APPENDIX 3

PHASE I CULTURAL RESOURCES SURVEY AND
EXTENDED PHASE I ARCHAEOLOGICAL INVESTIGATION

AMERICAN ORGANICS VICTOR VALLEY REGIONAL COMPOSTING FACILITY EXPANSION PROJECT

City of Victorville
San Bernardino County, California

For Submittal to:

Victor Valley Wastewater Reclamation Authority
20111 Shay Road
Victorville, CA 92394

Prepared for:

Tom Dodson & Associates
1150 North Arrowhead Avenue
San Bernardino, CA 92405

Prepared by:

CRM TECH
1016 East Cooley Drive, Suite A/B
Colton, CA 92324

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

May 31, 2021
CRM TECH Contract No. 3554/3600

Title: Phase I Cultural Resources Survey and Extended Phase I Archaeological Investigation: American Organics Victor Valley Regional Composting Facility Expansion Project, City of Victorville, San Bernardino County, California

Author(s): Michael Hogan, Principal Investigator
Ben Kerridge, Archaeologist/Report Writer
Daniel Ballester, Archaeologist/Field Director
John D. Goodman II, Archaeologist/Artifact Analyst

Consulting Firm: CRM TECH
1016 East Cooley Drive, Suite A/B
Colton, CA 92324
(909) 824-6400

Date: May 31, 2021

For Submittal to: Victor Valley Wastewater Reclamation Authority
20111 Shay Road
Victorville, CA 92394
(760) 246-8638

Prepared for: Kaitlyn Dodson
Tom Dodson & Associates
1150 North Arrowhead Avenue
San Bernardino, CA 92405
(909) 882-3612

USGS Quadrangle: Victorville, Calif., 7.5' quadrangle (Section 13, T6N R5W, San Bernardino Baseline and Meridian)

Project Size: Approximately 28.8 acres

Keywords: Victor Valley, southern Mojave Desert; Site 36-000072 (CA-SBR-72): "Mojave River Footprints/Track Site"

EXECUTIVE SUMMARY

Between October 2019 and May 2021, at the request of Tom Dodson & Associates, CRM TECH performed a Phase I cultural resources survey and an Extended Phase I archaeological investigation for the proposed American Organics Victor Valley Regional Composting Facility Expansion Project in the northwestern portion of the City of Victorville, San Bernardino County, California. The subject property of the study consists of approximately 28.8 acres of vacant land straddling Shay Road between the existing American Organics Victor Valley Regional Composting Facility on the south and the Victor Valley Wastewater Reclamation Facility on the north, in the north half of Section 13, Township 6 North Range 5 West, San Bernardino Baseline and Meridian.

The study is part of the environmental review process for the proposed project. The Victor Valley Wastewater Reclamation Authority (VVWRA), 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 VVWRA with the necessary information and analysis to determine whether the proposed project would cause substantial adverse changes to any "historical resources," as defined by CEQA, that may exist in or around the project area. In order to accomplish this objective, CRM TECH conducted a historical/archaeological resources records search, pursued historical background research, contacted Native American representatives, carried out a systematic field survey, performed subsurface explorations though the excavation of standard archaeological units and backhoe trenches, and completed laboratory analysis of artifacts recovered.

The records search results indicate that two archaeological sites, 36-000072 (CA-SBR-72) and 36-007154 (CA-SBR-7154H), were previously recorded as lying within or partially within the project area. Site 36-007154, a historic-period refuse scatter recorded in 1992, could not be found during the field survey and was presumed to be no longer extant. Site 36-000072, an important prehistoric site that has been formally determined eligible for the National Register of Historic Places (NRHP-E-78-4) and thereby listed in the California Register of Historical Resources, represents the remnants of a seasonally occupied Native American village dating back more than 6,000 years, where thousands of artifacts were collected during an intensive excavation program in 1978. It is commonly known as the Mojave River Footprint Site, after a group of human footprints left in hardened silty clay in an area that has since been set aside for long-term preservation, outside the current project boundaries.

After the field survey encountered additional prehistoric artifacts on the surface, CRM TECH undertook the Extended Phase I subsurface exploratory procedures to detect any cultural deposits that remained buried at the portion of Site 36-000072 within the overall project boundaries and thereby discerning areas that are positive and negative for potentially important archaeological remains. As a result, artifacts from both the Late Prehistoric Period and the Archaic Period were recovered from the site, including sacred and funerary objects such as a shell bead, an etched tablet fragment, and a human bone, indicating that important archaeological data are still present.

Since it is currently listed in the California Register of Historical Resources, Site 36-000072 clearly meets the definition of a "historical resource" under CEQA provisions. Any disturbance to the cultural deposits at the site that may diminish its value or integrity as an important source of prehistoric archaeological data, therefore, would be considered "a substantial adverse change in the significance

of a historical resource" (PRC §21084.1). The results of the Extended Phase I explorations completed during this study, however, have delineated areas of higher and lower sensitivity for subsurface cultural deposits, suggesting that all not ground disturbances in the portion of the site lying within the project boundaries would constitute a substantial adverse change in the significance of Site 36-000072.

Based on this data, and in consultation with the San Manuel Band of Mission Indians, American Organics has redesigned the proposed project to avoid the area of high archaeological sensitivity. In addition, the company has agreed to minimize as much as possible the ground-disturbing aspects of project activities before bringing in the fill material and covering the site area, and a Cultural Resources Monitoring and Treatment Plan has been developed by the San Manuel Band of Mission Indians for implementation during the earth-moving phase of the project.

Through these collaborative efforts among CRM TECH, American Organics, and the San Manuel Band of Mission Indians, potential project impact on Site 36-000072 will be avoided or reduced to levels less than significant. In light of the findings of the present study and the subsequent modifications to the project plans resulting from these findings, CRM TECH recommends to VVWRA a conclusion of that the proposed American Organics Victor Valley Regional Composting Facility Expansion Project will have *No Impact* on "historical resources," under the condition that all potentially ground-disturbing activities associated with the project be monitored by qualified archaeologists and Native American representatives in accordance with the Cultural Resources Monitoring and Treatment Plan.

TABLE OF CONTENTS

LIST OF FIGURES

INTRODUCTION

Between October 2019 and May 2021, at the request of Tom Dodson and Associates, CRM TECH performed a Phase I cultural resources survey and an Extended Phase I subsurface archaeological exploratory program for the proposed American Organics Victor Valley Regional Composting Facility Expansion Project in the northwestern portion of the City of Victorville, San Bernardino County, California (Figure 1). The subject property of the study consists of approximately 28.8 acres of vacant land straddling Shay Road between the existing American Organics Victor Valley Regional Composting Facility on the south and the Victor Valley Wastewater Reclamation Facility on the north, in the north half of Section 13, Township 6 North Range 5 West, San Bernardino Baseline and Meridian (Figures 2, 3).

The study is part of the environmental review process for the proposed project. The Victor Valley Wastewater Reclamation Authority (VVWRA), 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 VVWRA with the necessary information and analysis to determine whether the proposed project would cause substantial adverse changes to any "historical resources," as defined by CEQA, that may exist in or around the project area.

In order to accomplish this objective, CRM TECH conducted a historical/archaeological resources records search, pursued historical background research, contacted Native American representatives, carried out a systematic field survey, performed subsurface explorations by excavating standard archaeological units and backhoe trenches, and completed laboratory analysis of artifacts recovered.

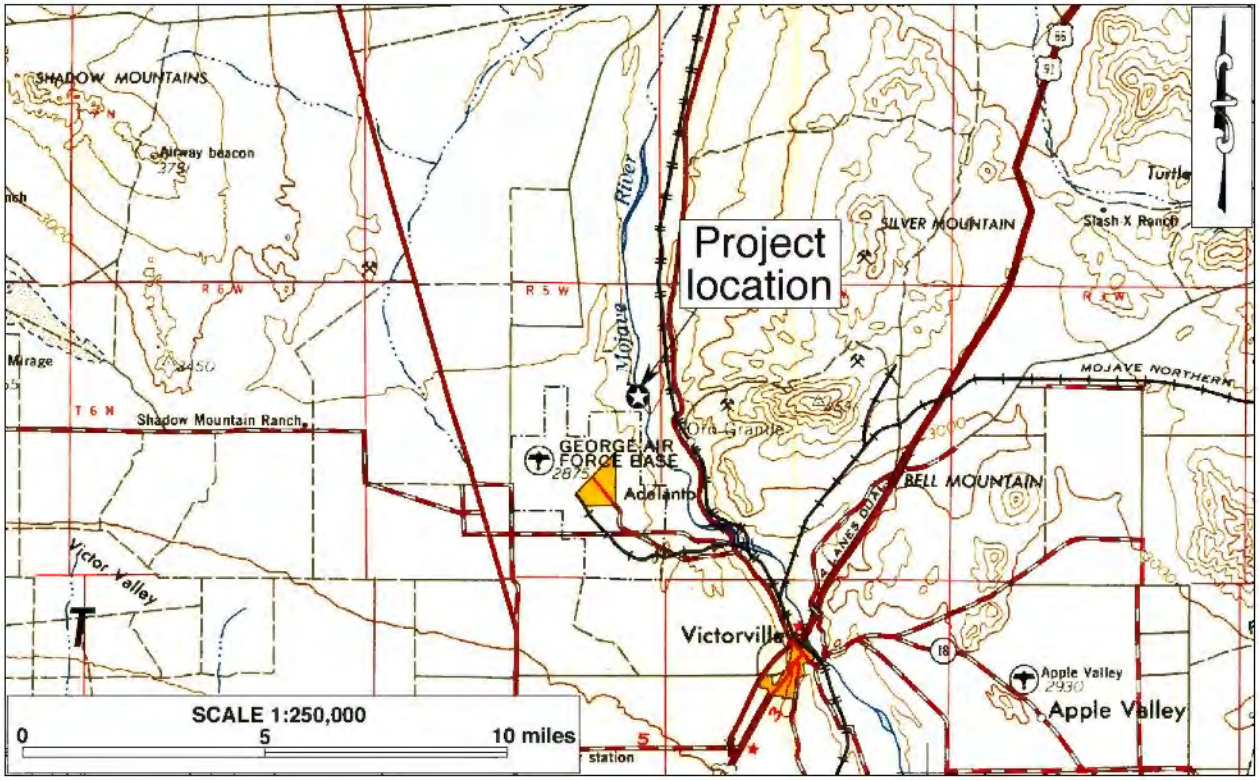

Figure 1. Project vicinity. (Based on USGS San Bernardino, Calif., 120'x60' quadrangle [USGS 1969])

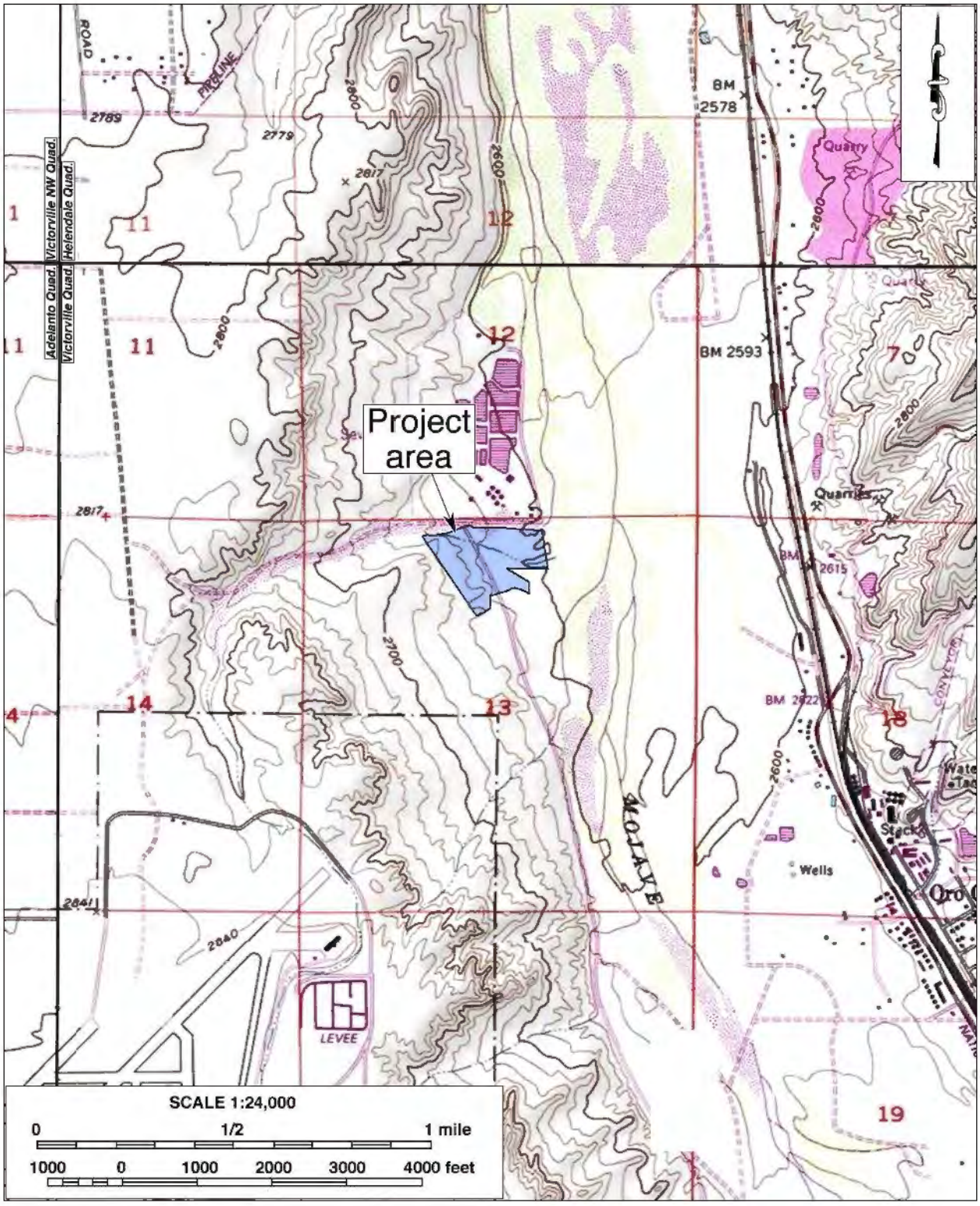

Figure 2. Project area. (Based on USGS Adelanto, Helendale, Victorville, and Victorville NW, Calif., 7.5' quadrangles [USGS 1993a-d])

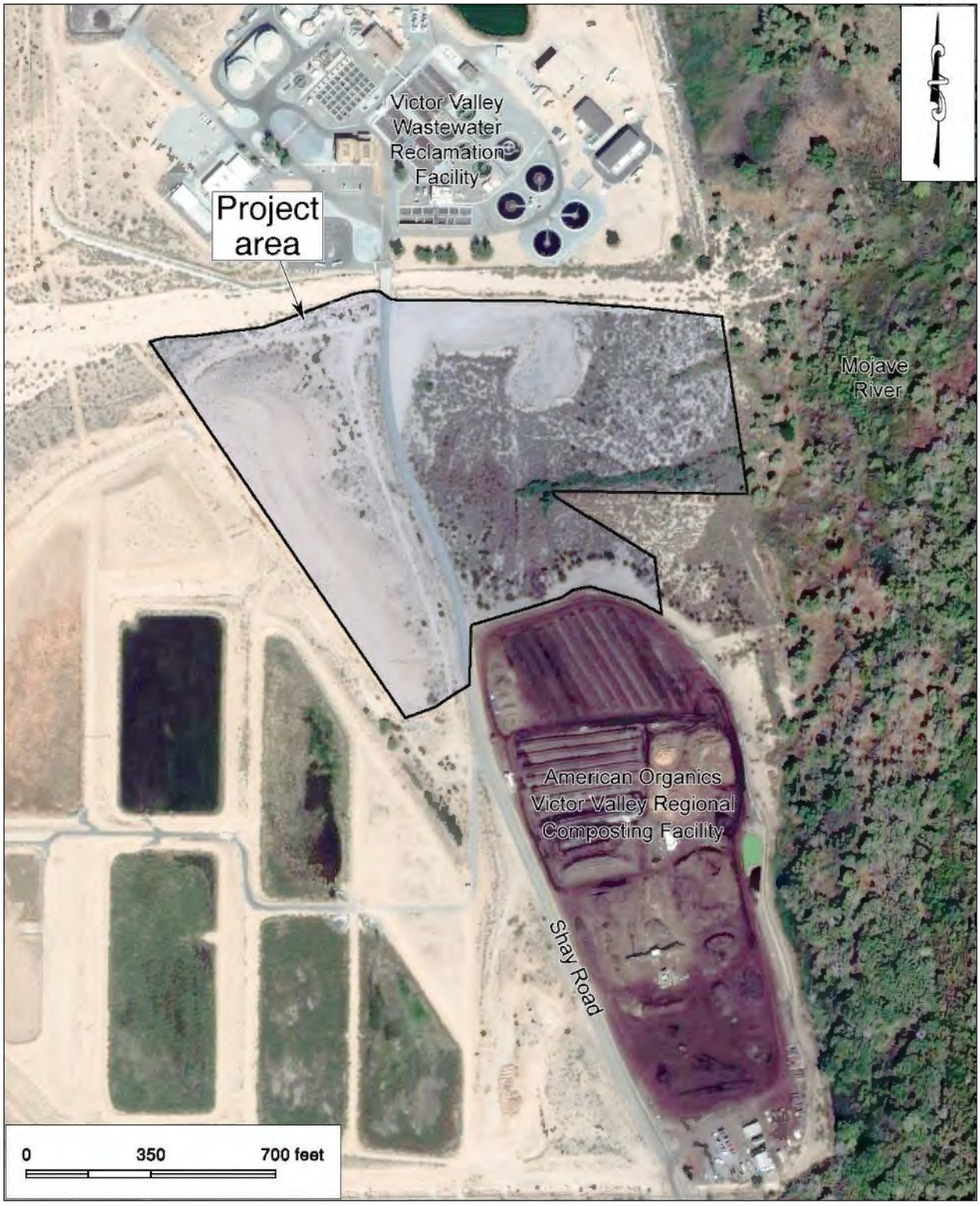

Figure 3. Aerial image of the original configuration of the project area.

The following report is a complete account of the methods, results, and final conclusion of the study. Personnel who participated in the study are named in the appropriate sections below, and their qualifications are provided in Appendix 1.

SETTING

CURRENT NATURAL SETTING

The City of Victorville occupies the central portion of the Victor Valley, surrounded by the cities of Adelanto, Apple Valley, and Hesperia. The Victor Valley lies on the southern rim of the Mojave Desert and immediately to the north of the San Bernardino-San Gabriel mountain ranges. The climate and environment of the area is typical of southern California "high desert" country, so called because of its higher elevation than the Colorado Desert to the southeast. The climate is marked by extremes in temperature and aridity, with summer highs reaching well over 110ºF and winter lows dipping below freezing. Average annual precipitation is less than five inches.

The project area is located to the west of Quartzite Mountain and southwest of Silver Mountain on the west bank of the Mojave River, northeast of George Airforce Base. It is immediately bordered by the Mojave River and its riparian floodplain on the east, a cluster of retention basins on the southwest, and open land to the west. The existing portion of the American Organics Victor Valley Regional Composting Facility marks the southern boundary of the project area, and the VVWRA facility sits across an arroyo that marks the north boundary of the project area (Figure 3). The property features a handful of smaller dirt roads as well as Shay Road, which runs roughly north-south, but the rest of the project area is broken, undulating terrain featuring dunes, soil stockpiles, and drainage features. Elevations on the property range between approximately 2,600 and 2,680 feet above mean sea level. Because of its proximity to existing local infrastructure, portions of the project area have evidently been leveled in the past, and much of the ground surface is extensively disturbed (Figure 4).

The portion of the project area west of Shay Road has been disturbed due to the earthmoving activities related to the earthen basins to the south, and a large soil stockpile here covers much of the project area west of Shay Road. East of the road, the northern half of that portion of the project area has been leveled to create an evacuation area for the Wastewater Reclamation Facility, while the southern half appears to retain most of its natural features.

Two large heavily vegetated arroyos are located in this part of the project area east of Shay Road, each more than 5 feet in depth and running east-west. The vegetation observed within the project area consists of mostly creosote bushes and some small desert grasses and shrubs.

The Victor Valley is a part of the Mojave River watershed. During the Late Pleistocene and early Holocene periods, the region experienced four separate high stands of Lake Mojave and other pluvial lakes. These episodes afforded greater access to water for the aboriginal groups in the region, while the desiccation of the lakes forced them to move closer to the Mojave River, which provided not only a dependable water source and subsistence resources but also a major route for interregional trade. Many of the Native American archaeological sites identified in and around the

Figure 4. Overview of the current condition of the project area. (Photograph taken on April 23, 2020; view to the west)

Victor Valley consist of ancient habitation debris such as middens, groundstone fragments, chipped-stone pieces, fire-affected rocks, and faunal remains. Rock shelters, bedrock milling features, and rock art panels have also been found in the region. As expected, most of these sites occur along the banks of the Mojave River.

CULTURAL SETTING

Prehistoric Context

In order to understand the progress of Native American cultures prior to European contact, archaeologists have devised chronological frameworks on the basis of artifacts and site types that date back some 12,000 years. Currently, the chronology most frequently applied in the Mojave Desert divides the region's prehistory into five periods marked by changes in archaeological remains, reflecting different ways in which Native peoples adapted to their surroundings. According to Warren (1984) and Warren and Crabtree (1986), the five periods are as follows: the Lake Mojave Period, 12,000 years to 7,000 years ago; the Pinto Period, 7,000 years to 4,000 years ago; the Gypsum Period, 4,000 years to 1,500 years ago; the Saratoga Springs Period, 1,500 years to 800 years ago; and the Protohistoric Period, 800 years ago to European contact.

More recently, Hall (2000) presented a slightly different chronology for the region, also with five periods: Lake Mojave (ca. 8000-5500 B.C.), Pinto (ca. 5500-2500 B.C.), Newberry (ca. 1500 B.C.-500 A.D.), Saratoga (ca. 500-1200 A.D.), and Tecopa (ca. 1200-1770s A.D.). According to Hall

(*ibid*.:14), small mobile groups of hunters and gatherers inhabited the Mojave Desert during the Lake Mojave Period. Their material culture is represented by the Great Basin Stemmed points and flaked stone crescents. These small, highly mobile groups continued to inhabit the region during the Pinto Period, which saw an increased reliance on ground foods, small and large game animals, and the collection of vegetal resources, suggesting that "subsistence patterns were those of broad-based foragers" (*ibid*.:15). Artifact types found in association with this period include the Pinto points and *Olivella* sp. spire-lopped beads.

Distinct cultural changes occurred during the Newberry Period, in comparison to the earlier periods, including "geographically expansive land-use pattern…involving small residential groups moving between select localities," long-distance trade, and diffusion of trait characteristics (Hall 2000:16). Typical artifacts from this period are the Elko and Gypsum Contracting Stem points and Split Oval beads. The two ensuing periods, Saratoga and Tecopa, are characterized by seasonal group settlements near accessible food resources and the intensification of the exploitation of plant foods, as evidenced by groundstone artifacts (*ibid*.:16).

Hall (2000:16) states that "late prehistoric foraging patterns were more restricted in geographic routine and range, a consequence of increasing population density" and other variables. Saratoga Period artifact types include Rose Spring and Eastgate points as well as Anasazi grayware pottery. Artifacts from the Tecopa Period include Desert Side-notched and Cottonwood Triangular points, buffware and brownware pottery, and beads of the Thin Lipped, Tiny Saucer, Cupped, Cylinder, steatite, and glass types (*ibid*.).

Ethnohistoric Context

The Victorville area is a part of the homeland of the Serrano Indians, whose traditional territory is centered in the San Bernardino Mountains, but also includes portions of the San Bernardino Valley and the southern rim of the Mojave Desert. The name "Serrano" was derived from a Spanish term meaning "mountaineer" or "highlander." The basic written sources on Serrano culture are Kroeber (1925), Strong (1929), and Bean and Smith (1978). The following ethnographic discussion of the Serrano people is based on these sources.

Prior to European contact, the Serrano were primarily hunter-gatherers and occasionally fishers, and settled mostly where flowing water emerged from the mountains. They were loosely organized into exogamous clans, which were led by hereditary heads, and the clans in turn, were affiliated with one of two exogamous moieties. The exact nature of the clans, their structure, function, and number are not known, except that each clan was the largest autonomous political and landholding unit, the core of which was the patrilineage. There was no pan-tribal political union among the clans.

Families lived in circular, domed structures made from willow and tule thatching and containing a central fire pit. These homes were used mainly for sleep and storage, while most of the daily household activities occurred in the open or under the shade of a ramada. Other important structures in Serrano life were large ceremonial house, granaries and sweat lodges, the last being a circular semi-subterranean hut framed with willow, covered with earth, and having only one entrance. In terms of Serrano technology, shells, wood bone stone, and plant fibers were employed to create household items, tools, and other everyday items, as well as fashion functional decorative items like baskets and blankets.

Although contact with Europeans may have occurred as early as 1771 or 1772, Spanish influence on Serrano lifeways was negligible until the 1810s, when a mission *asistencia* was established on the southern edge of Serrano territory. Between then and the end of the mission era in 1834, most of the Serranos were removed to the nearby missions. At present, most Serrano descendants are found on the San Manuel and the Morongo Indian Reservations, where they participate in ceremonial and political affairs with other Native American groups on an inter-reservation basis.

Historic Context

The present-day Victor Valley received its first European visitor, the famed Spanish missionary and explorer Francisco Garcés, in 1776, and the first Euroamerican settlements appeared in the valley as early as 1860 (Peirson 1970:128). Despite these "early starts," due to its harsh environment, development in the arid high desert country of southern California was slow and limited for much of the historic period, and the Victor Valley remained only sparsely populated until the second half of the 20th century.

Garcés traveled through the Victor Valley along an ancient Indian trading route known today as the Mojave Trail (Beck and Haase 1974:15). In 1829, most of this trail was incorporated into an important pack-train road known as the Old Spanish Trail, which extended between southern California and Santa Fe, New Mexico (Warren 2004). Some 20 years later, when the historic wagon road known as the Mormon Trail or Salt Lake Trail was established between Utah and southern California, it followed essentially the same route across the Mojave Desert (NPS 2001:5). Since then, the Victor Valley has always served as a crucial link on a succession of major transportation arteries, where the heritage of the ancient Mojave Trail was carried on by the Santa Fe Railway, by the legendary U.S. Route 66, and finally by today's Interstate Highway 15.

The City of Victorville traces its roots to a station on the Santa Fe Railroad, which was completed by the California Southern Railway Company, a Santa Fe subsidiary, in 1885. The station was initially named Victor, after Jacob Nash Victor, general manager of the California Southern Railway Company (Richards 1966). With the coming of the railroad, settlement activities began in earnest in the Victor Valley in the 1880s, and reached a peak in the 1910s. The townsite was laid out in 1886, and by 1890, Victor had become a settlement of approximately 100 residents. In 1901, the name of the town was changed to Victorville to avoid confusion with Victor, Colorado (*ibid.*).

Thanks to the availability of fertile lands and the abundance of ground water, agriculture played a dominant role in the early development of the Victor Valley area (City of Victorville n.d.(a)). During the late 19th and early 20th centuries, settlers in the valley attempted to raise a number of money-making staples, such as alfalfa, deciduous fruits, and poultry, with only limited success. Around the turn of the century, large deposits of limestone and granite were discovered, prompting cement manufacturing to become the leading industry in the valley (*ibid.*). During and after WWII, George Air Force Base, established in 1941, added a new driving force in the local economy with its 6,000 military and civilian employees. After being deactivated in 1992, the former base was converted for civilian use as the Southern California Logistics Airport.

In 1962, the City of Victorville was incorporated with a population of approximately 8,110 and an area of 9.7 square miles (City of Victorville n.d.(a)). Over the 55 years since then, it has become one of the fastest growing cities in California, largely as a "bedroom community" in support of the industrial and commercial centers in the Greater Los Angeles area. At the present, the city has expanded to more than 73 square miles, with an estimated population of more than 120,000 (City of Victorville n.d.(b)).

RESEARCH METHODS

RECORDS SEARCH

On October 23 and 24, 2019, CRM TECH archaeologist Ben Kerridge conducted the historical/ archaeological resources records search at the South Central Coastal Information Center (SCCIC) California State University, Fullerton. During the records search, Kerridge examined maps and records on file at the SCCIC for previously identified cultural resources in or near the project area and existing cultural resources reports within a one-mile radius of the project area. Previously identified cultural resources include properties designated as California Historical Landmarks, Points of Historical Interest, or San Bernardino County Landmarks, as well as those listed in the National Register of Historic Places, the California Register of Historical Resources, or the California Historical Resources Inventory.

HISTORICAL RESEARCH

Historical background research for this study was conducted by CRM TECH principal investigator/ historian Bai "Tom" Tang and project archaeologist Ben Kerridge. In addition to published literature in local and regional history, sources consulted during the research included the U.S. General Land Office's (GLO) land survey plat map dated 1855, the United States Geological Survey's (USGS) topographic maps dated 1934-1993, and aerial photographs taken in 1952-2016. The historic maps are collected at the Science Library of the University of California, Riverside, and the California Desert District of the U.S. Bureau of Land Management, located in Moreno Valley. The aerial photographs are available at the NETR Online website and through the Google Earth software.

NATIVE AMERICAN PARTICIPATION

On October 21, 2019, CRM TECH submitted a written request to the State of California Native American Heritage Commission for a records search in the commission's sacred lands file. On October 31, following the commission's recommendations and previously established consultation protocol, CRM TECH further contacted a total of six tribal representatives in the region in writing for information on potential Native American cultural resources in or near the project area. In addition, on October 31, CRM TECH notified the Chemehuevi Indian Tribe and the San Manuel Band of Mission Indians to solicit additional information. The correspondence between CRM TECH and the Native American representatives are attached to this report as Appendix 2.

FIELD SURVEY

On October 25, 2019, CRM TECH field director Daniel Ballester and archaeologist Michael D. Richards conducted a Phase I Historical/Archaeological Resources field survey of the project area. They were accompanied by Joseph Lente, representing the San Manuel Band of Mission Indians.

The October 2019 field survey was completed at two different levels of intensity. Where the ground surface was obscured by dense vegetation, the survey was conducted on foot at a reconnaissance level by inspecting exposed ground surface wherever accessible. Where vegetation did not obscure the ground surface, an intensive-level survey was conducted by walking parallel north-south transects spaced 10 meters (m; approximately 33 feet) apart. Using these methods, the entire project area was systematically inspected for any evidence of human activities dating to the prehistoric or historic period (i.e., 50 years or older). Visibility of the native ground surface was poor (0 to 10 percent) in areas covered by dense vegetation but was good (70 percent) in much of the rest of the project area.

On April 23, 2020, CRM TECH performed a systematic reconnaissance-level resurvey of the project area to finalize the placement of test units and trenches for the Extended Phase I program as well as to visually inspect the ground surface of the project area for any evidence of human activities dating to the prehistoric or historic period. CRM TECH Field director Daniel Ballester conducted the resurvey on foot with archaeologists John Goodman, Michael Richards, and Hunter O'Donnell. Accompanying them were Native American Monitors Steven Brierty, Kyle Martinez, and Steven Pacheco - all representing the San Manuel Band of Mission Indians. Visibility was much the same as it was for the Phase I survey: poor (0 to 10 percent) in areas of dense vegetation and good (70 percent) in the rest of the project area.

When artifacts were encountered, they were marked with pin flags and then mapped onto a Trimble Yuma Tablet using ArcPad 10.2 software. None of the artifacts were collected during the October 2019 survey, but all surface artifacts found within the site boundaries in the April 2020 resurvey were collected and put in bags labeled with pertinent information. The bags were later taken to the lab for sorting, counting, and cataloguing. The information gathered from the resurvey was utilized in determining whether the Site boundary warranted redrawing as well as to determine the final placement of excavation units and trenches.

EXCAVATIONS

The research procedures for the Extended Phase I Investigation were designed in accordance with standard practices in the field of cultural resources management. The archaeological fieldwork was carried out between April 24 and May 5, 2020, under the direct supervision of CRM TECH field director Daniel Ballester and archaeologists John Goodman, Michael Richards, and Hunter O'Donnell. Accompanying them were Native American Monitors Steven Brierty, Kyle Martinez, and Steven Pacheco - all representing the San Manuel Band of Mission Indians.

Excavation Units

Eleven hand-dug Excavation Units were placed based within the project area, based on local geomorphology where the presence or absence of cultural materials could provide additional information on Site 36-000072. The purpose of excavation units is to recover data with precision

and with very minimal potential for destruction to the site. Excavation Units also provide important information regarding soil types, stratigraphy, and bioturbation. Excavation Units for this program measured 1x1 m and were excavated in 10-centimeter (cm) increments from a minimum depth of 10cm and a maximum depth of 120cm. Soil from these units was screened through a 1/8-inch hardwire mesh screen, and any cultural material recovered was bagged and labeled with appropriate provenience data. Sidewall profiles of the units were sketched showing both geological and archaeological stratigraphy.

Backhoe Trenches

Twelve Backhoe Trenches were placed within areas where it was anticipated that the project would disturb native subsurface soils. These trenches were excavated in 5m segments and measured between 20 to 25m in length by approximately 1m in width. Each trench was excavated in 50-cm levels to a minimum depth of 100cm.

Selected samples of the excavated soil were screened through a 1/2-inch and 1/8-inch hardwire mesh screens. The soil stratigraphy observed in the trench sidewalls was recorded in the field, and trench sidewall profiles were hand-drawn in the field to record geological and archaeological stratigraphy.

LABORATORY ANALYSIS

This section describes the procedures that were used to conduct the laboratory work and analyses of specimens recovered from 36-000072. Included in these discussions are various paradigms that focused this research and guided interpretations of the represented assemblages and their relative chronological and technological attributes. For instance, large dart points and well-made groundstone tools are hallmarks of Archaic assemblages (ca. 7,000 - 2,000 years before present [bp]), whereas small arrowheads, ceramics, and expediently-made groundstone tools are associated with Late Prehistoric assemblages (ca. 2,000 -400 bp).

All of the artifacts recovered during the fieldwork were taken to the CRM TECH laboratory for cleaning (as appropriate), sorting by artifact class, counting, and cataloguing. CRM TECH archaeologist John Goodman processed the artifacts using weighing scales, hand lenses, microscopes, calipers, and brushes with reference to various field guides, ethnographic accounts, special studies, theses, reports, and manuscripts to aid in the identification and interpretation of specimens. Goodman assembled the specimen database and artifact-class spreadsheets and conducted individual artifact analyses. Field notes, photographs, and associated materials pertaining to this study are on file at the CRM TECH office in Colton, California. Presented below are the various methods used in analysis of specimens of each artifact class.

Flaked Stone

The objectives of the flaked stone analysis were to determine the primary stone-tool technology or technologies (i.e., lithic reduction strategies) that were in operation at the site, identify the manufacturing stages performed as represented in the lithic assemblage, and classify the tools that were manufactured. The technological debitage analysis put forward by Flinniken (1981) was used as the foundation for this analysis, with an emphasis on replicative data. Artifacts obtained from the

surface and excavation units were catalogued by unit and level, and the specimens were separated into lithic material classes and types. Within each material type, each flake was examined for completeness; platform type (cortical, single-faceted, multifaceted, missing, crushed, or indeterminate); presence or absence of cortex (completely cortical, partially cortical, or noncortical); flake morphology (blocky, thin/flat, curved); as well as use, wear, or other edge modifications.

One objective of flaked-stone analysis is to determine the origin of toolstone found at a site and determine if the material was primarily of local origin or if it is from elsewhere. A high percentage of cortical flakes at a site suggests that early stage core preparation was taking place and, thus, that the material is from local sources. In contrast, a high percentage of early stage interior flakes and few if any cortical flakes at a site may indicate that cores were prepared at more distant locations before being brought to a site.

Core and flake technologies differ across time, with Archaic groups generally associated with a bifacial core technology directed at producing large dart points from prepared bifacial preforms, while Late Prehistoric Period groups are more associated with a technology using multidirectional and unidirectional cores used for generating large enough individual flakes to then make into small arrow points. Abundant waste flakes of a large size are associated with bifacial core thinning and bifacial preform production (the Archaic technology), whereas only flakes of sufficient size are required to make arrow points, so there are generally much fewer large-size waste flakes at Late Prehistoric sites throughout this region. Both groups produced expediently made core fragment and flake cutting tools.

Bifacial core and dart point technology requires masses of high-quality toolstone, which is often derived from distant sources, and many large biface thinning flakes are generated during the process of manufacturing a preform. In contrast, waste flakes associated with the manufacture of arrow points from large flakes rather than preforms are generally few in number and smaller in size. For an example, many of the late-period flaked-stone assemblages from sites in the Coachella Valley that were oriented toward the manufacture of small arrowheads typically have only a small number of percussion waste flakes derived from amorphous cores and numerous small pressure waste flakes. Because “arrowhead” technology only requires large flakes to manufacture the “arrowhead,” it is reasonable to assume that cores of high-grade material and large waste flakes left behind by Archaic groups were scavenged and secondarily reworked by later groups. In the process of making an arrowhead, after a large flake is generated from any type of core of sufficient size, the arrow point is usually made on the flattest part of a flake (midsection region) below the bulb of percussion and medially to the feathered distal termination of a flake. Thus, all of the flaked-stone pieces in the artifact assemblages were studied for markers of these different technologies.

Groundstone

Sites dating to the Late Archaic/Early Millingstone Period (ca. 8,500-4,000 B.P.) and Intermediate Period (ca. 4,000-2,000 B.P.) typically have groundstone tools that are well-made and highly polished, and the material used for tools such as manos and metates were typically fashioned from very consolidated igneous and metamorphic rock such as quartzites and fine-grained granitics (including diorite, granite, and gabbro). Deep-basin metates with shaped lateral edges are common, so are classic “soap-bar shaped” manos. These implements were likely fashioned from highly

consolidated rock that was then shaped and polished in an effort to reduce grit in the diet when using these tools; high levels of grit in the diet contributed significantly to tooth-cusp attrition and tooth decay. The archaeological record presents a narrative that Archaic peoples had more stringent requirements for groundstone tool source material and appearance compared to later groups.

During the Late Prehistoric (A.D. 500-1540) and historic period, Native Americans in the region tended to fashion more expedient groundstone tools compared to earlier peoples. Metates were made from a variety of different, readily available local rock. They were only minimally shaped for the most part, and it seems that nearly any tabular rock could serve as a metate. Manos were frequently fashioned from already rounded stream cobbles or small tabular rocks.

In former decades "milling implements" were viewed by archaeologists primarily as "plant-processing tools" used for crushing nuts, seeds, and other plant materials. In more recent times, especially after milling implements were found to frequently have animal protein residues (Yohe et al. 1991), these implements are viewed as multipurpose tools used for not only grinding seeds and nuts, but also for pulverizing whole animals and a variety of other grinding and pulverizing tasks. It may be that metates should be viewed more as "cutting boards" or "preparation platforms" rather than simply "milling implements." Understanding the technological, as well as the scientific evolution and development of groundstone tools helps to guide archaeologists in their interpretation of such artifacts.

Separate classes of groundstone artifacts (such as manos, metates, and pestles) were analyzed by their physical characteristics, including size, material type, overall morphology, and the portion of the artifact that was recovered. Each specimen was then inspected for attributes such as evidence of manufacture, use wear (or degree of surface polish), and weathering. Other characteristics examined included the overall shape and/or degree of tool shaping, the presence or absence of "re-sharpening" peck marks, evidence of burning, and a determination if any residues were present on their working surfaces. By analyzing and comparing these physical properties, determinations the source material, how the artifacts were used, how long they were used, and the activity for which they were used can be proposed. By extension, it is possible to postulate the types of floral and faunal resources that were being exploited at a given site.

Faunal Material

Methods of vertebrate faunal remains analysis have been the subject of lengthy debates (Grayson 1981, 1984; Marshall and Pilgram 1993). The two most common quantification methods used today are minimum number of individuals (MNI) and number of identified specimens (NISP), each of which has advantages and limitations. All NISP and MNI calculations are only ideal, never an exact measure of skeletal abundance, and both vary in the identification of body parts at varying levels of fragmentation. In general, NISP produces a more reliable count of skeletal abundance because it is less sensitive than MNI to levels of fragmentation and differences between body parts (Marshall and Pilgram 1993). Moreover, "indeterminate" is a defined category under NISP. Because the faunal remains discussed in this report contain a relatively high percentage of fragmented bone and a pronounced lack of articulate ends, the present study employed NISP rather than MNI values for species counts.

Animal bones accumulate in the ground at archaeological sites as a result of both human activity and natural processes. Typically, most cultural deposits of faunal remains fall into one of three major categories: village or home base refuse, including that associated with small temporary camps; kill or processing site residue; and intentional burial (Reitz and Wing 1999:113). Several attributes can assist distinguishing these types of deposits, such as characteristics of the faunal assemblage and associated contexts. Cultural bone will often exhibit taphonomic characteristics (such as burning or charring, butchery marks, and breakage patterns) and a high percentage of intentionally crushed bone (Lyman 1994:217-218). In addition, bone fragments found in association with other cultural materials or features are usually considered to be cultural; often, intentionally crushed bone fragments acquire a dark hue from exposure to midden soils and charcoal staining. Most of these tiny bone fragments are considered to be the dregs of broths and stews. When the bone fragments were tossed out they may have been so depleted in fats and oils that scavengers were not much interested in this discarded bone. Conversely, intrusive bone from carnivore scat, raptor pellets, or burrow deaths is usually found with intact elements or partially intact elements, and the bone usually has a "fresh white" appearance.

The objective of most zooarchaeological studies is to attempt to gain some insight regarding the interactions between animals and people in the past, and how these interactions affected people and their environment. One of the most fundamental uses of animals is for nutrition. Nutritional use of plants and animals is the foundation of subsistence and, ultimately, of economic and other cultural institutions (Reitz and Wing 1999:7). Animals, however, can also be a source of important "secondary products" such as clothing, tools, and ornaments. Additionally, the study of faunal remains can provide important information regarding past diets and dietary emphasis, hunting and butchery practices, cooking methods, animal husbandry, seasonality, past environments, social status, and possibly ceremonial activities. The presence or absence of certain species, especially small mammals, can serve as good proxies for inferring past environments at a given site and the season(s) during which it was used.

All bone specimens were brushed clean, sorted into categories, and then counted and weighed per category. Each specimen was examined for taxonomically diagnostic characteristics and marks of alteration due to burning, gnawing by rodents or carnivores, mineralization, butchering cut marks, and other modifications. Taxonomic identification was accomplished by matching elements with specimens in Goodman's comparative collections.

Taxonomic classifications were based on external morphological attributes (gross characteristics) of identifiable specimens. In all cases, specimens were identified to the lowest taxonomic category possible. Indeterminate bone fragments were placed into one of three primary categories on the basis of diaphysial (bone-shaft) thickness, curvature, and/or other characteristics. General size categories were used to provide an elementary level of identification for enigmatic mammalian fragments. In general, "small mammal" refers to animals the size of rabbits or squirrels; "medium" to those the size of coyotes, bobcats, or domesticated sheep; and "large" to animals the size of deer or bighorn sheep. Other recorded characteristics included element side (left, right, or axial) and completeness.

RESULTS AND FINDINGS

RECORDS SEARCH

Previous Cultural Resources Studies in the Project Vicinity

According to SCCIC records, a number of previously completed cultural resources studies involved various portions of the current project area, but none of them covered the entire project area systematically (Figure 5). SCCIC records further indicate that two cultural resources have been recorded within the project boundaries prior to this study. Site 36-007154 was recorded in 1992 as a historic-period site composed of two concentrations of cans, tins, glass bottles and shards, ceramic pieces, and household and automotive debris.

Site 36-000072 (CA-SBR-72), also known as the Footprint Site, was originally recorded in 1949 as a scatter of prehistoric artifacts representing workshop refuse. Site 36-000072 likely represents the remains of a recurring Native American camp site that may date back more than 6,000 years and was part of a regional complex of camp sites and villages. It was determined to be eligible for listing in the National Register of Historic Places in 1979.* A number of significant archaeological discoveries have been made at that site, including what were the oldest human footprints found in North America at the time of their discovery. Three pending sites (P1584-14, P1584-15, and P1584-16) have been recorded in association with site 36-000072, and those pending sites were eventually rerecorded as Sites 36-032890, 36-032891, and 36-032892. But none of these sites is located within the project area. Site 36-00072 will be discussed in further detail below.

Outside the project area but within a one-mile radius, SCCIC records show at least 30 other previous cultural resources studies covering various tracts of land and linear features (Figure 5). In all, approximately a third of the land within the scope of the records search has been studied for cultural resources, which resulted in the identification of 43 historical/archaeological sites and five Isolates (a locality with fewer than 3 artifacts) within the one-mile radius (Figure 5).

Twelve of these sites and four of the isolates were of prehistoric (i.e., Native American) origin. They consist of lithic scatters, camp sites, and isolated lithics. The historic-period sites and isolates consist of a well, the National Old Trails Highway, the Mormon Trail, railroad, fence lines, concrete foundations, refuse and debris scatters, former George Air Force Base and one of its hangar complexes, a transmission line and its right-of-way, and the New Dale Mining Town. None of these sites or isolates was found in the immediate vicinity of the project area, and thus none of them requires further consideration during this study.

Past Archaeological Investigations at Site 36-000072

Site 36-000072 was originally recorded in 1949 as a lithic scatter featuring a chopper and a medium-sized scraper. It was considered at the time to be the possible location of a quartzite quarry or workshop. In 1963, additional artifacts were found at the site, including pottery sherds, fire-affected rocks, and a large, well-preserved, dual-sided metate. It was at that time that 36-000072 was first reported as possibly "a small village site." An archaeological excavation in 1976-1977 encountered,

* For further information on previous findings at Site 36-000072, see Appendix 3 unless otherwise cited.

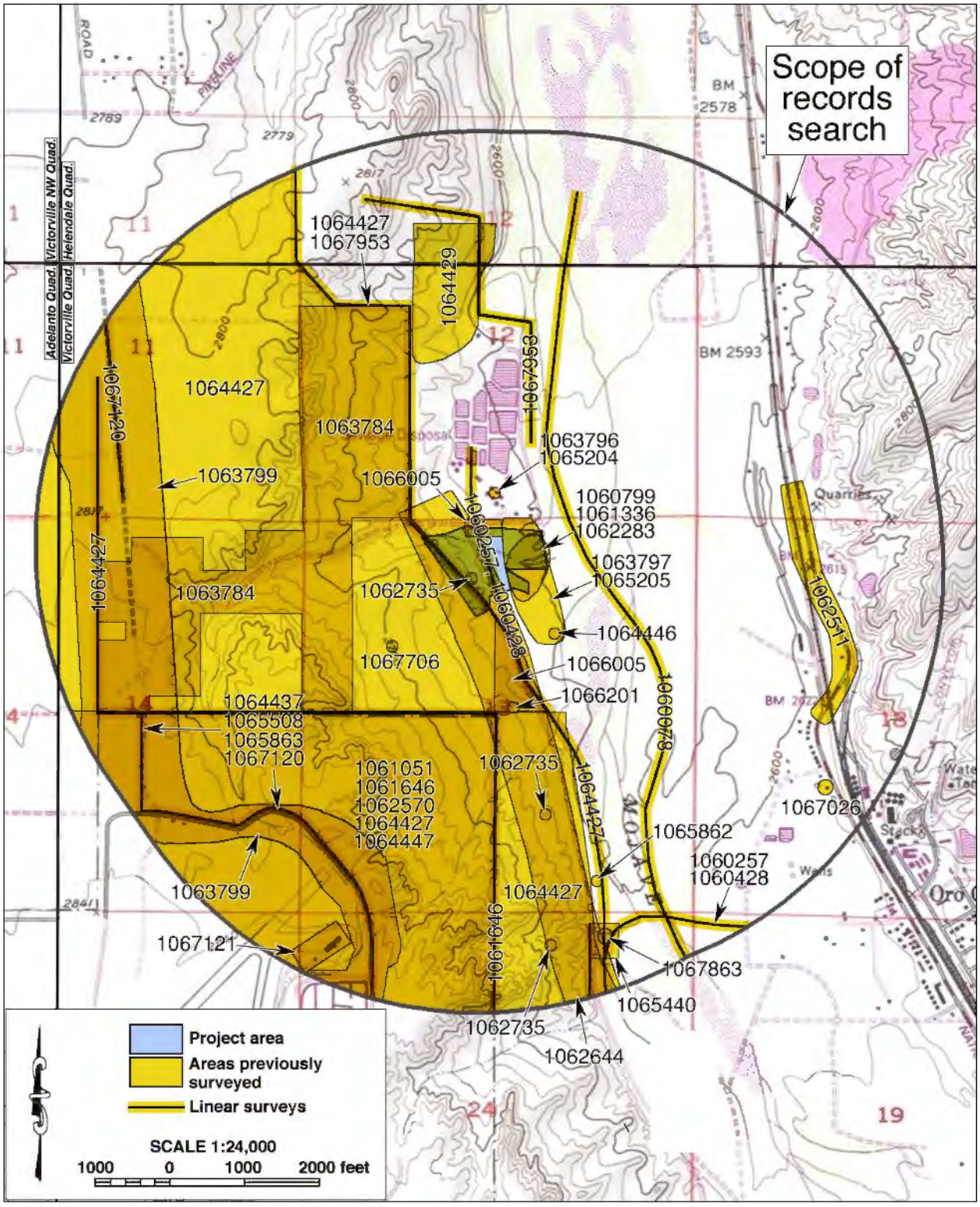

Figure 5. Previous cultural resources studies in the vicinity of the project area, listed by SCCIC file number. Locations of historical/archaeological resources are not shown as a protective measure.

at depths of 18 inches and below, probable house pits, stone points, manos, metate fragments, mortar fragments, decorative objects, pottery sherds, faunal remains (some of them burned), lithic debitage, and intrusive lithic material.

In 1978, the Archaeological Research Unit of the University of California, Riverside (ARU), pursued intensive excavations on a portion of Site 36-000072 and discovered 54 footprints left in hardened silty clay by least two human adults and two children. The footprints were found between 70 and 110 cm below the ground surface in the 4x16-m area exposed by the excavations (Wilke 1979a; Rector et al. 1983). In addition, more than 6,000 artifacts and a flex burial of a child were also found during that study (Rector et al. 1983). The footprints were recorded, the burial was removed, and the site was backfilled for protection and preservation. The 1978 ARU study, which covered some 10 percent of the area of 36-000072 as known at that time, concluded that the site was seasonally occupied and recovered artifacts that dated from 900 to 1300 A.D. and from 3700 to 4190 B.C. (Rector et al. 1983). The footprints were determined to be even older (*ibid.*; McKenna 2005). The ARU divided the site into three "areas," with Area 3 containing the burial and Area 2 containing the human footprints and accompanying animal tracks. Area 1 yielded fewer artifacts and features than the other areas and was thought to have been a peripheral part of the village (*ibid.*).

As a result of the ARU excavations, VVWRA offered to deed two acres of land containing most of Areas 2 and 3 to the San Bernardino County Museum for the purpose of mitigation. The museum subsequently nominated the site to the National Register of Historic Places in 1979 (Wilke 1979a) and planned to seek a grant to remove and display the footprints and use the site for continuing research, although there is no evidence that these plans have materialized since then.

In 2000, the firm of McKenna et al. performed an archaeological monitoring program on a portion of Site 36-000072 that extended partially into the current project area. During onsite monitoring, three rock-lined ovens, a hearth, a yellow chert single-edged scraper, a complete metate, and a ground stone fragment were discovered. As a result, McKenna et al. expanded the site boundaries and concluded that "the entire area now occupied by California Bio Mass, Inc. [CBMI, former owner of the property] project area should be considered highly sensitive for such resources" (McKenna 2000:13).

In 2005, after a portion of Site 36-000072 was disturbed when CBMI built a dirt road and moved a fence line, McKenna et al. performed surface collections of artifacts and mitigative excavations at that location (McKenna 2005). The disturbances revealed additional cultural remains, including carbon stains and artifacts, within Area 1 of the site and partially in the current project area. At the end of the 2005 study, McKenna et al. determined that that portion of 36-000072 remained mostly intact in a buried context, and recommended that CBMI limit its activity to the surface in order to avoid further impacts to the site, which was thought to extend beneath the remainder of the facility (*ibid.*).

In February 2017, CRM TECH completed a Phase I cultural resources study for the American Organics Victor Valley Regional Composting Facility Modification Project (Tang et al. 2017:10, 15), which overlapped much of the southern half of Site 36-000072. During the archaeological fieldwork for the 2017 study, only a few isolated lithic artifacts were found in heavily disturbed context on the ground surface, but it could not be determined whether any intact cultural remains

associated with 36-000072 might survive in subsurface deposits within the project area (*ibid*.:13-14). Therefore, the 2017 study recommended archaeological test excavations at the portion of 36-000072 in the project area.

In December 2018, CRM TECH completed an exploratory archaeological testing program on the portion of Site 36-000072 (CA-SBR-72) and nearby areas that were to be impacted by the American Organics Victor Valley Regional Composting Facility Modification Project (Tang 2018). During the testing program 12 backhoe trenches were excavated and no subsurface artifacts or features were encountered (*ibid*.). That testing program, and subsequent monitoring during the construction phase (Ballester 2020) demonstrated that the surface and near-surface soils in the that portion of the site within the existing facility had been extensively disturbed to the depth of as much as 120cm in some places. The archaeological testing and monitoring also determined that the portion of the site in this area (corresponding somewhat to the ARU's Area 1) did not have an extensive, dense cultural resource deposit.

HISTORICAL RESEARCH

In contrast to its demonstrated sensitivity for prehistoric archaeological remains, the project area appears to be relatively low in sensitivity for cultural resources from the historic period. Historic maps consulted for this study indicate no man-made features of any kind in or near the project area during the 1850s (Figure 6). In the 1920s-1950s, the only notable man-made features present in or near the project area were a few winding dirt roads, including the forerunner of present-day Shay Road (Figures 7, 8). Aerial photographs from the 1950s-1960s further reveal that a portion of the project area was used as agricultural fields at the time, while the rest of the property, mainly at the northern end, remained undisturbed desert land (NETR Online 1952; 1968).

By 1994, the agricultural operations in and around the project area had been abandoned (NETR Online 1994; Google Earth 1994). In the early years of the current century, California Bio-Mass, Inc., established the existing composting facility adjacent to the property (McKenna 2000; NETR Online 2005; Google Earth 2005). Since then, no significant changes have occurred in the land use pattern within or adjacent to the project boundaries (NETR Online 2005-2012; Google Earth 2005-2016).

NATIVE AMERICAN PARTICIPATION

In response to CRM TECH's inquiry, the Native American Heritage Commission reported that the sacred lands record search identified Native American cultural resources in the project area and recommended that the Chemehuevi Indian Tribe and San Manuel Band of Mission Indians (as well as other local Native American groups) be contacted for further information. For that purpose, the commission provided a list of potential contacts in the region (see Appendix 2).

Upon receiving the commission's reply, CRM TECH contacted the Chemehuevi Indian Tribe and the San Manuel Band of Mission Indians regarding the positive NAHC sacred lands file response and to ask if the tribes could provide additional information regarding the cultural resources that may be located within the project area.

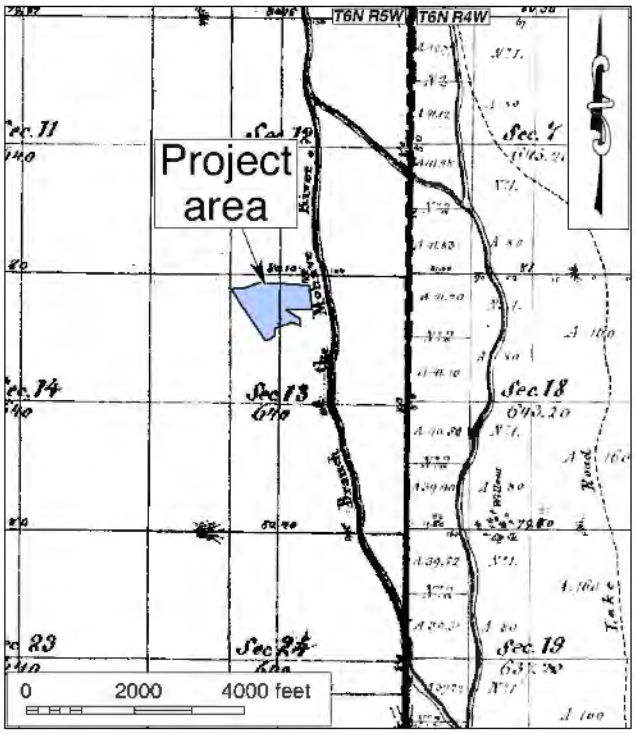

Figure 6. The project area and vicinity in 1853-1855. (Source: GLO 1855a; 1855b)

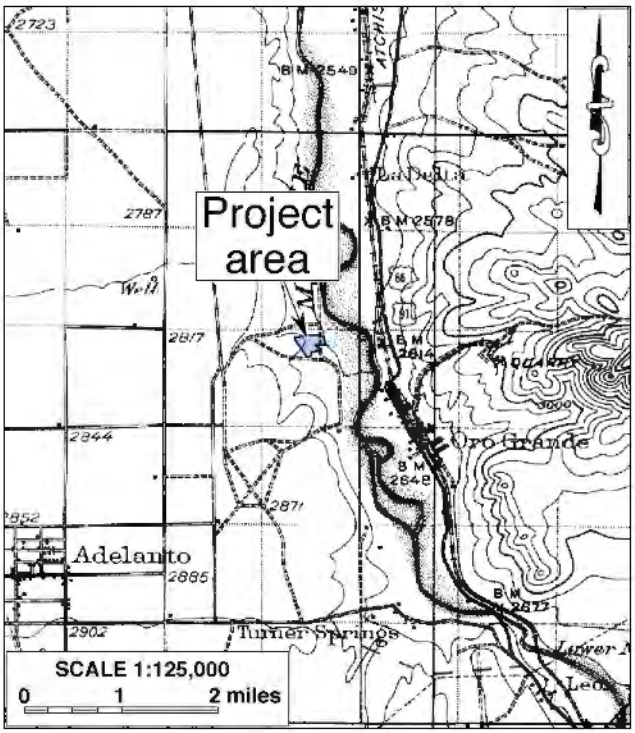

Figure 7. The project area and vicinity in 1920-1932. (Source: USGS 1934)

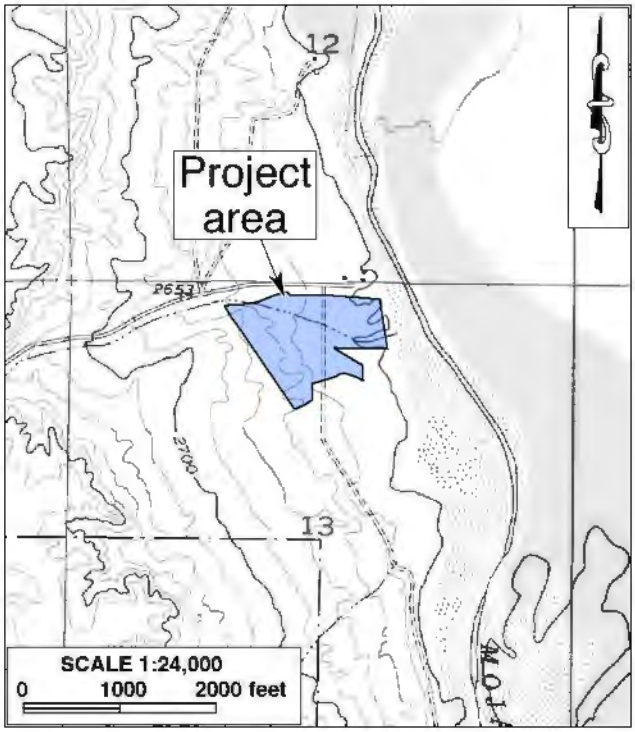

Figure 8. The project area and vicinity in 1952-1956. (Source: USGS 1956)

Additionally, CRM TECH sent written requests for consultation representatives of four other nearby tribes of Serrano and/or Chemehuevi heritage in the surrounding region (see Appendix 2). In all, six tribal representatives with the five tribes were contacted in writing, as listed below:

- Matthew Leivas, Director of Chemehuevi Cultural Center, Chemehuevi Indian Reservation;
- Travis Armstrong, Tribal Historic Preservation Officer, Morongo Band of Mission Indians;
- Donna Yocum, Chairperson, San Fernando Band of Mission Indians;
- Jessica Mauck, Director of Cultural Resources Management, San Manuel Band of Mission Indians;
- Mark Cochrane, Co-Chairperson, Serrano Nation of Mission Indians;
- Wayne Walker, Co-Chairperson, Serrano Nation of Mission Indians

As of this time, three of the tribal representatives have responded to the requests for comments (see Appendix 2). Mr. Armstrong stated that the tribe had no additional comments to provide to CRM TECH at this time but may provide other information to the lead agency during the AB-52 consultation.

Alexandra McCleary, Tribal Archaeologist for the San Manuel Band of Mission Indians, wrote that the Band is concerned about the sensitivity of the layer of Site 36-000072 (CA-SBR-72) between the depths of 10 to 40 cm. At Site 36-000072, a late prehistoric midden was recorded, which "should not be underestimated", according to McCleary, because a burial has been recorded at Site 36-000072 in that context.

Bridget Sandate, Cultural Director for the Chemehuevi Indian Tribe, reported that the tribe has no specific comments for the proposed project but requested that if cultural resources are uncovered during construction, the tribe requests that all work cease, and the tribe is contacted immediately, as well as other neighboring tribes. Additionally, the tribe requests and hopes that the County of San Bernardino will continue to provide permanent protection for Site CA-SBR-72 and that it will remain undisturbed by any development.

FIELD SURVEY

During the October 2019 Phase I Historical/Archaeological Resources field survey, it was confirmed that the roads features currently extant in the project area are modern in origin and appearance, none of them predating those visible in 1994 aerial imagery (NETR Online 1994; Google Earth 1994). As stated above, most of the ground surface of the project area was found to be previously disturbed. To the west of Shay Road, the ground surface was covered by piles of imported soil. East of Shay Road, a large portion of the northern half of the project area had been leveled and cleared of vegetation. The remainder of the property displayed mostly natural landscape features and vegetation, but along the perimeter of that area and where the ground surface was less obscured, there was clear evidence of past disturbances.

During the October 2019 survey, a small number of prehistoric lithic artifacts were observed on the ground surface along the perimeter of the project area, including three manos or mano fragments, some lithic flakes, and possible fire-affected rocks. However, all of these artifacts were found in heavily disturbed surface soils, retaining little to no depositional context. All of these artifacts were discovered in the section that the ARU designated Area 3. They were recorded and photographed, and their locations were plotted on a Trimble Yuma Tablet with ArcPad 10.2 software.

During the April 2020 resurvey of the project area as part of the current study (see above), several additional surface artifacts that were not located during the original survey of the property were encountered and recorded. They consisted of numerous flakes, manos and mano fragments, metates and metate fragments, and a chalcedony core shatter. All but one of the artifacts originally recorded during the October 2019 survey were relocated, and the location of the remaining artifact was found to be covered by recent growth of dense low-lying grasses. The locations of each of these surface artifacts were recorded using a Trimble Yuma Tablet with ArcPad 10.2 software. Artifacts are discussed in further detail below. As during the 2019 survey of the area, no evidence of Site 36-007154 was encountered during the April 2020 survey.

TESTING EXCAVATION

As mentioned above, 11 Test Units and 12 Backhoe Trenches were excavated within the project area (Figure 9).

Excavation Units

All of the units were excavated within the boundaries of Site 36-000072. Each measured 1x1m and was excavated in 10cm levels to a minimum depth of 10cm and a maximum 120cm. Units 1 to 9 were excavated within the portion of the site that ARU designated Area 3, where the burial of a child was discovered in 1978. Units 10 and 11 were excavated west of Area 2, where the human footprints were discovered in 1978. Unit 10 was only excavated to 10cm due to the discovery of human remains.

Unit 1: This unit was placed west of where ARU placed a 4x4m unit. The unit is the northern most one placed in the site, within Area 3, on a small terrace above the drainage feature in the project area. Unit 1 was excavated to a depth of 120 cm. A total of 4 artifacts were collected within the unit. The artifacts consisted of 3 lithic flakes, and a groundstone fragment. The artifacts were mostly found at depths between 0 to 20cm. The soils in the unit were mostly a semi-compacted, well-sorted alluvial sand with gravel and a well-sorted sandy alluvium.

Unit 2: This unit was placed on the same terrace as Unit 1 and was excavated to a depth of 100 cm. A total of 4 artifacts were collected from this unit, 3 lithic flakes and one fire-affected rock (FAR). The artifacts came out of the first 20cm of the unit. The soil in this unit matched that of Unit 1.

Unit 3: This unit was excavated to a depth of 110 cm. A total of 17 artifacts were collected from this unit, 13 faunal remains, 6 FAR, and a single lithic flake. Most of the artifacts came out of the 20cm of the unit with the exception of the lithic flake, which was found between 90 and 100cm level. The soil in this unit consisted of a sandy silt layer at top that graded into a semi-compacted, well-sorted sand which transitioned to a loose sandy gravel at the bottom of the unit.

Unit 4: The unit was placed on the western edge of Area 3 and excavated to a depth of 100 cm. No artifacts were found in this unit. The soil within this unit consisted of a moist fine-grained silty, clayey sand. Rodent burrows were observed in the profile.

Unit 5: This unit was placed within the proposed basin area within Area 3 and excavated to a depth of 100cm. A lithic flake was recovered in the 10-20cm level, and a fair amount of faunal material was collected within the first 50cm. The soil consisted of a fine- to coarse-grained silty sand that was moderately compacted.

Unit 6: This unit was placed where project plans show a proposed basin, within Area 3, and was excavated to a depth of 100 cm. Artifacts were collected in the first 70cm, and included 13 lithic flakes, a core tool, a retouched basalt flake tool, a groundstone fragment, and approximately 35 faunal remains specimens. A complete Olivella shell was recovered between 50 and 60cm. Charcoal pieces were collected from several levels but were not part of any feature.

Unit 7: This unit was also placed where project plans show a proposed basin, within Area 3, and was excavated to a depth of 100 cm. Artifacts were collected to a depth of 80-90cm. A total of 18 lithic flakes, a projectile point tip, 2 groundstone fragments, a complete unifacial mano, and approximately 15 faunal remains specimens were recovered from this unit. A single .22 caliber bullet was also found in the 0-10cm level. Charcoal was collected from several levels but did not appear to be associated with any cultural feature. Unit 7 was placed within the proposed basin area within Area 3.

Unit 8: This unit was also placed where project plans show a proposed basin, within Area 3, and was excavated to a depth of 100 cm. Somewhat compacted and stained soil, possibly the remnants of a fire hearth (and thus designated Feature 1), was encountered in the first 10cm of the unit, but no such feature was subsequently encountered. Light charcoal flecking was noted throughout the upper layers of this unit, indicating that it may have been the result of a natural fire. Artifacts were collected to a depth of 60-70cm. A total of 29 lithic flakes, 2 groundstone fragments, two shell fragments, 7 FAR, and approximately 300 faunal remains (including burnt faunal remains) were recovered from this unit.

Unit 9: This unit was placed on the edge of a terrace within Area 3, southwest of Trench 6, and was excavated to a depth of 100cm. The unit was placed over a small scatter of surface artifacts. Artifacts were encountered to a depth of 60-70cm. A total of 5 lithic flakes, 7 FAR, and approximately 64 faunal remains were recovered. Charcoal was collected sporadically from this unit but did not appear to be part of any feature.

Unit 10: Only the western half of this unit was excavated and only to a depth of less than 10cm. Excavation was terminated when a human bone was encountered in the upper layers of the first level. The human remains are discussed in further detail below.

Unit 11: This unit was placed on the western edge of ARU's Area 2 and was excavated to a depth of 70cm, at which point soil moisture became too intense to reliably excavate further. The northwest corner of the unit was excavated to a depth of 100cm to probe soil conditions at that depth. The soil within this unit consisted of a fine-grained silty clayey sand with considerable moisture. No artifacts were found in this unit.

Backhoe Trenches

All 12 trenches were excavated in 5m segments to a total length of between 20 to 25m by approximately 1m wide. Each trench was excavated in 50cm levels to a minimum depth of 100cm.

Trench 1: This trench was oriented east-west and excavated 20m in length to a depth of 150 cm, in ARU's Area 2, just west of where they encountered human footprints, with the goal of finding the silt and clay layer in which the footprints were originally found. No evidence of that layer was encountered. The location of this trench coincided with a possible mano that was encountered on the surface.

Trenches 2-5: These trenches were excavated west of Site 36-000072, east of Shay Road to a depth of 150cm. All of these trenches were 20m long, with the exception of Trench 2 at 25m. No artifacts were encountered in any of them. Soils in these trenches consisted of a semi-compacted silty sand with small gravel in the immediate subsurface and a semi-compacted, coarse-grained sand with gravel at depth.

Trenches 6-10: These trenches were all excavated within Area 3 of Site 36-000072. Trenches 6, 8, and 9 were excavated at the locations of 4x4 meter units that were done by ARU in 1979. Remains of those units were observed in the trenches in the form of modern refuse and string ARU had used to mark the units. Trench 8 was 25m long and excavated to a depth of 190cm at the southern end and 350cm in the northern end. Trench 9 was 20m long and was excavated to a depth of 200cm at both ends. Trenches 6, 7, and 10 were 20m long and were all excavated to a depth of 150 cm. The only artifacts found in these trenches were FAR in Trench 8.

Trench 11: This trench was 20m long, excavated oriented northwest-southeast, west of Area 2, north of the large drainage that runs east-west across the site to a depth of 150cm. The only thing recovered from this trench was a charcoal sample from a 100cm. No artifacts.

Trench 12: This trench was 20m long, excavated west of Shay Road, outside the boundaries of Site 36-00072, near the southern base of the large stockpile of soil, to a depth of 150 cm. The soils in this trench were mostly made up of a semi-compacted silty sand and loose sandy silt with clay. No artifacts were encountered.

LABORATORY ANALYSES

The following sections present the results of laboratory analysis of the artifacts recovered from Site 33-000072. The analyses of the flaked-stone and groundstone artifacts provide data on the activities that transpired at the site as well as its general chronology. The faunal material provides insight into the hunting patterns and diet of the site occupants. Special items such as a shell bead and an incised graphite piece add richness and complexity to the assemblage.

Due to a very mixed deposit in the unstable dune sand, with about equal numbers of artifacts recovered from about 0-40cm (the ARU "Midden Zone"), there is minimal utility in providing much provenience data for individual artifacts. As evidenced by the distribution of hearth-related components found in Unit 8, with FAR and faunal remains scattered in the 10-40cm range, though concentrated around the base of the hearth found at 0-10cm, the midden zone is likely the result of this dune deflation process. With the exception of the hearth, no verifiable features or defined living surfaces were found in any of the units or trenches. Bioturbidity of the dune sand and sand movement from dune deflation have undoubtedly destroyed any subtle cultural features, such as living surfaces, and mixed artifacts deposited at different times. Additionally, the ARU excavated extensively in this area, encountering numerous hearths, and thus impacted the subsurface features they encountered. Therefore, the artifact tables in the following sections, with a focus on rock material type, generally lack provenience information. Due to space constraints, the sizes of small broken flakes and core shatter pieces are not provided, nor are specimen identification numbers. All specimens were measured and are thoroughly described in the artifact catalogue (Appendix 3).

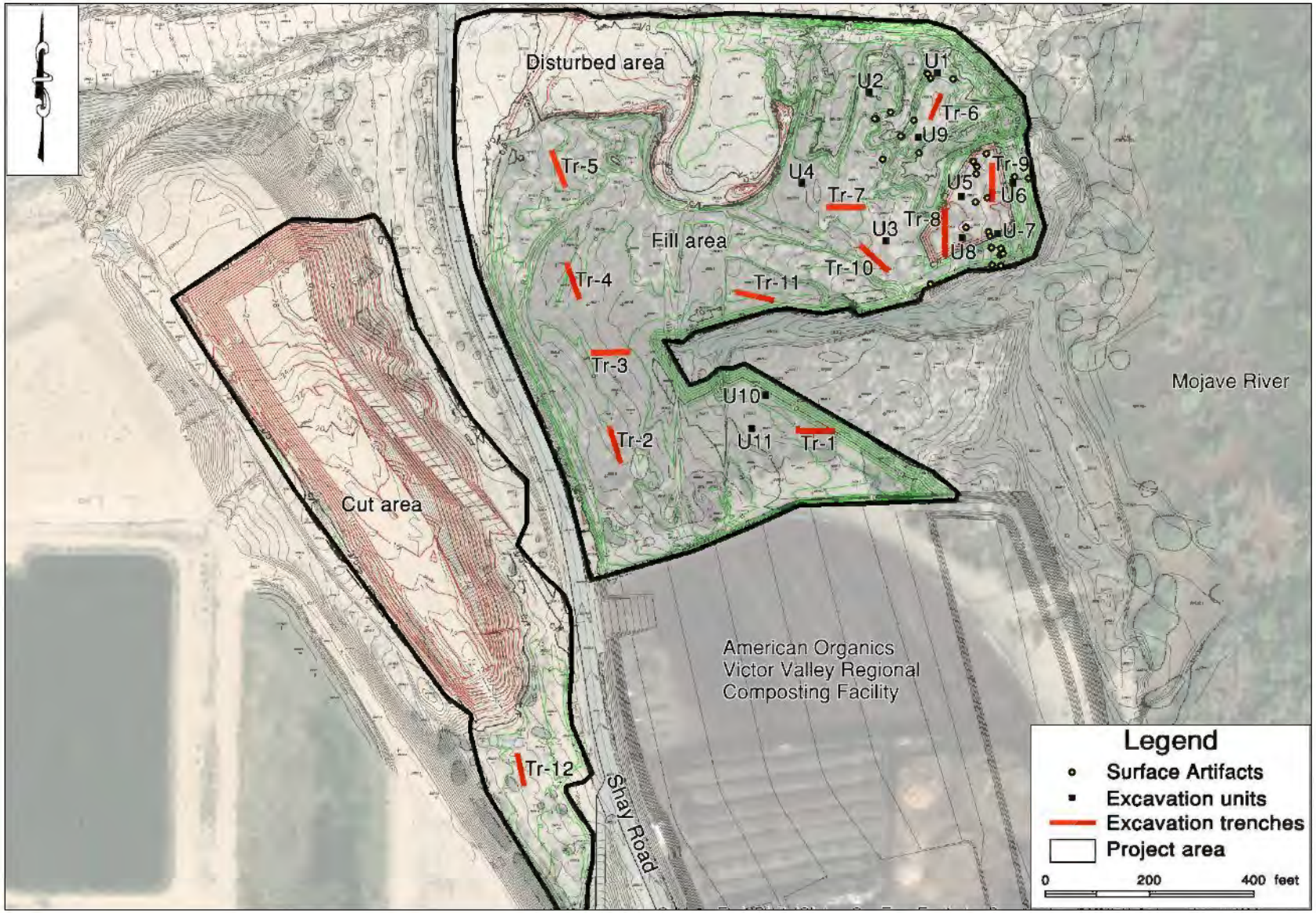

Figure 9. Extended Phase I excavation locations, distributed across the American Organics expansion area as proposed at that time.

Flaked Stone

The flaked-stone assemblage can be broken into sub-types: waste flakes, cores, "core tools," and formed tools. Waste flakes can provide information on the types of lithic reduction techniques that were used. The flakes and cores at this site are generally made from high-grade material such as chert and chalcedony and appear to have been repeatedly reworked into small pieces. The small and cubical *exhausted* cores became too small to detach any useful flakes. Some of the flake fragments and core pieces had been fashioned into expedient cutting or scraping tools ("core tools"). One metate fragment had even been flaked into an expedient cutting tool.

When older lithics (such as flakes, cores, and groundstone pieces) have been reworked by later occupants of a site, it can be difficult for archaeologists to determine all of the various lithic technologies that were in operation at that site. As mentioned above, Archaic lithic reduction and tool manufacture was centered around a bifacial core technology where large pieces of high-grade toolstone such as obsidian, chert, or chalcedony were shaped into bifacial cores (flakes removed from both sides of a rock). These cores were then carried in toolkits for the purpose of generating sharp flakes to cut things, large flakes were made into small tools such as burins and knives, and the remaining bifacial core was typically fashioned into a dart preform.

The fine toolstone (obsidian, chert, and chalcedony) at this site is probably associated with the Archaic component, and the lack of large flakes or cores is probably due to later groups reusing the older lithics and tertiary flakes at the site. Throughout this region during the Late Prehistoric most groups primarily relied on local rock sources such as basalt, rhyolite, quartzite, quartz, jasper, and sometimes chert.

Due to the fragmentary nature of the flaked-stone assemblage it was not possible to classify flakes according to their respective types. The same was true for core fragments. Only a single complete specimen of a (chert) bifacial core was recovered. Most of the core fragments found here are tiny and cubical in shape; they are classic *exhausted* cores that became too small to hold onto and strike off flakes. Few primary cortical flake fragments were recovered, indicating that primary reduction of cores was likely not conducted to any significant degree at the site. Of the toolstone types encountered, quartzite is the only material that was readily available locally. Several quartzite flakes were derived from small, rounded rocks. Most of the flakes and core shatter are from imported, high-grade material; the obsidian, chert, and chalcedony come from distant sources and would not have been abundant locally.

Fine toolstone from distant sources is a primary attribute of Archaic lithic assemblages. Archaic people either obtained rock from very distant sources on their seasonal rounds or they obtained fine toolstone in trading networks. The only complete flakes recovered during this program are 21 small pressure flakes possibly derived from the manufacture of dart points. The rock types used include obsidian, chert of at least six types, and chalcedony of several types. The chert pressure flakes are from red, white, red-and-white, and red-and-black chert. The pressure flakes have an average length of about 1cm. Dart points have an average medial width of about 2cm, most pressure thinning flakes travel to about the center of a biface/dart; therefore, it is likely that these flakes came from late-stage dart point manufacture. Pressure flakes from the shaping of smaller arrowheads are typically about half this size. Except for reuse of older material, Late Prehistoric lithic technology was not detected.

The flaked-stone assemblage from 33-00072 recovered during this program consists of a total of 87 artifacts (Tables 1; 2). Data on individual flakes, core shatter, and most core pieces are confined to the associated tables. Figure 10 shows the morphology of typical core fragments from the assemblage, showing their cubical shape. Ten core fragments or "shatter" of this type were recovered. The only identifiable core was the lateral end of a brown chert biface. A number of flakes of this same material were also found, including some small pressure flakes.

Table 1. Summary of Flaked Lithic Artifacts Recovered from 33-00072

Artifact Type	Count	Comment
Waste flakes	34	Most are small and broken; good toolstone
Pressure flakes	21	Good toolstone; perhaps from dart point rejuvenation
Modified flakes	6	With unifacial or bifacial retouch, use wear
Core shatter, pieces	21	Mostly small and blocky spent core pieces
Core tools	1	Cutting tool on core or flake piece
Flaked groundstone	1	Bifacial edge on rhyolite metate fragment
Flaked Pestle	1	End of pestle with removed flakes
Projectile points	2	Cottonwood Series point and one tip
Grand total = 87		

Table 2. Summary of Core Pieces, Flakes, and Tools by Material Type

Material	Flake Type	Count	Comment
Obsidian	Pressure flakes	2	Derived from small bifaces/darts
Chalcedony	Secondary flakes	5	All small in size or broken
	Pressure flakes	6	Derived from small bifaces/darts
	Core shatter	3	Angular and blocky shape
	Modified flakes	1	With unifacial edge modification
		Total = 15	
Chert	Core Fragments	1	Lateral end of brown chert bifacial core
	Core shatter	12	All small, blocky, and angular
	Secondary flakes	9	Small and/or broken flakes
	Pressure flakes	13	From four different chert bifaces/darts
	Modified flakes	1	Bifacial edge on small brown chert flake
	Projectile point tips	1	Large point tip (dart) of white chert
	Projectile Points	1	Cottonwood Series
		Total = 38	
Jasper	Secondary flakes	6	Small and/or broken flakes
	Used secondary flake	1	Use wear on red jasper flake (polish)
Quartzite	Core shatter	4	Small, blocky, and angular
	Core tools	1	Bifacial cutting tool from core piece
	Primary flakes	1	From small rounded rock
	Secondary flakes	8	Small and broken pieces
	Bipolar flakes	1	Small interior flake from rounded rock
	Modified flakes	2	Unifacial edge modification
		Total = 17	
Basalt	Secondary flakes	6	Small and broken pieces
	Modified flakes	2	Both with edge modification
		Grand Total = 87	

Figure 10. Exhausted chert core fragments

Nine specimens exhibit secondary modifications for the purpose of fashioning expedient cutting tools. Six small, modified flakes (Table 2) and four larger specimens (Figure 11) were retrieved. In the past these type of tools were typically classified as "scrapers," although today most archaeologists classify them as simple cutting tools, where flakes were removed from one or both sides of an edge to sharpen or regulate the cutting edge. The largest specimen of this type (-018; measuring 92x57x22mm) is a rhyolite metate fragment recovered from the surface in Area 3. This specimen is highly fractured from having been also used as a hearthstone. One edge of this (unifacial) piece exhibits a series of six percussion flakes removed. Specimen -046 was retrieved from the surface of Unit 6. This specimen, a bifacial cutting tool, was fashioned from a high-quality basalt flake that has few white phenocrysts. The (71x32x19mm) primary/cortical flake was derived from a split river coble; the outer surface of the thin flake is cortical and rounded from transport. Under microscopic observation a series of from 25-30 tiny pressure flakes were removed from both sides of the edge. The cutting edge is dulled and shiny perhaps from having been used to cut plants with high silica content such as cattail (*Typha* spp.). These flake characteristics are only visible under microscopic observation. The rhizomes (underground stems) of cattail were frequently used by Native peoples to make flour. The long rhizomes were collected and the soft inner tissues were scraped out with a flake.

One quartzite core fragment (-058) recovered from Unit 6 at the 40-50cm level was fashioned into a bifacial cutting tool. This fire-affected core fragment (60x43x31mm) is non-cortical and appears to have derived from a multi-directional core; negative flake scars are on all sides of the fragment, and these scars have different orientations around the piece. The primary lateral edge of the specimen has tiny pressure flake scars all along both sides of the edge. As with the specimen above (-046), the retouched edge exhibits dulling and sheen probably from abrasion with plant silica. The fourth

Figure 11. Large expedient cutting tools. (From left to right, bifacial tool made from a metate fragment; basalt core piece with bifacial flaking; two quartzite core fragments with bifacial flaking

expedient cutting tool (-062), retrieved also from Unit 6 but at the 50-60cm level, was fashioned from a quartzite core fragment. The entire outer edge of the fragment was sharpened or "regulated" with either unifacial or bifacial pressure-flake removal. A dulling of the edge of this specimen was not detected.

One Cottonwood Series concave base projectile point was found on the surface of the ground in Area 3 (Figure 12). This relatively thick and crudely made point (25x18x6mm) was fashioned from a mottled brown chert. The curvature of the flake used to make the point is evident. In addition to being curved and thick, the base and lateral barbs lack symmetry. It is generally accepted that Cottonwood Series points date to post 700 years B.P. One large white chert point tip may have come from a dart point. It appears that the point tip may have broken off before the dart was thinned and completed.

Groundstone

Two complete manos and four mano fragments were recovered from various contexts (Table 3; Figure 13), all within ARU's Area 3. Two mano fragments (-017 and -023) were recovered from the surface, one complete mano (-023) was retrieved from the upper soils of Trench 1, one mano fragment (-029) was recovered from Unit 1 at the 10-20cm level, one lateral mano fragment (-057) was from Unit 6 at the 40-50cm level, and one complete large mano (-075) was recovered from Unit 7 at the 10-20cm level. All four of the mano fragments are fire-affected and were likely secondarily used as hearth or oven stones.

One quartzite mano fragment (-057) has the attributes of characteristic "soap bar" manos of the Archaic Period that were shaped on all sides and with high polish. The remaining five manos or fragments appear to have been fashioned from rounded river cobbles, more characteristic of Late Prehistoric peoples.

Figure 12. Projectile points. Left: Cottonwood Series chert point; Right: chert point tip.

Table 3. Attributes of Manos and Mano Fragments Recovered During Testing

CAT. NO. 3600-	Material	Portion	Size (mm)	Shaped	Comments
017	Schist	~1/8	92x57x22	X	Small lateral piece; Pelona Schist; fire affected
021	Granitic	~1/8	58x48x20		Small lateral piece from reddish river cobble; fire affected
023	Granitic	Complete	86x68x60		Small potato-like mano fashioned from river cobble
029	Granitic	~1/16	37x27x6		Small mano fragment well ground; heavily fire affected
057	Quartzite	~1/8	60x43x31	X	Small lateral fragment; shaped; well ground; fire affected
075	Granitic	Complete	134x102x66		Large river cobble mano; bifacial; well ground

Figure 13. Manos and mano fragments recovered from testing.

Seven metate fragments were recovered during testing (Table 4; Figure 14). Six specimens were found on the surface of the site, and one fragment (-089) was recovered from Unit 8 at the 0-10cm level. All of the specimens were found in ARU's Area 3, and all of the pieces are fire affected. The largest specimen (-013) is about 1/3 of a complete metate, but most of the fragments are much smaller pieces. These small pieces are from different metates; therefore, a minimum number of at least seven different metates are represented. The fractured and burnt attributes of these fragments indicates that metate pieces were used as hearth and/or oven stones. One of the pieces (-018) was modified into an expedient cutting tool.

The largest metate fragment (-013) is bifacially ground, although one side is highly exfoliated and only a small "island" of ground surface remains. The granitic material used in fashioning this metate has small crystals and is relatively high grade. The upper face of the metate is highly ground, it is slightly concave, and the lateral side was roughly shaped with a series of percussion flakes taken off to dull the perimeter edge. Specimen -014 is a fragment from a relatively thin metate made from rhyolite. The rhyolite used is greyish in color with light-colored inclusions. Rector et al (1983) classified this type of thin metate as a "slab" metate versus a "block" form. A second rhyolite metate fragment (-015) of similar material was also recovered. This specimen is thicker than the previous specimen, and this medial fragment is split in two pieces. A third rhyolite metate fragment (-018) was modified into an expedient unifacial cutting tool. One edge of this piece exhibits a series

of six percussion flakes removed from one side. Specimens -019 and -089 are very small granitic metate pieces that have one ground surface. Specimen -089 was recovered from Unit 8 at the 0-10-cm level. Specimen -022 are two small vesicular basalt metate fragments that fit together. These two medial pieces are heavily fire affected, and the larger piece has a large spall scar from heat trauma.

Table 4. Attributes of Metate Fragments Recovered During Testing

CAT. NO. 3600-	Material	Portion	Size (mm)	Shaped	Comments
013	Granitic	1/3	234x14x6	X	Large bifacial lateral piece; well ground; exfoliating; fire affected
014	Rhyolite	Small	84x52x32		Bifacial medial piece; concave on both sides; well ground; fire affected
015	Rhyolite	Small	61x51x39		Lateral piece; split in two pieces; unifacial; fire affected
018	Rhyolite	Small	92x57x22		Lateral piece modified into an expedient cutting tool; fire affected
019	Granitic	Very small	64x34x23		Small ground area on exfoliating and decomposing piece; fire affected
022	Vesicular basalt	Small	55x46x27		Two small pieces fit together; probably from a well-fashioned metate; fire affected
089	Granitic	Very small	28x17x11		Small exfoliating fragment; fire affected

Figure 14. Metate fragments recovered from testing. The pieces are fire affected. Specimen -018 was modified into a cutting tool.

One quartzite pestle fragment (-093) was recovered from Unit 8 at the 10-20cm level. This medial piece (76x72x31mm) is cylindrical in shape and has high polish. I displays signs of secondary flakes

having been removed from most edges, indicating that this pestle was used as a core to generate useful flakes. The original pestle was probably a common cylindrical type with tapered ends. Unit 8 was a productive unit placed in the southern area of Area 3, and it yielded relatively abundant flakes, and faunal material, and a hearth in addition to this pestle.

One small piece of incised graphite schist (Figure 15) was recovered from the surface in Area 3. The 52x25x6mm piece is undoubtedly from a larger tabular rock. The schist used is tabular in form (6 mm thick), dark grey in color, and it contains abundant mica. Three incised parallel lines occur on a lateral portion of the piece with a spacing of about 8mm. This piece seems too large for a pendant and was probably associated with an incised tablet. Incised tablets with series of horizontal and vertical lines are not uncommon throughout the region.

Figure 15. Incised schist slab.

Faunal Remains

Excavations at 36-00072 yielded 532 culturally fragmented animal bones (Table 5; Figure 16 for examples). Three fresh-water clam valve pieces (included in the count) and one marine dwarf olivella shell bead were also recovered. The small collection was recovered from shallow deposits (0-45cm.) that had been subjected to extensive bioturbidity and dune deflation; bone was scattered throughout the soil matrix, with only a small number of specimens recovered from upper levels. The units that were placed in ARU's Area 3 yielded the bone pieces.

Table 5. Vertebrate Faunal Remains From 36-00072

Taxon	Common Name	NISP
Odocoilius hemionus	Mule Deer	4
Indeterminate large mammal	(Deer and possibly bighorn sheep)	21
Lepus californicus	Desert Jackrabbit	72
Sylvilagus audubonii	Desert Cottontail	15
Indeterminate small mammal	(Jackrabbit and cottontail pieces)	371
Indeterminate duck-size bird	(Medium-size duck)	6
Indeterminate medium-size bird	(The size of doves or quail)	34
Indeterminate small bird	(The size of small perching birds)	4
Gopherus agassizi	Desert Tortoise	1
Anodonta californiensis	California Floater	3
Olivella dama	Dwarf Olive	1
Total		**532**

All of the bone examined in this study is relatively well preserved, with no evidence of natural, chemical, or mechanical degradation which might have significantly biased the sample by removing bone from the site. Of the collected 532 specimens, 96 were taxonomically identifiable to the ordinal, genus, or species level. Identified specimens included 72 jackrabbit, 15 cottontail, four deer, one tortoise, three clam vale pieces, and one shell bead. The bulk of the assemblage is composed of indeterminate medium-small mammal fragments (n = 371) which probably are a combination of jackrabbit and cottontail.

A total of 31 indeterminate bird bones are in the assemblage. Most of this bone (n = 24) is from medium-sized birds the size of quail or dove. Six specimens are from large birds the size of ducks. Four specimens are from small perching birds. It seems clear that birds of any size were appropriate game animals. The only reptile specimen is a single tortoise plastron fragment. The presence of three small clam vale pieces probably indicates that clams were also consumed.

In the past many archaeologists used to collect only burnt bone because data was then lacking on the characteristics of culturally modified bone compared to naturally deposited bone. It seems that faunal bone would become secondarily burned from a variety of causes such as tossing the dregs of soups into fires, hearths were excavated into midden soils containing bone constituents, and brush fires sweeping over sites burns exposed bone. Providing the count of the number of burnt bones in a collection may have minimal utility in most cases, but in this collection of 532 specimens about 25 percent exhibited signs of charring (n = 133). Most of the fire-affected specimens exhibit minimal charring.

Figure 16. Crushed small-mammal bones.

A number of mule deer molar fragments are in the assemblage. And most of the taxonomically indeterminate fragments assigned to the large-mammal category are probably mule deer, as the riparian zone flanking the river was ideal mule deer habitat. With so few deer bone or large-mammal fragments recovered from these peripheral units though, it appears that there was minimal reliance on large game animals at this site.

This matches the pattern regionally, with most faunal assemblages of the region generally lacking large numbers of deer fragments, suggesting that deer and other large mammals were infrequently hunted compared to smaller game animals. The large-mammal bone in most faunal collections of the region generally consist of tiny fractured pieces, indicating that when deer was hunted, prehistoric groups habitually pulverized long bones, heads, and other elements. Many groups ground bone into meals. The spilt long bones of deer were fashioned into awls and other implements. Hides were tanned with the brains of deer and fashioned into clothing items and cordage.

Leporids (hares and rabbits) were a primary faunal resource for most North American aboriginal groups. Leporid remains comprise the bulk of most prehistoric faunal assemblages in the deserts of California and the Great Basin. These mammals are abundant in most habitats and are easily captured. Individual hunters obtained jackrabbits and cottontails with curved throwing sticks, and many groups conducted large-scale drives for the purpose of capturing many animals during a single, large-scale hunt. Rabbit skins were used for the manufacture of clothing, cordage, blankets, and other items.

Birds of many species were sought after by prehistoric groups for food, feathers, and ceremonial purposes. Ducks and geese were hunted in lakes and along rivers, many desert sites contain the bones of quail and dove, and eggs and young birds were collected. Feathers and fragile bird bones have low archaeological visibility because these materials quickly decompose. All of the bird bone in this collection is culturally fractured like the small-mammal bones, and most of the specimens are small medial shaft pieces. None of the fragments have diagnostic features; therefore, no species were identified. The total bird bone count is 44 specimens. Of these 44 specimens, six were assigned to the "duck-size" category, 34 were placed into the medium-size bird category, and four into the small-bird category. Apparently medium-size birds the size of wrens or jays were most commonly hunted. Due to the fragile nature of thin bird bones, birds are probably considerably underrepresented in the sample.

Reptiles of all varieties contributed significantly to the protein diets of prehistoric peoples of the region. If a certain species of lizard was abundant during a particular season, that lizard would be targeted to supplement daily foraging resources. All snakes were collected regardless of size, and tortoises were roasted in their shells over live coals. Tortoise plastron fragments are the most common elements recovered at most sites, although Wilke (1979b) recovered distal phalanges and other elements in human coprolites from Myoma Dunes. Few tortoise elements are usually recovered from many sites, suggesting that tortoises were infrequently hunted.

Three valve fragments of *Anodonta californiensis* (California Floater) were among the assemblage of faunal remains recovered. The California floater ("Anodonta"), an aquatic bivalve, inhabits rivers and lakes of many western states and into Mexico. The recovered Anodonta vale fragments indicate that the Mojave River had this muscle and also its host fish. Apparently much of the river flowed underground during the Holocene, but the presence of this shell indicates that the upper areas of the river had permanent water prior to the development of Victorville.

Shell beads made from small marine gastropods (snails) were a significant trade item during the prehistoric period and into early contact. Used for decorative purposes and shell currency, the most common form is a small circular disk with central hole, made from the sidewall of Pacific Coast *Olivella biplicata.* The Chumash of the Channel Islands had a monopoly of the shell manufacturing

trade along the central California coast. The Cahuilla and neighboring groups extensively used these shell beads, which are found in highest frequencies at cremation sites. To provide an example of their currency value, apparently one wrap of a bead strand around the hand was worth a rifle, and four strands were worth a horse.

Smaller "barrel beads" made from *Olivella dama,* which occurs almost exclusively in the Gulf of California, is also commonly found at sites in the region. It is not known if these small beads also served as currency, but it is clear that the Chumash did not have control of this bead type; this bead was traded from the southwest of the project area rather than from the west.

One barrel-bead with a ground-off spire of *Olivella dama* (Dwarf Olive) was also found among the assemblage. This small sea snail is confined mostly to the Gulf of California and occurs southward as far as about Mazatlan, Mexico. Compared to the larger *Olivella biplicata* that occurs all along the western Pacific Ocean, *O. dama* has a much smaller range. The distribution of this bead type is surprisingly large; however, with specimens obtained throughout the Southwest, Plains, and further east. It is commonly found at sites dating to about A.D. 1400, a time when long-distance trading networks were well established. This small elongate snail has a maximum length of 23 mm with the spire taking up a large portion of the posterior shell. This long spire and portion of the distal aperture were ground off to make barrel beads. The recovered specimen below (Figure 17) has a ground spire.

Figure 17. Olivella barrel bead with ground spire recovered from the site.

HUMAN REMAINS

On May 5, 2020, at approximately 7:30am a single human bone was discovered within 10cm of the surface while hand-excavating Unit 10. John Goodman identified the bone in the field as a distal phalange from the left foot. At approximately 8:15am CRM TECH Principal Investigator Michael Hogan was contacted, who then informed San Bernardino County Sheriff Department and the Alexandra McCleary of the San Manuel Band of Mission Indians (SMBMI) about the find. Daniel Ballester, meanwhile, notified Russ Lemley from American Organics. At approximately 9:50am, several San Bernardino County Sheriff deputies arrived at the site. The deputies filed a report (CO201260034) and took photographs of the bone to send to the Coroner Division. Meanwhile, SMBMI stated that they wanted the bone to be left in place with no further work occurring in the area.

On May 6, 2020, September Fonzi-Jones of the Coroner's Division of the San Bernardino County Sheriff Department, informed Andrew Green, San Bernardino County Analyst for the Native American Heritage Commission (NAHC), of the find. Green stated that, since the San Bernardino County Coroner's forensic anthropologist was not able to positively identify the bone as "Native American Human Remains," NAHC does not have jurisdiction to designate a Most Likely Descent (MLD) for this human bone. Further communications about this situation were not productive, with Green maintaining that NAHC could not designate an MLD for this case.

CRM TECH expressed concern to the San Manuel Band of Mission Indians that grubbing and other more invasive measures to prepare the area for grading/filling might result in the disturbance of additional human remains. SMBMI expressed interest in developing a work plan that would avoid these most sensitive areas of the site so that the remains will remain undisturbed. Anthony Bertrand, from American Organics, visited the site after the discovery. Ballester, without showing him the precise location of the human bone, discussed the situation with him, including the fact that more remains may be present. Bertrand stated that he thought American Organics would be able to do the work in such a way that there would be minimal, or even no, ground disturbance in the most sensitive areas. SMBMI was informed of this and agreed to leave the bone in-place with the understanding that little, if any, additional ground disturbance would occur in the area.

SUMMARY OF FINDINGS

Site 36-000072, an important prehistoric archaeological site, was previously recorded as lying partially within the project area. In 1978, the Archaeological Research Unit (ARU) of the University of California, Riverside, pursued extensive excavations on Site 36-000072 (Rector et al. 1983). A flex burial of a child and human footprints were found during that study, and more than 6,000 artifacts were recovered (*ibid.*). The footprints were recorded, the burial was removed, and the site was backfilled for protection and preservation.

The 1978 ARU study, which covered some 10 percent of the area of 36-000072 as known at that time, concluded that the site was seasonally occupied from 900 to 1300 A.D. and from 3700 to 4190 B.C. (*ibid.*). The footprints were determined to be even older (*ibid.*; McKenna 2005). The ARU divided the site into three "areas," with Area 3 containing the burial and Area 2 containing the

human footprints and accompanying animal tracks. The site was formally determined to be eligible for listing in the National Register of Historic Places by the Keeper of the National Register in 1979 (OHP 1991). As such, it is automatically listed in the California Register of Historical Resources.

Work completed by the ARU determined that Area 1 yielded fewer artifacts and features than the other areas and it was hypothesized to have been a peripheral part of the site (Rector et al. 1983). Exploratory trenching and, later, monitoring during construction for the American Organics Victor Valley Regional Composting Facility Modification Project within the existing facility, in and near the ARU's Area 1, provide additional data to support this interpretation for Area 1 (Tang 2018; Ballester 2020). Work completed by McKenna also confirmed that, as is often the case, some areas within the site contain more artifacts, features, and important information than other areas within the same site (McKenna 2000; 2005).

When American Organics proposed the current expansion project, it was agreed that it was necessary to determine what impacts the proposed expansion might have on Site 36-00072. Although most of the work to expand the existing facility would consist of bringing in fill material and covering most of Site 36-000072, preliminary earthwork for the expansion would result in ground disturbances. The limited Extended Phase I investigation reported on in this document was designed to explore the subsurface of the site area and discern areas that are positive for cultural resources and areas where there are no, or fewer, cultural resources.

As shown above, important data is still present in the site. Although limited in scope by design, the Extended Phase I investigation does indicate that there are areas of dense artifact concentrations, including possibly intact features. Besides artifacts that are typically associated with Late Period cultures, artifacts dating to the Archaic Period, though maybe re-used by people at the site during later times, were also recovered. Sacred and funerary objects, including a shell bead, an etched tablet fragment, and a human bone were also recovered. The information recovered attests to the importance of the site.

The investigation reported on in this document also indicates that there are areas where dense concentrations of artifacts and intact cultural features are not present or where they are more limited in number. The information from this investigation, coupled with the fact that most of the work for the proposed expansion into the site would consist of bringing in fill material and covering the area, was used to redesign the footprint of the expansion area. American Organics and the San Manuel Band of Mission Indians agreed on a plan where the area of highest cultural concern would be completely avoided (Figure 18). Additionally, a Cultural Resources Monitoring and Treatment Plan has been developed by the Tribe to ensure the protection of cultural and Tribal resources during earthmoving operations for the expansion project.

CONCLUSION

CEQA establishes that "a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment" (PRC §21084.1). According to PRC §5020.1(j), "'historical resource' includes, but is not limited to, any object, building, site, area, place, record, or manuscript which is historically or archaeologically

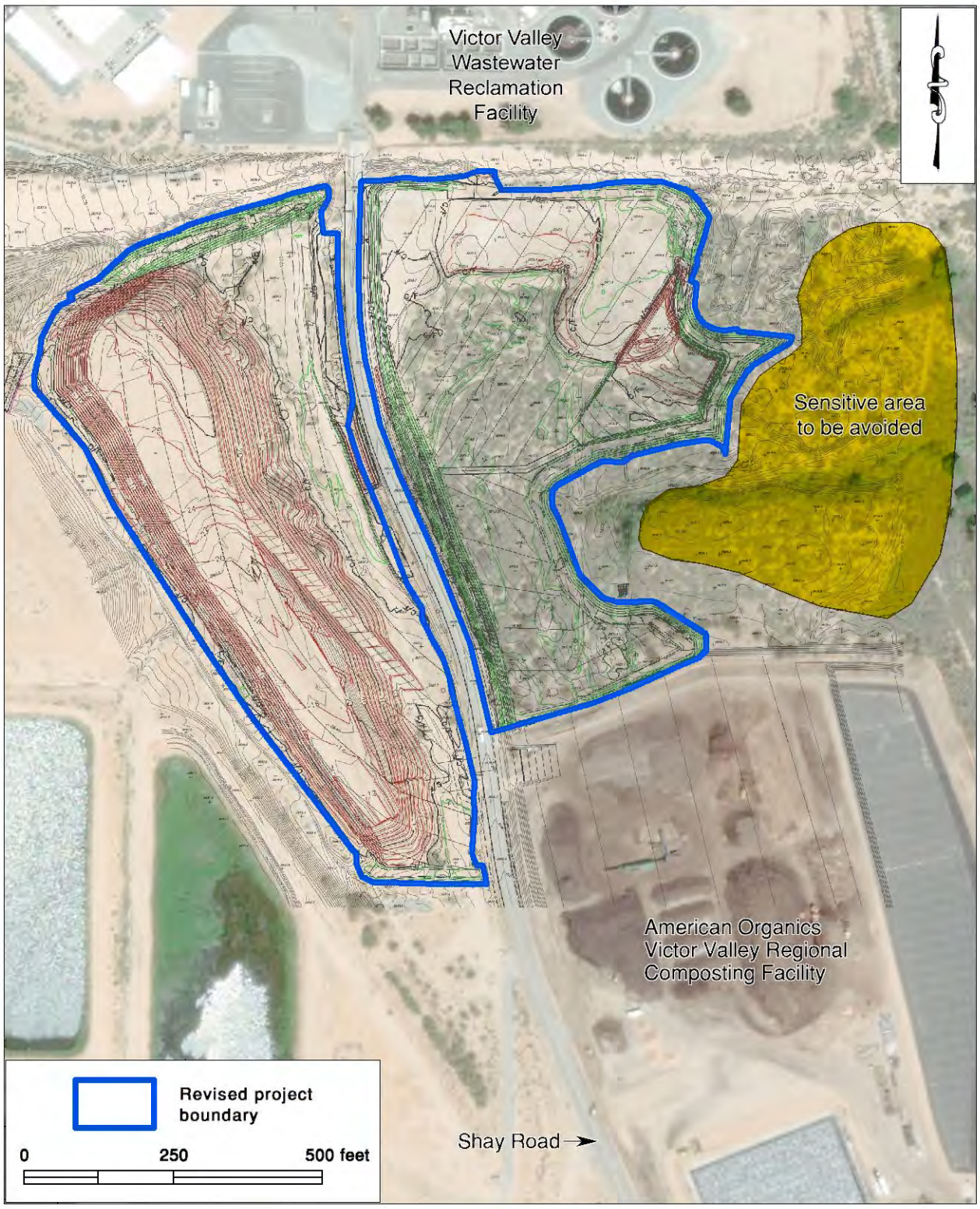

Figure 18. Project plan revised to avoid the sensitive area of Site 36-000072.

significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California." "Substantial adverse change," as defined by PRC §5020.1(q), "means demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired."

More specifically, CEQA guidelines state that the term "historical resources" applies to any such resources listed in or determined to be eligible for listing in the California Register of Historical Resources, included in a local register of historical resources, or determined to be historically significant by the lead agency (Title 14 CCR §15064.5(a)(1)-(3)). Since it is currently listed in the California Register of Historical Resources, Site 36-000072 clearly meets the definition of a "historical resource." Any disturbance to the cultural deposits at the site that may diminish its value or integrity as an important source of prehistoric archaeological data, therefore, would constitute "a substantial adverse change in the significance of a historical resource."

As a result of the Extended Phase I explorations completed during this study, CRM TECH was able to delineate areas of higher and lower sensitivity for subsurface cultural deposits in the portion of Site 36-000072 lying within the overall project boundaries. Based on this data, and in consultation with the San Manuel Band of Mission Indians, American Organics has redesigned the proposed project to avoid the area of high archaeological sensitivity. In addition, the company has agreed to minimize as much as possible the ground-disturbing aspects of project activities before bringing in the fill material and covering the site area, and a Cultural Resources Monitoring and Treatment Plan has been developed for implementation during the earth-moving phase of the project.

Through these collaborative efforts among CRM TECH, American Organics, and the San Manuel Band of Mission Indians, potential project impact on Site 36-000072 will be avoided or reduced to levels less than significant. In light of the findings of the present study and the subsequent modifications to the project plans resulting from these findings, CRM TECH recommends to VVWRA a conclusion of that the proposed American Organics Victor Valley Regional Composting Facility Expansion Project will have *No Impact* on "historical resources," under the condition that all potentially ground-disturbing activities associated with the project be monitored by qualified archaeologists and Native American representatives in accordance with the Cultural Resources Monitoring and Treatment Plan.

REFERENCES

Ballester, Daniel

2020 Archaeological Monitoring Program: American Organics Bio-Mass Upgrade Project, City of Victorville, San Bernardino County, California. On file, South Central Coastal Information Center, California State University, Fullerton and CRM TECH's office.

Bean, Lowell John, and Charles R. Smith

1978 Serrano. In Robert F. Heizer (ed.): *Handbook of North American Indians,* Vol. 8: *California*; pp. 570-574. Smithsonian Institution, Washington, D.C.

Beck, Warren A., and Ynez D. Haase

1974 *Historical Atlas of California*. University of Oklahoma Press, Norman, Oklahoma.

City of Victorville

n.d.(a) City History. http://www.ci.victorville.ca.us/Site/AboutVictorville.aspx?id=64.

n.d.(b) Demographics. http://www.ci.victorville.ca.us/Site/AboutVictorville.aspx?id=68.

Flenniken, J. Jeffrey

1981 *Replicative Systems Analysis: A Model Applied to the Vein Quartz Artifacts from the Hoko River Site*. Laboratory of Anthropology Reports of Investigation No. 59. Washington State University, Pullman.

GLO (General Land Office, U.S. Department of the Interior)

1855a Plat Map: Township No. 4 North Range No. 4 West, SBBM; surveyed in 1853-1855.

1855b Plat Map: Township No. 4 North Range No. 5 West, SBBM; surveyed in 1853-1855.

Google Earth

1994-2016 Aerial photographs of the project vicinity; taken in 1994, 2005, 2006, 2009, 2013, 2015, and 2016. Available through the Google Earth software.

Grayson, Donald K

1981 The Effects of Sample Size on Some Derived Measures in Vertebrate Faunal Analysis. *Journal of Archaeological Science* 8(1):77-88.

1984 *Quantitative Zooarchaeology: Topics in the Analysis of Archaeological Faunas*. Academic Press, Orlando, Florida.

Hall, M.C.

2000 Archaeological Survey of 2472 Acres in Adjacent Portions of Lava, Lead Mountain, and Cleghorn Pass Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms, California (Volume I). Report prepared by the Archaeological Research Unit, University of California, Riverside, for the United States Marine Corps Natural Resources and Environmental Affairs Division.

Kroeber, Alfred L.

1925 *Handbook of the Indians of California*. Bureau of American Ethnology Bulletin 78. Washington, D.C.

Lyman R. Lee

1994 *Vertebrate Taphonomy*. Cambridge University Press, Cambridge, U.K.

Marshall, Fiona, and Tom Pilgram

1993 NISP vs. MNI in Quantification of Body-Part Representation. *American Antiquity* 58(2):261-269.

McKenna, Jeanette A.

2000 Results of an Archeological Monitoring Program, Trenching for the Proposed Bio Mass Facility at the Victor Valley Wastewater Reclamation Authority Facility, Victorville, San

Bernardino County, California. On file, South Central Coastal Information Center, California State University, Fullerton.

2005 Archaeological Investigations and Mitigation of Impacts to CA-SBR-72, a Prehistoric Archaeological Site Adjacent to the California Bio Mass, Inc. Facility, Victorville, San Bernardino County, California. On file, South Central Coastal Information Center, California State University, Fullerton.

NETR (Nationwide Environmental Title Research) Online

1952-2016 Aerial photographs of the project vicinity; taken in 1952, 1968, 1994, 2005, 2009, 2010, 2012, 2014, and 2016. http://www.historicaerials.com.

NPS (National Park Service, U.S. Department of the Interior)

2001 *National Historic Trail Feasibility Study and Environmental Assessment: Old Spanish Trail, New Mexico, Colorado, Utah, Arizona, Nevada, California*. National Park Service, U.S. Department of the Interior, Washington, D.C.

OHP (Office of Historic Preservation, State of California)

1991 Archaeological Determination of NR Eligibility, Site 36-000072. On file, South Central Coastal Information Center, California State University, Fullerton.

Peirson, Erma

1970 *The Mojave River and Its Valley*. The Arthur H. Clarke Company, Glendale.

Rector, Carol H., James D. Swenson, and Philip J. Wilke

1983 *Archaeological Studies at Oro Grande, Mojave Desert, California*. San Bernardino County Museum Association, Redlands.

Reitz, Elizabeth, and Elizabeth Wing

1999 *Zooarchaeology*. Cambridge Manuals in Archaeology. Cambridge University Press, Cambridge, U.K.

Richards, Elizabeth W.

1966 *Guideposts to History, Concerning Origins of Place and Street Names in San Bernardino County*. Santa Fe Federal Savings and Loan Association, San Bernardino.

Strong, William Duncan

1929 *Aboriginal Society in Southern California*. University of California Publications in American Archaeology and Ethnology 26. Reprinted by Malki Museum Press, Banning, California, 1972.

Tang, "Tom" Tang, Ben Kerridge, Michael Hogan, Daniel Ballester, and Nina Gallardo

2017 Historical/Archaeological Resources Survey Report: American Organics Victor Valley Regional Composting Facility Upgrade Project, Victorville, San Bernardino County, California. On file, South Central Coastal Information Center, California State University, Fullerton.

Tang, Bai "Tom"

2018 Archaeological Testing Program at Site 36-000072: American Organics Victor Valley American Organics Victor Valley Regional Composting Facility Modification Project, Victorville, San Bernardino County, California. On file, South Central Coastal Information Center, California State University, Fullerton.

USGS (United States Geological Survey, U.S. Department of the Interior)

1934 Map: Barstow, Calif. (30', 1:125,000); surveyed in 1920 and 1932.

1956 Map: Victorville, Calif. (15', 1:24,000); aerial photographs taken in 1952, field-checked in 1956.

1969 Map: San Bernardino, Calif. (1:250,000); 1958 edition revised.

1993a Map: Adelanto, Calif. (7.5', 1:24,000); 1956 edition photorevised in 1989.

1993b Map: Helendale, Calif. (7.5', 1:24,000); 1956 edition photorevised in 1989.
1993c Map: Victorville, Calif. (7.5', 1:24,000); 1956 edition photorevised in 1989.
1993d Map: Victorville NW, Calif. (7.5', 1:24,000); 1956 edition photorevised in 1989.

Warren, Claude N.
1984 The Desert Region. In Michael J. Moratto (ed.): *California Archaeology*; pp. 339-430. Academic Press, Orlando, Florida.

Warren, Claude N., and Robert H. Crabtree
1986 Prehistory of the Southwestern Area. In Warren L. D'Azevedo (ed.): *Handbook of North American Indians*, Vol. 11: *Great Basin*; pp. 183-193. Smithsonian Institution, Washington, D.C.

Warren, Elizabeth von Till
2004 The Old Spanish National Historic Trail. http://www.oldspanishtrail.org/learn/trail_history.php.

Wilke, Philip J.
1979a National Register of Historic Places Nomination Form, Site 36-000072 (NRHP-E-78-4). On file, South Central Coastal Information Center, California State University, Fullerton.
1979b *Late Prehistoric Human Ecology at lake Cahuilla, Coachella Valley, California*. University of California Archaeological Research Facility Contributions No. 38.

Yohe, R.M., M.E. Newman, and J.S. Schneider
1991 Immunological Identification of Small-Mammal Proteins on Aboriginal Milling Equipment. *American Antiquity* 56(4):659-666.

APPENDIX 1:
PERSONNEL QUALIFICATIONS

PRINCIPAL INVESTIGATOR/HISTORIAN
Bai "Tom" Tang, M.A.

Education

1988-1993	Graduate Program in Public History/Historic Preservation, University of California, Riverside.
1987	M.A., American History, Yale University, New Haven, Connecticut.
1982	B.A., History, Northwestern University, Xi'an, China.
2000	"Introduction to Section 106 Review," presented by the Advisory Council on Historic Preservation and the University of Nevada, Reno.
1994	"Assessing the Significance of Historic Archaeological Sites," presented by the Historic Preservation Program, University of Nevada, Reno.

Professional Experience

2002-	Principal Investigator, CRM TECH, Riverside/Colton, California.
1993-2002	Project Historian/Architectural Historian, CRM TECH, Riverside, California.
1993-1997	Project Historian, Greenwood and Associates, Pacific Palisades, California.
1991-1993	Project Historian, Archaeological Research Unit, University of California, Riverside.
1990	Intern Researcher, California State Office of Historic Preservation, Sacramento.
1990-1992	Teaching Assistant, History of Modern World, University of California, Riverside.
1988-1993	Research Assistant, American Social History, University of California, Riverside.
1985-1988	Research Assistant, Modern Chinese History, Yale University.
1985-1986	Teaching Assistant, Modern Chinese History, Yale University.
1982-1985	Lecturer, History, Xi'an Foreign Languages Institute, Xi'an, China.

Cultural Resources Management Reports

Preliminary Analyses and Recommendations Regarding California's Cultural Resources Inventory System (with Special Reference to Condition 14 of NPS 1990 Program Review Report). California State Office of Historic Preservation working paper, Sacramento, September 1990.

Numerous cultural resources management reports with the Archaeological Research Unit, Greenwood and Associates, and CRM TECH, since October 1991.

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.
1996-1998	Project Director and Ethnographer, Statistical Research, Inc., Redlands.
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	Archaeological Technician, Field Director, and Project Director 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

Author and co-author of, contributor to, and principal investigator for 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.

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

Education

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.
2004	B.A., Anthropology, California State University, Fullerton.

Professional Experience

2015-	Project Archaeologist/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.
2009-2010	Senior Commentator, GameReplays.org.
2006-2009	Technical Publishing Specialist, CH2M HILL, Santa Ana, California.

Memberships

Society for California Archaeology; Pacific Coast Archaeological Society

PROJECT ARCHAEOLOGIST/NATIVE AMERICAN LIAISON
Nina Gallardo, B.A.

Education

2004 B.A., Anthropology/Law and Society, University of California, Riverside.

Professional Experience

2004- Project Archaeologist, CRM TECH, Riverside/Colton, California.
- Surveys, excavations, mapping, and records searches.

Cultural Resources Management Reports

Co-author of and contributor to numerous cultural resources management reports since 2004.

PROJECT ARCHAEOLOGIST/FIELD DIRECTOR
Daniel Ballester, M.S., RPA (Registered Professional Archaeologist)

Education

2013	M.S., Geographic Information System (GIS), University of Redlands, California.
1998	B.A., Anthropology, California State University, San Bernardino.
1997	Archaeological Field School, University of Las Vegas and University of California, Riverside.
1994	University of Puerto Rico, Rio Piedras, Puerto Rico.
2007	Certificate in Geographic Information Systems (GIS), California State University, San Bernardino.
2002	"Historic Archaeology Workshop," presented by Richard Norwood, Base Archaeologist, Edwards Air Force Base; presented at CRM TECH, Riverside, California.

Professional Experience

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

Cultural Resources Management Reports

Field Director, co-author, and contributor to numerous cultural management reports since 2002.

PROJECT ARCHAEOLOGIST/ARTIFACT ANALYST
John D. Goodman II, M.S.

Education

1993	M.S., Anthropology, University of California, Riverside.
1985	B.S., Anthropology, University of California, Riverside.
2005	Training Session on Senate Bill 18; sponsored by the Government Office of Planning and Research, Riverside, California.
2002	Protecting Heritage Resources under Section 106 of the National Historic Preservation Act; sponsored by the Advisory Council on Historic Preservation, Arcadia, California.
2000	Federal Historic Preservation Law for the Forest Service; sponsored by the Advisory Council on Historic Preservation, San Bernardino, California.
1994	National Environmental Policy Act workshop; Flagstaff, Arizona.

Professional Experience

2011-	Project Archaeologist/Artifact Analyst, CRM TECH, Colton, California.
2008-	Independent sub-contractor (faunal analyses and historical archaeology).
2006-2008	Project Director, Statistical Research, Inc., Redlands, California.
2003-2006	Project Manager/Principal Investigator, Stantec Consulting, Inc. (formerly The Keith Companies [TKC]), Palm Desert, California.
2000-2003	Supervisory Archaeologist, Heritage Resources Program, San Bernardino National Forest, United States Forest Service, Department of Agriculture.
1993-2000	Project Manager, Historical Archaeologist, Faunal Specialist, Human Osteologist, and Shell Specialist, SWCA Inc., Environmental Consultants, Flagstaff, Arizona.
1982-1993	Project Director, Staff Archaeologist, Physical Anthropologist, Faunal Specialist, and Lithic Specialist, Archaeological Research Unit, University of California, Riverside (part-time).

Research Interests

Subsistence practices and related technologies of both prehistoric and historical-period groups; special interest in Archaic sites of western states; ethnic/group markers; zooarchaeology/faunal analyses, lithic analyses, and historical archaeology.

Cultural Resources Management Reports

Co-author of many cultural resources management study reports since 1986.

Memberships

Society for American Archaeology.

APPENDIX 2

CORRESPONDENCE WITH NATIVE AMERICAN REPRESENTATIVES*

* Six local Native American representatives were contacted; a sample letter is included in this report.

SACRED LANDS FILE & NATIVE AMERICAN CONTACTS LIST REQUEST

NATIVE AMERICAN HERITAGE COMMISSION

1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
(916)373-3710
(916)373-5471 Fax
nahc@pacbell.net

Project: Proposed American Organics' Victor Valley Regional Composting Facility Expansion Project (CRM TECH No. 3554)

County: San Bernardino

USGS Quadrangle Name: Adelanto, Helendale, Victorville, and Victorville NW, Calif.

Township 6 North **Range** 5 West SB **BM; Section(s)**: 13

Company/Firm/Agency: CRM TECH

Contact Person: Nina Gallardo

Street Address: 1016 E. Cooley Drive, Suite A/B

City: Colton, CA **Zip:** 92324

Phone: (909) 824-6400 **Fax:** (909) 824-6405

Email: ngallardo@crmtech.us

Project Description: The primary component of the project is to expand on approximately 28 acres of land, is located along both the east and west side of Shay Road, north of the existing bio-mass facility and south of the VVWWRA facility, in the City of Victorville, San Bernardino County, California.

October 21, 2019

NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691 Phone: (916) 373-3710
Email: nahc@nahc.ca.gov
Website: http://www.nahc.ca.gov

October 24, 2019

Nina Gallardo
CRM TECH

VIA Email to: ngallardo@crmtech.us

RE: Proposed American Organics' Victor Valley Regional Composting Facility Expansion Project, San Bernardino County

Dear Ms. Gallardo:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were positive. Please contact the Chemehuevi Indian Reservation and the San Manuel Band of Mission Indians on the attached list for more information. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information. If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Staff Services Analyst

Attachment

Native American Heritage Commission
Native American Contact List
San Bernardino County
10/24/2019

Chemehuevi Indian Reservation
Charles Wood, Chairperson
P.O. Box 1976 1990 Palo Verde Drive — Chemehuevi
Havasu Lake, CA, 92363
Phone: (760) 858 - 4219
Fax: (760) 858-5400
chairman@cit-nsn.gov

Kern Valley Indian Community
Robert Robinson, Chairperson
P.O. Box 1010 — Kawaiisu
Lake Isabella, CA, 93283 — Tubatulabal
Phone: (760) 378 - 2915 — Koso
bbutterbredt@gmail.com

Kern Valley Indian Community
Brandy Kendricks,
30741 Foxridge Court — Kawaiisu
Tehachapi, CA, 93561 — Tubatulabal
Phone: (661) 821 - 1733 — Koso
krazykendricks@hotmail.com

Kern Valley Indian Community
Julie Turner, Secretary
P.O. Box 1010 — Kawaiisu
Lake Isabella, CA, 93240 — Tubatulabal
Phone: (661) 340 - 0032 — Koso

Morongo Band of Mission Indians
Denisa Torres, Cultural Resources Manager
12700 Pumarra Rroad — Cahuilla
Banning, CA, 92220 — Serrano
Phone: (951) 849 - 8807
Fax: (951) 922-8146
dtorres@morongo-nsn.gov

Morongo Band of Mission Indians
Robert Martin, Chairperson
12700 Pumarra Rroad — Cahuilla
Banning, CA, 92220 — Serrano
Phone: (951) 849 - 8807
Fax: (951) 922-8146
dtorres@morongo-nsn.gov

San Fernando Band of Mission Indians
Donna Yocum, Chairperson
P.O. Box 221838 — Kitanemuk
Newhall, CA, 91322 — Vanyume
Phone: (503) 539 - 0933 — Tataviam
Fax: (503) 574-3308
ddyocum@comcast.net

San Manuel Band of Mission Indians
Lee Clauss, Director of Cultural Resources
26569 Community Center Drive — Serrano
Highland, CA, 92346
Phone: (909) 864 - 8933
Fax: (909) 864-3370
lclauss@sanmanuel-nsn.gov

Serrano Nation of Mission Indians
Mark Cochrane, Co-Chairperson
P. O. Box 343 — Serrano
Patton, CA, 92369
Phone: (909) 528 - 9032
serranonation1@gmail.com

Serrano Nation of Mission Indians
Wayne Walker, Co-Chairperson
P. O. Box 343 — Serrano
Patton, CA, 92369
Phone: (253) 370 - 0167
serranonation1@gmail.com

Tubatulabals of Kern Valley
Robert L. Gomez, Chairperson
P.O. Box 226 — Tubatulabal
Lake Isabella, CA, 93240
Phone: (760) 379 - 4590
Fax: (760) 379-4592

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Proposed American Organics' Victor Valley Regional Composting Facility Expansion Project, San Bernardino County.

October 31, 2019

Travis Armstrong, Tribal Historic Preservation Officer
Morongo Band of Mission Indians
12700 Pumarra Road
Banning, CA 92220

RE: American Organics' Victor Valley Regional Composting Facility Expansion Project
Approximately 28 Acres in the City of Victorville
San Bernardino County, California
CRM TECH Contract #3554

Dear Mr. Armstrong:

I am writing to bring your attention to an ongoing CEQA-compliance study for the proposed project referenced above. The project entails the expansion of the existing American Organics' Victor Valley Regional Composting Facility onto approximately 28 acres of land north of the existing facility. This proposed project area is located along both the east and west side of Shay Road, in the City of Victorville, San Bernardino County, California. The accompanying map, based on USGS Adelanto, Helendale, Victorville, and Victorville NW, Calif., 7.5' quadrangles, depicts the location of the project area in Section 13, T6N R5W, SBBM.

The proposed expansion will extend into Site 36-000072. As you may know, Site 36-000072 is considered a very significant prehistoric site, mostly because of the prehistoric footprints that were found there during archaeological excavations in 1978. The footprints remain buried in place and the area where they are located has been deeded to the County of San Bernardino for perpetual protection (APN 0468-111-12; the triangular area cut out of the southeast corner of the project area seen on the accompanying map). The area of the buried footprints, therefore, will not be impacted by the proposed facility expansion.

Preliminary information, which we will try to confirm, indicates that the proposed project consists of cutting soil from the higher elevations on the west side of Shay Road and using that dirt to fill/cap the area on the east side of Shay Road. If this is indeed the case, it is likely that only the surface of the rest of the site (outside of APN 0468-111-12) will be impacted only by surficial clearing and grubbing (which, of course, would be monitored).

In a letter dated October 24, 2019, the Native American Heritage Commission reports that the record search for the project was positive and recommends specifically contacting the Chemehuevi Indian Reservation and the San Manuel Band of Mission Indians, which we are doing. NAHC also provided a list of Native American tribes that they recommend contacting as a starting place in locating areas of potential adverse impact within the proposed project area (see attached). Therefore, as part of the cultural resources study for this project, I am writing to request your input on potential Native American cultural resources in or near the project area.

Please respond at your earliest convenience if you have any specific knowledge of sacred/ religious sites or other sites of Native American traditional cultural value in or near the project area, or any other information to consider during the cultural resources investigations. Any information or

concerns may be forwarded to CRM TECH by telephone, e-mail, facsimile, or standard mail. Requests for documentation or information we cannot provide will be forwarded to our client and/or the lead agency, namely the City of Victorville.

We would also like to clarify that, as the cultural resources consultant for the project, CRM TECH is not involved in the AB 52-compliance process or in government-to-government consultations. ***The purpose of this letter is to seek any information that you may have to help us determine if there are additional cultural resources in or near the project area that we should be aware of and to help us assess the sensitivity of the project area.*** Thank you for your time and effort in addressing this important matter.

Respectfully,

Nina Gallardo
Project Archaeologist/Native American liaison
CRM TECH
Email: ngallardo@crmtech.us

Encl.: NAHC response letter and project location map

From: Tribal Historic Preservation Office <thpo@morongo-nsn.gov>
Sent: Thursday, October 31, 2019 2:22 PM
To: 'ngallardo@crmtech.us'
Subject: RE: NA Scoping Letter for the Proposed American Organics Victor Valley Regional Composting Facility Expansion Project in the City of Victorville, San Bernardino County (CRM TECH #3554)

Hello,

Regarding the above referenced project, we have no additional comments to provide at this time to CRM TECH but may provide other information to the lead agency during the AB 52 consultation process.

Thank you for reaching out to our office.

Sincerely,

Travis Armstrong
Tribal Historic Preservation Officer
Morongo Band of Mission Indians
951-755-5259
Email: thpo@morongo-nsn.gov

From: Alexandra McCleary <Alexandra.McCleary@sanmanuel-nsn.gov>
Sent: Friday, November 1, 2019 4:42 PM
To: ngallardo@crmtech.us
Cc: Jessica Mauck

Subject: RE: NA Scoping Letter for the Proposed American Organics Victor Valley Regional Composting Facility Expansion Project in the City of Victorville, San Bernardino County (CRM TECH #3554)

Dear Nina,

Thank you for contacting the San Manuel Band of Mission Indians regarding the proposed project. As you noted in your e-mail, the American Organics project expansion extends into Site 36-000072 (aka CA-SBR-72). You then noted CRM Tech's concern regarding any potential impacts to the Oro Grande footprints. I appreciate your thoughtfulness in this regard. However, in addition to your firm's concern about the Oro Grande footprints, I would like to draw your attention to the fact that CA-SBR-72 also included a cultural component characterized as a "late prehistoric midden" prior to coming down on the "footprint" context. This late prehistoric midden component was recorded at a depth of 10-40 cm, topped by a layer of overburden. I've included a figure taken from the original report to illustrate. The sensitivity of this shallower layer should not be underestimated, as an entire burial was recorded in this context.

Kind regards,
Alexandra

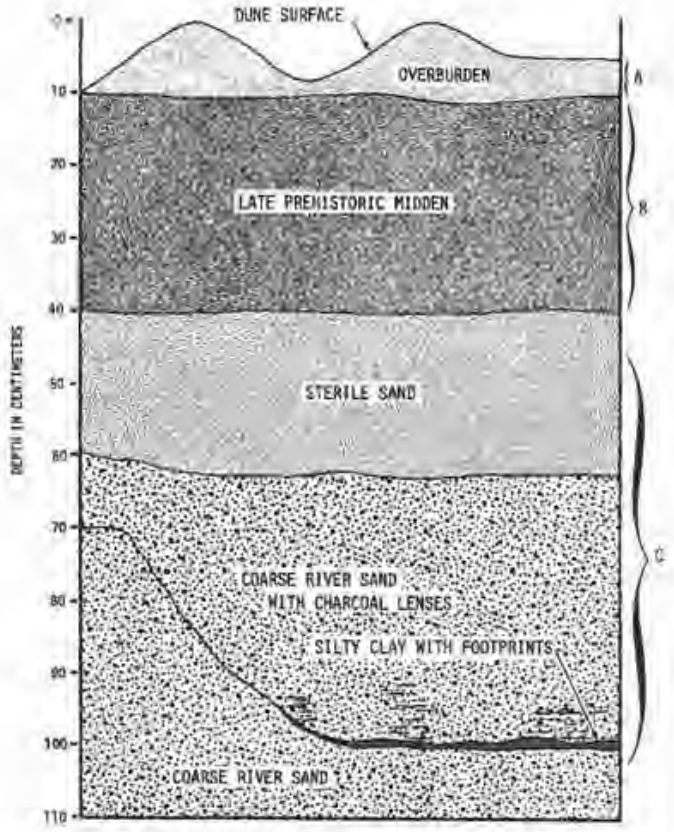

Fig. 1. Generalized stratigraphy at Oro Grande. (Rector et al. 1983:23)

Alexandra McCleary
TRIBAL ARCHAEOLOGIST
O: (909) 864-8933 x502023
M: (909) 633-0054
26569 Community Center Drive Highland CA 92346
SAN MANUEL
BAND OF MISSION INDIANS

From: Bridget Sandate <cultural@cit-nsn.gov>
Sent: Thursday, November 14, 2019 2:50 PM
To: ngallardo@crmtech.us
Subject: RE: NA Scoping Letter for the Proposed American Organics Victor Valley Regional Composting Facility Expansion Project in the City of Victorville, San Bernardino County (CRM TECH #3554)

Hello Nina Gallardo,

My name is Bridget Sandate and I am the current Cultural Director for the Chemehuevi Indian Tribe. Mr. Leivas resigned in September. Please address all correspondence with my information from here on out.

After further looking into maps and consulting with our Secretary-Treasurer June Leivas, who is also an elder of the tribe, we have concluded that the Chemehuevi Indian Tribe has no specific comments regarding the referenced project. However, if during construction evidence of cultural resources are found, please cease all activity and contact us immediately.

For cultural input, in and around the Barstow area, we as Chemehuevi do claim ancestral ties to the area since the beginning of time. This area is some distance from Barstow but we were travelers who I assure passed by the area in development. Which is why we ask if anything of cultural resource is found to contact us as well as neighboring Tribes.

As far as Site-36-000072, since there is no impact, we only advise and hope that the County of San Bernardino continue to provide perpetual protection for the site and that it remain untouched by any form of development.

Much appreciation,

Bridget Sandate
Cultural Director
Chemehuevi Indian Tribe
760.858.1115
Fax: 760.858.5400

APPENDIX 3

ARTIFACT CATALOGUE

ARCHAEOLOGICAL CATALOGUE
Bio-Mass Expansion Project
Site 36-000072

CRM TECH
1016 E. Cooley Drive, Suite B
Colton, CA 92324
CRM TECH Job # 3600

May 2020

Cat. #	Gen.Location	Coll. Entity	Depth (cm)	Artifact type	Ct	Size (mm.)	Weight (g)	Comments
3600-001	Area 3	L-1	Surf Coll	Lithic	1	54x18x11	10	Brown chert bifacial core lateral piece
3600-002	Area 3	L-2	Surf Coll	Lithic	1	27x22x13	8	White chert core shatter
3600-003	Area 3	L-3	Surf Coll	Lithic	1	27x25x11	7	White quartzite core shatter
3600-004	Area 3	L-4	Surf Coll	Lithic	1	25x18x6	2	Cottonwood Projectile point
3600-005	Area 3	L-5	Surf Coll	Lithic	1	20x17x6	2	Light purple rhyolite flake
3600-006	Area 3	L-6	Surf Coll	Lithic	1	24x20x6	2	Dark quartzite flake
3600-007	Area 3	L-7	Surf Coll	Lithic	1	31x27x19	15	Rhyolite core shatter
3600-008	Area 3	L-8	Surf Coll	Lithic	1	29x22x8	7	Basalt primary flake
3600-009	Area 3	L-9	Surf Coll	Lithic	1	22x15x2	1	Grey chalcedony flake (secondary)
3600-010	Area 3	L-10	Surf Coll	Lithic	1	25x16x5	2	Brown chert flake (secondary)
3600-011	Area 3	L-11	Surf Coll	Lithic	1	22x6x4	1	Linear white chert flake (secondary)
3600-012	Area 3	L-12	Surf Coll	Lithic	2	16x12x3	1	one white chert and one tiny chalcedony
3600-013	Area 3	GS-1	Surf Coll	Groundstone	1	23x14x6	6 lbs.	Metate fragment; about 1/3 of metate
3600-014	Area 3	GS-2	Surf Coll	Groundstone	1	82x52x32	140	Metate fragment; medial piece
3600-015	Area 3	GS-4	Surf Coll	Groundstone	1	61x51x39	164	Metate fragment; lateral piece
3600-016	Area 3	GS-5	Surf Coll	Groundstone	1	52x25x6	16	Incised shist piece; tablet?
3600-017	Area 3	GS-6	Surf Coll	Groundstone	1	58x39x32	59	Lateral schist mano fragment
3600-018	Area 3	GS-7	Surf Coll	Groundstone	1	92x57x22	160	Lateral memate fragment used as cutting tool
3600-019	Area 3	GS-8	Surf Coll	Groundstone	1	54x34x23	58	Medial metate fragment
VOIDED								Voided (Geofact)
3600-021	Area 3	GS-10	Surf Coll	Groundstone	1	58x48x20	88	Lateral mano fragment
3600-022	Area 3	GS-11	Surf Coll	Groundstone	2	55x46x27	123	Small metate fragments that fit together
3600-023	Area 2	TR-1	0-10	Groundstone	1	86x68x60	469	Small potato-like mano from river cobble
VOIDED								Void (geofact)
3600-025	Area 3	TR-8	0-50	FAR	1	122x76x75	1181	Large granitic rock heavily burnt
3600-026	Area 3	TR-11	0-150	Charcoal	vile	sm.		35 mm film Canister sample
3600-027	Area 3	U-1	0-10	Lithic	1	13x11x2	1	Red chert secondary flake
3600-028	Area 3	U-1	10-20	Lithic	2	21x18x5	2	Two small chalcedony flakes (secondary)
3600-029	Area 3	U-1	10-20	Groundstone	1	37x27x6	17	small mano fragment; burnt, well ground
3600-030	Area 3	U-2	0-10	Lithic	1	19x11x6	1	Small brownish chalcedony flake; secondary
3600-031	Area 3	U-2	10-20	Lithic	2	17x10x3	1	small purple jasper flakes; secondary
3600-032	Area 3	U-3	0-10	FAR	3	~50x 50	64	Three small FARs; granitric

Cat. #	Gen.Location	Coll. Entity	Depth (cm)	Artifact type	Ct	Size (mm.)	Weight (g)	Comments
3600-033	Area 3	U-3	10-20	Faunal	14	(Varuis sizes)	1	Mostly /all Jackrabbit fragments
3600-034	Area 3	U-3	10-20	FAR	3	71x60x33	203	Three FARs; one large two small
3600-035	Area 3	U-3	90-100	Lithic	1	11x7x2	1	Small obsidian pressure flake
3600-036	Area 3	U-4	0-10	FAR	5	~50x50	229	five granitic ~5 x 5 cm rocks
3600-037	Area 3	U-4	0-10	Faunal	28	Various sizes	1	Mostly rabbit pieces (11 burnt)
3600-038	Area 3	U-5	10-20	FAR	2	~50x50	90	Two medium-small granitic rocks
3600-039	Area 3	U-5	10-20	Lithic	1	22x13x4	1	Interior white quartzite flake
3600-040	Area 3	U-5	10-20	Faunal	5	(Rabbit)	1	4 unburnt; one bird
3600-041	Area 3	U-5	20-30	Faunal	25	(Rabbit)	2	24 unburnt; 4 intrusive small bird
3600-042	Area 3	U-5	30-40	Faunal	1	(Rabbit)	1	Jackrabbit carpal
3600-043	Area 3	U-5	40-50	Faunal	17	(Rabbit)	3	Mostly Jackrabbit fragments
3600-044	Area 3	U-5	60-70	Charcoal	sm.	sm.	1	Small charcoal sample
3600-045	Area 3	U-5	70-80	Charcoal	sm.	sm.	1	Small sample
3600-046	Area 3	U-6	Surface	Lithic	1	71x32x19	30	Expediant cutting tool on basalt flake
3600-047	Area 3	U-6	0-10	Lithic	1	14x12x3	1	Red quartzite secondary flakre (broken)
3600-048	Area 3	U-6	0-10	Charcoal	sm.	sm.	1	Small sample
3600-049	Area 3	U-6	10-20	Lithic	2	14x12x3	1	Two small chalcedony secondary flakes
3600-050	Area 3	U-6	10-20	Faunal	2	(Rabbit)	1	Jachrabbit elelemts
3600-051	Area 3	U-6	20-30	Faunal	4	(Rabbit)	2	Rabbit size
3600-052	Area 3	U-6	20-30	Shell	1	7x4x1	1	Tiny Anadonta clam shell fragment
3600-053	Area 3	U-6	20-30	Lithic	6	~20x20	21	5 lithic flakes
3600-054	Area 3	U-6	20-30	Charcoal	sm.	sm.	1	Small sample
3600-055	Area 3	U-6	30-40	Faunal	23	Various sizes	2	Large mammal, rabbit, bird
3600-056	Area 3	U-6	30-40	Charcoal	sm.	sm.	1	Small sample
3600-057	Area 3	U-6	40-50	Groundstone	1	45x36x28	51	Lateral mano fragment
3600-058	Area 3	U-6	40-50	Lithic	1	60x43x31	78	Expediant cutting tool on quartzite flake
3600-059	Area 3	U-6	40-50	Faunal	3	Various sizes	2	Rabbits-size shaft fragments
3600-060	Area 3	U-6	40-50	Lithic	1	7x6x2	1	Tiny obsidian pressure flake
3600-061	Area 3	U-6	40-50	Charcoal	sm.	sm.	1	Small sample
3600-062	Area 3	U-6	50-60	Lithic	1	54x40x12	28	Quartzite expediant cutting tool
3600-063	Area 3	U-6	50-60	Shell	1	12x6	1	Olivella shell bead
3600-064	Area 3	U-6	50-60	Faunal	8	Various sizes	3	Jacrabbit talus and other rabbit fragments
3600-065	Area 3	U-6	50-60	Charcoal	sm.	sm.	1	Small sample
3600-066	Area 3	U-6	60-70	Lithic	2	27x22x11	9	Quartzite core shatter pieces
3600-067	Area 3	U-6	60-70	Faunal	2	Various sizes	1	Rabbit shaft fragments
3600-068	Area 3	U-7	0-10	Ammunition	1	12x6	1	.22 lead bullet
3600-069	Area 3	U-7	0-10	Lithics	6	~50x50	2	Four chalcedony and two chert flakes
3600-070	Area 3	U-7	0-10	Faunal	1	13 x 5	1	Small mammal shaft fragment; burned
3600-071	Area 3	U-7	0-10	Charcoal	sm.	sm.	1	Small sample
3600-072	Area 3	U-7	10-20	Lithics	3	~10x10	1	Small chalcedony flakes
3600-073	Area 3	U-7	10-20	Faunal	3	~ 5 x 5	2	Three large-mammal shaft fragments
3600-074	Area 3	U-7	10-20	Charcoal	sm.	sm.	1	Small sample
3600-075	Area 3	U-7	10-20	Groundstone	1	134x102x66	1137	Large cobble mano
3600-076	Area 3	U-7	10-20	Lithic	2	12x12x5	2	One chalcedony and one quartzite

Cat. #	Gen.Location	Coll. Entity	Depth (cm)	Artifact type	Ct	Size (mm.)	Weight (g)	Comments
3600-077	Area 3	U-7	20-30	Faunal	8	Various sizes	2	One tortise carapice, one large mammal, etc.
3600-078	Area 3	U-7	20-30	Charcoal	sm.	sm.	1	Small sample
3600-079	Area 3	U-7	30-40	Faunal	2	Various sizes	1	Jackrabbit humerus; one large mammal
3600-080	Area 3	U-7	30-40	Charcoal	sm.	sm..	1	Small sample
3600-081	Area 3	U-7	40-50	Lithic	2	17x15x6	2	Projectile poinmt tip; white chert flake
3600-082	Area 3	U-7	40-50	Faunal	2	~5 x 5	1	Rabbit shaft fragments
3600-083	Area 3	U-7	40-50	Charcoal	sm.	sm.	1	Small sample
3600-084	Area 3	U-7	50-60	Charcoal	sm.	sm.	1	Small sample
3600-085	Area 3	U-7	60-70	Lithic	1	7x5x1	1	Tiny white chert pressure flake
3600-086	Area 3	U-7	60-70	Charcoal	sm.	sm.	1	Small sample
3600-087	Area 3	U-7	80-90	Lithics	3	17x14x5	2	two small quartzite and one chalcedony flake
3600-088	Area 3	U-7	80-90	Charcoal	sm.	sm.	1	Small sample
3600-089	Area 3	U-8	0-10	Groundstone	1	28x26x18	14	Granitic metate or possibly mano fragment
3600-090	Area 3	U-8	0-10	Lithic	6	24x17x11	6	Four small chalcedony and two small chert
3600-091	Area 3	U-8	0-10	Faunal	17	Various sizes	3	Two large mammal and 15 small mammal
3600-092	Area 3	U-8	10-20	FAR	2	~10x10	80	Two small rocks
3600-093	Area 3	U-8	10-20	Groundstone	1	72x76x31	181	Pestile fragment
3600-094	Area 3	U-8	10-20	Lithic	9	16x10x2	76	Five chalcedony and four chert
3600-095	Area 3	U-8	10-20	Faunal	50	Various sizes	3	Two large mammal and 48 small mammal
3600-096	Area 3	U-8	10-20	Charcoal	sm.	sm.	1	Small sample
3600-097	Area 3	U-8	20-30	FAR	5	~50x50	179	Five medium-small charred rocks
3600-098	Area 3	U-8	20-30	Lithic	12	~20x20	15	Chalcedony, basalt, chert, and rhyolite
3600-099	Area 3	U-8	20-30	Shell	2	14x12x3	1	Small Anadonta valve pieces
3600-0100	Area 3	U-8	20-30	Faunal	174	Various sizes	25	Mostly Jackrabbit pieces; five large mammal
3600-0101	Area 3	U-8	30-40	Lithic	2	46x24x11	9	Two quartzite flakes
3600-0102	Area 3	U-8	30-40	Faunal	48	(Rabbit)	6	40 unburnt and 8 burnt small-mammal bone
3600-0103	Area 3	U-8	40-50	Faunal	1	(Rabbit)	1	One Jackrabbit phalange
3600-0104	Area 3	U-8	50-60	Faunal	3	(Rabbit)	1	One Jackrabbit Squamosal, two miscellanious
3600-0105	Area 3	U-8	60-70	Faunal	3	(Rabbit)	1	Three small mammal shaft fragments
3600-0106	Area 3	U-9	Surface	Lithic	1	20x17x10	4	Chalcedony core shatter
3600-0107	Area 3	U-9	Surface	Faunal	2	(Rabbit)	1	One Jackrabbit and one large mammal
3600-0108	Area 3	U-9	0-10	Lithic	1	35x16x14	6	Quatrzite core shatter
3600-0109	Area 3	U-9	0-10	Faunal	3	(Rabbit)	2	Two large and one small mammal
3600-0110	Area 3	U-9	10-20	Faunal	45	Various sizes	6	Mostly Jackrabit; three large mammal shaft
3600-0111	Area 3	U-9	20-30	Lithic	1	24x13x11	2	Angular chalcedony flake/core shatter
3600-0112	Area 3	U-9	20-30	Faunal	9	Various sizes	1	Mostly Jackrabbit
3600-0113	Area 3	U-9	20-30	Charcoal	sm.	sm.	1	Small sample
3600-0114	Area 3	U-9	30-40	Lithic	1	10x6x2	1	Small red chert flake
3600-0115	Area 3	U-9	30-40	Faunal	13	Various sizes	1	Motly Jackrabbit
3600-0116	Area 3	U-9	60-70	Lithic	1	13x12x3		Small chalcedony flake
3600-0117	Areda 3	U-9	60-70	Charcoal	sm.	sm.	1	Small sample