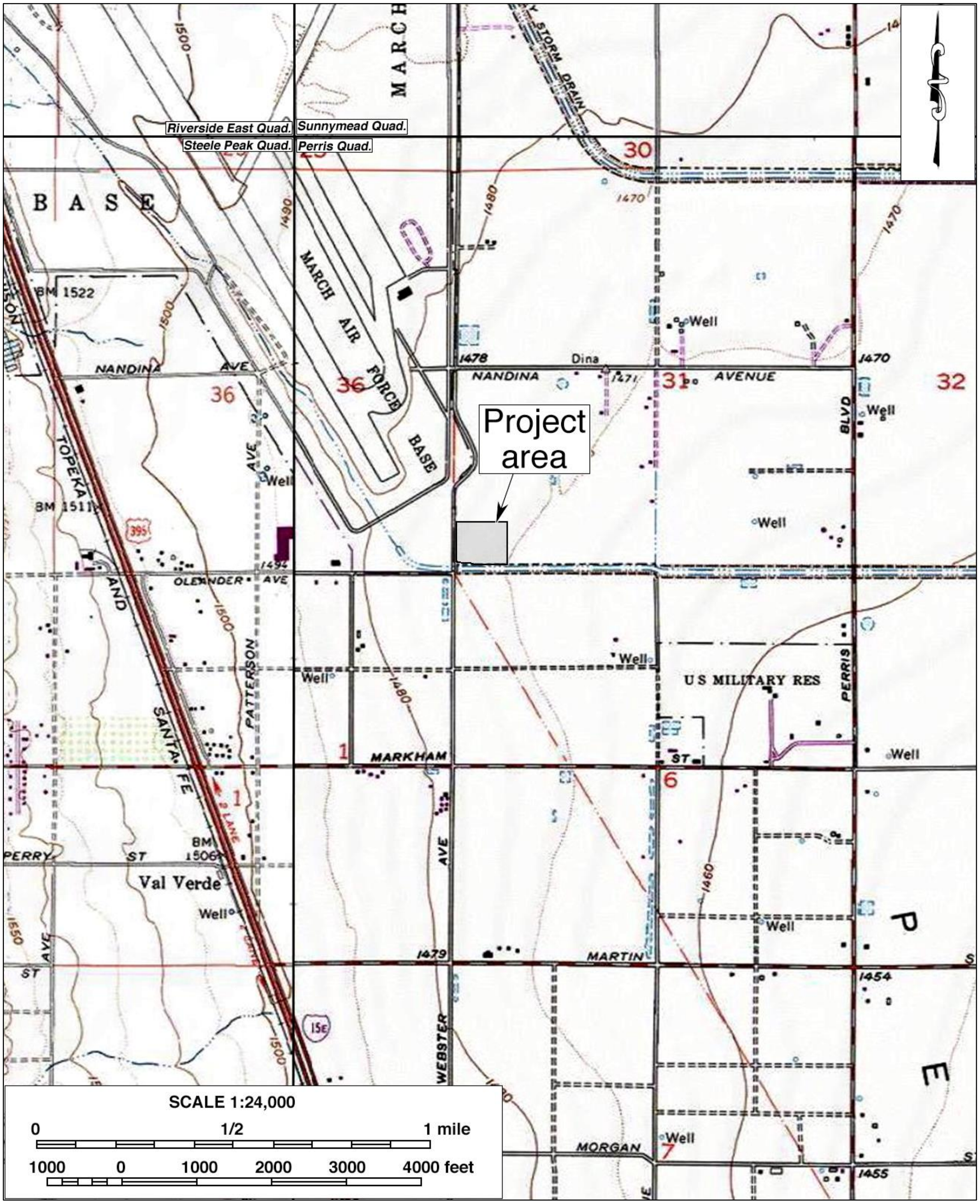

Figure 2. Project location. (Based on USGS Steele Peak, Perris, Riverside East, and Sunnymead, Calif., 7.5' quadrangles, 1978-1980 edition)

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 area is located in the western portion of the Perris Valley, roughly two miles from an outcropping of basement rocks that that form part of Mount Russell near the Perris Reservoir to the northeast. The Perris Valley, in turn, lies in the northern portion of the Peninsular Ranges Province, near where it adjoins the Transverse Ranges Province (Jenkins 1980:40-41; Harms 1996:131). The Peninsular Ranges Province is bounded on the north by the Transverse Ranges Province, on the northeast by the Colorado Desert Province, and on the west by the Pacific Ocean (*ibid.*). It extends southward to the southern tip of Baja California (Jahns 1954:Plate 3; Harden 2004:465).

The Peninsular Ranges Province spans across a series of northwest-southeast trending structural blocks consisting of uplifted mountains that are separated by valley basins that have developed along the intervening fault zones. The mountains are made up mainly 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 mainly metasedimentary rocks of Paleozoic and older age (*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).

The Perris Valley is one of the many tectonically controlled valleys within the valley-and-ridge systems in the Perris Block, which is situated between the San Jacinto and Elsinore-Chino fault zones (English 1926). The Perris Block is 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 (*ibid.*). This structural block 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 (Mann 1955:Plate 1; Kennedy 1977:5), and the ridges are composed of plutonic igneous rocks, metasedimentary rocks, and late-stage intrusive dikes.

More specifically, the project location is in the west-central portion of the City of Moreno Valley, immediately to the southeast of March Air Reserve Base, in a formerly agrarian area that has been undergoing rapid transformation into an industrial park over the past decade (Google Earth 2008-2018). Existing warehouses and industrial buildings occupy the nearby properties to the north, south, and east, while the adjacent properties are predominantly vacant land that were apparently used for agriculture in the past (NETR Online 1966-2018; Google Earth 2002-2018).

Once also agricultural in use, the project area now lies vacant and fallow. The terrain in the project area is generally level, and the elevations range roughly from 1,470 feet to 1,475 feet above mean sea level. Surface soil is composed of reddish-brown sandy clay loam with numerous pebbles and cobbles of igneous and metamorphic rock. The existing vegetation, which was recently cleared, consists of a sparse growth of invasive grasses and weeds (Figure 4). The northern and eastern sides of the project area adjoin other parcels of undeveloped open land, while Heacock Street and a service road along Lateral B-Oleander Channel, sometimes designated an extension of Oleander Avenue, bound the project on the west and the south, respectively.

Figure 4. Overview of the current natural setting of the project area. (Photograph taken on August 16, 2021; view to the west)

METHODS AND PROCEDURES

RECORDS SEARCHES

The records search for this study was provided by the Western Science Center (WSC) in Hemet, which is a local repository of existing paleontological records for the surrounding region. The focus of the records search was to identify any known paleontological localities as well as previously performed paleontological resource studies within a one-mile radius of the project area. A copy of the records search results is attached to this report in Appendix 2.

LITERATURE REVIEW

In conjunction with the records searches, CRM TECH paleontologist Ben Kerridge pursued a literature review on the project vicinity. Sources consulted during the review include primarily topographic, geologic, and soil maps of the Moreno Valley area, published geologic literature pertaining to the project location, relevant planning documents of the City of Moreno Valley and other local jurisdictions, satellite/aerial images available at the Nationwide Environmental Title Research (NETR) Online website and through the Google Earth software, and other materials on file in the CRM TECH library, such as unpublished reports produced during similar surveys on nearby properties.

FIELD SURVEY

On July 26, 2021, CRM TECH principal paleontologist Ron C. Schmidtling conducted an intensive-level field survey of the project area by walking a series of parallel east-west transects spaced 15 meters (approximately 50 feet) apart. In this way, the project area was systematically examined to determine soil types, verify the geological formations, and search for indications of paleontological remains. Ground visibility ranged from good to excellent across the project area (75-90%) due to the light vegetative cover (Figure 4).

RESULTS AND FINDINGS

RECORDS SEARCHES

The records search by the WSC identified no known paleontological localities within the project area but yielded numerous localities that were discovered in similar types of soil in the surrounding region (McDonald 2021; see Appendix 2). The WSC described the soils in the project area as Quaternary alluvium of Holocene and Pleistocene origin, which are well documented to be of high paleontological sensitivity. These units in the surrounding region have yielded fossil remains of a wide variety of extinct megafauna (*ibid*.).

LITERATURE REVIEW

The surface geology in the project vicinity was mapped by Rogers (1965) as *Qal*, or alluvium of Holocene age. This is the same material mapped on the surface in the Domenigoni Valley area near Hemet, the site of important vertebrate paleontological finds in recent decades (Springer and Scott 1994; Springer et al. 1998; Springer et al. 1999). Most of these fossil remains were recovered from depths greater than 10 feet below the surface during deep excavation required for a major reservoir construction (Scott 2004), much deeper than normally required for typical development projects. One exception may be deep cuts required for the installation of underground utility lines.

Morton (2003) mapped the surface geology in the project area as entirely *Qvofa*, namely alluvial fan deposits of early to middle Pleistocene age (Figure 5). Riverside County paleontological sensitivity maps classifies the project location as High Sensitivity ("High B"; RCIT 2020). According to the accompanying documentation, "High B is a sensitivity equivalent to High A, but is based on the occurrence of fossils at a specified depth below the surface. This category indicates fossils that are likely to be encountered at or below 4 feet of depth and may be impacted during construction activities" (County of Riverside 2015:4.9-11). The City of Perris General Plan identifies the project area as falling within Area #1, which is defined as Pleistocene-aged, older valley sediments that are considered to be High Sensitivity for paleontological resources (City of Perris 2008:Exhibit CN-7).

FIELD SURVEY

Throughout the course of the field survey, no surface manifestation of any paleontological remains was observed within the project area. It was noted during the survey that the ground surface in the entire project area has been extensively disturbed, apparently by past agricultural operations, with

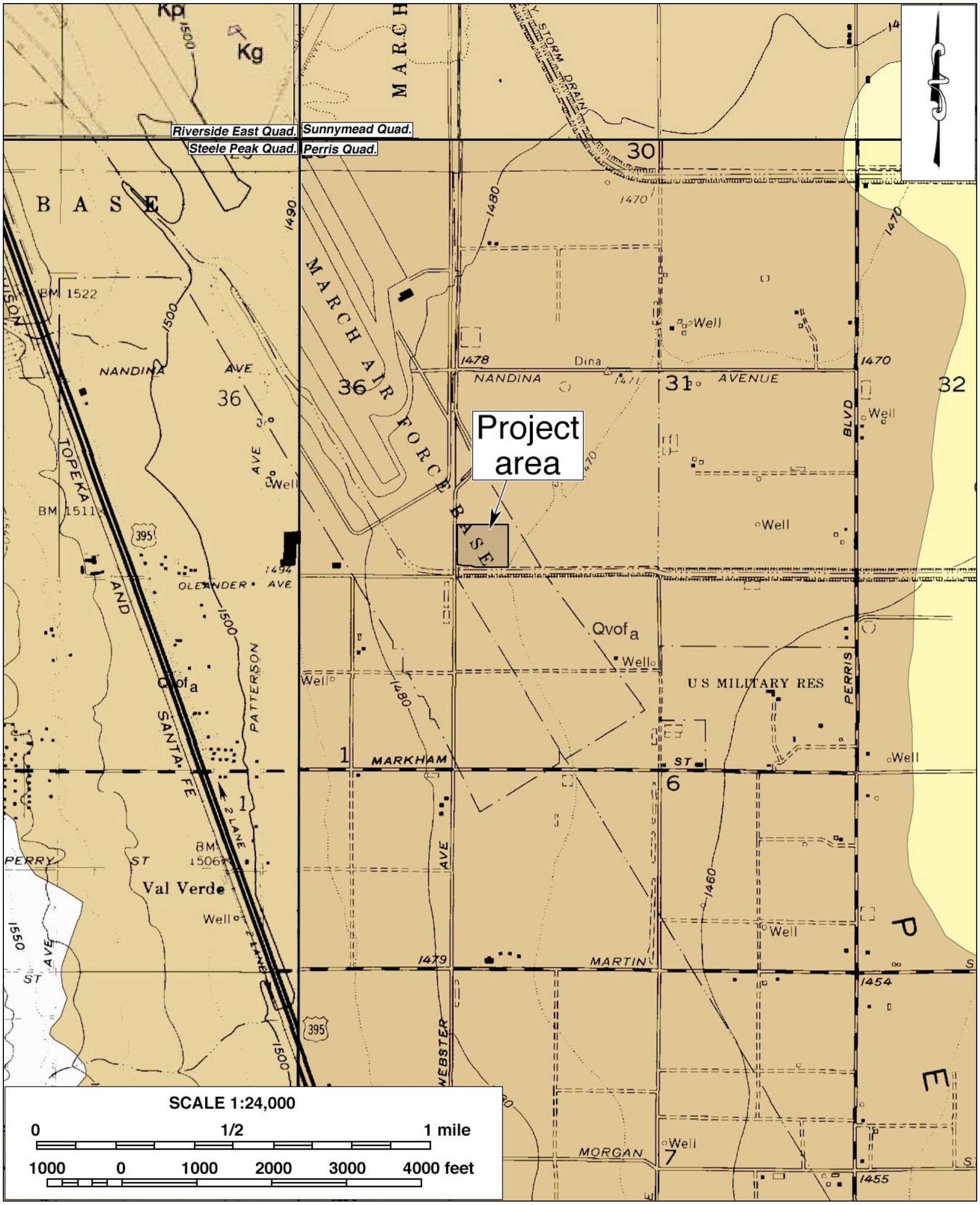

Figure 5. Geologic map of the project vicinity. (Based on Morton 2001a; 2001b; 2001c; 2003)

little vestige of the natural landscape surviving today (Figure 4). The reddish-brown surface soil contains pebbles and cobbles of a wide variety of source rock. Most of the pebbles were well-rounded, except those of pure quartz and quartzite, which were sub-angular due to the hardness of these minerals compared to other granitic and metamorphic minerals, such as mica and feldspar. The pebbles and cobbles are consistent with Pleistocene alluvial sedimentary deposits (*Qvofa*) produced by the natural weathering of nearby mountains. The roundness of most of the pebbles indicates that the source rock is likely located miles away from the project location, probably to the north, rather than in the much closer Bernasconi Hills to the east.

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.

In summary of the research results presented above, no paleontological localities were previously found in the project area, nor was any surface manifestation of fossil remains observed during the field survey. However, geological sources consulted during this study recognize the presence of Pleistocene-age alluvium in the vicinity, which generally has a high potential to contain significant, nonrenewable fossil remains, and the field survey confirmed the presence of these soil types in the project area.

Based on these findings, CRM TECH concludes that the proposed project's potential to impact significant, nonrenewable paleontological resources appears to be high and recommends that a paleontological resource impact mitigation program be developed and implemented during the project to prevent such impacts or reduce them 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 associated with the project, 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 invertebrates. 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 submitted to the City of Moreno Valley, would signify completion of the program to mitigate potential impacts on paleontological resources.

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

REFERENCES

City of Perris
2008 City of Perris General Plan, Conservation Element. https://www.cityofperris.org/home/showpublisheddocument/449/637203139693370000.
County of Riverside
2015 County of Riverside General Plan. https://gis.countyofriverside.us/Html5Viewer/?viewer=MMC_Public.
English, W.A.
1926 *Geology and Oil Resources of the Puente Hills Region, Southern California*. U.S. Geological Survey Bulletin 146. Washington, D.C.
Harden, Deborah R.
2004 *California Geology*. Prentice Hall, Upper Saddle River, New Jersey.
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.
McDonald, Andrew
2021 Paleontological Records Review for proposed Heacock Logistics Tractor/Trailer Parking Lot Project. Records search report prepared by the Western Science Center, Hemet.
Morton, Douglas M.
2001 Geologic Map of the Steele Peak 7.5’ Quadrangle, Riverside County, California. United States Geological Survey Open-file Report 01-449.
2003 Preliminary Geologic Map and Digital Database of the Perris 7.5’ Quadrangle, Riverside County, California. United States Geological Survey Open-file Report 03-270.
Morton, Douglas M., and Brett Cox
2001 Geologic Map of the Riverside East 7.5’ Quadrangle, Riverside County, California. United States Geological Survey Open-file Report 01-452.
Morton, Douglas M., and Jonathan C. Matti
2001 Geologic Map of The Sunnymead 7.5’ Quadrangle, Riverside County, California. United States Geological Survey Open-file Report 01-450.
Raup, David M., and Steven M. Stanley
1978 *Principle of Paleontology*. W.H. Freeman and Company, San Francisco.
RCIT (Riverside County Information Technology)

2021 Map My County. https://gis.countyofriverside.us/Html5Viewer/?viewer=MMC_Public.
Rogers, Thomas H.
1965 Geological Map of California, Santa Ana Sheet (1:250,000). California Division of Mines and Geology, Sacramento.
Scott, Eric
2004 Personal communication with Harry M. Quinn, CRM TECH principal geologist/ paleontologist (retired).
Scott, Eric, and Kathleen Springer
2003 CEQA and Fossil Preservation in California. *Environmental Monitor* Fall:4-10. Association of Environmental Professionals, Sacramento, California.
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.
Springer, Kathleen B., and Eric Scott
1994 First Record of Late Pleistocene Vertebrates from the Domenigoni Valley, Riverside County, California. *Journal of Vertebrate Paleontology* 14(3):47A.
Springer, Kathleen B., Eric Scott, Lyndon K. Murray, and W.G. Spaulding
1998 Partial Skeleton of a Large Individual of *Mammut americanum* from the Domenigoni Valley, California. *Journal of Vertebrate Paleontology* 18(3):78A.
Springer, Kathleen B., Eric Scott, J. Christopher Sagebiel, and Kimberly Scott
1999 A Late Pleistocene Lake-Edge Vertebrate Assemblage from the Diamond Valley, Riverside County, California. *Journal of Vertebrate Paleontology* 19(3):77A.
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

PRINCIPAL INVESTIGATOR/ARCHAEOLOGIST
Michael Hogan, Ph.D., RPA (Registered Professional Archaeologist)

Education

1991	Ph.D., Anthropology, University of California, Riverside.
1981	B.S., Anthropology, University of California, Riverside; with honors.
1980-1981	Education Abroad Program, Lima, Peru.

2002	"Section 106—National Historic Preservation Act: Federal Law at the Local Level," UCLA Extension Course #888.
2002	"Recognizing Historic Artifacts," workshop presented by Richard Norwood, Historical Archaeologist.
2002	"Wending Your Way through the Regulatory Maze," symposium presented by the Association of Environmental Professionals.
1992	"Southern California Ceramics Workshop," presented by Jerry Schaefer.
1992	"Historic Artifact Workshop," presented by Anne Duffield-Stoll.

Professional Experience

2002-	Principal Investigator, CRM TECH, Riverside/Colton, California.
1999-2002	Project Archaeologist/Field Director, CRM TECH, Riverside, California.
1996-1998	Project Director and Ethnographer, Statistical Research, Inc., Redlands, California.
1992-1998	Assistant Research Anthropologist, University of California, Riverside.
1992-1995	Project Director, Archaeological Research Unit, U.C. Riverside.
1993-1994	Adjunct Professor, Riverside Community College, Mt. San Jacinto College, U.C. Riverside, Chapman University, and San Bernardino Valley College.
1991-1992	Crew Chief, Archaeological Research Unit, U.C. Riverside.
1984-1998	Project Director, Field Director, Crew Chief, and Archaeological Technician for various southern California cultural resources management firms.

Research Interests

Cultural Resource Management, Southern Californian Archaeology, Settlement and Exchange Patterns, Specialization and Stratification, Culture Change, Native American Culture, Cultural Diversity.

Cultural Resources Management Reports

Principal investigator for, author or co-author of, and contributor to numerous cultural resources management study reports since 1986.

Memberships

Society for American Archaeology; Society for California Archaeology; Pacific Coast Archaeological Society; Coachella Valley Archaeological Society.

PRINCIPAL PALEONTOLOGIST
Ron Schmidtling, M.S.

Education

1995	M.S., Geology, University of California, Los Angeles.
1991	Pasadena City College, Pasadena, California.
1985	B.A., Archaeology, Paleontology, Ancient Folklore, and Art History, University of Southern Mississippi, Hattiesburg.

Professional Experience:

2020-	Principal Paleontologist, CRM TECH, Colton, California.
2014-	Instructor of Earth Science, History of Life, Ecology, and Evolutionary Biology, Columbia College Hollywood, Reseda, California.
2013, 2015	Volunteer, excavation of a camarasaur and a diplodocid in southern Utah, Natural History Museum of Los Angeles County, California.
1993-2014	Consultant, Getty Conservation Institute, Brentwood, California. • Geological Consultant on the Renaissance Bronze Project, characterizing constituents of bronze core material; • Paleontological Consultant for Antiquities/Conservation, identifying the foraminifera and mineral constituents of a limestone torso of Aphrodite; • Scientific Consultant on the Brentwood Site Building Project, testing building materials for their suitability in the museum galleries.
1999-2001	Archaeological and Paleontological Monitor, Michael Brandman Associates, Irvine, California.
1997	Department of Archaeology, University of California, Los Angeles.
1994	Scientific Illustrator and Teaching Assistant, Department of Earth and Space Sciences and Department of Biological Sciences, University of California, Los Angeles.

Memberships

AAPS (Association of Applied Paleontological Sciences), USA; CSEOL (Center for the Study of Evolution and the Origin of Life), Department of Earth Sciences, University of California, Los Angeles.

Publications and Reports

Author, co-author, and contributor on numerous paleontological publications and paleontological resource management reports.

PROJECT PALEONTOLOGIST/REPORT WRITER
Ben Kerridge, M.A.

Education

2019-2020	Physical Geology, California Geology, and Historical Geology Coursework, Fullerton College, Fullerton, California.
2014	Archaeological Field School, Institute for Field Research, Kephallenia, Greece.
2010	M.A., Anthropology, California State University, Fullerton.
2009	Project Management Training, Project Management Institute/CH2M HILL, Santa Ana, California.
2004	B.A., Anthropology, California State University, Fullerton.

Professional Experience

2015-	Geoarchaeologist/Paleontologist/Report Writer, CRM TECH, Colton, California.
2015	Teaching Assistant, Institute for Field Research, Kephallenia, Greece.
2009-2014	Publications Delivery Manager, CH2M HILL, Santa Ana, California.
2010-	Naturalist, Newport Bay Conservancy, Newport Beach, California.
2006-2009	Technical Publishing Specialist, CH2M HILL, Santa Ana, California.

APPENDIX 2

RECORDS SEARCH RESULTS

(Confidential)