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FINAL
ARCHAEOLOGICAL RESOURCES TESTING AND EVALUATION REPORT FOR SITE CA-SBR-4313/H VICTORVILLE RESIDENTIAL CARE FACILITY PROJECT SAN BERNARDINO COUNTY, CALIFORNIA

Prepared for:

Lilburn Corporation
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Submitted by:

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National Archaeological Data Base Information
Type of Study: Archaeological Resources Testing
Sites: CA-SBR-4313/H
USGS Quadrangles: Victorville, California 7.5'-series
Area: Approximately 18.47 Acres
Key Words: County of San Bernardino; Victorville; T5N, R4W, Sections 23: APN 479-131-09; Test and evaluation; (60) STPs; (2) 1x1 m: Prehistoric; Historic

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EXECUTIVE SUMMARY

Tierra Environmental Services (Tierra) conducted Phase II Investigations for the proposed Victorville Residential Care Facility in unincorporated San Bernardino County, just east of and within the sphere of influence of the City of Victorville; just west of the Mojave River and the City of Apple Valley; and directly adjacent to the Mohave Narrows Regional Park. A railroad line runs to the west. The project area consists of APN 479-131-09, in Township 5 North, Range 4 West, E½ of Section 23 as shown on the USGS *Victorville* quad, totals 18.47 acres.

The current site plan involves the development of a residential care facility in Parcel 09 that will include assisted living facilities, a skilled nursing facility, a medical office building, and a rehabilitation center, along with landscaping and parking. The property is undeveloped but shows evidence of past disturbance such as dirt roads, berms, raised areas, partial fence lines and trash deposits. A large wash in the southern part of the property first appeared in the late 1980s to early 1990s, presumably the result of diverting local drainages away from the raised residential development built along Yates Road to the south.

Recent Phase I cultural resource investigations by McKenna et al. of Whittier, California, were conducted in July 2017. The area currently under investigation is about 14 acres where previous studies indicated the presence of archaeological site, SBR-4313/H, that has both prehistoric and historic components. Tierra's scope of work was to excavate a grid of 60, 50 x 50 cm Shovel Test Pits (STPs) across the portion of the property occupied by SBR-4313/H, to be followed by 1 x 1 Controlled Excavation Units (CEUs), in order to determine if the site was a significant archaeological resource under CEQA criteria and to revise the site's boundary as needed. The work was conducted in May 2020. Drs. Michael Baksh and Philip de Barros from Tierra served as co-Principal Investigators with the assistance of Kyle Stankowski, Kathleen Brown, Nicole Smith and Kevin Keckiesen. The San Manuel Band of Mission Indians (SMBMI) was consulted during the planning, preparation and execution of the project. The major point of contact with the SMBMI was Tribal Archaeologist, Alexandra McCleary.

A total of 140 prehistoric and 25 historic artifacts were recovered from subsurface excavations along with one surface prehistoric artifact. Prehistoric artifacts included primarily fire-altered rock and fire-affected small animal and bird bone, along with two *Olivella* side wall beads, three flakes (chalcedony and quartzite), and an obsidian projectile point fragment from the surface. Several possible prehistoric flakes, cores and mano fragments, along with a possible hammerstone and scraper, were also found. Three gastropod shells (not *Olivella*) and 2 tiny fragments of possible oyster shell were recovered, but these were not viewed as cultural ecofacts. These finds are in addition to 10 mano and metate fragments, a core, a pestle fragment, five bifaces (including projectile points and point fragments), and a cluster of chalcedony and jasper flakes found on the surface by McKenna (2017). Note that of the latter, six formal tools and the cluster of debitage are located outside of the project boundary.

It should be noted, however, that the original research design for this project included Parcel 08 as part of the testing plan, and so the results presented in the cultural material in the previous paragraph cover both parcels 08 and 09. We have left our discussion of the artifacts from Parcel 08

in the report in the event that the findings are beneficial to future investigations of this parcel. However, the evaluation of SBR-4313/H for this project includes only that part of the site within the Project area in Parcel 09.

Tierra has concluded that the site was not a village site as was suggested by McKenna (2017), due to the low diversity of artifacts, the lack of developed midden, the relatively few areas with significant subsurface deposits, and the absence of any indication of human remains (other than possibly the presence of the two shell beads). In addition, historic features on the part of the site within the project area are unlikely to be >50 years old, and only a few scattered artifacts >50 years old were recovered, often from different time periods-- a few scattered, almost entirely surface fragments of purple glass (1870s-1925), a Remington bullet casing (1962-present), a Coors beer can with removal pull tab without sharp edges (1965-1975), and Styrofoam (1941-present) fragments in STP 39. The thinly scattered surface and few subsurface artifacts do not establish the existence of an historic site >50 years old and are not viewed as a significant historic resource.

In conclusion, both the prehistoric and historic components of SBR-4313/H situated in the project area are not considered significant historic resources under CEQA criteria. Nonetheless, given the general sensitivity of the site's location with important village sites in the general vicinity, construction monitoring has been recommended for the northern third of the project, i.e., north of the wash which crosses the center of the property.

In the event that unanticipated, buried prehistoric archaeological resources (lithic material, faunal, pottery, etc.) or historical archaeological resources (ceramics, building materials, glassware, etc.) are unearthed during construction or any ground disturbing activities within the project area, additional resource treatments may become necessary. Once a potential resource has been identified, all work within 100 feet should be halted until the find can be assessed by a qualified archaeologist.

If human remains are encountered during the proposed work, no further excavation or disturbance may occur in the vicinity of the find or in any area which may also harbor similar remains until the County Coroner has been contacted. If the Coroner identifies the remains as Native American, the descendants will be notified by the Native American Heritage Commission.

SECTION I – PROJECT LOCATION, DESCRIPTION, AND SCOPE OF WORK

1.1 PROJECT LOCATION

Tierra Environmental Services (Tierra) conducted modified Phase II Investigations of the proposed Victorville Residential Care Facility on about 14 acres in unincorporated San Bernardino County, just east of and within the sphere of influence of the City of Victorville; just west of the Mojave River and the City of Apple Valley; and directly adjacent to the Mohave Narrows Regional Park, south of Horseshoe Lake and northwest of Spring Valley Lake. A major railroad line runs just west of the subject property. More specifically, it is found within Township 5 North, Range 4 West within the eastern half of Section 23 on the USGS *Victorville* quad, Assessor Parcel Numbers 0479-131-09 totaling 18.47 acres (Figures 1-5).

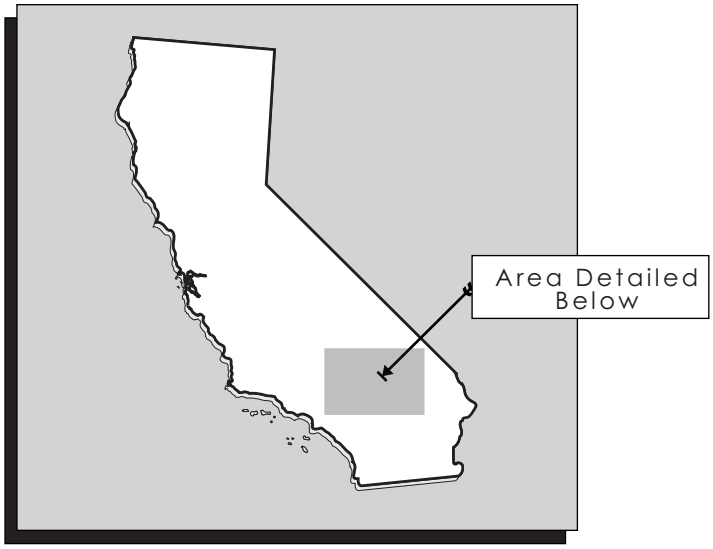
1.2 PROJECT DESCRIPTION

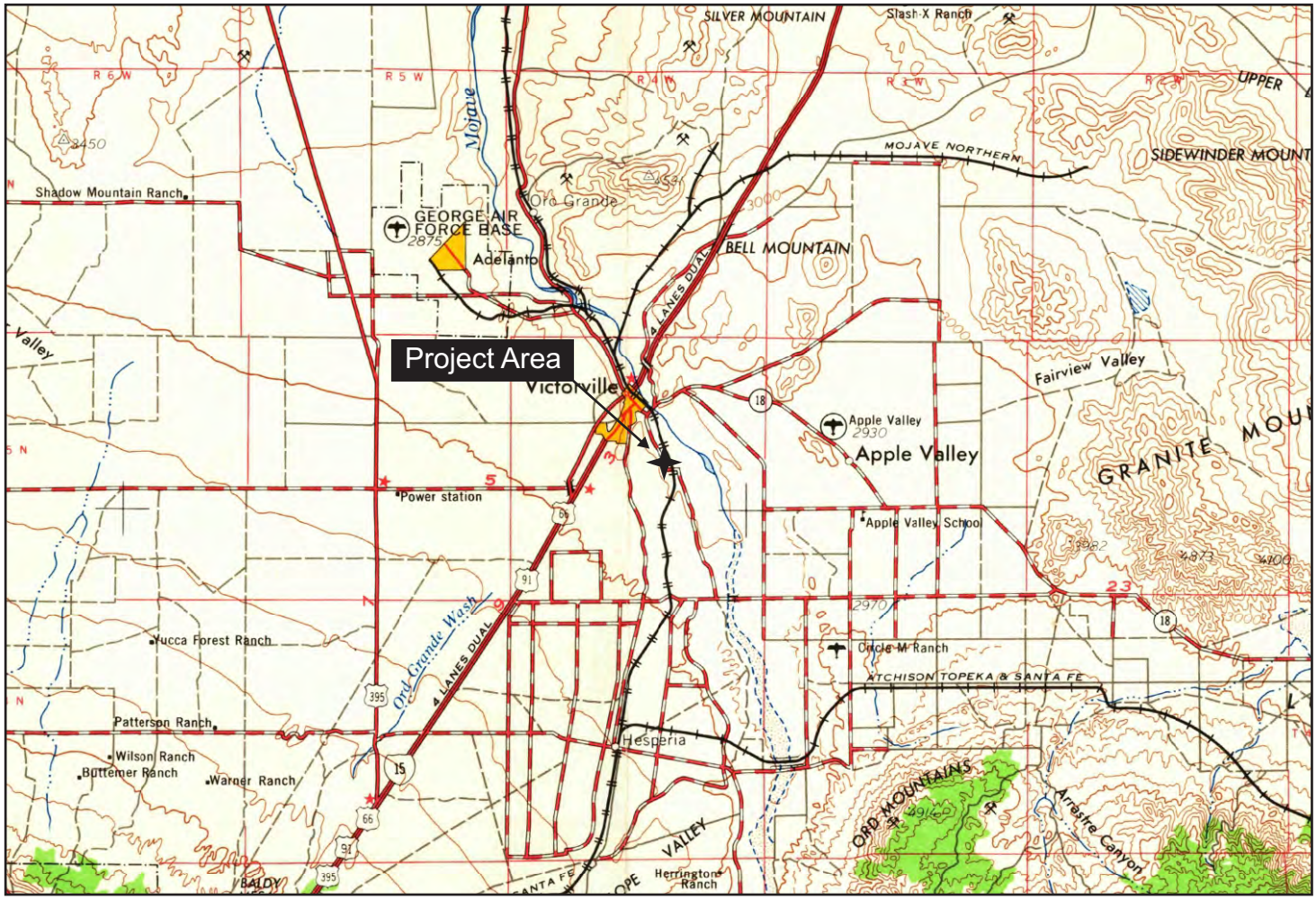
The current site plan concerns the development of a residential care facility in Parcel 09. The project will include assisted living facilities, a skilled nursing facility, a medical office building, and a rehabilitation center. These facilities will be in Parcel 09 surrounded by landscaping and parking (Figures 4-5).

The subject property is currently undeveloped but shows evidence of past disturbance , i.e., dirt road cuts, earthen berms, partial fence lines, trash deposits, cement base posts for lighting poles, and evidence of a sewer line. The property is shaped like a triangle, oriented north-south. The property can be accessed by various dirt roads that crisscross the project area as well as by the paved Yates Road along its southern boundary (Figures 2-4).

1.3 SCOPE OF WORK AND ADJUSTMENTS TO THAT SCOPE

Phase I cultural resource investigations of the subject property by McKenna *et al*. of Whittier, California, were conducted between July and September 2017 (McKenna 2017). The area currently under investigation is about 14 acres where previous studies indicated that prehistoric archaeological site, SBR-4313, was located (Figure 6; Drover 1980, James and Briggs 1999, Hosseinion 2011). Tierra received a Notice to Proceed from Ms. Cheryl Tubbs of Lilburn Corporation on March 2, 2020. After negotiations leading to a mutual agreement about the scope of work between representatives of the County of San Bernardino, Lilburn Corporation, and the San Manuel Band of Mission Indians (SMBMI), fieldwork began with the laying out the STP grid on May 11th. The actual testing took place on May 13-15 and 18-20, 2020.





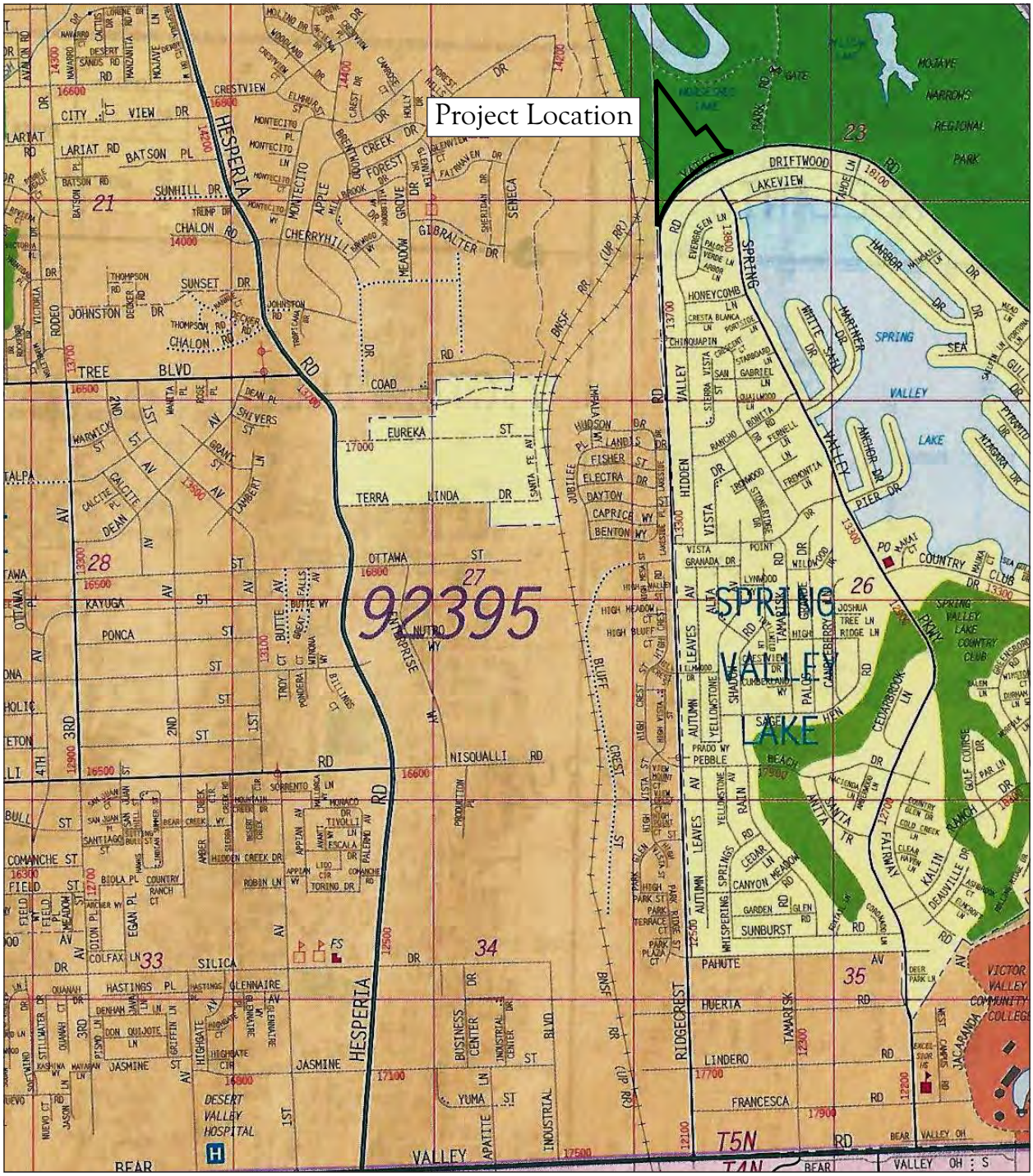
USGS 30x60' Series 1:250,000 Scale

N

0 2 4
MILES

Figure 1
Regional Location Map

TIERRA
ENVIRONMENTAL SERVICES



Source: Rand Mcnally & Company, 2007

Figure 2. Residential Street Map

0 300 600
METERS

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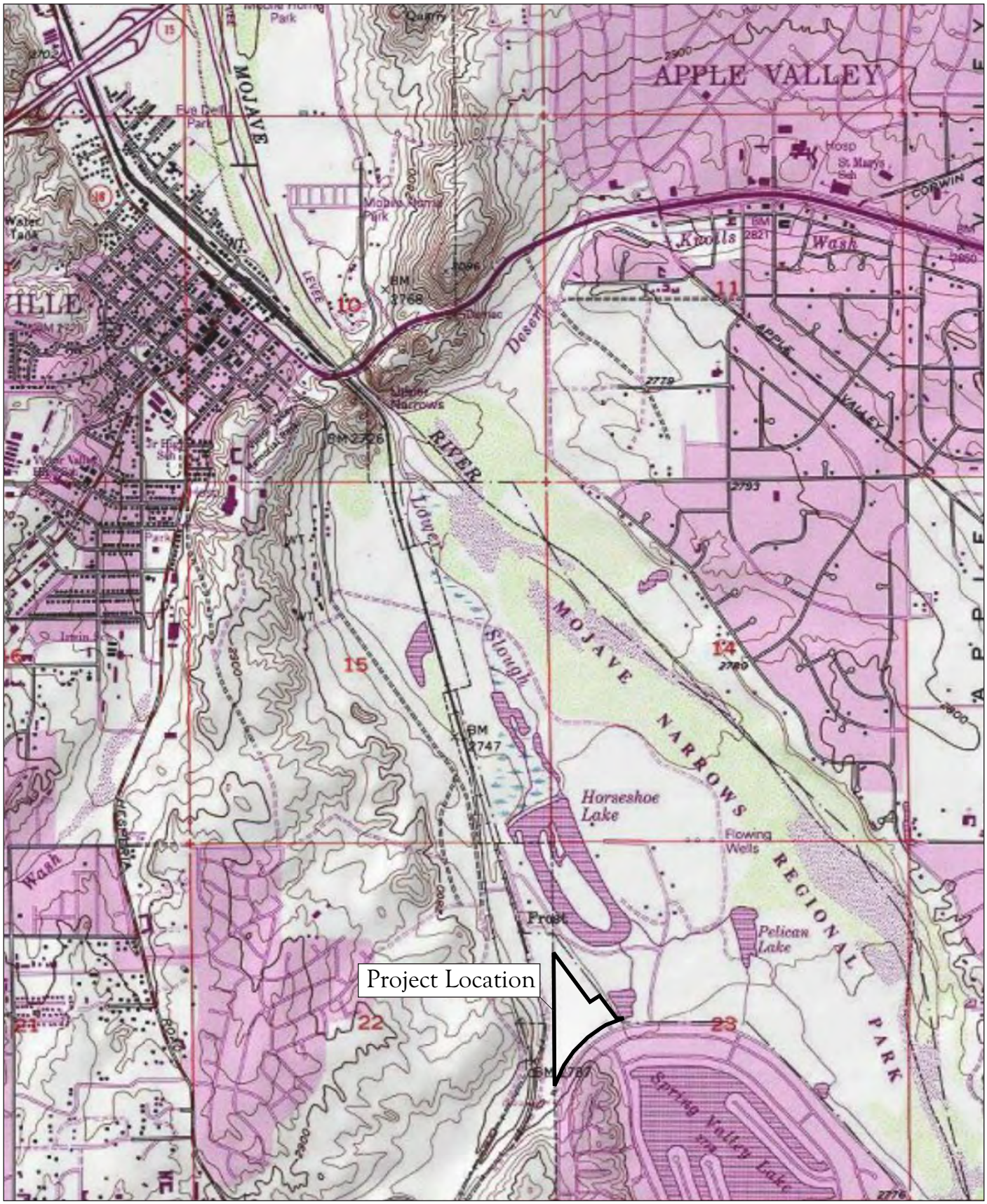
ENVIRONMENTAL SERVICES



USGS 7.5' Series 1:24,000 Scale
Quadrangle: Victorville, CA 2006

Figure 3. Project Location Map

TIERRA
ENVIRONMENTAL SERVICES

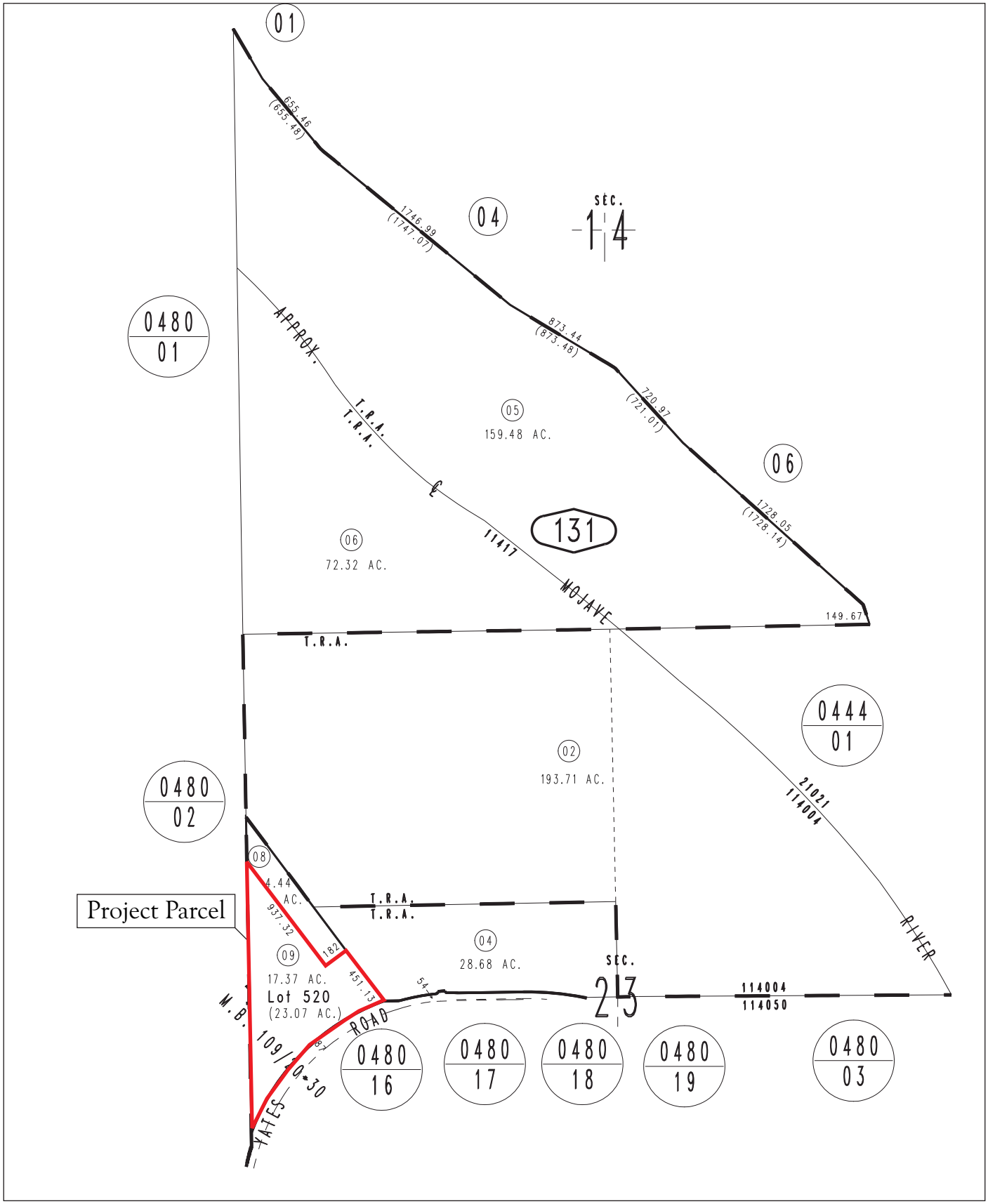


Figure 4. Assessor's Parcel Map

0 150 300
METERS

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ENVIRONMENTAL SERVICES

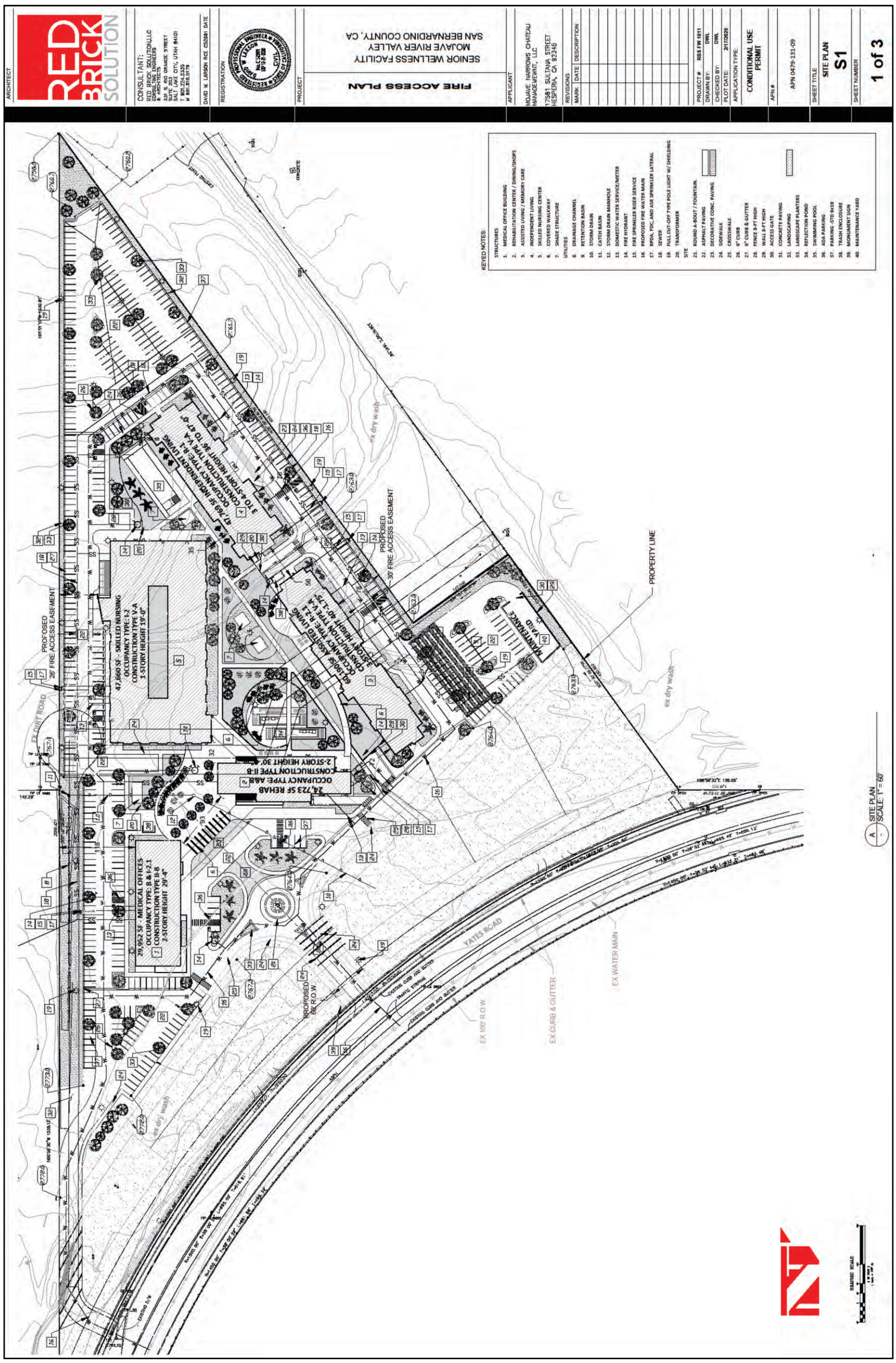

Figure 5: Site Plan

Figure 6. Previously Recorded Artifacts Scatters and Former Site Boundaries

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1.3.1 TASK 1. Archival Review, Site Visit, and Coordination

This involved a review of the Phase I report by McKenna, including the results of their records search, especially those relating to SBR-4313/H, as well as a site visit by Dr. Michael Baksh, Co-Principal Investigator and Principal of Tierra, and Dr. Philip de Barros, Co-Principal Investigator and Senior Archaeologist, on March 5th.

1.3.2 TASK 2a. Excavation and Recordation

As specified in the 2020 "Phase II Archaeological Testing Plan for the Victorville Residential Care Facility," testing was to be conducted by way of 60 hand-excavated, 50 x 50 cm Shovel Test Pits (STPs) placed across the furthest recorded extents of site SBR-4313/H that lie within the project area. The STPs were to be laid out in a systematic manner on transects spaced about 45 m apart. Each STP was to be excavated to a depth of 40 cm, as this is the lowest known depth of the site as indicated by Drover's (1980) single test pit. If artifacts were encountered within these 40 cm, excavations would continue through at least 20 cm of sterile soil. If many cultural constituents were found close to current site boundaries, as many as 10 STPs outside of the site boundaries (but within the project area) were to be excavated to confirm that subsurface components do not extend beyond the presently recorded extents of the site (Figure 6). In the areas where this situation would apply, few cultural constituents were noted either on the surface or in the STPs. Most of the latter were entirely sterile; the others produced only 1-2 possible prehistoric artifacts or mostly glass fragments. This result allowed us to use the 12 extra STPs to help further identify areas with subsurface deposits, along with any 1 x 1 m Controlled Excavation Units (CEUs) Tierra might excavate at their discretion.

All site soils were to be screened using 1/8-inch mesh. All artifacts and features (such as a hearth) were to be photographed and attributes recorded prior to being reburied in their respective STP or CEU. No collections were to be made and no laboratory analyses were conducted.

The original scope of work included relocating potential midden soils, identified as "dark areas" by Drover (1980) and McKenna (2017: Figure 5). Attempts to locate these soils were not productive. During a site visit on March 5th, Drs. Baksh and de Barros concluded that the darker areas along the northeastern part of the property were the result of the decay of the dense vegetation in that area. A later examination by Dr. Baksh and the SMBMI Tribal Archaeologist, Alexandra McCleary, confirmed this interpretation. This allowed Tierra's team to use the extra STPs and CEUs to help locate potential subsurface deposits based on the result of the initial set of STPs. The area of "dark soils" did not produce significant material.

Before beginning the fieldwork, Tierra tried to create a grid of 60 STPs spaced 45 m apart across the furthest extent of SBR-4313/H within the project area but found this was not possible. Instead, Tierra proposed a grid of 48 STPs spaced 45 m apart with an additional 12 STPs to be used to explore for subsurface deposits based on the results of the initial 48 STPs. In addition, given the dense vegetation in many areas, Tierra proposed that while every attempt would be made to excavate STPs at the grid points, when the point was in dense vegetation, its location would be adjusted up to a few meters to place it on open ground, with its new UTMs coordinates recorded.

The northwest corner of each 50 x 50 cm STP would be aligned with the original or adjusted grid point. These proposed changes were shared with the SMBMI, Lilburn Corporation and the County of San Bernardino prior to fieldwork.

1.3.3 TASK 2b. Treatment of Non-Funerary Discoveries

The Phase II testing plan stated that the soils, artifacts and features from each STP or CEU would be recorded and photographed as appropriate. For each STP or CEU, the following attributes would be recorded: STP or CEU number and associated grid point UTMs; excavated depth; Munsell soil color designation along with data on soil compaction and moisture content; and date of excavation. For formal artifacts, attributes recorded include STP or CEU number and date recovered; depth or 10-cm level; artifact type, material and quantity; and dimensions and weight of formal Indian tools. Artifacts and features, as well sample soil conditions, were photographed. Additional descriptive notes about artifacts were also included and each artifact or group of artifacts were given a field catalog number. All data was recorded in a testing log, now organized into a Master Catalog in Excel. Photographs were also taken of types of disturbance to the property, e.g., dirt roads, berms, trash dumps and sewer lines. All finds were reburied at the end of each day since no collection or analysis was in the scope of work.

1.3.4 TASK 2c. Treatment of Funerary Discoveries

This section of the plan listed procedures required by law and statute for the discovery and treatment of human remains or associated grave goods. The only possible items of concern were two *Olivella* side wall beads from different excavation units in the north of the site and associated charcoal and animal bone. The Tribal Archaeologist, Alexandra McCleary was shown one of these beads in the field. Both beads were reburied.

1.3.5 TASK 3. Preparation of a Technical Report

A Draft Phase II Testing Report was to be prepared that includes all testing logs, descriptive information on the soils of each STP or CEU, photographs of finds, etc. Tierra has provided much of this information in two tables, one that is a Master Catalog in confidential Appendix B with various descriptive data derived from the testing logs and field notes; the other table is a summary of STP and CEU artifact finds, counts and frequencies (see below).

The report must also include site significance recommendations under CEQA criteria and site and isolate records resulting from as needed. An updated site form for SBR-4313/H has been included. The report is to be submitted to Lilburn Corporation for distribution to the Applicant, San Bernardino County and the SMBMI. After receiving comments from these three parties, Tierra will distribute the Final Phase II Testing Report for approval. Once approved it will be resubmitted to Lilburn Corporation for final distribution. Only then will the report be sent to the South Central Coast Information Center (SCCIC), including the separate confidential Appendix C containing all site and isolate records.

1.4 PROJECT PERSONNEL

The overall project manager and Co-Principal Investigator of the project is Dr. Michael Baksh, Principal of Tierra. The other Co-Principal Investigator and Senior Archaeologist is Dr. Philip de Barros. Unfortunately, Dr. de Barros injured his back and was unable to fully participate in the fieldwork but kept in touch by phone as work progressed. Besides a site visit on March 5th, he also spent a full day at the site on May 18th. Other personnel include Kyle Stankowski who has worked as an archaeologist with Tierra for eight years; Kevin Keckiesen has a B.A. in Anthropology from the University of California at Riverside with more than three years' experience in southern California archaeology and works full time with Tierra. Kathleen Brown is the desert site collections manager at the Museum of Man with more than four years' experience in southern California archaeology, including two years of archaeological monitoring. This is her first job with Tierra. Nicole Dimmick is a student in the Palomar College A.A. Degree Program in Archaeology who also spent four weeks working as an archaeologist in Togo, West Africa, with Dr. de Barros on traditional ironworking sites in the tropical savanna-woodland. Finally, Tierra worked with SMBMI's tribal archaeologist, Alexandra McCleary, during two site visits on May 11th and 18th.

1.5 REGULATORY FRAMEWORK (from Michael Baker International 2019: Section 3.5).

1.5.1 CEQA and the Public Resources Code

State historic preservation regulations affecting the project include the California Environmental Quality Act (CEQA) and its Guidelines Section 105064.5, as well as the Public Resources Code (PRC) Sections 20183.2 and 21084.1. CEQA requires lead agencies to carefully consider the potential effects of a project on historical resources, which includes any object, building, structure, site, area, place, record or manuscript which is archaeologically or historically significant (PRC Section 5020.1). Section 15064.5 of the CEQA Guidelines specifies criteria for evaluating the significance or importance of cultural resources, including:

- The resource is associated with events that have made a contribution to the broad patterns of California history;
- The resource is associated with the lives of important persons from our past;
- The resource embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of an important individual or possesses high artistic values; or
- The resource has yielded, or may be likely to yield, important information in prehistory or history.

Several documents provide advice on procedures to identify, evaluate their importance, and estimate potential effects on a resource, such as a series of papers produced by the Governor's Office of Planning and Research (OPR). This advice strongly recommends that Native American concerns and concerns of other interested persons or groups, including but limited to museums, historical commissions, associations, and societies, be contacted regarding the identification of resources. Moreover, California law protects Native American burials, skeletal remains, and

associated grave goods regardless of age and requires the sensitive treatment and disposition of such remains.

1.5.2 Assembly Bill 52

This bill recognizes tribal cultural values in addition to the scientific and archaeological values when determining impacts and mitigation. This was done by identifying a category of resources called tribal cultural resources (TCRs). Such a resource must be listed, or determined eligible for listing, on the national, state, or local register of historic resources, or be a resource that a lead agency chooses to treat as a tribal cultural resource based on California Register of Historical Resources criteria presented below and the cultural value of a resource to a California Native American tribe (PRC Section 21074). To identify TCRs, lead agencies are required to consult with local Native American tribes in a manner that is cognizant of all parties' cultural values and, where feasible, seek agreement on a proposed action. A project with an effect that may cause a substantial adverse change in the significance of a TCR is a project that may have a significant effect on the environment (PRC Section 21084.2).

1.5.3 California Register of Historical Resources (CRHR)

The CRHR provides authoritative guidance for state and local agencies, private groups, and citizens to identify the state's historical resources and which help indicate which properties are to be protected, to the extent feasible and prudent, from substantial adverse change. The criteria for eligibility are based on the National Register of Historic Places (NHRP) criteria. Resources formally determined eligible for, or listed in, the NRHP, State Landmarks and State Points of Interest. The State Historic Preservation Officer (SHPO) makes determinations of eligibility for listing on the NRHP and the CRHR.

Substantial adverse effect to a resource is defined in PRC Sections 5020.1(q) and 21084.1. It means demolition, destruction, relocation, or alteration such the site's significance would be impaired. Such impairment of significance would be an adverse impact on the environment.

Cultural resources consist of buildings, structures, objects, or archaeological sites. The steps required to be implemented to determine significance in order to comply with CEQA Guidelines are:

- Identify cultural resources
- Evaluate the significance of the cultural resources based on established thresholds of significance
- Evaluate the effects of a project on all cultural resources.
- Develop and implement measures to mitigate the effects of the project on significant cultural resources.

California Government Code Sections 6253, 6254, and 6254.10 authorize state agencies to exclude archaeological site information from public disclosure under the Public Records Act. Other statutes or codes ensure the confidentiality of Native American cultural place information. The California Historical Resources Information System (CHRIS0 is required to protect the confidentiality of the locations of all types of cultural resources to ensure they are not publicly

accessible.

Finally, any project site located on non-federal land in California is also required to comply with state laws pertaining to the inadvertent discovery of Native American human remains.

1.5.4 California Health and Safety Code Sections 7050.5, 7051 and 7054

These code sections collectively address the illegality of interference with human burial remains as well as the disposition of Native American burials in archaeological sites. The law protects such remains from disturbance, vandalism, or inadvertent destruction and establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project, including the treatment of remains prior to, during, and after evaluation, and reburial procedures.

1.5.5 San Bernardino County General Plan

This document presents general policy and requirements that ensure the fulfillment of all statutes and laws protecting cultural resources in San Bernardino County. This intent is reflected in the following policy guidelines from Policy Goal 3: The County will preserve and promote its historic and prehistoric cultural heritage.

- Policy CO 3.1:Identify and protect important archaeological and historic cultural resources in areas of the County that have been determined to have known cultural resource sensitivity.
- Policy CO 3.2: Identify and protect important archaeological and historic cultural resources in all lands that involve disturbance of previously undisturbed ground.
- Policy CO 3.3: Establish programs to preserve the information and heritage value of cultural and historical resources.
- Policy CO 3.4: The County will comply with Government Code Section 65352.2 (SB 18) by consulting with tribes as identified by the California Native American Heritage Commission on all General Plan and specified plan actions.
- Policy CO 3.5: Ensure that important cultural resources are avoided or minimized to protect Native American beliefs and traditions.

1.5.6 San Bernardino County Development Code 82.12, Cultural Resources Preservation (CP) Overlay

The Cultural Resources Preservation (CP) Overlay focuses on the identification and preservation of important archaeological and historical resources where they are known or likely to be present. These resources must be listed on one or more of the following inventories: California Archaeological Inventory, California Historic Resources Inventory, California Historical Landmarks, California Points of Interest, and/or National Register of Historic Places.

SECTION II – NATURAL AND CULTURAL SETTINGS

2.1 NATURAL SETTING (see also McKenna 2017: 3, 7-8)

The project area is bounded by Mohave Narrows Regional Park to the east; the Mojave River to the east, northeast and north; Bear Valley Road to the south; Hesperia Road to the west, and Interstate-15 further to the west and northwest. The project area is relatively flat, ranging between 2,765 and 2,780 feet AMSL with the highest terrain in its northern part; in fact, it is adjacent to the Lower Slough of the Mojave River, part of which is now known as Horseshoe Lake in the Mojave Narrows Regional Park. The project area is just east of the City of Victorville on the west side of the Mojave River; west and southwest of Apple Valley (on the east side of the river) and Lucerne Valley along Highway 18; southwest of the City of Barstow; and south and southwest of the towns of Oro Grande and Adelanto, respectively (Figures 1-3). It is also near the hills that make up the Mojave Narrows geological formation.

In terms of mountainous regions, the San Bernardino Mountains are well to the south; Silver and Quartzite Mountain to the north reaching 4,211 and 4,532 feet in height, respectively; and Fairview Mountain and Bell mountains to the northeast peaking at 4329 and 3897 feet, respectively. The Granite mountain range is to the east and the Ord Mountains are to the southeast, reaching maximum heights of 4,783 and 4,485 feet, respectively. Major hydrographic features of the region include the Mojave River and Oro Grande Wash (Figures 1 and 3).

In terms of the regional geology, the project area is located at the southern edge of the Western Mojave Desert. The mountains in the general vicinity were created by late Tertiary and Quaternary extension type faulting, and are composed of Mesozoic crystalline rocks, volcanic and sedimentary rocks of Tertiary age, and local basalt flows and sediments of the Quaternary. Typically the mountains are separated by basins (or valleys) that have no external drainage network leading to the creation alluvial basins characterized by playas or dry lakes or sinks into which seasonal rains drain, often disappearing before they reach them (Dibblee 1967; Wright and Frey 1965:289, cited in McCorkle-Apple and Lilburn 1992:2). Lithic resources useful to prehistoric populations include ridges and buttes which rise above an unconsolidated alluvium composed of granitic and metamorphic cobbles and gravels eroding from the San Bernardino Mountains. This includes outcrops of cryptocrystalline (chert, chalcedony, vein quartz) and volcanic (basalt, rhyolite, felsite) rocks, as well as a range of these same materials in the cobble deposits of streambeds and washes (Hall 1993:6). The general area around Apple Valley is mined for its high-quality limestone, calcium carbonate and gravels for the construction industry (Duke and Shattuck 2003 cited in McKenna 2019:6). Settlement was greatly determined by the presence of various sources of water, such the Mojave River, especially where it flows above ground, subsurface aquifers, and intermittent creeks and washes, including those that originate in the higher mountains and springs (Earle 1998; Thompson 1929, as cited in Potter *et al.* 2014:13).

The moderately arid climate has been described by McCorkle-Apple and Lilburn (1992:2) and Axelrod 1979) as transitional between the colder climate of the Great Basin and the subtropical Sonoran Desert. Temperatures range from below 60^{o} to over 100^{o} F. Evaporation exceeds precipitation due to low precipitation and high temperatures, especially in areas below 5,000 feet

(Warren and Crabtree 1986:183). Rainfall ranges from 14-16 inches (35-40 cm) in the western end of Antelope Valley to 5-6 inches (12-14 cm) east of Barstow. This rainfall gradient creates changes in vegetation from west to east, from foothill scrub oak woodlands to Joshua-juniper woodland to creosote and shadscale scrub (Potter *et al.* 2014:13).

Flora is predominately creosote bush scrub (*Larrea divaricata*) and salt bush (*Atriplex confertifolia*). Both communities are drought-tolerant with salt bush often associated with nearby dry lakes or playas. Other species include various types of cactus and blackbrush (*Coleogyne ramosissima*) (Barbour and Major 1977). While this is true of the general area, the 2017 survey by McKenna (2017:32) observed the following:

> Vegetation within the property consists of a basic desert scrub biotic community, but without the standard creosote bushes. The existing flora is dominated by desert sagebrush and an occasional Joshua Tree. Cottonwood riparian vegetation is present along the wash in the southeastern portion of the property. [However, historical records show this wash is probably the result of drainage being rerouted around a recent housing development along Yates Road.]

Local fauna includes birds, reptiles, rodents and small carnivores. Reptiles include the desert tortoise (*Gopherus agassizi*), shovelnose snake (*Chionactis occupitalis*), rattlesnakes (*Crotalus* sp.), chuckawalla (*Sauromalus obesus*) as well as various species of lizards. Birds include the sage thrasher (*Oreoscoptes montanus*), raven (*Corvus corax*), LeConte thrasher (*Toxostoma lecontei*), cactus wren (*Heleodytes brunneicapillus*), American coot (*Fulica americana*), turkey vulture (*Cathartes aura*), the red-tailed hawk (*Buteo jamaicensi*) and various species of ducks. Carnivores include the bobcat (*Felis rufus*), desert kit fox (*Vulpes macrotis*), coyotes (*Canis latrans*) and the badger (*Taxidea taxus*). Small mammals include ground squirrels (*Spermophilus* sp.), cottontail jackrabbits (*Sylvilagus audobonii*), woodrats (*Neotoma* sp.) and black-tailed jackrabbits (*Lepus californicus*). Large herbivores are not common but include mule deer (*Odocoileus hemionus*) and desert bighorn sheep (*Ovis canadensis*) at higher elevations.

2.2 CULTURAL HISTORICAL SETTING (quoted from de Barros 2004)

2.2.1 General Scenario for Southern California

The earliest period of human occupation in North America currently accepted is called Period I by Wallace (1978). It is dated from approximately 12,000 to 6,000 B.P. This period has been called San Dieguito, Playa, or Lake Mojave in Southern California. The last term is the one used to describe the culture complex in the Mojave River sink region. Lake Mojave Culture is characterized by Silver Lake and Lake Mojave projectile points and corresponds to post-Pleistocene conditions that were cooler and wetter than the present. As such, the Lake Mojave Complex is best seen as part of a larger regional adaptation. Bedwell (1970) has proposed the term Western Pluvial Lakes Tradition. It is characterized by: 1) site locations near major water sources, 2) an absence of groundstone, 3) a flaked stone industry with long stemmed points, and, 4) a stone tool kit which included large core and flake scrapers, scraper-planes, choppers, and hammerstones (see Altschul et al. 1985:24).

This early culture, also known as the Early Hunting Stage, represents the post-Pleistocene adaptation to big game hunting of large mammals, possibly even members of the late Pleistocene megafauna, such as the mammoth, although direct evidence of this type of aboriginal exploitation is largely lacking from southern California. If gathering was also part of this early subsistence strategy, plants were apparently not being processed with a groundstone technology. This early hunting tradition basically came to an end around 6000 B.P. This is probably due to the advent of much warmer and drier times associated with the Altithermal which led to a shift in subsistence strategies focused on plants and small game.

The following period, termed the Millingstone Horizon (Wallace 1955), or Encinitas Tradition (Warren 1968), dates from approximately 6000 B.C. to 1000 B.C. This horizon marks the technological advancements of seed grinding for flour and the beginning of the use of marine resources. Diagnostic artifacts for this tradition include manos, metates, scraper planes, choppers, core tools, doughnut stones, discoidals, and cogstones. Cogstones are viewed as earlier than discoidals. This period includes archaeological cultures/complexes such as Pauma, La Jolla, Topanga, Oak Grove, and Sayles (cf. Moratto 1984). This period was not homogeneous either from a synchronic or diachronic perspective.

The next period, or Intermediate Period (see Wallace 1955), lasted from about 1000 B.C. to perhaps A.D. 500. It is marked by a diversification of subsistence patterns and increased regional specialization. These trends began during the latter part of the Millingstone Period. This period is marked by the introduction of the use of acorns and the bow and arrow. The pestle, which appeared during the latter part of the Millingstone Period, becomes more common during the Intermediate Period. Hunting appears to be more important during this period than the last (i.e., more projectile points), although this may be a sampling problem. During this period the atlatl and dart gives way to the bow and arrow.

The Late Prehistoric Period (post A.D. 500 to contact times) is marked by the growth of regional specialization, the growth of trade, an increased diversification of technology, and the rise of more numerous semi-sedentary or permanent villages. The making of pottery and the development of a steatite industry appear between about A.D. 1000-1500. Trade goods, such as obsidian and steatite artifacts as well as shell and steatite beads, increase in number.

2.2.2 Mojave Desert Sequence

The scenario presented in the previous section applies best to sites located in the interior non-desert region of Southern California. The Crowder Canyon sites located ten miles to the west (and the Cajon Pass in general) are situated at the boundary between the interior and the desert (Basgall and True 1985:3.8), but they are nonetheless viewed as primarily an Inland Millingstone manifestation (Warren 1989, personal communication). The sites in Summit Valley south of Hesperia have traditionally been viewed as desert sites. While such categorizations may be an oversimplification of reality and may in fact impede our understanding of the adaptations within the Upper Mojave River drainage, it is useful for later discussions to outline the basic chronological sequence for the Mojave Desert.

This sequence is taken largely from Earle et al. (1997) which draws heavily on Warren's (1984; Warren and Crabtree 1986) desert chronology, which are both based in part on temporally sensitive projectile points and shell beads. Earle et al. (1997) note that there is not yet a consensus on a prehistoric cultural chronology for the western Mojave region, largely because of insufficient chronometric data. As a result, there has been a tendency to borrow from other regions with modifications based on local data. This is indeed the case here, with Warren's desert chronology serving as the framework, though there has been some modification of Warren's terminology based on Earle et al. (1997). Please note that paleoclimatic data area included in the chronological periods presented below.

The Late Pleistocene (pre-10,000 B.C.)

Without going into any detail, suffice it to say that while late Pleistocene occupation in southern California (pre-10,000 B.C.) has been proposed for the Calico site near Barstow, China Lake, Manix Lake and Coyote Gulch, and Manly Terrace in Death Valley, there is no strong evidence that the artifacts recovered are actually man-made and that they date prior to 10,000 B.C. and are directly associated with Pleistocene deposits. However, this does not rule out the possibility that such evidence may one day be forthcoming (see Byrd 1998:5-6).

Fluted Point Period - Circa 10,000 to 8,000 B.C.

This period was originally part of Warren's Lake Mojave Period. Earle et al. (1997) describe it as follows:

> The late Pleistocene between approximately 10,000 B.C and 8,000 B.C. is characterized by warming temperatures and a corresponding glacial retreat and rise in sea level (Moratto 1984). Large pluvial lakes, which had formed in basin areas under glacial conditions, reached their maximum size during the wetter conditions between 10,000 and 9,000 B.C. and then began to recede as the climate continued to grow warmer (*ibid*.). Mojave Desert plants associated with colder Pleistocene environmental conditions, pinyon and juniper, for example, also retreated upslope and were replaced by creosote and white bursage (Grayson 1993:199). This period also saw the extinction of Rancholabrean megafauna (Moratto 1984).
>
> The primary diagnostic artifact from this period is the Clovis Point, although Fluted Point Period assemblages also include crescents, gravers, perforators, scrapers, and choppers (Davis 1978). Fluted Point Period assemblages are found near lakeshores, in grassland areas, and in mountain passes and have been found in association with Rancholabrean fauna (*ibid.*). Davis (1978) proposes that people who produced Fluted Point Period assemblages in the Great Basin and along the Pacific Coast were foragers rather than big game hunters as people in the Southwest and Great Plains appear to have been (Moratto 1984).

Clovis Points have been reported from Lake Mojave (Amsden 1937:51-98), China Lake (Davis 1978:4-152), and from several sites in the Owens Valley and nearby Great Basin areas (Campbell 1949:340; Davis and Shutler 1969:154-169; Basgall 1984; cf. Basgall and True 1985:3.10). Earle et

al. (1997:54) also note that Clovis points have been discovered along the old shorelines of Tulare Lake in the southern San Joaquin Valley; in addition, two fluted points have been found in the Antelope Valley or the adjacent mountain areas (see Glennan 1971 and Boyer and Underwood 1995, as cited in Earle et al. 1997:54).

Lake Mojave Period - Circa 8,000 to 5,000 B.C.

The climate during this period continues a drying trend that persists into the following Pinto Period. Pluvial lakes continued to shrink resulting in marshes. By circa 6,000 to 5,000 B.C., most of these lakes were dry lakes or playas (Moratto 1984; Grayson 1993:194-195; Mehringer 1986:49). This dry trend led to the replacement of sage scrub by creosote and saltbush scrub in the lower elevations of the desert (Grayson 1993). In the Antelope Valley, the large Pleistocene Lake Thompson broke up into today's three dry lake playas known as Rogers, Rosamond, and Buckhorn Dry Lakes (Earle et al. 1997:54).

Most of the archaeological sites of this period in the northern Mojave Desert and southwestern Great Basin are tied to early Holocene lakeshores, where subsistence was focused on hunting and lacustrine resources (Sutton 1988b). Classic sites from this period are along the shoreline of Pleistocene Lake Mojave (Campbell et al. 1937). Artifacts from these sites include percussion-flaked foliate points and knives, stone crescents, Lake Mojave and Silver Lake points, and an increasingly diverse set of gravers, scrapers, and perforating tools (Earle et al. 1997:54). Byrd (1998) notes that chronometric dates associated with stratified deposits from this period are not common (Apple and York 1993; Davis 1978; Warren and De Costa 1964; and Warren and Ore 1978, as cited in Byrd 1998:6), and the beginning and ending of this period have not been well determined.

Microcrystalline rocks were the lithic materials of choice for this period (Gilreath et al. 1987; Byrd 1998). Until recently, groundstone tools were not viewed as part of the Lake Mojave artifactual assemblage. However, recent fieldwork at Fort Irwin at buried sites has consistently recovered low frequencies of millingstones and a variety of faunal remains with relatively few large mammals in association with Lake Mojave assemblages, which is seen as reflecting a generalized foraging strategy with little change into the following Pinto Period (see Basgall 1993a, 1993b; Basgall and Hall 1992, 1994; Hall 1993 as noted in Byrd (1998:7); see also Basgall et al. 1988; McGuire and Hall 1988). Byrd (1998:7) continues:

> Basgall and Hall (1992:5) suggest that the apparent lacustrine orientation of this period is a construct of site formation processes and the geomorphology of the region – it is the result of where the easily identifiable surface sites are situated. The Lake Mojave settlement pattern was not just focused around well-watered lacustrine localities. Moreover, they assert that the climate of the early Holocene differed little from subsequent periods. This recent interpretation has not met with complete acceptance, particularly with respect to the settlement focus and the degree of climatic change (Cleland and Spaulding 1992; Warren 1984; Warren 1994) . . . Much more research is needed at clearly lacustrine settings to resolve these differing interpretations . . .
> (Byrd 1998:7)

> Regarding the Antelope Valley, Earle et al. (1997:55) note that
> three separate sites at Edwards AFB (. . .KER-1777, -KER-2059, and KER-3361) produced three complete Silver Lake points and site KER-1830 produced two complete Silver Lake points (Wessel 1990:49). Site KER-2038 produced three complete Lake Mojave projectile points. Two isolated points and one isolated broken obsidian Lake Mojave point (Silsbee 1996a) have been identified. Two more point fragments produced obsidian hydration results that appear to place them within the Lake Mojave Period. The hydration rind on one fragment from site KER-1830 is 8.4 microns wide (Wessel 1990:49) and on one fragment from site KER-2817 is 9.3 microns wide (York 1991).
> (Earle et al. 1997:55)

Clearly identifiable Lake Mojave and Silver Lake points have not as yet been recovered from Summit Valley sites in the project area, suggesting that such sites do not exist or that early sites have been buried or eroded away by shifts in the course of the West Fork of the Upper Mojave River.

Pinto Period - Circa 5,000 to 2,000 B.C.

Earle et al. (1997) describe the paleoclimatic and human settlement interface during this period as follows:

> The Pinto Period coincides with what Antevs (1953) identified as the Altithermal climatic event, a period he characterized as being the hottest and driest of the Holocene, in his words a "long drought." Subsequent research has shown this period to have been much more variable in moisture and aridity than Antevs believed but nevertheless generally more arid than currently (Grayson 1993:215-216; Mehringer 1986:31, 49-50). It has been proposed that human populations were reduced in size and widely dispersed, due to the desiccation of wetter habitats during this event (Moratto 1984:546). Pinto Basin sites are typically associated with extinct rivers. The Pinto Period settlement pattern appears to indicate a change from a lacustrine adaptation to an adaptation based on subterranean or seasonal water sources as people moved away from the shores of now-dry lakes to intermittent stream drainages and springs (Warren 1984).

Earle et al. (1997) note that two models of the Pinto Period have been proposed. The first proposes an absence or hiatus of human occupation of the Mojave Desert from 5,000 to 3,000 B.C., followed by a very early onset of the Little Pluvial at 3,000 B.C. (5,000 B.P.), and a return to wetter conditions and renewed human occupation of the region. The second model sees cultural continuity from Lake Mojave times through the variably arid climatic conditions of the mid-Holocene, marked by the Pinto culture. This variability may have included interludes of wetter conditions from 4,500 B.C. through 3,500 B.C. The Little Pluvial is seen as not occurring until the end of the Pinto Period. This latter model is supported by research by Warren (1984), Mehringer (1986), and others. Earle et al. (1997) continue:

> One major unresolved issue relating to this period is the variability in site assemblages between the eastern and western Mojave Desert, with a relative dearth in reported milling equipment for the latter area, but not the former. This has been cited as evidence for wetter

> conditions during this period, since an absence of hard seed processing under arid conditions seems extremely implausible (Warren 1984:413-414). A second important issue is the timing and intensity of wetter conditions during mid-Pinto times and its possible archaeological expression. In any case, Pinto sites appear to be small, without midden, and seasonal, grouped around stream courses or springs, and indicating small and mobile user populations. Warren suggests that during the drier phases of the Pinto Period, these populations may have withdrawn to oases and the desert margin, and that the desert sites associated with Pinto technology represent ephemeral occupations during wetter times. (Earle et al. 1997:55)

Bamforth (1989:5) notes that during the [later] Lake Mojave and Pinto Periods, relatively sparse artifact assemblages suggest that aboriginal populations were dispersed in small, mobile groups and frequently shifted their residences as they depleted local resources. This fits Binford's (1980) "foraging" adaptation (see Bedwell 1973; Lyneis 1982; Moratto 1984:93; Rogers 1939; Wallace 1958; Warren et al. 1986). Buried sites with robust occupation deposits are uncommon. And, as Byrd (1998:7) notes, the relatively modest number of radiocarbon dates has resulted in considerable disagreement about chronometric beginning and ending dates for the Pinto Period (see also Basgall 1993b; Hall 1993; Jenkins 1987; Jenkins and Warren 1984; Meighan 1989; Warren 1984, 1994).

Artifacts of the Lake Mojave Period inter-graded into the Pinto Period assemblages (Harrington 1957; Campbell and Campbell 1935; Schroth 1994; Vaughan and Warren 1987; Warren 1984; Byrd 1998), which are typified by thick, heavy, roughly fashioned, slightly shouldered, stemmed dart points with indented bases, leaf-shaped bifaces, and various unifacial tools (including plano-convex scrapers and core-cobble tools), and milling equipment consisting of manos and metates (Campbell and Campbell 1937; Rogers 1939) (cf. Basgall and True 1985:3.11). According to Warren (1989, personal communication), the milling assemblages from desert sites do not correspond with the more complex interior Millingstone Period assemblages. In general, millingstones are rare during the Pinto Period (Warren 1984:413-414; Wallace 1962).

Warren (1984:413-414; Warren and Crabtree 1986:187) argues that the Pinto period was basically an extension of the Lake Mojave period adaptation emphasizing both hunting and gathering (but little or no hard seed processing). Byrd (1998:7) notes that extensive, recent research at Fort Irwin during the last 15 years has resulted in a somewhat different interpretation (Basgall 1993a; Basgall and Hall 1992; Hall 1993):

> Ground stone artifacts were recovered in quantities similar to that noted in subsequent periods. Subsistence patterns appear to have been more diversified and characterized by a greater reliance on plant resources and small animals. Thus, plant seed processing appears to have been an integral aspect of the subsistence pattern along with the extensive use of a wide range of large and small faunal resources (Basgall and Hall 1992:5). Within the boundaries of Fort Irwin, this period was characterized by an extremely broad land use pattern and much more diversified subsistence system involving a geographically dispersed foraging strategy (Byrd 1998:7-8).

McGuire and Hall (1988:310-317; see also Basgall et al. 1998) have also emphasized that plant processing was done not only with metates and manos, but also with mullers and hammerstones.

Warren (1990, personal communication) has countered that his concept of a "subsistence focus" is not based on faunal remains alone but is a cultural strategy which has its origins during an earlier, wetter period.

Pinto Period lithic materials range from obsidian and fine-grained basalts to increasingly lower quality cherts, rhyolites and other igneous rocks, as well as quartz materials. Obsidian is generally from the Coso Volcanic Field, while other materials are generally available locally. A study of materials from Pinto Period sites in the Antelope Valley shows that flaked stone tools are much less common than during the following Saratoga Springs and later periods (Earle et al. 1997:55).

At Edwards Air Force Base, Earle et al. (1997:55-56) note that to date, at least 17 Pinto points are known from the Base, and 6 sites have produced such points. In addition to these sites, possible Pinto Period sites occur most often in the northern portion of Edwards AFB. Norwood (1987b:104) noted that these lowland areas contain evidence of substantial occupations. If these occupations are coeval with the Pinto Period, they would contradict the hypothesis of smaller, more dispersed populations during the Pinto Period.

A Pinto-like point was found on the surface at SBR-1674 and two Pinto points have been recovered from SBR-6580 (see Sections 3.2.3.5 and 3.2.3.7). Both sites are in Summit Valley within the project area.

Gypsum Period - Circa 2,000 B.C. to A.D. 500

Earle et al. (1997:56) describe Gypsum Period settlement patterns as follows:

> Gypsum Period settlement patterns appear to have been quite similar to those of the previous Pinto Period. However, milling equipment becomes more common on sites and the mortar and pestle are believed to have been introduced during this period (Wallace 1955:222-223; Warren 1984:416). It is hypothesized that this development may be associated with the beginning of large-scale tree crop utilization. Certain sites in the western Mojave Desert indicate that there may have been a relationship between mortar and pestle technology and groves of mesquite (*Prosopis glandulosa*) (Warren and Crabtree 1986:189). This suggests the exploitation of a new resource not present in the archaeological record prior to the Gypsum Period. In addition, acorn exploitation may have played a role in expanded settlement of the margins of the southwestern Mojave Desert. Acorn processing appears to have been present near the southern California coast by 3,000 B.C. (Moratto 1984:127,134). It may have increased in importance in interior southern California in areas where yucca and/or agave exploitation had previously been established as key subsistence activities (Moratto 1984:151). Although oaks did not occur in the center of the Antelope Valley, they may have supplied a portable food source that could have been transported into the area from nearby mountain slopes to the south and west, as happened in late prehistoric times. The shift in settlement system complexity may have been in part a response to the proposed Little Pluvial which Warren and Crabtree (Warren and Crabtree 1986:189) stated coincided with the beginning of the Gypsum Period. The expansion of native settlement in areas away from the coast in southern California appears

> to reflect the wetter conditions of the Little Pluvial and an expanded capability in exploiting terrestrial resources, particularly the acorn. Further inland, the introduced piñon pine had already by this time reached the westernmost margins of the Mojave Desert, and pine nut exploitation offered a new staple food. . .
> . . . During the Gypsum Period large villages or village complexes begin to appear in the archaeological record. This reflects a transition from the earlier pattern of seasonal transhumance into one of semi- or fully sedentary occupation within the Antelope Valley (Sutton 1988b). Based on their large size and the wide variety of artifacts present at Mesquite Flat in Death Valley and Corn Creek Dunes in southern Nevada, Warren (1984:419) suggests that they were permanent, seasonally occupied sites. The earliest evidence for seasonal migration during the annual foraging round dates to the Gypsum Period in Death Valley (Wallace 1977:121), where the Mesquite Flat peoples extended their food-collecting activities into the surrounding mountains.
> (Earle et al. 1997:56)

Sites contain considerably more material remains than during the previous period as recorded at Newberry Cave, the Rose Spring site, Gypsum Cave, and Stuart Rockshelter (Davis and Smith 1981; Smith et al. 1957; Lanning 1963; Clewlow et al. 1970; Harrington 1933; Shutler et al. 1960). Medium to large stemmed and notched points typical of the Great Basin (Gypsum Cave, Humboldt Concave Base, Elko Eared, and Elko Corner-notched) are typical of the early part the Gypsum Period, whereas Rose Springs series points appear later in the period. These may signal the shift toward the bow and arrow.

The Gypsum Period is characterized by residential bases associated with lowland plant resources, such as those found along the Mojave River, and in some of the lake basins which flooded during wetter years (Bamforth 1989:5). Hunting and seed-collecting were important subsistence items as grinding stones are much more common and mountain sheep and other ungulates show up in the faunal remains (Lyneis 1982; Warren 1984:414-420; Warren et al. 1986; McGuire and Hall 1988:319; Warren and Crabtree 1986:189). The emphasis on the hunting of large mammals is reflected in petroglyphs and split-twig figurines at Newberry Cave and in the Coso Mountains (Davis and Smith 1981; Grant et al. 1968; Smith et al. 1957; cf. Bamforth 1989:5-6). These cultural features were probably associated with the introduction of a hunting ritual which was a response to the gradual depletion of bighorn sheep by the bow and arrow (Grant et al. 1968; Warren 1984).

Hall and Basgall (1994) have noted that the settlement patterns of the Gypsum Period at Fort Irwin reflect increased use of valley floors and interbasin transportation routes; however, most sites reflect repeated short stays by mobile foragers (see also Byrd 1998:8).

Studies by Basgall et al. (1988:308) and McGuire and Hall (1988:318) indicate that the milling equipment from the Gypsum Period is very similar to that of the following Saratoga Springs Period when plant exploitation was the dominant element of subsistence (cf. Altschul et al. 1989:14). Differences in the flaked stone assemblages between the two periods is more pronounced (McGuire and Hall 1988:318; cf. Altschul et al. 1989:14). As noted earlier, Warren (1984:420) suggests that the appearance of the pestle later in the period reflects the processing of mesquite. In Summit Valley, the mortar and pestle could equally have been used for acorns from the San Bernardino Mountains and riparian areas.

The later Gypsum Period is also characterized by influence from the Southwest (Rogers 1939; Schroeder 1961), i.e., split-twig figurines, pit houses in the far Eastern Mojave, and pottery of the Basketmaker III style (cf. Altschul et al. 1989:14). Shell beads and ornaments from the California coast also find their way into Gypsum Period assemblages, albeit in small numbers, suggesting limited exchange or at least contact (Warren 1984:419). Some have hypothesized that the development of large, Late Prehistoric sites after A.D. 1000 is directly linked to the rise of trade along the Mojave River.

Moratto (1984:559-560, 567) summarizes linguistic evidence which suggests that by Gypsum times the Numic, Takic, and Tubatulabalic branches of Uto-Aztecan had become distinct, and that corresponding populations were in southern California. Takic-speakers were in most of their territory at contact by the end of the Gypsum Period. Numic-speakers were established in the southeastern California deserts and possibly the southern San Joaquin Valley well before their expansion into the east and northeast Great Basin, known as the "Numic expansion." This latter migration perhaps started as late as A.D. 1000 (see Moratto 1984:567-570) (Earle et al. 1997:56).

The diagnostic projectile points of this period are the Humboldt, Gypsum Cave, Elko Eared, and Elko Corner-notched types (Warren 1984:414-415). Other temporal periods that may correlate with Warren's Gypsum Period include the Early and Middle Rose Spring Periods (Lanning 1963; Clewlow, Heizer, and Berger 1970) and the Newberry Period (Bettinger and Taylor 1974) (see Earle et al. 1997:56).

According to Earle et al. (1997:57), Edwards Air Force Base archaeological studies have revealed that thirty-nine points considered diagnostic of the Gypsum Period have been found on Edwards AFB. They include 15 Humboldt points, 19 Elko points, and 5 Gypsum Cave points. If the 9 isolated finds are eliminated from the sample, the remaining 21 points come from 20 sites. Another six sites from the surrounding Antelope Valley have been radiocarbon-dated to the Gypsum Period, and obsidian hydration data suggest that there are a number of additional Gypsum Period sites. These data indicate that the Gypsum Period is well represented in the archaeological record at Edwards AFB.

Numerous sites appear to date to the Gypsum Period in the Summit Valley area, as evidenced by the presence of Elko or Elko-like points and/or other temporal data: SBR-303, -1615 (a probable yucca roasting pit site), -1624, -1672, -1673, -1674, -1886, -6580, and -7691.

Saratoga Springs Period - Circa A.D. 500 to 1200

The general pattern described above remained the same during the succeeding Saratoga Springs (1500-800 B.P.) and Protohistoric or Shoshonean Period (800 B.P to the historic); however, lowland villages decreased somewhat in size and the degree of seasonal foraging may have been less (Lyneis 1982; Barker et al. 1979:II.14-II.17; cf. Bamforth 1989:6). Large mammal hunting seriously declined, possibly due to overexploitation and/or changing climatic conditions (Bamforth 1989:6). This resulted in the ethnographic pattern of small seed (e.g., mesquite) and small animal procurement associated with more or less permanent villages located in areas of permanent water (Bean 1972; Bean and Smith 1978; see also Basgall et al. 1988; McGuire and Hall 1988).

The transition from the larger dart points to the smaller points associated with the bow and arrow correlates with the transition from the Gypsum Period to the Saratoga Springs Period (see also Yohe 1992). The replacement of the spear thrower or atlatl by the bow and arrow is thought to be complete by about A.D. 500 (Warren 1984:415).

The material culture of the Saratoga Springs Period is typified by manos, metates, mortars, pestles, ceramics, Rose Spring and Eastgate series projectile points (including Cottonwood points), and ornamental and ritual objects. Cottonwood points and ceramics are more typical of the later part of this period, and primarily Cottonwood (and the occasional Desert Side-notched) points have been encountered in the Upper Mojave River Drainage. As reliance on plants and small game increased, the tool kit became more specialized and was made from increasingly from a narrow range of local materials (Basgall et al. 1988; McGuire and Hall 1988), suggesting a less mobile subsistence strategy (Altschul et al 1989:15; McGuire and Hall 1988:323; Bamforth 1989; see also Basgall and Hall 1992:6). This is also reflected in increased tool production activities at habitation sites and the more expedient use of lithic materials at temporary camps (Bamforth 1989; McGuire and Hall 1988:323; cf. Altschul et al. 1989:15). In general, there has been a clear shift away from a foraging strategy to more of a collecting strategy (Binford 1980), resulting in a settlement/subsistence system consisting of residential bases, field camps (temporary camps), and procurement locations (Binford 1980, 1982; McGuire and Hall 1988:320; cf. Altschul et al. 1989:15). However, Byrd (1998:9) notes that some areas of the Mojave Desert continued to manifest a mobile, low density, residential settlement pattern, often around springs (see Basgall and Hall 1992; Warren 1988:45).

An Anasazi influence or presence (turquoise mining at Halloran Springs; Rogers 1929) is clear in the Eastern Mojave during the second half of the first millennium A.D., extending to the Cronese Lakes area (Drover 1979; Shackley 1987, 1988; York 1988; cf. Altschul et al. 1989:15). There is some debate as to whether Anasazi groups actually mined turquoise at Halloran Springs or traded for the turquoise (see Leonard and Drover 1980; Rogers 1929:12-13; Warren 1984, 1988:46-48, as cited in Byrd 1998:9).

While Anasazi influence is not evident in the Upper Mojave River Drainage Area, including the project area, contact with Hakatayan Groups (including the Yuman cultures of the Colorado River) does manifest itself in the form of ceramics (Tizon Brownware and Colorado Buff Ware) and arrow points (Cottonwood and Desert Side-notched) (Warren 1984:423). As Rogers (1945:175) noted some time ago, the Cottonwood Point appears throughout the Mojave River Valley before the appearance of ceramics (Warren 1984:423). Ceramics appear earlier in the Central and Eastern Mojave than they do in the Western Mojave and Upper Mojave River Drainage as witnessed by the presence of Colorado Buff Ware at Afton Canyon by ca. A.D. 900 (Schneider 1987, 1988) and its absence at Oro Grande (A.D. 800-1100) (Warren 1984:423; Altschul et al. 1989:15).

Warren also notes (1984:423) that the presence of shell beads at Oro Grande indicates that contacts/trade with the California Coast may date to this period and that such trade may have given impetus to Hakataya influence across the Mojave Desert (*ibid*.). However, the lack of pottery at Oro Grande and in the neighboring Antelope Valley during this period (*ibid*.) tends to reduce the importance of such contacts in these areas (Western Mojave) until the Protohistoric Period.

Earle et al. (1997 note that the spread of Colorado River cultural traits, formerly called Hakataya, into the southern Mojave Desert occurred during the late Saratoga Springs Period. They replaced the earlier Anasazi influences in the eastern Mojave Desert, and eventually reached the eastern fringes of the Antelope Valley along the Mojave River (Warren 1984:420). However, Warren and Crabtree (1986:192) remarked that in comparison with the rest of the southern Mojave Desert, the Antelope Valley seems to have had less influence from the Colorado River and more from the California coast, with cultural continuity visible from about A.D. 1 (Earle et al. 1997:57).

Commenting on the interaction between settlement patterns and climatic changes during this period, Earle et al. (1997:57) state that during the first half of the Saratoga Springs Period (particularly circa A.D. 700 to 900) climatic conditions in southern California appear to have been particularly favorable. This was followed by the onset of a serious drought lasting from A.D. 900 to A.D. 1100, followed by a 100-year period of recovery (Stine 1994). This sequence of favorable mesic conditions followed by prolonged drought is believed to have caused some degree of native demographic crisis, as previously expanding populations were threatened by starvation. This is believed to have led to a more intensive use of nonstaple, alternative subsistence resources.

Sutton (1988:39) grouped the Gypsum, Saratoga Springs, and Shoshonean Periods into his Late Prehistoric Period, which he dated from 1,050 B.C. to A.D. 1650 . . . LAN-828, on the south side of Buckhorn Lake on Edwards AFB, produced a number of shell bead artifacts which Chester King dated at circa 200 B.C. to A.D. 600 (King 1972; Warren 1984; Sutton 1988b). Sutton discussed this site as part of a village complex but noted that the site may indicate repeated use by groups based elsewhere (1988:74). Other researchers (Hector et al. 1988; York, Hull, and Christenson 1991) favor the multiple episode, temporary camp model.

Temporally sensitive projectile points from the Saratoga Springs Period include the Rose Spring and Cottonwood series. Some have argued that archaeological assemblages with Cottonwood points that lack Desert Side-notched points are from an earlier Saratoga Springs Period occupation than sites with both Cottonwood and Desert Side-notched points. The earlier occupation is said to reflect Colorado River influence (Warren 1984:423-424; Warren and Crabtree 1986:191) (see Earle et al. 1997:57).

Earle et al. (1997:57) note collections from Edwards Air Force Base sites include seven Rose Spring points (four complete and three as fragments). These seven points were recovered from six sites (KER-562, -672, -1171, -2533, -2817, and LAN-828). The collection of Cottonwood series points totals 25 complete points and 27 fragments.

Sites in the Summit Valley which appear to have been occupied during the Saratoga Springs Period include, SBR-93, -1624, -1672, -1673, -1674, -1886, and possibly 6179.

Protohistoric or Shoshonean Period - Circa A.D. 1200 to 1770

This period continues many of the previous cultural trends but with some different adaptations. A second major drought, from A.D. 1200 to 1350, occurs at the beginning of this period in southeastern California. Earle et al. (1997:57-58) state that with the waning of this drought, desert settlement is believed to have expanded. Bettinger and Baumhoff (1982) propose an

expansion of Numic-speakers around A.D. 1200, possibly precipitated by this climatic crisis. Moratto (1984) has suggested an earlier beginning date for the expansion (A.D. 1000) perhaps associated with the immediately preceding drought. However, it is not currently known what effect the Numic expansion had on the Antelope Valley as Numic-speakers appear to have moved into the area during an earlier period. Grayson (1993:258-272) discusses historical linguistic and archaeological data bearing on the reliability of this chronology for Numic expansion into the Great Basin, pointing out that it remains open to controversy.

Socioeconomic and sociopolitical organizations continued to increase in complexity during this period. By this time the "desert village" model of settlement, reflected in the shift from mobile foraging to sedentary collecting, appears to have become generalized in at least some areas of the western Mojave Desert. This resource circumscription model, as developed by Bettinger, sees population-driven sedentism and geographical limitation of gathering and hunting territories as accompanied by ever more intensive exploitation of a larger array of less attractive and less cost-efficient food resources. This intensification of exploitative effort is seen as a necessary means of feeding larger populations in a fixed or shrinking territorial base. In other words, populations wring more resources out of a given land area by increasing their expenditure of gathering and processing effort per unit area.

Earle et al. (1997:57-58) emphasize how trade along the Mojave River affected the people of the eastern Antelope Valley, allowing participating trading partners and their kin to acquire considerable quantities of valuables. A hybrid desert/coastal subsistence adaptation in the Antelope Valley developed that can be linked to the importance of transverse range and Tehachapi Mountains upland and foothill resources, which were generally exploited following the southern California version of the California culture pattern (Earle, McKeehan, and Mason 1995). While Antelope Valley populations seem to have developed stronger ties with other more coast-oriented groups than with those in the deserts and Great Basin, the opposite appears to be true just to the north in Fremont Valley (Sutton 1987; Warren 1984:426, as cited in Earle et al. 1997). Sutton (1991:23) has argued that a frontier area between Numic and Takic subsistence patterns appears to be established by A.D. 1300, about the same time that the expansion of the Southwestern cultural presence reached its western extreme.

The return of wetter conditions around A.D. 1400, appears to have led to a population increase in southern California, during which a greater variety of subsistence resources were used, including the exploitation of both large and small mammals and, in some areas, fish. However, it is possible that this “diversification of the resource base” may be the result of better preservation of faunal remains as opposed to an actual change in subsistence. Seed collecting continues unabated as reflect by the continuation of milling technologies. Special purpose sites increase in importance as populations intensify their resource procurement (McIntyre 1990) (see Earle et al. 1997:58).

Earle et al. (1997:58) state that four Desert Side-notched points have been found at Edwards Air Force Base (one complete and three fragments) from four sites: KER-672, -1180, -2025, and LAN-769. These authors also state that if the distinction between sites with Desert Side-notched points and those containing only Cottonwood Triangulars is considered a temporal distinction, there is a drop in the number of points from the preceding Saratoga Springs to the Late Period,

possibly indicating a drop in population in the later period." (Earle et al. 1997:58).

In the Summit Valley Area, Desert Side-notched points appear to be relatively uncommon. Cottonwood series points have been recovered from SBR-93, -1622, -1672, -1913, -5342, -5468, and -6580. SBR-93, -1675/H, and -1913 are associated with the ethnographic village of *Guapiabit.*

2.3 SERRANO ETHNOGRAPHY (de Barros 2004 ; Earle 2004)

2.3.1 Subsistence

The Serrano were gatherers and hunters whose territory included several vegetational communities ranging from those found in the low desert to those associated with higher mountain elevations. The women did most of the gathering, while hunting and fishing were performed by the males. Floral resources included such items as screw beans, mesquite, agave, pinyon nuts, acorns, cacti fruits, juniper berries, yucca, chia, acorns, and various berries, grasses (including carrizo grass sugar), and seeds. Animals commonly taken as game were mule deer, bighorn sheep, pronghorn antelope, black-tailed hares (jackrabbits), cottontail rabbits, rodents, and birds with the use of bow and arrow, throwing stick, dead fall, or snare. Rabbits were hunted and caught in drive nets. Living structures ranged from simple brush dwellings to dome-shaped huts and rectangular ramadas. The Serrano made elaborate coiled basketry and simple, undecorated ceramic vessels that were used for storage, carrying, and numerous other functions.

Meat was prepared either by boiling in watertight baskets using heated stones, baking it in earth ovens, or by parching. The latter was done by tossing the meat over hot coals in shallow trays (Bean and Smith 1978:571). Animal bones were boiled so that the marrow could be extracted and eaten. Small animals were sometimes pulverized prior to cooking (Drucker 1937:10). Plant foods were eaten raw or cooked. Prior to cooking, plant foods were processed by grinding (metates), pounding (stone or wood mortars), or parching (mainly seeds). Major food processing tools included stone knives, bone or stone scrapers, pottery bowls and trays, baskets, spoons and stirrers made of horn or bone, as well as metates and mortars (*ibid*.).

2.3.2 Socio-Political Organization

Earle (2004) points out that there are two slightly different models of Serrano regional socio-political organization. Edward Gifford (1918:177-185) proposed a model for southern California Indian social organization that applied to the Serrano. Based on this model, the socio-political organization of the Serrano included the division of their society into exogamous clans that were composed of numerous patrilineages recognizing descent from a common male ancestor. These clans were associated with two exogamous moieties, the Wildcat moiety and the Coyote moiety. Each clan was the largest autonomous political unit which also held landowning responsibilities. Clans were headed by a hereditary leader who was responsible for ceremonial and religious activities in addition to determining the timing of various food collecting expeditions and dealings with other clans. This position was passed from father to his most able son. Clan members belonging to one moiety could only marry those of the other moiety, and post-marital residence was patrilocal.

William Duncan Strong (1929) conducted more extensive research on the social and ritual organization of the Luiseño, Cupeño, Cahuilla and Serrano (all Takic speakers) in 1925. Earle (2004) notes that Strong viewed the Serrano clans as patrilineal exogamous territorial groups. What particularly defined the clan as a corporate kin and political unit was not only the political leadership of a single paramount chief (*Kika*), but the chief's involvement in ceremonial affairs in what Strong called a priestly role. The position of *Kika* was also transmitted patrilineally. The chief's duties of office included maintenance of a sacred house and enclosure and a sacred bundle in the principal settlement, and his interaction with other clans in fiesta ritual settings as host or guest. An office of ritual manager, that of the *Paxa*, was also inherited patrilineally. Strong also noted a complex and non-uniform pattern of ritual interdependence between several sets of clans of opposite moiety affiliation among the Serrano south of Cajon Pass, dating from post-mission times. Some clans depended on others to perform key elements of their mourning and other ceremonies for them. Strong was not sure if this form of ritual dependence was partly a result of decay of the system of ritual interaction, including loss of incumbent *Paxas* and of ritual paraphernalia, during the 19th century. He also noted a residential clustering of several clans near one another that might have been due to changed conditions, including population loss (Strong 1929:5-20). [Earle 2004]

Both of the above models strongly suggest that Serrano rancherias known at contact were each at the center of an autonomous political and territorial unit composed of patrilineal kin with a hereditary chief as its leader. In short, there was an identity between kin group and political territorial units. Such units would have intermarried with other units of opposite moiety affiliation. Strong's views are also important for a later discussion of changes in Serrano socio-political organization that occurred after contact (Earle 2004).

For the Mojave River area Earle (2004) states that accounts written by Franciscan missionary Fathers Francisco Garcés, José María de Zalvidéa, and Joaquín Nuez, as well as Spanish soldier Francisco Palomares, have provided information on a number of major or minor native settlements (Cook 1960:247-248; Coues 1900:235-246; Palomares 1808; Walker 1986:236-245, 263-267). Garcés passed up the Mojave River to Summit Valley in March of 1776, and returned eastward from the Barstow area to the south shore of Soda Lake in May of the same year. Fray José María de Zalvidea, who served for many years at Mission San Gabriel, accompanied an expedition of exploration which set out from Santa Barbara in July of 1806 to the San Joaquin Valley, the Antelope Valley, and the upper Mojave River. In the year 1808, Spanish soldier Francisco Palomares made several frontier forays to the southern California interior to round up runaway native neophytes. In the second of these, he traveled eastward across the Antelope Valley, visiting several villages, including Maviayek near Palmdale, before reaching Atongaibit on the upper Mojave River and then Guapiabit in Summit Valley. In 1819, a military expedition which aimed to punish the Mojaves of the Colorado River for attacks along the Spanish frontier traveled down the Mojave River. Fr. Nuez, diarist of the expedition, provided the names of a number of rancherías that he visited along the river.

Garcés' diary account is the only source we have on the political geography of the Mojave River during the first years of Spanish presence. He describes the various settlements he encountered from east of Afton Canyon to *Guapiabit* in Summit Valley. After reaching the Victorville area, he went about five leagues (ca. 15 miles) to a village of 70 people on the river just east or southeast

of Hesperia – very likely *Atongaibit.* Later, he stopped at a rancheria of 80 people in Summit Valley – most certainly *Guapiabit* – before heading over the mountains to Mission San Gabriel (Earle 2004).

Father Pascual Nuez's description of a failed 1819 punitive expedition against the Mojaves describes settlements east of Barstow as well as some settlements to the west. Franciscan mission registers and other sources describe other settlements not mentioned by Garcés. These include "Cayyubit" (Kaiuvit), Najayabit, and Tameobit. Kaiuvit was an important ranchería located on Deep Creek, which joins the Mojave River just to the east of Summit Valley (Earle 2004). Earle (2004) also notes the importance of acorn and pine nuts for Mojave Desert settlements:

> The apparent relative spatial proximity of Topipabit, Najayabit, Atongaibit, Tameobit, Cayyubit, and Guapiabit in the upper river region also suggests that upland resources such as the acorn and pinyon helped to support a larger total population in the upriver region from Mojave Heights/Victorville southward . . .
> Both Black Oak acorns and pinyon pine nuts were found on the north slope of the San Bernardino range, and were resources well-known even to distant desert communities to the north (Harrington 1986: Vol. III: Reel 98: Fr.15). The upriver villages belonged to a widely distributed regional settlement type. This is the desert-margin winter village, found in foothills, canyon mouths, or fault valleys on the desertward side of mountain ranges from the Eastern Sierra southward to the Coachella Valley. This type of settlement was strategically located so as to exploit desert floor, foothill, and upland resources from a fixed residential base provided with a reliable water supply.
> [Less is known] about downstream communities north of Victorville, but what we do know about them suggests that the downstream regional population was smaller. . .
> (Earle 2004)

2.3.3 Missionization and Population

According to Earle (2004), the Indian communities of the Mojave River and nearby Antelope Valley were beyond the limits of Spanish-speaking settlements, and were only visited by priests, travelers, or by an occasional military expedition. Hispanic economic activities, such as stock grazing, did not significantly affect Mojave River Indian communities before the opening of the Old Spanish Trail in 1829 and it was not until about 1850 that the Antelope Valley area was affected. Missionization occurred later than in coastal areas and it was often only partial. Nonetheless, Spanish authorities were concerned about these populations beyond the mountains as they were often a place of refuge for runaway neophytes from coastal missions. Earle (2004) notes that Baptism of individuals from Mojave River communities at Mission San Gabriel began in 1795, some 24 years after the founding of the mission. For the next 13 years, recruitment remained very modest, with relatively high percentages of baptisms of children rather than adults. Beginning in 1809, Fr. Zalvidea orchestrated an increase in adult baptisms, particularly evident in 1811 and 1813. Spanish military action taken against alleged plans for native revolt at Mission San Gabriel in 1810 and 1811 involved campaigning in the region, which may have played a role in neophyte recruitment. At Mission San Fernando, founded in 1797, missionization of the Antelope Valley became increasingly important after 1804. Mojave River community inhabitants were also baptized at Mission San Fernando, especially in 1811, 1814, 1816, and 1817. Ensign Moraga visited the river

area with a military expedition in 1816 (Walker 1986:264).

Hispanic ethnohistorical documents provide evidence of at least 10 communities in the Mojave River region. Earle's (2004) research provides the following list, listed from the southwest to the northeast, with the totals for the number of individuals born in them whose baptismal entries are available at Missions San Gabriel and at San Fernando: Amutskupiabit (77), Guapiabit (80), Kaiuvit (62), Atongaibit (40), Najayabit (40), Tameobit (10), Topipabit (21), Cacaumeat (6), Sisugenat (1), and Angayaba (9?). However, these baptismal data are incomplete because of missing entries for a number of months in 1794-1795, 1816-1819, and 1821. It is also important to note that some individuals from these communities were never baptized (Earle 2004).

2.3.4 Serrano Clan Territories

Earle (2004) notes that several authors (Gifford, Strong, Kroeber, Benedict, and others) gathered information about Serrano clans, but their writings lack details about the boundaries of individual clan territories. Harrington's unpublished field notes, on the other hand, do contain such information, including data on several Serrano clans that were still extant in parts of the San Bernardino Mountains after 1850. His principal consultants were from the San Manuel reservation, Santos Manuel and his son Tomás.

One of the places his consultants speak of to the north of San Bernardino Mountains was the territory called *Wapeat*. It was inland from Cajon Pass between Baldy Mesa and the Mojave River and included the rancheria of Guapiabit This area was once (and in some parts still is) rich in juniper or *w'at* and several clans used to gather to there to harvest juniper berries at a certain time of the year (Harrington 1986:Vol. III:Reel 101:Fr. 355, as cited in Earle 2004).

> In addition to Guapiabit (called Wapeat by Manuel), other places in the upper Mojave River region mentioned by Santos Manuel included Makataviat (apparently located at or near the mouth of Deep Creek), Huaveat (a region situated downstream from the mouth of Deep Creek), and Nakaviat (a marshy area just upstream from the Upper Narrows). The name Nakaviat refers to a gorge or canyon, and thus denoted a place just above the Upper Narrows at Victorville. It was famous for the abundance of sugar carrizo grass (*Phragmites comunis*), on the leaves of which an aphid sugar consumed by native people was found . . . . (Early 2004)

Harrington's father and son informants specifically identified four localized clans for the Mojave River region: the Amutskayam, Kaiuyam, Maviatam, and Paeveatam (Pervetum), all of which were noted by one or more other ethnographers of the period (Earle 2004).

> The Amutskayam clan was located to the north and west of Cajon Pass, encompassing the north slopes of the San Gabriel mountains at least as far west as Big Rock Creek, and based at the village of Amutskupiabit near Cajon Junction. The Paeveatam or Pervetum were based in the San Bernardino Mountains. They were sometimes said to have held title to Tɨmtak, which included the desert south of the Mojave River east of Barstow, the Lucerne Valley, Rabbit Springs, and Old Woman Springs. The dividing line of the desert territory of the Paeveatam with the Kaiuyam upstream was placed on the Mojave River at Barstow . . . (Harrington 1986 Vol. III: Reel 101: Fr. 306).

> A third clan group identified by consultants was that of the Maviatam, said to have occupied the Mojave River between Victorville and Barstow, as discussed above. The fourth group was known as the Kaiuyam (Strong's Kaiwiem), located between Cajon Pass and Victorville. The Kaiuyam, in some consultant statements, were also said to have included the Maviatam north of Victorville as well as the Tupupeatam in the vicinity of modern Barstow . . . The Kaiuyam clan was associated with a previously mentioned village called 'Cayyubit' or Kaiuvit, located on Deep Creek, a Mojave River tributary in the northwestern San Bernardino Mountains. This community is known to have had extensive marriage ties with other communities in the upper Mojave River area prior to missionization . . . .
>
> . . . . What is remarkable is the fact that Kaiuvit and the Kaiuyam continue to figure in native ethnographic descriptions of Serrano localized clan territories north of Cajon Pass, while other presumed clan territories in that area listed in Spanish and Mexican era documents have largely disappeared from later ethnographic testimony. Of particular importance here are the communities of Guapiabit and Atongaibit, mentioned in our discussion of Spanish exploration and expedition accounts, and Topipabit, located downstream from them. All three of these communities are frequently mentioned in the Mission San Gabriel and Mission San Fernando sacramental registers, as noted above (Earle 2004).

Earle (2004) states that although a group called the Wapeatam is associated with the Wapeat area by Manuel and others, Manuel's testimony clearly states that the Wapeat region formed part of the Kaiuyam clan territory. In a similar fashion, the downstream community of Atongaibit, which was perhaps occupied as late as circa 1826 or so, was in a region that Manuel attributed to the Kaiuyam. Earle (2004) continues:

> In fact, mention of Atongaibit (or Atongai) is very rare in ethnographic testimony collected by Harrington, despite its prominence in Spanish and Mexican times. Similarly, the village of Topipabit, located to the north of Victorville, is well-attested in colonial records. It is not mentioned in Manuel's testimony on the Mojave River region. He discusses a clan group called the Maviatam, literally "woodland glen dwellers", but does not associate it with Topipabit. Even this downriver region was sometimes said by Santos Manuel to have formed part of the territory of the Kaiuyam. Regarding the territory of the Paeveatam, his assertion that this group held a territory from north of Big Bear Lake and into the desert to the east of the upper Mojave River to as far north as Daggett, also may reflect changed conditions. (Earle 2004)

Earle (2004) emphasizes that there are in fact major differences between Spanish-era mission register and expedition sources and early 20th century ethnographic data with regard to the location and extent of Vanyume-Serrano communities and their associated clans. A major issue is whether Serrano-Vanyume patrilineages formed clans that were distinct political units with a rancheria headquarters and, therefore, multiple clans or sibs did not live side-by-side in the same rancheria and its associated territory. Earle's (2004) study of Franciscan mission register data has confirmed that this is indeed so, and that ethnographically reported modern clan or sib names for Serrano groups are usually the same as village names appearing in the Franciscan sacramental

registers. The Kaiuyam, Amutskayam, Paeveatam, Maarrênga'yam, and Muhatna'yam clans, for example, appear as village names in the registers. Our research also confirms a further important fact . . . Thus mission register ranchería names are in these cases confirmed as *both* names of real winter village settlements and names of localized clan groups.

> What is key about this is the notion that listings of "villages of origin" of Serrano-speakers from the mission sacramental registers can thus provide a useful roster of Serrano localized clans. Such a roster, of course, would have the virtue of more accurately representing pre-missionization Serrano political geography than the specification of what appear to be post-mission clan territories gleaned from ethnographic research . . . . (Earle 2004).

The information collected by 20th century ethnographers appears to reflect both a dislocation and a contraction of native settlements as they existed early in the 19th century. Earle (2004) states that the upper Mojave River villages were abandoned by the 1830s due to both population loss and armed outsiders raiding up the river. Cajon Pass was a war zone. This suggests that the clan territories of Guapiabit and Atongaibit as they existed in Garcés' time at contact, may have been sharply altered by the mid-19th century. Earle (2004) continues:

> Through such a scenario, we would find the Wapiatam and Atongaiyam no longer recalled as localized clan groups in their former territories, while the Kaiuyam came to be associated with these areas. The community of Kaiuvit was discussed by Harrington's Serrano consultants, and appears to have continued to function at a later date in the 19th century than the Mojave River villages of Guapiabit, Atongaibit, Tameobit, or Topipabit. It thus appears plausible that the depopulation of these villages may have eventually led to the assignment of the abandoned territories of these clan communities to the neighboring Kaiuyam in the thinking of surviving Serranos in the late 19th century. They then passed on to different ethnographers a reinterpretation of the "traditional" arrangement of territorial clans north of Cajon Pass . . . Disagreements about clan moiety affiliations in the ethnographic sources may also stem from the effects of the process of collapse of formerly distinct clan populations into smaller mixed communities after 1820 (Earle 2004).

2.3.5 Marriage Patterns

Early 20th century ethnographers describe marriage as occurring between exogamous clans and their associated villages, with marriage only occurring between members of opposite Wildcat or Coyote moieties. Earle (2004) examined Franciscan sacramental register data to test this model, using the San Gabriel and San Fernando Mission sacramental registers (Mission San Fernando Rey de España n.d., Mission San Gabriel Arcangel n.d., Muñoz 1982, Temple n.d.). He notes that the analysis of marriage data was not at all straightforward, because of systematic errors in the recording of the place of birth of females who had been married prior to coming to the missions. Before the middle of 1811, a succession of priests had routinely listed baptized native wives as being natives of the village of their husbands, without having really verified this information. Fr. Zalvidea, who arrived at Mission San Gabriel in 1806, continued this established practice through the spring of 1811. Commencing in May of 1811, however, spouses began to be listed as born in different villages. During 1811, after the arrival of Gabriel Moraga and additional troops from Monterey to suppress native unrest in the wake of the 1810 revolt attempt, presumably forced mass

baptisms were the order of the day at Mission San Gabriel. A total of 438 baptisms from March through December of 1811 followed Zalvidea's missionary frustration in 1810, when he managed to baptize only 18 natives over 16 years old. Zalvidea may possibly have become more interested in recording information that laid out native inter-village social ties as he pressed to break native resistance to missionization in the wake of the revolt.

Whatever the cause, the nature of marriage data changes dramatically after the middle of 1811. For the years 1812, 1813, and 1814, for example, my review of a total of 553 baptisms yielded references to 128 pre-mission marriages for which the village of birth of both spouses was recorded. Most of these marriages were Serrano, but some Luiseño and Diegueño native marriages were also listed. Of these 128 marriages, 126 were village exogamous under the new recording regime. The two reported endogamous marriages were Luiseño. The Serrano village exogamy rate was 100 percent (Earle 2004).

Earle (2004) also studied patterns of Serrano moiety exogamy after May 1811. His review of 54 marriages, mainly from 1811-1815, involving upper Mojave River region communities, produced 17 between Guapiabit and Amutskupiabit, six between Guapiabit and Atongaibit, and seven between Cayubit and the Yuhavetum clan group. Other marriage links totaled three or less. This very limited data suggest moiety exogamy was preferred rather than fully prescribed, since some marriages clearly didn't follow the rule. Post-1819 marriage data for various Serrano clans indicate continued village exogamy but apparently less than formerly, perhaps due to the depopulation of villages and limited choice of spouses.

Using ethnographic and ethnohistoric data, Earle (2004) suggests the following working hypotheses as to moiety affiliations for a number or clans and/or villages: Kaiuvit, Coyote, perhaps earlier Wildcat (?); Paeveatam, Coyote; Maarrenga'yam, Coyote; Atongaibit, Wildcat; Guapiabit, Coyote; Amutskupiabit, Wildcat.

Earle (2004) emphasizes the reciprocity created by Inter-community marriage ties,

> . . . .which included the reciprocal lending of access to hunting and gathering areas, and reciprocal ceremonial attendance and participation. In the latter connection, the annual or periodic mourning ceremony was the most important setting for cooperating clan communities to reciprocate goods and ritual services (Strong 1929:32-35). Feasts were also held in connection with invitations by a community to sometimes distant allied communities. Guapiabit, for example, invited communities located downstream on the Mojave River, and even as far away as the Little Rock Creek area, to join it in autumn acorn harvesting and feasting in its territory (Palomares 1808). This served to move acorns desertward out of the north slopes of the San Bernardino range. Highland groups in the San Bernardino Mountains similarly sponsored pinyon gathering, and pine nuts also moved down slope and down river. The juniper woodlands on the mesas north of Guapiabit and the stands of mesquite along the upper Mojave River were also important gathering areas that might be shared.
>
> Mojave River headwaters communities ─Guapiabit and Kaiuvit ─maintained marriage ties with a range of clan groups in the core area of Serrano settlement in and around the San Bernardino Mountains. Clan communities located further downstream, such as Atongaibit

and Najayabit were more focused on ties to desert as opposed to mountain region communities. Atongaibit was the gatekeeper of a major trail that provided western regions like the Antelope Valley with access to the Mojave River trade corridor. Marriage ties also linked Topipabit with downstream communities to the north (Earle 2004).

2.3.6 Cosmology

Important aspects of Serrano life were certain ceremonial activities involving particular stages of the life cycle including ceremonies for birth, child naming, the onset of puberty, marriage, and death. Serrano cosmogony and cosmography resembled that of the neighboring Cahuilla, including the belief in a twin Creator god (Bean and Smith 1978:570-574).

2.3.7 Trade

Trade relations were important among the Serrano, Pacific coastal communities and probably with the Mojave (Yuman) who utilized the Mojave Trail which passes through the study area. Exchange items included sea otter pelts, shell beads and ornaments, and steatite. Obsidian and ceramics also entered into the trade network.

Garcés' 1776 account suggests that acorns were a significant food source for Vanyume-Serrano communities situated southwest of Barstow, which would have required their transport or trade from the San Bernardino Mountains. Pine nuts were also exported northward. Acorns and pine nuts helped sustain communities of 40-80 people along the Mojave River. Garcés and Jedediah Smiths' descriptions of bead and acorn offerings made to them suggest that food and other gift exchanges with traveling and trading parties would have formed a part of the economic basis of riverine settlement. The trade corridor permitted the movement of shell beads from the California coast eastward to the Southwest and beyond. Colorado River and other ceramics were also traded westward in return for fine California basketry, as were cloth goods in historic times.

2.3.8 Changes in Socio-Political Organization and Settlement After 1820

Mojave Indians began to raid Vanyume-Serrano speaking settlements along the Mojave River ca. 1819, and a Mojave attack on Spanish settlements in southern California was feared (Walker 1986:261-267, as cited in Earle 2004). Earle (2004) also notes that Chemehuevi, Southern Paiute, Mojave and other Indian groups speak of a group known as the "Desert Mojave" that may have been present on the lower Mojave River and in the Providence Mountains, but who were expelled by the Chemehuevi prior to the arrival of the Spanish. Earle (2004) continues:

> The opening of the Old Spanish Trail by Armijo in 1829 was to have a major impact on the Mojave River region. Mexican caravans on the trail threatened native subsistence and personal safety. Native stock raiders from deeper in the Great Basin, and their Euro-American and Mexican allies, also turned the Mojave River trail into a thieves' highway. Both Ranchos and Indian communities and traveling parties were attacked, even in the Los Angeles basin itself, threatening the prosperity of the region's expanding pastoral economy (Phillips 1993:1107-116). Kroeber (1959:300-302) also mentions several accounts of Vanyumé groups on the Mojave River being killed by outsiders, perhaps during the 1830s.

> After 1830, there occurred a gradual movement of Paiutes and Chemehuevi westward and southward into the upper Mojave drainage, and westward into the Antelope Valley. These incursions were at first more in the nature of raiding operations. They reflected native Numic-speaker participation in stock theft, but apparently usually separately from the long-distance horse mounted raids involving Utes and White trappers. By the late 1840s the lower Mojave River was occupied by Chemehuevi/ Southern Paiute (Gordon 1988:204-207). In the Antelope Valley and adjacent areas to the west of the river, a few groups of native returnees from the missions could still be found huddled in the mountains and foothills of the San Gabriel range (Johnson and Earle 1990:201-202). Mobile Numic-speaking stock raiders camped at valley-floor springs (Earle 2004).

During the 1850s and 1860s, Southern Paiutes and Chemehuevis radiated across the western Mojave Desert and raided into the San Bernardino Mountains. This led to armed confrontations with both Serranos and White settlers (Earle 2004). Raiding took place at various settlements in the Antelope Valley, Big Tujunga Canyon, and the San Gabriel Mountains. Numic-speaking camps were present in the 1880s and 1890s in the Palmdale foothills, Mescal Creek, Pallet Creek, Big Rock Creek, Victorville, and in the San Gabriel Mountains (Earle 1997:47-49, 54-58). These groups persisted in their traditional hunting and gathering lifestyle rather than working as day laborers for local pioneer settlements (Earle 2004).

2.3.9 The Serrano Seasonal Round

The following summarizes a model of settlement/subsistence developed by Altschul, Rose and Lerch (1985:68-71). It is based in part on ethnographic data and on plausible reasoning and focuses on the Serrano mountain dwellers, not the Vanyume Mojave River dwellers, though they would overlap at such settlements as *Guapiabit.* The model remains to be tested archaeologically. The basic settlement system of the Serrano was based on life in more or less permanent villages located near permanent water sources and near areas rich in floral and faunal food resources. People would congregate in the villages (primary base camps) during the winter season subsisting on stored foods, such as acorns and pinyon nuts that had been collected the previous fall. Such primary base camps were located along major drainages such as the West Fork of the Mojave River.

As plants began to ripen in the spring, yucca, cactus buds, and various greens would be collected close to the village. Chia, white sage, sunflower, and buckwheat began to produce seeds in early summer. When these resources were becoming depleted in the lower elevations, they were becoming available at higher elevations, along with berries and fruits.

In the summer, people would camp in small groups at various points within the canyons often at ecotonal breaks (secondary base camps). Most commonly such camps would be located on flat areas near drainages. Hunting continued as it did more or less year-round, but there were no special purpose hunting camps (Harrington MS cited in Altschul et al. 1985:69).

In the fall, large numbers of people would move to the groves of black oak (*Quercus kelloggi*) at higher elevations. Pinyon nuts were also harvested at this time. Following the pinyon and acorn harvesting period, the various clan groups would gather at certain villages for their cooperative

annual mourning ceremonies. Then the people would return to their respective villages for the winter season.

During spring, summer and fall, major resource procurement or processing stations were the focus of secondary base camps, including quarry sites (lithic procurement) and lithic scatters associated with small circular midden areas. Altschul et al. (1985:75-77) hypothesize that such sites situated in the mesa area northwest of Las Flores Ranch were used as early spring yucca procurement and processing stations. The yucca procurement and processing would have required fairly massive chopping tools to cut the stalks and scraping tools to pulp the downed stalks. These tools could be easily made from local quartzite cobbles. The circular, ashy stains are then seen as remnants of yucca roasting pits. The presence of fire-affected rock with these features fits with this interpretation (*ibid.* 77).

Temporary camps are defined by Altschul et al. (1985:59) as small (20 by 20 m) sites located on Rank 3 drainages which contained only a dozen or so artifacts (or less). Most of such sites were recorded in open juniper woodlands by the authors. As opposed to primary and secondary base camps which contain midden deposits, these sites are basically surface deposits.

In short, the Serrano followed a pattern of moving to higher and higher elevations as the seasons progressed, terminating with the acorn and pinyon harvests in the fall. More than 200 different plant food resources in several different econiches were utilized (*ibid.*).

2.4 LOCAL HISTORICAL BACKGROUND

European contact with the Serrano Indians dates to 1771 with the founding of Mission San Gabriel de Arcangel and the 1772 Pedro Fages California expedition through Serrano lands. Contact was infrequent until the creation of the San Bernardino de Sena Estancia (or San Bernardino Rancho) in 1819 and the opening of the Old Spanish Trail by Armijo in 1829. A second estancia was built around 1830 known as the Politana rancheria, about 1 mile from the original site. It is the latter which is often referred to as the Redlands Asistencia, a California Historical Landmark. It was built to raise cattle and to largely forcibly settle the Serrano and Cahuilla Indians into specific areas as an outpost of Mission San Gabriel. By 1824 this was largely accomplished, but with the Mexican Secularization of the missions in 1833-34, many of the remaining Indians returned to their traditional territories. Currently, the Serrano live primarily with the San Manuel and Morongo Reservations in San Bernardino and Riverside counties (Beattie and Beattie 1939 and Robinson 1990, as cited in McKenna 2019:14). European forced influence led to an increase in inhumations rather than cremations.

The western Mojave Desert and the San Bernardino Mountains were partially explored by the Spanish and Mexican populations before 1850 by various Americans looking for gold and other minerals, lumber or for hunting or recreational purposes (Lawton 1965). The Mojave Trail (later known as the Mormon Trail) was one of the earliest that came from Salt Lake City and ran close to the Mojave River, through Oro Grande and Victorville. Written records are few concerning the Serrano until the American Period of 1848 through the 1880s (Arda Haenszel 1957; Duke and Shattuck 2003:6-7, cited in McKenna 2019:14).

The project area is not within any recorded Spanish or Mexican land grant and is relatively distant from mission settlements. Travelers often came through the area on various historic routes shown on early maps, but not specifically through the subject property.

The town of Victor Valley, later Victorville, was a railroad station named in 1885 for J. N. Victor, the superintendent of the California Southern Railroad, 1888-1889. The U.S. Post Office Department changed the name to Victorville in 1901 to avoid confusion with Victor, Colorado (Gudde 1989:411). Bureau of Land Management (BLM) General Land Office (GLO) files indicate that Township 5 North, Range 4 West, and 3/4 of the northern half of Section 23 was held by the Southern Pacific Railroad in ca. 1918; however, the San Bernardino County Archives show ownership from 1895 to ca. 1950 (McKenna 2017:16).

In 1895, all of Section 23 (where the project area is located) was owned by James Brown, a relative of John Brown who built Brown's toll road through Cajon Pass and via a crossing of the Mojave River that would become Victorville. Section 23 was part of larger holdings by the Brown family used for cattle ranching. Due to various financial problems, the property was sold in 1898. It was later known as the Rancho Verde property after 1903 and included all of Section 23 until 1923 when it was sold to the Grier Ranch, separating out Section 23 as a separate property. The part of Section 23 relating to the subject property was sold to the Kings County Land and Cattle Company. It passed through other owners, until Boise Cascade Properties broke out the current project area as Lot 520 (23.07 acres; Figures 4-5). In 2014, Lot 520 was split into 0479-131-08 and -09, about 18.5 and 4.5 acres, respectively (McKenna 2017:18-19).

Parcel 08 is owned by the County of San Bernardino, and was taken by eminent domain from Fairway Equity, LLC; and parcel 09 was owned by the latter company until 2016 when it was transferred to Mojave Narrows Chateau Management, LLC (McKenna 2017:19-20). No property improvements have been documented for any of the property's owners discussed above, though there are some fence line remnants, undated berms or slightly elevated dirt road sections, some cement bases for light poles, as well a partial sewer line with a sewer line manhole in the southern part of the property and two just west of it.

Only Parcel 09 is being developed as part of the current project. However, as noted in the Executive Summary, Parcel 08 was mistakenly included in the project research design presented to Tierra which was implemented in both Parcels 08 and 09. We have left our discussion of Parcel 08 in the report in the event that the findings are beneficial to future investigations of this parcel. However, the evaluation of SBR-4313/H for this project will be based solely on the materials recovered from the Project area in Parcel 09.

SECTION III – PHASE II TESTING AT SBR-4313/H

3.1 INTRODUCTION

In this section we will summarize the results of past and present work at SBR-4313/H. This includes: 1) a summary of previous archaeological archival research about the site and project area; 2) more details on fieldwork methods during Phase II testing; 3) additional information on the history of the property; and, 4) a summary and interpretation of the Phase II testing results.

3.2 PREVIOUS ARCHAEOLOGICAL RESEARCH AT SBR-4313

3.2.1 Site Record (1980) and Updates (1999, 2011)

Chris Drover (1980) recorded the site as a "surface and subsurface distribution of artifacts located on [the] upper Mohave River terrace, southwest of Upper Mohave River Narrows Park . . ." He estimated the site to be 112,500 square feet in size with 40 cm of cultural deposits based on a single test pit whose location is unknown. A request was made to do a self-search at the SCCIC for his report (#80-10.9), but it is closed due to the COVID-19 pandemic and self-searches are not permitted. According to the SCCIC, the only choice was to wait eight weeks to receive a record search. Vegetation on the property included Joshua trees, saltbush, rabbit brush, cottonwood, and salt grass. Soils within the site were described as medium brown in color and composed of very fine-grained decomposed granite. Concentrated dark soil localities which were apparently along the east side of the property (Figure 6) "may be remnant fire hearths." Surface and subsurface artifacts included fire-affected rock, jasper and quartzite debitage, five cobble manos, a schist metate, a quartzite scraper and a quartzite chopper. A note in pencil says "TCB PT. POTTERY," which suggests triangular concave base point and pottery. The author contacted Chris Drover, but he was unable to locate a report dating to 40 years ago in his electronic archives. The site form also mentions the presence of an "historic irrigation canal," but this is not shown on the site map and subsequent observers-- James and Briggs 1999, McKenna 2017, and the current team – were unable to locate the feature in the field or on historic aerial photos.

James and Briggs Archaeological Services re-recorded the site in 1999. They located three areas of artifacts not previously recorded that are near but not within the project area:

1) an historic foundation with 150+ items of historic refuse well to the north measuring 50 m EW x 175 m NS, now recorded as SBR-10154; it may be a part of the historic town of Frost (Figure 3) just to the north and adjacent to the western boundary of the project area, but not within the subject property.

2) a thinly scattered cluster of 200+ historic artifacts including sun-colored amethyst (SCA) glass which dates from ca. 1870s-1925 (Lockhart 2006) along a dirt road or path to the southwest of Drover's original site boundary, measuring about 17 m EW x 60 m NS (James and Briggs 1999). It "appears to be related to the presence of the railroad and may have served as a watchman's building or other type of maintenance structure" (McKenna 2017:24); it is located between the railroad and the western boundary and

the project area. James and Brigg's site map sketch also shows some prehistoric debitage made of chert, jasper, quartz and volcanic rock debitage toward the northern end of the site, again outside the project area to the west.

3) a metate fragment and flake made of volcanic rock well to the south, opposite a railroad bridge where two railroads cross over each other (Figure 3), which is also west of the project area opposite Milepost 39 along the railroad line.

The site form filed by James and Briggs (1999) says the revised site boundaries for SBR-4313-H are 80 m EW by 230 m NS, yet the boundary drawn for the site (Figure 6) suggests 160 m EW x 370 m NS. James and Briggs (1999) also mentioned the presence of dirt roads and a trail through the site but do not mention the irrigation canal noted by Drover (1980). The site was re-recorded by Hosseinion (2011) but it does not provide any additional information, simply summarizing James and Briggs (1999). It does not mention the trail through the site and suggests some trash deposits may have been removed from the property. As a result of James and Briggs (1999) resurvey of the entire site, including portions found to be outside our current project area, an historic component was added to the site, now called SBR-4313-H.

Finally, McKenna established a third site boundary based on an intensive survey of the 23-acre subject property (Figure 6). The results of her survey are summarized below.

3.2.2 Phase I Survey by McKenna (2017)

This section summarizes key elements of the records search results that are pertinent to the primary goal of the Phase II testing, which is to evaluate the significance of SBR-4313-H, in particular the portion located within the boundaries of the subject property; however, the surface finds recorded by McKenna (2017:34-37) will be considered in this evaluation (see below). It should be noted that McKenna's survey also included Parcel 08 which is not a part of the Project area.

Sites Recorded within a Mile of the Subject Property

SBR-4313-H is about 4,000 feet west of the Mojave River. While the Mojave River often flows underground and is only intermittently filled with water after major storms, its Lower Slough just to the south is a swampy zone that includes present-day Horseshoe Lake (Figures 1-3), just east of the site. Given these important sources of water, it is not surprising there are important prehistoric sites recorded in the general area.

McKenna's records search includes sites within one mile but also some up to 1.5+ miles downriver, including the major village site SBR-12706. This site combines previously recorded sites SBR-58 through SBR-64 and includes three lithic and groundstone scatters, a bedrock metate and metate site with lithics, and at two petroglyph sites. Another village site (SBR-967) "with developed midden," is listed in the records search data, but is inexplicably not shown on the records search map. Presumably it is within 1-1.5 miles of the property. Finally, there is potential village site, PSBR-16, located on the east side of the Mojave River in an urbanized area of Apple Valley. Other sites include a rock cairn and lithic and groundstone scatter, SBR-180, less than 0.5 miles to the northwest of SBR-4313-H. Scattered isolated manos have also been recorded about

0.65 miles to the northwest. In fact, McKenna states . . . the presence of burials and rock art in the Mojave Narrows area attests to the use of this [area] by prehistoric populations emphasizing the potential for [SBR-4313-H] to yield additional and potentially significant scientific data pertaining to the use and understanding of the cultural lifeways of the Native American populations. (McKenna 2017:27).

Resources Encountered in the McKenna Survey (2017:32-41)

A total of 20 artifacts and a cluster of debitage listed under 15 field numbers were encountered on the surface of SBR-4313-H, along with "at least six fire-affected rocks scattered in the area" and "a thin scatter of historic/modern glass including a few scattered fragments of purple glass, but no ceramics (McKenna 2017:38). The artifacts are summarized in Table 1 and their locations are shown in Figure 6 (after McKenna 2017:33). Pictures of these artifacts are provided in McKenna (2017:34-37).

These surface artifacts, largely fragments, include:

- 5 metates , including one in four conjoined fragments (Field Nos. 1, 5-6, 8 and 12);
- 5 manos, including two complete and one nearly complete (Nos. 4, 7, 10-11 and 13), and one of which might be an abrader instead of a mano;
- 5 biface fragments (No. 3, a cluster of three; and Nos. 9 & 14), four of which are probably projectile point fragments,
- 1 pestle fragment (No. 2);
- 1 core (No. 12);
- 1 upper bottle fragment made of sun-colored amethyst glass (No. 13);
- a cluster of lithics (including a projectile point fragment noted already above) consisting of 12-14 pieces of chalcedony and jasper debitage along with one metavolcanic piece of shatter (No. 14);
- a utilized chalcedony flake (No. 15), and
- a piece of metavolcanic shatter (No. 14) and four scattered small pieces of purple glass.

An obsidian biface fragment, probably from a projectile point, was recorded during Phase II testing. It has been added to this list of surface finds in Table 1 (Photograph 1). The property also shows evidence of historic disturbance, including berms and raised areas; dirt trails, ATV tracks and roads (some along berms); recent trash dumping deposits, concrete pillars for light poles, a few manholes associated with a sewer line, an exposed conduit and a wash in the southern part of the project area. McKenna (2017:40) emphasizes the issue of disturbance as being important for understanding the potential for subsurface artifacts:

> . . . the artifact scatter was identified on the surface, but generally in areas where there was some surface disturbance, indicating these items were buried at some point. As such, the potential for additional buried artifacts is relatively high. In addition, darkened soils suggest the potential for midden deposits and fire altered rock may be evidence of buried hearths. Drover (1980) noted materials to a depth of 40 cm in the one test unit he excavated.

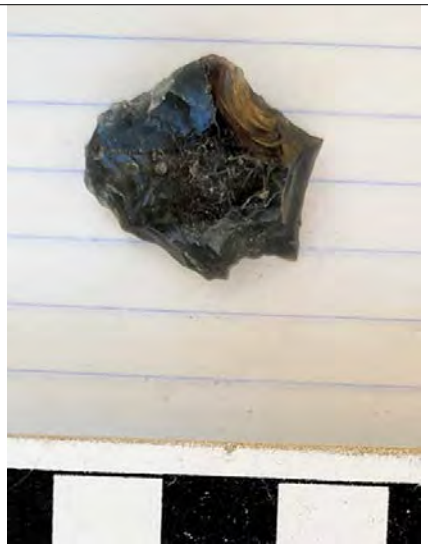
Table 1: CA-SBR-4313 Surface Artifacts Recorded by McKenna (2017) and Tierra (2020)

Field No.	Material	Description	UTMs[1]		Recorder
			mE	mN	
1	Granite [probably pink rhyolite]	A fragmented metate (four pieces) representing approximately 50% of the artifact. As mapped, this artifact is just west of the project area boundary.	xxxxxx	xxxxxxx	McKenna
2	Granite	A tan pestle fragment (distal end) located along a dirt bike trail and just west of the project area boundary – near Field No. 1.	xxxxxx	xxxxxxx	McKenna
3	Chert	Consisting of a tight cluster of three small biface fragments in an area 1.5 m in diameter. A mano fragment was identified 2 m to the east (see No. 4 below). Item "A" is a small, tan, chert biface. Item "B" is the lower section of a projectile point (white chert). Item "C" is a projectile point mid-section of tan chert. As mapped, these items are just west of the project area boundary.	xxxxxx	xxxxxxx	McKenna
4	Schist	A [gray] relatively large and unifacial mano (referenced above).	xxxxxx	xxxxxxx	McKenna
5	Schist	A small. gray metate fragment identified in a dirt bike trail.	xxxxxx	xxxxxxx	McKenna
6	Granite	A heavy, thick, tan metate fragment located along the edge of a dirt bike trail.	xxxxxx	xxxxxxx	McKenna
7	Granite	A kidney-shaped unifacial mano or abrader.	xxxxxx	xxxxxxx	McKenna
8	Granite	A small, gray metate fragment.	xxxxxx	xxxxxxx	McKenna
9	Chert	A very small, white and nearly complete leaf-shaped biface/projectile point. Located along the edge of a dirt bike trail.	xxxxxx	xxxxxxx	McKenna
10	Granite	A dark gray unifacial mano fragment of coarse texture that appears to be fire-affected. Located along edge of a dirt bike trail.	xxxxxx	xxxxxxx	McKenna
11	Granite	A small, beige and nearly complete unifacial mano.	xxxxxx	xxxxxxx	McKenna
12	Granitic, metavolcanic	A heavy, thick, fire-affected granitic metate fragment and a bluish-gray metavolcanic core about 3 m to the north). UTMs record the metate's location.	xxxxxx	xxxxxxx	McKenna
13	Glass, Granite	A heavy amethyst bottle finish (turned) spatially associated with a small, beige unifacial mano fragment.	xxxxxx	xxxxxxx	McKenna

Table 1: CA-SBR-4313 Surface Artifacts Recorded by McKenna (2017) and Tierra (2020)

Field No.	Material	Description	UTMs[1]		Recorder
14	Chalcedony, Jasper	A cluster of flaked stone including a chalcedony projectile point fragment (lower portion with concave base); 12-15 fragments of chalcedony and red jasper debitage. Found on and near a dirt access road on the adjacent park property, just east of project area. One fragment of dark metavolcanic shatter was noted on fence line, just east of the project area.	xxxxxx	xxxxxxx	McKenna
15	Chalcedony	A light-colored, utilized flake fragment with evidence of edge modification (unifacial retouch). Located west of project boundary.	xxxxxx	xxxxxxx	McKenna
TES-1	Obsidian	Bifacial projectile point fragment; 2.25 x 1.8 x 0.77 cm weighing 10.9 g. Located about 5 meters ENE of STP 50 as excavated during Phase II testing.	xxxxxx	xxxxxxx	Tierra

[1]*UTMs for Field Nos. 1-15 (except Field No. 3) were recorded using the NAD27 Datum.*
[2]*UTMs for Field No. 3 were not presented in McKenna* (2017:34); *Report and are they were estimated based on map data provided in McKenna 2017:Figure5).*
[3]*UTMS for Field No. TES-1 were recorded using the NAD83 Datum.*



Photograph 1: Surface Obsidian Biface/Projectile Point Fragment near STP 50 and CEU 2

More specifically, five artifacts (Field Nos. 2, 5-6, 9-10) and the cluster of chalcedony and jasper debitage (and one piece of metavolcanic shatter) along with a projectile point fragment (all in No. 14) were found near existing bike trails or dirt roads whose usage probably rendered the artifacts visible. In addition, 9 more artifacts (Nos. 3-4, 7-8, 12 and 15), not counting the historic bottle fragment (No. 13), are close to the western and eastern boundary fence lines (Figure 6), the installation of which would have also been a source of disturbance.

In addition, six artifacts (Nos. 1-3), consisting of a metate in four fragments, a pestle fragment, three biface fragments, including two projectile point fragments, and a mano fragment are just outside the project's western boundary; moreover, the recorded debitage cluster and utilized chalcedony flake (Nos. 14-15) are outside the project's eastern boundary, indicating that SBR-4313-H clearly extends beyond the project area to both the west and east (Figure 6).

Finally, there is the issue of the darkened soil area(s) mentioned by Drover (1980) and McKenna (2017). A close examination of these areas on the east side of SBR-4313-H within the project boundaries (Figure 6), strongly suggests they are the result of decayed plant material associated with the relatively dense vegetation in this area. Alexandra McCleary, Tribal Archaeologist for the SMBBI, concurred with this interpretation.

Native American Consultation (McKenna 2017:39)

The sacred sites records search with the Native American Heritage Commission (NAHC) revealed that no sacred or religious sites are known in an around the project Area of Potential Effect (APE) but such resources are known and recorded for the general area. The records search at the SCCIC also revealed the presence of four rock art sites and one burial within 1-1.5 miles of SBR-4313-H.

According to McKenna (2017:39), letters were sent to the Native American contacts (both Serrano and Cahuilla) provided by the NAHC along with copies of the findings of the survey recommending a Phase II testing program. In email exchanges, McKenna encouraged the tribes to participate in AB-52 consultation with the Lead Agency (County of San Bernardino) and to assist in defining the scope of the Phase II testing program (McKenna 2017:39).

Revised SBR-4313 Site Boundaries

Based on the survey, McKenna (2017:40) estimated that the true site boundaries of SBR-4313-H, including those portions outside the subject property, are represented by an area 225 m NS x 280 m EW (see yellow boundary in Figure 6), which does not include a volcanic flake and a metate fragment recorded to the south by James and Briggs (1999) (see red boundary in Figure 6).

Recommended Evaluation of Significance of SBR-4313-H

After the Phase I survey McKenna (2017:40-41) concluded the following:

> In completing a preliminary assessment of [SBR-4313-H], McKenna et al. [the company] has concluded this site would qualify for recognition as a significant resource under federal NRHP Criterion (d) and CEQA Criterion (D), for the potential to yield significant

> scientific criteria . . .
> . . . the conclusion was [SBR-4313-H] is still present and identifiable and the artifact scatter is indicative of a village site with a strong potential for buried deposits. This site fulfills the requirements for recognition as a potentially significant resource.

As described, we disagree with this conclusion.

3.3 PHASE II TESTING – FIELDWORK METHODS AND RESULTS

This has been covered in Section 1.3 above, but key points are summarized here along with the addition of more detail.

3.3.1 STP Excavation Methods and Results

The scope of work of this project was to evaluate the significance of SBR-4313-H using both California Register of Historic Resources (CRHR) criteria and Native American tribal values and concerns. The final agreed-upon approach was the excavation of 48, 50 x 50 cm STPs, spaced 45 meters apart, in a grid pattern covering the site's furthest extent as derived from the various site boundaries created by Drover (1980), James and Briggs (1999) and McKenna (2017) to the extent they are within the subject property for a total of about 14 acres (Figure 7 - 48 STPs). These were excavated to a minimum of 40 cm (the depth of the deposits estimated by Drover in 1980). If any cultural material was encountered, excavations continued at least 20 cm of sterile soil beyond those finds. All artifacts and ecofacts were photographed, key artifact attributes were recorded in the field, and then all cultural material was reburied without external laboratory or specialized analyses. Information on soils was also noted. Disturbed areas were also mapped, including the presence of berms and other raised areas, trails, dirt roads, and historic trash.

Based on the results of the initial 48 STPs, an additional 12 STPs (49-60) were excavated in areas thought to have potential for subsurface deposits. Finally, two, 1 x 1 m Controlled Excavation Units (CEUs) were excavated based on the results of the 60 STPs. The results are shown in Figure 8 – all STPs and CEUs, along with the original SBR-4313-H site boundary as recorded by Drover in 1980.

The 60 STPs are labeled negative, positive with only possible artifacts, and positive using the criteria summarized below:

- Positive STPs contain definite prehistoric artifacts or historic artifacts that are or are likely to be >50 years old; or thermally altered animal bone;
- Possible Positive STPs contain only possible prehistoric artifacts or historic artifacts which are likely to be <50 years old; or they may contain only non-thermally altered animal bone which may be non-cultural.
- Negative STPs contain no definite or possible prehistoric artifacts, no historic artifacts, and no ecofacts, modified or unmodified.

Figure 7. Unit Locations (Pre-Excavation)

Confidential: Not for Public Review

Figure 8. Unit Locations (Post Excavation)

Confidential: Not for Public Review

In Figure 8, STPs that are negative are shown in black; those with possible artifacts or ecofacts in yellow, and those that produced definite artifacts or ecofacts are in white. For more details on each STP, see Table 2 and the Master Catalog, Table 3 in an Appendix B. The results for the 60 STPs are summarized below.

- 33 Negative STPs (55.0%): 2-6, 8-10, 16-20, 22, 24, 26, 29-31, 33, 36, 38, 41-42, 46, 48, 51-53, 57-60.
- 27 Positive STPs (45.0%) in two categories
    - 14 STPs (23.30%) with possible artifacts: 1, 7, 13, 21, 23, 32, 35, 37, 39, 44-45, 47, 54, 56
    - 13 STPs (21.7%) with definite cultural material: 11-12, 14-15, 25, 27, 28, 34, 40, 43, 49 (CEU1 NW), 50, 55. [Both CEUs were positive with definite cultural material.]

Thus, 55% of the 60 STPs were negative (sterile) and only (22%) produced definite cultural artifacts >50 years old. Details on these STPs are listed below by site area:

- Far north: 6 STPs with definite artifacts – 14-15, 27-28, 49 (NW portion of CEU 1) and 50 (with 4 STPs with possible artifacts not listed below):
    - 1 flake (STP 14);
    - 1 *Olivella biplicata* side wall bead 4 mm in diameter, 1 mm thick and internal diameter of 1.8 mm, 4 small animal bones & some charcoal (STP 15) (Photographs 2-3);
    - 2 possible flakes, one possible small animal bone and some small shell nacre fragments, probably from a single shell that could be abalone (*Haliotis* sp.), but they were too small to identify in the field prior to reburial (STP 27);
    - 1 Remington .22 bullet casing (STP 28);
    - 14 fire-altered rock (FAR), 4 animal bones, with charcoal and ash (STP 49);
    - 6 animal bones, 8 FAR, with some charcoal (STP 50).

- Far south: 4 STPs with definite artifacts – STPs 11-12, 25 & 34 (with 4 STPs with possible artifacts not listed below):
    - 1 probable purple glass shard (STP 11);
    - 1 possible flake, an animal bone, and a piece of glass (STP 12);
    - 2 possible flakes, a possible scraper, and 2 rusted panel pins (STP 25);
    - 1 Coors removable pull-tab can , with some charcoal (STP 34).

- Southeast: 2 STPs with definite artifacts – 40 & 43 (with 4 STPs with possible artifacts not shown below):
    - 1 rusted panel pin (hardware pin without a head) and 2 shards of glass, with some charcoal (STP 40);
    - 1 flake (STP 43).

- Within Drover (1980) site boundary: 1 STP, STP 55 (with 2 STPs with possible artifacts not shown below):
    - 13 animal bones, a possible flake and mano fragment, with some ash (STP 55);
    - Drover's 1980 test unit (location unknown) which had at least some FAR.

Table 2: Summary of STP and CEU Artifact and Ecofact Counts

STP/ CEU	Status	Shell orBead	Flake	Poss. Flake	Poss. Core	Poss. Hammer Stone	Poss. Mano Frag	Poss. Scraper	FAR	Non-Human Bone	TOT PREH	Beer Can	Metal	Glass	TOT HIST	ALL TOT	Char-coal
1	Poss.			*1*							1				0	1	
2	NEG																x
3	NEG																
4	NEG																
5	NEG																x
6	NEG																
7	Poss.						*1*				1				0	1	
8	NEG																
9	NEG																
10	NEG																
11	POS										0			1	1	1	
12	POS			*1*						1	2			1	1	3	
13	Poss.										0			*3*	3	3	
14	POS		1								1				0	1	
15	POS	1 bead								4	5				0	5	x
16	NEG																
17	NEG																
18	NEG																
19	NEG																
20	NEG																
21	Poss.			*1*							1				0	1	
22	NEG																x
23	Poss.			*1*							1				0	1	
24	NEG																
25	POS			*2*				*1*			3		2		2	5	

Table 2: Summary of STP and CEU Artifact and Ecofact Counts

STP/ CEU	Status	Shell orBead	Flake	Poss. Flake	Poss. Core	Poss. Hammer Stone	Poss. Mano Frag	Poss. Scraper	FAR	Non-Human Bone	TOT PREH	Beer Can	Metal	Glass	TOT HIST	ALL TOT	Char-coal
26	NEG																
27	POS	1 nacre		*2*						*1*	4				0	4	
28	POS										0		1		1	1	
29	NEG										0				0	0	x
30	NEG																
31	NEG																x
32	Poss.													*3*	3	3	
33	NEG																
34	POS											1			1	1	x
35	Poss.			*2*	*1*						3		*1*		1	4	
36	NEG																
37	Poss.								*2*		2				0	2	x
38	NEG																
39*	Poss.												1		1	1	
40	POS												1	*2*	3	3	x
41	NEG																
42	NEG																
43	POS		2								2				0	2	
44	Poss.										0			*2*	2	2	
45	Poss.				*1*						1				0	1	
46	NEG																
47	Poss.			*1*			*1*				2				0	2	
48	NEG																
49	POS	CEU1 NW (see below)															

Table 2: Summary of STP and CEU Artifact and Ecofact Counts

STP/ CEU	Status	Shell orBead	Flake	Poss. Flake	Poss. Core	Poss. Hammer Stone	Poss. Mano Frag	Poss. Scraper	FAR	Non-Human Bone	TOT PREH	Beer Can	Metal	Glass	TOT HIST	ALL TOT	Char-coal
50	POS								6	8	14				0	14	x
51	NEG																
52	NEG																
53	NEG																
54	Poss.									*1*	1				0	1	
55	POS			*1*			*1*			13	15				0	15	ash
56	Poss.									*1*	1				0	1	
57	NEG																
58	NEG																
59	NEG																
60	NEG																
CEU 1	POS																
	NW								15	4	19				0	19	x + ash
	NE			*1*					7	8	16		*1*		1	17	x + ash
	SE					*1*			2		3			*3*	3	6	x
	SW			*1*							1		2		2	3	x+ ash ?
CEU 1	ALL			*[2]*		*[1]*			[24]	[12]	[39]		[3]	*[3]*	[6]	[45]	
CEU 2	POS																
	NW				*1*				2	5	8					8	x

Table 2: Summary of STP and CEU Artifact and Ecofact Counts

STP/ CEU	Status	Shell orBead	Flake	Poss. Flake	Poss. Core	Poss. Hammer Stone	Poss. Mano Frag	Poss. Scraper	FAR	Non-Human Bone	TOT PREH	Beer Can	Metal	Glass	TOT HIST	ALL TOT	Char-coal
	NE				*1*				4	7	12					12	x
	SE								2	9	11					11	x
	SW	1 bead							2	8	11					11	x
CEU 2	ALL	[1]			*[2]*				[10]	[29]	[42]					[42]	
TOT		3	3	14	4	1	3	1	42	70	141	1	9	15	25	166	
%		2.1%	2.1 %	9.9%	2.8%	0.7%	2.1%	0.7%	30.0%	49.6%		4.0%	36.0%	60.0%			

** Styrofoam fragments from 5-30 cm in this STP, but not shown in artifact totals. Could be >50 years old.*

Photograph 2: STP 15 produced an Olivella bead at 0-10 cm, some animal bone and charcoal.

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Photograph 3: Olivella side wall bead, Type G1 (Bennyhoff and Hughes 1987).

Of these four areas described above:

- the north was the most encouraging area for the presence of subsurface deposits, especially prehistoric ones (including a shell bead and some shell nacre fragments that are probably from the same shell), with charcoal present in three of six positive STPs; and two of five extra STPs produced prehistoric cultural deposits.
- the southern area produced primarily possible prehistoric or historic artifacts and the only STP with charcoal had just a beer can.
- the southeast zone produced only two flakes and one STP with charcoal associated only with historic artifacts; and finally,
- the Drover 1980 SBR-4313 site produced a cultural deposit (location unknown) in a test pit that may have included fire-altered rock (Drover 1980) and 13 animal bones were recovered in STP 55 with some ash; however, only one of seven extra STPs (STP 55) produced prehistoric cultural material.

Given these results, it was decided to excavate two CEUs in the north. The first was triggered by the discovery of a cultural deposit in STP 49 (now CEU 1 NW), as well as the presence of positive STPs 14, 15 (with a shell bead) and STP 27 (shell nacre fragments) in the vicinity. CEU 1 was created by expanding STP 49 into a 1 x 1 m using three additional 50 x 50 cm conjoining units (Table 2). The placement of 1 x 1 m CEU 2 was determined by the presence of cultural deposits in STP 50 (6 animal bones, 8 FAR with some charcoal) as well as the presence of nearby positive STP 15 (shell bead) and the discovery of an obsidian projectile point fragment on the surface within 6 m of STP 50 (Figure 8).

3.3.2 Excavation and Results of CEU1 and CEU2

CEU 1

STP 49 (now labeled CEU 1 NW)

STP 49 was the first additional STP after the first 48. It was placed in an area near two positive STPs (14-15), possible STP (27) and not far from STP 26 which was sterile. Four large (12+ cm) fire-affected cobbles (FAR) were encountered between 10-20+ cm, along with two smaller fire-affected granite rock fragments amongst the cobbles. An additional nine FAR made of quartzite and granite were recovered from the screen, giving a total of 15. The embedded cobbles and FAR were left in place and excavation continued to 40 cm (Photographs 4-5). The only additional cultural material consisted of four very small pieces of bone (three of them thermally altered), probably from a bird between 0-20 cm, along with a high volume of ash and some charcoal up to a depth of 20 cm (Table 2). Nothing was found between 30-40 cm other than some charcoal (see Table 3 in Appendix B).

It was later decided to expand STP 49 into a 1 x 1 m CEU. STP 49 was relabeled as CEU 1 NW (quadrant) and three additional 50 x 50 cm units were added to complete CEU 1.

Photograph 4: STP 49 (CEU 1 NW) at 40 cm with pedestalled fire-affected cobbles and rocks at 10-20+ cm, facing west.

Photograph 5: CEU 1 at 40 cm more fully showing fire-affected cobbles and rock

CEU 1 NE quadrant

Another large fire-affected cobble was encountered at 10-15 cm associated with the cobbles identified in STP 49, and six additional quartzite and granite FAR were recovered from the screen. Eight small pieces of small animal bone, six of which were clearly bird with at least one thermally altered, were recovered from 10-30 cm associated with ash and charcoal, along with a piece of non-diagnostic metal at 0-20 cm that is probably recent. A possible quartzite flake was encountered between 10-20 cm, though it may have been produced by the heat of fire as quartzite tends to spall or crack apart in contact with fire or intense heat.

CEU 1 SE quadrant

Two pieces of granitic FAR were encountered between 0-10 cm with charcoal present between 0-30 cm. A possible quartzite hammerstone was recovered at 20 cm. Finally, pieces of clear glass that are probably <50 years old were found at 0-10 and 30 cm. Root disturbance in more moist soil was encountered between 30-40 cm.

CEU 1 SW quadrant

A possible chalcedony flake was encountered between 10-20 cm. Charcoal continued to 40 cm but with very little ash. Plant root disturbance was present at 30-40 cm. In addition, a rusted 1" panel pin was encountered at 10 cm, and a piece of rusted metal between 20-30 cm.

Summary and Interpretation

In short, the remains of possible five large cobble hearth stones were encountered between 10-20+ cm along with associated smaller fragments of FAR, charcoal and ash. A total of 24 pieces of FAR, 12 bones, mostly bird, and two possible flakes and one possible hammerstone make up the non-historic artifact component. Historic artifacts consisted of a rusted panel pin, a piece of non-diagnostic metal, and three fragments of clear glass that are probably <50 years old coming from the 0-10 and 20-30 cm levels. The unit soil was uniformly a Munsell 7.5 YR 6/4 light brown, of low compaction, with moisture levels ranging from dry to moist with depth. The soil ranges from a silty sand to a sandy silt with depth (Table 3 in Appendix B). The unit was excavated to a depth of 40 cm.

The fire-affected cobbles, associated with mostly thermally altered bird bone, charcoal and ash in the upper 20-30+ cm, probably represent remnants of a hearth. Whether this hearth dates to prehistoric or post-contact period times is not known, primarily because the scope of work did not permit the dating of the charcoal. The possible flake and hammerstone both made of quartzite may be the result of the heat of past hearth fires as opposed to being formal tools.

CEU 2

CEU 2 was excavated directly in the vicinity of positive STPs 15 and 50 and possible STP 27, as well as a surface obsidian projectile point fragment (Photograph 1) discovered toward the end of fieldwork (Figure 8). While this unit was excavated as four 50 x 50 cm STPs, the discussion will focus on the entire unit since no features were encountered. Ten scattered pieces of fire-altered rock were found in the upper 20 cm, eight of quartzite and two of granite. In addition, 29 pieces of thermally altered small animal bone were encountered between 10-40 cm (Photographs 6-7). Two possible chalcedony cores were found between 10-20 cm and an *Olivella biplicata* side wall bead between 20-30 cm. Its external diameter is 3.5 mm and it is 0.5 mm thick with an internal diameter pf 1.0 mm, weighing <0.1 g. It is badly burned resulting in a misshapen oblate form. Charcoal was encountered between 10-20 cm in the NW quadrant and between 20-50 cm for the rest of the unit. Soils ranged from gravelly sand to silty sand with depth, were of low compaction, and ranged from dry to moist with depth. As with CEU 1 (and many of the STPs), the soils were uniformly Munsell 7.5 YR 6/4 light brown. No historic artifacts were recovered. The unit was excavated to a depth of 50 cm.

The presence of FAR and charcoal in all levels below 10 cm, along with the presence of 29 pieces of thermally altered small animal bone, indicate that cooking activities took place within or near this area. While there are two possible chalcedony cores, the most interesting find was a burned *Olivella biplicata* side wall bead. No human bone was found in association with this bead as was the case for the other *Olivella* bead from STP 15. The total lack of historic artifacts suggests that this area was used for cooking during the prehistoric or precontact period. Again, the scope of work prevented any dating of the charcoal to determine actual occupation periods.

Photograph 6: 1 x 1 m CEU 2 excavated to 50 cm from which produced 29 pieces of animal and bird bone and 10 pieces of FAR (fire-affected rock).

Photograph 7: 29 fragments of fire-affected small to medium animal bone and bird bone recovered from 0-40 cm along with 12 pieces of FAR (Table 2).

3.3.3 Site Soils

Soil Types and Munsell Color Designations

Site soils in the 60 STPs were described as follows:

16 gravelly sand- sandy silt or silty sand; 10 gravelly sand; 10 silty sand; 7 gravelly silt; 6 sandy silt; 4 sand; 2 silty sand-sandy silt; 2 silt; 2 gravelly sandy-silty clay or with clay; 1 silty loam.

The common primary terms used are sand and silt modified by the adjectives gravelly, silty, or sandy. Loam and clay came up in three instances. The soils from the two CEUs follow the pattern described as silty sand to sandy silt (CEU 1) and gravelly sand to silty sand (CEU 2).

The most common Munsell designation was 7.5 YR 6/4 light brown which occurred about 50% of the time as well as in the two CEUs. Other common colors, using the popular terms in the 7.5 YR series are brown, strong brown, and pinkish gray (7.5 YR 6/2), In the 5 YR and 2.5 YR series dark reddish brown dominates (5 YR 3/3 or 2.5 YR 5/4). Other shades are rare; for more details see the Master Catalog in Appendix B.

Soil Compaction and Moisture Levels

Of the 60 STPs:

- 30/60 (50%) plus the 2 CEUs of low compaction
- 5/60 (8.3%) low to medium compaction
- 13/60 (21.7%) medium compaction
- 4/60 (6.7%) medium to high compaction, and
- 8/60 (13.3%) high compaction

In general, most of the low compaction soils are in the northern part of the site and in the vicinity of the wash to the south. Low to medium and medium compaction soils were encountered mostly in the central and southwestern parts of the site. High compaction soils were primarily in the east central part of the site. Some of the high compaction soils may be due to past historic disturbances (Figures 9-10).

The moisture level in most STPs was dry (38 or 63.3%), followed by dry to moist with depth (19 or 31.7%), with a few STPs with largely moist soils (3/60 or 5.0%). Dry soils are present throughout most of the site except the north. Soils that range from dry to moist with depth include the r north and along the wash to the south. The three STPs with moist soils are also in the north and near or within the wash to the south (Figures 11-12).

3.3.4 Summary and Interpretation of Excavation Results – Non-Historic Period Artifacts

Here we distinguish between pre- and post-contact stone tools likely to have been made by Indians from historic-period artifacts made of materials associated with the arrival of non-Indian peoples – items made of metal, glass, and non-terra cotta ceramics, such as earthenware, stoneware and porcelain, which were used by Indians and non-Indians. While there is a penciled-in note by Drover (1980) about “pottery”, no terra-cotta ceramics, such as Tizon Brownware, Colorado Buff Ware or other wares found in the eastern Mojave, were recovered or observed by any observers after Drover.

Non-Historic Surface Artifacts including an Obsidian Point Fragment

As noted above, 5 metates (all fragments), 5 manos (including 2 complete and one nearly complete including one that may be an abrader, 5 biface fragments (four of which are projectile point fragments), 1 pestle fragment, a cluster of chalcedony and jasper debitage (with 1 metavolcanic shatter), and a utilized chalcedony flake were recovered. To this, we can add an obsidian probable projectile point fragment found by Tierra near CEU 2 (Figure 8).

These artifacts indicate primarily tool manufacture (debitage cluster), hunting (points) and food preparation (manos, metates and the pestle) (Table 1).

Figure 9. Soil Compaction and Disturbances

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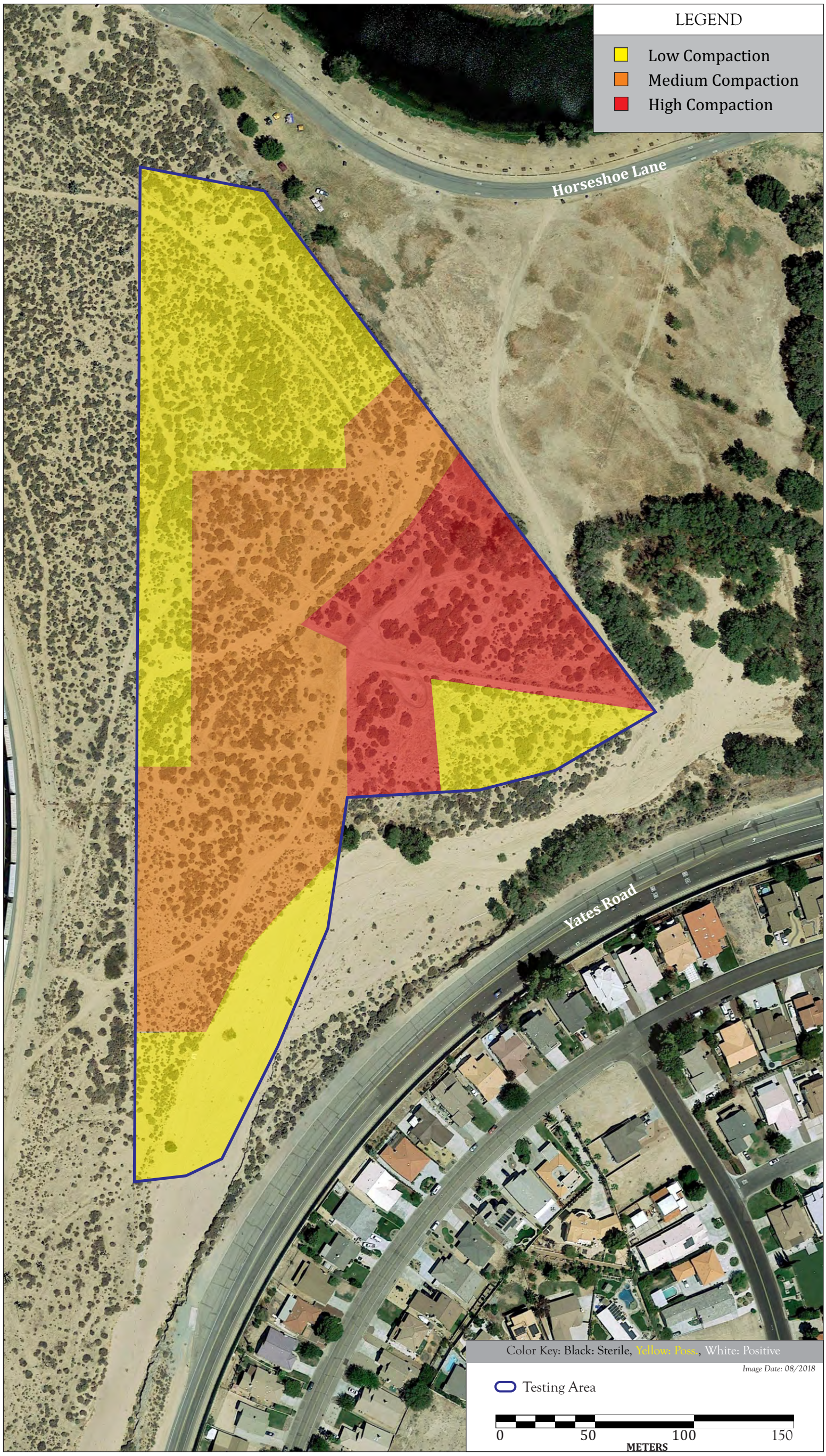

Figure 10: Soil Compaction Levels Generalized

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Figure 11. Soil Moisture and Disturbances

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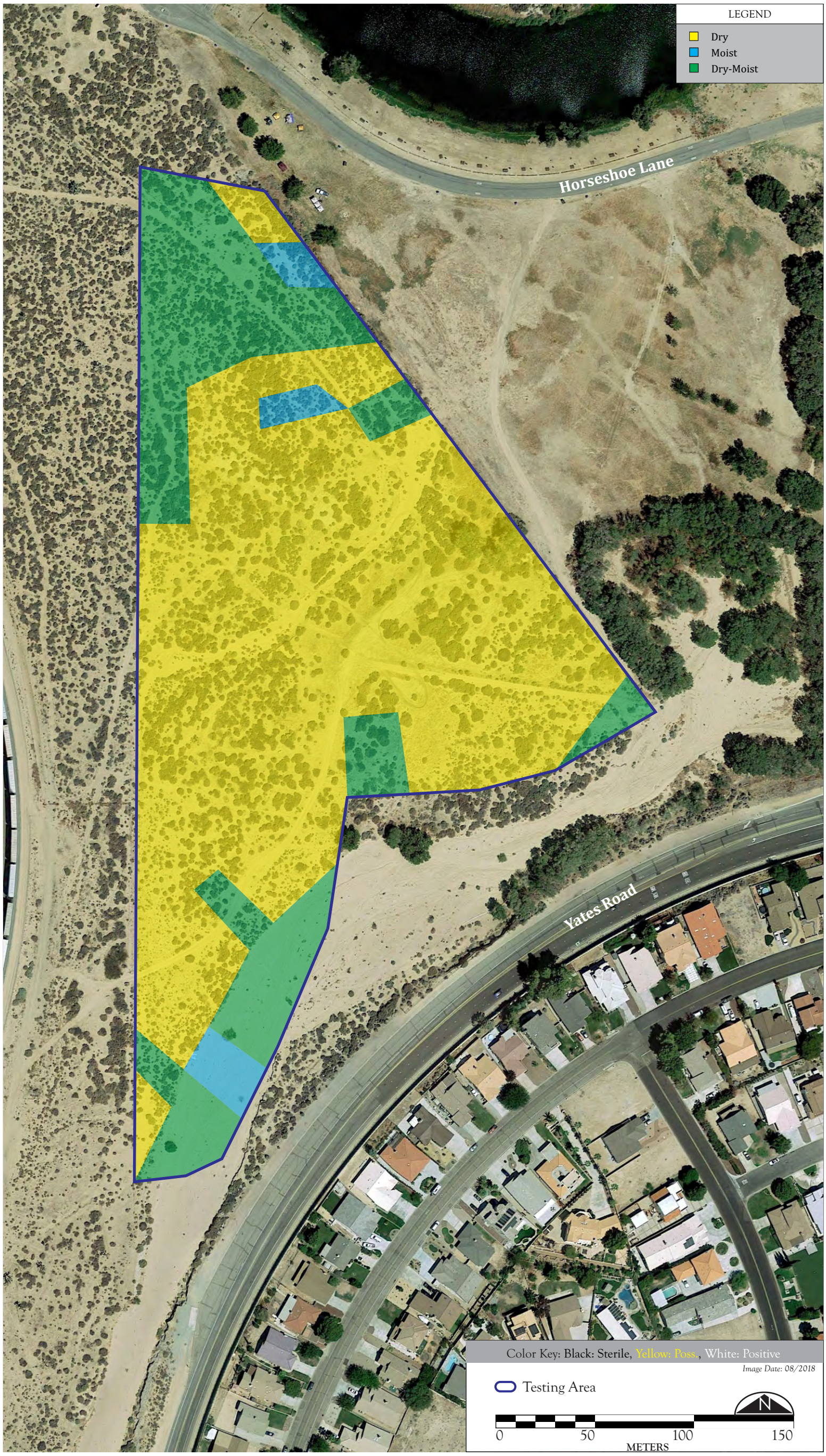

Figure 12: Soil Moisture Levels Generalized

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Non-Historic Subsurface Artifacts

A summary of the 166 artifacts recovered during test excavations are presented in Table 2. A total of 141 non-historic artifacts and ecofacts (including possible artifacts) and 25 historic artifacts. The non-historic artifacts were recovered from only 19/60 STPs (31.7%) and from all 8 quadrants of CEUs 1 and 2 (100%). As shown in Table 2, these include the following:

- 70 (49.6%) fragments of mostly small animal or bird bone
- 42 (30.0%) pieces of fire-altered rock (FAR)
- 3 (2.1%) flakes
- 3 (2.1%) 2 *Olivella* side-wall bead and some small shell nacre fragments that are probably from the same shell, perhaps abalone

- 14 (9.9%) possible flakes
- 4 (2.8%) possible cores
- 3 (2.1%) possible mano fragments

- 1 (0.7%) possible hammerstone
- 1 (0.7%) possible scraper

Overall, the non-historic material consists of the surface artifacts recovered by McKenna, which indicate flint knapping, hunting, and food preparation; and Phase II artifacts which consists primarily of thermally affected bird and small animal bone (50.0%); FAR (30.0%); two *Olivella biplicata* side-wall beads and some shell nacre fragments counted as one shell (2.1%); three flakes (2.1%) and 14 possible flakes (9.9%); and other possible prehistoric tools (four cores, three mano fragments and a hammerstone and scraper) (6.3%). The latter indicate some flint knapping, hunting, food preparation, and the making (or importation of) beads which were used to store wealth, for trade, as a major funerary item, and possibly for decorative purposes.

From a chronological perspective, some of the points appear to be fragments of Cottonwood leaf or triangular points. Overall, the Cottonwood point series dates from 600 ± 200 A.D. (1350 ± 200 B.P.) or from as early as 400 A.D. with leaf points beginning earlier than triangular ones (Koerper et al. 1996:271). The pestle appears during the late Millingstone and continues through the Intermediate and Late Prehistoric periods (or Gypsum, Saratoga Springs, and Protohistoric periods; that is, from about 2000 B.C. onwards (McKenna 2017:38; Potter et al. 2014: 19-21; this document). The Late Prehistoric in the Mojave Desert starts around 1150 AD according to Sutton et al. 2007, but Potter et al. (2014:21) use a date of 900 BP or ca. 1050 AD. One *Olivella* side-wall bead (STP 15) measures 4 mm (external diameter) x 1 mm (thickness) x 1.8 mm (internal diameter). The second bead (CEU 2 SW) measures 0.35 x 0.5 x 1 mm. They were both recovered from the northern part of the site. Bennyhoff and Hughes (1987:84-89, Figure 6, 132-135, Figure 7) indicate they are probably *Olivella biplicata* side wall beads, either Type G or H. Type G saucer beads are circular with ground edges with types divided based on diameter and perforation (internal diameter) size (*ibid*, 132). Type H beads are disk beads that are circular that shift from ground to chipped edges over time associated with an increase in size grouped during a single tradition during the Historic period (*ibid*., 135). The small shell nacre fragments from 30-40 cm in

STP 27 may have be from an abalone shell (*Haliotis* spp.) which could indicate a trade item (see Price et al. 2009: 103; Mason et al. 2019: 211-214)

The first bead from SBR-4313-H (STP 15) is probably a G1 (tiny saucer) bead from Central and Southern California which are ground and have an external diameter ranging from 2.0-5.0 mm and an internal diameter from 0.8-2.0 m, but it cannot be a Type H bead as its internal diameter of 1.8 mm well exceeds Type H's internal diameter of 1 mm. The second bead from CEU 1 SW could be G1 or Type H1a (ground) or H2a (semi-ground) from Southern California. Unfortunately Type G1 beads can be from any time period. Type H1a dates from the Early Mission Period (1770-1800) and H1b to the Late Mission Period (1800-1816). Thus, the bead from STP 15 is Type G1 but provides no dating information, whereas the burned, misshapen bead from CEU 2 SW could be Type G1, H1a or H1B.

In summary, the projectile point types suggest the Late Prehistoric period; the beads may indicate the Mission Period (1770-1816); the pestle fragment could date from the last 4000 years. If the shell nacre fragments are abalone (*Haliotis* spp.), and if they were imported for the local manufacture of abalone epidermis disc beads which provided enhanced red or green colors, they probably date to the Late Prehistoric and Protohistoric Periods after ca. 1050 A.D. (King 1990: 137; Mason et al. 2019:214; Sutton et al. 2007; Potter et al. 2014). No radiocarbon dates of the beads, the shell nacre fragments or the charcoal were permitted under the scope of work nor could they be kept for later analysis.

3.3.5 Areas of Historic Disturbance and Location of Recovered Historic Artifacts

Past Disturbances

Disturbances were mapped in the field during Phase II test excavations. They include berms and raised areas, historic trash deposits, concrete pillars for light poles, a few manholes associated with a sewer line, an exposed conduit, wire fence lines, dirt trails and roads (Photograph 8), some along berms (Photograph 9), ATV tracks, and the wash in the southern part of the project area (Figure 13). Historic aerials from 1952 and 1968 show no wash in that location; it only shows up in 1994. It is likely the wash was created when the raised housing development along Yates Road to the south was built and local drainage was rerouted thereby creating the wash.

An examination of available historic maps and aerial photos showed that Lower Slough was in a natural state in the early 1950s. Horseshoe Lake appears in the early 1960s and would become part of the Mojave Narrows Regional Park. The project area was undeveloped former ranch land in the 1950s-1960s. Major activity on the property shows up in the early 1990s with numerous dirt trails and roads crossing the property and evidence for the removal of about half of the natural vegetation. There is no evidence of any formal structures or buildings, and the existing features noted above appear to be <50 years old. Overall, there are no existing historic features that merit recordation or significance evaluations.

3.3.6 Summary and Interpretation of Historic Artifacts

This next section examines historic artifacts recovered from the excavations.

Photograph 8: Dirt road along a linear berm facing west (see Figures 6 and 13).

Photograph 9: Excavated to 40 cm, STP 36 produced no cultural material. It is within the former Drover (1980) site boundary (Figure 6).

Figure 13. Historic Artifact Distribution and Disturbances

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Historic Surface Artifacts

Recent trash deposits are present in several areas of SBR-4313-H within the project (Figure 13) resulting from recent dumping episodes. In addition, McKenna (2017: 37) recorded a sun-colored amethyst (SCA) bottle fragment from the surface and a few other scattered amethyst glass shards within the project area (Figure 6). While there are historic trash features that contain purple glass (1870s-1925; Lockhart 2006) and other artifacts >50 years old within SBR-4313-H (James and Briggs 1999; McKenna 2017; see below), except for the SCA bottle glass mentioned above, these are all outside and to the west of the project area (see Section 3.2.1 of this report). The few purple glass fragments noted above are scattered and STPs excavated in their vicinity produced no other artifacts of the same time period (1870s-1925).

Historic Subsurface Artifacts

A total of 25 historic artifacts plus Styrofoam fragments in STP 39 were recovered from only 11/60 STPs (18.3%) and only 3/8 (37.5%) the 8 quadrants from CEUs 1 and 2 (Table 2), including:

- 1 Coors beer removable pull tab can, without sharp edges and parts of a yellow label still visible, from STP 34 (1965-1975) (Schroeder 2019)
- 5 rusted panel pins, one bent (STPs 25 & 40; CEU 1 SW), undated
- 1 rusted wire (STP 39), undated
- 1 Remington .22 bullet casing (STP 28), dating to 1962-present (Fitchett 2020)
- 1 fragment of alkalized glass (STP 11) with a purple tinge (1770s-1925) (Lockhart 2006)
- 1 fragment of alkalized glass (STP 12) without a purple tinge, undated
- 4 brown bottle glass shards (STPs 32 and 40), likely <50 years old
- 2 green bottle glass shards (STP 12 & 32), likely <50 years old
- 7 clear glass fragments (STP 13 & 44 and CEU 1 SE), likely <50 years old
- 2 fragments of non-diagnostic metal (STP 35, CEU 2 NE), undated
- Styrofoam fragments, 5-30 cm (STP 39), 1941-present (Cansler 2018)

While most of these artifacts come from the southern part of the property (except for CEU 1 SE), they are scattered across that area. Most of the artifacts are undated but are most likely <50 years old (e.g., the bottle glass, non-diagnostic metal, and so forth). Without careful analysis using existing literature and a close examination in the lab – conditions that were not permitted by the scope of work – more precise dating of these objects was not possible. In any case, the only objects whose known age range clearly merits discussion are the following:

- Several pieces of surface sun-colored amethyst (SCA) glass, along with one from STP 11, dating between the 1870s and 1925 (Lockhart 2006), which are minimally 95 years old, but are located in different parts of the property.
- a Coors can with removal pull tab without sharp edges (1965-1975; Schroeder 2019) from STP 34 located along the wash in the southern part of the property (Figure 13), which is no more than 55 years old.
- the Remington bullet casing whose U-stamp with a dot under it indicates it dates from 1962 to the present (Fitchett 2020) thus making it no more than 58 years old.

- Styrofoam (1941-present; Cansler 2018) fragments from STP 39 which are no more than 79 years old.

These historic artifacts are dispersed and largely from different time periods. Moreover, the excavation of STPs in their vicinity did not find additional artifacts of their specific time period, especially in the case of the SCA glass. In short, there is no evidence of any substantial activity or site within a specific area or period of time. In conclusion, there are no significant historic period resources within the subject property.

SECTION IV – SIGNIFICANCE EVALUATION OF SBR-4313-H WITHIN THE SUBJECT PROPERTY

4.1 BRIEF SUMMARY OF SBR-4313-H ON THE SUBJECT PROPERTY

SBR-4313-H's prehistoric subsurface artifact content is low with the major elements being thermally affected small animal and bird bone (50%) and fire-altered rock (30%), sometimes with charcoal and ash, indicating one or more hearth features. Other important artifacts include 2 *Olivella* side wall beads (one badly burned) and 3 flakes. The remainder are "possible" artifacts (14 flakes, 4 cores, 3 mano fragments), 1 scraper and 1 hammerstone. However, surface artifacts include five metates (mostly fragments), five manos (mostly fragments), a pestle fragment, a core, a utilized flake, five biface fragments (including four projectile points, and jasper and chalcedony debitage). This assemblage of artifacts indicates tool manufacture (core and debitage), hunting (points), and meal preparation (manos, metates, pestle) took place in this area. McKenna has asserted it is a village site and should be evaluated as significant (McKenna 2017:38). But is it a village site?

4.1.1 Was SBR-4313/H a village site?

A village site is normally characterized by significant subsurface midden deposits, a wide variety of artifact types, evidence for extensive food preparation, some degree of external exchange, and often burials. To date no burials have been found within or near SBR-4313-H, although this does mean they are not present. The excavation of 60 STPs and the 2 CEUs did not find any true midden deposits. Soil development is limited, and most soils are gravelly sands or silts, silty sands or sandy silts. Only a narrow range of definite artifacts were recorded, most of which are associated with possible hearth activity, i.e., fire altered rock and thermally affected small animal or bird bone. Clear evidence of probable hearths was found only in the northern end of the property-- from CEUs 1 and 2 and STPs 14, 50 and 55 (Figure 8). No large mammal bone and one or two possible medium-sized mammal bone were recovered. While two *Olivella* side wall beads were found in isolated locations, no human remains or burials were encountered. Food preparation is indicated by the surface remains of manos and a metates and a pestle fragment, but considering the size of the site, they are scattered and are not numerous. In addition, no clear-cut subsurface evidence of groundstone tools was found other than three possible mano fragments. Some tool manufacture probably occurred as indicated by a core (No. 12 in Figure 6) and by the debitage cluster just outside the project boundary (No. 14 in Figure 6). Subsurface evidence for debitage included only three definite flakes with 14 possible flakes and four possible cores. However, a minor degree of external trade is suggested by the presence of the two *Olivella biplicata* side wall beads and some small fragments of shell nacre recovered from the 30-40 cm level of STP 27.

In short, SBR-4313 was probably the scene of episodic temporary encampments, especially to the north, but it is highly unlikely it was a village site. While chronological data are poor, it was probably occupied primarily during the Late Prehistoric given the presence of several Cottonwood triangular or leaf projectile point fragments. However, the two *Olivella* side wall beads are not temporally significant if they are Type G1, but the bead from CEU 2 SW could also be from the Mission Period 1770-1816 if it is Type H1a or H1b. Finally, pestles go back to at least 2000 B.C.

(Gypsum Period) and become much more abundant during later periods, especially during the Late Prehistoric. Given only a single pestle fragment was found, such a small sample size makes it difficult to establish the time period (s). Without the ability to study the beads more carefully in a lab or to date the beads or charcoal found in association with the hearths (due to the scope of work), we cannot say more than this.

4.1.2 Historic material from SBR-4313-H

As discussed in Section 3.2.1, 3.3.6 and 3.3.7, there are no historic features or sites >50 years old within the subject property. One historic component does exist within SBR-4313-H to the west of the project area, which places it outside the scope of this investigation and evaluation.

4.2 CRITERIA FOR EVALUATION OF SIGNIFICANCE

Based on CEQA, unless a site has very unusual or unique characteristics, to be evaluated as significant it must satisfy one or more of the following criteria:

A. The resource is associated with events that have made a contribution to the broad patterns of California history;
B. The resource is associated with the lives of important persons from our past;
C. The resource embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of an important individual or possesses high artistic values; or
D. The resource has yielded, or may be likely to yield, important information in prehistory or history.

4.3 SIGNIFICANCE EVALUTION OF THAT PART OF SBR-4313/H WITHIN THE PROJECT AREA

Artifacts excluded from the evaluation because they are outside the Project area (Parcel 09)

In order to evaluate that portion of SBR-4313/H within the Project area, we must remove the prehistoric and historic artifacts from Parcel 08 from Table 2 as well as McKenna's surface artifacts (see Table 1): Nos. 1-3 to the west of the Project area; Nos. 10-12 and the obsidian point fragment found by Tierra within Parcel 08; and No. 14 east of the Project area. Thus there remains the following surface artifacts within the Project area:

- No. 4 – a unifacial mano
- No. 5 – a metate fragment
- No. 6 – a metate fragment
- No. 7 – a unifacial mano or abrader
- No. 8 – a metate fragment
- No. 9 – nearly complete leaf-shaped biface/projectile point
- No. 13 – a unifacial mano and a sun-colored amethyst (SCA) bottle fragment
- No. 15 – a utilized flake fragment

In short, within the project area there are eight prehistoric items (3 metate fragments, 2 unifacial manos, 1 unifacial mano or abrader, 1 leaf-shaped projectile point, and 1 utilized flake fragment) and one historic item (SCA bottle glass fragment).

We must also exclude those items found within STPs and CEUs excavated within Parcel 08. STP 28 and CEU 2 straddle the boundary of the project area. To be on the safe side, these artifacts were included in the Project area for evaluation. This means that of the original 141 prehistoric items and 25 historic items, a total of 77 prehistoric (including 42 from CEU 2) and 19 historic items (including one from STP 28) plus some Styrofoam fragments were found within the Project area as shown below:

77 Prehistoric Items:

- 2 Olivella shell beads (STP 15 and the SW quadrant of CEEU 2
- 3 flakes (STPs 14 & 43)
- 8 possible flakes (STPs 12, 21, 23, 25, 35, 47)
- 3 possible cores (STP 35 and CEU 1 NE & NW)
- 2 possible mano fragments (STPs 7 & 47)
- 1 possible scraper (STP 25)
- 16 FAR (STP 50 and CEU 1 all quadrants)
- 42 non-human animal bone (STPs 12, 15 & 50 and CEEU 2 all quadrants)

19 Historic Items plus Styrofoam fragments:

- 1 Coors beer removable pull tab can, without sharp edges and parts of a yellow label still visible, from STP 34 (1965-1975) (Schroeder 2019)
- 3 rusted panel pins, one bent (STPs 25 & 40), undated
- 1 rusted wire (STP 39), undated
- 1 Remington .22 bullet casing (STP 28), dating to 1962-present (Fitchett 2020)
- 1 fragment of alkalized glass (STP 11) with a purple tinge (1770s-1925) (Lockhart 2006)
- 1 fragment of alkalized glass (STP 12) without a purple tinge, undated
- 4 brown bottle glass shards (STPs 32 and 40), likely <50 years old
- 2 green bottle glass shards (STPs 12 & 32), likely <50 years old
- 4 clear glass fragments (STPs 13 & 44), likely <50 years old
- 1 fragments of non-diagnostic metal (STP 35, CEU 2 NE), undated
- Styrofoam fragments, 5-30 cm (STP 39), 1941-present (Cansler 2018)

<u>Evaluation of the portion of SBR-4313/H included within the Project area</u>

As for Criterion A, given the site only represents episodic camping and food preparation, it is hard to argue that it represents a major contribution to the broad patterns of prehistory. The historic period artifacts within the subject property are mostly either <50 years old or undiagnostic metal fragments. Those artifacts >50 years old include items that date back to the 1960s and 1970s (Coors beer can, a Remington bullet casing) and some Styrofoam fragments dating as early as 1941, and several fragments of SCA glass scattered on the surface, as well as two subsurface fragments of SCA glass. None of these fragments of SCA glass were part of a specific

concentration. The ca. 1900 historic deposits recorded by James and Briggs (1999) are outside the project area.

Criterion B is not relevant prehistorically. It is true that the property was once a ranch that belonged to James Brown, brother of John Brown, builder of Brown's Toll Road in Cajon Pass more than a century ago; however, there are no significant elements attributable to this ranch within the subject property, such as major structures, buildings or landscape improvements that are >50 years old.

Given the data available for the site, Criterion C is not relevant as there are no structures, buildings or rock art with the project area.

Criterion D refers to the site's research potential. Given the paucity and narrow range of artifacts found during Phase II excavations, except for fire-altered rock and small animal bird and animal bone, given that the two shell beads recovered are at the very edge of the project boundary in STP 15 and CEU 2 near Parcel 09, the research potential of the Project is viewed as largely exhausted with the test excavations, and this portion is deemed not to be a significant resource. This conclusion does not affect a different evaluation of the remainder of the site which includes Parcel 08, important areas to the west, and possibly to the north and southeast.

4.4 RECOMMENDATIONS

Given the cultural sensitivity in the local region and the presence of hearth activity, it is recommended that the northern third of the property be subject to controlled grading monitoring, i.e., the area north of the wash which crosses the center of the property (Figure 14).

In the event that unanticipated, buried prehistoric archaeological resources (lithic material, faunal, pottery, etc.) or historical archaeological resources (ceramics, building materials, glassware, etc.) are unearthed during construction or any ground disturbing activities within the project area, additional resource treatments may become necessary. Once a potential resource has been identified, all work within 100 feet should be halted until the find can be assessed by a qualified archaeologist.

If human remains are encountered during the proposed work, no further excavation or disturbance may occur in the vicinity of the find or in any area which may also harbor similar remains until the County Coroner has been contacted. If the Coroner identifies the remains as Native American, the descendants will be notified by the Native American Heritage Commission.

Figure 14. Recommended Monitoring Area

Confidential: Not for Public Review

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1990 CA-KER-1830 Test and Evaluation: Technical Report. Report on file at AFFTC/EM, Edwards AFB, California.

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1967 The Quaternary of the United States 9, Review Volume for the VII Congress of the International Association for Quaternary Research, Princeton. New Jersey: Princeton University Press, 1965. https:/doi.org/10.1002/iroh.19670520208.

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York, Andrew L.
1988 Preliminary Report on Archaeological Data Recovery Excavations at CA-SBr-6017 and CA-SBr-6018 in the East Cronese Lake Basin, San Bernardino, California. Dames and Moore, San Diego.

1991 Archaeological Inventory and Evaluation for the Ute 33kV Transmission Line Near Baldwin Lake, San Bernardino County, California. Dames and Moore, San Diego, California. Report on file at the San Bernardino County Museum Archaeological Information Center, Redlands, California.

York, A., Hull, K., and Christenson, L.
1991 Archaeological Investigations at CA-KER-2816 and CA-KER-2817, Edwards Air Force Base, California. James and Moore, San Diego, California. Report on file at AFFTC/EM, Edwards Air Force Base, Lancaster, California.

APPENDICES

A. Resumes of Principal Personnel
B. Table 3. Master Catalog (Confidential)
C. Department of Parks and Recreation Updated Site Forms 523 Updates (Confidential)

ATTACHMENT A

RESUMES OF PRINCIPAL PERSONNEL

MICHAEL G. BAKSH, PH.D.

Principal Anthropologist/Archaeologist
Tierra Environmental Services

Education

University of California, Los Angeles, Doctor of Philosophy, Anthropology, 1984
University of California, Los Angeles, Master of Arts, Anthropology, 1977
San Diego State University, Bachelor of Arts, Anthropology, 1975

Professional Experience

1993-Present	Principal Anthropologist/Archaeologist, Tierra Environmental Services, San Diego, California
1993-Present	Adjunct Professor, Department of Anthropology, San Diego State University
1990-1993	Senior Anthropologist/Senior Archaeologist, Brian F. Mooney Associates, San Diego, California
1985-1990	Research Anthropologist, University of California, Los Angeles
1976-1983	Research Assistant, Department of Anthropology, University of California, Los Angeles
1973-1975	Supervisory Archaeologist, San Diego State University, San Diego, California
1970-1973	Assistant Archaeologist, San Diego State University, San Diego, California

Professional Affiliations

Fellow, American Anthropological Association
Member, American Ethnological Society
Member, Association of Environmental Professionals
Member, Society for California Archaeology
Treasurer and Trustee, San Diego Archaeological Center
Qualified Principal Investigator, City of San Diego

Qualifications

Dr. Michael Baksh received his Ph.D. in Anthropology from the University of California at Los Angeles in 1984. He has been Principal Anthropologist/Archaeologist at Tierra Environmental Services for 13 years Dr. Baksh's area of specialty is cultural resource management, and he has conducted numerous archaeological surveys, testing projects, and data recovery programs throughout southern California. He has also conducted numerous Native American consultation and ethnohistoric projects throughout the southwestern United States in compliance with Section 106 of the National Historic Preservation Act. He has established an excellent rapport with Native Americans on a wide range of cultural resource management, land use, and planning projects.

Relevant Projects

As Needed Archaeological Services For The MTDB Light Rail Project
(Metropolitan Transit Development Board).
Dr. Baksh managed the As-Needed archaeological services for the San Diego Metropolitan Transit Development Board (MTDB) in support of construction of the Mission Valley Light Rail Project between Old Town and Fashion Valley. As-needed services included on-going construction monitoring, site testing, and data recovery activities. During the course of monitoring, a buried prehistoric archaeological site was found at a location scheduled for immediate construction. In consultation with the U.S. Army Corps of Engineers (ACOE) and the City of San Diego (City), a testing project was implemented within a matter of days and the site was determined to be significant. Dr. Baksh managed the immediate preparation of an evaluation and treatment plan (for the Heron site, CA-SDI-14,152) and coordination with the ACOE and City. The plan was approved and Dr. Baksh managed the data recovery fieldwork, which was completed in less than one month after initial discovery of the site and just prior to crucial construction deadlines. He subsequently managed all phases of data analysis and preparation of the draft and final reports.

San Diego Water Repurification *(Montgomery Watson).*
Dr. Baksh conducted an archaeological feasibility study for the San Diego Water Repurification Project proposed by the City of San Diego Water Utilities Department. This project included analyses of records searches and existing archaeological studies, as well as field reconnaissance studies, for several alternative pipeline conveyance corridors and Advanced Water Treatment Facilities located between the North City Water Reclamation Plant and San Vicente Reservoir.

San Diego Pipelines 4B and 4E *(San Diego County Water Authority).*
Dr. Baksh conducted the archaeological survey studies required for these pipeline projects. The cultural resources study for Pipeline 4E included the archaeological testing of a site in Salt Creek to determine site significance. Similarly, the study for Pipeline 4B involved an archaeological test of the historic Mission Flume in Mission Gorge. Both studies involved extensive consultation with Kumeyaay Indians to determine the contemporary significance of prehistoric sites identified in the vicinity of these pipeline routes.

Mt. Israel Reservoir and Pipelines
(Olivenhain Municipal Water District and Bureau of Land Management).
Dr. Baksh served as Senior Archaeologist for preparation of the cultural resources study for this proposed reservoir, flood control channel, and pipeline project in San Diego County. The cultural resource study also included record search analyses and intensive surveys of four alternative access roads. Located in an area traditionally utilized by the Luiseño Indians, this project included ethnohistoric research in addition to the archaeological survey.

Hollister Bridge Replacement *(City of San Diego and Caltrans).*
Dr. Baksh conducted the archaeological survey for a proposed bridge construction project that was required after the Tijuana River flooded in 1993 and created a new river channel. The study included a literature search, intensive archaeological field survey, and ethnohistoric research on the village of *Millejo*. As part of the Section 106 process, the study also considered the eligibility status of an existing bridge for nomination to the National Register of Historic Places. Dr. Baksh prepared a Historic Property Survey Report which was submitted by Caltrans to the State Historic Preservation Officer (SHPO) who concurred with its findings.

SDCWA As-Needed Cultural Resources *(San Diego County Water Authority).*
Dr. Baksh recently served as the Project Ethnographer on the SDCWA As-Needed Cultural Resource Services contract. Task orders focused on Native American consultation and ethnographic research related to an archaeological test excavation and subsequent data recovery program at the Harris Site in association with Pipeline 5.

San Diego Pipeline 6 Ethnographic Consultation
(Metropolitan Water District and San Diego County Water Authority).
Dr. Baksh served as Senior Anthropologist for cultural resource investigations conducted for the various alternative routes proposed between Lake Skinner in Riverside County and near Escondido in San Diego County. The project involved extensive Native American consultation, including numerous interviews with Most Likely Descendants from all Luiseño Reservations and input from Cahuilla Indians. Dr. Baksh also conducted intensive ethnohistoric archival research for the study area. Numerous archaeological, ethnohistoric, and contemporarily-significant sites were identified and documented through the Native American consultation program and ethnohistoric research. The findings contributed significantly to the planning process of eliminating and selecting potential alternative routes. Dr. Baksh is currently under contract as Principal Anthropologist for implementation of this project's Mitigation Monitoring Plan.

Caltrans As-Needed Cultural Resource Services *(California Department of Transportation).*
Dr. Baksh serves as Principal Anthropologist on the Caltrans District 11 As-Needed Cultural Resources contract, which encompasses San Diego and Imperial Counties. He is responsible for coordinating Native American involvement and input on specific task orders issued under this contract, and is currently developing a comprehensive list of Native Americans capable of providing archaeological monitoring and/or ethnographic consultation services on future Caltrans cultural resource management projects. In consultation with over 20 reservations including Kumeyaay, Luiseño, and Quechan Indians, Dr. Baksh is preparing the list for Caltrans to draw upon during future projects and thereby help ensure compliance Section 106 of the National Historic Preservation Act and other regulations. Development of the list also involves consultation with the Native American Heritage Commission and local cultural resource management firms.

La Jolla Reservation Road *(U.S. Bureau of Indian Affairs).*
Dr. Baksh conducted an archaeological study to identify any prehistoric, historic, or other cultural resources that might be affected by the construction of a 1.5-mile-long road. The study included a records search, intensive on-foot examination of the proposed project site and potential alternative sites, and Native American consultation. In compliance with Section 106 of the National Historic Preservation Act, the survey report has been submitted to the State Historic Preservation Officer (SHPO) for concurrence with its findings.

Clean Water Program/Native American Memorandum Of Understanding
(City of San Diego Metropolitan Waste Water Department).
Dr. Baksh prepared a Memorandum of Understanding (MOU) between the Clean Water Program (CWP; currently, Metropolitan Wastewater Department) and Native American groups in San Diego County. The MOU specifies Native American involvement in archaeological investigations and the treatment of archaeological and human remains associated with construction of CWP facilities in San Diego County. Development of the MOU fulfills part of the Programmatic Agreement among the CWP, the Environmental Protection Agency, the Advisory Council on Historic Preservation, and the California State Historical Preservation Officer.

Pala Reservation Fire Presuppression Project *(Pala Band of Mission Indians).*
Dr. Baksh conducted archaeological surveys in support of the preparation of an EA for four fire presuppression projects located on the Pala Reservation. The study included a literature searches and intensive archaeological field surveys. An archaeological survey report was prepared and attached to the EA prepared for the project. In compliance with Section 106 of the National Historic Preservation Act, the survey report was submitted to the State Historic Preservation Officer (SHPO) who concurred with its findings.

Gregory Canyon Landfill Ethnohistory and Native American Consultation *(ASM Affiliates).*
Dr. Baksh conducted a comprehensive ethnohistory and Native American consultation study for the proposed 1,700-acre Gregory Canyon Landfill site in northern San Diego County. Extensive interviews were conducted with Luiseño elders, religious leaders and cultural resource specialists to document sensitive cultural resources in the project area. An extensive review of primary ethnohistoric materials was also conducted to identify cultural resources previously recorded in the area since the early 1900s. Ethnohistoric resources and ethnographic evidence compiled for the study identified a key place of extremely high cultural significance to traditional Luiseño religious beliefs and practices that may be impacted by the proposed project.

Quien Sabe Ethnography/Ethnohistory *(U.S. Bureau of Reclamation).*
Dr. Baksh conducted an ethnographic and ethnohistoric study for the Quien Sabe/Big Maria Terrace area that borders the western side of the Colorado River in Riverside County, California. The study was undertaken for the U.S. Bureau of Reclamation as part of a comprehensive cultural resources study. The project area was previously known to contain intaglio figures or geoglyphs as well as petroglyphs, sleeping circles, trails, and other archaeological features. Dr. Baksh interviewed Quechan (Yuma) and Mohave Indians to elicit Native American knowledge about cultural resources in the project area and to document perspectives regarding the preservation of these resources. Dr. Baksh also performed a comprehensive ethnohistorical literature review in the effort to locate information recorded by anthropologists and other observers of Yuman cultures in the 1800s and early 1900s. The project yielded several important clues that help understand why specific intaglio figures, petroglyphs, and other features were made and what they meant.

Chemgold Native American Consultation *(U.S. Bureau of Land Management).*
Dr. Baksh consulted extensively with the Fort Yuma Quechan, Colorado River Indian Tribes (CRIT), and Fort Mohave Tribe to assist the Bureau of Land Management with its Section 106 process for the proposed Chemgold Imperial County Project. The 2,300-acre project site contains numerous sites of high sensitivity to Native American values, including geoglyphs and trail systems. Dr. Baksh assisted in the identification of Native American concerns and values associates with the project area; documented current Native American knowledge about the function and/or interpretation of resources; recorded the meaning and significance of resources to Native Americans; and identified mitigation measures that Native Americans feel would be appropriate to minimize impacts to sensitive cultural resources. The Native American consultation and ethnohistory report was published as part of a joint Environmental Impact Statement/Environmental Impact Report.

PROFESSIONAL ARCHAEOLOGICAL SERVICES

PHILIP DE BARROS, Ph.D, SOPA/RPA

13730 Via Cima Bella
San Diego, CA 92129
760-807-9489 cell phone
atavikodjo@hotmail.com

10/20

Education

M.A., Ph.D.	Anthropology (Archaeology), UCLA, 1979, 1985
M.A.	Education, Stanford University, 1966
B.A.	History, Stanford University, 1965 (cum laude)

Certifications and Secretary of the Interior Standards

- SOPA Certified in Field Research, Collections Research, and Teaching. Certifiable in Historic Archaeology and Archaeological Research Management since 1987.
- Meet Secretary of the Interior Standards for both Prehistoric and Historic Archaeology.
- Member of the Register of Professional Archaeologists (RPA) since inception.
- Certified to work in San Diego, Imperial, Orange, Riverside, San Bernardino, Santa Barbara, Kern, Inyo, and Los Angeles Counties.

Recent and Current Positions

- Professor, Anthropology, Palomar College, San Marcos, 1994-2017, retired
- Coord. A.A. Archaeology Degree Program, Palomar College, 1996-2016
- Fellow, Cotsen Institute of Archaeology at UCLA, 1986-present
- Director of Cultural Resources/Sr. P.I., Chambers Group, Irvine, 1985-1994
- Adjunct Instructor, Golden West College, Huntington Beach, 1985-1994
- Instructor, Ceramic Analysis, UCLA, 1987-1991, 1999
- Chairperson, Native American Programs Committee, Society for California Archaeology, 1992-1999
- Chairperson, Multicultural Committee, Palomar College, 1995-2001
- Member, San Diego Archaeological Center Board of Trustees, 1996-1999
- Member, Poway U.S.D. and Mt. Carmel High School Human Relations Committees, 1998-2000
- Ombudsman, Poway Unified School District, 2001
- Principal, then President, Professional Archaeological Services, 1996-present

Cultural Resources Seminars

- Sensitivity Training and Legal Update Workshop, Palm Desert Planning Office, Riverside County, 1/15/11

- Sensitivity Training Workshop, Morongo IR, Riverside County 3/30/07
- As Chair of the Native American Programs Committee of the Society for California Archaeology: taught workshop on CRM laws and archaeology for Salinan Nation, May 1996 (3-days); Pomo Indian groups, March 1998 (3 days; Southern California Indian groups, April 1998 (1 day workshop). Put together CRM and Cultural Heritage Sourcebook for California Native American Communities.
- Preparing Agreement Documents (Tom King), 1991 - 2 days.
- Introduction to Federal Projects and Historic Preservation Law (Tom King and Rob Jackson, instructors, 1989 - 3 days.
- Conservation in Field Archaeology (Getty Institute), 1988 - 5 days.

Experience with GPS and GIS (Geographic Information Systems)

- Trimble R-8 GPS technology since 2018
- Teach Introductory GPS and differential correction at Palomar College
- Use GPS in archaeological fieldwork, including setting up own base station
- Introduced GIS to Palomar's Archaeology Program Curriculum
- 160 hours of Training in ArcView GIS through ESRI and other institutions:
- Field experience in California and Africa using integrated total station, GPS-GIS technologies, first with Trimble, Ashtech ProMark2 and Magellan ProMark3 and ArcGIS 9.1 and 10.1

Experience in Cultural Resource Management

- Over 35 years of experience in the field of archaeology and cultural resource management in California and the Western U.S.
- Principal, now President, Professional Archaeological Services, 1996-present
- Director of Cultural Resources/Senior Principal Investigator at Chambers Group in Irvine, California, from 1985-1994.
- Served as Principal Investigator and/or Project Manager on over 200 cultural resources projects since 1985, involving archival research, reconnaissance and intensive surveys, research designs, test excavations, data recovery excavations, cultural resource management plans, HABS/HAER documentation, the preparation of agreement documents (MOAs, PAs, Effects documents), Native American concerns, and Section 106 coordination.
- Experience in Southwestern archaeology under Professor James N. Hill of UCLA (ceramic typology, seriation, and M.A. thesis) and African archaeology (ethnoarchaeology, ethnography, Ph.D. on archaeology of traditional iron smelting in Togo, West Africa).

Section 106 (Federal) Experience

Section 106 experience as P.I. and/or Project Manager in inventory, evaluation, data recovery, historical archaeology, HABS/HAER documentation, the development of historic preservation plans, and agreement documents.

Major Inventory Work Includes:

- Picacho Mine Water Pipeline Survey for the BLM, 2011-2012
- BLM Access Road Survey to the Kathleen Culiver Property, 2011
- Evaluation plan for cultural resources in Villages 6 and 7 of the Rancho Las Flores Project, Hesperia, San Bernardino County, California, Including the results of a 995-acre resurvey of Villages 6 and 7, 2007-2008
- Small surveys for the San Diego City Water Department Associated with Barrett Lake and El Capitan Reservoir, 2004-2006
- Over 40 surveys of cellular telephone tower locations in southern California, 2000-2001
- 3,250-acre survey for the Trust for Public Lands, Rancho Jamul, San Diego County in Spring of 1998.
- 24 mile linear survey for the Lucerne Valley to Big Bear 115 kV Transmission Line Project In California for S.C.E. in 1992.
- 1500-acre survey for the BLM Ridgecrest Resource Area, 1989.
- Literature search for 3,000 miles of proposed gas pipelines in the Western U.S. for the Mojave/Kern River Gas Pipeline Project for the Federal Energy Regulatory Commission and California State Lands Commission, 1986-1987.
- Extended Phase I inventory and shovel test pit program for prehistoric sites, evaluation of historic structures, and determination of Native American concerns for ARCO's proposed Coal Oil Point Project in Santa Barbara County which ran from Goleta to Gaviota, 1985-1987.

Evaluation Experience Includes:

- Test excavation analyses and report on Guapiabit (SBR-93, -1675/H, -1913) and Archaic site SBR-1886, Rancho Las Flores Project, 2008-09 (ongoing).
- Testing of prehistoric archaeological site, INY-5887, 2001.
- Testing of historical archaeological site in Desert Center, RIV-6513H, 2000.
- Testing of two sites in the Imperial Valley, IMP-7804 and –7813H, near Westmorland and Coyote Wells, 2000.
- Testing and evaluation of RIV-4707/H in Temecula, Riverside County, for Caltrans District 8, 1996-1997.
- Testing and evaluation of nine sites in the Crowder Canyon Archaeological District, San Bernardino County, for Caltrans District 12, 1990-1997.
- Testing & evaluation of prehistoric/historic sites associated with the Lucerne Valley to Big Bear 115 kV Transmission Line Project for S.C.E. in 1992.

- Testing and evaluation of the Purisima Point sites, the Honda Beach Site, the Barka Slough Site, the Olivera Adobe Site, as well as 7 rock art sites at Vandenberg AFB for the National Park Service, 1992-1996.
- Inventory and evaluation of historic archaeological sites and structures along the San Joaquin Hills Transportation Corridor in Orange County, 1993, for Caltrans District 12.
- Testing and evaluation of SBR-5096,Hwy 71,Caltrans District 8, 1991-1992.
- Testing and evaluation of 23 prehistoric sites along the San Joaquin Hills Transportation Corridor in Orange County, Caltrans District 12, 1988-1990.

Data Recovery Experience Includes:

- Data recovery excavations at SBR-3803H in Crowder Canyon Archaeological District, 2005; report out 2007 by Applied Earthworks.
- Data recovery excavations at ORA-1357 in the Aliso Creek drainage, 1993-1994, San Joaquin Hills Transportation Corridor, for Caltrans District 12.
- Data recovery excavations at 5 sites for the San Joaquin Hills Transportation in Orange County for Caltrans District 12, 1993-1994.
- Data recovery excavations at FRE-64, -632, -633, -1154, and -1155, for Caltrans District 6 and the U.S. Army Corps of Engineers, Sacramento District, 1987-1989.

Historical Archaeology Experience Includes:

- Teach course in Historical Archaeology at Palomar College since 2004
- Testing of historical archaeological site in Desert Center, RIV-6513H, 2000.
- Testing historical archaeological site, IMP-7928H, near Westmorland, 2001
- Inventory and evaluation of Brown's Toll Road and a residence/way station associated with Crowder Canyon, for Caltrans District 8, 1997.
- Testing and evaluation of RIV-4707/H in Temecula, a late 19th century trash deposit with a domestic residence, Pala Bridge Improvement Project, Riverside County Transportation Department with Caltrans District 12 review.
- Inventory and evaluation/testing of historic homestead sites and historic transmission lines associated with the Rancho Las Flores Project, San Bernardino County for U.S. Army Corps of Engineers, 1990, 1994-1995.
- Inventory and evaluation/testing of historic sites associated with the San Joaquin Hills Transportation Corridor for Caltrans District 12, 1992-1993.
- Evaluation and testing of mid-to-late 19th century winery and homestead, lime and brick kilns, roads, and early 20th century cement and cobble building in Fontana, for U.S. Army Corps of Engineers, 1991-1992.
- Evaluation (archival research and testing), data recovery, and preservation/interpretive efforts associated with the Franciscan Plaza Project, Phases I and II, San Juan Capistrano, 1988-1990 (2 volumes reprinted by Coyote Press, Salinas).

Selected Projects Completed under CEQA:

- 150-acre survey, Aquila at Rancho Belago, now Rancho Bella Vista Project, Moreno Valley, draft report 2018, final report 2020.
- Phase II Excavations, 277-acre Vista del Agua Project, Coachella Valley 2015
- Survey of 277-Acre Vista del Agua Project, City of Coachella, March 2013
- Archaeo/Paleo Monitoring, Hotel Village South site, Dana Point, 2013
- Test Excavations at 11 Sites near Winchester, Riverside County, 2013, including 1890-1910 historic trash site
- 40-Acre Forensic Cultural Resources Survey, Jewell Valley-Boundary Creek, near Boulevard, 2013, ongoing.
- 160-Acre Forensic Cultural Resources Survey, McCain Valley-Tule Creek, near Boulevard, 2011-2012
- 90-Acre Survey, Moosa Creek Farms Project, Bonsall, 2012
- 206-Acre Survey, Brisa del Mar Residential Project, Bonsall, 2012
- Survey of 160 acres in McCain Valley along Tule Creek, July 2011
- Text Excavations at SDI-19502H in Bonsall, 2010
- Analysis of Stone Tools and Debitage from RIV-4042 (2010)
- Data Recovery Plan for data recovery at SDI-9537/H, Pauma Valley (2009)
- Excavations at Sikes Adobe, Rancho Bernardo, as Part of Restoration Efforts, 2008-2009
- Evaluation of historic trash scatter and architectural evaluation 1939 historic building, Bonsall, with Ken Swift (2009)
- Surveys in Borrego Springs (3), Fallbrook (7), Valley Center, Rosamond, Wildomar, Escondido, Oceanside, and North Palm Springs (2006-09)
- Testing/evaluation of SDI-9537/H in Pauma Valley, 2005
- Data recovery ORA-1582H (now 1654H) in Huntington Beach, 2004-05
- Testing/evaluation of ORA-1582H, an historic dump (1900-1930), 2001-2006
- Testing of 7943/H near Perris, Riverside County, California.
- Architectural evaluations in Vista and Fallbrook (with Ken Swift)(2006-07)
- Burial excavations at ORA-149 in 2006
- Data recovery ORA-149 & -1582H (now 1654H), Huntington Beach, 2004-06
- Surveys at Cuyamaca Rancho State Park by Palomar College for California State Parks, 1996 (Arroyo Seco); 1998, 2000 & 2002 (Green Valley; 2004 (Horse Camp and Green Valley Campgrounds); 2006 (Arroyo Seco Primitive Camp and vicinity).
- Testing/evaluation of SDI-9537/H (prehistoric and historic components, 2005
- Mitigation monitoring, Gevanthor Residence, City of San Diego, 2004
- Data recovery at ORA-149 and ORA-1582/H, June-July 2004
- Mitigation monitoring (SDI-15,093), City of San Diego, 2003
- Survey of 1,416 acres west of Julian, County of San Diego, 2003
- Testing at SDI-297 in Valley Center, County of San Diego, 2003
- Testing at SDI-16951 in Valley Center, County of San Diego, 2003
- Two 300 acre surveys in Menifee area of Riverside County, 2002-2003
- Data recovery at SDI-5581, Palomar College, 2000-2002

- Testing at prehistoric shell midden site, ORA-149, 2001
- Testing of historical archaeological site, ORA-1582H, 2001
- Evaluation DiAmbrogio Winery, Cucamonga, San Bernardino County, 2001
- Evaluation (testing) of SDI-15,093, Del Mar Terrace, City of San Diego, 1999
- Evaluation (testing) of SDI-5745 and SDI-15,120 in Pine Valley, County of San Diego, 1999
- Evaluation of historic structures in Pt. Loma and Del Mar, City of San Diego, 1998-1999, including designation of historic Portuguese fishing family residence the Historic Sites Board
- Evaluation (testing) of SDI-47, Ocean Beach, City of San Diego, 1996
- Evaluation (archival research and testing) of historic kiln site near Mission San Juan Capistrano, 1988-89 (project manager).
- Evaluation (archival research and testing) and data recovery excavations of the foundations of the wall around the Mission gardens in San Juan Capistrano (Sizzler and Plaza del Obispo Projects), 1988-1989.
- Evaluation (testing/archival research), data recovery, & interpretive efforts for the late-19th century Mile Square Park Site, Fountain Valley,1987-89.

HABS/HAER Experience Includes:

- Served as P.I. for a HABS documentation of late 19th century-early 20th century structures in Fontana, San Bernardino County, 1990.
- Served as Project Manager for a major HAER documentation of a Ford Motor Assembly Plant at the Port of Long Beach, 1990-1991.

Cultural Resource Management Plans/Historic Preservation Plans:

- Historic Property Management Plan, Ocotillo Wind Farm Project, 2012
- Historic Property Management Plan for the Lake Elsinore Advanced Storage Project (LEAPS) and associated 30 miles of transmission lines and substations. For Federal Energy Regulatory Commission (FERC) and Chambers Group, Inc. Submitted to SHPO, FERC, Cleveland National Forest (CNF), interested Indian Tribes (Federal and unrecognized). February 2005
- Cultural Resources Overview and Management Plan – for 120 sites within the Rancho Las Flores Project, San Bernardino County, 2004. Major revision and expansion of 1990 document. 400 pages.
- Cultural Resource Overview and Management Plan -- cultural resources overview, research design, and long-term cultural resource management plan for the 10,000-acre Rancho Las Flores Project, San Bernardino County. Covers 120 sites (lithic scatters, roasting pits, prehistoric camp sites, historic ranch and homestead sites, and large prehistoric/ethnohistoric housepit village sites). Several sites will be preserved in Serrano Heritage Preserve. 1990, revised 2004.
- Work on Historic Preservation Plan for Vandenberg AFB, National Park Service, 1994.

Experience in Preparing Agreement Documents Includes:

- Programmatic Agreement (PA) for the 10,000-acre Rancho Las Flores Project, San Bernardino County, 1994-97, approved by SHPO & ACHP.
- PA for the Playa Vista Project near Marina del Rey, approved, 1991.
- Memorandum of Agreement (MOA), Hunter's Ridge Project, Fontana, 1993.
- All but historic building section of MOA for New Ford Road Project linked to San Joaquin Hills Transportation Corridor Project, Orange County, 1993-94.
- Contributions to the development of an MOA for ARCO's proposed Coal Oil Point Project in Santa Barbara County, 1986-1987.
- Finding of Effect (FOE) for the San Joaquin Hills Transportation Corridor Project, 1992; also, for Phase I, Rancho Las Flores Project, 1994.

Experience in Assessing Damage to Archaeological Sites:

- Provided independent assessment of damage to archaeological sites within the Cleveland National Forest under the Archaeological Resource Protection Act (ARPA). This data was for a court case involving the looters.

Experience Working with Native Americans

- Chairperson of the SCA's Native American Programs Committee (NAPC) from 1992-1999:
  - ✓ symposia at Asilomar, 1993; Eureka, 1995; Rohnert Park 1997.
  - ✓ workshops for Salinan Nation, 1996; Pomo groups, 1998.
  - ✓ development of MiniSourcebook on CRM for California Indian groups, 1998; revised Sourcebook 1999
  - ✓ CRM workshop at annual SCA meeting, San Diego, 1998
  - ✓ Nov. 2004 – NAPC won the Governor's Heritage Conservation Award.
- Featured archaeologist at conference sponsored by the Governor's Office on Community Relations and the California Native American Heritage Commission, July 1992; plus additional conferences.
- Articles on Indian issues for Society for California Archaeology (SCA) Newsletter, Society for American Archaeology (SAA) Newsletter, Native American Heritage Commission Newsletter, News from Native California.
- Worked with the Juaneño and Gabrielino of Los Angeles, Orange, and San Bernardino Counties; the Serrano and Cahuilla of Riverside and San Bernardino Counties; the Chumash of Santa Barbara and Ventura Counties, the Luiseño of Riverside and San Diego Counties, the Northfork Mono and Choinumne Yokuts of Fresno County, the Kumeyaay of San Diego County, 1985-1997, and the Salinans of Monterey County, 1985-1997.
- Worked with Fort Mojave Indian Reservation, the Moapa Reservation of Nevada, and other Native American groups in Arizona, New Mexico, Wyoming, and Colorado, working on the Mojave/Kern River EIR/EIS, Cultural Resources Technical Report, 1986.

- Work closely with Native American representatives from southern California on all phases of archaeological research, including research design, and have negotiated several complex burial agreements.

Summary of Work Under CEQA

In addition to above, served as PM and/or Pl on over 150 projects since 1985, including inventory, evaluation, and mitigation phases for both prehistoric and historic archaeological sites as well as historic buildings. Wrote guide booklet for cultural resources under CEQA entitled, ***A Guide to Cultural Resource Management for Planners, Developers, Contractors, and Property Owners*** (with Carmen Weber), March 1993, revised 1999. Chambers Group, Irvine.

Selected Refereed Publications

de Barros, P.L., Iles, L., Frame, L.D., and Killick, D.

2020 The early iron metallurgy of Bassar, Togo: furnaces, metallurgical remains and iron objects. ***Azania*** 55 (1):3-43.

de Barros, Philip L.

2020a ***L'industrie du Fer de la Région de Bassar depuis 2 400 ans. Tome 1 – L'Age du Fer ancien.*** Lomé (Togo) : L'Université de Lomé (in press).

2020b Detachment and reattachment to place in the Bassar region of northern Togo. In ***Detachment from Place: Beyond an Archaeology of Settlement Abandonment***, edited by M. Lamoureux-St-Hilaire and S. McCrae,120-43. Louisville: University of Colorado Press.

2016 Is this an anvil? Iron bloom crushing sites in northern Togo. In ***African Archaeology without Frontiers: Papers from the 2014 PanAfrican Archaeological Association Congres****s*, edited by K. Sadr, A. Esterhuysen*and C. Sievers*, 60-84. Johannesburg, Witts University Press.

2013a A comparison of Early and Later Iron Age societies in the Bassar region of Togo. In ***World of Iron,*** Humphris, J. and Ruhren Thilo (eds), pp. 34-55. Proceedings of the World of Iron conference, February 16-20, 2009, Natural History Museum, London. Archetype Press, London..

2013b Prehistoric and historic brownware pottery from the Pala Road Bridge Site. In Dillon, B. and Boxt, M. (eds), *California Ceramic Traditions*. ***Pacific Coast Archaeological Society Quarterly*** 48:1-23.

2013c Rapport sur les Fouilles de l'Abri d'Agaradé, aussi appelé Tchounbowou, entre Sokode et Bafilo dans la Région centrale du Togo. [Late Stone Age rockshelter study to be sent to ***Journal of African Archaeology*** for peer view, Aug 2011.]

2012a The rise of the Bassar chiefdom in the context of Africa's internal frontier. In ***Power and Landscape in Atlantic West Africa*****,** Monroe, J.C. and Ogundiran, A (eds), pp. 255-277. Cambridge University Press.

2012b The Bassar chiefdom in the context of theories of political economy. In ***Métallurgie du fer et sociétés africaines: Bilans et nouveaux paradigms dans la recherché anthropologique et archéologique***, Robion-Brunner, C and Martinelli, B. (eds), pp. 73-95. Proceedings of Aix-en-Provence conference, April 23-24, 2010. Cambridge Monographs in African Archaeology 81. BAR International Series 2395, Archaeopress, Oxford.

2011a Review of *Forgerons et sidérurgie en pays dogon: vers une histoire de la production du fer sur le plateau de Bandiagara (Mali) durant les empires précoloniaux*, by Caroline Robion-Brunner, Journal of African Archaeology Monograph 3. ***Azania: Archaeological Research in Africa*** **46**(1):110-113.

2006 ***Final Report on the Huntington Beach Dump Site, CA-ORA-1654H (formerly – 1582H), Including the Results of Excavations at Newly Discovered Loci B and C, Pacific City Project, Huntington Beach, Orange County, California.*** Professional Archaeological Services, San Diego. For Makar Properties, Newport Beach, CA. (with S. Crull, Co-P.I. & S. Walter).

2005 Surprising Results at the Early Iron Site of Dekpassanware, Togo, West Africa. ***Backdirt.*** Spring/Summer. Cotsen Institute of Archaeology at UCLA .

2004a ***Cultural Resources Overview and Management Plan, RanchoLas Flores Project, Hesperia, San Bernardino, California.*** For Rancho Las Flores, LLC. Ms on file at the San Bernardino County Museum Archaeological Information Center, Redlands, California.

2004b ***Cultural Resources Survey and Assessment of 1,415.6 Acres of the Hoskings Ranch South of State Highway 78/79 Near Julian San Diego County, California.*** Manuscript on file at the South Coastal Information Center.

2003 Recent Early Iron Age Research in Bassar, Togo. ***Nyame Akuma*** 59:76-78.

2001 The Effect of the Slave Trade on the Bassar Ironworking Society, Togo In ***West Africa During the Atlantic Slave Trade: Archaeological Perspectives***, edited by C. De Corse, pp. 59-80. Leicester University Press, London.

2000 Iron Metallurgy: Sociocultural Context. In ***Ancient African Metallurgy: The Socio-Cultural Context,*** edited by J.O. Vogel, pp. 147-198. AltaMira Press, Walnut Creek, California

1999 ***A Sourcebook on Cultural Resource Management, Archaeology, and Cultural Heritage Values for the Native American Communities of California.*** Society for California Archaeology[author & compiler]

1998 ***A MiniSourcebook on Cultural Resource Management, Archaeology, and Cultural Heritage Values for the Native American Communities of California.*** Society for California Archaeology. [author and compiler]

1997a The Cultural Context of Ironworking. In ***Encyclopedia of Precolonial Africa***, edited by J. Vogel, pp. 135-149. AltaMira Press, Walnut Creek, California.

1997b ***Archaeological Investigations at Franciscan Plaza, San JuanCapistrano,*** 2 vols. Chambers Group, Santa Ana, CA. Prepared for Redevelopment Agency City of San Juan Capistrano & Franciscan Plaza Investment Group. Reprinted by Coyote Press, Salinas.

1993 ***A Guide to Cultural Resource Management for Planners, Developers, Contractors, and Property Owners.*** ChambersGroup, Irvine, California (with Carmen Weber).

1990 A History of Changing Paradigms, Goals, and Methods in the Archaeology of Francophone West Africa. In ***The History of African Archaeology***, edited by P. Robertshaw, pp. 155-172. James Currey, London.

1988 Societal Repercussions of the Rise of Large-Scale Traditional Iron Production: a West African Example. ***The AfricanArchaeological Review*** 6:91-113.

1986 Bassar: A Quantified, Chronologically Controlled, Regional Study of a Traditional Ironworking Centre. ***Africa*** 56(2):148-174.

1982 The Effects of Variable Site Occupation Span on the Results of Frequency Seriation. ***American Antiquity*** 47:291-315.

1980 Archaeological Investigations in 1979 on the Santa Fe National Forest by the Pajarito Archaeological Research Project, USDA Forest Service, Southwestern Region.

Conference Papers and Symposia

- delivered well over three dozen conference papers for various meetings of the AAA, SAA, SCA, ASA, SAfA, CMSA, and other societies, 1980-2018.

Recent Conference Papers

de Barros, Philip

2014, 2016, 2018 – Papers at the Biennial Meeting of the Society for Africanist Archaeologists in Johannesburg, Toulouse, and Toronto.

2012 Using ArcGIS Online for Communicating Research Results to the Public. Society for Africanist Archaeologists, Toronto, Canada, June 20-23, 2012.

2011a The Cultural Context of African Ironworking. African Archaeology Work Group, University of Cape Town, South Africa, Sept 12-13.

2011b Assessing the nature of ironworking activities at the Early Iron Age site of Dekpassanware in the Bassar region of Northern Togo. Artistry of African/Diaspora Blacksmiths, 15th Triennial Symposium on African Art, UCLA, Los Angeles, March 25, 2011.

2010 A comparison of Early and Later Iron Age societies of the Bassar region of Northern Togo. 13th Congress of the Panafrican Archaeological Association for Prehistory and Related Studies and 20th Meeting of the Society for Africanist Archaeologists, Dakar, Senegal, November 1-6, 2010.

2009 How far inland did the arm of the slave trade reach? evidence from the Bassar region of Northern Togo. “Excavating the past: archaeological perspectives on Black Atlantic regional networks.” Sponsored by the Cotsen Institute of Archaeology, a Mellon Transforming the Humanities Grant, and the James S. Coleman African Studies Center, UCLA, Los Angeles, April 3-4, 2009.

2008 Dekpassanware: Early Iron Age site in the Bassar region of Northern Togo: 2002 season summary; 2008 season update. Paper presented at conference ”Cultural developments and

technological innovations in first millennium BC/AD West Africa," March 13-14, 2008, Ouagadougou, Burkina Faso.

2006a The origin of the Bassar chiefdom: ironing out a solution without being a slave to traditional models. Paper given at the 71st annual meeting of the Society for American Archaeology, Symposium on complex societies in transition. San Juan, Puerto Rico, April 26-30, 2006.

2006b Dekpassanware: early Iron Age site in the Bassar region of Northern Togo. Paper presented at the 18th Biannual Meeting of the Society for Africanist Archaeologists, Calgary. Annotated version available through SAfA web page.

- organized/chaired symposia on CRM research, Communication Between Native Americans and Archaeologists, and Research at Vandenberg AFB, at various forums, including the SCA and SAA, 1992-1998.
- organized workshop on CRM law for Salinan Nation, Monterey County, 1996.

Professional Affiliations

Society for Professional Archaeologists (SOPA), 1987-1998
Register of Professional Archaeologists (RPA), 1998-2020
Society for American Archaeology (SAA), 1977-1985, 1988-2012
American Anthropological Association (AAA), 1981-1994, 2014
Society for California Archaeology (SCA), 1987-2010
Pacific Coast Archaeological Society (PCAS), 1977-1980, 1988-2009, 2013
California Mission Studies Association (CMSA), 1989-1990
Society for Historical Archaeology (SHA), 1990-1992
Society for Africanist Archaeologists (SAfA), 1992, 2003-2020

Selected Honors and Awards

Partner in French ANR-CRNS research grant directed out of Toulouse, France. Research on the Environmental Effects of Ancient Ironworking, Bassar Region of Togo, West Africa, 2014-2016
Professorial Fulbright Scholar Award, African Regional Research Program, 2012-2013 – research in Togo West Africa, Jan-July 2013
Palomar College Research Award, 2010
International Center for Scientific Research Listing (CIRS – Centre International pour la Recherche Scientifique), for Palomar College Archaeology Program Web Pages, 2007
Study Sphere Learning Resource Award of Excellence, Palomar College Archaeology Program Web Pages, 2006
Governor's Heritage Award, 2004, for Native American Programs Committee, committee that I founded and led from 1992-1999.
Palomar College Research Award,2001

Professorial Fulbright Scholar Award, African Regional Research Program, 2001-2002 – research in Togo West Africa, Jan-July 2002
Commendation Award from Society for California Archaeology for Work as Native American Programs Committee Chair, 1992-1999
Ahmanson Research Grant, UCLA, 1999
NISOD Teaching Excellence Award, 1998
Palomar College Research Award, 1997
Computer Equipment Grant for Palomar Archaeology Program, 1995
Wenner-Gren Foundation Grant, Togo, West Africa, 1988-1989.
Fulbright Grant - Doctoral Dissertation Research Abroad, 1982.
Teaching Assistant, UCLA, Anthropology Department, 1979-1980.
Research Assistant, UCLA, Pajarito Archaeological Research Project, 1978-80.

Areas of Expertise

- Cultural Resource Management/Section 106
- Prehistoric Hunter-Gatherers of Southern California
- Southern California Historic Archaeology
- Puebloan Cultures of the American Southwest
- Iron Age Cultures of SubSaharan Africa
- Ceramic Typology, Seriation, and Analysis
- Steatite Sourcing in California
- Windows XP; MS Office 2007: Word, Excel, Access, SharePoint Designer
- GPS ProMark3
- Geographic Information Systems (GIS), ArcGIS 9.3. and ArcGIS Server.

References

CRM/Section 106/CEQA

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Glenn Russell, Director
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Gail Wright
Dept. of Planning & Land Use
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District 11
619-688-6751

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San Diego City College
619-271-9139; 230-2609

Mary Beth Broeren, City Planner
City of Huntington Beach
714-536-5550
broerenm@surfcity-hb.org

Experience with Native Americans

Larry Myers, Executive Secretary
Native American Heritage Commission
Sacramento 916-653-4082

Joyce Perry
Juaneño Band of Mission Indians
714-493-4933

Gregg Castro
Salinan Nation
408-218-4459

Carmen Lucas
Kwaaymii Band of Kumeyaay Indians
619-709-4207

Dave Singleton, retired
Native American Heritage Comm.
916-373-3715

Academic

Dr. Merrick Posnansky, Prof. Emeritus
Professor of History and Archaeology, Emeritus
UCLA 818-986-1381

Professor Jim Eighmey
Palomar College
760-744-1150 x 2330

ATTACHMENT B

TABLE 3. MASTER CATALOG

CONFIDENTIAL

ATTACHMENT C

DEPARTMENT OF PARKS AND RECREATION
UPDATED RESOURCE FORMS 523

CONFIDENTIAL