PALEONTOLOGICAL RESOURCES ASSESSMENT REPORT

BAKER INDUSTRIAL PROJECT

City of Lake Elsinore
Riverside County, California

For Submittal to:

Community Development Department, Planning Division
City of Lake Elsinore
130 South Main Street
Lake Elsinore, CA 92530

Prepared for:

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Prepared by:

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January 18, 2024
Revised: August 15, 2024

Approximately 98 acres
USGS Lake Elsinore, Calif., 7.5' (1:24,000) quadrangle
Rancho La Laguna (Stearns) land grant; T5S R5W, San Bernardino Baseline and Meridian
CRM TECH Project No. 4051P

EXECUTIVE SUMMARY

Between October 2023 and January 2024, at the request of EPD Solutions, CRM TECH performed a paleontological resource assessment on approximately 98 acres of rural land on the northern outskirts of the City of Lake Elsinore, Riverside County, California. The subject property of the study is located near the intersections among Nichols Road, Pierce Street, and Baker Street, within Sections 25 and 26 of Township 5 South, Range 5 West, San Bernardino Baseline and Meridian, and a portion of the Rancho La Laguna (Stearns) land grant, as depicted in the United States Geological Survey Lake Elsinore, California, 7.5' quadrangle.

The study is part of the environmental review process for the proposed construction of two industrial warehouses on ten parcels located to the south of the intersection of Baker Street and Pierce Street, which will also require off-site infrastructure improvements. The City of Lake Elsinore, 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.

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 records search, conducted a literature review, and carried out a field inspection of the project area. The results of these research procedures indicate no known fossil localities within the project area but suggest that the project location lies upon older alluvial and sandstone deposits that are known to be fossiliferous. Ground-disturbing activities that may impact undisturbed subsurface sediments, therefore, have a high potential to impact paleontological resources.

Based on these findings, CRM TECH recommends that a paleontological resource impact mitigation program be implemented during the project to prevent impacts on significant, nonrenewable paleontological resources or reduce them to a level less than significant. As a part of the mitigation program, periodic monitoring, or "spot-checking," should be carried out upon commencement of earth-moving operations associated with the project to ensure the timely identification of previously undisturbed, potentially fossiliferous sediments when they are encountered. Once the depth of three feet is reached, or if potentially fossiliferous sediments are exposed sooner, all further earth-moving operations will need to be monitored continuously. Under this condition, the proposed project may be cleared to proceed in compliance with CEQA provisions on paleontological resources.

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INTRODUCTION

Between October 2023 and January 2024, at the request of EPD Solutions, CRM TECH performed a paleontological resource assessment on approximately 98 acres of rural land on the northern outskirts of the City of Lake Elsinore, Riverside County, California (Fig. 1). The subject property of the study is located near the intersections among Nichols Road, Pierce Street, and Baker Street, within Sections 25 and 26 of Township 5 South, Range 5 West, San Bernardino Baseline and Meridian, and a portion of the Rancho La Laguna (Stearns) land grant, as depicted in the United States Geological Survey (USGS) Lake Elsinore, California, 7.5' quadrangle (Figs. 2, 3).

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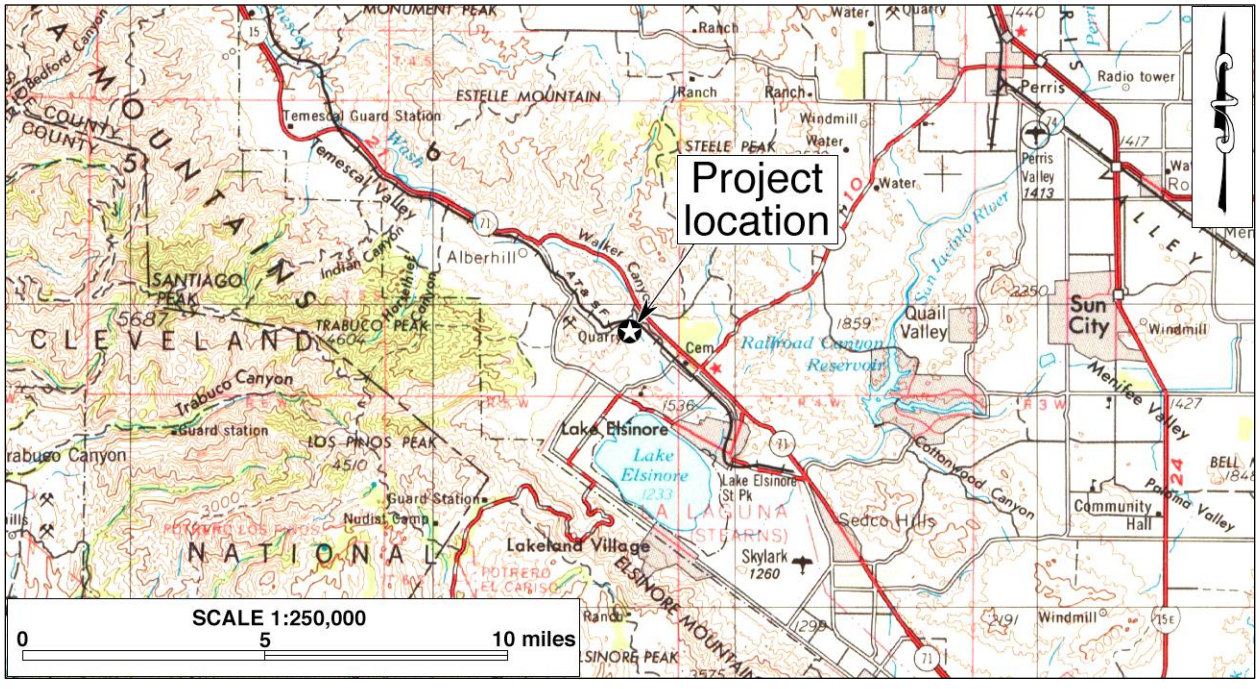

Figure 1. Project vicinity. (Based on USGS Santa Ana, Calif., 120'x60' quadrangle [USGS 1979])

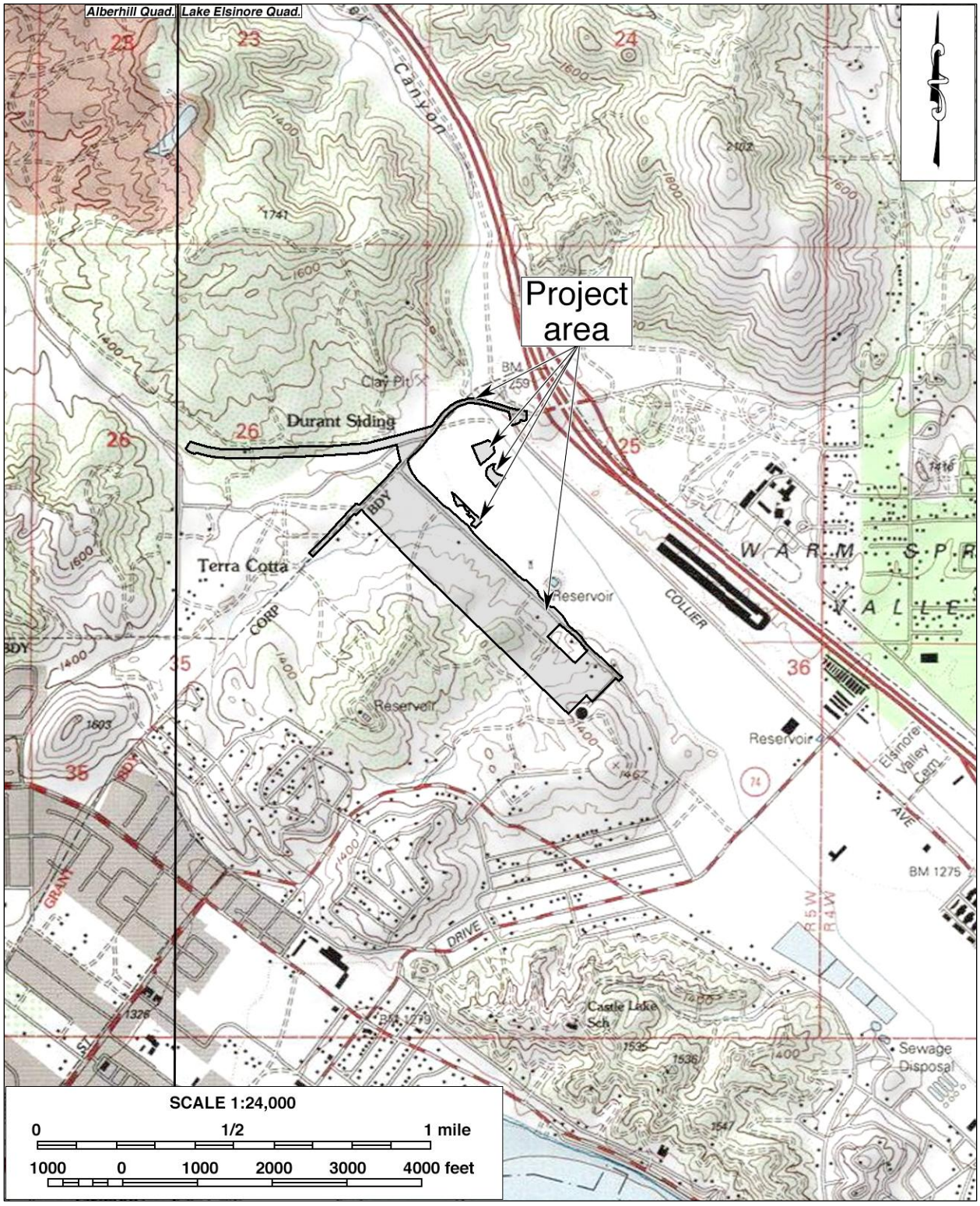

Figure 2. Project area. (Based on USGS Alberhill and Lake Elsinore, Calif., 7.5' quadrangles [USGS 1997a; 1997b])

Figure 3. Recent satellite image of the project area. (Based on Google Earth imagery)

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, typically older than recorded human history and/or older than the middle Holocene Epoch, which dates to circa 5,000 radiocarbon years (Society of Vertebrate Paleontology 2010:11).

Common fossil remains include marine and freshwater mollusk shells; the bones and teeth of fish, amphibians, reptiles, and mammals; leaf imprint 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 (2003:6), 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 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 particular geologic formation has produced in the past at other nearby locations. Determinations of paleontologic sensitivity must consider not only the potential to yield a large collection of fossil remains but also the potential to yield a few fossils that can 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 City of Lake Elsinore is located along the northwestern edge of the Peninsular Ranges geomorphic province, which is bounded by the Transverse Ranges province on the north, the Colorado Desert province on the northeast, and the Pacific Ocean on the west (Jenkins 1980:40-41; Harms 1996:131). The natural landscape in the Peninsular Ranges province is characterized by steep and elongated valleys and mountain ranges that generally extend northwestward from the southern tip of Baja California (Jahns 1954:Plate 3; Harden 2004:465).

The Peninsular Ranges province is made up of a series of northwest-southeast trending structural blocks consisting of uplifted mountains that are separated by valley basins 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 eastern portion of the mountains contain mainly metasedimentary rocks of Paleozoic and older age, while the crystalline basement rocks consist mainly of Mesozoic-age granitic rocks with some scattered gabbroic intrusions (*ibid*.:466-468, 471-472).

The Lake Elsinore area is situated within the Elsinore Trough (Mann 1955:Plate 1), a structurally depressed region filled with sediments of upper Pliocene through Recent age (Kennedy 1977:5). The Elsinore Trough is formed by two major valleys which trend northwestward, joining in the vicinity of Lake Elsinore (Engel 1933:14). Elsinore Valley proper, in which the project area is located, extends in a northwest direction from Lake Elsinore to the Santa Ana River. A low divide southeast of Lake Elsinore, nearly three-quarters of a mile northwest of the town of Wildomar, separates the Elsinore Valley proper from Murrieta Valley which is the southeastern extension of the trough (*ibid*.). The broad valley floor of the Elsinore Trough ranges in width from less than half a mile to nearly four miles, and is dotted by a series of hills that trend mostly parallel to the general orientation of the trough. The hills are from a few tens of feet to about 500 feet above the mean elevation of the valley floor.

The Elsinore Trough is one of the many tectonically controlled valleys in the valley-and-ridge systems to be found within 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 and the Elsinore Trough.

The project area consists of approximately 98 acres of vacant land and public road rights-of-way in a rural setting near the Elsinore Hills. It is irregular in shape and lies generally to the south of Nichols Road, a local thoroughfare. The main project site for the warehouse construction (Fig. 4) is located to the south of the intersection of Pierce Street and Baker Street, both of them unpaved dirt roads, while three discontinuous components of the project area are located to the east of the intersection (Figs. 2, 3). Elevations within the project area range approximately between 1,260 feet and 1,400 feet above mean sea level, inclining gradually to the north and the southwest with the lowest elevations in the central portion.

Figure 4. Typical landscape at the main project site. (Photograph taken on November 3, 2023; view to the southwest)

The ground surface in much of the project area has been disturbed by past agricultural operations and construction activities associated with Nichols Road and several residences formerly within the project boundaries. A clay mine was formerly located in the hills to the northeast, and scattered modern refuse was observed throughout. Soils in the vicinity include medium-grained silty clay with small rocks within the former agricultural fields and medium- to fine-grained silty clay within the area of the former clay mine. Native vegetation is of the Coastal Sage Brush Community and includes California sagebrush, buckwheat, black sage, white sage, lilac, datura, and chollas as well as introduced weeds and landscaping plants such as tumbleweed and eucalyptus (Fig. 4).

METHODS AND PROCEDURES

RECORDS SEARCH

The paleontological records search service for this study was provided by the Western Science Center (WSC) in Hemet, California. The WSC maintains 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 and known paleontological localities within a one-mile radius of the project location. A copy of the records search results is attached to this report in Appendix 2.

LITERATURE REVIEW

In conjunction with the records search, CRM TECH report writer Deirdre Encarnación reviewed geological literature pertaining to the project vicinity under the direction of principal paleontologist Ron Schmidtling. Sources consulted include primarily published literature on regional geology, topographic, geologic, and soil maps of the Lake Elsinore area, the County of Riverside GIS database, aerial and satellite images available at the Nationwide Environmental Title Research (NETR) Online website and through the Google Earth software, and other materials in the CRM TECH library, including unpublished reports produced during similar studies in the vicinity.

FIELD SURVEY

The intensive-level field survey was conducted in two phases, as dictated by the addition of approximately 30 acres to the project area after the initial survey due to the proposed off-site infrastructure improvements. On November 3, 2023, CRM TECH paleontological surveyors Hunter O'Donnell and Nicolena Berra carried out the survey of the main project site. The survey was completed by walking a series of parallel northeast-southwest transects spaced 15 meters (approximately 50 feet) apart. In this way, the ground surface of that area was carefully examined to determine the soil types, to verify the geological formations, and to look for any indications of paleontological remains. Ground visibility was generally poor (5-10%) over the property due to dense vegetation except where past development disturbances, vehicular intrusions, or recent soil testing had cleared the vegetation and/or prevented vegetation growth.

On December 10, 2023, CRM TECH principal paleontologist Ron Schmidtling revisited the project area and conducted the second phase of the survey, focusing on the additional 30 acres. Schmidtling initially surveyed the property from the vantage point of two dirt roads that bisect the project area from northeast to southwest in consultation with geologic map. Using this method, Schmidtling determined that the most crucial areas to survey were the Paleocene sediments on the hills. These hills, located on the southwestern edge of the project area, were cut by several dirt roads where sedimentary deposits could be viewed easily. Similar to the initial survey, visibility of the native ground surface was poor (5-10%) over most of the acreage due to the presence of dense vegetation as well as pavement along Nichols Road. In light of past ground disturbances in the project area, the reduced ground visibility was not considered a significant hindrance to the survey efforts.

RESULTS AND FINDINGS

RECORDS SEARCH

The paleontological records search by the WSC identified no known paleontological localities within the project area or within a one-mile radius, but indicated the presence of such localities throughout Southern California which were discovered in sediment lithologies similar to those that that occur at the project location (see App. 2). According to the WSC, the project area lies upon variable alluvial units of Holocene and late Pleistocene origin, as well as some Paleocene-age Silverado Formation (Stoneburg 2023). The WSC reports that Pleistocene alluvial units are highly paleontologically sensitive, and that invertebrate fossils have been recovered from the Silverado Formation. Based on

these results, the WSC recommends that a paleontological resource mitigation program be implemented at the project location to monitor, salvage, and curate any recovered fossils (*ibid*.).

LITERATURE REVIEW

The surface geology within the project area and most of the surrounding area was mapped by Morton and Miller (2006) as *Tsi* with *Qya* and *Qoa* (Fig. 5). The *Tsi* is the Paleocene-age Silverado Formation, consisting of nonmarine and marine sandstone, siltstone, and conglomerate (*ibid*.). The upper part of the Silverado Formation is known to contain abundant marine mollusks (*ibid*.). The *Qya* represents young axial-channel deposits dating to the Holocene and late Pleistocene, while the *Qoa* is defined as old axial-channel deposits of late to middle Pleistocene age (*ibid*.).

Morton and Weber (2003) also map the project geology as *Tsi* with *Qya* and *Qoa*. The *Tsi* is the Silverado Formation of Paleocene age, consisting of nonmarine and marine sandstone, siltstone, and conglomerate, known to contain abundant marine mollusks (*ibid*.). The *Qya* represents young axial-channel deposits, described as fluvial deposits along canyon floors dating to the Holocene and late Pleistocene, and further defined as unconsolidated sand, silt, and clay-bearing alluvium (*ibid*.). The *Qoa* sediments are old alluvial-channel deposits of late to middle Pleistocene age, described as fluvial sediments deposited on canyon floors but now elevated, consisting of moderately indurated, commonly slightly dissected gravel, sand, silt, and clay-bearing alluvium (*ibid*.).

The Riverside County General Plan assigned the project vicinity a High Sensitivity ("High A") for paleontological resources (RCIT n.d.). This classification is based on geologic mapping and assessments that indicate that the formations, or mappable rock units in the area contain fossilized body elements, and trace fossils such as tracks, nests, and eggs and that these fossils can occur on or below the surface (*ibid.*). "High sensitivity includes not only the potential for yielding abundant vertebrate fossils, but also for production of a few significant fossils that may provide new and significant data" (County of Riverside 2015:4.9-11). High Sensitivity A, specifically, is based on formations or deposits that are known to contain, or have the appropriate age and conditions to contain, significant paleontological resources (*ibid*.).

Aerial and satellite images of the project vicinity indicate that mining and railroad activities had taken place within and adjacent to project boundaries, and agricultural activities were also apparent (NETR Online 1967). Portions of the area continued to be farmed well into the modern era and, starting in the 1970s, several rural residences appear at the main project site, most of them near the easterly corner and all of them along Baker Street (NETR Online 1967-1994). Over the past few decades, all of the buildings within the project boundaries were removed, leaving the project site entirely undeveloped today (NETR Online 1994-2020; Google Earth 1994-2023).

FIELD SURVEY

No surface manifestation of any paleontological remains was observed within the project area during the field inspection. Layers of clasts consisting of subrounded/rounded cobbles and pebbles were observed, indicative of stream channels. The clasts were primarily composed of volcanic andesite, with fine-grained granitic and metamorphic rocks, mainly derived from the nearby Santiago Peak region to the northwest. Rounded pebbles and cobbles of quartzite (from white to reddish-pink carnelian) were also common.

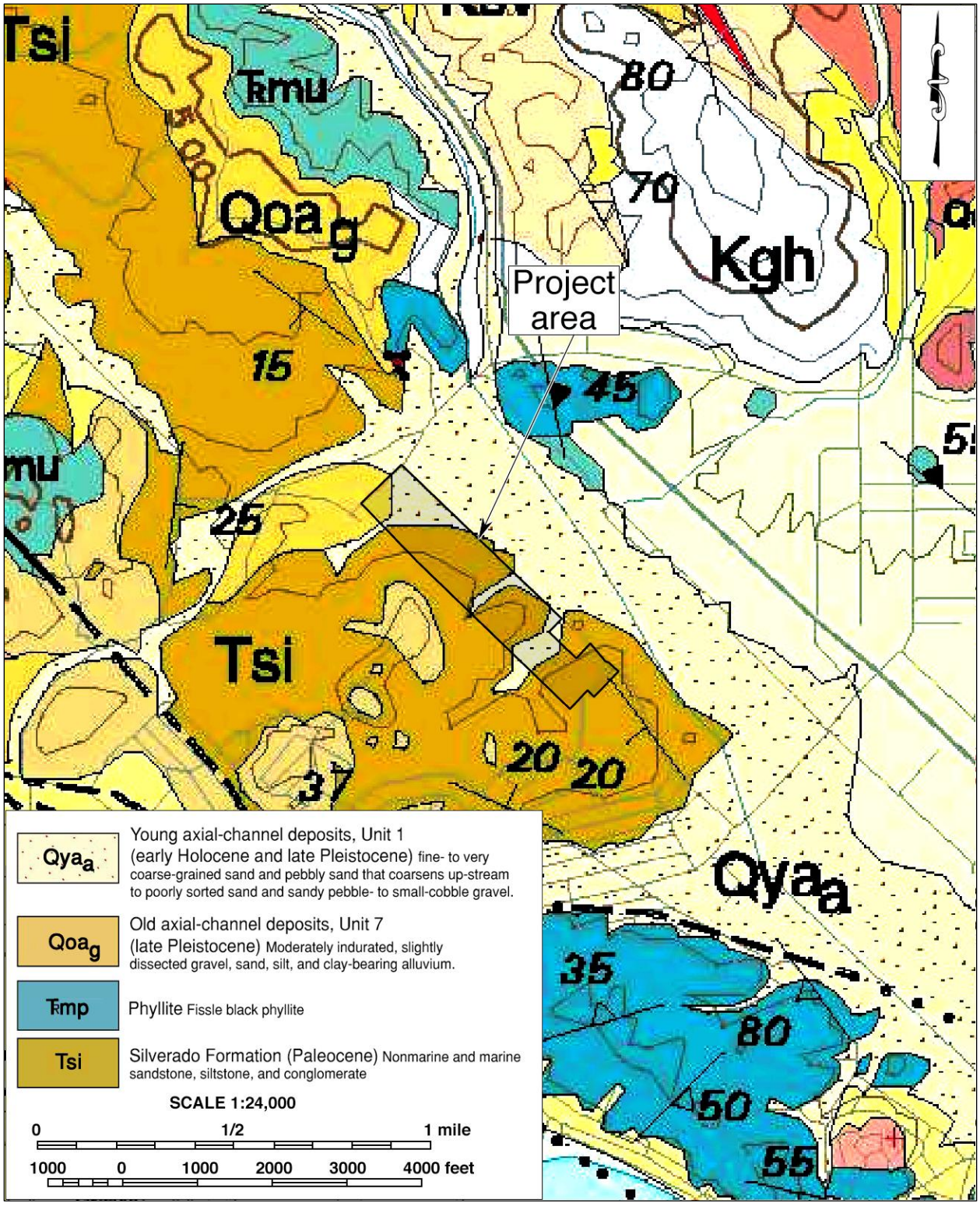

Figure 5. Geological map of the project vicinity. (Source: Morton and Miller 2006)

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.

The research results presented above indicate that no fossil localities are known to be present within the project area. The subsurface geology of the project location, however, consists of older alluvial and sandstone deposits that are known to be fossiliferous. Therefore, ground-disturbing activities that may impact undisturbed subsurface sediments have a high potential to impact paleontological resources.

Based on these findings, CRM TECH recommends that a paleontological resource impact mitigation program be implemented during the project to prevent impacts on significant, nonrenewable paleontological resources or reduce them to a level less than significant. The mitigation program should be conducted 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 components:

- Earth-moving operations within the project area that may impact paleontologically sensitive soils should be monitored by a qualified paleontological monitor. Since the ground surface has been previously disturbed, the monitoring program may begin with periodic "spot-checking" to ensure the timely identification of the previously undisturbed, potentially fossiliferous sediments when they are encountered. Once the depth of three feet is reached, or if potentially fossiliferous sediments are exposed sooner, all further earth-moving operations will need to be monitored continuously. 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.
- Samples of potentially fossiliferous sediments should be collected and processed to look for and recover small fossils that may be present.
- All recovered paleontological specimens should be identified to the lowest taxon possible and curated at a repository with permanent retrievable storage.
- A report of findings, including an itemized inventory of any 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 City of Lake Elsinore, will signify completion of the mitigation program.

If the forgoing conditions are met and the recommended mitigation program is implemented, CRM TECH further recommends that the proposed project may be cleared to proceed in compliance with CEQA provisions on paleontological resources.

REFERENCES

County of Riverside
2015 County of Riverside General Plan. https://planning.rctlma.org/Portals/14/genplan/general_plan_2015/DEIR%20521/04-09_CulturalAndPaleoResrcs.pdf.

Engel, Rene
1933 *Geology and Mineral Deposits of the Lake Elsinore Quadrangle*. State of California Department of Natural Resources Bulletin 146. San Francisco. https://thesis.library.caltech.edu/7910/.

English, W.A.
1926 *Geology and Oil Resources of the Puente Hills Region, Southern California*. U.S. Geological Survey Bulletin 146. Washington, D.C.

Google Earth
1994-2023 Aerial photographs of the project vicinity; taken in 1994, 2002, 2004-2006, 2009, 2011-2014, 2016, 2018-2019, and 2023. Available through the Google Earth software.

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.

Kennedy, Michael P.
1977 *Recency and Character of Faulting along the Elsinore Fault Zone in Southern Riverside County, California*. California Division of Mines and Geology Special Report 131. Sacramento.

Mann, John F., Jr.
1955 *Geology of a Portion of the Elsinore Fault Zone, California*. California Division of Mines Special Report 43. San Francisco.

Morton, Douglas M., and Fred K. Miller
2006 Geologic Map of the San Bernardino and Santa Ana 30'x60' quadrangle, California. United States Geological Survey Open-File Report 06-1217.

Morton, Douglas M., and F. Harold Weber, Jr.
2003 Preliminary Geologic Map of the Elsinore 7.5' quadrangle, Riverside County, California. United States Geological Survey Open-File Report 03-281.

NETR (Nationwide Environmental Title Research) Online
1967-2020 Aerial photographs of the project vicinity; taken in 1967, 1978, 1980, 1985, 1994, 2002, 2005, 2009, 2010, 2012, 2014, 2016, 2018, and 2020. http://www.historicaerials.com.

Raup, David M., and Steven M. Stanley
1978 *Principle of Paleontology*. W.H. Freeman and Company, San Francisco.

RCIT (Riverside County Information Technology)
n.d. Map My County. https://gis1.countyofriverside.us/Html5Viewer/?viewer=MMC_Public.

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.
Stoneburg, Brittney Elizabeth
2023 Letter of findings, paleontological resources records search for the proposed project. Prepared by Western Science Center, Hemet, California. (See App. 2)
USGS (United States Geological Survey, U.S. Department of the Interior)
1979 Map: Santa Ana, Calif. (120'x60', 1:250,000); 1959 edition revised.
1997a Map: Alberhill, Calif. (7.5', 1:24,000); 1988 edition revised in 1997.
1997b Map: Lake Elsinore, Calif. (7.5', 1:24,000); 1988 edition revised in 1997.
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 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.

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.

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.

PALEONTOLOGICAL SURVEYOR
Hunter C. O'Donnell, B.A.

Education

2016-	M.A. Program, Applied Archaeology, California State University, San Bernardino.
2015	B.A. (*cum laude*), Anthropology, California State University, San Bernardino.
2012	A.A., Social and Behavioral Sciences, Mt. San Antonio College, Walnut, California.
2011	A.A., Natural Sciences and Mathematics, Mt. San Antonio College, Walnut, California.
2014	Archaeological Field School, Santa Rosa Mountains; supervised by Bill Sapp of the United States Forest Service and Daniel McCarthy of the San Manuel Band of Mission Indians.

Professional Experience

2022-	Field Crew Chief, CRM TECH, Colton, California.
2017-	Project Archaeologist, CRM TECH, Colton, California.
2016-2018	Graduate Research Assistant, Applied Archaeology, California State University, San Bernardino.
2016-2017	Cultural Intern, Cultural Department, Pechanga Band of Luiseño Indians, Temecula, California.
2015	Archaeological Intern, U.S. Bureau of Land Management, Barstow, California.
2015	Peer Research Consultant: African Archaeology, California State University, San Bernardino.

APPENDIX 2

RECORDS SEARCH RESULTS

WESTERN SCIENCE CENTER

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

October 26th, 2023

Dear Ms. Gallardo,

This letter presents the results of a record search conducted for the Proposed Baker Property Project in the city of Lake Elsinore, Riverside County, California. The project site is located along the southwest corner of Baker Street and Pierce Street in Township 5 South, Range 5 West in the Rancho La Laguna Land Grant Section of the *Alberhill, CA* and *Lake Elsinore, CA* USGS 7.5 minute quadrangles.

The geologic units underlying this project are mapped as a mix of alluvial units from the Holocene and late Pleistocene, along with portions of the Silverado Formation from the Paleocene epoch (Morton and Weber, 2003). Pleistocene alluvial units are considered to be highly paleontologically sensitive, and the Silverado Formation is known to have produced invertebrate fossils. The Western Science Center does not have localities within the project area or within a 1 mile radius, but does have localities in similarly mapped units across Southern California.

Any fossils recovered from the Proposed Baker Property Project area would be scientifically significant. Excavation activity associated with development of the project area would impact the paleontologically sensitive Pleistocene and Pliocene units and it is the recommendation of the Western Science Center that a paleontological resource mitigation program 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 bstoneburg@westerncentermuseum.org.

Sincerely,

Brittney Elizabeth Stoneburg, MSc
Collections Manager

Proposed Baker Property Project

project area + 1 mile radius

Legend

- 1 Mile Radius
- grMz: Mesozoic granitic rocks , unit 2 (Peninsular Ranges) (Middle Jurassic to Late Cretaceous)
- J: Jurassic marine rocks, unit 4 (Peninsular Ranges and Western Transverse Ranges) (Paleozoic(?) to Late Jurassic))
- Mzv: Mesozoic volcanic rocks, unit 4 (Peninsular Ranges) (Late Jurassic to Early Cretaceous)
- Proposed Baker Property Project
- Q: Quaternary alluvium and marine deposits (Pliocene to Holocene)

Alberhill Ranch Community Park
Lake St
Terra Cotta
Collier Ave
Greenwood Ave
Rosetta Canyon Sports Park
Costco Wholesale
Target
Albertsons
Lakeshore Dr
Grand Ave
Vicker Canyon Park
Lincoln St
Machado St
Launch Pointe Recreation Destination & RV Park
N Main St
Lake Elsinore
Survey Google Earth
1 mi