PALEONTOLOGICAL ASSESSMENT FOR THE VICTOR VALLEY CONSTRUCTION AND DEMOLITION PROCESSING FACILITY PROJECT

CITY OF VICTORVILLE, SAN BERNARDINO COUNTY, CALIFORNIA

APNs 0472-181-15, -16, -23, and -65

Prepared on Behalf of:

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Prepared for:

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August 14, 2024

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Paleontological Database Information

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Report Title:	Paleontological Assessment for the Victor Valley Construction and Demolition Processing Facility Project, City of Victorville, San Bernardino County, California
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Assessor's Parcel Numbers:	0472-181-15, -16, -23, and -65
USGS Quadrangle:	Section 34, Township 6 North, Range 4 West, *Victorville, California* (7.5-minute) Quadrangle
Study Area:	6.88 acres
Key Words:	Paleontological assessment; Holocene alluvial deposits; low sensitivity; City of Victorville.

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I. INTRODUCTION AND LOCATION

A paleontological resource assessment has been completed for the Victor Valley Construction and Demolition Processing Facility Project, located northeast of the intersection of Abbey Lane and East Abbey Lane in the city of Victorville, San Bernardino County, California (Figure 1). The 6.88-acre project consists of four parcels, Assessor's Parcel Numbers (APNs) 0472-181-15, -16, -23, and -65. On the U.S. Geological Survey (USGS) 1:24,000-scale *Victorville, California* (7.5-minute) topographic quadrangle map, the project is situated in Section 34, Township 6 North, Range 4 West (Figure 2).

The project will include the construction of a new industrial waste processing facility, designed to receive and sort incoming loads of construction and demolition waste and inert debris. The proposed facility consists of a 52,500-square-foot pre-engineered metal building where construction and demolition waste are received and processed. A 2,800-square-foot office building will be attached to the west side of the processing building. A future scale house and two 70-foot-long truck scales are proposed on the Abbey Lane frontage. According to a recent geotechnical report for the project, grading cuts and fills of less than about five feet are anticipated (LaMont et al. 2024). Currently, the project property is partially developed and includes one residential structure.

As the lead agency, the City of Victorville has required the preparation of a paleontological assessment to evaluate the project's potential to yield paleontological resources. The paleontological assessment of the project included a review of paleontological literature and fossil locality records in the area, a review of the underlying geology, and recommendations to mitigate impacts to potential paleontological resources, if necessary.

II. REGULATORY SETTING

The California Environmental Quality Act (CEQA), which is patterned after the National Environmental Policy Act, is the overriding regulation that sets the requirement for protecting California's cultural and paleontological resources. CEQA does not establish specific rules that must be followed but mandates that governing permitting agencies (lead agencies) set their own guidelines for the protection of nonrenewable paleontological resources under their jurisdiction.

State of California

Under "Guidelines for Implementation of the California Environmental Quality Act," as amended in December 2018 (California Code of Regulations [CCR] Title 14, Division 6, Chapter 3, Sections 15000 et seq.), procedures define the types of activities, persons, and public agencies required to comply with CEQA. Section 15063 of the CCR provides a process by which a lead agency may review a project's potential impact to the environment, whether the impacts are significant, and provide recommendations, if necessary.

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Figure 1

General Location Map

The Victor Valley Construction and Demolition Processing Facility Project

ESRI Street Map

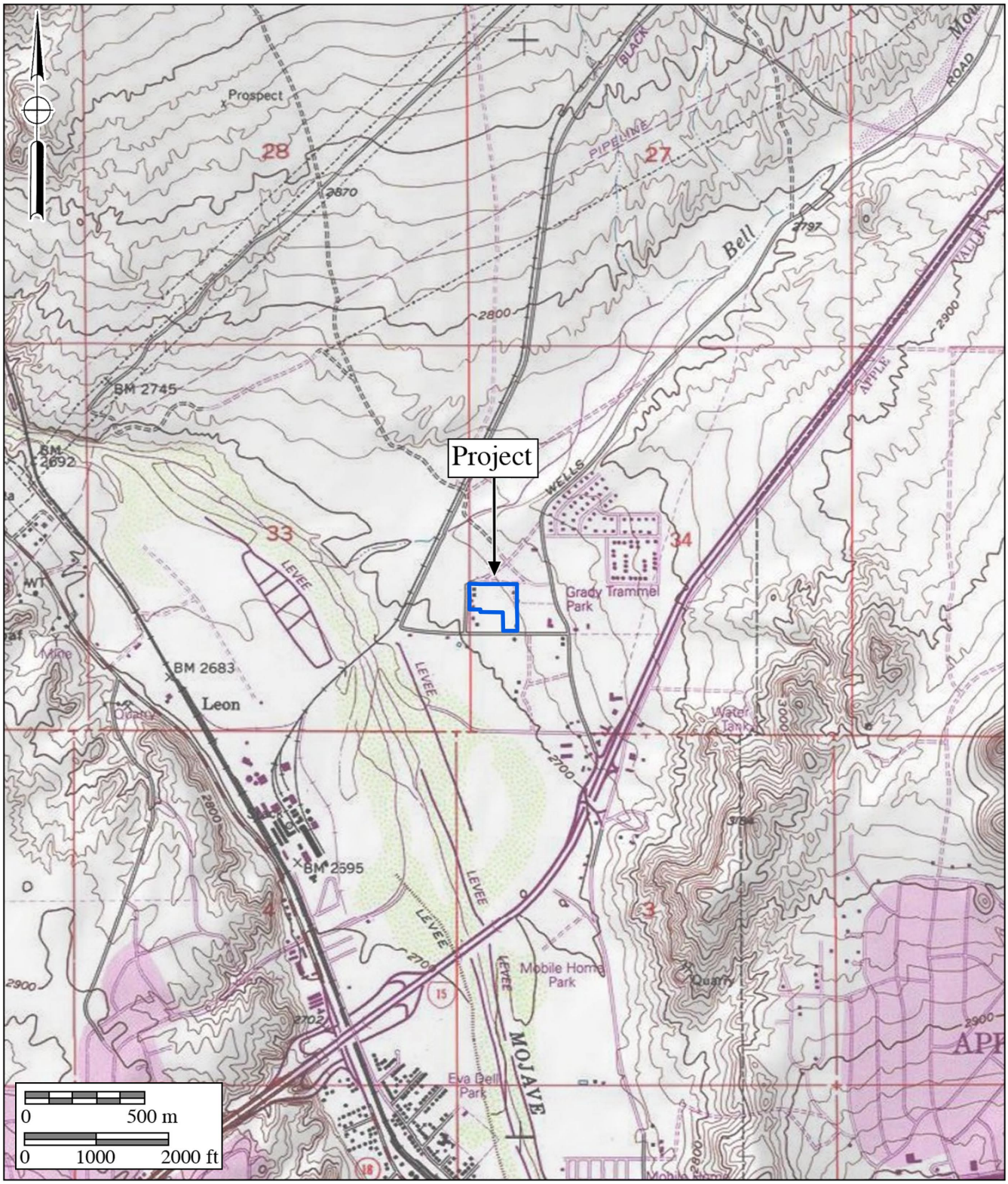

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Figure 2

Project Location Map

The Victor Valley Construction and Demolition Processing Facility Project

USGS *Victorville* Quadrangle (7.5-minute series)

In CEQA's Environmental Checklist Form, a question to respond to is, "would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?" (Appendix G, Section VII, Part f). This is to ensure compliance with California Public Resources Code Section 5097.5, the law that protects nonrenewable resources including fossils, which is paraphrased below:

> a) A person shall not knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands.
> b) As used in this section, "public lands" means lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof.
> c) A violation of this section is a misdemeanor.

City of Victorville

In the Final Environmental Impact Report (EIR) of the City of Victorville General Plan, paleontological resource mitigation measures are specified in CUL-1. For previously undeveloped properties greater than one acre, mitigation measure CUL-1 must be implemented before construction starts (City of Victorville 2008a). The measure is as follows:

> CUL-1: The applicant shall provide for an on-site paleontological/archaeological inspector to monitor all grading operations, or a letter from said licensed professional indicating that monitoring is not necessary during grading. Further, if disturbed resources are required to be collected and preserved, the applicant shall be required to participate financially up to the limits imposed by Public Resources Code Section 21083.2. The results of said monitoring shall be filed with the Development Director or his designee prior to the final approval of the development. (City of Victorville 2008a)

III. GEOLOGY

The project is situated along the northern edge of the Victorville Basin, a structural depression about 40 kilometers wide and filled with sediments up to 1,300 meters thick, a succession of deposits ranging in age from middle Miocene through late Pleistocene time. The Victorville Basin is bordered by the San Gabriel and San Bernardino Mountains to the south and, along the north, local peaks and ridges of pre-Cenozoic basement rocks in the areas of Quartzite

Mountain and the southeastern Shadow Mountains (local hills not to be confused with the more-prominent Shadow Mountains near the California-Nevada border). These deposits record the erosional and depositional cycles of the region during episodes of crustal slip along the San Andreas Fault, along with the coeval uplift and transrotation of the San Bernardino and San Gabriel Mountains. A major feature of the area is the evolution of the northward-flowing ancestral Mojave River (Cox et al. 2003).

As shown on Figure 3 (after Hernandez et al. 2008), the project is situated at the confluence of the Bell Mountain Wash and the Mojave River, both ephemeral waterways. Geologically, the project is mapped within Holocene-aged modern alluvial fan deposits (yellow areas labeled "Qf" in Figure 3), composed of yellowish gray to light yellowish-brown sand and gravel that form continuous alluvial fringes along modern washes. Nearby are late Pleistocene-aged old alluvial deposits (amber areas labeled "Qoa" in Figure 3), consisting of strong brown, fine- to medium-grained sand and fine to medium gravel representing inactive alluvial fans.

Less than a mile west of the project are deposits of the Pleistocene and Pliocene-aged "alluvium of the ancestral Mojave River" (Hernandez et al. 2008). The current configuration of the Mojave River has developed gradually over a span of at least one million years. About 60 to 70 thousand years ago, the ancestral Mojave River began incising its modern canyon between Victorville and Barstow. The upper unit of the ancient Mojave River depositional sequence is approximately middle Pleistocene in age, based on terrestrial vertebrate fossils (Cox et al. 2003).

A geotechnical investigation was recently completed for the project by GeoTek, Inc. (LaMont et al. 2024). Results of the investigation indicate the project properties are covered by 0.5 to 2.5 feet of disturbed/artificial fill soils. Underlying the fill deposits is alluvium, consisting of brown to orangish brown, interbedded silty sands and relatively clean sands, to the maximum depth explored of 21.5 feet. LaMont et al. (2024) did not speculate on the geologic age of the strata encountered. LaMont et al. (2024) recommended excavation beneath the planned building footprint to a depth of at least three feet below the existing grade, or two feet below the base of the proposed foundation, whichever is greater.

IV. PALEONTOLOGICAL RESOURCES

Definition

Paleontological resources are the remains of prehistoric life that have been preserved in geologic strata. These remains are called fossils and include bones, shells, teeth, and plant remains (including their impressions, casts, and molds) in the sedimentary matrix, as well as trace fossils such as footprints and burrows. Fossils are considered older than 5,000 years of age (Society of Vertebrate Paleontology [SVP] 2010) but may include younger remains (subfossils) when viewed in the context of local extinction of the organism or habitat, for example. Fossils are considered a nonrenewable resource under state and local guidelines (see Section II of this report).

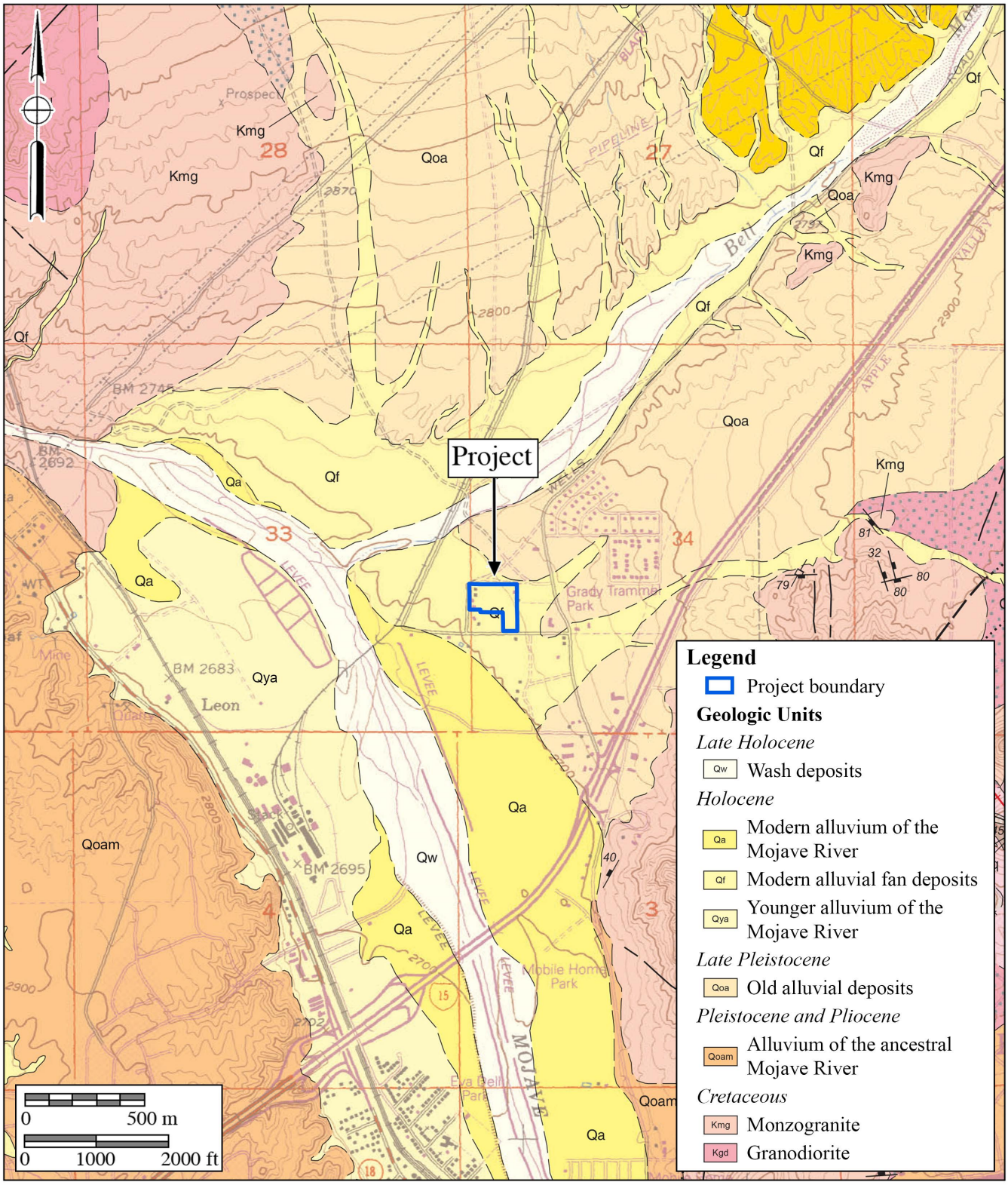

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Figure 3

Geologic Map

The Victor Valley Construction and Demolition Processing Facility Project

Geology after Hernandez et al. (2008)

Fossil Locality Search

A paleontological resource locality search was performed for the project by the Division of Earth Sciences at the San Bernardino County Museum (SBCM) (Kottkamp 2024; Appendix B). The locality search indicated that there are no fossil localities within the current project property. However, the SBCM has several subfossil (unaltered) localities within one mile of the project, but from Holocene deposits. The localities consist of unaltered, unidentifiable vertebrate remains, plus remains of a hare. The nearest Pleistocene locality, which includes extinct horse remains, appears to be approximately 0.8 mile southwest of the project, across the Mojave River, in ancient Mojave River deposits.

A review of published and unpublished literature was conducted for potential paleontological resources that are known in the vicinity of the project. The sources reviewed did not indicate the presence of any known fossil localities within the project. However, in the greater Victorville area, there are many recorded Pleistocene vertebrate fossil localities (Jefferson 1986, 1991, 2009; Cox et al. 2003; Romero and Hillburn 2006; City of Victorville 2008b; Reynolds and Reynolds 1994; several sources by R.E. Reynolds not available for review). Most of the specimens and records recovered from these localities are held by the SBCM. All the localities from these sources are derived from the alluvium of the ancestral Mojave River as mapped by Hernandez et al. (2008) and Cox et al. (2003) and are at least a few miles west and south of the project.

Project Survey

BFSA Environmental Services, a Perennial Company (BFSA) staff, under the supervision of paleontological principal investigator Todd A. Wirths, conducted a site visit on June 27, 2024. The survey included a careful inspection of all exposed ground surfaces, including any rodent burrows and disturbed areas. The survey of the property was an intensive reconnaissance consisting of a series of parallel survey transects spaced at approximately 10-meter intervals. Overall, visibility was characterized as moderate with some obscurement by modern refuse throughout the property, a large spoils pile in the northeastern portion of the project area, and the current occupation of the southeast corner of a single-family residence (16992 Abbey Lane). Vegetation primarily consisted of creosote bushes, grasses, and several pine trees found throughout the subject property. No paleontological resources, or evidence of paleontological resources, were identified as a result of the survey.

V. PALEONTOLOGICAL SENSITIVITY

Overview

The degree of paleontological sensitivity of any particular area is based on a number of factors, including the documented presence of fossiliferous resources on a site or in nearby areas, the presence of documented fossils within a particular geologic formation or lithostratigraphic unit, and whether or not the original depositional environment of the sediments is one that might have been conducive to the accumulation of organic remains that may have become fossilized over time. Holocene alluvium is generally considered to be geologically too young to contain significant nonrenewable paleontological resources (*i.e.*, fossils) and is therefore typically assigned a low paleontological sensitivity. Pleistocene (greater than 11,700 years old) alluvial and alluvial fan deposits in the Inland Empire and Mojave Desert, however, are known to yield important Ice Age terrestrial vertebrate fossils, such as extinct mammoths, mastodons, giant ground sloths, extinct species of horse, bison, and camel, saber-toothed cats, and others (Jefferson 1991). Therefore, these Pleistocene sediments are accorded a high paleontological resource sensitivity.

Professional Standards

The SVP has drafted guidelines that include four categories of paleontological sensitivity for geologic units (formations) that might be impacted by a proposed project, as paraphrased below:

- *High Potential:* Rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered.
- *Undetermined Potential:* Rock units for which little information is available concerning their paleontological content, geologic age, and depositional environment, and that further study is needed to determine the potential of the rock unit.
- *Low Potential:* Rock units that are poorly represented by fossil specimens in institutional collections or based on a general scientific consensus that only preserve fossils in rare circumstances.
- *No Potential:* Rock units that have no potential to contain significant paleontological resources, such as high-grade metamorphic rocks and plutonic igneous rocks.

Based on these criteria, the geologic formation mapped at the project may be considered to have a low potential, since it is too young to yield significant paleontological resources.

City of Victorville Assessment

Section 5.5.1.2 of the City of Victorville's Draft EIR for the General Plan (City of Victorville 2008b) describes the paleontological resources within the city. Based on Pleistocene vertebrate fossils recovered from sediments deposited by the ancestral Mojave River, areas mapped as such are assigned a "moderate to high sensitivity" for the potential to yield significant

paleontological resources (City of Victorville 2008b [Sections 5.5-29, 5.5-30]).

In Section 5.5.4, "Project Impacts," of the Draft EIR, mitigation of potentially significant impacts to significant nonrenewable resources is required if identified in program-level paleontological assessments. Implementation Measure 5.1.2.4 "Require[s] paleontologic monitoring of land alteration projects involving excavation into native geologic materials known to have a high sensitivity for the presence of paleontologic resources" (City of Victorville 2008b [Section 5.5-22]).

VI. CONCLUSIONS AND RECOMMENDATIONS

In general, Holocene sedimentary deposits, such as those mapped at the project, usually do not have a high potential to yield fossils, since they are generally too young to produce significant fossils. The nearby Holocene-aged SBCM localities composed of unaltered bones of questionable significance support this assessment. Unquestioned fossil localities occur to the south, across the Mojave River, in Pleistocene fluvial deposits that are not present at the project. Therefore, the presence of Holocene-aged alluvial deposits at the project, shallow grading depths, and the lack of any significant fossil specimens or fossil localities near the project support the conclusion that paleontological monitoring is *not* recommended during earth disturbance activities at the Victor Valley Construction and Demolition Processing Facility Project. A Paleontological Resource Impact Mitigation Program (PRIMP) is not warranted.

VII. CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this paleontological report, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief and have been compiled in accordance with CEQA criteria.

August 14, 2024

Todd A. Wirths
Senior Paleontologist
California Professional Geologist No. 7588

Date

VIII. REFERENCES

City of Victorville. 2008a. City of Victorville General Plan 2030, Final Program Environmental Impact Report (SCH No. 2008021086).

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Society of Vertebrate Paleontology. 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources; by the SVP Impact Mitigation Guidelines Revision Committee: https://vertpaleo.org/wp-content/uploads/2021/01/SVP_Impact_Mitigation_Guidelines.pdf.

APPENDIX A

Qualifications of Key Personnel

Todd A. Wirths, MS, PG No. 7588

Senior Paleontologist

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Education

Master of Science, Geological Sciences, San Diego State University, California **1995**

Bachelor of Arts, Earth Sciences, University of California, Santa Cruz **1992**

Professional Certifications

California Professional Geologist #7588, 2003
Riverside County Approved Paleontologist
San Diego County Qualified Paleontologist
Orange County Certified Paleontologist
OSHA HAZWOPER 40-hour trained; current 8-hour annual refresher

Professional Memberships

Board member, San Diego Geological Society
San Diego Association of Geologists; past President (2012) and Vice President (2011)
South Coast Geological Society
Southern California Paleontological Society

Experience

Mr. Wirths has more than a dozen years of professional experience as a senior-level paleontologist throughout southern California. He is also a certified California Professional Geologist. At BFSA, Mr. Wirths conducts on-site paleontological monitoring, trains and supervises junior staff, and performs all research and reporting duties for locations throughout Los Angeles, Ventura, San Bernardino, Riverside, Orange, San Diego, and Imperial Counties. Mr. Wirths was formerly a senior project manager conducting environmental investigations and remediation projects for petroleum hydrocarbon-impacted sites across southern California.

Selected Recent Reports

2019 *Paleontological Assessment for the 10575 Foothill Boulevard Project, City of Rancho Cucamonga, San Bernardino County, California*. Prepared for T&B Planning, Inc. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2019 *Paleontological Assessment for the MorningStar Marguerite Project, Mission Viejo, Orange County, California.* Prepared for T&B Planning. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2019 *Paleontological Monitoring Report for the Nimitz Crossing Project, City of San Diego.* Prepared for Voltaire 24, LP. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2019 *Paleontological Resource Impact Mitigation Program (PRIMP) for the Jack Rabbit Trail Logistics Center Project, City of Beaumont, Riverside County, California.* Prepared for JRT BP 1, LLC. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2020 *Paleontological Monitoring Report for the Oceanside Beachfront Resort Project, Oceanside, San California.* Prepared for S.D. Malkin Properties. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2020 *Paleontological Resource Impact Mitigation Program for the Nakase Project, Lake Forest, Orange County, San California.* Prepared for Glenn Lukos Associates, Inc. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2020 *Paleontological Resource Impact Mitigation Program for the Sunset Crossroads Project, Banning, Riverside County*. Prepared for NP Banning Industrial, LLC. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2020 *Paleontological Assessment for the Ortega Plaza Project, Lake Elsinore, Riverside County*. Prepared for Empire Design Group. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2020 *Paleontological Resource Record Search Update for the Green River Ranch III Project, Green River Ranch Specific Plan SP00-001, City of Corona, California*. Prepared for Western Realco. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2020 *Paleontological Assessment for the Cypress/Slover Industrial Center Project, City of Fontana, San Bernardino County, California*. Prepared for T&B Planning, Inc. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2020 *Paleontological Monitoring Report for the Imperial Landfill Expansion Project (Phase VI, Segment C-2), Imperial County, California*. Prepared for Republic Services, Inc. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2021 *Paleontological Assessment for the Manitou Court Logistics Center Project, City of Jurupa Valley, Riverside County, California*. Prepared for Link Industrial. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2021 *Paleontological Resource Impact Mitigation Program for the Del Oro (Tract 36852) Project, Menifee, Riverside County*. Prepared for D.R. Horton. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2021 *Paleontological Assessment for the Alessandro Corporate Center Project (Planning Case PR-2020-000519), City of Riverside, Riverside County, California*. Prepared for OZI Alessandro, LLC. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2021 *Paleontological Monitoring Report for the Boardwalk Project, La Jolla, City of San Diego*. Prepared for Project Management Advisors, Inc. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

APPENDIX B

Paleontological Locality Search Report

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SAN BERNARDINO COUNTY

Museum
Division of Earth Science

David Myers
Director

Scott Kottkamp
Curator of Earth Science

7 August 2024

BFSA Environmental Services
Attn: Todd Wirths
14010 Poway Rd.
Poway, CA 92064

PALEONTOLOGY RECORDS REVIEW for proposed site of Victor Valley Construction and Demolition Processing Facility (Project No. 24-170), Victorville, San Bernardino County, California

Dear Mr. Wirths,

The Division of Earth Science of the San Bernardino County Museum (SBCM) has completed a record search for the above-named project in San Bernardino County, California. The proposed project site (Victor Valley Construction and Demolition Processing Facility) is northeast of Abbey Lane and East Abbey Lane in Victorville, California, as shown on the United States Geological Survey (USGS) 7.5-minute Victorville, California, quadrangle.

Geologic mapping of the region done by Hernandez et al. (2008) indicates that the project area is located atop surface deposits of active alluvial fans (Qf) near the Mojave River wash (Qw). Qf is a yellowish grey to yellowish brown poorly-sorted lithic-arkosic silty sand with minor gravel. Holocene deposits are usually not fossiliferous, but fossils may turn up in modern fluvial and wash deposits after being eroded from their original contexts. Surface deposits of older Pleistocene alluvium (Qoa) occur near the project site perimeter and buried Qoa likely underlies the Holocene age surficial units at shallow depth (Dibblee 1960; Hernandez et al. 2008). Terrestrial macro- and microfossils are commonly found in Pleistocene age alluvium throughout the southwest of North America, including much of the Mojave Desert (Harris 2014; Morgan et al. 2022). Over 100 Pleistocene age SBCM localities occur within a 10-mile radius of the project site.

For this review, I conducted a search of the Regional Paleontological Locality Inventory (RPLI) at the SBCM. The results of this search indicate that no SBCM localities occur within the boundaries of the proposed project site, but several are situated within 1-mile of its perimeter. The nearest paleontological localities, SBCM 1.114.53 – 54, are located 0.3 – 0.4 miles west-northwest from the project's northwest corner at 34°33'52"N 117°17'57"W and 34°33'51"N 117°18'06"W respectively. Subfossil chordate bone fragments and lightly permineralized fossil fragments were collected from within Qf at both localities. The next closest locality, SBCM 1.114.51, is located 0.4 miles north of the project site at Township Range and Section (TRS) 6N 4W 33 NE ¼ NE ¼ NE ¼ SE ¼ NE ¼, or 34°34'05"N 117°17'45"W. SBCM 1.114.52 is slightly further west, 0.6 miles northwest of the project site at TRS 6N 4W 33 NW ¼ NE ¼ NW ¼ SW ¼ NE ¼, or 34°34'6"N 117°18'10"W. SBCM 1.114.51 – 52 are located upon a reddish silty sand from which unaltered bones of *Lepus* cf. *californicus* and chordate bone fragments were surface collected during a monitoring survey. The specimens' xeric faunal assemblage, deposition in recent alluvium, and lack of diagenetic alteration indicate that they are likely Holocene age subfossils.

SBCM 1.114.203 is situated 0.80 miles southwest of the project site. The Natural History Museum of Los Angeles County had a field research site here at one time, as the "Victorville Beds" are exposed at the base of a bluff. SBCM records record *Equus* sp. as having been collected by the NHMLA from this site. Finally, SBCM 1.114.55 occurs 0.95 miles west-southwest of the project area in what was once a mining quarry. Chordate bone fragments were surface collected from this locality, varying in degree of diagenetic alteration from unaltered to heavily permineralized. The specimens' differing taphonomic conditions suggest they are strongly time averaged via reworking of fossils into recent alluvial deposits.

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

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

Sincerely,

Scott Kottkamp

Scott Kottkamp, Curator of Earth Science
Division of Earth Science
San Bernardino County Museum

Literature Cited

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